Uploaded Date	Channel	Video URL	Video Title	Description	
2023 06 29	NASA Jet Propulsion Laboratory	https://youtu.be/tMrS0Yy6GMc	What's Up July 2023 Skywatching Tips from NASA	What are some skywatching highlights in July 2023? Mars and Venus start the month close together, but part ways and head lower as July goes on. Mars appears very near Regulus in Leo on the 9th and 10th. Saturn and Jupiter rule the night, along with bright star Fomalhaut. And July is prime time for viewing the Milky Way core from dark sky locations. 0:00 Intro 0:12 Mars & Venus in the evening 0:31 Mars close to Regulus 1:07 Saturn & Jupiter in the morning 1:49 Fomalhaut's debris disk 2:38 Viewing the Milky Way 3:17 July Moon phases Additional information about topics covered in this episode of What's Up, along with still images from the video, and the video transcript, are available at https://solarsystem.nasa.gov/skywatching/home.	Transcript Link
2023 06 28	NASA Jet Propulsion Laboratory	https://youtu.be/uS2BZQRR_bg	Meet the Mars Samples Montdenier and Montagnac (Samples 2 and 3)	Meet two of the Martian samples that have been collected and are awaiting return to Earth as part of the Mars Sample Return campaign. As of late June 2023, NASA's Mars Perseverance rover has collected and sealed 20 scientifically selected samples inside pristine tubes. The next stage is to get them back for study. Considered one of the highest priorities by the scientists in the Science and Astrobiology Decadal Survey 2023-2032, Mars Sample Return would be the first mission to return samples from another planet and provides the best opportunity to reveal the early evolution of Mars, including the potential for ancient life. NASA is teaming with ESA (European Space Agency) on this important endeavor. Learn more about Samples No. 2 and 3 – "Montdenier" and "Montagnac" – the first pair of rock cores collected by Perseverance, which were taken from an igneous rock on the floor of Jezero Crater. Scientists believe that detailed analysis of these samples could help them piece together the timeline of the area's past, which was marked by volcanic activity and periods of persistent water. Read about all the carefully selected samples: https://mars.nasa.gov/mars-rock-samples Learn more about the Mars Sample Return campaign: https://mars.nasa.gov/msr A key objective for Perseverance's mission on Mars is astrobiology,	Transcript Link

2023 06 22	NASA Jet Propulsion Laboratory	https://youtu.be/l_M3YJGbzPY	Meet the Mars Samples Roubion (Sample 1)	Meet a Martian sample that has been collected and is awaiting return to Earth as part of the Mars Sample Return campaign. As of June 2023, NASA's Mars Perseverance rover has collected and sealed 19 scientifically selected samples inside pristine tubes. The next stage is to get them back for study. Considered one of the highest priorities by the scientists in the Science and Astrobiology Decadal Survey 2023-2032, Mars Sample Return would be the first mission to return samples from another planet and provides the best opportunity to reveal the early evolution of Mars, including the potential for ancient life. NASA is teaming with ESA (European Space Agency) on this important endeavor. Learn more about the rover's first sample, "Roubion," a planned rock core that unexpectedly became a sample of Mars atmosphere, highly valuable in its own right. Read about all the carefully selected samples: https://mars.nasa.gov/mars-rock-samples Learn more about the Mars Sample Return campaign: https://mars.nasa.gov/msr A key objective for Perseverance's mission on Mars is astrobiology, including the search for signs of ancient microbial life. The rover will characterize the planet's geology and past climate, pave the way for human exploration of the Red Planet, as well as be the first mission	Transcript Link
2023 06 16	NASA Jet Propulsion Laboratory	https://youtu.be/TWX6O0-Sy8c	Meet the Mars Samples Hazeltop and Bearwallow (Samples 12 and 13)	Meet two of the Martian samples that have been collected and are awaiting return to Earth as part of the Mars Sample Return campaign. As of June 2023, NASA's Mars Perseverance rover has collected and sealed 19 scientifically selected samples inside pristine tubes. The next stage is to get them back for study. Considered one of the highest priorities by the scientists in the Science and Astrobiology Decadal Survey 2023-2032, Mars Sample Return would be the first mission to return samples from another planet and provides the best opportunity to reveal the early evolution of Mars, including the potential for ancient life. NASA is teaming with ESA (European Space Agency) on this important endeavor. Learn more about Samples No. 12 and 13 – "Hazeltop" and "Bearwallow" – a pair of rock cores from a fine-grained sedimentary rock that scientists believe could have good characteristics for preserving signs of ancient microbes, if they were ever present. Read about all the carefully selected samples: https://mars.nasa.gov/mars-rock-samples Learn more about the Mars Sample Return campaign: https://mars.nasa.gov/msr A key objective for Perseverance's mission on Mars is astrobiology, including the search for signs of ancient microbial life. The rover will characterize the planet's geology and past climate, pave the way for	Transcript Link

2023 06 15	NASA Jet Propulsion Laboratory	https://youtu.be/1wNzTyu36WA	JPL and the Space Age The Hunt for Space Rocks	Asteroids and comets are among the oldest objects in our solar system. They mostly reside at safe distances from Earth, but some find their way into our planetary backyard. Every day, the Earth receives visitors from outer space: tons of space debris that mostly goes unnoticed. Some of these “shooting stars,” however, do survive the fiery descent through the atmosphere. That’s what happened to the dinosaurs 65 million years ago when a massive asteroid – or comet – struck Earth. But as the saying goes: "The dinosaurs didn't have a space agency. Fortunately, we do." “The Hunt for Space Rocks” chronicles JPLs pioneering work to understand asteroids and comets as part of NASA’s larger effort to protect our planet from cosmic marauders. From JPL’s effort to mount a mission to study the most famous comet of all – Halley’s comet – to the lab’s current role in planetary defense with its Center for Near Earth Object Studies (CNEOS). The documentary drives home a clear message: We need to find the asteroids and comets before they find us. Documentary length: 1 hour 52 minutes ---------- This is the 16th episode in the documentary series “JPL and the Space Age,” which uses rare archival footage and interviews to help tell the story of the Jet Propulsion Laboratory’s trailblazing role in	Transcript Link
2023 06 08	NASA Jet Propulsion Laboratory	https://youtu.be/Q241UAgn5vU	How Does NASA Name Things on Mars (Mars Report - June 2023)	NASA’s Perseverance and Curiosity rovers are exploring new terrain on Mars every day, adding thousands of names to the Red Planet over the last few years. Set in the Perseverance rover operations area at NASA’s Jet Propulsion Laboratory, this edition of the Mars Report features geologist Tina Seeger of Caltech explaining the process for naming Mars rocks, drill targets, and other locations as the teams explore. This video discusses how official and unofficial names are decided by scientists who need a common language to reference while navigating Mars. For the Curiosity and Perseverance missions, scientists have been systematically dividing their maps into quadrants and giving each quadrant a theme from which to draw names, such as national parks around the world. For more information on the naming process, visit https://go.nasa.gov/3qsNgI1. For more information on NASA's Mars missions, visit mars.nasa.gov. Credits: Video production, rover engineering camera images, Pathfinder mission images: NASA/JPL-Caltech; Perseverance rover’s WATSON, Curiosity rover’s Mastcam, Mars Reconnaissance Orbiter’s CTX images: NASA/JPL-Caltech/MSSS; Perseverance rover Mastcam-Z images: NASA/JPL-Caltech/ASU/MSSS; Mars maps: USGS Astrogeology Science Center, NASA/JPL-Caltech/University of Arizona, and ESA/DLR/FU Berlin (CC BY-SA 3.0 IGO); Ubajara	Transcript Link

2023 06 01	NASA Jet Propulsion Laboratory	https://youtu.be/FTbByjmCJO0	What's Up June 2023 Skywatching Tips from NASA	What are some skywatching highlights in June 2023? Mars and Venus draw closer throughout the month, while Saturn leads Jupiter into the morning sky. Bright stars Spica and Arcturus shine brightly overhead on June evenings, along with the Summer Triangle. And the June solstice, on the 21st, has a special claim to fame. 0:00 Intro 0:13 Mars & Venus in the evening 1:00 Saturn & Jupiter in the morning 1:19 Bright stars of June 2:22 June solstice 3:42 June Moon phases Additional information about topics covered in this episode of What's Up, along with still images from the video, and the video transcript, are available at https://solarsystem.nasa.gov/skywatching/home. — Additional Resources — – Skywatching resources from NASA: https://solarsystem.nasa.gov/skywatching – NASA's Night Sky Network: https://nightsky.jpl.nasa.gov/	Transcript Link
2023 05 08	NASA Jet Propulsion Laboratory	https://youtu.be/ifCIDT4X9AM	Testing Out JPL's New Snake Robot	A team at NASA's Jet Propulsion Laboratory is creating and testing a snake-like robot called EELS (Exobiology Extant Life Surveyor). Inspired by a desire to descend vents on Saturn's icy moon Enceladus and enter the subsurface ocean, this versatile robot is being developed to autonomously map, traverse, and explore previously inaccessible destinations on Earth, the Moon, and other worlds in our solar system. The robot has been put to the test in sandy, snowy, and icy environments, including the Mars-like terrain at JPL's Mars Yard, a "robot playground" created at a ski resort in the snowy mountains of Southern California, and even an indoor ice rink. Because of the long communications lag time between Earth and deep space, EELS is designed to autonomously sense its environment, calculate risk, travel, and gather data with yet-to-be-determined science instruments. When something goes wrong, the goal is for the robot to recover on its own, without human assistance. The project team began building the first prototype in 2019, and has been making continual revisions. They've been trying out white, 3D-printed plastic screws for testing on looser terrain like sand and soft snow, as well as sharper, black metal screws for ice. In its current form, the EELS 1.0 robot weighs about 220 pounds (100 kilograms) and is 13 feet (4 meters) long.	Transcript Link

2023 05 04	NASA Jet Propulsion Laboratory	https://youtu.be/qTcUIZOn3bk	Perseverance's Backup Rock Sample Tubes Placed on Mars Surface	Celebrate the completion of the first sample depot – or scientifically curated collection of rock and soil samples – on another world with NASA's Perseverance rover team. The diverse set of scientifically curated samples could help scientists answer the question of whether ancient life ever arose on the Red Planet. On Jan. 29, 2023, the Perseverance rover placed a 10th sample tube on the surface of Mars, providing the NASA-ESA Mars Sample Return campaign a backup option to recover rock and soil samples for potential return to Earth in the future. Note: In some clips, team members are wearing orange construction hats as a playful nod to the "sample depot construction" that was being undertaken on Mars. Learn more about Perseverance: https://mars.nasa.gov/mars2020/. For details on each of the samples see: https://mars.nasa.gov/mars-rock-samples/. Learn more about Mars Sample Return: https://mars.nasa.gov/msr. Credit: NASA/JPL-Caltech; ESA; WATSON images: NASA/JPL-Caltech/MSSS; Mastcam-Z images: NASA/JPL-Caltech/ASU/MSSS	Transcript Link
2023 05 02	NASA Jet Propulsion Laboratory	https://youtu.be/u9eOg3pCN0M	Spacecraft Makers Introducing Europa Clipper	Join team members from NASA's Europa Clipper mission behind the scenes in a clean room at NASA's Jet Propulsion Laboratory to learn about the design of this spacecraft that will visit Europa, an icy moon of Jupiter. Europa Clipper Project Manager Jordan Evans and Deputy Science Manager Trina Ray explain how scientists' questions translate into hardware, and they provide an update on the build in JPL's clean room, pointing out hardware that will connect the spacecraft to the rocket, the main communication antenna, and cameras. Spacecraft Makers is a video series that takes audiences behind the scenes to learn more about how space missions, like Europa Clipper, come together. Europa Clipper will explore this icy moon of Jupiter to see if there are conditions suitable for life. The spacecraft needs to be hardy enough to survive a 1.6-billion-mile, six-year journey to Jupiter – and sophisticated enough to perform a detailed science investigation of Europa once it arrives at the Jupiter system in 2030. Europa Clipper is expected to launch in October 2024 from Kennedy Space Center in Cape Canaveral, Florida. Viewers also can watch a 24-hour live feed of the spacecraft in the clean room here: https://www.youtube.com/watch?v=yk0X3Sh2gIE. For more information on the mission go to: https://europa.nasa.gov/.	Transcript Link

2023 05 01	NASA Jet Propulsion Laboratory	https://youtu.be/ClxHHCWbQn8	What's Up May 2023 Skywatching Tips from NASA	What are some skywatching highlights in May 2023? Venus reaches its highest point in the evening sky for the year, while Jupiter disappears behind the Moon for some U.S. observers. Plus, some key differences in the Southern Hemisphere's skies compared to those of the North. 0:00 Intro 0:12 Moon & planet pairings 1:16 Venus at its highest 1:38 Skies of the Southern Hemisphere 3:48 May Moon phases Additional information about topics covered in this episode of What's Up, along with still images from the video, and the video transcript, are available at https://solarsystem.nasa.gov/skywatching/home.	Transcript Link
2023 04 18	NASA Jet Propulsion Laboratory	https://youtu.be/6Jv-aSb4ktY	First SWOT data with engineer, Curtis Chen	We chatted with SWOT engineer Curtis Chen to learn more about the first data that's come down from the satellite. We also learned why we call this first glimpse of data "first light" and more on what the data is telling us so far. SWOT, or Surface Water Ocean Topography, is a satellite that will track water on more than 90% of Earth's surface. The mission launched last December and is being led by NASA and the French Space Agency CNES. For more information on the SWOT mission, visit https://swot.jpl.nasa.gov/ or follow #TrackingWorldWater on social media. SWOT is a collaboration between NASA and CNES, with contributions from the Canadian Space Agency and the UK Space Agency.	Transcript Link
2023 04 13	NASA Jet Propulsion Laboratory	https://youtu.be/SLmR3jU2jEk	Ingenuity Mars Helicopter Celebrates 50 Flights	NASA's Ingenuity Mars Helicopter made history when it achieved the first powered, controlled flight on another planet on April 19, 2021. Since then, it has exceeded expectations and most recently executed its 50th flight on Mars. This video highlights Ingenuity's flights, captured by the Perseverance Rover's WATSON and Mastcam-Z cameras, as well as Ingenuity's color Return to Earth (RTE) camera and its black-and-white navigation camera. Learn more: http://mars.nasa.gov/ingenuity Credit: NASA/JPL-Caltech Credit for WATSON images: NASA/JPL-Caltech/MSSS Credit for Mastcam-Z images: NASA/JPL-Caltech/ASU/MSSS	Transcript Link

2023 04 04	NASA Jet Propulsion Laboratory	https://youtu.be/YH8TpKc55L8	Daring Mighty Things Together A Conversation with JPL Director Laurie Leshin	**Tech note: This interview was originally recorded as an Instagram Live, and during our production, the platform was experiencing a slight audio issue, which can be heard throughout. We hope you enjoy the conversation!** What does it take to lead an organization like NASA's Jet Propulsion Laboratory? If you ask JPL Director Laurie Leshin, the answer is to Dare Mighty Things… Together! Watch a special conversation as the internationally recognized space scientist talks about her first year as JPL director, what exciting opportunities she sees ahead for the Lab, and what it means to be the first woman director in JPL's nearly 90-year history. Plus, in honor of Women's History Month, hear about the women who inspire her and how she plans to drive diversity and inclusion on Lab. Learn more about the Jet Propulsion Laboratory: www.jpl.nasa.gov/who-we-are	Transcript Link
2023 04 04	NASA Jet Propulsion Laboratory	https://youtu.be/xsUtq8PwZpQ	Ingenuity Helicopter Inspires Future Flights on Mars (Mars Report - April 2023)	NASA's Ingenuity Mars Helicopter made history when it achieved the first powered, controlled flight on another planet – and it's inspiring future aerial exploration of the Red Planet, too. In this Mars Report, Ingenuity Team Lead Teddy Tzanetos at NASA's Jet Propulsion Laboratory provides an update on the helicopter's achievements and future plans. This video shows testing for Sample Recovery Helicopters, which could serve as a backup retrieval system for Mars Sample Return, a campaign that intends to retrieve samples taken by NASA's Perseverance Mars rover for study here on Earth. These next-generation helicopters would be able to pick up and carry sample tubes in flight and also drive on the Martian surface. Another future helicopter concept is the Mars Science Helicopter, a proposed six-rotor "hexacopter" that would be about the size of the Perseverance rover. It would bring important payloads to areas of Mars that are not currently accessible. For more information on Ingenuity, go to: mars.nasa.gov/ingenuity For more information on the Mars Sample Retrieval Helicopters, go to: mars.nasa.gov/msr/ Credit: NASA/JPL-Caltech/ASU	Transcript Link

2023 03 31	NASA Jet Propulsion Laboratory	https://youtu.be/MeiGUv5jF5Y	What's Up April 2023 Skywatching Tips from NASA	What are some skywatching highlights in April 2023? Mercury reaches its highest in the evening sky for the year for Northern Hemisphere observers. The Moon makes its monthly rounds to pair up beautifully with several planets. And viewing conditions may be ideal for the annual Lyrid meteor shower, thanks to no interference from the Moon. 0:00 Intro 0:11 Mercury 1:11 Moon & planet highlights 2:43 Lyrid meteor shower 4:08 April Moon phases Additional information about topics covered in this episode of What's Up, along with still images from the video, and the video transcript, are available at https://solarsystem.nasa.gov/skywatching/home. — Additional Resources — Skywatching resources from NASA: https://solarsystem.nasa.gov/skywatching/home/ NASA's Night Sky Network: https://nightsky.jpl.nasa.gov/	Transcript Link
2023 03 08	NASA Jet Propulsion Laboratory	https://youtu.be/IX6lL0c4vEg	How to Pack a Spacecraft Science Payload on Earth Science Mission Heads to India	Part of a partnership between NASA and the Indian Space Research Organisation (ISRO), the spacecraft known as NISAR – short for NASA-ISRO Synthetic Aperture Radar – recently moved one step closer to being able to study changes to the land and ice on Earth. Take a behind-the-scenes trip with NISAR Mechanical Integration Lead Scott Nowak into the clean room at NASA's Jet Propulsion Laboratory in Southern California as he highlights the NISAR team's work to assemble the satellite's science instrument payload and to pack it up to ship out to ISRO's satellite facility in Bengaluru, India. Technicians and engineers there will integrate the instruments into the main body, or bus, of the satellite, and put it through further testing in preparation for a 2024 launch. For more information on the mission go to: https://nisar.jpl.nasa.gov/. For more information on NISAR's journey to India, visit:	Transcript Link
2023 03 02	NASA Jet Propulsion Laboratory	https://youtu.be/FNXmWoy94tA	What's Up March 2023 Skywatching Tips from NASA	What are some skywatching highlights in March 2023? Following their close approach in the sky on March 1, Venus and Jupiter go their separate ways. Venus climbs higher each evening, while Jupiter exists the morning sky at month's end. And those with binoculars of a small telescope can seek out dwarf planet Ceres, which is at its brightest this month. 0:00 Intro 0:13 Moon & planet highlights 0:59 Dwarf planet Ceres at opposition 3:20 March Moon phases Additional information about topics covered in this episode of What's Up, along with still images from the video, and the video transcript, are available at https://solarsystem.nasa.gov/skywatching/home.	Transcript Link

2023 02 08	NASA Jet Propulsion Laboratory	https://youtu.be/NuoR4XMmJO0	Curiosity Rover Finds New Clues to Mars' Watery Past	NASA's Curiosity Mars rover has discovered lots of evidence of ancient lakes on the Red Planet – and this recent panorama shows intriguing new clues. Curiosity, which landed on Mars in 2012, is currently exploring a unique feature known as the "Marker Band" in the foothills of Mount Sharp. Rocks in this area show the clearest evidence yet for waves the mission has ever seen: rippled textures that formed billions of years ago, as waves on the surface of a shallow lake stirred up sediment on the lake bottom. Farther up the mountain, Curiosity can see more evidence of ancient water: wet landslides caused boulders and other debris to slip down into a valley. Curiosity caught a glimpse of this debris from a distance, but the rover's team hopes to get a closer look later in 2023. For more information on NASA's Curiosity rover, visit mars.nasa.gov/msl. For more on NASA's Mars missions, visit mars.nasa.gov. Credit: NASA/JPL-Caltech/MSSS/University of Arizona	Transcript Link
2023 01 31	NASA Jet Propulsion Laboratory	https://youtu.be/hcgj6KsR-fc	What's Up February 2023 Skywatching Tips from NASA	What are some skywatching highlights in February 2023? See Jupiter and Venus appear nearer each night, as they head for a close conjunction at the start of March. Use bright stars Capella and Elnath to identify the constellation Auriga, and then find your way to two distant star clusters using Sirius as a guidepost. 0:00 Intro 0:12 Moon & planet highlights 0:47 The constellation Auriga 1:52 Easy-to-find star clusters 3:10 February Moon phases Additional information about topics covered in this episode of What's Up, along with still images from the video, and the video transcript, are available at https://solarsystem.nasa.gov/skywatching/home.	Transcript Link
2023 01 26	NASA Jet Propulsion Laboratory	https://youtu.be/Q3S0_ZApuho	Meet SWOT Mission Makers Christine Gebara	We went live with Christine Gebara, an integration and test engineer on the SWOT mission who worked on the spacecraft's deployable antennas ahead of its launch last month. The international Surface Water and Ocean Topography (SWOT) satellite, will track water on more than 90% of Earth's surface — and it's currently in low-Earth orbit as it prepares to send back science later this year. Watch the conversation as we talk about the engineering aspects of SWOT and how Christine's lifelong love of water inspired her to study aerospace engineering. For more information on the SWOT mission, visit https://swot.jpl.nasa.gov/ or follow #TrackingWorldWater on social media. SWOT is a collaboration between NASA and CNES, with contributions from the Canadian Space Agency and the UK Space Agency.	Transcript Link

2023 01 18	NASA Jet Propulsion Laboratory	https://youtu.be/eCmucNskVKQ	Meet SWOT Mission Makers Marc Simard	We went live with Marc Simard, a senior scientist at NASA's Jet Propulsion Laboratory who has seen firsthand how climate change affects deltas and estuaries and how the Surface Water and Ocean Topography (SWOT) satellite will help monitor these changes around the globe. Watch the conversation as we talk about water, climate change, and its impact on local communities. For more information on the SWOT mission, visit https://swot.jpl.nasa.gov/ or follow #TrackingWorldWater on social media. SWOT is a collaboration between NASA and CNES, with contributions from the Canadian Space Agency and the UK Space Agency.	Transcript Link
2022 12 29	NASA Jet Propulsion Laboratory	https://youtu.be/axTU7lagV48	What's Up January 2023 Skywatching Tips from NASA	What are some skywatching highlights in January 2023? Some lovely groupings this month include the Moon with Mars, and later with Jupiter, and a close conjunction of Venus and Saturn. The brilliant stars of the Northern Hemisphere's winter sky are a dazzling sight all month long. And a comet discovered last March makes its closest approach to Earth in January, gracing pre-dawn skies. 0:00 Intro 0:11 Moon & planet highlights 1:15 Winter stars & constellations 1:59 Comet C/2022 E3 (ZTF) 3:03 January Moon phases Additional information about topics covered in this episode of What's Up, along with still images from the video, and the video transcript, are available at: https://solarsystem.nasa.gov/skywatching/home — Additional Resources — Skywatching resources from NASA: https://solarsystem.nasa.gov/skywatching NASA's Night Sky Network: https://nightsky.jpl.nasa.gov/	Transcript Link

2022 12 28	NASA Jet Propulsion Laboratory	https://youtu.be/uu9Jy9G_ZvA	KaRIn Antennas Deploy on International SWOT Satellite	Two cameras aboard the Surface Water and Ocean Topography (SWOT) satellite captured the large mast and antenna panels of the spacecraft's main science instrument deploying over four days, a process that was completed on Dec. 22, 2022. The masts, which unfold from opposite sides of the spacecraft, can be seen extending out from the spacecraft and locking in place, but the cameras stopped short of capturing the antennas at the ends of the masts being fully deployed (a milestone the team confirmed with telemetry data). This video places the two camera views side by side. Located 33 feet (10 meters) apart, the two antennas belong to the groundbreaking Ka-band Radar Interferometer (KaRIn) instrument, which will measure the height of water on over 90% of Earth's surface and provide a high-definition survey of our planet's water for the first time. Launched from Vandenberg Space Force Base in central California on Dec. 16, 2022, SWOT is a collaboration between NASA and the French space agency Centre National d'Etudes Spatiales, with contributions from the Canadian Space Agency and UK Space Agency. The mission used two customized commercial cameras aboard the satellite (the same type used to capture NASA's Perseverance rover landing on Mars) to capture the antenna deployment process.	Transcript Link
2022 12 23	NASA Jet Propulsion Laboratory	https://youtu.be/7aKewWHXXRE	JPL and the Space Age Landing on Mars	In the summer of 2003, two NASA rovers began their journeys to Mars at a time when the Red Planet and Earth were the nearest they had been to each other in 60,000 years. To capitalize on this alignment, the rovers had been built at breakneck speed by teams at NASA's Jet Propulsion Laboratory. The mission came amid further pressures, from mounting international competition to increasing public scrutiny following the loss of the space shuttle Columbia and its crew of seven. NASA was in great need of a success. "Landing on Mars" is the story of Opportunity and Spirit surviving a massive solar flare during cruise, the now well-known "six minutes of terror," and what came close to being a mission-ending software error for the first rover once it was on the ground. Documentary length: 60 minutes	Transcript Link

2022 12 22	NASA Jet Propulsion Laboratory	https://youtu.be/8gCmVu934Vo	What Is Winter Like on Mars (NASA Mars News Report Dec. 21, 2022)	Snow falls and ice and frost form on Mars, too. NASA's spacecraft on and orbiting the Red Planet reveal the similarities to and differences from how we experience winter on Earth. Mars scientist Sylvain Piqueux of NASA's Jet Propulsion Laboratory explains how images and data collected from NASA's Viking, Phoenix, Mars Odyssey, Mars Reconnaissance Orbiter missions can help scientists better understand the processes behind a winter on Mars. On the Red Planet, where both carbon dioxide and water can take the form of ice and frost, scientists study these frosty landscapes and unusual formations to understand the climate of Mars today and in its past. Analyzing the ice on Mars will also help future human missions. For more information on NASA's Mars missions, visit mars.nasa.gov. Credit: NASA/JPL-Caltech	Transcript Link
2022 12 16	NASA Jet Propulsion Laboratory	https://youtu.be/1Rr2L2rVvdc	International SWOT Mission Launches from Vandenberg Space Force Base (Launch Recap)	Highlights from the Dec. 15, 2022, launch of the Surface Water and Ocean Topography (SWOT) satellite, a mission led by NASA and the French space agency Centre National d'Études Spatiales (CNES). SWOT lifted off from Vandenberg Space Force Base in California aboard a SpaceX Falcon 9 rocket at 3:46 a.m. PST (6:46 a.m. EST). The mission will make the first global survey of nearly all water on Earth's surface and address some of the most pressing climate change questions of our time. SWOT is a collaboration between NASA and CNES, with contributions from the Canadian Space Agency (CSA) and the UK Space Agency. For more information about SWOT, go to: https://swot.jpl.nasa.gov/ Credit: NASA/JPL-Caltech	Transcript Link
2022 12 10	NASA Jet Propulsion Laboratory	https://youtu.be/XrvuRIpiqP4	Meet the SWOT Mission Makers Cedric David	We went live with Cedric David, a freshwater scientist who will use data from the international Surface Water and Ocean Topography satellite (SWOT), which is scheduled for launch on Dec. 15, 2022. Watch the conversation as we talk about water, climate change, and next week's launch. For more information on the SWOT mission, visit https://swot.jpl.nasa.gov/ or follow #TrackingWorldWater on social media. SWOT is a collaboration between NASA and CNES, with contributions from the Canadian Space Agency and the UK Space Agency.	Transcript Link

2022 12 01	NASA Jet Propulsion Laboratory	https://youtu.be/7FyEAPcvErQ	What's Up December 2022 Skywatching Tips from NASA	What are some skywatching highlights in December 2022? The Moon sweeps past Jupiter twice this month, and actually covers Mars completely, in an event called an occultation, on Dec. 7. The event is visible across the U.S., except for the Southeast and East Coast, where the Moon will graze closely past Mars. And throughout the month, you can find Pegasus, the winged stallion, high overhead in the south. 0:00 Intro 0:11 Moon & planet highlights 0:38 Occultation: Mars disappears 1:54 The constellation Pegasus 3:12 December Moon phases Additional information about topics covered in this episode of What's Up, along with still images from the video, and the video transcript, are available at https://solarsystem.nasa.gov/skywatching/home.	Transcript Link
2022 11 29	NASA Jet Propulsion Laboratory	https://youtu.be/f_sSzn87IjM	JPL and the Space Age Mission to Mars	After the devastating loss of two back-to-back missions to Mars in 1999, NASA's Jet Propulsion Laboratory found itself at a crossroads: Would the lab pull back, becoming more cautious and conservative with the new missions it was willing to take on? Or would JPL continue its tradition of pursuing challenging and innovative missions? That question was answered when JPL proposed designing and building an entirely new type of Mars rover from scratch on top of an extremely tight schedule, and launching not one, but two of them to the Red Planet. "Mission to Mars" tells how engineers and scientists overcame multiple adversities to design, build, test, and launch the Spirit and Opportunity rovers, two of NASA's most storied missions. Documentary length: 60 minutes	Transcript Link
2022 11 22	NASA Jet Propulsion Laboratory	https://youtu.be/u3nzUqjhAdc	Mission Makers Cedric David, Scientist on the SWOT Water-Tracking Mission	Cedric David is part of the science team behind the international Surface Water and Ocean Topography (SWOT) satellite, a mission led by NASA and the French space agency Centre National d'Études Spatiales (CNES). SWOT will make the first global survey of nearly all the water on Earth's surface. Born in France, David is now a researcher at NASA's Jet Propulsion Laboratory in Southern California. Water was the one place where David felt comfortable growing up, and now he studies the world's rivers. In a visit to Castaic Lake in California, David describes what drives him: the preciousness of water as a resource for everyone around the world. The SWOT mission is a collaboration between NASA and CNES, with contributions from the Canadian Space Agency (CSA) and the UK Space Agency. SWOT is expected to launch in December 2022. For more information about SWOT, go to: https://swot.jpl.nasa.gov/ Credit: NASA/JPL-Caltech	Transcript Link

2022 11 22	NASA Jet Propulsion Laboratory	https://youtu.be/WrriWg2J3u4	Mission Makers Christine Gebara, Engineer on the SWOT Water-Tracking Mission	Christine Gebara is part of the team building the international Surface Water and Ocean Topography (SWOT) satellite, a mission led by NASA and the French space agency Centre National d'Études Spatiales (CNES). SWOT will make the first global survey of nearly all the water on Earth's surface. Gebara, an integration and test engineer at NASA's Jet Propulsion Laboratory in Southern California, fell in love with engineering while learning to sail near her childhood home in Houston. She loves the water and is excited about SWOT's ability to help us better track its movement through lakes, reservoirs, rivers, and the ocean. The SWOT mission is a collaboration between NASA and the CNES, with contributions from the Canadian Space Agency (CSA) and the UK Space Agency. SWOT is expected to launch in December 2022. For more information about SWOT, go to: https://swot.jpl.nasa.gov/ Credit: NASA/JPL-Caltech	Transcript Link
2022 11 22	NASA Jet Propulsion Laboratory	https://youtu.be/r9fVahyZZiw	Mission Makers Marc Simard, Scientist on the SWOT Water-Tracking Mission	Marc Simard is part of the science team behind the international Surface Water and Ocean Topography (SWOT) mission, led by NASA and the French space agency Centre National d'Études Spatiales (CNES). SWOT will make the first global survey of nearly all the water on Earth's surface. Simard, a researcher at NASA's Jet Propulsion Laboratory in Southern California, developed a passion for the environment during his early school years in Quebec, Canada, and now focuses his scientific work on estuaries and wetlands. He believes SWOT will provide critical data on the Mississippi River delta and deltas around the world, helping us understand how deltas are affected by sea level rise and climate change. The SWOT mission is a collaboration between NASA and CNES, with contributions from the Canadian Space Agency (CSA) and the UK Space Agency. SWOT is expected to launch in December 2022. For more information about SWOT, go to: https://swot.jpl.nasa.gov/ Credit: NASA/JPL-Caltech	Transcript Link

2022 11 22	NASA Jet Propulsion Laboratory	https://youtu.be/I_jo-qO0z2Q	Mission Makers Tahani Amer, NASA Program Executive for the SWOT Water-Tracking Mission	Tahani Amer oversees several Earth science missions for NASA, including the international Surface Water and Ocean Topography (SWOT) satellite, a mission led by NASA and the French space agency Centre National d'Études Spatiales (CNES). SWOT]will make the first global survey of nearly all the water on Earth's surface. Amer grew up in Egypt and was inspired by her father, who worked on dams on the Nile River and supported her career in science. She earned multiple degrees in the U.S. and went to work at NASA's Langley Research Center, eventually rising to become a program executive at the agency's headquarters in Washington. The SWOT mission is a collaboration between NASA and CNES, with contributions from the Canadian Space Agency (CSA) and the UK Space Agency. SWOT is expected to launch in December 2022. For more information about SWOT, go to: https://swot.jpl.nasa.gov/ Credit: NASA/JPL-Caltech	0
2022 11 22	NASA Jet Propulsion Laboratory	https://youtu.be/IfgHgUFz6qA	Mission Makers The People Behind the SWOT Water-Tracking Mission (Teaser Trailer)	Meet some of the scientists and engineers contributing to a new Earth science mission, led by NASA and the French space agency Centre National d'Études Spatiales (CNES). The Surface Water and Ocean Topography (SWOT) satellite will make the first global survey of nearly all water on Earth's surface and address some of the most pressing climate change questions of our time. In this video series, you will be introduced to four team members on the SWOT mission: hydrologist Cedric David, estuary and wetland scientist Marc Simard, integration and test engineer Christine Gebara, and NASA program executive Tahani Amer. The SWOT mission is a collaboration between NASA and CNES, with contributions from the Canadian Space Agency (CSA) and the UK Space Agency. NASA's Jet Propulsion Laboratory, a division of Caltech in Pasadena, California, manages the mission for NASA. SWOT is expected to launch in December 2022. For more information about the international SWOT mission go to: https://swot.jpl.nasa.gov/ Credit: NASA/JPL-Caltech	Transcript Link

2022 11 22	NASA Jet Propulsion Laboratory	https://youtu.be/E7Vs4HiMBIg	Dust and Drama in the Orion Nebula from NASA and ESA Images	Enjoy a moment of Zen with this fly-through of the Orion Nebula, based on images captured by NASA and ESA (European Space Agency) telescopes The image shows infrared light, or wavelengths that the human eye cannot see. Stars radiate little or no light in these wavelengths, so the image shows only dust. The blue light indicates warm dust, heated by radiation from large, bright stars that can release up to one million times more light than our Sun. All that radiation breaks apart dust grains and carves out cavities, like the two blue “bubbles” in the image. Much of the remaining dust is then swept away by winds from the stars or when the stars die explosive deaths as supernovae. Around the edge of the two cavernous regions, the dust that appears green is slightly cooler. Red indicates cold dust that reaches temperatures of about minus 440 Fahrenheit (minus 260 Celsius). A cold ribbon of dust starts near the bottom right of the image and threads throughout the nebula. Red and orange filaments like these are where dust condenses and forms new stars. Over time, these filaments may produce new giant stars that will once again reshape the region. These images were captured by the now-retired Herschel Space Telescope, an ESA observatory, NASA’s retired Spitzer Space Telescope, and NASA’s Wide-Field Infrared Survey Explorer (WISE), which now operates under the moniker NEOWISE. Spitzer and WISE were both managed by NASA’s Jet Propulsion Laboratory, a division	Transcript Link
2022 11 17	NASA Jet Propulsion Laboratory	https://youtu.be/t9G36CDLzIg	Mars Sample Return Bringing Mars Rock Samples Back to Earth	NASA and the European Space Agency are developing plans for one of the most ambitious campaigns ever attempted in space: bringing the first samples of Mars material safely back to Earth for detailed study. The diverse set of scientifically curated samples now being collected by NASA’s Mars Perseverance rover could help scientists answer the question of whether ancient life ever arose on the Red Planet. Bringing samples of Mars to Earth for future study would happen in several steps with multiple spacecraft, and in some ways, in a synchronized manner. This short animation features key moments of the Mars Sample Return campaign: from landing on Mars and securing the sample tubes to launching them off the surface and ferrying them back to Earth. Animation is contributed by NASA’s Jet Propulsion Laboratory, the European Space Agency, Goddard Space Flight Center, and Marshall Space Flight Center. Learn more: https://mars.nasa.gov/msr Credit: NASA/ESA/JPL-Caltech/GSFC/MSFC	Transcript Link

2022 11 02	NASA Jet Propulsion Laboratory	https://youtu.be/yCJ0OLAtRpQ	What's Up November 2022 Skywatching Tips from NASA	What are some skywatching highlights in November 2022? A total lunar eclipse brings some magic to the morning sky on November 8th, and the Leonid meteors peak after midnight on November 18th, with some glare from a 35% full moon. In addition, enjoy pretty views on other days in November when the Moon visits planets Mars and Saturn, and bright star Spica. 0:00 Intro 0:10 Total lunar eclipse 1:25 Moon & planet highlights 2:16 Leonid meteor shower 3:15 Nov ember Moon phases Additional information about topics covered in this episode of What's Up, along with still images from the video, and the video transcript, are available at https://solarsystem.nasa.gov/skywatching/home.	Transcript Link
2022 10 27	NASA Jet Propulsion Laboratory	https://youtu.be/UOdbwQE-0z4	SWOT Earth Science Satellite Will Help Communities Plan for a Better Future	A new Earth science mission, led by NASA and the French space agency Centre National d'Études Spatiales (CNES), will help communities plan for a better future by surveying the planet's salt and freshwater bodies. The Surface Water and Ocean Topography (SWOT) mission will measure the height of water in lakes, rivers, reservoirs, and the oceans. As climate change accelerates the water cycle, more communities around the world will be inundated with water while others won't have enough. SWOT data will be used to improve flood forecasts and monitor drought conditions, providing essential information to water management agencies, civil engineers, universities, the U.S. Department of Defense, disaster preparedness agencies, and others who need to track water in their local areas. In this video, examples of how SWOT data will be used in these communities are shared by a National Weather Service representative in Oregon, an Alaska Department of Transportation engineer, researchers from the University of Oregon and University of North Carolina, a NASA Jet Propulsion Laboratory scientist working with the Department of Defense, and a JPL scientist working with the Louisiana Coastal Protection and Restoration Agency. :30 - Flood Watches & Warnings - Portland, Oregon 1:08 - Water Management - Fern Ridge Lake, Oregon 2:05 - Protecting Infrastructure - Alaska 2:54 - National Security - Department of Defense 3:24 - Coastal Protection - Mississippi River Delta	Transcript Link

2022 10 26	NASA Jet Propulsion Laboratory	https://youtu.be/Ykl57izCofs	JPL and the Space Age The American Rocketeer	NASA's Jet Propulsion Laboratory is widely known for its trailblazing role in space exploration, and the "JPL and the Space Age" documentary series invites viewers to relive those early adventures through rare archival footage and interviews with many of JPL's pioneering engineers and scientists. "The American Rocketeer" is the story of the origins of JPL, the world's premier center for the exploration of the solar system and beyond. It's also the story of one man's reach for the stars. The central figure throughout this episode is Frank Malina, whose fundamental role in the evolution of American rocketry is largely unknown and remains uncelebrated. As an idealistic Caltech graduate student during the midst of the Great Depression, Malina agreed to lead a motley crew of amateur rocket enthusiasts and fellow Caltech students attempting to launch rockets in hopes of one day reaching space. That led to building rockets for the U.S. Army during World War II. Malina helped to win a world war, only to later see his country turn against him and declare him an international fugitive. Through it all, he kept meticulous records, hoping to ensure his pioneering role in American rocketry. Documentary length: 1 hour 29 minutes	Transcript Link
2022 10 26	NASA Jet Propulsion Laboratory	https://youtu.be/rehxGbYuwIU	How to Bring Mars Sample Tubes Safely to Earth (Mars News Report)	NASA's Perseverance Mars rover is filling sample tubes with rocky material on the Red Planet as the agency works on the next steps to get them safely back to Earth. The Mars Sample Return campaign would bring samples collected by the Perseverance rover to Earth for detailed study. The campaign involves an international interplanetary relay team, including the European Space Agency (ESA). These samples could answer a key question: did life ever exist on Mars? Aaron Yazzie, who works on the Mars Sample Return campaign, explains the work being done at NASA's Jet Propulsion Laboratory to ensure the safe return of the sample tubes. For more information on Mars Sample Return, visit mars.nasa.gov/msr/ Credit: NASA/JPL-Caltech	Transcript Link

2022 10 20	NASA Jet Propulsion Laboratory	https://youtu.be/tkejVTkAnXc	NASA Tests Ways to Crash Land on Mars	We're testing a new way of landing on Mars… by crashing into its surface. The Simplified High Impact Energy Landing Device (SHIELD) is a lander concept being tested at NASA's Jet Propulsion Laboratory (JPL). It could one day provide a new way for low-cost missions to land on Mars. Rather than rely on parachutes or retrorockets, SHIELD would include a collapsible, accordion-like base to absorb the energy of a landing. A full-size prototype of the base was tested on Aug. 12, 2022. The prototype was hurled at the ground from the top of a nearly 90-foot-tall (27-meter-tall) drop tower at JPL. A steel plate ensured the impact was even harder than what would be experienced on Mars. The design worked: After crushing against the steel plate at 110 mph (177 kph), several electronic components inside the SHIELD prototype, including a smartphone, survived the impact. Credit: NASA/JPL-Caltech/California Academy of Sciences	Transcript Link
2022 10 18	NASA Jet Propulsion Laboratory	https://youtu.be/qOVTqPvV6wY	NEOWISE Revealing Changes in the Universe	New time-lapse movies from NASA's NEOWISE mission give astronomers the opportunity to see objects, like stars and black holes, as they move and change over time. The videos include previously hidden brown dwarfs, a feeding black hole, a dying star, a star-forming region, and a brightening star. They combine more than 10 years of NEOWISE observations and 18 all-sky images, enabling a long-term analysis and a deeper understanding of the universe. 0:44 – NEOWISE all-sky scan animation 1:03 – Feeding black hole 1:14 – Pulsing star reaches the end of its life 1:21 – Protostars in star-forming region 1:34 – Brown dwarf moves across the sky 2:00 – Unexplained stellar brightening The NEOWISE mission uses a space telescope to hunt for asteroids and comets, including those that could pose a threat to Earth. Launched in December 2009 as the Wide-Field Infrared Survey Explorer, or WISE, the space telescope was originally designed to survey the sky in infrared, detecting asteroids, stars and some of the faintest galaxies in space. WISE did so successfully until completing its primary mission in February 2011. Observations resumed in December 2013, when the telescope was taken out of hibernation and re-purposed for the NEOWISE project as an instrument to study near-Earth objects, or NEOs, as well as more distant asteroids and comets.	Transcript Link

2022 10 12	NASA Jet Propulsion Laboratory	https://youtu.be/ssJ_I5IoCbc	Cosmic Dust Rings Spotted by NASA's James Webb Space Telescope	An image from NASA's James Webb Space Telescope reveals a remarkable sight: at least 17 concentric dust rings emanating from a pair of stars located about 5,300 light-years from Earth. Each ring was created when the stars came close together and their colliding stellar winds (streams of gas they blow into space) caused some of the gas to compress into dust. Collectively known as Wolf-Rayet 140, the stars' orbits bring them together about once every eight years, so just like the growth rings of a tree trunk, these dusty loops mark the passage of time: The 17 rings reveal more than a century of stellar interactions. And while other Wolf-Rayet stars produce dust, no other pair is known to produce rings quite like Wolf-Rayet 140. Because the stars' orbits are elliptical rather than circular, the distance between the stars changes constantly, and dust forms only when they are close. The amount of dust produced by this interaction varies, so the system doesn't form a perfect bullseye. One of the densest regions of dust production creates the bright feature repeating at 2 o'clock. Credit: NASA/JPL-Caltech For more information about the Webb telescope's mission, visit: https://www.nasa.gov/webb	Transcript Link
2022 09 30	NASA Jet Propulsion Laboratory	https://youtu.be/93IHYbvv7NM	What's Up October 2022 Skywatching Tips from NASA	What are some skywatching highlights in October 2022? Enjoy giant planets Jupiter and Saturn all night throughout the month. Then watch as Mars begins its retrograde motion, moving westward each night instead of eastward, for the next few months. Finally, check out the Orionid meteors overnight on Oct. 20. 0:00 Intro 0:11 Evenings with Jupiter & Saturn 0:37 Mars' retrograde motion 2:07 Orionid meteor shower 3:04 October Moon phases Additional information about topics covered in this episode of What's Up, along with still images from the video, and the video transcript, are available at https://solarsystem.nasa.gov/skywatching/home. — Additional Resources — Skywatching resources from NASA: https://solarsystem.nasa.gov/skywatching/home/ NASA "Watch the Skies" blog: https://blogs.nasa.gov/Watch_the_Skies/ NASA's Night Sky Network: https://nightsky.jpl.nasa.gov/	Transcript Link

2022 09 22	NASA Jet Propulsion Laboratory	https://youtu.be/kuYDkVRyMkg	JPL and the Space Age The Breaking Point	The Jet Propulsion Laboratory's success in landing the low-cost Mars Pathfinder mission in 1997 was viewed as proof that spacecraft could be built more often and for far less money — a radical cultural change NASA termed "Faster, Better, Cheaper." This era also coincided with the discovery of a Mars rock that hinted at the possibility of microbial life elsewhere in the solar system. NASA's reaction was to envision a steady stream of missions to Mars — all done at cut-rate costs. In fact, the next challenge taken on by JPL was to fly two missions to Mars for the price of the single Pathfinder mission. Mars Climate Orbiter and the Mars Polar Lander both made it to the launch pad, on time and on budget, but were lost upon arrival at Mars, resulting in one of the most difficult periods in the history of JPL. "The Breaking Point" tells the story of the demise of these two missions and the abrupt end of NASA's "Faster, Better, Cheaper" era. Documentary length: 1 hour 47 minutes	Transcript Link
2022 09 19	NASA Jet Propulsion Laboratory	https://youtu.be/SA90WKuukmM	Hear Meteoroid Striking Mars, Captured by NASA's InSight Lander	NASA's InSight lander detected seismic waves from a meteoroid and was able to capture the sound of the space rock striking the surface of Mars for the first time. The meteoroid – the term used for incoming space rocks before they hit the ground – entered Mars' atmosphere on Sept. 5, 2021, exploding into at least three shards that each left craters behind. Mars' atmosphere is just 1% as dense as Earth's, allowing far more meteoroids to pass through and impact the Red Planet's surface. This event marks the first time seismic and acoustic waves from an impact were detected on the Red Planet. Why does this meteoroid impact sound like a "bloop" in the video? It has to do with a peculiar atmospheric effect that's also observed in deserts on Earth. After sunset, the atmosphere retains some heat accumulated during the day. Sound waves travel through this heated atmosphere at different speeds, depending on their frequency. As a result, lower-pitched sounds arrive before high-pitched sounds. An observer close to the impact would hear a "bang," while someone many miles away would hear the bass sounds first, creating a "bloop." NASA's Mars Reconnaissance Orbiter flew over the estimated impact site to confirm the location. The orbiter used its black-and-white Context Camera to reveal three darkened spots on the surface. After locating these spots, the orbiter's team used the High-	Transcript Link

2022 09 15	NASA Jet Propulsion Laboratory	https://youtu.be/0ugBXwbUo1E	NASA's Perseverance Mars Rover Investigates Geologically Rich Area (News Briefing)	NASA hosted a briefing to provide highlights from the first year-and-a-half of the Perseverance rover's exploration of Mars. The rover landed in Mars' Jezero Crater in February 2021 and is collecting samples of rock and other materials from the Martian surface. Perseverance is investigating the sediment-rich ancient river delta in the Red Planet's Jezero Crater. Speakers: • Lori Glaze, director of NASA's Planetary Science Division, NASA Headquarters • Laurie Leshin, JPL director • Rick Welch, Perseverance deputy project manager, JPL • Ken Farley, Perseverance project scientist, Caltech • Sunanda Sharma, Scanning Habitable Environments with Raman and Luminescence for Organics and Chemicals (SHERLOC) scientist, JPL • David Shuster, Perseverance returned sample scientist, University of California, Berkeley https://mars.nasa.gov #NASA #Space #Exploration #Planets #Perseverance #Mars #MarsRover #PerseveranceRover #SearchForLife #RedPlanet #JetPropulsionLaboratory #JPL #JezeroCrater #Astrobiology #SolarSystem #MarsSampleReturn	Transcript Link
2022 09 14	NASA Jet Propulsion Laboratory	https://youtu.be/sCgwxizcpo0	Perseverance Explores the Jezero Crater Delta	NASA's Perseverance Mars Rover has arrived at an ancient delta in Jezero Crater, one of the best places on the Red Planet to search for potential signs of ancient life. The delta is an area where scientists surmise that a river once flowed billions of years ago into a lake and deposited sediments in a fan shape. Rachel Kronyak, a member of the Perseverance science operations team, guides the viewer through this Martian panorama and its intriguing sedimentary rocks. It's the most detailed view ever returned from the Martian surface, consisting of 2.5 billion pixels and generated from 1,118 individual Mastcam-Z images. Those images were acquired on June 12, 13, 16, 17, and 20, 2022 (the 466th, 467th, 470th, 471st, and 474th Martian day, or sol, of Perseverance's mission). In this panorama, an area called Hogwallow Flats is visible, as is Skinner Ridge, where two rock core samples were taken. The color enhancement in this image improves the visual contrast and accentuates color differences. This makes it easier for the science team to use their everyday experience to interpret the landscape. For more information on the Perseverance rover, visit https://mars.nasa.gov/perseverance.	Transcript Link

2022 09 01	NASA Jet Propulsion Laboratory	https://youtu.be/xS3gwXeJFGc	What's Up September 2022 Skywatching Tips from NASA	What are some skywatching highlights in September 2022? Mars is on the move this month, forming a "red triangle" with bright red stars Aldebaran and Betelgeuse. Saturn and Jupiter fly with the Moon on the 9th, and then the Moon slides over closer Jupiter in the morning sky on the 11th. At the end of the month, September 23rd brings the equinox, meaning day and night are of nearly equal length, and a change of seasons is afoot. 0:00 Intro 0:12 Mars on the move in September 0:43 Jupiter at opposition 1:39 Evening planets: Jupiter and Saturn 2:07 September equinox 2:55 September Moon phases Additional information about topics covered in this episode of What's Up, along with still images from the video, and the video transcript, are available at https://solarsystem.nasa.gov/skywatching/home.	Transcript Link
2022 08 25	NASA Jet Propulsion Laboratory	https://youtu.be/4bim5EEwvVI	JPL and the Space Age The Footsteps of Voyager	While the legendary Voyager 2 was in the midst of its triumphant Grand Tour through the outer planets, the space shuttle era was underway on Earth. NASA's Jet Propulsion Laboratory would be among the first to demonstrate how NASA's new shuttle could be used to conduct science experiments about our own planet from the vantage of space. But for launching missions to targets beyond Earth orbit, the shuttle posed engineering challenges. One mission that launched from the shuttle was Galileo, JPL's flagship mission to Jupiter, and its route to the launch pad would be full of unexpected twists and turns. Drawing on rare film footage as well as the memories of the engineers and scientists who were there, "The Footsteps of Voyager" recounts the dramatic experiences of these first-ever encounters at Uranus and Neptune and the efforts to deploy Galileo, a mission that would become the first to orbit an outer planet. Documentary length: 56 minutes	Transcript Link
2022 08 24	NASA Jet Propulsion Laboratory	https://youtu.be/Qj_62FWfH78	JPL and the Space Age The Stuff of Dreams	In 1977, the greatest adventure in space exploration began with the launch of the Voyager 1 and Voyager 2 spacecraft, two robotic explorers designed to explore the deep reaches of our solar system. The Voyagers were the creations of NASA's Jet Propulsion Laboratory, where a brash young scientist had just been put in charge. His ambition was to take the next steps in exploring the solar system. Instead, he found himself struggling for JPL's very survival in the midst of financial cutbacks at the very same time of the Voyagers' triumphs of discoveries at Jupiter and Saturn. "The Stuff of Dreams" tells the story of the Voyagers' astounding successes and unexpected discoveries – but most of all, it's a tale of perseverance by people and machines struggling against forces put in their way. Documentary length: 1 hour 27 minutes	Transcript Link

2022 08 16	NASA Jet Propulsion Laboratory	https://youtu.be/9vGZSXlKDn0	Too Big for the Door How Engineers Installed a NASA Space Telescope Test Chamber	NASA's upcoming SPHEREx space telescope needs a custom-built test chamber to make sure its cutting-edge instruments are ready to operate in space. The telescope will create a 3D map of the entire sky. And even though the telescope's test chamber didn't exactly travel cosmic distances, its journey to Caltech required careful orchestration. Built by the Korean Astronomy and Space Science Institute (KASI), the chamber required three years of design and construction, a monthlong boat ride across the Pacific Ocean, and a 30-ton crane to reach its destination at the university's Cahill Center for Astronomy and Astrophysics in Pasadena, California. It was too large to fit through the main entrance of its new home, so engineers used a crane to lift a removable section of the road out front and lower two sections of the chamber into the basement. The chamber is customized to calibrate the SPHEREx spectrometer. Spectroscopy data can reveal what an object is made of and be used to estimate an object's distance from Earth. SPHEREx stands for the Spectro-Photometer for the History of the Universe, Epoch of Reionization and Ices Explorer. Managed by NASA's Jet Propulsion Laboratory, a division of Caltech, SPHEREx is set to launch no earlier than June 2024. For more information about the SPHEREx mission, visit:	Transcript Link
2022 08 05	NASA Jet Propulsion Laboratory	https://youtu.be/LwfJQa7vaGw	NASA's Curiosity Rover Turns 10 Here's What It's Learned (Mars News Report Aug. 5, 2022)	NASA's Curiosity Mars rover set out to answer a big question when it landed on the Red Planet 10 years ago: Could Mars have supported ancient life? Scientists have discovered the answer is yes and have been working to learn more about the planet's past habitable environment. In this Mars Report, Curiosity Deputy Project Scientist Abigail Fraeman provides an update on the rover's capabilities a decade after landing in Gale Crater. Now, Curiosity is heading to an area that may help answer how long ancient life could have persisted on the Red Planet as Mars went through significant changes in the climate. Read more about where Curiosity is currently exploring. Download a poster celebrating Curiosity's 10 years on Mars here. Some of the images in the video include color enhancement that exaggerate small changes in color from place to place in the Martian scene. This makes it easier for the science team to use their everyday experience to interpret the landscape. For instance, the sky on Mars would not actually look blue to a human explorer on the Red Planet, but pinkish. For more information on NASA's Mars missions, visit mars.nasa.gov. Credit: NASA/JPL-Caltech/ASU/MSSS/JHU-APL	0

2022 07 29	NASA Jet Propulsion Laboratory	https://youtu.be/KdNHpX-u9w0	What's Up August 2022 Skywatching Tips from NASA	What are some skywatching highlights in August 2022? The daily parade of four naked-eye planets in the mornings comes to an end this month. But there are still lots of great highlights, especially if you have access to binoculars. Plus, Saturn and Jupiter are returning to nighttime skies! The outlook for the Perseid meteors isn't great due to a full moon on the peak night of August 12, but still it's worth keeping an eye out for early Perseids after midnight the week before. And August is a great month to learn an easy-to-spot constellation – Cygnus the swan. 0:00 Intro 0:11 Planet-watching highlights 1:56 Perseid meteors outlook 2:34 The constellation Cygnus 3:45 August Moon phases Additional information about topics covered in this episode of What's Up, along with still images from the video, and the video transcript, are available at https://solarsystem.nasa.gov/skywatching/home.	Transcript Link
2022 07 14	NASA Jet Propulsion Laboratory	https://youtu.be/aezcXjKYZkM	JPL and the Space Age Saving Galileo	If any spacecraft could be said to have had nine lives, it was Galileo. At the time of its launch, this mission to Jupiter was the most sophisticated science spacecraft ever built. But the expectation of great science rewards almost was ruined when the spacecraft's main antenna refused to unfurl. "Saving Galileo" is the story of how NASA's Galileo mission - designed, built, and operated by NASA's Jet Propulsion Laboratory - was kept alive despite a multitude of technical challenges. It is also the story of a tight-knit team of scientists and engineers who were forged by adversity into what many came to call a family. "Saving Galileo" tells how, despite many challenges and limitations, Galileo proved a resounding success. Documentary length: 60 minutes	Transcript Link

2022 06 30	NASA Jet Propulsion Laboratory	https://youtu.be/1rVH0YlcKyY	JPL and the Space Age The Pathfinders	It started with JPL agreeing to land something on Mars – cheaply – and do it in a radically different way. This is how the era NASA called “Faster, Better, Cheaper” began. The documentary film “The Pathfinders” tells the story of a small group of engineers at NASA’s Jet Propulsion Laboratory who did not heed warnings that the audacious challenge of landing on Mars with airbags would likely not be a career-enhancing move. From relying on a parachute that could not be tested in a way to match the Martian atmosphere to receiving the late addition of an unwanted rover that wouldn’t have looked out of place in a toy store, the Mars Pathfinder mission was a doubter’s dream, taken on by a mostly young group of engineers and scientists guided by a grizzled manager known for his maverick ways. “The Pathfinders” retraces the journey of this daring mission to Mars that captured the imagination of people around the world with its dramatic landing and its tiny rover – the first wheels ever to roll on Mars. Documentary length: 60 minutes	Transcript Link
2022 06 30	NASA Jet Propulsion Laboratory	https://youtu.be/upFsgDxgV70	What's Up July 2022 Skywatching Tips from NASA	What are some skywatching highlights in July 2022? The naked-eye planets of dawn – Venus, Mars, Jupiter, and Saturn – dominate the sky, appearing more spread out each morning. Next, if you're feeling the July heat, note the origin of "the dog days" of summer has to do with the bright star Sirius. Finally, if you can find a certain teapot-shaped pattern of stars in the evening, you'll be looking toward the center of the Milky Way. 0:00 Intro 0:11 Morning planet lineup 0:40 Sirius and the "dog days" of summer 1:50 The Teapot and Milky Way core 3:11 July Moon phases Additional information about topics covered in this episode of What's Up, along with still images from the video, and the video transcript, are available at https://solarsystem.nasa.gov/skywatching/home.	Transcript Link

2022 06 29	NASA Jet Propulsion Laboratory	https://youtu.be/q9NptmKlXms	NASA InSight's End of Mission What the Lander's Data Can Still Teach Us About Mars (Expert Q&A)	NASA's InSight lander mission has detected more than 1,300 marsquakes since touching down on Mars in 2018, providing information that has allowed scientists to measure the depth and composition of Mars' crust, mantle, and core. As power on the spacecraft diminishes, the InSight team hopes to maximize the science and increase the possibility of recording additional marsquakes. Join mission team members who were in the In-Situ Instrument Laboratory (ISIL) at NASA's Jet Propulsion Laboratory to learn how InSight's twin model, ForeSight, has assisted the Mars lander's engineering team throughout its mission and how scientists will continue studying InSight's data for years to come. For more information on the mission, visit https://mars.nasa.gov/insight/ Credit: NASA/JPL-Caltech (Original Air Date: June 28, 2022)	0
2022 06 22	NASA Jet Propulsion Laboratory	https://youtu.be/pvUlZQJYUOE	How Scientists Study Wind on Mars (NASA Mars News Report June 22, 2022)	NASA's spacecraft on Mars are all affected by the winds of the Red Planet, which can produce a tiny dust devil or a global dust storm. NASA's Mars Reconnaissance Orbiter Deputy Project Scientist Leslie Tamppari explains how images from the orbiter's HiRISE camera help scientists better understand Martian winds. With the help of 80,000 citizen scientists sorting through the orbiter's images, hundreds of thousands of wind "fans" were identified on the surface of Mars. Scientists use wind to understand the climate of Mars today and in the past. These wind data can also help them study why some dust storms grow to become global and others don't. Studying wind and dust will help future spacecraft and human missions. For more information on NASA's Mars missions, visit mars.nasa.gov. Credit: NASA/JPL-Caltech/ASU/MSSS/University of Arizona	Transcript Link

2022 06 01	NASA Jet Propulsion Laboratory	https://youtu.be/IpgiZJm7szg	What's Up June 2022 Skywatching Tips from NASA	What are some skywatching highlights in June 2022? The morning quartet of Jupiter, Saturn, Venus, and Mars continues to shine, though they will spread farther apart over the next couple of months. Globular cluster M13, aka the Hercules Cluster, is best observed with a telescope, but binoculars will reveal it as a fuzzy spot. And the constellation Lyra is easily located thanks to its brightest star, Vega. 0:00 Intro 0:11 Morning planets spread out 0:44 Globular Cluster M13 2:20 Find the Constellation Lyra 3:42 June Moon phases Additional information about topics covered in this episode of What's Up, along with still images from the video, and the video transcript, are available at https://solarsystem.nasa.gov/skywatching/home.	Transcript Link
2022 05 27	NASA Jet Propulsion Laboratory	https://youtu.be/thk4Rha-fTk	NASA's Ingenuity Mars Helicopter Captures Record Flight	NASA's Ingenuity Mars Helicopter made a record-breaking 25th flight on April 18, 2022. The navigation camera aboard the rotorcraft captured its longest and fastest flight to date on the Red Planet. The helicopter covered 2,310 feet (704 meters) at a max speed of 12 mph (5.5 meters per second). Footage of the 161.3-second flight was sped up approximately five times. In the video, Ingenuity first reaches an altitude of 33 feet (10 meters). The helicopter then moves southwest and accelerates to 12 mph (5.5 meters per second) in less than three seconds. Ingenuity flies over a group of sand ripples and then by several rock fields. Finally, the helicopter finds a landing spot when relatively flat terrain appears below. Ingenuity became the first aircraft in history to make a powered, controlled flight on another planet on April 19, 2021, from Wright Brothers Field in Jezero Crater, Mars. For more information on Ingenuity, visit: https://mars.nasa.gov/technology/helicopter/ Credit: NASA/JPL-Caltech	Transcript Link

2022 05 17	NASA Jet Propulsion Laboratory	https://youtu.be/JJZ6UlH_TfQ	NASA's InSight Lander Accomplishes Science Goals on Mars as Power Levels Diminish	NASA's InSight lander touched down in the Elysium Planitia region of Mars in November of 2018. During its time on the Red Planet, InSight has achieved all its primary science goals and continues to hunt for quakes on Mars. The mission is the first to reveal the interior structure of Mars, using marsquakes to study the layers inside the planet. InSight's seismometer was the first to detect a quake on another planet. InSight also measured weather at Elysium Planitia for four years with a unique set of meteorological sensors. InSight has also persisted through adversity. The team found innovative ways to take on engineering challenges they encountered. InSight's findings help scientists understand how all rocky worlds, including Earth and its Moon, formed. For more information on InSight, visit https://mars.nasa.gov/insight/ Credit: NASA/JPL-Caltech	Transcript Link
2022 05 12	NASA Jet Propulsion Laboratory	https://youtu.be/cVrRzGbV9Mk	JPL and the Space Age To the Rescue	In 1990, Hubble meant trouble. The highly touted space telescope was designed to escape Earth's blurry atmosphere to capture unparalleled visual images of the universe, but its creators were shocked to discover that a minuscule flaw rendered it nearsighted. Enter NASA's Jet Propulsion Laboratory scientists and engineers, who offered up an ingenious solution to Hubble's visual woes. But would it work? Hubble wasn't the only space misadventure getting JPL's attention during the 1990s: The Magellan spacecraft, nicknamed "Salvage 1" for its reliance on spare parts, barely survived its arrival at Venus. Galileo, destined for Jupiter, barely skirted failure when its main communications antenna refused to unfurl. And Mars Observer, the first mission to the Red Planet in nearly two decades, would mysteriously disappear just before going into orbit. "To the Rescue" explores these iconic examples of the tireless effort and indomitable ingenuity of JPL engineers as they attempt to rescue the machines they had lofted into the heavens. Documentary length: 58 minutes	Transcript Link

2022 05 11	NASA Jet Propulsion Laboratory	https://youtu.be/fi4qY7Z5ZKo	SWOT NASA-CNES Satellite to Survey the World's Water (Mission Overview)	NASA and CNES (French Space Agency) are collaborating to make the first global survey of Earth's surface fresh water and study fine-scale ocean currents with a new mission called SWOT, or Surface Water and Ocean Topography. SWOT will collect data on the height of Earth's salt and fresh water – including oceans, lakes, and rivers – enabling researchers to track the location of water over time, which will help measure the effects of climate change. SWOT is expected to launch from Vandenberg Space Force Base in central California in November 2022. SWOT is a collaboration between NASA and the French space agency Centre National d'Etudes Spatial (CNES), with contributions from the Canadian Space Agency (CSA) and United Kingdom Space Agency (UK Space Agency). To learn more about the mission, visit: https://swot.jpl.nasa.gov/ Credit: NASA/JPL-Caltech/CNES/Thales Alenia Space	Transcript Link
2022 05 04	NASA Jet Propulsion Laboratory	https://youtu.be/IMe-ld5aShI	AIRS NASA Advances Our Understanding of Earth's Climate	The Atmospheric Infrared Sounder (AIRS) instrument aboard NASA's Aqua satellite has been scanning Earth for 20 years and now has a long enough record to help support climate change research. AIRS data on Earth's atmosphere are improving weather forecasts and advancing our understanding of Earth's climate. AIRS' infrared technology creates 3D maps of air and surface temperature, water vapor, and cloud properties. The infrared part of the electromagnetic spectrum is rich in information about gases, especially greenhouse gases such as ozone and carbon dioxide. The advantage of having such an instrument in orbit is the availability of rapid global coverage. AIRS data form a 'fingerprint' of the state of the atmosphere for a given time and place, contributing to climate data for future generations NASA's Aqua satellite, with AIRS onboard, launched into Earth orbit on May 4, 2002. To learn more about the mission, visit: https://airs.jpl.nasa.gov/ Credit: NASA/JPL-Caltech/GRL/NASA's Scientific Visualization Studio/NASA Earth Observatory	Transcript Link

2022 05 02	NASA Jet Propulsion Laboratory	https://youtu.be/z9RjGdfxSDk	What Is NASA's Earth Surface Mineral Dust Source Investigation (EMIT)	Operating from the International Space Station, NASA's Earth Surface Mineral Dust Source Investigation (EMIT) mission will comprehensively measure the mineral composition of Earth's mineral dust source regions to help scientists understand how dust particles carried by wind heat or cool our planet as they move through the atmosphere. In addition to potentially influencing warming on regional and global scales, dust can affect cloud formation, air quality, and human health. When deposited in the ocean, dust can also trigger blooms of microscopic algae. To make these measurements, EMIT will use an imaging spectrometer to measure visible and infrared light reflecting from surfaces below. EMIT launched from NASA's Kennedy Space Center in Florida in 2022, as part of SpaceX's 25th commercial resupply services mission for NASA. For more information on NASA's EMIT mission, visit to https://earth.jpl.nasa.gov/emit/ Credit: NASA/JPL-Caltech	Transcript Link
2022 04 29	NASA Jet Propulsion Laboratory	https://youtu.be/1Bn349KyGzE	What's Up May 2022 Skywatching Tips from NASA	What are some skywatching highlights in May 2022? May provides some great planet spotting, including a close conjunction of Jupiter and Mars. At mid-month, a total eclipse of the Moon should delight skywatchers across the Americas, Europe, and Africa. And all month long, the Coma star cluster (aka, the Coma Berenices star cluster, or Melotte 111) is a great target for binoculars in the evening. 0:00 Intro 0:11 Planet-spotting opportunities 1:02 Lunar eclipse 2:27 The Coma star cluster 3:33 May Moon phases Additional information about topics covered in this episode of What's Up, along with still images from the video, and the video transcript, are available at https://solarsystem.nasa.gov/skywatching/home.	Transcript Link
2022 04 21	NASA Jet Propulsion Laboratory	https://youtu.be/0KBI0QmEWuo	JPL and the Space Age Sky High	Think "NASA," and what comes to mind? Astronauts? Mars rovers? Voyager and the Golden Record? How about Earth? In fact, NASA has been studying and monitoring the health of our home planet for decades, using balloons, aircraft, satellites, and even the International Space Station in the effort. "Sky High," the 16th documentary in the series "JPL and the Space Age," traces the efforts of NASA's Jet Propulsion Laboratory to measure greenhouse gases, from the pathfinding science instrument AIRS, through to today's Orbiting Carbon Observatory 3 aboard the space station. Documentary length: 60 minutes	Transcript Link

2022 04 20	NASA Jet Propulsion Laboratory	https://youtu.be/Ls_r0DXFX0o	How to Use NASA's 3D Visualization Tool "Eyes on the Earth"	Welcome to "Eyes on the Earth," NASA's real-time 3D visualization tool that lets users track NASA satellites and the vital Earth science data they provide. Using the interactive tool (https://eyes.nasa.gov/apps/earth/), you can track the planet's vital signs – from carbon dioxide and carbon monoxide to sea level and soil moisture levels – and follow the fleet of Earth satellites providing those measurements. Eyes on the Earth is a web-based application accessible on any device with a browser and an internet connection. Credit: NASA/JPL-Caltech	Transcript Link
2022 04 20	NASA Jet Propulsion Laboratory	https://youtu.be/aKK7vS2CHC8	NASA's Perseverance Rover Sees Solar Eclipse on Mars	NASA's Perseverance Mars rover used its Mastcam-Z camera system to shoot video of Phobos, one of Mars' two moons, eclipsing the Sun. It's the most zoomed-in, highest frame-rate observation of a Phobos solar eclipse ever taken from the Martian surface. Several Mars rovers have observed Phobos crossing in front of the Sun over the past 18 years. Spirit and Opportunity made the first observations back in 2004; Curiosity in 2019 was the first to record video of the event. Each time these eclipses are observed, they allow scientists to measure subtle shifts in Phobos' orbit over time. The moon's tidal forces pull on the deep interior of the Red Planet, as well as its crust and mantle; studying how much Phobos shifts over time reveals something about how resistant the crust and mantle are, and thus what kinds of materials they're made of. The Mars 2020 Perseverance mission is part of NASA's Moon to Mars exploration approach, which includes Artemis missions to the Moon that will help prepare for human exploration of the Red Planet. Credit: NASA/JPL-Caltech/ASU/MSSS/SSI	Transcript Link
2022 04 15	NASA Jet Propulsion Laboratory	https://youtu.be/MSbVuCAhCyg	Preparing for Launch %23MissionToPsyche Experts Answer Questions	We visited JPL's Spacecraft Assembly Facility and spoke with with Psyche mission team members: Principal Investigator Lindy Elkins-Tanton and Project Manager Henry Stone. The upcoming #MissionToPsyche will explore a metal-rich asteroid of the same name and give scientists a unique opportunity to study how planets like Earth formed. The spacecraft is set to launch this August and arrive at its target asteroid in 2026 after a journey of about 1.5 billion miles. (Originally aired live on April 11, 2022)	Transcript Link

2022 04 08	NASA Jet Propulsion Laboratory	https://youtu.be/E3xWCqPBUFU	NASA's Self-Driving Perseverance Mars Rover Is Breaking Records	NASA's Perseverance Mars rover is using its self-driving capabilities as it treks across Jezero Crater seeking signs of ancient life and gathering rock and soil samples for planned return to Earth. With the help of special 3D glasses, rover drivers on Earth plan routes with specific stops, but increasingly allow the rover to "take the wheel" and choose how it gets to those stops. Perseverance's auto-navigation system, known as AutoNav, makes 3D maps of the terrain ahead, identifies hazards, and plans a route around any obstacles without additional direction from controllers back on Earth. Now the rover can drive through these more complex terrains, which helps Perseverance achieve its science goals and break driving records. The rover is traversing from an area near its landing site, "Octavia E. Butler Landing," to an area where an ancient river flowed into a body of water and deposited sediments (known as a delta). To track Perseverance's drive, visit https://mars.nasa.gov/mars2020/mission/where-is-the-rover/. For more information on Perseverance, visit https://mars.nasa.gov/perseverance. Credit: NASA/JPL-Caltech//ASU/MSSS	Transcript Link
2022 04 01	NASA Jet Propulsion Laboratory	https://youtu.be/lX5iVyfF3N0	NASA's Perseverance Rover Captures Puff, Whir, Zap Sounds from Mars	Listen closely to new sounds from Mars recorded by NASA's Perseverance Mars rover, including puffs and pings from a rover tool, light Martian wind, the whirring of the agency's Ingenuity Mars Helicopter, and laser zaps. Most of the sounds – best heard through headphones with the sound up – were recorded using the microphone belonging to Perseverance's SuperCam instrument, mounted on the head of the rover's mast. Other sounds, including the puffs and pings from the rover's Gaseous Dust Removal Tool, or gDRT, blowing shavings off rock faces, were recorded by another microphone mounted on the chassis of the rover. A new study based on recordings made by the rover reveals that the speed of sound is slower on the Red Planet than on Earth and that, mostly, a deep silence prevails in the much thinner atmosphere. For more information on the study go to: https://www.jpl.nasa.gov/news/what-sounds-captured-by-nasas-perseverance-rover-reveal-about-mars For more about Perseverance go to mars.nasa.gov/mars2020/ and nasa.gov/perseverance. Credit: NASA/JPL-Caltech/ASU/MSSS/LANL/CNES/IRAP	Transcript Link

2022 03 31	NASA Jet Propulsion Laboratory	https://youtu.be/eaSaVanPysA	JPL and the Space Age The Changing Face of Mars	Other than Earth, no planet in our solar system has been so thoroughly or long examined as Mars. For decades, NASA's Jet Propulsion Laboratory has continuously explored the Red Planet with an array of orbiters, landers, and rovers. What laid the groundwork for this unparallel record of exploration? This 90-minute documentary describes the challenges of JPL's first attempts to send spacecraft to the Red Planet. For much of human history, Mars was no more than a tiny reddish dot in the sky. But in 1965, the first spacecraft ever to visit Mars, JPL's Mariner 4, began to change our understanding of the planet with its grainy black and white images. The data from Mariner 4, and from missions that followed, were full of confusing data for scientists to understand. The Changing Face of Mars reveals, through archival footage and interviews with key scientists and engineers, JPL's first roles in exploring the Red Planet, from Mariner 4, through the 1976 arrival of the Viking orbiters and landers.	Transcript Link
2022 03 31	NASA Jet Propulsion Laboratory	https://youtu.be/ZgsUS-3mzRk	What's Up April 2022 Skywatching Tips from NASA	What are some skywatching highlights in April 2022? The gathering of planets in the morning sky increases from three to four, as Jupiter joins the party. Two close conjunctions – between Mars and Saturn, and Venus and Jupiter – provide highlights at the beginning and end of the month. And the Big Dipper hosts a surprise: a double star you just might be able to "split" with your own eyes. 0:00 Intro 0:09 Morning planets & TWO conjunctions! 1:28 The Big Dipper's hidden "double star" 3:09 April moon phases Additional information about topics covered in this episode of What's Up, along with still images from the video, and the video transcript, are available at https://solarsystem.nasa.gov/skywatching/home.	Transcript Link
2022 03 24	NASA Jet Propulsion Laboratory	https://youtu.be/JqW6QeUIDoU	Exploring Cosmic Origins with NASA's SPHEREx	About the size of a subcompact car, NASA's SPHEREx space telescope will map the entire sky to study the rapid expansion of the universe after the big bang, the composition of young planetary systems, and the evolutionary history of galaxies.	Transcript Link

2022 03 23	NASA Jet Propulsion Laboratory	https://youtu.be/2qDg5uHk-4c	NASA confirms 5,000 Planets – and Counting	Using powerful telescopes, in space and on the ground, astronomers have now confirmed more than 5,000 exoplanets – planets beyond our solar system. But it's just a fraction of the likely hundreds of billions of such planets in our Milky Way galaxy. As current and future telescopes continue to make discoveries, we may someday find potentially habitable planets – or even inhabited worlds. Many more discoveries await. Credit: NASA/JPL-Caltech	Transcript Link
2022 03 15	NASA Jet Propulsion Laboratory	https://youtu.be/UupndWl0G_I	JPL and the Space Age Destination Moon	After the establishment of NASA in 1958, JPL's first major assignment was to explore the Moon, taking close up images before crash landing as part of a series of missions called Ranger. JPL, however, had grander plans. The laboratory, having built and helped launch the first U.S. satellite into space, wanted to explore not only the Moon, but nearby planets. JPL would be humbled by a string of early failures that threatened the lab's very future. "We didn't know what we were doing," one veteran JPL engineer confides in the program, "and there was no one around to tell us." Ironically, a successful (although barely so) flyby of Venus by Mariner 2 in 1962 would give the United States its first "first in space." And after finally succeeding with its Ranger program, JPL would go on to manage the highly successful Surveyor missions that soft landed on the Moon, serving as pathfinders for the Apollo astronauts. Destination Moon relives JPL's struggles and triumphs at the Moon and Venus.	Transcript Link
2022 03 15	NASA Jet Propulsion Laboratory	https://youtu.be/8wiOJsKdz04	NASA's Mars Rovers Are On the Move and Bringing the Public Along (NASA Mars Report March 15, 2022)	NASA's rovers are putting their gears in drive on Mars, making discoveries along the way. NASA's Curiosity rover captured some interesting images on Mount Sharp while heading toward an area called Greenheugh Pediment. Over in Jezero Crater, NASA's Perseverance rover and Ingenuity Mars Helicopter are both gearing up for a new destination. Perseverance is wrapping up its first science campaign on the floor of Jezero Crater and, with the help of sophisticated self-driving abilities, will head toward the remnants of a fan-shaped deposit of river sediments known as a delta to collect more samples. Ingenuity is planning updates to its software to improve operational safety. You can make your own discoveries by visiting the raw image pages for the Curiosity rover mars.nasa.gov/msl/multimedia/raw-images/ and Perseverance rover mars.nasa.gov/mars2020/multimedia/raw-images/, which feature unprocessed images coming straight down from the rovers. For more information on NASA's Mars missions, visit mars.nasa.gov. Credit: NASA/JPL-Caltech/ASU/MSSS/University of Arizona	0

2022 03 07	NASA Jet Propulsion Laboratory	https://youtu.be/fh6DlEFjR1M	NASA's Psyche Spacecraft Prepares for Trip to Asteroid by Testing Solar Arrays	NASA's Psyche mission is preparing for a 1.5 billion-mile (2.4 billion-kilometer) solar-powered trip to the metal-rich asteroid of the same name. In a cleanroom at NASA's Jet Propulsion Laboratory in February 2022, twin solar arrays were attached to the spacecraft body, unfolded lengthwise, and then re-stowed as tests on Psyche continue. The five-panel, cross-shaped solar arrays are the largest ever installed on a spacecraft at JPL, so engineers had to test them one at a time. Psyche is expected to launch no earlier than August 2022. About an hour after launch, the arrays will deploy and latch into place in a sequential process that will take 7 ½ minutes per array. They will then provide power for the journey to Psyche and for operating the three science instruments. In total, the solar arrays are 37 feet (11.3 meters) long. Only the three center panels can be deployed at JPL; the two cross panels on each wing are deployed using specialized equipment at Maxar Technologies in Palo Alto, California, where the arrays and spacecraft chassis were built. When they deploy fully in flight, the spacecraft will be about the size of a singles tennis court. Psyche is scheduled to arrive at the asteroid in 2026 and spend nearly two years making increasingly close orbits? Scientists think the asteroid Psyche could be part of the core of a planetesimal, the building block of an early rocky planet, which would provide a unique opportunity to study how planets like our own Earth formed.	Transcript Link
2022 03 02	NASA Jet Propulsion Laboratory	https://youtu.be/_uBdv1IOqZo	What's Up March 2022 Skywatching Tips from NASA	What are some skywatching highlights in March 2022? Look for Saturn to join Venus and Mars in the morning sky around mid-month. In the evenings, find the Y-shaped constellation Taurus, the bull, high in the southwest. The Hyades star cluster forms the bull's face. Then take a tour of four easy-to-find stars that have known planets of their own orbiting them. 0:00 Intro 0:11 Morning planets 0:37 Hyades star cluster 2:11 Easy to find exoplanets 3:30 Moon phases Additional information about topics covered in this episode of What's Up, along with still images from the video, and the video transcript, are available at https://solarsystem.nasa.gov/skywatching/home.	Transcript Link

2022 02 14	NASA Jet Propulsion Laboratory	https://youtu.be/7DhvAjJFfz0	How Do Spacecraft Deal with Dust Storms on Mars (NASA Mars Report February 14, 2022)	A large dust storm on Mars, nearly twice the size of the United States, covered the southern hemisphere of the Red Planet in early January 2022, leading to some of NASA's explorers on the surface hitting pause on their normal activities. NASA's Insight lander put itself in a "safe mode" to conserve battery power after dust prevented sunlight from reaching the solar panels. NASA's Ingenuity Mars Helicopter also had to postpone flights until conditions improved. A fleet of NASA orbiters monitor Martian dust storms like this one and serve as lifelines to Earth by relaying data from the rovers and lander on the ground back to the team. This includes the Mars Reconnaissance Orbiter, MAVEN, and Odyssey. Odyssey, while facing its technical issue, was able to recover quickly enough to come to InSight's aid during the dust storm. For more information on NASA's Mars missions, visit mars.nasa.gov. Credit: NASA/JPL-Caltech/ASU/MSSS	Transcript Link
2022 02 01	NASA Jet Propulsion Laboratory	https://youtu.be/rwoG9y3EdWQ	What's Up February 2022 Skywatching Tips from NASA	What are some skywatching highlights in February 2022? Jupiter is the lone planet lingering in twilight skies after sunset in February. It exits the evening sky this month leaving no bright planets there until August (save for a brief appearance from Mercury in April). Also Venus is at peak brightness for the year in the a.m., and it's a great time to view the Orion Nebula. 0:00 Intro 0:11 Jupiter departs evening skies 1:00 Venus at its brightest 1:43 The Orion Nebula 2:46 Moon Phases Additional information about topics covered in this episode of What's Up, along with still images from the video, and the video transcript, are available at https://solarsystem.nasa.gov/skywatching/home.	Transcript Link

2022 02 01	NASA Jet Propulsion Laboratory	https://youtu.be/qyphzmuzF18	JPL and the Space Age Explorer 1	Many of the strategies surrounding the Cold War revolved around two things: nuclear weapons and rockets. And in the United States, the Jet Propulsion Laboratory, under the supervision of Caltech, was charged with building America's first tactical nuclear rockets: the Corporal and Sergeant missiles. At this same time, the United States and the Soviet Union were nearing the ability to launch a satellite into Earth orbit. JPL, working in collaboration with Wernher von Braun's rocket efforts for the U.S. Army, believed they were fully capable of the feat, if only given the chance. That opportunity vanished in October 1957 when the Soviet Union shocked the world with the launch of Sputnik, the world's first satellite. The Space Age was underway. The first U.S. response exploded on the launch pad. Only after that embarrassment was JPL and von Braun's group given the green light. The success of Explorer 1, a satellite built by JPL, provided the world with the first space science discovery. Explorer 1 traces the story of the role JPL played before the creation of NASA and how the lab was given a vital role as part of this new organization: to explore the cosmos.	Transcript Link
2022 01 26	NASA Jet Propulsion Laboratory	https://youtu.be/PwGGN-DIvuM	NASA's Oceans Melting Greenland – Mission Complete	NASA's Oceans Melting Greenland (OMG) mission recently concluded a six-year field campaign in Greenland to measure how much the ocean is contributing to global sea-level rise by melting Greenland's glaciers from below. Rising sea levels caused by climate change are one of the biggest threats society faces in the next few decades OMG's first-ever maps of the island's seafloor and glaciers have revolutionized scientists' understanding of the pace of sea-level rise in the coming decades. The mission found that two to four times as many glaciers are at high risk of melting than scientists knew, and climate models that don't include the ocean's melting effect only estimate half of the glacial ice loss that will actually occur. For more information on the mission, visit omg.jpl.nasa.gov	Transcript Link
2021 12 30	NASA Jet Propulsion Laboratory	https://youtu.be/-WQw_SsZ70	What's Up January 2022 Skywatching Tips from NASA	What are some skywatching highlights in January 2022? Stargazing is at its best on the nights around the new moon, Jan. 2. Later that night, catch the peak of the Quadrantid meteor shower. Then look for the Moon with Jupiter on Jan. 5, and with Mars and Venus on Jan. 29. 0:00 Intro 0:10 New Moon 0:30 Quadrantid meteors 1:28 Dusk / Dawn Highlights 2:28 Moon Phases Additional information about topics covered in this episode of What's Up, along with still images from the video, and the video transcript, are available at https://solarsystem.nasa.gov/skywatching/home.	Transcript Link

2021 12 28	NASA Jet Propulsion Laboratory	https://youtu.be/aQhEIFs5B48	NASA's Perseverance Mars Rover Milestones - 2021 Year in Review	What has NASA's Perseverance rover accomplished since landing on the surface of Mars in February 2021? Surface Operations Mission Manager Jessica Samuels reflects on a year filled with groundbreaking discoveries at Jezero Crater and counts up the rover's achievements: ● More than 1.8 miles (2.9 kilometers) driven ● A new record for the longest drive in a Martian day ● Six samples and counting of Martian rock and atmosphere that could eventually be brought to Earth for further study ● More than 50 gigabytes of science data ● More than 100,000 images returned, including two "selfies" ● 18 flights by NASA's Ingenuity Mars Helicopter, which hitched a ride and coordinates flights with the Perseverance rover Samuels also explains the next phase of Perseverance's mission: to explore the delta that formed in Jezero Crater billions of years ago from sediment that an ancient river carried into the lake that once existed in the crater. A key objective for Perseverance's mission on Mars is astrobiology, including the search for signs of ancient microbial life. The rover is characterizing the planet's geology and past climate and paving the way for human exploration of the Red Planet. Perseverance is the first mission to collect and cache Martian rock and regolith (broken rock and dust).	Transcript Link
2021 12 22	NASA Jet Propulsion Laboratory	https://youtu.be/trM7Jue6T70	POINTER NASA Tech Demonstrated in a Simulated House Fire	New technology being developed by NASA's Jet Propulsion Laboratory and the Department of Homeland Security Science and Technology Directorate for use by firefighters and paramedics will help track first responders inside hazardous environments that may be obscured by smoke and flames. On October 27, 2021, members of the POINTER project from NASA-JPL teamed up with first responders to test the tracking technology under simulated house fire conditions. The demonstration was carried out inside a residential structure on the Caltech campus in Southern California, the same structure that was used in the April 30, 2021, demonstration. Short for Precision Outdoor and Indoor Navigation and Tracking for Emergency Responders, POINTER began taking shape in 2014, and now the technology is being matured for use by fire departments nationwide. During this demo, firefighters with the Pasadena Fire Department and paramedics put the technology through its paces under realistic search-and-rescue conditions. While rescues were simulated inside the structure, teammates located outside were able to track the location of their colleagues in 3D, seeing through walls and floors. Unlike positioning technologies such as GPS or radio-frequency identification, POINTER doesn't use radio waves. Though radio waves offer a reliable means to determine your location in a relatively open space, they can become unpredictable indoors. The	Transcript Link

2021 12 21	NASA Jet Propulsion Laboratory	https://youtu.be/yOplTCgnJFQ	Explore Mars' Jezero Crater with NASA's Perseverance Rover	This guided tour of Mars' Jezero Crater from NASA's Perseverance rover provides a glimpse of the Martian landscape from the rover's highest vantage point yet in the "Séítah" region. Perseverance Project Scientist Ken Farley points out highlights in this Martian panorama from the rover's Mastcam-Z instrument, including mountains that make up the crater rim, remnants of an ancient river delta that could preserve signs of ancient life, volcanic rocks, and boulders likely carried into the crater by the river in the distant past. The enhanced-color panorama was created from images taken on Nov. 28, 2021. The color enhancement exaggerates small changes in color from place to place in the scene. This makes it easier for the science team to use their everyday experience to interpret the landscape. The sky on Mars would not actually look blue to a human explorer on the Red Planet, but pinkish. Perseverance touched down on Mars on Feb. 18, 2021. For more information on this panorama is available at https://photojournal.jpl.nasa.gov/catalog/PIA25022. For more information on the Perseverance rover, visit https://mars.nasa.gov/perseverance. Credit: NASA/JPL-Caltech/ASU/MSSS	Transcript Link
2021 12 15	NASA Jet Propulsion Laboratory	https://youtu.be/HqWx6O_wns8	SWOT Mission Engineer Talks %23TrackingWorld Water with Surface Water and Ocean Topography Satellite	What is the Surface Water and Ocean Topography (SWOT) mission? This international satellite is set to help researchers track the volume and location of water – a finite resource – around the globe. Hear about the important aspects of this upcoming Earth science mission from engineer Chris Aceves. SWOT is set to launch no earlier than November 2022. (Note: There were technical difficulties during this recording, and interference can be heard at the 7:36 mark. It lasts about 90 seconds, and we thank you for bearing with us.) Credit: NASA/JPL-Caltech	0
2021 12 13	NASA Jet Propulsion Laboratory	https://youtu.be/6brucBsqR-g	NASA NOAA Tech Will Aid Marine Oil Spill Response	In a field campaign called MOST (Marine Oil Spill Thickness), NASA and NOAA are testing radar technology to measure oil thickness in marine oil spills. Their goal is to develop a prototype system that helps responders identify where the thickest -- and most environmentally harmful—oil is during an oil spill. This will help responders direct their clean up efforts to the areas that need it most. Credit: NASA/JPL-Caltech	Transcript Link

2021 12 13	NASA Jet Propulsion Laboratory	https://youtu.be/SAPaWLQbU_s	Testing Mars Sample Return	Teams across multiple NASA centers and the European Space Agency are working together to prepare a set of missions that would return the samples being collected by the Mars Perseverance rover safely back to Earth. From landing on the Red Planet and collecting the samples to launching them off the surface of Mars for their potential return to Earth, groundbreaking technologies and methods are being developed and tested.This video features some of that prototype testing underway for the proposed Sample Retrieval Lander, Mars Ascent Vehicle launch systems, and the Earth Entry System. A variety of testing is taking place at NASA's Jet Propulsion Laboratory in Pasadena, California, Marshall Space Flight Center in Greenbelt, Maryland, and Langley Research Center in Hampton, Virginia. Learn more: https://mars.nasa.gov/msr Credit: NASA/JPL-Caltech	Transcript Link
2021 12 09	NASA Jet Propulsion Laboratory	https://youtu.be/mb45grC5vfs	Mars Rover Team to Celebrate Persevering Students	NASA wants to celebrate students who've persevered. From overcoming unexpected challenges and hurdles in getting the Perseverance rover to Mars, and executing operations on the surface, the rover team already knows quite a bit about what it means to persevere. The "You've Got Perseverance" opportunity encourages teachers, educators, and community leaders to nominate middle school students who demonstrate perseverance in their academic journey. Select students will get a special message directly from the Perseverance rover on Mars, and the chance to talk with rover team members from mission control at NASA's Jet Propulsion Laboratory. The first opportunity to nominate opens on Dec. 9, 2021. Learn more: go.nasa.gov/gotperseverance Credit: NASA/JPL-Caltech	Transcript Link
2021 12 02	NASA Jet Propulsion Laboratory	https://youtu.be/PHnmapNMtlo	What's Up December 2021 Skywatching Tips from NASA	What are some skywatching highlights in December 2021? See three planets after sunset, but say goodbye to Venus as the "Evening Star" at the end of the month. Then have a hunt for newly discovered Comet Leonard in the early morning through mid-month. Finally, get up early on Dec. 14 to watch for Geminid meteors after local moonset, around 2 a.m. Additional information about topics covered in this episode of What's Up, along with still images from the video, and the video transcript, are available at https://solarsystem.nasa.gov/whats-up-skywatching-tips-from-nasa. Also, here's the new "Watch the Skies" blog about the upcoming Geminid meteors: https://go.nasa.gov/3lSJXVp	Transcript Link

2021 11 19	NASA Jet Propulsion Laboratory	https://youtu.be/Uw9u4XDqgHU	Inclusion Drives Innovation at JPL	This month JPL Interim Director, Larry James, accepted the International Astronautical Federation's 3G Diversity Award on behalf of JPL during the International Astronautical Congress (IAC) event in Dubai. The award recognizes JPL's contributions to the 3G (Geography, Generation, Gender) diversity initiative within the space sector. #iac2021 Learn more how inclusion drives innovation at JPL.	Transcript Link
2021 11 15	NASA Jet Propulsion Laboratory	https://youtu.be/ONDIWFbcLa4	How's the Weather on Mars (NASA Mars Report for November 15, 2021)	Seasons change even on Mars and NASA's fleet of explorers are helping scientists learn more about the effects on the Red Planet. NASA's Perseverance and Curiosity rovers provide daily weather reports by measuring conditions such as humidity, temperature, and wind speed on the surface. Orbiters including Odyssey, Mars Atmosphere and Volatile EvolutioN (MAVEN), and the Mars Reconnaissance Orbiter (MRO) survey the scope and scale of storms from above. Changing weather conditions can be challenging for the spacecraft. The Ingenuity Mars Helicopter recently increased its rotor speed from 2,537 rpm to 2,700 rpm to fly in a thinner summer atmosphere. Meanwhile, NASA's InSight lander, which is studying Mars' interior, recently measured one of the biggest, longest-lasting marsquakes the mission has ever detected. For more information on NASA's Mars missions, visit mars.nasa.gov. Credit: NASA/JPL-Caltech/University of Arizona/ASU/MSSS	Transcript Link
2021 11 02	NASA Jet Propulsion Laboratory	https://youtu.be/fzeK4TcOSPU	What's Up November 2021 Skywatching Tips from NASA	What are some skywatching highlights in November 2021? Enjoy the Moon and planets after sunset all month, plus a lunar eclipse! A partial lunar eclipse will be visible to much of the world on Nov. 18 and 19. Also, the familiar stars of Northern Hemisphere winter (or Southern summer) are returning to late night skies. In particular, note that several destinations of NASA's Lucy mission are located near the Pleiades. Additional information about topics covered in this episode of What's Up, along with still images from the video, and the video transcript, are available at https://solarsystem.nasa.gov/whats-up-skywatching-tips-from-nasa.	Transcript Link

2021 10 26	NASA Jet Propulsion Laboratory	https://youtu.be/5Br-y6S4pMc	Mixed Reality Meets Quantum Science on the International Space Station	NASA's Cold Atom Lab – a quantum physics facility aboard the International Space Station – hosts multiple experiments that explore the fundamental nature of atoms by cooling them down to nearly absolute zero (the coldest temperature matter can reach). Earlier this year, NASA astronaut Megan McArthur tested the use of a mixed reality headset (a Microsoft HoloLens) to help keep the experiment at the cutting edge. Though the mixed reality headset has been used in the past to assist astronauts during activities they perform alone, this is the first time it has been used to improve interaction between astronauts and team members on Earth. Members of the Cold Atom Lab team followed all relevant COVID-19 safety protocols during this activity. You can learn more about Cold Atom Lab here: https://coldatomlab.jpl.nasa.gov/	Transcript Link
2021 10 22	NASA Jet Propulsion Laboratory	https://youtu.be/oGsajLIALJE	JPL and the Space Age Triumph at Saturn (Part II)	Chronicling the story of NASA's Cassini mission, this is the latest in our series of documentaries, "JPL and the Space Age." These films use rare archival footage and interviews with pioneering engineers and scientists from the Jet Propulsion Laboratory in retelling of many of humanity's first steps into the cosmos. Other films in this series are available for viewing at https://www.jpl.nasa.gov/who-we-are/documentary-series-jpl-and-the-space-age. Part I of this two-part story premiered here on Oct. 15, 2021. Both parts of "Triumph at Saturn" are planned to be added to this collection in the near future.	Transcript Link
2021 10 18	NASA Jet Propulsion Laboratory	https://youtu.be/GHenFGnixzU	NASA's Perseverance Rover Captures the Sounds of Mars	NASA's Perseverance Mars rover carries two microphones which are directly recording sounds on the Red Planet, including the Ingenuity helicopter and the rover itself at work. For the very first time, these audio recordings offer a new way to experience the planet. Earth and Mars have different atmospheres, which affects the way sound is heard. Justin Maki, a scientist at NASA's Jet Propulsion Laboratory and Nina Lanza, a scientist at Los Alamos National Laboratory, explain some of the notable audio recorded on Mars in this video. For more information on Perseverance, visit https://mars.nasa.gov/perseverance. Credit: NASA/JPL-Caltech/LANL/CNES/CNRS/IRAP/DPA	Transcript Link

2021 10 15	NASA Jet Propulsion Laboratory	https://youtu.be/SY-hQJ5pMd4	JPL and the Space Age Triumph at Saturn (Part I)	Chronicling the story of NASA's Cassini mission, this is the latest in our series of documentaries, "JPL and the Space Age." These films use rare archival footage and interviews with pioneering engineers and scientists from the Jet Propulsion Laboratory in retelling the stories of many of humanity's first steps into the cosmos. Part I of this two-part story will premiere here on Oct. 15, 2021 at 3 p.m. Pacific time; part II will premiere here at the same time on Oct. 22: https://youtu.be/oGsajLIALJE. Other films in this series are available for viewing at https://www.jpl.nasa.gov/who-we-are/documentary-series-jpl-and-the-space-age. "Triumph at Saturn" is planned to be added to this collection in the near future.	Transcript Link
2021 10 01	NASA Jet Propulsion Laboratory	https://youtu.be/25XHe13OevA	What's Up October 2021 Skywatching Tips from NASA	What are some skywatching highlights in October 2021? See several groupings of the Moon, planets, and stars at sunrise and sunset. Then get to know two bright stars that are part of a special group: along with a handful of others, they take turns with Polaris as North Star over thousands of years. Plus, Oct. 16 is International Observe the Moon Night! Details: https://moon.nasa.gov/observe Additional information about topics covered in this episode of What's Up, along with still images from the video, and the video transcript, are available at https://solarsystem.nasa.gov/whats-up-skywatching-tips-from-nasa. Credit: NASA-JPL/Caltech	Transcript Link
2021 09 27	NASA Jet Propulsion Laboratory	https://youtu.be/pGP0OZ3ZiFQ	Instrumental Engineers Who Make Science Possible (Live Public Talk)	Pollution creates particulate matter (tiny floating particles) and aerosols that can be harmful to our health. With missions like the Multi-Angle Imager for Aerosols (MAIA), public health officials can start to map this particulate matter around the world, understand its effect on diseases, and know where the most risk is. In this month's talk, we'll chat with the instrument operations systems engineer for MAIA and discuss how vital positions like hers are for mission success and for making sure important data gets back to us on Earth. Speaker: Janelle Wellons, Instrument Operations Systems Engineer, NASA/JPL Host: Brian White, Public Services Office, NASA/JPL Co-Host: Jocelyn Argueta, Public Outreach Specialist, NASA/JPL Original Air Date: September 16, 2021	Transcript Link

2021 09 23	NASA Jet Propulsion Laboratory	https://youtu.be/zAUzKTIsMNU	Mars Report Update on NASA's Perseverance Rover SHERLOC Instrument (September 23rd, 2021)	NASA’s Mars 2020 Perseverance rover has been hard at work using the SHERLOC (Scanning Habitable Environments with Raman & Luminescence for Organics & Chemicals) instrument to help determine the best rocks to sample and look for signs of ancient life. Mounted on the rover's robotic arm, SHERLOC is the only instrument that can directly detect organics, which are building blocks for life. Because it characterizes the chemical composition of rocks, SHERLOC can also help scientists understand whether any of the rocks formed in an ancient habitable environment. SHERLOC features spectrometers, a laser, and cameras, including WATSON (Wide Angle Topographic Sensor for Operations and eNgineering). WATSON is a color camera that takes close-up images of rock grains and surface textures. This video provides an instrument update by Eva Scheller, one of the science team members from Caltech. For more information on Perseverance, visit https://mars.nasa.gov/perseverance. Credit: NASA/JPL-Caltech	0
2021 09 01	NASA Jet Propulsion Laboratory	https://youtu.be/Y1P4eW0mD_A	What's Up September 2021 Skywatching Tips from NASA	What are some skywatching highlights in September 2021? Mercury provides a challenging target to spot in the fading light after sunset at the beginning of the month. Enjoy spotting two "fast" stars all month long: speedy Arcturus and fast-spinning Altair. Additional information about topics covered in this episode of What's Up, along with still images from the video, and the video transcript, are available at https://solarsystem.nasa.gov/whats-up-skywatching-tips-from-nasa. Credit: NASA/JPL-Caltech	Transcript Link
2021 08 27	NASA Jet Propulsion Laboratory	https://youtu.be/SjdwdVKK11Y	NISAR – Helping Farmers from Space	NISAR will provide maps of developing crop area on a global basis every two weeks. Observations will be uninterrupted by weather and provide up-to-date information on the large-scale trends that affect international food security. The NASA–ISRO Synthetic Aperture Radar (NISAR) mission, a collaboration between the National Aeronautics and Space Administration (NASA) and the Indian Space Research Organization (ISRO), will provide all-weather, day/night imaging of nearly the entire land and ice masses of the Earth repeated 4-6 times per month. NISAR’s orbiting radars will image and track subtle movement of the Earth’s land and its sea ice, and even provide information about what is happening below the surface. NISAR will also provide information on crop area and forest biomass over time and with enough detail to reveal changes on field scales. Credit: NASA/JPL-Caltech	Transcript Link

2021 08 17	NASA Jet Propulsion Laboratory	https://youtu.be/8DZl56tS9ko	NASA's Curiosity Mars Rover Finds A Changing Landscape	NASA's Curiosity rover explores Mount Sharp, a 5-mile-tall (8-kilometer-tall) mountain within the basin of Gale Crater on Mars. Curiosity's Deputy Project Scientist, Abigail Fraeman of NASA's Jet Propulsion Laboratory in Southern California, gives viewers a descriptive tour of Curiosity's location. The panorama was captured by the rover's Mast Camera, or Mastcam, on July 3, 2021, the 3,167th Martian day, or sol, of its mission. Read the full story at: https://www.jpl.nasa.gov/news/nasas-curiosity-mars-rover-explores-a-changing-landscape Curiosity landed nine years ago on August 5, 2012, with a mission to study whether different Martian environments could have supported microbial life in the ancient past, when long-lived lakes and groundwater existed within Gale Crater. Credit: NASA/JPL-Caltech/MSSS	Transcript Link
2021 08 02	NASA Jet Propulsion Laboratory	https://youtu.be/-_VeXBhQh08	What's Up August 2021 Skywatching Tips from NASA	What are some skywatching highlights in August 2021? The best-known meteor shower of the year should be a good time this year on the peak night of Aug. 11, with no bright Moon to interfere. Jupiter and Saturn are at their best all month long. And on Aug. 22, the full moon will be a "seasonal blue moon." Additional information about topics covered in this episode of What's Up, along with still images from the video, and the video transcript, are available at https://solarsystem.nasa.gov/whats-up-skywatching-tips-from-nasa.	Transcript Link
2021 07 08	NASA Jet Propulsion Laboratory	https://youtu.be/2e7pdKlSqV4	POINTER NASA Tech for Tracking Firefighters Tested in Building	On April 30, 2021, members of the POINTER project tested the tracking technology inside a residential structure on the Caltech campus in Southern California. The technology is being developed by NASA's Jet Propulsion Laboratory and the Department of Homeland Security Science and Technology Directorate for use by firefighters to help track team members inside hazardous environments that may be obscured by smoke and flames. Short for Precision Outdoor and Indoor Navigation and Tracking for Emergency Responders, POINTER began taking shape in 2014, and now the technology is being matured for use by fire departments nationwide. Unlike positioning technologies such as GPS or radio-frequency identification, POINTER doesn't use radio waves. Though radio waves offer a reliable means to determine your location in a relatively open space, they can become unpredictable indoors. The system utilizes magnetoquasistatic fields that can pass through walls and other construction materials, a technique developed by JPL researchers. For more information about POINTER, see: https://www.jpl.nasa.gov/news/pointer-seeing-through-walls-to-help-locate-firefighters Credit: NASA/JPL-Caltech	Transcript Link

2021 07 01	NASA Jet Propulsion Laboratory	https://youtu.be/XBcIQLT2vI8	What's Up July 2021 Skywatching Tips from NASA	What are some skywatching highlights in July 2021? Venus blazes as the "Evening Star" following the sunset, with a much fainter planet Mars nearby. Catch their super close pairing on July 12. Plus, if you can find your way to dark skies, this is the best time of year to enjoy the magic of the Milky Way. Additional information about topics covered in this episode of What's Up, along with still images from the video, and the video transcript, are available at https://solarsystem.nasa.gov/whats-up-skywatching-tips-from-nasa. More: https://nightsky.jpl.nasa.gov/ https://blogs.nasa.gov/Watch_the_Skies/ Credit: NASA/JPL-Caltech	Transcript Link
2021 06 30	NASA Jet Propulsion Laboratory	https://youtu.be/TjcrnKkV0Bc	Water-Monitoring Satellite Moves Closer to Launch	The Surface Water and Ocean Topography mission (SWOT) will help scientists monitor Earth's ocean, as well as the amount of freshwater in its lakes and rivers when it launches in late 2022. After engineers put together the spacecraft's payload of scientific instruments at NASA's Jet Propulsion Laboratory in Southern California, the satellite now moves to Cannes, France, to complete integration before it will be launched in late 2022. Project manager Parag Vaze explains. SWOT is a collaboration between NASA and the French space agency Centre National d'Etudes Spatial (CNES), with contributions from the Canadian Space Agency (CSA) and United Kingdom Space Agency (UKSA). To learn more about the mission, visit: https://swot.jpl.nasa.gov/ Credit: NASA/JPL-Caltech	Transcript Link
2021 06 25	NASA Jet Propulsion Laboratory	https://youtu.be/aKNjQhIAUp0	How NASA's Perseverance Rover Takes a Selfie	NASA's Perseverance rover captured a historic group selfie with the Ingenuity Mars Helicopter on April 6, 2021. But how was the selfie taken? Vandi Verma, Perseverance's chief engineer for robotic operations at NASA's Jet Propulsion Laboratory in Southern California breaks down the process in this video. Video taken by Perseverance's navigation cameras shows the rover's robotic arm twisting and maneuvering to take the 62 images that compose the image. The rover's entry, descent, and landing microphone captured the sound of the arm's motors whirring during the process. Selfies allow engineers to check wear and tear on the rover over time. For more information on Perseverance, visit https://mars.nasa.gov/perseverance. Credit: NASA/JPL-Caltech/MSSS	Transcript Link

2021 06 10	NASA Jet Propulsion Laboratory	https://youtu.be/KrtzK-q2Yzk	Mars Report Update on NASA's Perseverance Rover SuperCam Instrument (June 10, 2021)	Since landing on the Red Planet, NASA's Mars 2020 Perseverance rover has been hard at work analyzing rocks and soil on the floor of Jezero Crater with the SuperCam instrument. SuperCam features a rock-vaporizing laser, camera, and microphone that can gather data from a distance. This video provides an instrument update by Hemani Kalucha, one of the SuperCam operations team members from Caltech. The laser pits shown are about .009 inches (250 microns) in diameter and spaced 1/8 inch (3 millimeters) apart. Sounds of an Ingenuity Mars Helicopter flight captured by the SuperCam microphone can be heard in the video NASA's Perseverance Rover Hears Ingenuity Mars Helicopter in Flight. For more information on Perseverance, visit https://mars.nasa.gov/perseverance. Credit: NASA/JPL-Caltech/ASU/MSSS/LANL/CNES/IRAP	Transcript Link
2021 06 09	NASA Jet Propulsion Laboratory	https://youtu.be/5jq9b4FrWCg	Perseverance Mars Rover's Mastcam-Z View of 'Van Zyl Overlook' (360 video + audio)	NASA's Perseverance Mars rover used its Mastcam-Z imaging system to capture this 360-degree panorama of "Van Zyl Overlook," where the rover was parked as the Ingenuity helicopter performed its first flights. The 2.4 billion-pixel panorama is made up of 992 individual images stitched together. The images were taken between April 15 and 26, 2021, or the 53rd and 64th Martian days, or sols, of the mission. The image of the rover in this panorama was taken on an earlier date, March 20, 2021, the 31st sol of the mission. It was added to give a better impression of scale and perspective from the rover's point of view. Imaging coverage of the sky has also been digitally smoothed and expanded based on the actual sky color observed as the panorama was being acquired on Mars. A few small patches of near-field sand had been covered by parts of Perseverance when the right-eye Mastcam-Z images were taken; those gaps were filled with images of the same sandy patches taken by the Mastcam-Z left-eye camera at the same time, or from the earlier Navcam images. The audio recording was made on Feb. 22, 2021. Rover background sounds have been removed. Please note: Not all browsers support viewing 360 videos. YouTube supports their playback on computers using Chrome, Firefox, Internet Explorer, and Opera browsers. For the best experience on a mobile device, play this video in the YouTube app. Explore the 2-D interactive panorama at https://go.nasa.gov/3zek1IP	Transcript Link

2021 06 03	NASA Jet Propulsion Laboratory	https://youtu.be/M4fNGBNWlzo	What's Up June 2021 Skywatching Tips from NASA	What are some skywatching highlights in June 2021? Catch Saturn and Jupiter in the morning, and the constellation Scorpius after dark! Plus skywatchers in the Northeast U.S., Eastern Canada, and Northern Europe can see a partial solar eclipse on June 10th. Additional information about topics covered in this episode of What's Up, along with still images from the video, and the video transcript, are available at https://solarsystem.nasa.gov/whats-up-skywatching-tips-from-nasa. Credit: NASA/JPL-Caltech	Transcript Link
2021 05 20	NASA Jet Propulsion Laboratory	https://youtu.be/R7aPuT8jz9Q	Clean Room Sneak Peek International SWOT Satellite (Live Q&A)	Check out the new spacecraft we're building. Targeting a late-2022 launch date, this SUV-size satellite will measure the height of Earth's water. SWOT will help researchers understand and track the volume and location of water – a finite resource – around the world, making NASA's first truly global survey of the planet's surface water. SWOT is being jointly developed by NASA and CNES, with contributions from the Canadian Space Agency (CSA) and United Kingdom Space Agency (UKSA). https://swot.jpl.nasa.gov/ Speakers: Parag Vaze, SWOT project manager, JPL Dr. Karen St. Germain, Earth science division director, NASA Marina Jurica, host Credit: NASA/JPL-Caltech	Transcript Link
2021 05 20	NASA Jet Propulsion Laboratory	https://youtu.be/Mv52Bm4QUHs	Mars Report Update on NASA's Perseverance & Curiosity Rovers (May 20, 2021)	NASA's Perseverance rover has been on the surface of Mars since February of 2021, joining NASA's Curiosity rover, which has been studying the Red Planet since 2012. Perseverance is now beginning to ramp up its science mission on Mars while preparing to collect samples that will be returned to Earth on a future mission. Curiosity is ready to explore some new Martian terrain. This video provides a mission update from Perseverance Surface Mission Manager Jessica Samuels and Curiosity Deputy Project Scientist Abigail Fraeman. For more information on Perseverance, visit https://mars.nasa.gov/perseverance. For more information on Curiosity, visit https://mars.nasa.gov/msl/. Credit: NASA/JPL-Caltech/MSSS	Transcript Link

2021 05 17	NASA Jet Propulsion Laboratory	https://youtu.be/RclF5xRSuJA	Volcanoes NISAR's Portal into Earth's Interior	By tracking subtle changes in Earth's surface, NISAR will spot warning signs of imminent volcanic eruptions. Monitoring these kinds of changes in the planet's surface over nearly the entire globe hasn't been done before with the high resolution in space and time that NISAR will deliver. NISAR is a joint Earth-observing mission between NASA and the Indian Space Research Organization (ISRO). NISAR will launch no earlier than 2022. Credit: NASA/JPL-Caltech	Transcript Link
2021 05 12	NASA Jet Propulsion Laboratory	https://youtu.be/Q75-HetU57A	Watch NASA's Ingenuity Mars Helicopter Fly in 3D	After the zoomable dual-camera Mastcam-Z imager aboard NASA's Perseverance rover captured the third flight of the agency's Ingenuity Mars helicopter on April 25, 2021, Justin Maki, an imaging scientist at NASA's Jet Propulsion Laboratory in Southern California, led the team that stitched the images into a video. The frames of the video were then reprojected to optimize viewing in an anaglyph, or an image seen in 3D when viewed with color-filtered glasses. If you don't have 3D glasses, you can make your own at home: go.nasa.gov/3xJTClv. A 2-D video of this same flight that does not require special glasses is available at https://youtu.be/kNx9hcrUpww. Arizona State University in Tempe leads the operations of the Mastcam-Z instrument, working in collaboration with Malin Space Science Systems in San Diego. A key objective for Perseverance's mission on Mars is astrobiology, including the search for signs of ancient microbial life. The rover will characterize the planet's geology and past climate, pave the way for human exploration of the Red Planet, and be the first mission to collect and cache Martian rock and regolith (broken rock and dust). Subsequent NASA missions, in cooperation with ESA (European Space Agency), would send spacecraft to Mars to collect these sealed samples from the surface and return them to Earth for in-depth analysis.	Transcript Link
2021 05 08	NASA Jet Propulsion Laboratory	https://youtu.be/PFbzEM8PzHE	NASA's Ingenuity Mars Helicopter Fifth Flight Lands in New Airfield	NASA's Ingenuity Mars Helicopter completed its fifth flight with a one-way journey from Wright Brothers Field to a new airfield 423 feet (129 meters) to the south on May 7, 2021. Ingenuity climbed to a new altitude record of 33 feet (10 meters). The flight is part of the rotorcraft's transition to its new operations demonstration phase. This phase will focus on investigating how a rotorcraft can be used, and demonstrate products that only a rotorcraft can provide from its aerial vantage point. Ingenuity became the first aircraft in history to make a powered, controlled flight on another planet on April 19, 2021, from Wright Brothers Field in Jezero Crater, Mars. For more information on the Ingenuity, visit: https://mars.nasa.gov/technology/helicopter/ Credit: NASA/JPL-Caltech	Transcript Link

2021 05 07	NASA Jet Propulsion Laboratory	https://youtu.be/y5niGi4k9vQ	NASA's Perseverance Rover Hears Ingenuity Mars Helicopter in Flight	On April 30, 2021, NASA's Perseverance rover made history as the first spacecraft to record sounds from another spacecraft on another planet. During Ingenuity's fourth flight, a microphone included with the SuperCam instrument aboard Perseverance captured the humming sound of the blades and the din of wind. The audio is recorded in mono. Scientists made it easier to hear by isolating the 84 hertz helicopter blade sound, reducing the frequencies below 80 hertz and above 90 hertz, and increasing the volume of the remaining signal. Some frequencies were clipped to bring out the helicopter's hum, which is loudest when the helicopter passes through the field of view of the camera. NASA's Ingenuity Mars Helicopter became the first aircraft in history to make a powered, controlled flight on another planet on April 19, 2021. Perseverance touched down at Octavia E. Butler Landing with Ingenuity attached to its belly on Feb. 18, 2021. The helicopter was deployed to the surface of Jezero Crater on April 3. For more information on this flight, visit the Ingenuity blog: https://mars.nasa.gov/technology/helicopter/status/297/ingenuity-completes-its-fourth-flight/ More information on the Ingenuity experiment is at: https://go.nasa.gov/ingenuity	Transcript Link
2021 05 04	NASA Jet Propulsion Laboratory	https://youtu.be/IX6LEAgUx-E	Curiosity Mars Rover's View Atop 'Mont Mercou' (360 View)	NASA's Curiosity Mars rover took this 360-degree panorama while atop "Mont Mercou," a rock formation that offered a view into Gale Crater below. The panorama is stitched together from 132 individual images taken on April 15, 2021, the 3,090th Martian day, or sol, of the mission. The panorama has been white-balanced so that the colors of the rock materials resemble how they would appear under daytime lighting conditions on Earth. Images of the sky and rover hardware were not included in this terrain mosaic. The rover's Mast Camera, or Mastcam, provided the panorama. Malin Space Science Systems in San Diego built and operates Mastcam. A division of Caltech, NASA's Jet Propulsion Laboratory in Southern California built the Curiosity rover and manages the Curiosity rover for the agency's Science Mission Directorate in Washington. For more information about Curiosity, visit https://mars.nasa.gov/msl or https://www.nasa.gov/mission_pages/msl/index.html. Please note: Not all browsers support viewing 360 videos. YouTube supports their playback on computers using Chrome, Firefox, Internet Explorer, and Opera browsers. For the best experience on a mobile device, play this video in the YouTube app. Explore the 2-D interactive panorama at https://mars.nasa.gov/resources/25865/curiositys-360-degree-view-atop-mont-mercou/	Transcript Link

2021 04 30	NASA Jet Propulsion Laboratory	https://youtu.be/o9pCovBDIYo	Fourth Flight a Success for NASA's Ingenuity Mars Helicopter	NASA's Ingenuity Mars Helicopter successfully completed a fourth, more challenging flight on the Red Planet on April 30, 2021. Flight Test No. 4 aimed for a longer flight time, longer distance, and more image capturing to begin to demonstrate its ability to serve as a scout on Mars. Ingenuity climbed to an altitude of 16 feet (5 meters) before flying south and back for an 872-foot (266-meter) round trip. In total, Ingenuity was in the air for 117 seconds, another set of records for the helicopter. The fourth flight lifted off from and returned to "Wright Brothers Field" in Jezero Crater, Mars. The Ingenuity team at NASA's Jet Propulsion Laboratory in Southern California determined that the flight was successful after receiving data from the helicopter and imagery from the Perseverance Mars rover. NASA's Ingenuity Mars Helicopter became the first aircraft in history to make a powered, controlled flight on another planet on April 19, 2021. Perseverance touched down at Octavia E. Butler Landing with Ingenuity attached to its belly on Feb. 18, 2021. The helicopter was deployed to the surface of Jezero Crater on April 3. For more information on this flight, visit the Ingenuity blog: https://mars.nasa.gov/technology/helicopter/status/297/ingenuity-completes-its-fourth-flight/	Transcript Link
2021 04 30	NASA Jet Propulsion Laboratory	https://youtu.be/dHTOMMWzDfU	What's Up May 2021 Skywatching Tips from NASA	What are some skywatching highlights in May 2021? Beginning mid-May, find all four inner planets (including Earth!) near the western horizon after sunset. And on May 26, a supermoon total eclipse. Additional information about topics covered in this episode of What's Up, along with still images from the video, and the video transcript, are available at https://solarsystem.nasa.gov/whats-up-skywatching-tips-from-nasa. Clarification: It *is* safe to look directly at a total solar eclipse during the brief period of totality, that is, when the Sun is completely and totally blocked by the Moon. More info: https://www.nasa.gov/content/eye-safety-during-a-total-solar-eclipse Credit: NASA/JPL-Caltech	Transcript Link

2021 04 25	NASA Jet Propulsion Laboratory	https://youtu.be/kNx9hcrUpww	Perseverance Rover's Mastcam-Z Captures Ingenuity's Third Flight	NASA’s Ingenuity Mars Helicopter takes off and lands in this video captured on April 25, 2021, by Mastcam-Z, an imager aboard NASA’s Perseverance Mars rover. As expected, the helicopter flew out of its field of vision while completing a flight plan that took it 164 feet (50 meters) downrange of the landing spot. Keep watching, the helicopter will return to stick the landing. Top speed for today's flight was about 2 meters per second, or about 4.5 miles-per-hour. The Ingenuity Mars Helicopter was built by JPL, which also manages this technology demonstration project for NASA Headquarters. It is supported by NASA’s Science Mission Directorate, Aeronautics Research Mission Directorate, and Space Technology Mission Directorate. NASA’s Ames Research Center and Langley Research Center provided significant flight performance analysis and technical assistance during Ingenuity’s development. A key objective for Perseverance’s mission on Mars is astrobiology, including the search for signs of ancient microbial life. The rover will characterize the planet’s geology and past climate, pave the way for human exploration of the Red Planet, and be the first mission to collect and cache Martian rock and regolith (broken rock and dust). Subsequent NASA missions, in cooperation with ESA (European Space Agency), would send spacecraft to Mars to collect these sealed samples from the surface and return them to Earth for in-depth analysis.	Transcript Link
2021 04 25	NASA Jet Propulsion Laboratory	https://youtu.be/ka7S42EXPq0	Third Flight of NASA’s Ingenuity Mars Helicopter is a Success	Ingenuity’s third flight achieved a longer flight time and more sideways movement than previously attempted. During the 80-second flight, the helicopter climbed to 16 feet (5 meters) and flew 164 feet (50 meters) downrange and back, for a total distance of 328 feet (100 meters). The third flight test took place at “Wright Brothers Field” in Jezero Crater, Mars, on April 25, 2021. NASA’s Ingenuity Mars Helicopter became the first aircraft in history to make a powered, controlled flight on another planet on April 19, 2021. Perseverance touched down at Octavia E. Butler Landing with Ingenuity attached to its belly on Feb. 18. The helicopter was deployed to the surface of Jezero Crater on April 3. For more information on Ingenuity, visit : https://mars.nasa.gov/technology/helicopter/ Credit: NASA/JPL-Caltech	Transcript Link

2021 04 23	NASA Jet Propulsion Laboratory	https://youtu.be/aZX24dPIAGg	Second Flight a Success for NASA's Ingenuity Mars Helicopter	NASA's Ingenuity Mars Helicopter successfully completed a second, more challenging flight on the Red Planet on April 22, 2021. Flight Test No. 2aimed for a higher maximum altitude, longer flight time, and sideways movement. The second flight test took place at "Wright Brothers Field" in Jezero Crater, Mars. . During the 52-second flight, the helicopter climbed to 16 feet (5 meters) compared to its first takeoff of 10 feet (3 meters). It also flew about 7 feet (2 meters) sideways and turned three times. The Ingenuity team at NASA's Jet Propulsion Laboratory in Southern California determined that the flight was successful after receiving data from the helicopter and imagery from the Perseverance Mars rover. NASA's Ingenuity Mars Helicopter became the first aircraft in history to make a powered, controlled flight on another planet on April 19, 2021. Perseverance touched down at Octavia E. Butler Landing with Ingenuity attached to its belly on Feb. 18. The helicopter was deployed to the surface of Jezero Crater on April 3. For more information on the Ingenuity, visit : https://mars.nasa.gov/technology/helicopter/ Credit: NASA/JPL-Caltech	Transcript Link
2021 04 22	NASA Jet Propulsion Laboratory	https://youtu.be/LtTv1rUixiY	Mastcam-Z Video of Ingenuity Taking Off and Landing	NASA's Ingenuity Mars Helicopter takes off and lands in this video captured on April 19, 2021, by Mastcam-Z, an imager aboard NASA's Perseverance Mars rover. This video features only the moments of takeoff and landing. As expected, the helicopter flew out of its field of vision but the shadow of it hovering is visible The Ingenuity Mars Helicopter was built by JPL, which also manages this technology demonstration project for NASA Headquarters. It is supported by NASA's Science Mission Directorate, Aeronautics Research Mission Directorate, and Space Technology Mission Directorate. NASA's Ames Research Center and Langley Research Center provided significant flight performance analysis and technical assistance during Ingenuity's development. A key objective for Perseverance's mission on Mars is astrobiology, including the search for signs of ancient microbial life. The rover will characterize the planet's geology and past climate, pave the way for human exploration of the Red Planet, and be the first mission to collect and cache Martian rock and regolith (broken rock and dust). Subsequent NASA missions, in cooperation with ESA (European Space Agency), would send spacecraft to Mars to collect these sealed samples from the surface and return them to Earth for in-depth analysis. The Mars 2020 Perseverance mission is part of NASA's Moon to Mars exploration approach, which includes Artemis missions to the	Transcript Link

2021 04 21	NASA Jet Propulsion Laboratory	https://youtu.be/IMMPBNzp0Dg	Enhanced Video Shows Dust During Ingenuity's Flight	NASA's Ingenuity helicopter can be seen here taking off, hovering and then landing on the Martian surface on April 19, 2021. The Mastcam-Z imager aboard NASA's Perseverance Mars rover shot video of the helicopter's flight. The video is presented here in side-by-side formats that have both been enhanced to show a dust plume swirling during takeoff and again on landing. The view on the left uses motion filtering to show where dust was detected during liftoff and landing and the view on the right is enhanced with the motion filtering. Scientists use this image processing to detect dust devils as they pass by Mars rovers. An additional version of the video includes a timer that counts down until liftoff and then counts up until landing. A ghostly "cut-out" of the helicopter is visible in each side-by-side format; that's an artifact related to the digital processing. The Ingenuity Mars Helicopter was built by JPL, which also manages this technology demonstration project for NASA Headquarters. It is supported by NASA's Science Mission Directorate, Aeronautics Research Mission Directorate, and Space Technology Mission Directorate. NASA's Ames Research Center and Langley Research Center provided significant flight performance analysis and technical assistance during Ingenuity's development. Arizona State University in Tempe leads the operations of the Mastcam-Z instrument, working in collaboration with Malin Space	Transcript Link
2021 04 20	NASA Jet Propulsion Laboratory	https://youtu.be/ia6S1jZmwWc	NASA's Ingenuity Mars Helicopter Successfully Completes First Flight	NASA's Ingenuity Mars Helicopter became the first aircraft in history to make a powered, controlled flight on another planet on April 19, 2021. The Ingenuity team at NASA's Jet Propulsion Laboratory in Southern California determined that the flight was successful after receiving data from both the helicopter and the Perseverance Mars rover. Ingenuity is a technology demonstration. The 19-inch-tall Ingenuity Mars Helicopter contains no science instruments. Instead, the 4-pound rotorcraft will help determine whether future explorations on Mars could be conducted from the air. Perseverance touched down at Octavia E. Butler Landing with Ingenuity attached to its belly on Feb. 18. The helicopter was deployed to the surface of Jezero Crater on April 3. For more information on the Ingenuity, visit: https://mars.nasa.gov/technology/helicopter/ Credit: NASA/JPL-Caltech	Transcript Link

2021 04 19	NASA Jet Propulsion Laboratory	https://youtu.be/wMnOo2zcjXA	First Video of NASA's Ingenuity Mars Helicopter in Flight, Includes Takeoff and Landing (High-Res)	In this video captured by NASA's Perseverance rover, the agency's Ingenuity Mars Helicopter took the first powered, controlled flight on another planet on April 19, 2021. The rover was parked at "Van Zyl Overlook," about 211 feet (64.3 meters) away in Mars' Jezero Crater and chronicled the flight operations with its cameras. These images from the rover's Mastcam-Z cameras show the helicopter hovering above the Red Planet's surface. During this first flight, the helicopter climbed to an altitude of 10 feet (3 meters), hovered, and then touched back down on the surface of Mars. Ingenuity is a technology demonstration. The 4-pound (1.8-kilogram) rotorcraft will help determine whether future explorations on Mars could include an aerial perspective. Perseverance touched down at "Octavia E. Butler Landing" with Ingenuity attached to its belly on Feb. 18, 2021. The helicopter was deployed to the surface on April 3. For more information on Ingenuity, visit : https://mars.nasa.gov/technology/helicopter/. For more information on Perseverance, visit: https://mars.nasa.gov/perseverance.	0
2021 04 19	NASA Jet Propulsion Laboratory	https://youtu.be/GNgrXCmhSak	First Video of NASA's Ingenuity Mars Helicopter in Flight	In this video captured by NASA's Perseverance rover, the agency's Ingenuity Mars Helicopter took the first powered, controlled flight on another planet on April 19, 2021. The rover was parked at "Van Zyl Overlook," about 211 feet (64.3 meters) away in Mars' Jezero Crater and chronicled the flight operations with its cameras. These images from the rover's Mastcam-Z cameras show the helicopter hovering above the Red Planet's surface. During this first flight, the helicopter climbed to an altitude of 10 feet (3 meters), hovered, and then touched back down on the surface of Mars. Ingenuity is a technology demonstration. The 4-pound (1.8-kilogram) rotorcraft will help determine whether future explorations on Mars could include an aerial perspective. Perseverance touched down at "Octavia E. Butler Landing" with Ingenuity attached to its belly on Feb. 18, 2021. The helicopter was deployed to the surface on April 3. For more information on Ingenuity, visit : https://mars.nasa.gov/technology/helicopter/. For more information on Perseverance, visit: https://mars.nasa.gov/perseverance.	Transcript Link

2021 04 17	NASA Jet Propulsion Laboratory	https://youtu.be/Z8lltSzjmMo	Mars Report Update on NASA's Perseverance Rover & Ingenuity Helicopter (April 16, 2021)	As NASA's Ingenuity Mars helicopter makes progress towards its first test flight, the Mars 2020 Perseverance rover has begun preparing to test the MOXIE technology demonstration that converts Martian air into oxygen, and investigating some nearby rocks with its science instruments. This video provides a mission update from Ingenuity Chief Engineer Bob Balaram, and Perseverance Project Scientist Ken Farley. Ingenuity is the first aircraft on Mars and will attempt the first powered, controlled flight on another planet. If Ingenuity succeeds, future Mars exploration could include an aerial dimension. For more information on Perseverance, visit https://mars.nasa.gov/perseverance. For more information on the Ingenuity Mars helicopter's latest status updates, visit go.nasa.gov/3v0mzay and https://go.nasa.gov/ingenuity. Credit: NASA/JPL-Caltech	0
2021 04 02	NASA Jet Propulsion Laboratory	https://youtu.be/nVknY8baakQ	What's Up April 2021 Skywatching Tips from NASA	What are some skywatching highlights in April 2021? Look for the rosy arch known as the Belt of Venus at sunset, then find the constellation Leo overhead on April evenings. Also, check out Jupiter and Saturn with the Moon on April 6. Additional information about topics covered in this episode of What's Up, along with still images from the video, and the video transcript, are available at https://solarsystem.nasa.gov/whats-up-skywatching-tips-from-nasa. Credit: NASA/JPL-Caltech	Transcript Link
2021 04 01	NASA Jet Propulsion Laboratory	https://youtu.be/WkfEVfogl0k	%23MissionToPsyche Q&A from JPL's Spacecraft Assembly Facility	A major component of the Psyche spacecraft, known as the Solar Electric Propulsion (SEP) Chassis, arrived at JPL over the weekend. Learn more about this important hardware with project systems engineer David Oh from inside the lab's Spacecraft Assembly Facility. The mission, which is expected to launch in 2022, will explore a metal-rich asteroid of the same name in the main belt between Mars and Jupiter.	Transcript Link

2021 04 01	NASA Jet Propulsion Laboratory	https://youtu.be/AYjknNxGuJw	Mars Helicopter Prepares for Takeoff (Mission Trailer)	Beginning April 2021, the window opens for the first flight of NASA's Ingenuity Mars Helicopter. It will be history's first attempt at powered, controlled flight on another planet. Ingenuity arrived at Mars on February 18, 2021, riding along with NASA's Perseverance rover. Before it attempts takeoff, the Mars Helicopter must first survive the arduous journey to Mars – from the turbulent liftoff to the harrowing landing – as well as dangerously cold nights where it must maintain power to keep itself warm enough to operate. The duration of Ingenuity's mission is 30 days, where one or more test flights will be attempted. As a technology demonstration, Ingenuity is testing a new capability for the first time: showing controlled flight is possible in the very thin Martian atmosphere. If successful, Ingenuity could lead to an aerial dimension to space exploration, aiding both robots and humans in the future. For more about the Ingenuity Mars Helicopter, visit: mars.nasa.gov/technology/helicopter. Credit: NASA/JPL-Caltech	Transcript Link
2021 03 26	NASA Jet Propulsion Laboratory	https://youtu.be/fmGr5rT_QEQ	See the Earth Mission NISAR Under Construction in JPL's Clean Room	No bunny suit required! Come behind-the-scenes with NISAR mission experts to learn all about this joint NASA-ISRO satellite designed to spot potential natural hazards on our planet and how melting land ice will affect sea level rise. Speakers: Paul Rosen, project scientist, JPL Wendy Edelstein, instrument manager, JPL Note: Due to technical difficulties, there was a short gap in coverage at 14:40 in the feed of the original live stream on March 25, 2021. Credit: NASA/JPL-Caltech	Transcript Link
2021 03 19	NASA Jet Propulsion Laboratory	https://youtu.be/E35deNrJEIY	Mars Report Update on NASA's Perseverance Rover & Ingenuity Helicopter (March 19, 2021)	NASA's Mars 2020 Perseverance rover is preparing to deploy the Ingenuity Mars helicopter to the surface of the Red Planet. This video provides a mission update from Farah Alibay, Perseverance integration lead for Ingenuity, and Tim Canham, Ingenuity operations lead. Ingenuity is the first aircraft on Mars and the first attempt at powered, controlled flight on another planet. If Ingenuity succeeds, future Mars exploration could include an ambitious aerial dimension. For more information on Perseverance, go to https://mars.nasa.gov/perseverance. For more information on the Mars Ingenuity helicopter, go to: https://go.nasa.gov/ingenuity. Credit: NASA/JPL-Caltech	0

2021 03 06	NASA Jet Propulsion Laboratory	https://youtu.be/nVBSx2MEiMc	President Biden Calls JPL to Congratulate the Perseverance Mars Rover Team	On March 4, 2021, President Biden video called NASA's Jet Propulsion Laboratory to congratulate the mission team for the successful landing of the Perseverance Mars rover. The president spoke with JPL director Mike Watkins and Swati Mohan, the mission's guidance and controls operations lead. Team members watched and reacted from various mission support areas around JPL. The team remained masked and socially distant due to the ongoing Covid-19 pandemic. For more about the mission, visit https://mars.nasa.gov/perseverance Credit: NASA-JPL/Caltech/The White House	Transcript Link
2021 03 05	NASA Jet Propulsion Laboratory	https://youtu.be/3XjGGt0RsJM	Perseverance Lands on Mars, as the World Watches	On Feb. 18, 2021, the world watched live as NASA's Mars 2020 mission team attempted the most daring part of its mission: landing the Perseverance rover on the surface of Mars. Viewers around the world tuned in to watch the harrowing entry, descent, and landing on TVs, computers, and on giant screens in major cities. As the successful touchdown was confirmed, fans celebrated by sharing their reaction videos and photos on social media. Major landmarks across the globe got involved by lighting up red to celebrate the landing. Perseverance's mission continues on the surface of Mars where it will look for the signs of past life. Learn more: mars.nasa.gov/mars2020. Credit: NASA/JPL-Caltech	Transcript Link
2021 03 03	NASA Jet Propulsion Laboratory	https://youtu.be/4GrXn3Vrcek	What's Up March 2021 Skywatching Tips from NASA	What are some skywatching highlights in March 2021? Look for Mars close to the Pleiades in the first couple of weeks of March. Then wake up early to observe the giant planets Jupiter and Saturn, which return as morning planets this month. Additional information about topics covered in this episode of What's Up, along with still images from the video, and the video transcript, are available at https://solarsystem.nasa.gov/whats-up-skywatching-tips-from-nasa. Credit: NASA/JPL-Caltech	Transcript Link
2021 02 23	NASA Jet Propulsion Laboratory	https://youtu.be/vusXJXMeX9k	Perseverance's Descent & Touchdown on Mars Descent Stage Down-Look Camera POV (Official NASA Clip)	NASA's newest rover captured first-of-its kind footage of its Feb. 18 touchdown on Mars.From the moment of parachute inflation, the camera system covers the entirety of the descent process, showing some of the rover's intense ride to Mars' Jezero Crater. The footage from high-definition cameras aboard the spacecraft starts 7 miles (11 kilometers) above the surface, showing the supersonic deployment of the most massive parachute ever sent to another world, and ends with the rover's touchdown in the crater. News release: https://www.jpl.nasa.gov/news/nasas-mars-perseverance-rover-provides-front-row-seat-to-landing-first-audio-recording-of-red-planet Credit: NASA/JPL-Caltech	0

2021 02 23	NASA Jet Propulsion Laboratory	https://youtu.be/BsXFIbe-5y4	Perseverance's Descent & Touchdown on Mars Parachute Up-View Camera POV (Official NASA Clip)	NASA's newest rover captured first-of-its kind footage of its Feb. 18 touchdown on Mars.From the moment of parachute inflation, the camera system covers the entirety of the descent process, showing some of the rover's intense ride to Mars' Jezero Crater. The footage from high-definition cameras aboard the spacecraft starts 7 miles (11 kilometers) above the surface, showing the supersonic deployment of the most massive parachute ever sent to another world, and ends with the rover's touchdown in the crater. News release: https://www.jpl.nasa.gov/news/nasas-mars-perseverance-rover-provides-front-row-seat-to-landing-first-audio-recording-of-red-planet Credit: NASA/JPL-Caltech	0
2021 03 22	NASA Jet Propulsion Laboratory	https://youtu.be/XG-tkyChCNQ	NASA Jet Propulsion Laboratory Live Stream	NASA's Jet Propulsion Laboratory invites you to watch live about everything from Mars rovers to monitoring asteroids to cool cosmic discoveries. From the lab to the lecture hall, get information directly from scientists and engineers working on NASA's latest missions. http://www.jpl.nasa.gov	Transcript Link
2021 02 23	NASA Jet Propulsion Laboratory	https://youtu.be/ZbTJ_YCTDLI	Perseverance's Descent & Touchdown on Mars Parachute Up-View Camera 2 POV (Official NASA Clip)	NASA's newest rover captured first-of-its kind footage of its Feb. 18 touchdown on Mars.From the moment of parachute inflation, the camera system covers the entirety of the descent process, showing some of the rover's intense ride to Mars' Jezero Crater. The footage from high-definition cameras aboard the spacecraft starts 7 miles (11 kilometers) above the surface, showing the supersonic deployment of the most massive parachute ever sent to another world, and ends with the rover's touchdown in the crater. News release: https://www.jpl.nasa.gov/news/nasas-mars-perseverance-rover-provides-front-row-seat-to-landing-first-audio-recording-of-red-planet Credit: NASA/JPL-Caltech	0
2021 02 23	NASA Jet Propulsion Laboratory	https://youtu.be/L1taqzNovbk	Perseverance's Descent & Touchdown on Mars Rover Descent Camera POV (Official NASA Clip)	NASA's newest rover captured first-of-its-kind footage of its Feb. 18 touchdown on Mars. From the moment of parachute inflation, the camera system covers the entirety of the descent process, showing some of the rover's intense ride to Mars' Jezero Crater. The footage from high-definition cameras aboard the spacecraft starts 7 miles (11 kilometers) above the surface, showing the supersonic deployment of the most massive parachute ever sent to another world, and ends with the rover's touchdown in the crater. News release: https://www.jpl.nasa.gov/news/nasas-mars-perseverance-rover-provides-front-row-seat-to-landing-first-audio-recording-of-red-planet Credit: NASA/JPL-Caltech	0

2021 02 23	NASA Jet Propulsion Laboratory	https://youtu.be/uKxYMRfKAEs	Perseverance's Descent & Touchdown on Mars Rover Up-Look Camera POV (Official NASA Clip)	NASA's newest rover captured first-of-its kind footage of its Feb. 18 touchdown on Mars.From the moment of parachute inflation, the camera system covers the entirety of the descent process, showing some of the rover's intense ride to Mars' Jezero Crater. The footage from high-definition cameras aboard the spacecraft starts 7 miles (11 kilometers) above the surface, showing the supersonic deployment of the most massive parachute ever sent to another world, and ends with the rover's touchdown in the crater. News release: https://www.jpl.nasa.gov/news/nasas-mars-perseverance-rover-provides-front-row-seat-to-landing-first-audio-recording-of-red-planet Credit: NASA/JPL-Caltech	0
2021 02 22	NASA Jet Propulsion Laboratory	https://youtu.be/wE-aQO9XD1g	NASA'S Perseverance Rover's First 360 View of Mars (Official)	This video shows the first 360-degree view of the landing site of NASA's Perseverance rover on Mars, as captured by the rover's color Navigation Cameras, or Navcams. The Navcams are on the remote sensing mast (or "head") of the rover. Perseverance possesses the most cameras of any Mars rover to date, with 19 on the rover. Perseverance landed on Mars' Jezero Crater on February 18, 2021. These images were obtained on February 20, 2021. A key objective for Perseverance's mission on Mars is astrobiology, including the search for signs of ancient microbial life. The rover will characterize the planet's geology and past climate, pave the way for human exploration of the Red Planet, and be the first mission to collect and cache Martian rock and regolith. Please note: Not all browsers support viewing 360 videos. YouTube supports their playback on computers using Chrome, Firefox, Internet Explorer, and Opera browsers. For best experience on a mobile device, play this video in the YouTube app. For more information about Perseverance, visit https://mars.nasa.gov/perseverance Credit: NASA/JPL-Caltech	Transcript Link

2021 02 21	NASA Jet Propulsion Laboratory	https://youtu.be/IyP8cdBt8So	Mission Control Celebration for NASA's Perseverance Mars Rover Landing (360 Video)	Mars, rover, space, mission control, live, 360, 360video, nasa, jpl, nasajpl, perseverance, perseverence, engineer, engineering, swati mohan, landing, lands, panoramic, robot, robotics, cheer, celebrate, celebrates Take a seat inside mission control to see, hear and feel what it was like for the team as they received signals that NASA's Perseverance Mars rover had landed safely. This clip from a 360-degree video recording of rover landing activities that took place on Feb. 18, 2021. It shows the inside of the Cruise Mission Support Area in the Space Flight Operations Facility at NASA's Jet Propulsion Laboratory in Southern California, where the Mars 2020 mission is managed. Please note: Not all browsers support viewing 360 videos. YouTube supports their playback on computers using Chrome, Firefox, Internet Explorer, and Opera browsers. For best experience on a mobile device, play this video in the YouTube app. 2-D video is available at https://www.youtube.com/watch?v=gm0b_ijaYMQ Watch the full 360-degree landing coverage with picture-in-picture NASA TV commentary at: https://youtu.be/GIooAx_GkJs For more on the mission, visit https://mars.nasa.gov/mars2020 Credit: NASA-JPL/Caltech	Transcript Link
2021 02 19	NASA Jet Propulsion Laboratory	https://youtu.be/L6dx0pO5MSw	NASA's Perseverance Rover Lands Successfully on Mars (Highlight Reel)	After a seven-month-long journey, NASA’s Perseverance Rover successfully touched down on the Red Planet on Feb. 18, 2021. Mission controllers at NASA's Jet Propulsion Laboratory in Southern California celebrate landing NASA's fifth -- and most ambitious -- rover on Mars. A key objective for Perseverance’s mission on Mars is astrobiology, including the search for signs of ancient microbial life. The rover will characterize the planet’s geology and past climate, pave the way for human exploration of the Red Planet, and be the first mission to collect and cache Martian rock and regolith. Also flying with Perseverance is NASA’s Ingenuity helicopter, which will attempt to show controlled, powered flight is possible in the very thin Martian atmosphere. For more about Perseverance, visit http://mars.nasa.gov/perseverance Credit: NASA/JPL-Caltech	Transcript Link

2021 02 18	NASA Jet Propulsion Laboratory	https://youtu.be/TUd604rBR6I	Behind-the-Scenes JPL Tour - %23CountdownTo Mars Q&A	Get a behind-the-scenes tour of JPL in our final days of the #CountdownToMars! Meet our team, talk about the science of searching for ancient life, and see inside mission control before NASA's Perseverance Mars Rover and the Ingenuity Mars helicopter touch down. Guests (in order of appearance): • Bethany Ehlmann, co-investigator on Mastcam-Z & SHERLOC, Caltech • Asad Aboobaker, MOXIE engineer, JPL • Diana Trujillo, Mars 2020 engineer, JPL Credit: NASA/JPL-Caltech	Transcript Link
2021 02 12	NASA Jet Propulsion Laboratory	https://youtu.be/M4tdMR5HLtg	7 Minutes to Mars NASA's Perseverance Rover Attempts Most Dangerous Landing Yet	All landings on Mars are difficult, but NASA's Perseverance rover is attempting to touch down in the most challenging terrain on Mars ever targeted. The intense entry, descent, and landing phase, known as EDL, begins when the spacecraft reaches the top of the Martian atmosphere. Engineers have referred to the time it takes to land on Mars as the "seven minutes of terror." The landing sequence is complex and targeting a location like Jezero Crater on Mars is only possible because of new landing technologies known as Range Trigger and Terrain-Relative Navigation. The Perseverance rover is set to land on the surface of Mars on February 18, 2021. For more information about Perseverance, visit https://mars.nasa.gov/perseverance Credit: NASA/JPL-Caltech	Transcript Link
2021 02 02	NASA Jet Propulsion Laboratory	https://youtu.be/Bw3yatflVzI	What's Up February 2021 Skywatching Tips from NASA	What are some skywatching highlights in February 2021? Find Mars all month after sunset, especially on the night of NASA's planned rover landing, Feb. 18. Then watch the Moon glide across the Winter Circle before it pays a visit to the bright stars of the constellation Gemini. Additional information about topics covered in this episode of What's Up, along with still images from the video, and the video transcript, are available at https://solarsystem.nasa.gov/whats-up-skywatching-tips-from-nasa. Credit: NASA/JPL-Caltech	Transcript Link
2020 12 31	NASA Jet Propulsion Laboratory	https://youtu.be/q7jYvd6v25Y	What's Up January 2021 Skywatching Tips from NASA	What are some skywatching highlights in January 2021? Mark Earth's closest approach to the Sun for the year, called perihelion, at the start of the month, then spot a couple of elusive planets: Uranus on Jan. 20th and Mercury throughout the second half of the month. Additional information about topics covered in this episode of What's Up, along with still images from the video, and the video transcript, are available at https://solarsystem.nasa.gov/whats-up-skywatching-tips-from-nasa. Credit: NASA/JPL-Caltech	Transcript Link

2020 12 22	NASA Jet Propulsion Laboratory	https://youtu.be/j3Q-roxYkkY	NASA's Perseverance Mars Rover Equipped with Ultra-Clean Sample Tubes	One key activity for NASA's Perseverance Mars rover, which is on its way to the Red Planet, will be to collect samples of Martian rock and regolith (broken rock and dust) for future return to Earth. Because scientists want to be confident that any signs of ancient life they might observe in samples returned to Earth are from Mars, not Earth, Perseverance's Sample Caching System -- including the tubes the samples go in -- had to be the cleanest set of components humankind has ever launched into space. NASA's Jet Propulsion Laboratory met the challenge. A future mission, which involves a collaboration between NASA and the European Space Agency, will return the samples to Earth. The Perseverance rover is set to land on the surface of Mars on February 18, 2021. For more information on the mission, visit: https://mars.nasa.gov/perseverance/ Credit: NASA/JPL-Caltech	Transcript Link
2020 12 22	NASA Jet Propulsion Laboratory	https://youtu.be/rzmd7RouGrM	NASA's Mars 2020 Perseverance Rover Landing Animations	Animations for media and public use. This reel depicts key events during entry, descent, and landing that will occur when NASA's Perseverance rover lands on Mars February 18, 2021. In the span of about seven minutes, the spacecraft slows down from about 12,100 mph (19,500 kph) at the top of the Martian atmosphere to about 2 mph (3 kph) at touchdown in an area called Jezero Crater. Perseverance will seek signs of ancient microbial life on Mars, collect and cache Martian rock and regolith (broken rock and dust), characterize the planet's geology and climate, and pave the way for human exploration of the Red Planet. For more animations and video of the NASA's Mars 2020 Perseverance rover go to https://vimeo.com/420043274 For more information about Perseverance, visit https://mars.nasa.gov/perseverance Credit: NASA/JPL-Caltech	Transcript Link
2020 12 21	NASA Jet Propulsion Laboratory	https://youtu.be/tITni_HY1Bk	Perseverance Arrives at Mars Feb. 18, 2021 (Mission Trailer)	After nearly 300 million miles (470 million km), NASA's Perseverance rover completes its journey to Mars on Feb. 18, 2021. But, to reach the surface of the Red Planet, it has to survive the harrowing final phase known as Entry, Descent, and Landing. Learn more: https://mars.nasa.gov/mars2020 Credit: NASA/JPL-Caltech	Transcript Link

2020 12 17	NASA Jet Propulsion Laboratory	https://youtu.be/wwfvKO9LUnA	NISAR Watching the Earth Move Under Our Feet (NASA-ISRO mission video)	The joint U.S.-Indian NISAR satellite mission will use radar to observe a wide range of Earth processes, from the flow rates of glaciers and ice sheets to the dynamics of earthquakes and volcanos. NISAR can image Earth's land masses at night and through clouds and will allow scientists to see places that have otherwise been obscured. Despite the challenges of working during the Coronavirus pandemic, the science and engineering teams on both sides of the pond are determined to meet their mission objectives. The NASA-ISRO Synthetic Aperture Radar (NISAR) satellite mission NISAR is scheduled to launch no earlier than 2022 from India's Satish Dhawan Space Center in Sriharikota, India. For up-to-date information on the NISAR mission and launch please visit nisar.jpl.nasa.gov. Credit: NASA/JPL-Caltech	Transcript Link
2020 12 02	NASA Jet Propulsion Laboratory	https://youtu.be/NEVCDhEyKx0	What's Up December 2020 Skywatching Tips from NASA	What are some skywatching highlights in December 2020? Catch the year's best meteor shower, the Geminids, in the middle of the month. Then witness an extremely close pairing of Jupiter and Saturn that won't be repeated for decades. And mark the shortest day of the year on the northern winter solstice. Additional information about topics covered in this episode of What's Up, along with still images from the video, and the video transcript, are available at https://solarsystem.nasa.gov/whats-up-skywatching-tips-from-nasa. Credit: NASA/JPL-Caltech	Transcript Link
2021 03 22	NASA Jet Propulsion Laboratory	https://youtu.be/sdwnx9bcSoE	NASA's 'Flying Saucer' Tech	As NASA plans ambitious new robotic missions to Mars, the spacecraft needed to land safely on the red planet's surface necessarily becomes increasingly massive, hauling larger payloads to accommodate extended stays on the Martian surface. The heavier planetary landers of tomorrow, however, will require much larger drag devices than any now in use to slow them down -- and those next-generation drag devices will need to be deployed at higher supersonic speeds to safely land vehicle, crew and cargo. NASA's Low-Density Supersonic Decelerator (LDSD) Technology Demonstration Mission, led by the Jet Propulsion Laboratory, has conducted full-scale, stratospheric tests of these breakthrough technologies high above Earth to prove their value for future missions to Mars. Speakers: Dr. Mark Adler, Project Manager & Dr. Ian Clark, Principal Investigator, JPL	Transcript Link

2020 11 17	NASA Jet Propulsion Laboratory	https://youtu.be/xG7BTO31ZVk	A Bold New Look for NASA-JPL	A giant version of NASA's classic red, white, and blue logo now proudly adorns a building that has played a central role in space-exploration history. A new 30-foot NASA logo has been installed on the side of the Spacecraft Assembly Facility at the Jet Propulsion Laboratory in Southern California. The insignia – designed in 1959 and nicknamed "the meatball" – went up on Oct. 17. "We have two strands of DNA – one NASA and one Caltech. We wanted to proudly show our NASA heritage with this logo," said JPL Director Michael Watkins. "With the appearance of the new sign, I think that more than a few people will be surprised to realize there's a NASA center tucked away right here in the foothills of the San Gabriel Mountains." For more info about "the meatball," visit https://go.nasa.gov/2TS5ZJ8 For more info about JPL, visit https://www.jpl.nasa.gov/about/ Credit: NASA-JPL/Caltech	Transcript Link
2020 11 10	NASA Jet Propulsion Laboratory	https://youtu.be/lyxMLrY2mkI	Sentinel-6 Michael Freilich Satellite Family Tree	The joint U.S.-European Sentinel-6 Michael Freilich is the next in a line of Earth-observing satellites that will collect the most accurate data yet on sea level and how it changes over time. It is the product of a partnership between NASA and ESA, who have joined forces for the first time on an Earth mission. Sentinel-6 Michael Freilich will join a long-standing family of Earth observing satellites from NASA and European partners including EUMETSAT and the French space agency CNES. The Sentinel-6 Michael Freilich satellite is part of the Sentinel-6/Jason-CS mission, a collaboration among NASA, ESA, EUMETSAT, and NOAA. Sentinel-6 Michael Freilich will launch from Vandenberg Air Force Base no earlier than Nov. 21, 2020. For more information on the Sentinel-6/Jason-CS mission, go to https://www.nasa.gov/sentinel-6 Credit: NASA-JPL/Caltech/NOAA	Transcript Link
2020 11 10	NASA Jet Propulsion Laboratory	https://youtu.be/v7iUb_wDHxk	Preparing to Land Perseverance	To prepare the Perseverance rover for its date with Mars, NASA's Mars 2020 mission team conducted a wide array of tests to help ensure a successful entry, descent and landing at the Red Planet. From parachute verification in the world's largest wind tunnel, to hazard avoidance practice in Death Valley, California, to wheel drop testing at NASA's Jet Propulsion Laboratory and much more, every system was put through its paces to get ready for the big day. The Perseverance rover is scheduled to land on Mars on February 18, 2021. Learn more: https://mars.nasa.gov/mars2020 Credit: NASA/JPL-Caltech	Transcript Link

2020 10 30	NASA Jet Propulsion Laboratory	https://youtu.be/6nVhodEzVfM	What's Up November 2020 Skywatching Tips from NASA	What are some skywatching highlights in November 2020? Cool autumn evenings are a great time to look for the Pleiades star cluster. You'll also have a couple of great opportunities to observe the Moon with Jupiter and Saturn. Plus, check out the phenomenon known as Earthshine. Additional information about topics covered in this episode of What's Up, along with still images from the video, and the video transcript, are available at https://solarsystem.nasa.gov/whats-up-skywatching-tips-from-nasa . Credit: NASA/JPL-Caltech	Transcript Link
2020 10 13	NASA Jet Propulsion Laboratory	https://youtu.be/GUNWVroyys4	DuAxel A NASA Prototype Rover to Explore the Toughest Terrain	A flexible rover that has both ability to travel long distances and rappel down hard-to-reach areas of scientific interest has undergone a field test in the Mojave Desert in California to showcase its versatility. Composed of two Axel robots, DuAxel is designed to explore crater walls, pits, scarps, vents and other extreme terrain on the moon, Mars and beyond. This technology demonstration developed at NASA's Jet Propulsion Laboratory in Southern California showcases the robot's ability to split in two and send one of its halves -- a two-wheeled Axle robot -- over an otherwise inaccessible slope, using a tether as support and to supply power. The rappelling Axel can then autonomously seek out areas to study, safely overcome slopes and rocky obstacles, and then return to dock with its other half before driving to another destination. Although the rover doesn't yet have a mission, key technologies are being developed that might, one day, help us explore the rocky planets and moons throughout the solar system. For more info on Axel, visit https://www-robotics.jpl.nasa.gov/systems/system.cfm?System=16 Related Educational Materials: Student Project: Design a Robotic Insect: https://www.jpl.nasa.gov/edu/learn/project/design-a-robotic-	Transcript Link

2020 10 06	NASA Jet Propulsion Laboratory	https://youtu.be/w-0GMURCDBM	Twin of NASA's Perseverance Mars Rover Now on the Move	While NASA's Mars rover Perseverance travels through space toward the Red Planet, its nearly identical rover twin is hard at work on Earth. The vehicle system test bed (VSTB) rover named OPTIMISM is a full-scale engineering version of the Mars-bound rover. It is used to test hardware and software before the commands are sent up to the Perseverance rover. Just like Perseverance, OPTIMISM is outfitted with wheels, cameras, and computers to help it drive autonomously. After taking its first drive indoors, the VSTB rover took a spin in the Mars Yard, a dirt field which simulates the Red Planet's surface. OPTIMISM is stationed in a garage at NASA's Jet Propulsion Laboratory in Southern California, sharing a space with Curiosity's twin rover MAGGIE. The Perseverance rover is set to land on the surface of Mars on February 18, 2021. For more information on the mission, visit: https://mars.nasa.gov/perseverance/ Credit: NASA/JPL-Caltech	Transcript Link
2020 10 02	NASA Jet Propulsion Laboratory	https://youtu.be/ErRLf6d2anI	New U.S.-European Satellite Tracking Sea Level Rise	The joint U.S.-European Sentinel-6 Michael Freilich is the next in a line of Earth-observing satellites that will collect the most accurate data yet on sea level and how it changes over time. With millimeter-scale precision, data from this mission will allow scientists to precisely measure sea surface height and gauge how quickly our oceans are rising. The Sentinel-6 Michael Freilich satellite is part of the Sentinel-6/Jason-CS mission, a collaboration among NASA, ESA, EUMETSAT, and NOAA. Sentinel-6 Michael Freilich will launch from Vandenberg Air Force Base in California no earlier than Nov. 10, 2020. For more information on the Sentinel-6/Jason-CS mission, go to https://www.nasa.gov/subject/18859/sentinel-6michael-freilich/ Credit: NASA-JPL/Caltech/NOAA	Transcript Link
2020 10 01	NASA Jet Propulsion Laboratory	https://youtu.be/CaSyuJPJfGM	What's Up October 2020 Skywatching Tips from NASA	What are some skywatching highlights in October 2020? Not one, but two, full moons; Mars at opposition; and finding the Andromeda galaxy. Additional information about topics covered in this episode of What's Up, along with still images from the video, and the video transcript, are available at https://solarsystem.nasa.gov/whats-up-skywatching-tips-from-nasa. Credit: NASA/JPL-Caltech	Transcript Link

2020 09 04	NASA Jet Propulsion Laboratory	https://youtu.be/jQy1VTd1OJ8	Twin of NASA's Perseverance Mars Rover Moves Into New Home	A full-scale engineering model of NASA's Perseverance Mars rover now resides in a garage facing the Mars Yard at NASA's Jet Propulsion Laboratory in Southern California. This vehicle system test bed rover (VSTB) is also known as OPTIMISM, which stands for Operational Perseverance Twin for Integration of Mechanisms and Instruments Sent to Mars. OPTIMISM was built in a warehouselike assembly room near the Mars Yard – an area that simulates the Red Planet's rocky surface. The rover helps the mission test hardware and software before it's transmitted to the real rover on Mars. OPTIMISM will share the space with the Curiosity rover's twin MAGGIE. Perseverance is set to land on the surface of Mars on February 18, 2021. For more information on the mission, visit: https://mars.nasa.gov/perseverance/ Credit: NASA/JPL-Caltech	Transcript Link
2020 09 04	NASA Jet Propulsion Laboratory	https://youtu.be/uiwyIs8YlTs	NASA Instrument Uses GPS to Improve Weather Forecasts	Launching aboard the joint U.S.-European Sentinel-6 Michael Freilich satellite is NASA's next instrument that will help improve weather forecasting. The GNSS-RO (Global Navigation Satellite System Radio Occultation) instrument will make it easier for meteorologists to forecast further into the future with more accuracy, and aid in the protection of life and property with earlier warnings. The Sentinel-6 Michael Freilich satellite will launch from Vandenberg Air Force Base no earlier than November 10, 2020. For more information on the Sentinel-6/Jason-CS mission, a collaboration among NASA, ESA, EUMETSAT and NOAA, go to https://www.nasa.gov/subject/18859/sentinel-6michael-freilich/ Credit: NASA-JPL/Caltech/NOAA	Transcript Link
2020 09 01	NASA Jet Propulsion Laboratory	https://youtu.be/GjqvXVUWvEQ	What's Up September 2020 Skywatching Tips from NASA	What are some skywatching highlights in September 2020? Spot the Moon together with Mars and Venus, along with the flickering star Fomalhaut, which had itself a planet...until it didn't! Additional information about topics covered in this episode of What's Up, along with still images from the video, and the video transcript, are available at https://solarsystem.nasa.gov/whats-up-skywatching-tips-from-nasa . Credit: NASA/JPL-Caltech	Transcript Link

2020 08 26	NASA Jet Propulsion Laboratory	https://youtu.be/9pg7hNpfnbQ	NASA Makes Fifth State of Matter Aboard Space Station	Solid, liquid, gas, plasma… did you know there's also a fifth state of matter? Since 2018, NASA's Cold Atom Lab has been using the microgravity environment on the International Space Station to help chill atoms to almost absolute zero – the coldest temperature matter can reach. At these low temperatures, Cold Atom Lab produces the fifth state of matter, called a Bose-Einstein condensate. Experiments with this fifth state of matter could lend deeper insight into how our world works on a fundamental level. For example, scientists will be able to measure the very faint tug of gravity that is still present aboard the station, and put Albert Einstein's theory about this fundamental force to the test. Studies of Bose-Einstein condensates aboard the station could also lead to new technologies, like better tools for navigation and more precise clocks. For more information, visit https://coldatomlab.jpl.nasa.gov NASA, JPL, Jet Propulsion Laboratory, cold atom lab, CAL, astronauts, ISS, International Space Station, upgrade, atoms, matter, absolute zero, Christina Koch, Jessica Meir, experiment, upgrades, science, physics, quantum, space, tech, technology, news Credit: NASA/JPL-Caltech/International Space Station	Transcript Link
2020 07 31	NASA Jet Propulsion Laboratory	https://youtu.be/fuuUbYjN9Oo	What's Up August 2020 Skywatching Tips from NASA	What are some skywatching highlights in August 2020? See the Moon posing with various planets throughout the month, plus catch the peak of the annual Perseid meteor shower. Additional information about topics covered in this episode of What's Up, along with still images from the video, and the video transcript, are available at https://solarsystem.nasa.gov/whats-up-skywatching-tips-from-nasa . Credit: NASA-JPL/Caltech	Transcript Link

2020 07 30	NASA Jet Propulsion Laboratory	https://youtu.be/VWD-nx9gA0o	NASA's Perseverance Rover Launches to Mars (overview)	NASA’s Perseverance Rover began its long journey to Mars today by successfully launching from Cape Canaveral Air Force Station on a ULA Atlas V rocket. It now begins its seven-month journey to the Red Planet, landing there on Feb. 18, 2021. Perseverance will seek signs of ancient microbial life on Mars along with collecting samples for future return to Earth and demonstrating key technologies to help prepare for future robotic and human exploration. Also flying with Perseverance is NASA’s Ingenuity helicopter, which will attempt to show controlled flight is possible in the very thin Martian atmosphere. For more about Perseverance, visit mars.nasa.gov/perseverance and mars.nasa.gov/mars2020 For more about Ingenuity, visit mars.nasa.gov/technology/helicopter/ Credit: NASA/JPL-Caltech	Transcript Link
2020 07 30	NASA Jet Propulsion Laboratory	https://youtu.be/WETolleIFEqE	NASA’s Perseverance Mars Rover Launches With Your %23CountdownToMars	To get ready for the launch of the Mars 2020 Perseverance rover, NASA invited the public to join a global, collective #CountdownToMars project. Fans from around the world recorded videos of their creative countdowns, giving Perseverance a celebratory sendoff for its launch on July 30, 2020. Perseverance is set to land on Mars on Feb. 18, 2021. For more information on the rover’s mission, visit: mars.nasa.gov/mars2020. Credit: NASA/JPL-Caltech	Transcript Link
2020 07 27	NASA Jet Propulsion Laboratory	https://youtu.be/5qqsMjy8Rx0	Mission Overview NASA's Perseverance Mars Rover	NASA's Mars 2020 Perseverance Rover is heading to the Red Planet to search for signs of ancient life, collect samples for future return to Earth and help pave the way for human exploration. The rover will carry with it several technology demonstrations including a helicopter, which will attempt humanity's first powered flight on another planet. Perseverance has a new set of science instruments and the ability to “self-drive” on the Martian surface. The Perseverance rover is scheduled to launch from Space Launch Complex 41 at NASA’s Kennedy Space Center as early as July 30. It is set to land at Mars' Jezero Crater on Feb. 18, 2021. For more information on Mars 2020, visit: https://www.nasa.gov/perseverance and https://mars.nasa.gov/perseverance Credit: NASA/JPL-Caltech	Transcript Link

2020 07 22	NASA Jet Propulsion Laboratory	https://youtu.be/WVEXpNR-W90	Getting NASA's Perseverance Mars Rover to the Launch Pad	In February 2020, NASA's Perseverance Rover began its long journey to Mars by first traveling across the United States. The rover was built at NASA's Jet Propulsion Laboratory in Southern California and then carefully packed and flown to NASA's Kennedy Space Center in Cape Canaveral, Florida. There, engineers integrated the rover with the spacecraft that carries it to Mars, and the Atlas V rocket chosen to send it on its way. The launch period for the Perseverance rover opens July 30, 2020. Learn more: https://mars.nasa.gov/mars2020 Credit: NASA/JPL-Caltech	Transcript Link
2020 07 21	NASA Jet Propulsion Laboratory	https://youtu.be/XmSS0ryTz_o	Send NASA Your %23CountdownTo Mars	NASA is inviting the public to help get ready for the upcoming launch of the Mars 2020 Perseverance Rover by joining a global, collective #CountdownToMars. Fans are asked to record video of their creative countdowns to liftoff, then share and tag them on social media with #CountdownToMars. Favorites may be featured on NASA social media and included in a compilation video on launch day. Learn more: https://go.nasa.gov/countdowntomars The scheduled launch date for the Perseverance rover is July 30, 2020. Perseverance will land on Mars Feb. 18, 2021. For more information on the rover's mission, visit: https://mars.nasa.gov/mars2020. Credit: NASA/JPL-Caltech	Transcript Link
2020 07 14	NASA Jet Propulsion Laboratory	https://youtu.be/qwdfdE6ruMw	NASA's Ingenuity Mars Helicopter Attempting the First Powered Flight on Mars	NASA's Ingenuity Mars Helicopter will make history's first attempt at powered flight on another planet next spring. It is riding with the agency's next mission to Mars (the Mars 2020 Perseverance rover) as it launches from Cape Canaveral Air Force Station later this summer. Perseverance, with Ingenuity attached to its belly, will land on Mars February 18, 2021. As a technology demonstration, Ingenuity is testing a new capability for the first time: showing controlled flight is possible in the very thin Martian atmosphere. If successful, Ingenuity could lead to an aerial dimension to space exploration, aiding both robots and humans in the future. For more about Ingenuity, visit https://mars.nasa.gov/technology/helicopter/ Credit: NASA/JPL-Caltech	Transcript Link

2020 07 01	NASA Jet Propulsion Laboratory	https://youtu.be/cNf6vb4gwEM	What's Up July 2020 Skywatching Tips from NASA	What are some skywatching highlights you can see in July 2020? Enjoy the giant planets Jupiter and Saturn with their moons, stay up late to spot Mars rising. Plus: what would you see stargazing on the Red Planet? Additional information about topics covered in this episode of What's Up, along with still images from the video, and the video transcript, are available at https://solarsystem.nasa.gov/whats-up-skywatching-tips-from-nasa. Credit: NASA-JPL/Caltech	Transcript Link
2020 06 23	NASA Jet Propulsion Laboratory	https://youtu.be/d5ehz7pHprk	Testing the Mars Helicopter Delivery System on NASA's Perseverance Rover	NASA's Ingenuity helicopter is traveling to Mars attached to the belly of the Perseverance rover and must safely detach to begin the first attempt at powered flight on another planet. Tests done at NASA's Jet Propulsion Laboratory and Lockheed Martin Space show the sequence of events that will bring the helicopter down to the Martian surface. For more about the Mars helicopter, visit https://mars.nasa.gov/technology/helicopter/ Credit: NASA/JPL-Caltech and Lockheed Martin Space	Transcript Link
2020 06 18	NASA Jet Propulsion Laboratory	https://youtu.be/_04L2Wslabo	Getting NASA's Perseverance Mars Rover to Launch During the COVID-19 Pandemic	Getting a Mars rover built, tested and to the launch pad is a feat that requires the dedication of hundreds of team members. The team behind NASA's Perseverance Mars rover faced one of its biggest challenges when the coronavirus pandemic struck during a crucial time before launch. The safety of the team members became top priority yet they rose to the challenge of completing the rover on time for its launch date, either by working remotely or under new "safe at work" procedures. They developed an increased appreciation for the name of the rover and in May they created the COVID-19 Perseverance Plate, which is now mounted on the side of the rover. The plate commemorates all those impacted by the pandemic and pays special tribute to front line health care workers. Perseverance is targeted to launch from Cape Canaveral, Florida, on July 20, 2020. It will land on Mars on February 18, 2021. For more information on Mars 2020, visit: https://mars.nasa.gov/perseverance Credit: NASA/JPL-Caltech	Transcript Link

2020 06 12	NASA Jet Propulsion Laboratory	https://youtu.be/bny5vWFi_6g	A Recipe for Cooling Atoms to Almost Absolute Zero	NASA's Cold Atom Lab aboard the International Space Station cools atoms down to a billionth of a degree above absolute zero, or the temperature at which atoms should stop moving entirely. Nowhere in the universe are there atoms that reach this temperature naturally. But how do scientists accomplish this feat? It's a three-step process that starts with scientists hitting the atoms with precisely-tuned lasers to slow them down. The colder atoms are, the slower they move, and the easier they are to study. Ultracold atoms can also form a fifth state of matter, called a Bose-Einstein condensate (BEC). Learning about the fundamental properties of atoms has laid the foundation for technologies that most of us use every day, such as computers. As the first ultracold atom facility in Earth orbit, Cold Atom Lab is opening up new avenues for investigation. You can learn more about Cold Atom Lab here: https://coldatomlab.jpl.nasa.gov/	Transcript Link
2020 06 09	NASA Jet Propulsion Laboratory	https://youtu.be/Z3SDCOY-R1U	What's Up June 2020 Skywatching Tips from NASA	What are some skywatching highlights you can see in June 2020? Look for the Summer Triangle rising in the east after sundown, keep tabs on the morning planets and June 20 brings the solstice. Additional information about topics covered in this episode of What's Up, along with still images from the video, and the video transcript, are available at https://solarsystem.nasa.gov/whats-up-skywatching-tips-from-nasa Credit: NASA-JPL/Caltech	Transcript Link
2020 06 02	NASA Jet Propulsion Laboratory	https://youtu.be/MFyv8mtRPCA	NASA's Perseverance Mars Rover Sample Caching System	Watch as NASA-JPL engineers test the Sample Caching System on the Perseverance Mars rover. Described as one of the most complex robotic systems ever built, the Sample and Caching System will collect core samples from the rocky surface of Mars, seal them in tubes and leave them for a future mission to retrieve and bring back to Earth. The team is on track to launch Perseverance in July 2020 and land in Mars' Jezero Crater in February 2021. For more information on the Mars 2020 Perseverance mission, please go to: https://mars.nasa.gov/mars2020/ Credit: NASA-JPL/Caltech	Transcript Link

2020 05 19	NASA Jet Propulsion Laboratory	https://youtu.be/Ku_divjP16g	NASA Working Remotely How Astronauts Upgraded a Complex Experiment in Space	NASA Working Remotely: How Astronauts Upgraded a Complex Experiment in Space NASA's Cold Atom Laboratory underwent a major hardware upgrade aboard the International Space Station in January 2020. The mission team at NASA's Jet Propulsion Laboratory in Southern California guided astronauts Christina Koch and Jessica Meir through the installation of the new hardware via live video conference. By chilling atom clouds to just above absolute zero, or the coldest temperature matter can reach, Cold Atom Lab enables scientists to directly observe unique atomic behaviors, helping to answer questions about how our world works at the smallest scales. This new hardware will help expand Cold Atom Lab's capabilities. For more information, visit https://coldatomlab.jpl.nasa.gov Credit: NASA/JPL-Caltech, NASA-International Space Station	Transcript Link
2020 05 18	NASA Jet Propulsion Laboratory	https://youtu.be/_1aJra9Wu_U	Shake, Rattle and Roll Testing NASA's Mars 2020 Perseverance Rover	NASA's Mars 2020 Perseverance rover lives up to its name by enduring a series of tests to prepare for its journey to the Red Planet. Tests for the mission were performed between September and December of 2019 at NASA's Jet Propulsion Laboratory in Southern California. This video highlights the following tests: Spin test Shake test Mobility deployment test Rover's first unassisted stand Solar test Thermal vacuum test Sample caching test Drive test The launch period for the Perseverance rover opens July 17, 2020. It will land on Mars February 18, 2021. For more information on Mars 2020, visit: https://mars.nasa.gov/mars2020. Credit: NASA/JPL-Caltech	Transcript Link
2020 05 06	NASA Jet Propulsion Laboratory	https://youtu.be/y3WqWazeWlI	Desert 'Rover' Helps NASA Scientists Prepare for Mars	Did life ever form on Mars? NASA is launching its new Perseverance rover to find out. In February 2020, mission scientists practiced skills they'll need while Perseverance explores the Red Planet. A seven-person field team served as a simulated rover, carrying cameras and science instruments to the Nevada desert. Meanwhile, mission scientists at institutions like NASA's Jet Propulsion Laboratory in Southern California sent commands for them to take pictures or collect data from the landscape. The region of Nevada they studied is a former lakebed, just like Jezero Crater, Perseverance's landing site on Mars. For more information on the Mars 2020 mission and Perseverance rover, go to: https://mars.nasa.gov/mars2020/ Credit: NASA/JPL-Caltech	Transcript Link

2020 05 04	NASA Jet Propulsion Laboratory	https://youtu.be/LipU4lBGNzQ	What's Up May 2020 Skywatching Tips from NASA	What astronomy highlights can you see in the sky in May 2020? Venus, Sirius and the Milky Way. With so many of us staying home these days, here's a look into the sky at dusk and dawn with an eye toward the vast stretches of wide open space right above our heads. Additional information about topics covered in this episode of What's Up, along with still images from the video, and the video transcript, are available at https://solarsystem.nasa.gov/whats-up-skywatching-tips-from-nasa Credit: NASA/JPL-Caltech	Transcript Link
2020 04 29	NASA Jet Propulsion Laboratory	https://youtu.be/7OYTrFGAp_g	NASA’s Mars Helicopter Q&A with Project Manager MiMi Aung	Project Manager Mimi Aung answers #AskNASA questions about NASA's newly named Mars helicopter -- Ingenuity. Ingenuity will be the first aircraft to attempt powered flight on another planet. The helicopter is traveling to Mars attached to the belly of NASA's Perseverance rover in the summer of 2020. It will land on the Red Planet February 18, 2021. For more information about Ingenuity, visit https://mars.nasa.gov/technology/helicopter Credit: NASA/JPL-Caltech	Transcript Link
2020 04 29	NASA Jet Propulsion Laboratory	https://youtu.be/0RQWv1ybsjM	NASA’s Mars Helicopter, Ingenuity (UHD Trailer)	NASA’s Mars Helicopter, Ingenuity, is set to arrive at the Red Planet on Feb. 18, 2021. Its mission: to demonstrate the first powered flight on another world. For more information, visit https://mars.nasa.gov/technology/helicopter Credit: NASA/JPL-Caltech	Transcript Link

2020 04 28	NASA Jet Propulsion Laboratory	https://youtu.be/HBE8qBtQMuA	Timing of Black Hole Dance Revealed by NASA Spitzer Space Telescope	Two massive black holes are locked in a dance at the center of the OJ 287 galaxy. The larger black hole is surrounded by disk of gas; it is also orbited by a smaller black hole that collides with the disk, producing a flare brighter than 1 trillion stars. But because the system's complex physics affects the smaller black hole's orbit, the flares occur irregularly. Scientists used NASA's Spitzer Space Telescope to detect one of these bright flashes on July 31, 2019, confirming that they can now anticipate the timing of these flares to within four hours using a detailed model of the system. In the second half of the video, the animated diagram on the left illustrates the orbit of the smaller black hole (the red dot) around the larger black hole (the stationary white dot) and its collisions with the disk of gas (the pink line), which occur twice per orbit. The years of the collisions are indicated below the diagram and in the graphic on the right shows, dating to 1886. After more than 16 years of operations in space, Spitzer was retired on Jan. 30, 2020. Credit: NASA/JPL/Abhimanyu Susobhanan (Tata Institute of Fundamental Research) To read the full story, visit https://go.nasa.gov/3eY8vY5	Transcript Link
2020 04 23	NASA Jet Propulsion Laboratory	https://youtu.be/NB7SdwkBqHU	NASA Builds Ventilator Prototype for Coronavirus Patients	NASA is helping the medical community address the shortage of ventilators needed to treat coronavirus patients with a ventilator prototype. Within 37 days, engineers and others at the agency's Jet Propulsion Laboratory in Southern California created a high-pressure ventilator prototype tailored to the needs of patients with COVID-19 and sent it to the Icahn School of Medicine at Mount Sinai in New York for testing. The device, called VITAL (Ventilator Intervention Technology Accessible Locally), is designed to be faster to build and easier to maintain than traditional ventilators, with a fraction of the parts. JPL is now seeking an Emergency Use Authorization for the device from the Food and Drug Administration. For more about VITAL, visit: https://www.nasa.gov/feature/jpl/nasa-develops-covid-19-prototype-ventilator-in-37-days For businesses interested in applying for a free license to build VITAL, visit: https://medeng.jpl.nasa.gov/covid-19/ventilator/ Credit: NASA/JPL-Caltech	Transcript Link

2020 04 15	NASA Jet Propulsion Laboratory	https://youtu.be/cX4zzFWx9mA	NASA Studies Underwater 'White Smoker' Vents Is This Where Life Began	Where did life originate on Earth? Could the process hold clues for finding life elsewhere? Some scientists think the story of life on Earth may have started around hydrothermal vents at the bottom of the ocean 4.5 billion years ago. Scientists at NASA's Jet Propulsion Laboratory mimicked those ancient undersea environments with a complex experimental setup. They showed that under extreme pressure, fluids from these seafloor cracks mixed with ancient ocean water could have produced organic molecules — the building blocks that compose nearly all life on Earth. With funding from NASA's Astrobiology Program, the scientists behind the new finding are part of a group that aims to learn about the formation of life on Earth in order to assist the search for life beyond our planet. In particular, the research lays important groundwork for understanding places such as Saturn's moon Enceladus and Jupiter's moon Europa. Both of these moons are known as "ocean worlds," bodies that are thought to have liquid-water oceans buried beneath icy crusts and may host hydrothermal activity similar to what was simulated at JPL. For more information about Astrobiology and Ocean Worlds, visit https://science.jpl.nasa.gov/projects/IcyWorlds/	Transcript Link
2020 03 31	NASA Jet Propulsion Laboratory	https://youtu.be/qDZtsjHg8iY	What's Up April 2020 Skywatching Tips from NASA	What are some astronomy highlights in the sky in April 2020? This month, Venus visits the Pleiades; Mars, Jupiter and Saturn begin their breakup; and we ask, "What is the Moon illusion?" Additional information about topics covered in this episode of What's Up, along with still images from the video, and the video transcript, are available at https://solarsystem.nasa.gov/whats-up-skywatching-tips-from-nasa Credit: NASA/JPL-Caltech	Transcript Link
2020 03 20	NASA Jet Propulsion Laboratory	https://youtu.be/L_ii2GABPao	How NASA's Mars Curiosity Rover Takes a Selfie	NASA's Curiosity Mars rover takes a lot of selfies. These images are used to preserve the scene where the rover drilled samples from the surface. But have you ever wondered what these selfies look like from Curiosity's point of view? And why the rover's arm isn't in the picture? This video shows Curiosity taking a selfie at the "Hutton" drill site on Feb. 26, 2020 (the 2,687th Martian day, or sol, of the mission). A total of 86 images were taken and later stitched into a panorama (the final selfie). The video was taken with one of Curiosity's black and white Navigation Cameras on the rover's mast. It shows the Mars Hand Lens Imager (MAHLI) camera that Curiosity uses to take all its selfies. At the very end, you can see MAHLI's cover closing, which protects it from Martian dust. Credit: NASA-JPL/Caltech	Transcript Link

2020 03 06	NASA Jet Propulsion Laboratory	https://youtu.be/-BktASuoO8c	The Search for Life Exploring Ocean Worlds (live public talk)	The search for life is "civilization level science." What happens if or when we find it? Using the upcoming block of "Ocean Access" missions, astrobiologist Morgan Cable shows us why ocean worlds are important and what the discovery of life could mean to us as a civilization. Host: Brian White Speaker(s): Morgan Cable, Astrobiology and Ocean Worlds, JPL Original Air Date: March 5, 2020	Transcript Link
2020 03 06	NASA Jet Propulsion Laboratory	https://youtu.be/Qz8TCEfnx-0	NASA's Latest Mars Rover Has a Name (recap video)	NASA has chosen a name for its next Mars rover: Perseverance. The name was announced March 5, 2020, by Thomas Zurbuchen, associate administrator of the Science Mission Directorate at NASA Headquarters in Washington during a celebration at Lake Braddock Secondary School in Burke, Virginia. Zurbuchen was on hand at the school to congratulate Alexander Mather, who submitted the winning entry to the agency's "Name the Rover" essay contest, which received 28,000 entrants from K-12 students from every U.S. state and territory. Perseverance is the latest in a long line of Red Planet rovers to be named by school-aged children, from Sojourner in 1997 to Spirit and Opportunity rovers, which landed on Mars in 2004, to Curiosity, which has been exploring Mars since 2012. In each case, the name was selected after a nationwide contest. The launch period for Perseverance opens on July 17, 2020. The rover will land at Mars' Jezero Crater on Feb. 18, 2021. For more information on the Mars 2020 mission, go to: https://mars.nasa.gov/mars2020/ For more about the "Name the Rover" contest, visit https://go.nasa.gov/name2020 Credit: NASA/JPL-Caltech	Transcript Link

2020 03 04	NASA Jet Propulsion Laboratory	https://youtu.be/X2UaFuJsqxk	Curiosity Mars Rover Snaps 1.8 Billion-Pixel Panorama (narrated video)	NASA Curiosity Project Scientist Ashwin Vasavada guides this tour of the rover's view of the Martian surface. This panorama showcases "Glen Torridon," a region on the side of Mount Sharp that Curiosity is exploring. The panorama was taken between Nov. 24 and Dec. 1, 2019, when the Curiosity team was out for the Thanksgiving holiday. Since the rover would be sitting still with few other tasks to do while it waited for the team to return and provide its next commands, the rover had a rare chance to image its surroundings several days in a row without moving. Composed of more than 1,000 images and carefully assembled over the ensuing months, the larger version of this composite contains nearly 1.8 billion pixels of Martian landscape. Explore more in this 360 video: https://youtu.be/0fva2pH41FM For more about the mission, visit https://mars.nasa.gov/msl Credit: NASA/JPL-Caltech/MSSS	Transcript Link
2020 03 04	NASA Jet Propulsion Laboratory	https://youtu.be/0fva2pH41FM	Curiosity Mars Rover's 1.8 Billion-Pixel Pano (360 View)	NASA's Curiosity Mars rover produced this 360-degree panorama of "Glen Torridon," a region on the side of Mount Sharp. The panorama was taken between Nov. 24 and Dec. 1, 2019, when the mission team was out for the Thanksgiving holiday. Since the rover would be sitting still with few other tasks to do while it waited for the team to return and provide its next commands, the rover had a rare chance to image its surroundings several days in a row without moving. Composed of more than 1,000 images and carefully assembled over the ensuing months, the larger version of this composite contains nearly 1.8 billion pixels of Martian landscape. Explore more in this video narrated by Curiosity project scientist Ashwin Vasavada: https://youtu.be/X2UaFuJsqxk Important note: Not all browsers support viewing 360 videos/images. YouTube supports uploading and playback of 360 degree videos/images on computers using Chrome, Firefox, Internet Explorer, and Opera browsers. If your browser does not support 360, a static view of this same panorama image is available at: https://go.nasa.gov/32NNR7k For more about the mission, visit https://mars.nasa.gov/msl Credit: NASA/JPL-Caltech/MSSS	Transcript Link

2020 03 02	NASA Jet Propulsion Laboratory	https://youtu.be/wf5ZE15ocCo	What's Up March 2020 Skywatching Tips from NASA	Looking for astronomy highlights for March 2020? This month, early risers enjoy a planetary grouping of Mars, Jupiter and Saturn in the early morning sky. Plus a closer look at Sirius, the brightest star in the sky, and spot a lovely trio at sunset on March 28. Additional information about topics covered in this episode of What's Up, along with still images from the video, and the video transcript, are available at https://solarsystem.nasa.gov/whats-up-skywatching-tips-from-nasa . Credit: NASA/JPL-Caltech	Transcript Link
2020 02 28	NASA Jet Propulsion Laboratory	https://youtu.be/_HpWIhFFD54	Team CoSTAR Subterranean Challenge Practice Run	Collaborative SubTerranean Autonomous Robots (CoSTAR) is developing robots that can autonomously explore caves, pits, tunnels and other subsurface terrain. Watch the team and their squad of robots prepare for the DARPA Subterranean Challenge Urban Circuit during a practice run at Elma High School in Elma, Washington, in the days leading up to the competition. The team ultimately came in first place in the competition. Held by the Defense Advanced Research Projects Agency (DARPA), the competition is intended to develop technology for first responders to map, navigate and search underground. Technology developed for the competition will also lay the foundation for future NASA missions to caves and lava tubes on other planets. For more info on Team CoSTAR, visit https://subt.jpl.nasa.gov/ Credit: NASA-JPL/Caltech	Transcript Link
2020 02 10	NASA Jet Propulsion Laboratory	https://youtu.be/0PVjj0PEPMA	NASA advances plans to bring samples back from Mars	Collecting samples from Mars and bringing them back to Earth is a historic undertaking that starts with the launch of NASA's Mars 2020 rover. The rover will collect samples and leave them ready for a future mission to retrieve and return to Earth. That future mission involves the collaboration of NASA with the European Space Agency. Visit some of the labs at NASA's Jet Propulsion Laboratory where prototypes and engineering models involved in the Mars Sample Return campaign are being tested. For more information, visit mars.nasa.gov.	Transcript Link
2020 02 04	NASA Jet Propulsion Laboratory	https://youtu.be/iYjemxKxM8w	What's Up February 2020 Skywatching Tips from NASA	Looking for astronomy highlights for February 2020? This month is the best time of the year to try to view Mercury, soon after sunset; Mars disappears behind the Moon on Feb. 18; and the bright red star on Orion’s shoulder, Betelgeuse, has been acting weird. (Or has it?) Additional information about topics covered in this episode of What's Up, along with still images from the video, and the video transcript, are available at https://solarsystem.nasa.gov/whats-up-skywatching-tips-from-nasa. Credit: NASA/JPL-Caltech	Transcript Link

2020 01 31	NASA Jet Propulsion Laboratory	https://youtu.be/OzdhFBbnaHo	NASA Team Salutes Spitzer Space Telescope	NASA's Spitzer Space Telescope's mission concluded on Jan. 30, 2020, at the agency's Jet Propulsion Laboratory in Pasadena, California. After more than 16 years of studying the universe in infrared light, the spacecraft entered a state known as safe mode and ceased science operations. Launched in 2003, Spitzer revealed previously hidden features of known cosmic objects and led to discoveries and insights spanning from our own solar system to nearly the edge of the universe. For more information on the Spitzer Space Telescope, go to https://www.nasa.gov/spitzer NASA's Jet Propulsion Laboratory in Pasadena, California, conducts mission operations and manages the Spitzer Space Telescope mission for the agency's Science Mission Directorate in Washington. Science operations are conducted at the Spitzer Science Center at Caltech in Pasadena. Spacecraft operations are based at Lockheed Martin Space in Littleton, Colorado. Data are archived at the Infrared Science Archive housed at IPAC at Caltech. Caltech manages JPL for NASA. Lockheed Martin in Sunnyvale, California, built the Spitzer spacecraft, and during development served as lead for systems and engineering, and integration and testing. Ball Aerospace and	Transcript Link
2020 01 22	NASA Jet Propulsion Laboratory	https://youtu.be/XCD6fAHc97c	Science In A Minute What is Infrared Light	What is infrared light and how do we use it to study the universe? Infrared radiation, or infrared light, is a type of energy that we humans can't see but can feel as heat. All objects in the universe emit some level of infrared radiation, whether hot or cold, making an infrared telescope like NASA's Spitzer Space Telescope very useful in detecting objects that might seem invisible. For more information on the Spitzer Space Telescope go to www.nasa.gov/spitzer.	Transcript Link
2020 01 22	NASA Jet Propulsion Laboratory	https://youtu.be/oO44cfYIIC8	Science In A Minute The Art of Spitzer Space Telescope	How do scientists turn data from NASA's Spitzer Space Telescope into the incredible images we see? It's not as simple as just snapping a picture of the universe. There is a process for gathering the data from Spitzer and coding it so that colors and pictures can emerge from the data. The process can be lengthy, but well worth the breathtaking images we receive in the end. For more information on the Spitzer Space Telescope go to www.nasa.gov/spitzer.	Transcript Link

2020 01 15	NASA Jet Propulsion Laboratory	https://youtu.be/ghnnbMWVtWU	NASA's Spitzer Space Telescope (Mission Overview)	After 16 years of unveiling the infrared universe, NASA's Spitzer Space Telescope has left a singular legacy. As one of NASA's four Great Observatories -- a series of powerful telescopes including Hubble, Chandra and Compton that can observe the cosmos in different parts of the electromagnetic spectrum --Spitzer quickly became a pioneer in the exploration of the worlds beyond our human vision. From stars being born to planets beyond our solar system (like the seven Earth-size planets around the star TRAPPIST-1), Spitzer's science discoveries will continue to inspire the world for many years to come. For more information about the Spitzer Space Telescope, visit https://nasa.gov/spitzer and http://www.spitzer.caltech.edu/	Transcript Link
2020 01 08	NASA Jet Propulsion Laboratory	https://youtu.be/aq-xtBYIUtw	NASA's New Planet Tracker, NEID	A new NASA-funded planet-hunting instrument has been installed on the WIYN telescope, on Arizona's Kitt Peak. NEID (pronounced "NOO-id," rhymes with fluid) is a spectrometer that is one of the first instruments of its kind with the precision to detect small, terrestrial planets around nearby stars. NEID will also confirm the presence of planets discovered by NASA's TESS space telescope, and reveal details of their anatomy. Eventually, scientists want to be able to find Earth-like planets around Sun-like stars, in an effort to find a world with life on it.	Transcript Link
2019 12 31	NASA Jet Propulsion Laboratory	https://youtu.be/oxjmzIlZqZY	What's Up January 2020 Skywatching Tips from NASA	What can you see in the night sky during January 2020? The peak of the Quadrantid meteor shower, Mars rises with its "rival" — the red giant star Antares — and the Moon and Venus pair up. Additional information about topics covered in this episode of What's Up, along with still images from the video, and the video transcript, are available at https://solarsystem.nasa.gov/whats-up-skywatching-tips-from-nasa . Credit: NASA-JPL/Caltech	Transcript Link
2019 12 19	NASA Jet Propulsion Laboratory	https://youtu.be/hrF5YwR-j24	First Drive Test of NASA's Mars 2020 Rover	On Dec. 17, 2019, engineers took NASA's next Mars rover for its first spin. The test took place in the Spacecraft Assembly Facility clean room at NASA's Jet Propulsion Laboratory in Pasadena, California. This was the first drive test for the new rover, which will move to Cape Canaveral, Florida, in the beginning of next year to prepare for its launch to Mars in the summer. Engineers are checking that all the systems are working together properly, the rover can operate under its own weight, and the rover can demonstrate many of its autonomous navigation functions. The launch window for Mars 2020 opens on July 17, 2020. The rover will land at Mars' Jezero Crater on Feb. 18, 2021. For more information on the Mars 2020 mission, go to: https://mars.nasa.gov/mars2020/ Credit: NASA/JPL-Caltech	Transcript Link

2019 11 26	NASA Jet Propulsion Laboratory	https://youtu.be/RuYyRQR2_WU	What's Up December 2019 Skywatching Tips from NASA	What can you see in the December sky? Beautiful pairings of planets and the crescent Moon throughout the month, at sunrise and sunset. Here's where and when to look to see Venus, Saturn and Mars. Additional information about topics covered in this episode of What's Up, along with still images from the video, and the video transcript, are available at https://solarsystem.nasa.gov/whats-up-skywatching-tips-from-nasa . Credit: NASA-JPL/Caltech	Transcript Link
2019 11 15	NASA Jet Propulsion Laboratory	https://youtu.be/0NdpJ1Ukp5k	Mars Science Teams Investigate Ancient Life in Australia	Could Mars ever have supported life? In the Australian Outback, scientists from NASA's upcoming Mars 2020 mission and their counterparts from the joint European-Russian ExoMars mission visited the oldest convincing evidence for life on Earth to prepare for their own searches for signs of ancient life on Mars. The field lesson in astrobiology in the Pilbara region is being applied in the near term by NASA, ESA and Roscosmos for mission planning, and will also pay dividends when both rovers begin to send back science data and imagery from the Red Planet. The launch window for Mars 2020 opens on July 17, 2020. It will land at Mars' Jezero Crater on Feb. 18, 2021. The launch window for ExoMars opens July 25, 2020. It will land Oxia Planum in March 2021. For more information on the Mars 2020 mission, go to: https://mars.nasa.gov/mars2020/ Credit: NASA/JPL-Caltech	Transcript Link
2019 11 14	NASA Jet Propulsion Laboratory	https://youtu.be/WEsiSZtIDyI	Neptune Moon Dance (animation)	See how the odd orbits of Neptune's inner moons Naiad and Thalassa enable them to avoid each other, as they race around the planet. Researchers call it a "dance of avoidance." An observer sitting on Thalassa would see Naiad in an orbit that varies wildly in a zig-zag pattern, passing by twice from above and then twice from below. This up, up, down, down pattern repeats every time Naiad gains four laps on Thalassa. This repeating pattern is called a resonance. Marina Brozović, lead author of the new analysis, created this animation using Cosmographia, software made by NASA's Jet Propulsion Laboratory that is free to download. The analysis was conducted using Hubble Space Telescope observations. https://naif.jpl.nasa.gov/naif/cosmographia.html . Video credit: NASA/JPL-Caltech	Transcript Link

2019 11 07	NASA Jet Propulsion Laboratory	https://youtu.be/7SFh4TZRXHg	NASA’s 2020 Rover Moves into Mars Simulation Chamber (time lapse)	In this time-lapse video, taken at NASA's Jet Propulsion Laboratory in Pasadena, California, bunny-suited engineers move the Mars 2020 rover into a large vacuum chamber for testing in Mars-like environmental conditions. For more info about the mission, visit https://mars.nasa.gov/mars2020 Video credit: NASA/JPL-Caltech	Transcript Link
2019 11 01	NASA Jet Propulsion Laboratory	https://youtu.be/4mSETiiOpeg	What's Up November 2019 Skywatching Tips from NASA	Highlights of the November sky include how to watch as Mercury transits the Sun on Nov. 11, plus how to observe the regular dimming and brightening of the "Demon star," Algol, with your own eyes. Additional information, along with still images from the video, and the video transcript, are available at https://go.nasa.gov/34hp376 . Algol animation is licensed as CC-BY-SA 3.0. Video credit NASA-JPL/Caltech.	Transcript Link
2019 10 31	NASA Jet Propulsion Laboratory	https://youtu.be/J_E37dF3oCA	NASA JPL Engineers Compete in Annual Pumpkin Carving Contest	Once a year at Halloween, hardworking JPL engineers put their skills to the test in a highly competitive pumpkin carving contest. The result: A pumpkin gently landed on the Moon, its retrorockets smoldering, while across the room a Nemo-inspired pumpkin explored the sub-surface ocean of Jupiter moon Europa. Suffice to say that when the scientists and engineers at NASA's Jet Propulsion Laboratory compete in a pumpkin-carving contest, the solar system's the limit. Take a look at some of the masterpieces from 2019. Now in its ninth year, the contest gives teams only one hour to carve and decorate their pumpkin though they can prepare non-pumpkin materials - like backgrounds, sound effects and motorized parts - ahead of time. See and download more photos from this year's contest at: https://flic.kr/s/aHskG5DMNc Video credit: NASA-JPL/Caltech	Transcript Link
2019 10 29	NASA Jet Propulsion Laboratory	https://youtu.be/-ngq99ZmJO8	Galaxy of Horrors (Trailer)	Lurking beyond our solar system, among the billions of stars and the exoplanets that orbit them, is another sort of Milky Way altogether. Our "Galaxy of Horrors" reveals the sinister science behind real worlds we’ve discovered in our galaxy. Free space poster downloads available on https://exoplanets.nasa.gov	Transcript Link

2019 10 03	NASA Jet Propulsion Laboratory	https://youtu.be/uuJoyZ0IuLk	NASA InSight's Robotic Arm Helps Out its Mole on Mars	NASA’s InSight lander on Mars is trying to use its robotic arm to get the mission’s heat flow probe, or mole, digging again. InSight team engineer Ashitey Trebbi-Ollennu, based at NASA’s Jet Propulsion Laboratory in Pasadena, California, explains what has been attempted and the game plan for the coming weeks. The next tactic they'll try will be "pinning" the mole against the hole it's in. The German Aerospace Center (DLR) built the mole. It is designed to dig under the Martian surface to measure heat flowing out of the planet. Scientists want this data to learn how Mars and other rocky planets form. For more about the mission, visit: https://www.nasa.gov/insight and https://mars.nasa.gov/insight/	Transcript Link
2019 10 02	NASA Jet Propulsion Laboratory	https://youtu.be/TnbAVSmpmyM	What's Up October 2019 Skywatching Tips from NASA	What can you see in the October sky? Join the global celebration of International Observe the Moon Night on Oct. 5th, then try to catch the ice giant planets Uranus and Neptune, which are well placed for viewing in the late-night sky. Additional information about topics covered in this episode of What's Up, along with still images from the video, and the video transcript, are available at https://go.nasa.gov/2olXlGD	Transcript Link
2019 10 01	NASA Jet Propulsion Laboratory	https://youtu.be/m9cCuW9nIQg	Listen to NASA's InSight at Work on Mars	NASA's InSight lander placed a seismometer on the Martian surface to study marsquakes. While it's found many, it has also detected other kinds of seismic signals, including some produced by the spacecraft itself. That includes wind gusts, InSight's robotic arm moving around and "dinks and donks," friction caused by parts inside the seismometer moving against each other as the temperature changes. Put on your headphones and you can hear sonifications of this seismic "noise" recorded on March 6, 2019, the 98th Martian day, or sol, of the mission. Around 2 p.m. local Mars time, the spacecraft's arm was moving and snapping pictures with its cameras, surveying InSight’s “workspace.” This audio would be too faint for the human ear to heart it on Mars. It's been sped up by 10 times and processed so you can hear the kinds of signals InSight sends back for its scientists to study.	Transcript Link

2019 08 29	NASA Jet Propulsion Laboratory	https://youtu.be/ssYGxytMV8Y	What's Up September 2019 Skywatching Tips from NASA	In this month's sky, look for lovely crescent Moons at the start and end of the month. The September equinox brings the beginning of fall in the Northern Hemisphere. And Mars is at solar conjunction, meaning it has disappeared from night skies! (When will it return?) Additional information about topics covered in this episode of What's Up, along with still images from the video, and the video transcript, are available at https://go.nasa.gov/2Hx3bMn Correction: The video states that the Moon will be waning at the beginning of the month and waxing at the end. In fact it is the opposite — the Moon is waxing at the beginning, and waning at the end. We regret the error. Credit: NASA/JPL-Caltech	Transcript Link
2019 08 28	NASA Jet Propulsion Laboratory	https://youtu.be/QnuLxzocuhY	Building NASA's Mars 2020 Rover	See NASA's next Mars rover quite literally coming together inside a clean room at the Jet Propulsion Laboratory. This behind-the-scenes look at what goes into building and preparing a rover for Mars, including extensive tests in simulated space environments, was captured from March to July 2019. The rover is expected to launch to the Red Planet in summer 2020 and touch down in February 2021. For more information on the Mars 2020 mission, go to: https://mars.nasa.gov/mars2020/	Transcript Link
2019 08 28	NASA Jet Propulsion Laboratory	https://youtu.be/WHr3PeSafjU	Name NASA's Next Mars Rover!	The Mars 2020 Rover is preparing to launch to the Red Planet in July 2020, but it doesn't have a name yet. We're asking K-12 students across the United States to send in essays with their best name ideas by Nov. 1, 2019. For more information about the Mars 2020 rover naming contest, visit https://go.nasa.gov/name2020 .	Transcript Link

2019 08 23	NASA Jet Propulsion Laboratory	https://youtu.be/357Om3IyWlI	Robert Downey Jr. Announces NASA's 'Rolling Stones Rock'	Before The Rolling Stones took the stage at the Rose Bowl Stadium for a concert on Aug. 22, 2019, actor Robert Downey Jr. announced to the crowd that a rock on Mars had been named for the band by NASA's Mars InSight lander team. InSight’s retrorockets sent "Rolling Stones Rock" rolling about 3 feet (1 meter) as the spacecraft touched down on Mars on Nov. 26, 2018. It's the farthest NASA has seen a rock roll after landing a spacecraft on another planet. A little larger than a golf ball, the rock is about 2.2 inches (5.5 centimeters) in diameter and 1 inch (2.4 centimeters) in height. A series of divots marked its course after being set in motion by the landing. The Jet Propulsion Laboratory (JPL), a division of Caltech, manages InSight for NASA. JPL is located about three miles away from the Rose Bowl in Pasadena, California. For more information about "Rolling Stones Rock," visit https://go.nasa.gov/MarsRocks Courtesy: Rolling Stones	Transcript Link
2019 08 23	NASA Jet Propulsion Laboratory	https://youtu.be/1Az-S4MdifU	NASA Names “Rolling Stones Rock” on Mars	The team behind NASA's InSight lander has informally named a rock on Mars “Rolling Stones Rock” after the band. A little larger than a golf ball, the rock appeared to have rolled about 3 feet (1 meter) on Nov. 26, 2018, propelled by InSight's retrorockets as the spacecraft touched down to study the Red Planet's deep interior. In images taken by InSight the next day, several divots in the orange-red soil can be seen trailing "Rolling Stones Rock." It's the farthest NASA has seen a rock roll while landing a spacecraft on another planet. For more about the mission, visit https://mars.nasa.gov/insight/ Video Credit: NASA/JPL-Caltech Music Courtesy: Rolling Stones	Transcript Link
2019 08 05	NASA Jet Propulsion Laboratory	https://youtu.be/NJzDNgs7Db8	NASA's Curiosity Mars Rover Explores Teal Ridge (360 View)	Curiosity captured this 360-degree panorama of a location on Mars called “Teal Ridge” on June 18, 2019. This location is part of a larger region the rover has been exploring called the “clay-bearing unit” on the side of Mount Sharp, which is inside Gale Crater. The scene is presented with a color adjustment that approximates white balancing to resemble how the rocks and sand would appear under daytime lighting conditions on Earth. Scientists are looking for signs that Mars could have supported microbial life billions of years ago, when rivers and lakes could be found in the crater. Important note: Not all browsers support viewing 360 videos/images. YouTube supports uploading and playback of 360 degree videos/images on computers using Chrome, Firefox, Internet Explorer, and Opera browsers. If your browser does not support 360, a static view of this same panorama image will be available on https://photojournal.jpl.nasa.gov/new . For more information about the mission, visit https://mars.nasa.gov/msl. Credit: NASA/JPL-Caltech/MSSS	Transcript Link

2019 08 01	NASA Jet Propulsion Laboratory	https://youtu.be/k74kIAHS-ag	What's Up August 2019 Skywatching Tips from NASA	What can you see this month? In the August sky, look for the "shooting stars" of the annual Perseid meteor shower for some stargazing delights, but be warned — the bright Moon will overwhelm the fainter meteors this year. Plus, the Moon's evening visits to Jupiter and Saturn. Additional information about topics covered in this episode of What's Up, along with still images from the video, and the video transcript, are available at https://go.nasa.gov/2KijnRU	Transcript Link
2019 07 26	NASA Jet Propulsion Laboratory	https://youtu.be/aT9kxH894lo	NASA's Mars 2020 Rover Does Biceps Curls (Arm Testing Time Lapse)	Time lapse video of robotic arm on NASA's Mars 2020 rover handily maneuvers 88-pounds (40 kilograms) worth of sensor-laden turret as it moves from a deployed to stowed configuration. For more information about the turret and the Mars 2020 mission, visit https://mars.nasa.gov/mars2020	Transcript Link
2019 07 16	NASA Jet Propulsion Laboratory	https://youtu.be/vPYdY6M4qz8	Moon Struck! Celebrating Apollo's 50th Anniversary (Live Public Talk)	Original air date: Thursday, July 11, 7pm PT As part of the intense, decade-long effort that led to human footprints on the lunar surface, NASA's Jet Propulsion Laboratory launched a series of robotic precursors to the Moon. It proved a formidable challenge — the first six missions failed, putting at risk the laboratory's ambitions to explore the solar system. Meanwhile, Caltech — which operates JPL for NASA — established a laboratory in the mid-1960s to help develop the new techniques that would be needed for analyzing lunar samples. And once the Apollo 11 Moon rocks were on the ground, the Caltech researchers raced to contribute to the first stunning scientific results NASA shared with the world. This event will focus on understanding the supporting roles these institutions played in one of humanity's greatest achievements, and consider what might lie ahead in exploring the Moon. Take a journey back in time to learn how JPL found its way to success in the early days of the space race and how both Caltech and JPL have contributed to exploring and understanding our nearest celestial neighbor. Host: Preston Dyches Speaker(s): Blaine Baggett, JPL Fellow and Emmy award-winning producer; Arden Albee, Caltech Professor of Geology and Planetary Science, Emeritus; John Casani, JPL veteran engineer of the Ranger	Transcript Link

2019 07 12	NASA Jet Propulsion Laboratory	https://youtu.be/eDh2Jz3hKjU	Pit Crew for Mars NASA's Mars 2020 Rover Gets Some Wheels (time lapse)	A team of engineers at NASA's Jet Propulsion Laboratory in Pasadena, California, install the legs and wheels — otherwise known as the mobility suspension — on the Mars 2020 rover. The imagery for this accelerated time-lapse was taken on June 13, 2019, from a camera above the Spacecraft Assembly Facility's High Bay 1 clean room. JPL is building and will manage operations of the Mars 2020 rover for the NASA Science Mission Directorate at the agency's headquarters in Washington. For more information about the mission, go to: https://mars.nasa.gov/mars2020/. Credit: NASA/JPL-Caltech	Transcript Link
2019 07 10	NASA Jet Propulsion Laboratory	https://youtu.be/q2SKa9IEG4M	NASA Climbing Robot Scales Cliffs and Looks for Life	Robots can land on the Moon and drive on Mars, but what about the places they can't reach? Designed by engineers as NASA's Jet Propulsion Laboratory in Pasadena, California, a four-limbed robot named LEMUR (Limbed Excursion Mechanical Utility Robot) can scale rock walls, gripping with hundreds of tiny fishhooks in each of its 16 fingers and using artificial intelligence to find its way around obstacles. In its last field test in Death Valley, California, in early 2019, LEMUR chose a route up a cliff, scanning the rock for ancient fossils from the sea that once filled the area. The LEMUR project has since concluded, but it helped lead to a new generation of walking, climbing and crawling robots. In future missions to Mars or icy moons, robots with AI and climbing technology derived from LEMUR could discover similar signs of life. Those robots are being developed now, honing technology that may one day be part of future missions to distant worlds. Read more: https://go.nasa.gov/2SaMjyT	Transcript Link
2019 07 01	NASA Jet Propulsion Laboratory	https://youtu.be/NdNuyznPpbs	Landing NASA's Mars 2020 Rover with Terrain Relative Navigation	The Mars 2020 mission is facing the most challenging landing yet on the Red Planet. It will touch down on Feb. 18, 2021, in Jezero Crater, a 28-mile-wide (45-kilometer-wide) expanse full of steep cliffs, boulder fields and other things that could boobytrap the landing. A new technology called Terrain Relative Navigation (TRN) will allow the spacecraft to avoid hazards autonomously. It's the closest thing to having an astronaut piloting the spacecraft, and the technology will benefit future robotic and human exploration of Mars. For more information about Mars 2020, visit: https://mars.nasa.gov/mars2020/	Transcript Link
2019 07 01	NASA Jet Propulsion Laboratory	https://youtu.be/E_A-hSm1RaI	What's Up July 2019 Skywatching Tips from NASA	As NASA marks the 50th anniversary of the Apollo 11 Moon landing, here are five things to know about the Moon that you can share with others: How far away is the Moon? How big is the Moon? What color is the Moon? Why do we always see the same side of the Moon? And what are the dark areas on the Moon? Additional information about topics covered in this episode of What's Up, along with still images from the video and the video transcript are available at https://go.nasa.gov/2Xfp0tt	Transcript Link

2019 06 12	NASA Jet Propulsion Laboratory	https://youtu.be/7rzu7TTkIMA	Crazy Engineering Making Oxygen on Mars with MOXIE	Crazy Engineering explores a technology demonstration riding aboard NASA's Mars 2020 rover that's straight out of science fiction novels like "The Martian." It's an oxygen generator called MOXIE, designed to convert carbon dioxide — which constitutes about 96% of the Martian atmosphere — into breathable oxygen. For more about MOXIE and Mars 2020, visit: https://mars.nasa.gov/mars2020/	Transcript Link
2019 06 10	NASA Jet Propulsion Laboratory	https://youtu.be/4GEeak4Vphs	How NASA's Deep Space Atomic Clock Could Be the Next Space GPS	NASA has perfected new navigation technology that would make self-driving spacecraft and GPS beyond the Moon a reality. The Deep Space Atomic Clock is the first atomic clock small and stable enough to fly on a spacecraft beyond Earth's orbit. As NASA works to put humans on Mars and the Moon, the clock's precise timekeeping will be key to these missions' success. For more about the Deep Space Atomic Clock: https://www.nasa.gov/mission_pages/tdm/clock/index.html	Transcript Link
2019 06 06	NASA Jet Propulsion Laboratory	https://youtu.be/VdRqSSYu4K8	NASA Chopper Ready for a Spin on Mars	The laws of physics may say it's near impossible to fly on Mars, but actually flying a heavier-than-air vehicle on the Red Planet is much harder than that. NASA's Mars 2020 mission will deliver a technology demonstration that will put the idea to the test -- a helicopter that will perform controlled flight on Mars. For more about NASA's Mars missions, visit https://nasa.gov/mars and https://mars.nasa.gov	Transcript Link
2019 06 05	NASA Jet Propulsion Laboratory	https://youtu.be/G9sJI3IacpQ	NASA InSight A Plan to Get the Mole Moving Again	NASA InSight scientist/engineer Troy Hudson gives us the game plan for getting the mission's heat probe, also known as the "mole," digging again on Mars. For more about the mission, visit: https://www.nasa.gov/insight and https://mars.nasa.gov/insight/	Transcript Link
2019 05 31	NASA Jet Propulsion Laboratory	https://youtu.be/RmqCQpyBISI	What's Up June 2019 Skywatching Tips from NASA	What's up in the June sky? Jupiter is at its biggest and brightest, Mercury and Mars appear ultra-close and how you can observe the Moon's tilted orbit. Additional information about topics covered in this episode of What's Up, along with still images from the video, and the video transcript are available at https://go.nasa.gov/2XckOqA	Transcript Link

2019 05 30	NASA Jet Propulsion Laboratory	https://youtu.be/p7YQ-KvGbJQ	Stars of Cepheus as Seen by NASA's Spitzer Space Telescope	Soar through this cosmic landscape filled with bright nebulas, as well as runaway, massive and young stars. The image comes from NASA's Spitzer Space Telescope, which sees the universe in infrared light. For more about Spitzer, visit https://www.nasa.gov/spitzer or http://www.spitzer.caltech.edu/ . Credit: NASA-JPL/Caltech	Transcript Link
2019 05 15	NASA Jet Propulsion Laboratory	https://youtu.be/T1SL0NnXRW0	NASA’s Curiosity Finds Climate Clues on a Martian Mountain	After spending the better part of a year exploring Mars’ Vera Rubin Ridge, NASA’s Curiosity Mars rover has moved to a new part of Mount Sharp. Project Scientist Ashwin Vasavada gives a tour of the rover's new home in the “clay unit,” as well as other areas scientists are excited to visit. Find out what they could tell us about watery ancient Mars versus the dry Red Planet we see today. For more about the mission, visit https://mars.nasa.gov/msl Credit: NASA/JPL-Caltech/ESA/U of Arizona/JHUAPL/MSSS/USGS Astrogeology Science Center	Transcript Link
2019 05 02	NASA Jet Propulsion Laboratory	https://youtu.be/VoivZE4xLEw	What's Up May 2019 Skywatching Tips from NASA	What's up in the May sky? A meteor shower produced by debris from Halley's Comet, asteroids named after dinosaurs and a "blue moon" on May 18th. Additional information about topics covered in this episode of What's Up, along with still images from the video and the video transcript are available at https://go.nasa.gov/2PDWavM	Transcript Link

2019 04 23	NASA Jet Propulsion Laboratory	https://youtu.be/DLBP-5KoSCc	First Likely Marsquake Heard by NASA's InSight	This video and audio illustrates a seismic event detected by NASA's InSight on April 6, 2019, the 128th Martian day, or sol, of the mission. Three distinct kinds of sounds can be heard, all of them detected as ground vibrations by the spacecraft's seismometer, called the Seismic Experiment for Interior Structure (SEIS): There's noise from Martian wind; the seismic event itself; and the spacecraft's robotic arm as it moves to take pictures. This event is the first likely marsquake recorded by the InSight team. Several other seismic events have been recorded but are much more ambiguous than this signal. The audio underscores just how seismically noisy the Martian surface can be and was produced from two sets of sensors included with SEIS. You can hear sounds from the Very Broad Band sensors from your left speakers and sounds from the Short Period sensors from your right speakers. Audio from both sets of sensors have been sped up by a factor of 60; the actual vibrations on Mars would not have been audible to the human ear. Playback on headphones or speaker system recommended for best experience. For more about the mission, please visit https://mars.nasa.gov/insight Credit: NASA/JPL-Caltech/CNES/IPGP/Imperial College London	Transcript Link
2019 04 09	NASA Jet Propulsion Laboratory	https://youtu.be/_x-VzdEeq0c	NASA's OCO-3 Watching Plants Grow and Glow	OCO-3 will be mounted on the International Space Station where it will measure both atmospheric carbon and plant activity from orbit. During photosynthesis, plants absorb carbon dioxide from the atmosphere and emit a small amount of light. Measuring this "solar-induced fluorescence" will help scientists better understand the role plants have in removing carbon dioxide from the atmosphere. For more on this orbiting carbon observatory, visit https://ocov3.jpl.nasa.gov/	Transcript Link
2019 04 02	NASA Jet Propulsion Laboratory	https://youtu.be/7GMjU5pSufk	NASA’s OCO-3 A New View of Carbon (mission overview)	NASA’s OCO-3 mission is ready for launch to the International Space Station. This follow-on to OCO-2 brings new techniques and new technologies to carbon dioxide observations of Earth from space. For more on this orbiting carbon observatory, visit https://ocov3.jpl.nasa.gov/	Transcript Link

2019 04 02	NASA Jet Propulsion Laboratory	https://youtu.be/iZAKN8IiUdU	What's Up April 2019 Skywatching Tips from NASA	What can you see in the April sky? The Moon visits Mars in the evening, and later joins Saturn and Jupiter for a spot of tea. Also, how to find Polaris, the North Star. Download still images from this video, along with the transcript and the video itself at https://go.nasa.gov/2TQv4SG	Transcript Link
2019 03 27	NASA Jet Propulsion Laboratory	https://youtu.be/V4BXrw3cDLc	Red Planet Rovers and Insights (live public talk)	Original air date: Jan. 10, 2019, at 7 p.m. PT (10 p.m. ET, 0300 UTC) Get the scoop on the latest missions at Mars. This lecture will bring you up to speed on all things Mars, including: The biggest dust storm in a decade, rolling (and drilling) on "Rubin Ridge," a new rover under construction, and a recent arrival on Mars preparing to get down to business. Speakers: Abigail Fraeman Mars Scientist, NASA-JPL Elizabeth Barrett Science/Instruments Operations Engineer, NASA-JPL	Transcript Link
2019 02 28	NASA Jet Propulsion Laboratory	https://youtu.be/ret6VBuCp30	What's Up March 2019 Skywatching Tips from NASA	What can you see in the March sky? Jupiter and other planets in the morning, a change of seasons and an open star cluster called the Beehive. Download still images from this video, along with the transcript and the video itself at https://go.nasa.gov/2Vqwip5	Transcript Link
2019 02 15	NASA Jet Propulsion Laboratory	https://youtu.be/TPXU_uQThGo	Mars 2020 Rover Build Update	Tour the Spacecraft Assembly Facility at NASA's Jet Propulsion Laboratory and see the Mars 2020 mission under construction. Project System Engineer Jennifer Trosper explains the hardware being built and tested, including the rover, descent stage, cruise stage, back shell and heat shield. This NASA mission is preparing to launch to the Red Planet in 2020 and land in 2021. For more about Mars 2020, visit https://mars.nasa.gov/m2020	Transcript Link

2019 02 13	NASA Jet Propulsion Laboratory	https://youtu.be/1Ll-VHYxWXU	Opportunity NASA Rover Completes Mars Mission	Drive along with the NASA’s Opportunity Mars rover and hear the voices of scientists and engineers behind the mission. Designed to run for 90 days, the exploration spanned more than 15 years from 2004 to 2019. Along the way, it discovered definitive proof of liquid water on ancient Mars and set the off-world driving record. For more information on the Mars Exploration Rovers and all of NASA’s Mars missions, visit mars.nasa.gov. Credit: NASA/JPL-Caltech	Transcript Link
2019 02 08	NASA Jet Propulsion Laboratory	https://youtu.be/e-gZpz8zuDQ	NASA's Curiosity Mars Rover Departs Vera Rubin Ridge (360 View)	NASA's Curiosity Mars Rover has already descended from Vera Rubin Ridge, a region of Mount Sharp that it has been exploring for more than a year. But before it left, the rover took a 360-degree panorama of the area depicting its last drill hole on the ridge (at a location called "Rock Hall"), a new region it will spent the next year exploring (the clay unit) and its last view of Gale Crater's floor until it starts ascending in elevation again. Important note: Not all browsers support viewing 360 videos/images. YouTube supports uploading and playback of 360 degree videos/images on computers using Chrome, Firefox, Internet Explorer, and Opera browsers. If your browser does not support 360, a static view of this same panorama image will be available on https://photojournal.jpl.nasa.gov/new . For more information about the mission, visit https://mars.nasa.gov/msl. Credit: NASA/JPL-Caltech/MSSS	Transcript Link
2019 02 04	NASA Jet Propulsion Laboratory	https://youtu.be/CUaYcikaarE	What’s Up February 2019 Skywatching Tips from NASA	What can you see in the February sky? Stars and planets with distinct red and blue colors, like Mars and Sirius. February also brings some pretty pairings with Venus, Saturn and the Moon, and the best opportunity of the year to catch a glimpse of Mercury. We also point out locations in the sky of several destinations recently visited by NASA spacecraft. Download still images from this video, along with the transcript and the video itself at https://solarsystem.nasa.gov/resources/2271/whats-up-february-2019-skywatching-from-nasa/ Presenter voice: Jennifer Corbilla, NASA-JPL —About asteroid Bennu— An ancient relic of our solar system’s early days, Bennu has seen more than 4.5 billion years of history. Scientists think that within 10 million years of our solar system’s formation, Bennu’s present-day composition was already established. Bennu likely broke off from a much larger carbon-rich asteroid about 700 million to 2 billion years ago. It likely formed in the Main Asteroid Belt between Mars and Jupiter, and has drifted much closer to Earth since then. Because its materials are so old, Bennu may contain organic molecules similar to those that could have been involved with the start of life on Earth. More about Bennu: https://solarsystem.nasa.gov/asteroids-comets-	Transcript Link

2019 01 10	NASA Jet Propulsion Laboratory	https://youtu.be/m2f_vXxokNg	The 'Cow' Explosion Black Hole Eats White Dwarf	Watch what scientists think happens when a black hole tears apart a hot, dense white dwarf star. A team working with observations from NASA's Neil Gehrels Swift Observatory suggests this process explains a mysterious outburst known as AT2018cow, or "the Cow." Credit: NASA's Goddard Space Flight Center Music: "Curious Events" from Killer Tracks	Transcript Link
2018 12 21	NASA Jet Propulsion Laboratory	https://youtu.be/5aVU_0a8-A4	NASA Mars Report Dec. 20, 2018	NASA’s InSight has been busy. After landing on the Red Planet, the mission sent home pictures and sound, then placed its first instrument on the planet's surface. Plus, find out what the Curiosity rover has been up to. For more Mars exploration updates, visit https://mars.nasa.gov .	Transcript Link
2018 12 20	NASA Jet Propulsion Laboratory	https://youtu.be/FBzU8L01O7E	What’s So Cool About NASA’s Cold Atom Lab	NASA’s Cold Atom Laboratory on the International Space Station is regularly the coldest known spot in the universe. But why are scientists producing clouds of atoms a fraction of a degree above absolute zero? And why do they need to do it in space? Quantum physics, of course. Here’s how CAL is helping scientists learn more about the physics behind things like miniaturized technology and the fundamental nature of the particles that make up everything we see. For more about CAL and its science, visit https://coldatomlab.jpl.nasa.gov/sciencebackground/	Transcript Link
2018 12 18	NASA Jet Propulsion Laboratory	https://youtu.be/-kcKjmsCO8U	Earth 360 Video The Call of Science	Join NASA Earth scientists for a 360-degree view of our planet as they head into the field to study ice in Greenland and coral reefs in Hawaii. You can stand with scientists on Arctic ice, fly above the ice sheet, glaciers and sea ice as part of Operation IceBridge, then head to Hawaii as scientists dive into Kaneohe Bay as part of NASA’s CORAL mission. Important note: Not all browsers support viewing 360 videos/images. YouTube supports uploading and playback of 360 degree videos/images on computers using Chrome, Firefox, Internet Explorer, and Opera browsers. For more about NASA's investigations of planet Earth, visit https://climate.nasa.gov	Transcript Link

2018 12 13	NASA Jet Propulsion Laboratory	https://youtu.be/qnZ_sidmr4Y	Mars 2020 Landing Site Jezero Crater Flyover	An animated flyover of the Martian surface explains why Mars' Jezero Crater, a 28-mile-wide ancient lake-delta system, is the best place for the Mars 2020 rover to find and collect promising samples for a possible future return to Earth. For more about the mission, please visit https://mars.nasa.gov/mars2020	Transcript Link
2018 12 10	NASA Jet Propulsion Laboratory	https://youtu.be/MGPM58S5Njg	NASA's Voyager 2 Enters Interstellar Space	Forty-one years after it launched into space, NASA's Voyager 2 probe has exited our solar bubble and entered the region between stars. Its twin, Voyager 1, made this historic crossing in 2012. Edward Stone, the Voyager mission's project scientist, and Suzanne Dodd, the mission project manager, discuss this major milestone and what's to come for the trailblazing probe. For more about the Voyagers, including the Grand Tour of the Solar System and the Golden Record, visit https://voyager.jpl.nasa.gov	Transcript Link
2018 12 07	NASA Jet Propulsion Laboratory	https://youtu.be/yT50Q_Zbf3s	Sounds of Mars NASA's InSight Senses Martian Wind	Listen to Martian wind blow across NASA's InSight lander. The spacecraft's seismometer and air pressure sensor picked up vibrations from 10-15 mph (16-24 kph) winds as they blew across Mars' Elysium Planitia on Dec. 1, 2018. The seismometer readings are in the range of human hearing, but are nearly all bass and difficult to hear on laptop speakers and mobile devices. We provide the original audio and a version pitched up by two octaves to make them audible on mobile devices. Playback is suggested on a sound system with a subwoofer or through headphones. Readings from the air pressure sensor have been sped up by a factor of 100 times to make them audible. For full-length uncompressed .wav files, visit NASA.gov/sounds For more about the InSight mission, visit mars.nasa.gov/insight . Credit: NASA/JPL-Caltech/CNES/IPGP/Imperial College/Cornell	Transcript Link
2018 11 30	NASA Jet Propulsion Laboratory	https://youtu.be/x2iN_RwGjAo	What's Up for December 2018	This December brings the Geminids, a comet and a fond farewell. The Geminid meteor shower peaks Dec. 13-14, with best viewing from dark sky locations after midnight local time. This is Jane Houston Jones' final episode of "What's Up," which she has written and hosted since 2007. The series has covered the day and nighttime sky, from sunsets to eclipses, planets, comets and beyond, and will continue to do so in 2019 with a new voice. For star parties near you, visit https://nightsky.jpl.nasa.gov/	Transcript Link

2018 11 27	NASA Jet Propulsion Laboratory	https://youtu.be/RVzzgwVyH4Y	NASA Lands InSight on Mars	NASA's Interior Exploration using Seismic Investigations, Geodesy and Heat Transport (InSight) lander successfully touched down on the Red Planet after an almost seven-month, 300-million-mile (458-million-kilometer) journey from Earth. "We hit the Martian atmosphere at 12,300 mph (19,800 kilometers per hour), and the whole sequence to touching down on the surface took only six-and-a-half minutes," said InSight project manager Tom Hoffman at NASA's Jet Propulsion Laboratory. "During that short span of time, InSight had to autonomously perform dozens of operations and do them flawlessly – and by all indications that is exactly what our spacecraft did." InSight will operate on the surface for one Martian year, plus 40 Martian days, or sols, until Nov. 24, 2020. The mission objectives of the two small MarCOs which relayed InSight's telemetry was completed after their Martian flyby. For more info, see https://mars.nasa.gov/insight	Transcript Link
2018 11 27	NASA Jet Propulsion Laboratory	https://youtu.be/Et_p8XP6ZCU	NASA InSight Mission Control Mars Landing Celebration (360 video)	Go inside JPL mission control as NASA's InSight mission touches down on Mars. Use your mouse or device to look around the room as entry, descent and landing engineers celebrate the successful Mars landing. This video also includes a picture-in-picture view of landing commentary. Important note: Not all browsers support viewing 360 videos/images. YouTube supports uploading and playback of 360 degree videos/images on computers using Chrome, Firefox, Internet Explorer, and Opera browsers. If your browser does not support 360, a 2-D view of this same landing commentary will be available at https://www.youtube.com/watch?v=bGD_YF64Nwk	Transcript Link

2018 11 26	NASA Jet Propulsion Laboratory	https://youtu.be/0tfyFRKa3Vk	NASA Previews InSight Mars Landing	Original air date: November 25, 2018 10 a.m. PT (1 p.m. ET) NASA's Mars Interior Exploration using Seismic Investigations, Geodesy and Heat Transport (InSight) spacecraft is on track for a touchdown on the surface of the Red Planet on Nov. 26. One day before landing, the mission team provides an update and explanations of everything that must go right during the entry, descent and landing of the spacecraft. Briefing participants include: Moderator Veronica McGregor Speakers: Thomas Zurbuchen, Associate Administrator for the Science Mission Directorate at NASA Tom Hoffman, InSight Project Manager, JPL Julie Wertz-Chen, InSight Engineer, JPL Brian Clement, MarCO Engineer, JPL Bruce Banerdt, InSight Principal Investigator	Transcript Link
2018 11 01	NASA Jet Propulsion Laboratory	https://youtu.be/CCFXwxUF8F8	Reflections on NASA's Kepler Mission	Follow us on your favorite social media platforms for updates The Kepler space telescope was NASA's first mission to take a survey of exoplanets in our galaxy. The mission revealed that there are more planets than stars in the Milky Way, many of them rocky like Earth, and others unlike anything found in our own Solar System. Three members of the Kepler team from NASA's Jet Propulsion Laboratory reflect on the mission.	Transcript Link
2018 11 01	NASA Jet Propulsion Laboratory	https://youtu.be/ry2njxktVUg	What's Up for November 2018	November brings planets, an asteroid, a comet and the Leonids	Transcript Link

2018 10 31	NASA Jet Propulsion Laboratory	https://youtu.be/PDSbUpmRksI	InSight Landing on Mars	When NASA’s InSight descends to the Red Planet on Nov. 26, 2018, it is guaranteed to be a white-knuckle event. Rob Manning, chief engineer at NASA’s Jet Propulsion Laboratory, explains the critical steps that must happen in perfect sequence to get the robotic lander safely to the surface.	Transcript Link
2018 10 26	NASA Jet Propulsion Laboratory	https://youtu.be/AcAgnQ9K7UY	Testing a Parachute for Mars	Watch as NASA tests a new parachute for landing the Mars 2020 rover on the Red Planet. On Sept. 7, NASA’s ASPIRE project broke a record when its rocket-launched parachute deployed in 4-10ths of a second—the fastest inflation of this size chute in history. For more about the Mars 2020 mission, visit: https://mars.nasa.gov/mars2020	Transcript Link
2018 10 16	NASA Jet Propulsion Laboratory	https://youtu.be/o1ZlVGpyHXc	Crazy Engineering Space Claw on NASA’s InSight Mars Lander	When NASA's InSight lands on Mars, it will be the first mission on another planet to use a robotic arm to grasp instruments and place them on the surface. While it may look like an arcade machine, this space claw is designed to come away with a prize every time. For more about the InSight lander, visit https://mars.nasa.gov/insight	Transcript Link
2018 10 15	NASA Jet Propulsion Laboratory	https://youtu.be/BsB1Eccghc	Mars in a Minute How Do You Choose a Landing Site	So, you want to study Mars with a lander or rover – but where exactly do you send it? Learn how scientists and engineers tackle the question of where to land on Mars in this 60-second video and by visiting mars.nasa.gov.	Transcript Link
2018 10 10	NASA Jet Propulsion Laboratory	https://youtu.be/XtUyUJAVQ6w	OnSight Virtual Visit to Mars	OnSight is mixed-reality software that allows scientists and engineers to virtually walk and meet on Mars. It was created by NASA’s Jet Propulsion Laboratory, in collaboration with Microsoft, for the HoloLens. The software won NASA’s Software of the Year Award 2018. For more about NASA’s exploration of Mars, visit https://mars.nasa.gov Credit: NASA/JPL-Caltech	Transcript Link

2018 10 09	NASA Jet Propulsion Laboratory	https://youtu.be/As41hXu7xYA	Painting Cars for Mars Prepping NASA's Mars 2020 Rover	What does NASA do to get a rover ready for Mars? JPL's paint shop does a thousand different paint jobs a year. And while every piece of spacecraft that comes through the shop is important, one headed for the Red Planet adds a little extra oomph. For more about the Mars 2020 mission, visit https://mars.nasa.gov/mars2020	Transcript Link
2018 10 01	NASA Jet Propulsion Laboratory	https://youtu.be/UKJK7pLAR8k	NASA's OMG Where the Water Meets the Ice	Join JPL scientist Josh Willis as he and the NASA Oceans Melting Greenland (OMG) team work to understand the role that ocean water plays in melting Greenland's glaciers. From the sky and the sea, NASA's OMG mission gathers data on glaciers and water temperature all around Greenland as they try to get a better picture of global sea level rise. For more about the OMG mission, visit https://omg.jpl.nasa.gov/	Transcript Link
2018 10 01	NASA Jet Propulsion Laboratory	https://youtu.be/1Spk76nUzF0	What's Up for October 2018	What's up in the night sky this October? International Observe the Moon Night! Here's how to spot all six Apollo lunar landing sites, plus bays, seas and impact craters on the Moon. See Jupiter, Saturn and Mars near the Moon, and Venus just before dawn. You can find out more about International Observe the Moon Night at moon.nasa.gov/observe	Transcript Link
2018 09 07	NASA Jet Propulsion Laboratory	https://youtu.be/Hth3nKGKTFc	Dusk for Dawn NASA Mission to the Asteroid Belt	NASA's Dawn spacecraft turned science fiction into science fact by using ion propulsion to explore the two largest bodies in the main asteroid belt, Vesta and Ceres. The mission will end this fall, when the spacecraft runs out of hydrazine, which keeps it oriented and in communication with Earth. For more info on the mission, visit https://dawn.jpl.nasa.gov	Transcript Link

2018 09 06	NASA Jet Propulsion Laboratory	https://youtu.be/IcJLZfPiyfc	NASA's Curiosity Mars Rover on Vera Rubin Ridge (360 View)	NASA's Curiosity rover surveyed its surroundings on Aug. 9, 2018, producing a 360-degree panorama of its current location on Mars' Vera Rubin Ridge. The panorama includes skies darkened by a fading global dust storm and a view from the Mast Camera of the rover itself, revealing a thin layer of dust on Curiosity's deck. In the foreground is the rover's most recent drill target, named "Stoer" after a town in Scotland near where important discoveries about early life on Earth were made in lakebed sediments. Important note: Not all browsers support viewing 360 videos/images. YouTube supports uploading and playback of 360 degree videos/images on computers using Chrome, Firefox, Internet Explorer, and Opera browsers. If your browser does not support 360, a static view of this same panorama image is available at https://go.nasa.gov/2wRvvnd For more information about the mission, visit https://mars.nasa.gov/msl . Credit: NASA/JPL-Caltech/MSSS	Transcript Link
2018 08 30	NASA Jet Propulsion Laboratory	https://youtu.be/rsIhsYO8MLM	What's Up for September 2018	What's up in the night sky for September? Outstanding views of the planets. Spot Venus, Jupiter, Saturn and Mars with the naked eye. Then, set your sights beyond the solar system and take a late summertime road-trip of the constellations along the Milky Way. For star parties and astronomy events near you, visit https://nightsky.jpl.nasa.gov/ .	Transcript Link
2018 08 28	NASA Jet Propulsion Laboratory	https://youtu.be/Cww3yVQpcjY	Mars in a Minute How Did Mars Get Such Enormous Mountains	Why are the tallest peaks in the solar system found on one of its smallest worlds? Like any planet, how Mars looks outside is tied to what goes on inside. Dig into planetary formation in this 60-second video and by visiting mars.nasa.gov/insight .	Transcript Link
2018 08 24	NASA Jet Propulsion Laboratory	https://youtu.be/vglkIIFQZWI	15 Years in Space NASA's Spitzer Space Telescope	Initially scheduled for a 2.5-year primary mission, NASA's Spitzer Space Telescope has gone far beyond its expected lifetime -- and is still going strong after 15 years. Mission members reflect on some of Spitzer's most amazing and surprising discoveries. For more about the mission, visit http://www.spitzer.caltech.edu/ and https://www.nasa.gov/spitzer	Transcript Link

2018 08 24	NASA Jet Propulsion Laboratory	https://youtu.be/Po_9xjt3eWk	JPL, GO!	From Space Age rockets to 21st-century robot explorers on Mars, NASA's Jet Propulsion Laboratory has blazed the trail through our Solar System and beyond for over 80 years. Today NASA/JPL continues its world-leading innovation with programs in planetary exploration, Earth science, space-based astronomy and technology development, while applying its capabilities to technical and scientific problems of national significance. We dare mighty things. Learn more about our lab: https://www.jpl.nasa.gov/	Transcript Link
2018 08 20	NASA Jet Propulsion Laboratory	https://youtu.be/IJtjJSHsm9c	NASA Mars Report August 20, 2018	What's the latest news from Mars? A global dust storm is starting to settle, but still obscures the Martian surface; the Curiosity rover turns six and drills a new rock sample; the InSight lander is more than halfway to Mars and has tested its instruments and cameras. For more about all of NASA's Mars missions, visit https://mars.nasa.gov .	Transcript Link
2018 08 01	NASA Jet Propulsion Laboratory	https://youtu.be/kBiIV97wA2w	What's Up for August 2018	What's up in the night sky this month? The best meteor shower of the year! The Perseids peak on a moonless summer night –from 4 p.m. on the 12th until 4 a.m. on the 13th EDT. Thanks to a new moon, the days before and after the peak will also provide nice, dark skies. The best time to look for shooting stars is from a few hours after twilight until dawn on the days surrounding the peak. For more star parties and astronomy events near you, visit https://nightsky.nasa.gov	Transcript Link

2018 08 01	NASA Jet Propulsion Laboratory	https://youtu.be/pSc-7lmMQgE	Mars Close Approach from Griffith Observatory	NASA's Jet Propulsion Laboratory in Pasadena, California, has long been a home to Mars exploration. But on July 31, 2018, several JPL scientists and engineers are bringing the excitement of space and exploring Mars to Griffith Observatory. These "Martians" interacted with the public during a free Observatory stargazing party for the Red Planet's closest approach to Earth for the next 17 years. At closest approach Earth and Mars was 35.8 million miles (57.6 million kilometers) from each other, the closest they have been since the historic 34.6-million-mile (55.6 million kilometers) close approach in August 2003. The moment of closest approach was 12:45 a.m., Tuesday, July 31. By a celestial coincidence, at the moment of closest approach, Mars was at its very best position for viewing through a telescope from Los Angeles. It crossed the meridian and appeared highest in the southern sky at that time. The next similar close approach won't happen until September 11, 2035, when Mars will be 35.4 million miles (56.9 million kilometers) away. Unlike an eclipse, Mars will not change appearance during the evening. Members of JPL Mars missions were available for interviews and participated in the Observatory's LiveStream broadcast. A few of them include: □ Rich Zurek, Chief Scientist for JPL's Mars Program Office □ Farah Alibay, engineer for NASA's InSight and MarCO missions	Transcript Link
2018 07 27	NASA Jet Propulsion Laboratory	https://youtu.be/z85AA2tF9f8	NASA's Cold Atom Lab The Coolest Experiment in the Universe	NASA's Cold Atom Lab will produce clouds of ultra-cold atoms aboard the International Space Station to perform quantum physics experiments in microgravity. Atoms are chilled to about one 10 billionth of a degree above Absolute Zero, or about 10 billion times colder than the average temperature of deep space. At those temperatures, atoms behave in strange ways, allowing scientists to investigate the fundamental nature of matter. For more info about CAL, visit https://coldatomlab.jpl.nasa.gov/ The clouds of ultra-cold atoms CAL produces are called Bose-Einstein Condensates (BECs), a bizarre state of matter in which atoms exhibit quantum behavior at macroscopic a scale you can see. BECs make it possible for researchers to probe the fundamental nature of matter. Hundreds of BEC experiments exist on Earth, but on the International Space Station, free from the pull of gravity, scientists will be able to observe BECs for much longer than what is possible on Earth, and reach even colder temperatures than what is typically achieved on the ground. The Cold Atom Lab will move scientists another step closer to solving some of the biggest mysteries in the universe, such as understanding the nature of dark matter and dark energy and solving the disagreement between quantum mechanics and the theory of gravity. Research done on CAL can also have practical applications, such as making improvements to atomic clock technologies, which are used in spacecraft navigation, as well as the GPS satellites that provide navigation information to devices like smartphones. CAL research	Transcript Link

2018 07 23	NASA Jet Propulsion Laboratory	https://youtu.be/vfvo-Ujb_qk	All Known Asteroids in the Solar System (1999-2018)	This animation represents a map of the increased count of all known asteroids in the solar system between Jan. 1, 1999, and Jan. 31, 2018. Blue represents near-Earth asteroids. Orange represents main-belt asteroids between the orbits of Mars and Jupiter. For more info about how NASA tracks and studies asteroids and comets, visit https://www.jpl.nasa.gov/asteroidwatch/ and https://cneos.jpl.nasa.gov/ .	Transcript Link
2018 07 12	NASA Jet Propulsion Laboratory	https://youtu.be/s6gSD95fu9Y	Rare Double Asteroid Revealed by NASA, Observatories	Three of the world's largest radio telescopes team up to show a rare double asteroid. 2017 YE5 is only the fourth binary near-Earth asteroid ever observed in which the two bodies are roughly the same size, and not touching. This video shows radar images of the pair gathered by Goldstone Solar System Radar, Arecibo Observatory and Green Bank Observatory. More information about asteroids and near-Earth objects: https://neo.jpl.nasa.gov https://www.jpl.nasa.gov/asteroidwatch	Transcript Link
2018 07 09	NASA Jet Propulsion Laboratory	https://youtu.be/hWHLCHv4PiI	Sounds of Saturn Hear Radio Emissions of the Planet and Its Moon Enceladus	New research from the up-close Grand Finale orbits of NASA's Cassini mission shows a surprisingly powerful interaction of plasma waves moving from Saturn to its moon Enceladus. Researchers converted the recording of plasma waves into a "whooshing" audio file that we can hear -- in the same way a radio translates electromagnetic waves into music. Much like air or water, plasma (the fourth state of matter) generates waves to carry energy. The recording was captured by the Radio Plasma Wave Science (RPWS) instrument Sept. 2, 2017, two weeks before Cassini was deliberately plunged into the atmosphere of Saturn. For more information, visit: saturn.jpl.nasa.gov Credit: NASA/JPL-Caltech/University of Iowa	Transcript Link
2018 07 04	NASA Jet Propulsion Laboratory	https://youtu.be/W0EJ2DUf7g0	NASA Mars Report July 3, 2018	News from NASA spacecraft at Mars: A dust storm continues to batter the Red Planet and Curiosity's labs are back in action. For information on all our Mars missions, visit https://mars.nasa.gov/	Transcript Link

2018 06 29	NASA Jet Propulsion Laboratory	https://youtu.be/yNb1XCSCxEk	What's Up for July 2018	What can you see in July's night skies? Mars opposition on the 27th, when Mars, Earth and the Sun all line up, and Mars' closest approach to Earth since 2003 on the 31st. That means great Mars viewing, though the planet-wide Martian dust storm will make seeing details more difficult. To search for night sky and astronomy events near you, visit https://nightsky.jpl.nasa.gov/ .	Transcript Link
2018 06 29	NASA Jet Propulsion Laboratory	https://youtu.be/IAl04qRt9tc	Launch of SpaceX CRS-15 with ECOSTRESS (full broadcast)	NASA commercial cargo provider SpaceX lifted off at than 5:42 a.m. ET Friday, June 29, 2018, for the launch of its 15th resupply mission to the International Space Station. Packed with more than 5,900 pounds of research, including ECOSTRESS, crew supplies and hardware, the SpaceX Dragon spacecraft launched on a Falcon 9 rocket from Space Launch Complex 40 at Cape Canaveral Air Force Station in Florida. For more about ECOSTRESS, visit https://nasa.gov/ECOSTRESS	Transcript Link
2018 06 25	NASA Jet Propulsion Laboratory	https://youtu.be/kR8LIN0ftG4	Monitoring Plant Health from Space NASA's ECOSTRESS Mission	ECOSTRESS is a new NASA Earth science mission to study how effectively plants use water by measuring their temperature from space. ECOsystem Spaceborne Thermal Radiometer Experiment on Space Station (ECOSTRESS) is set to launch on a SpaceX Falcon 9 rocket in summer 2018, and will be affixed to the outside of the International Space Station where it will make its temperature measurements. ECOSTRESS is a pathfinding instrument that NASA has developed to study plant health and water stress and improve monitoring of drought and agricultural vulnerabilities from the International Space Station. Data from ECOSTRESS will also enable other science and applied science investigations around monitoring volcanoes, urban heat stress, wildfires, and coastal and inland water bodies. NASA monitors Earth's vital signs from land, air and space with a fleet of satellites and ambitious airborne and ground-based observation campaigns. NASA develops new ways to observe and study Earth's interconnected natural systems with long-term data records and computer analysis tools to better see how our planet is changing. The agency shares this unique knowledge with the global community and works with institutions in the United States and around the world that contribute to understanding and protecting our home planet. For more about ECOSTRESS, visit https://nasa.gov/ecostress	Transcript Link

2018 06 01	NASA Jet Propulsion Laboratory	https://youtu.be/uWQLCQZihWs	What's Up for June 2018	What's up in the night sky? Enjoy a ringside seat for Saturn, plus a nightlong parade featuring Venus, Jupiter, Mars and Vesta! For more space and astronomy events near you, visit https://nightsky.jpl.nasa.gov .	Transcript Link
2018 05 24	NASA Jet Propulsion Laboratory	https://youtu.be/OFWS1Dh6H_4	NASA Mars Report May 24, 2018	What's the latest news from Mars? NASA's InSight lander and MarCO CubeSats are on their way to the Red Planet, a tiny helicopter will hitch a ride with the Mars 2020 rover mission, and Curiosity's drill is back in business! For more Mars exploration updates, visit https://mars.nasa.gov .	Transcript Link
2018 05 23	NASA Jet Propulsion Laboratory	https://youtu.be/Qm-t0DgBVUs	U.S. German GRACE-FO Launches Aboard a SpaceX Falcon 9	3-2-1 liftoff of Falcon 9 with GRACE-FO! The Gravity Recovery and Climate Experiment Follow-on, or GRACE-FO, a collaboration between NASA and German Research Centre for Geosciences (GFZ) launched from Vandenberg Air Force Base on California's Central Coast on May 22, 2018. The twin orbiters shared a ride to space with five Iridium NEXT communications satellites. GRACE-FO will continue a study begun by the original GRACE mission, which proved that water movement can be tracked with high precision by its effect on Earth's gravitational field. GRACE-FO will continue the record of regional variations in gravity, telling us about changes in glaciers, ground water, sea levels and the health of our planet as a whole. For more, visit https://gracefo.jpl.nasa.gov .	Transcript Link
2018 05 22	NASA Jet Propulsion Laboratory	https://youtu.be/HuhADctVPr8	GRACE-FO Prepares for Launch	The twin satellites of NASA's Gravity Recovery and Climate Experiment Follow-on, or GRACE-FO, will track the movement of water around Earth. This short video explains how and why it's important. For more about the mission, visit https://gracefo.jpl.nasa.gov	Transcript Link

2018 05 14	NASA Jet Propulsion Laboratory	https://youtu.be/1gexOk6qjmM	Re-analyzing Old Data Reveals New Evidence at Europa	New science, mined from the archives. Data from NASA Galileo orbiter launched a generation ago yields new evidence of plumes, eruptions of water vapor, from Jupiter's moon Europa.	Transcript Link
2018 05 11	NASA Jet Propulsion Laboratory	https://youtu.be/oOMQOqKRWjU	NASA Mars Helicopter Technology Demonstration	The Mars Helicopter is a technology demonstration that will travel to the Red Planet with the Mars 2020 rover. It will attempt controlled flight in Mars' thin atmosphere, which may enable more ambitious missions in the future. For more information, visit https://go.nasa.gov/2IC8tIh	Transcript Link
2018 05 10	NASA Jet Propulsion Laboratory	https://youtu.be/B94yHU-e5_c	How Stars Explode Four Ways to Make a Supernova	What makes a star go boom? By understanding supernovae – stellar explosions – scientists can unlock mysteries that are key to what we are made of and the fate of our universe. Learn more at: http://exoplanets.nasa.gov/supernova	Transcript Link
2018 05 07	NASA Jet Propulsion Laboratory	https://youtu.be/hsdjssgbZoU	Crazy Engineering GRACE-FO	Crazy Engineering sees double! Twin satellites that will track water movement on Earth and test a new laser measurement technology. For more about the mission, visit https://gracefo.jpl.nasa.gov	Transcript Link
2018 05 05	NASA Jet Propulsion Laboratory	https://youtu.be/mo6HnBZ7N-Q	InSight Mission to Mars Launch	Go, Atlas. Go, Centaur. Go, InSight! NASA's InSight mission launched from Vandenberg Air Force Base for Mars on May 5, 2018—the first interplanetary launch from the West Coast. InSight is expected to land on the Red Planet on Nov. 26, 2018. More than a mission to Mars, InSight will help scientists understand the formation and early evolution of all rocky planets, including Earth. For more, visit https://mars.nasa.gov/insight	Transcript Link

2018 05 04	NASA Jet Propulsion Laboratory	https://youtu.be/hf4UiYfpHYY	InSight Prelaunch Briefing	InSight, the first planetary mission to take off from the West Coast, is targeted to launch at 4:05 a.m. PDT (7:05 a.m. EDT) on May 5 from Space Launch Complex-3 at Vandenberg Air Force Base (VAFB) in California, aboard a United Launch Alliance (ULA) Atlas V rocket. The agency hosted a prelaunch briefing on May 3 at VAFB. Presenters included: Jim Green, NASA chief scientist Tom Hoffman, InSight project manager at JPL Stu Spath, InSight program manager at Lockheed Martin Space, Denver Bruce Banerdt, InSight principal investigator at NASA's Jet Propulsion Laboratory, Pasadena, California Annick Sylvestre-Baron, deputy project manager for InSight seismometer investigation at France's space agency, the Centre National d'Études Spatiales, Paris Philippe Lognonné - InSight seismometer investigation lead at the Institut de Physique du Globe de Paris, France Tilman Spohn, investigation lead at the German Aerospace Center (DLR) for the Heat Flow and Physical Properties Probe (HP3), an instrument on InSight, Berlin Andrew Klesh, MarCO chief engineer at JPL Anne Marinan, MarCO systems engineer at JPL Tim Dunn, launch director with NASA's Launch Services Program at Kennedy Space Center, Florida Scott Messer, ULA program manager for NASA launches, Centennial, Colorado	Transcript Link
2018 05 04	NASA Jet Propulsion Laboratory	https://youtu.be/-VPBE2YGB7Q	What's Up for May 2018	Viewers on the West Coast may be able to see NASA's Mars InSight lander launch with its destination planet in sight. The Eta Aquarid meteor shower will be washed out by the Moon this month, but some meteors might be visible. May is also the best Jupiter-observing season, especially for mid-evening viewing. For more info about InSight, visit https://mars.nasa.gov/insight.	Transcript Link
2018 04 30	NASA Jet Propulsion Laboratory	https://youtu.be/s93i7m82h54	Tracking Water from Space The GRACE-FO Mission	GRACE-Follow On (GRACE-FO) is a satellite mission scheduled for launch in May 2018. GRACE-FO will continue the work of the GRACE satellite mission tracking Earth's water movement around the globe. These discoveries provide a unique view of Earth's climate and have far-reaching benefits to society and the world's population. For more information about this mission, visit https://www.nasa.gov/missions/grace-fo and https://gracefo.jpl.nasa.gov/	Transcript Link

2018 04 26	NASA Jet Propulsion Laboratory	https://youtu.be/ie3-UwPLUho	Bringing Mars Back To Earth	NASA and the European Space Agency are now working together to explore options for a pair of missions that could take the next steps to bring samples back from Mars.	Transcript Link
2018 04 20	NASA Jet Propulsion Laboratory	https://youtu.be/1zpXL6fYafE	NASA's NEOWISE Four Years of Asteroid and Comet Data	NASA's asteroid-hunting NEOWISE survey uses infrared to detect and characterize asteroids and comets. Since the mission was restarted in December 2013, NEOWISE has observed or detected more than 29,000 asteroids in infrared light, of which 788 were near-Earth objects. The orbits of Mercury, Venus and Mars are shown in blue. Earth's orbit is in teal. Green dots represent near-Earth objects. Gray dots represent all other asteroids which are mainly in the main asteroid belt between Mars and Jupiter. Yellow squares represent comets. The survey depicted in the animation covers the period from December 13, 2013 to December 13, 2017.	Transcript Link
2018 03 30	NASA Jet Propulsion Laboratory	https://youtu.be/J0_aakGMFIY	NASA Mars Report March 30, 2018	NASA's InSight arrives at Vandenberg AFB and readies for launch, Opportunity uses its abrasion tool for the first time in 300 sols, and Curiosity celebrates 2,000 Martian days on the Red Planet. For more about all of NASA's Mars missions, visit https://mars.nasa.gov	Transcript Link
2018 03 30	NASA Jet Propulsion Laboratory	https://youtu.be/f2svvMGSwW8	What's Up for April 2018	The Moon, Mars and Saturn form a pretty triangle in early April. Lyrid meteors are visible late in the month, peaking high overhead on the 22nd. Through a telescope, Jupiter's cloud belts and Great Red Spot are easy to see. For more about all of NASA's missions, visit https://nasa.gov	Transcript Link

2018 03 29	NASA Jet Propulsion Laboratory	https://youtu.be/LKLITDmm4NA	NASA Mars InSight Overview	NASA's next mission to Mars is weeks away from its May 2018 launch. InSight is more than a Mars mission. Its team members hope to unlock the mysteries of the formation and evolution of rocky planets, including Earth. For more about the mission, visit https://mars.nasa.gov/insight	Transcript Link
2018 03 28	NASA Jet Propulsion Laboratory	https://youtu.be/7Dc-8WOtJPY	Mars in a Minute Are There Quakes on Mars	Are there earthquakes on Mars? Or rather, "marsquakes?" And what could they teach us about the Red Planet? Find out more in this 60-second video and by visiting mars.nasa.gov/insight .	Transcript Link
2018 03 08	NASA Jet Propulsion Laboratory	https://youtu.be/ZSXnw-fJbGk	Engineering For Mars NASA InSight Mission Test Lab (360 Video)	Virtually explore a Mars simulation facility used by engineers to practice operating NASA's InSight lander, slated to launch in May 2018. Hear from engineer Marleen Martinez Sundgaard as you explore the In-Situ Instrument Lab at the Jet Propulsion Laboratory in Pasadena, California, and see how the spacecraft will deploy its seismometer. Not all browsers support viewing 360 videos. YouTube supports their playback on computers using Chrome, Firefox, Internet Explorer, and Opera browsers. Use the YouTube app to view it on a smart phone. For more about the mission, visit http://mars.nasa.gov/insight	Transcript Link
2018 03 07	NASA Jet Propulsion Laboratory	https://youtu.be/FQtjra0uEnc	Mars InSight Arrives at Vandenberg Air Force Base	NASA's InSight spacecraft arrived at Vandenberg Air Force Base, California, to begin final preparations for launch. InSight will be the first mission to look deep beneath the Martian surface, studying the planet's interior by listening for marsquakes and measuring its heat output. It will be the first planetary spacecraft to launch from this west coast launch facility. The launch period for InSight opens May 5, 2018 and continues through June 8, 2018. For more about the mission, visit https://mars.nasa.gov/insight .	Transcript Link
2018 03 01	NASA Jet Propulsion Laboratory	https://youtu.be/6NVU-dWFb28	What's Up for March 2018	At sunset, catch elusive Mercury, bright Venus, and the Zodiacal Light. See Mars, Saturn, and Jupiter between midnight and dawn.	Transcript Link

2018 02 28	NASA Jet Propulsion Laboratory	https://youtu.be/B5TWtxRvydE	Curiosity's New Drilling Technique	After more than a year without the use of the Curiosity Mars rover's drill, engineers have devised a workaround and tested it for the first time on the Red Planet. More testing of the drill method is planned for the future. For more about this NASA mission, visit: http://mars.jpl.nasa.gov/msl	Transcript Link
2018 02 26	NASA Jet Propulsion Laboratory	https://youtu.be/IekJ_tF2haQ	NASA Mars Report Feb. 26, 2018	NASA's Curiosity finds crystals, Opportunity celebrates her 5,000th day on Mars and the MarCO smallsats get solar arrays. For info about all of NASA's Mars missions, visit https://mars.nasa.gov .	Transcript Link
2018 02 22	NASA Jet Propulsion Laboratory	https://youtu.be/b2P_CVOd5G0	Mars in a Minute What's Inside Mars	We know what "The Red Planet" looks like from the outside -- but what's going on under the surface of Mars? Find out more in the 60-second video from NASA's Jet Propulsion Laboratory.	Transcript Link
2018 02 01	NASA Jet Propulsion Laboratory	https://youtu.be/H6xJKlBq0Nk	What's Up for February 2018	This month, in honor of Valentine's Day, we look at celestial star pairs and constellation couples.	Transcript Link

2018 01 31	NASA Jet Propulsion Laboratory	https://youtu.be/SA-2KRN6vXU	Super Blue Blood Moon over NASA-JPL (Time Lapse)	Much of the western United States began the morning with the view of a super blue blood moon total eclipse. In this silent time lapse video, the complete eclipse is seen over NASA's Jet Propulsion Laboratory, located at the base of the San Gabriel Mountains near Pasadena, California. Why was it called a Super Blue Blood Moon? It was the third in a series of “supermoons,” when the Moon is closer to Earth in its orbit – known as perigee – and about 14 percent brighter than usual. It was also the second full moon of the month, commonly known as a “blue moon.” The super blue moon passed through Earth’s shadow to give viewers in the right location a total lunar eclipse. While the Moon is in the Earth’s shadow it takes on a reddish tint, known as a “blood moon.” For more about JPL and all its space missions, visit https://jpl.nasa.gov	Transcript Link
2018 01 31	NASA Jet Propulsion Laboratory	https://youtu.be/SWr6GoGaqdQ	NASA Mars Report January 31, 2018	In this first episode of The Mars Report we celebrate the 14th anniversary of the Opportunity rover; show you a recent panoramic view from the Curiosity rover; and recap a "cool" discovery of ice deposits spotted by the Mars Reconnaissance Orbiter. Also, we look forward to the InSight lander, heading to the Red Planet in May 2018. The NASA Mars Report will bring you regular updates on NASA's Mars exploration. For information on all our Mars missions: https://mars.nasa.gov/	Transcript Link
2018 01 31	NASA Jet Propulsion Laboratory	https://youtu.be/u0DkSI2-dqc	Explorer 1 America’s First Satellite and the Future of Exploration	What did the launch of Explorer 1, America’s first satellite, mean for the lab that designed it and the nation’s space program? Michael Watkins, director of NASA’s Jet Propulsion Laboratory, reflects on 60 years of space science and looks forward to new challenges. For more information on Explorer 1, visit https://explorer1.jpl.nasa.gov	Transcript Link
2018 01 30	NASA Jet Propulsion Laboratory	https://youtu.be/U5nrrnAukwI	Curiosity at Martian Scenic Overlook	Curiosity Project Scientist Ashwin Vasavada gives a descriptive tour of the Mars rover's view in Gale Crater. The white-balanced scene looks back over the journey so far. The view from "Vera Rubin Ridge" looks back over buttes, dunes and other features along the route. To see where the rover is now, visit https://mars.nasa.gov/msl/mission/whereistherovernow/ To aid geologists, colors in the image are white balanced so rocks appear the same color as the same rocks would on Earth. Why? Click here: https://go.nasa.gov/2Fs8tFd	Transcript Link

2018 01 29	NASA Jet Propulsion Laboratory	https://youtu.be/82lXdrl1_UU	What's Up for January 2018	What's up in the sky this month? Quadrantid meteors January 3-4, a West Coast-favoring total lunar eclipse, and time to start watching Mars! Find out about astronomy events and clubs at https://nightsky.jpl.nasa.gov/ .	Transcript Link
2018 01 24	NASA Jet Propulsion Laboratory	https://youtu.be/WT39gTs9X7k	Explorer 1 First U.S. Satellite	Against the backdrop of the 1950s Cold War, after the Soviet Union successfully launched Sputnik, Americans were determined to launch their own Earth-orbiting satellite. Flash back to events leading up to the successful launch of America's Explorer 1, and the beginnings of America's Space Age, as told through newsreel and documentary clips of the time.	Transcript Link
2018 01 24	NASA Jet Propulsion Laboratory	https://youtu.be/Z3twtYCXxNo	NASA's Mars InSight Lander Solar Array Deployment Test (Time Lapse)	While in its landed configuration for the last time before arriving on Mars, NASA's InSight lander was commanded to deploy its solar arrays to test and verify the exact process that it will use on the surface of the Red Planet. During the test on Jan. 23, 2018, in a Lockheed Martin clean room in Littleton, Colorado, engineers and technicians evaluated that the solar arrays fully deployed and conducted an illumination test to confirm that the solar cells were collecting power. This time lapse video of the deployment is courtesy Lockheed Martin Space Systems. For more information about the InSight mission, visit http://insight.jpl.nasa.gov.	Transcript Link
2017 12 12	NASA Jet Propulsion Laboratory	https://youtu.be/wL-sfEsYhpw	The Bright Stuff New NASA Dawn Findings at Ceres	More than 300 bright spots have been located on the surface of Ceres. Scientists with NASA's Dawn mission say the bright material indicates the dwarf planet is an active, evolving world. Find out more about the Dawn mission at https://dawn.jpl.nasa.gov .	Transcript Link

2017 12 07	NASA Jet Propulsion Laboratory	https://youtu.be/2_JJ9gDLwHU	Engineering for Mars Building the Mars 2020 Mission (360 video)	Peer over the shoulders of our engineers as they build hardware for NASA's Mars 2020 mission. This 360 video transports you to the historic Spacecraft Assembly Facility at the agency's Jet Propulsion Laboratory in Pasadena, California. Engineer Emily Howard narrates as you walk around the cruise stage, which will fly the 2020 rover to the Red Planet, and the descent stage, which will lower the rover to the Martian surface. Note: Not all browsers support viewing 360 videos. YouTube supports their playback on computers using Chrome, Firefox, Internet Explorer, and Opera browsers. Use the YouTube app to view it on a smart phone. For more information on the mission, visit https://mars.nasa.gov/mars2020	Transcript Link
2017 12 01	NASA Jet Propulsion Laboratory	https://youtu.be/BbLAze0Rbs4	Voyager Images from the Odysseys (NASA Space Photos)	Sit back and enjoy the view from the Voyagers' epic journey through the solar system. See iconic images of planets and moons, including Jupiter, Io, Europa, Saturn, Titan, Uranus, Neptune and Triton, set to music. For more images, news and FAQs about the continuing Voyager mission, see https://voyager.jpl.nasa.gov/ .	Transcript Link
2017 12 01	NASA Jet Propulsion Laboratory	https://youtu.be/AV-w9U9h0U8	What's Up for December 2017	What's Up for December? The best meteor shower of the year and brightest stars! See where and when to look.	Transcript Link
2017 12 01	NASA Jet Propulsion Laboratory	https://youtu.be/rnBDcFFjI0Q	DIY Glacier Modeling with NASA's Virtual Earth System Laboratory	A new NASA Earth science simulator allows anyone with a computer to try their hand at do-it-yourself glacier modeling. Test it for yourself at https://vesl.jpl.nasa.gov .	Transcript Link

2017 11 28	NASA Jet Propulsion Laboratory	https://youtu.be/s595S1Vf3PE	NASA Begins Building Next Mars Rover Mission	In just a couple of years, NASA's newest rover will be flying to Mars. The Mars 2020 mission will use the next generation of science and landing technology to collect rock samples for possible return by a future mission. For more info, visit the mission site at https://mars.nasa.gov/mars2020	Transcript Link
2017 11 21	NASA Jet Propulsion Laboratory	https://youtu.be/SrqrGweKQAU	Drone Race Human vs. Machine	JPL engineers put together a drone race to find which is faster – a drone operated by a human or one operated by artificial intelligence. The race capped two years of research into drone autonomy funded by Google.	Transcript Link
2017 11 20	NASA Jet Propulsion Laboratory	https://youtu.be/fbL1ZoAQgUU	First Interstellar Asteroid Wows Scientists	Scientists were surprised and delighted to detect --for the first time-- an interstellar asteroid passing through our solar system. Additional observations brought more surprises: the object is cigar-shaped with a somewhat reddish hue. The asteroid, named 'Oumuamua by its discoverers, is up to one-quarter mile (400 meters) long and highly-elongated—perhaps 10 times as long as it is wide. That is unlike any asteroid or comet observed in our solar system to date, and may provide new clues into how other solar systems formed. For more info about this discovery, visit https://go.nasa.gov/2zSJVWV .	Transcript Link
2017 11 14	NASA Jet Propulsion Laboratory	https://youtu.be/mTAbj8aRVvg	NASA's Mars 2020 Supersonic Parachute Test Flight %231	The first flight of an advanced supersonic parachute system for Mars 2020—NASA's next Mars rover. This video is narrated by Ian Clark, the test's technical lead from NASA's Jet Propulsion Laboratory in Pasadena, California. The test took place on Oct. 4, 2017, at NASA's Wallops Flight Facility, Virginia. At the moment of full inflation, the parachute is going 1.8 times the speed of sound or nearly 1,300 miles an hour, and generating nearly 35,000 pounds of drag force—drag that would be necessary to help slow a payload down as it was entering the Martian atmosphere. This is the first of several tests in support of NASA's Mars 2020 mission. For more information, visit https://mars.nasa.gov/mars2020 .	Transcript Link

2017 11 01	NASA Jet Propulsion Laboratory	https://youtu.be/GLtZBmvfiQM	NASA-JPL Pumpkin Carving Contest 2017	Who can carve the best pumpkin? Since 2011, JPLers in two groups—Spacecraft Design Engineering, and Payload & Small Spacecraft Mechanical Engineering—have held a Halloween contest to find out. The only rules: they must use a pumpkin given to them that day, and they only have one hour to carve it. Preparation ahead of time is allowed. Josh St. Vaughn, deputy spacecraft manager for the Europa Clipper mission, originated the pumpkin-carving competition. "All these people are hyper-competitive, so every year it ratchets up the level. And some of them don't quite work, but the thought processes to get there are really cool," said St. Vaughn. "The winning doesn't matter; it's about the fun and teamwork that happens throughout the whole process." It's never too early to start planning next year's pumpkin. Get design tips from JPL engineers to make your own NASA pumpkin at https://www.jpl.nasa.gov/edu/learn/project/create-a-halloween-pumpkin-like-a-nasa-engineer/ .	Transcript Link
2017 11 01	NASA Jet Propulsion Laboratory	https://youtu.be/7HPQAVFGrQ4	What's Up for November 2017	Catch planet pairs and watch the moon pass stellar superstars! See Jupiter and Venus at dawn, the Moon shine near star clusters, and meteor activity all month long. For more astronomy events near you, check out https://nightsky.jpl.nasa.gov/ .	Transcript Link
2017 10 19	NASA Jet Propulsion Laboratory	https://youtu.be/0DvF5J6Evx4	Access Mars Web VR A Virtual Walk on Mars	When NASA scientists want to follow the path of the Curiosity rover on Mars, they can don a mixed-reality headset and virtually explore the Martian landscape. Now everyone can get a sense of what that looks and feels like by visiting https://g.co/accessmars . NASA's Jet Propulsion Laboratory in Pasadena, California, collaborated with Google to produce "Access Mars," a free immersive experience. It's available for use on all desktop and mobile devices and VR/AR headsets. This includes mobile-based iOS and Android devices. Users can visit four sites that have been critical to NASA's Mars Science Laboratory mission: Curiosity's landing site; Murray Buttes; Marias Pass; and Pahrump Hills. The rover's location on lower Mount Sharp will be periodically updated to reflect the mission's ongoing progress. For more about all of NASA's Mars missions, go to https://mars.nasa.gov	Transcript Link

2017 10 18	NASA Jet Propulsion Laboratory	https://youtu.be/US_byEAbXP0	Voyager Mission 40th Anniversary	Humanity’s farthest and longest-lived spacecraft, Voyager 1 and 2, marked 40 years of operation and exploration in August/September 2017. In this panel presentation, hear behind-the-scenes accounts from original and current mission team members as they describe the engineering challenges and momentous science achievements of the mission. This program was recorded at JPL on August 24, 2017.	Transcript Link
2017 09 28	NASA Jet Propulsion Laboratory	https://youtu.be/Pct7jr7KrBo	What’s Up for October 2017	What's up in the night sky this month? Catch planet pairs, our Moon near red stars, an asteroid, meteors and International Observe the Moon Night!	Transcript Link
2017 09 15	NASA Jet Propulsion Laboratory	https://youtu.be/kBfFSMAK-V0	Farewell to Saturn Highlights from the End of NASA's Cassini Mission	On Sept. 15, 2017, Cassini plunged into Saturn, ending its 20-year mission of discovery. Scenes from mission control, TV commentary and the post-end-of-mission news briefing at NASA's Jet Propulsion Laboratory in Pasadena, California. For more information on Cassini, visit http://saturn.jpl.nasa.gov	Transcript Link
2017 09 15	NASA Jet Propulsion Laboratory	https://youtu.be/sy9gGZs0VPs	Final Moments in Cassini Mission Control	Engineers at NASA's Jet Propulsion Laboratory in Pasadena, California, awaited the final transmission from the Cassini spacecraft as it plunged into Saturn's atmosphere ending its 20-year voyage of discovery. For more about the Cassini mission, visit http://saturn.jpl.nasa.gov .	Transcript Link
2017 09 15	NASA Jet Propulsion Laboratory	https://youtu.be/_5ZrSKpbdSg	Cassini's Last Looks at Saturn	In its final hours, NASA’s Cassini spacecraft returned these last looks at Saturn, its rings and moons, as it prepared to end its nearly 20-year voyage in space. This video includes the final image Cassini took, which shows the cloud tops where it would later plunge into the atmosphere. For more information about the Cassini mission, visit http://saturn.jpl.nasa.gov .	Transcript Link

2017 09 08	NASA Jet Propulsion Laboratory	https://youtu.be/gPdgsPTNhac	NASA's Cassini Spacecraft A Journey's End	The Cassini mission’s epic 13-year exploration of Saturn is coming to a close. On Sept. 15, the spacecraft will make a planned plunge into the atmosphere of Saturn in order to protect pristine icy moons that warrant future exploration. As the mission nears its end, team members reflect on this historic, international collaboration. The video uses a combination of animation and actual imagery returned over the course of the mission. For more information about the Cassini mission, visit https://saturn.jpl.nasa.gov. For specific information about the mission's Grand Finale, visit https://saturn.jpl.nasa.gov/mission/gov.	Transcript Link
2017 09 05	NASA Jet Propulsion Laboratory	https://youtu.be/5VzVyYbPbJY	NASA Beams a %23MessageToVoyager	On Sept. 5, 2017—the 40th anniversary of Voyager 1’s launch—NASA revealed the winning #MessageToVoyager and beamed it into space. "Message to Voyager" is a social media campaign inspired by the messages of goodwill carried on the Golden Record aboard each Voyager spacecraft. NASA invited the public to submit short, uplifting messages to the Voyager 1 spacecraft and all that lies beyond it. These messages were a maximum of 60 characters and were tagged #MessageToVoyager. NASA tracked more than 30,000 submissions. The Voyager team together with JPL and NASA headquarters selected their 10 favorites, which were then put to a public vote. The winning message was sent into interstellar space by a command that originated from the Deep Space Network (DSN) mission control at NASA's Jet Propulsion Laboratory with help from the original Captain Kirk, actor William Shatner; Tracy Drain, Juno mission deputy chief engineer; Jeff Berner, DSN chief engineer; and Annabel Kennedy, DSN command engineer. To see all 10 finalist messages and get more details about the #MessageToVoyager campaign, visit https://voyager.jpl.nasa.gov/message/	Transcript Link
2017 08 31	NASA Jet Propulsion Laboratory	https://youtu.be/Z75QFrGzKcQ	Meet Richard, a NASA Solar System Ambassador	Richard Stember is a NASA Solar System Ambassador volunteer who shares his passion for space with the public. Is this something that would interest you? You can apply to be an ambassador, too! For more information about NASA’s Solar System Ambassadors program, visit https://solarsystem.nasa.gov/ssa/home.cfm .	Transcript Link
2017 08 31	NASA Jet Propulsion Laboratory	https://youtu.be/AEEEfILT9vk	What's Up for September 2017	Take a late summer road trip along the Milky Way. Be sure to stop at Saturn! This video tour of the September night sky shows you when and where to look to see constellations and galaxies, too. To find star parties and other astronomy events in your area, visit https://nightsky.jpl.nasa.gov/	Transcript Link

2017 08 29	NASA Jet Propulsion Laboratory	https://youtu.be/fHaaIX-iSqM	Cassini A Saturn Odyssey	Team members reflect on what has made the NASA/ESA Cassini mission such an epic journey -- the extraordinary spacecraft, tremendous science and historic international collaboration. This video uses a combination of animation and actual imagery returned over the course of the mission. For more information about the Cassini mission, visit https://saturn.jpl.nasa.gov . For specific information about the mission's Grand Finale, visit https://saturn.jpl.nasa.gov/mission/grand-finale/overview/	Transcript Link
2017 08 24	NASA Jet Propulsion Laboratory	https://youtu.be/htOoWJmYVtQ	Cassini The Wonder of Saturn	NASA's Cassini spacecraft has explored the Saturn system since 2004, re-writing our understanding of the giant planet, its rings, moons and magnetosphere. For 13 years the spacecraft's incredible, truly otherworldly images have revealed the wonder of Saturn in surprising, often awe-inspiring ways. Cassini is planetary exploration at its finest, proving that to truly reveal the grandeur of a world, there is no substitute for actually going there. For more information about the Cassini mission to Saturn, visit https://saturn.jpl.nasa.gov/ .	Transcript Link
2017 08 17	NASA Jet Propulsion Laboratory	https://youtu.be/C1UBg4TPqX4	Voyager at 40 Keep Reaching for the Stars	In the late summer of 1977, NASA launched the twin Voyager spacecraft. These remote ambassadors still beam messages back to Earth 40 years later, with data from their deep space travels. Voyager 1 is about 13 billion miles from Earth in interstellar space, and Voyager 2 is not far behind. For more about the Voyager mission, visit https://www.jpl.nasa.gov/voyager/ .	Transcript Link
2017 08 11	NASA Jet Propulsion Laboratory	https://youtu.be/4-u24nxcnKI	A World Unveiled Cassini at Titan	Saturn's giant, hazy moon Titan has been essential to NASA's Cassini mission during its 13 thrilling years of exploration there. Cassini and the European Huygens probe have revealed a fascinating world of lakes and seas, great swaths of dunes, and a complex atmosphere with weather – with intriguing similarities to Earth. Titan has also been an engine for the mission, providing gravity assists that propelled the spacecraft on its adventures around the ringed planet. For more about the Cassini-Huygens mission, visit https://saturn.jpl.nasa.gov	Transcript Link
2017 08 02	NASA Jet Propulsion Laboratory	https://youtu.be/IxvODcuFb1s	Curiosity's First Five Years of Science on Mars	Five years of Martian discoveries after seven minutes of terror.	Transcript Link

2017 08 02	NASA Jet Propulsion Laboratory	https://youtu.be/O0nPFaBU98k	Rover POV Five Years of Curiosity Driving on Mars	Five years of images from the front left hazard avoidance camera (Hazcam) on NASA's Curiosity Mars rover were used to create this time-lapse movie. The inset map shows the rover's location in Mars' Gale Crater. Each image is labeled with the date it was taken, and its corresponding sol (Martian day), along with information about the rover's location at the time.	Transcript Link
2017 08 02	NASA Jet Propulsion Laboratory	https://youtu.be/Q-uAz82sH-E	A Guide to Gale Crater	The Curiosity rover has taught us a lot about the history of Mars and its potential to support life. Take a tour of its landing site, Gale Crater.	Transcript Link
2017 08 01	NASA Jet Propulsion Laboratory	https://youtu.be/Owm8sJU0ze0	What's Up for August 2017	The total solar eclipse on Aug. 21, 2017, will trace a narrow path across the nation, though most of the U.S. will see a partial eclipse. Here's what to do before, during and after the eclipse, plus how you can become a citizen scientist helping NASA with eclipse observations. Find out more about the eclipse, including eclipse safety, at https://eclipse2017.nasa.gov	Transcript Link
2017 07 31	NASA Jet Propulsion Laboratory	https://youtu.be/1HBumk5Vm78	Voyager 2 First Spacecraft at Neptune	Excerpt on Neptune from "The Grand Tour." For more about the Voyager mission, visit https://voyager.jpl.nasa.gov/	Transcript Link
2017 07 31	NASA Jet Propulsion Laboratory	https://youtu.be/zlnM9NlP42g	Voyager 2 First Spacecraft at Uranus	Excerpt on Uranus from "The Grand Tour." For more about the Voyager mission, please visit https://voyager.jpl.nasa.gov/	Transcript Link

2017 07 31	NASA Jet Propulsion Laboratory	https://youtu.be/bVFkVjphIEQ	Voyager 1 at Saturn	Excerpt on Saturn from "The Grand Tour." For more about the Voyager mission, visit https://voyager.jpl.nasa.gov/	Transcript Link
2017 07 31	NASA Jet Propulsion Laboratory	https://youtu.be/OgoL6g_dH3E	Voyager 2 Flies by Jupiter	Excerpt on Jupiter from "The Grand Tour." For more about the Voyager mission, visit https://voyager.jpl.nasa.gov/	Transcript Link
2017 07 28	NASA Jet Propulsion Laboratory	https://youtu.be/-C4qHzmLT20	NASA VR Fly Over Ceres with the Dawn Spacecraft (360 video)	Occator Crater on Ceres is home to the brightest area on the entire dwarf planet. At 57 miles (92 kilometers) wide and 2.5 miles (4 kilometers) deep, Occator displays evidence of recent geologic activity. NASA's Dawn mission found that the bright spots may have been produced by upwelling of salt-rich liquids after the impact that formed the crater. Pan and zoom as you fly over the crater with Dawn in this 360-degree animation made with observations from the spacecraft. Important note: Not all browsers support viewing 360 videos/images. YouTube supports uploading and playback of 360 degree videos/images on computers using Chrome, Firefox, Internet Explorer, and Opera browsers. For science results about the bright spots, visit: https://go.nasa.gov/2syfJgB More information about Dawn is available at: http://dawn.jpl.nasa.gov http://www.nasa.gov/dawn Visualization: DLR Image Credit: NASA/JPL-Caltech/UCLA/MPS/DLR/IDA	Transcript Link

2017 07 28	NASA Jet Propulsion Laboratory	https://youtu.be/vonWHtWdYUY	Auroras Over Saturn Seen by Cassini Spacecraft	NASA's Cassini spacecraft gazed toward high southern latitudes near Saturn's south pole to observe ghostly curtains of dancing light -- Saturn's southern auroras, or southern lights. These natural light displays at the planet's poles are created by charged particles raining down into the upper atmosphere, making gases there glow. The dark area at the top of this scene is Saturn's night side. The auroras rotate from left to right, curving around the planet as Saturn rotates over about 70 minutes, compressed here into a movie sequence of about five seconds. For more information about this clip, visit https://go.nasa.gov/2uFOSPw Find out more about Cassini at http://saturn.jpl.nasa.gov Credit: NASA/JPL-Caltech/Space Science Institute	Transcript Link
2017 07 05	NASA Jet Propulsion Laboratory	https://youtu.be/XvVOgS9jWn0	Mars Pathfinder - 20th Anniversary Special	On July 4, 1997, NASA's Mars Pathfinder lander and Sojourner rover successfully landed on the Red Planet utilizing a revolutionary airbag landing system. This special 20th anniversary show chronicles the stories and the people behind the groundbreaking mission that jump-started 20 years of continuous presence at Mars. Guests include: Former NASA Administrator Dan Goldin, former JPL Directors Ed Stone and Charles Elachi, JPL Director Michael Watkins and Pathfinder mission team members Jennifer Trosper and Brian Muirhead. Recorded June 27, 2017 at NASA Jet Propulsion Laboratory; aired on NASA TV on July 4, 2017.	Transcript Link
2017 07 03	NASA Jet Propulsion Laboratory	https://youtu.be/iaZQGRh78tM	NASA Planetary Defense Asteroid Day Live	NASA marked the 2017 International Asteroid Day with a live program featuring the agency's Planetary Defense Coordination Office and other projects working to find and study near-Earth objects (NEOs). Learn how NASA-funded researchers find, track and characterize NEOs -- asteroids and comets that come within the vicinity of Earth's orbit and could pose an impact hazard to Earth -- and how NASA is working to get our nation prepared to respond to a potential impact threat. The shows includes guests from NASA and NASA-funded planetary defense coordination programs across the country, including the agency's Headquarters in Washington and Jet Propulsion Laboratory in Pasadena, California.	Transcript Link
2017 06 30	NASA Jet Propulsion Laboratory	https://youtu.be/jz9J_ADW5R4	What's Up for July 2017	Prepare for the August total solar eclipse by observing the moon phases this month. Plus, two meteor showers peak at the end of July. For astronomy events and star parties near you, check out https://nightsky.jpl.nasa.gov .	Transcript Link

2017 06 30	NASA Jet Propulsion Laboratory	https://youtu.be/MWLDvuK_4qU	NASA Planetary Defense Backyard Asteroid Observer	Backyard astronomer Robert Holmes of Westfield, Illinois, is part of NASA's army of observers scanning the night sky for asteroids. By observing and tracking asteroids, NASA programs can determine whether an asteroid is potentially hazardous to Earth -- now or years in the future. In 2015, Bob made 36,000 asteroid observations -- the most by anyone in a single year. He started off as a volunteer in 2006, and his hobby has since blossomed into a full-time opportunity to work for NASA under a grant program. Find out more about how NASA finds and studies asteroids by visiting https://www.nasa.gov/planetarydefense/	Transcript Link
2017 06 30	NASA Jet Propulsion Laboratory	https://youtu.be/V_eEXScLFBA	NASA Planetary Defense The Asteroid Hunters	Two unique ground telescope operations, at the Catalina Sky Survey in Mt. Lemmon, Arizona, and the Panoramic Survey Telescope and Rapid Response System, or PanSTARRS, located at Haleakala, Hawaii, are responsible for about 90 percent of all near-Earth object discoveries. Find out more about how NASA finds, studies and tracks near-Earth asteroids and comets by visiting https://www.nasa.gov/planetarydefense .	Transcript Link
2017 06 30	NASA Jet Propulsion Laboratory	https://youtu.be/53Js-_vo3mo	How Does NASA Spot a Near-Earth Asteroid	Did you ever wonder how NASA spots asteroids that maybe getting too close to Earth for comfort? Watch and learn. Find out more about NASA finds, studies and tracks near-Earth objects by visiting https://www.nasa.gov/planetarydefense .	Transcript Link
2017 06 22	NASA Jet Propulsion Laboratory	https://youtu.be/JXZa8cmab1g	NASA at Mars 20 years of 24 7 exploration	No one under 20 has experienced a day without NASA at Mars. The Pathfinder mission, carrying the Sojourner rover, landed on Mars on July 4, 1997. In the 20 years since Pathfinder's touchdown, eight other NASA landers and orbiters have arrived successfully, and not a day has passed without the United States having at least one active robot on Mars or in orbit around Mars.	Transcript Link
2017 06 14	NASA Jet Propulsion Laboratory	https://youtu.be/YoXeP0iJ04s	What's Up for June 2017	Plan a planet party and compare Saturn and Jupiter! This video shows where and when to point your telescope or binoculars to see these planets and their largest moons. For more astronomy events, check out NASA's Night Sky Network at https://nightsky.jpl.nasa.gov/ .	Transcript Link

2017 06 08	NASA Jet Propulsion Laboratory	https://youtu.be/MjIg3GPiFcg	Art of Astrophysics	How do you visualize distant worlds that you can't see? A team of artists uses scientific data to imagine exoplanets and other astrophysical phenomena.	Transcript Link
2017 06 05	NASA Jet Propulsion Laboratory	https://youtu.be/uGKY-XzFeNU	NASA Asteroids & Comets Three Years of NEOWISE Data	This animation shows asteroids and comets observed in infrared by NASA's Near-Earth Object Wide-field Survey Explorer (NEOWISE) mission. Since the mission was restarted in December 2013, NEOWISE has discovered 114 near-Earth objects and characterized 693 others. For more about NEOWISE, visit https://www.nasa.gov/neowise and http://neowise.ipac.caltech.edu/ . Credit: NASA/JPL-Caltech/UCLA/JHU	Transcript Link
2017 05 26	NASA Jet Propulsion Laboratory	https://youtu.be/6o9FiTf1vZE	First Science From Juno at Jupiter (NASA News Audio with Visuals)	Scientists from NASA’s Juno mission to Jupiter discussed their first in-depth science results in a media teleconference on May 25, 2017, at 2 p.m. ET (11 a.m. PT, 1800 UTC), when multiple papers with early findings were published online by the journal Science and Geophysical Research Letters. The teleconference participants were: Diane Brown, program executive at NASA Headquarters in Washington Scott Bolton, Juno principal investigator at Southwest Research Institute in San Antonio Jack Connerney, deputy principal investigator at NASA's Goddard Space Flight Center in Greenbelt, Maryland Heidi Becker, Juno radiation monitoring investigation lead at NASA’s Jet Propulsion Laboratory in Pasadena, California Candy Hansen, Juno co-investigator at the Planetary Science Institute in Tucson, Arizona Juno launched on Aug. 5, 2011, from Cape Canaveral Air Force Station, Florida, and arrived in orbit around Jupiter on July 4, 2016. In its current exploration mission, Juno soars low over the planet's cloud tops, as close as about 2,100 miles (3,400 kilometers). During these flybys, Juno probes beneath the obscuring cloud cover of Jupiter and studies its auroras to learn more about the planet's origins, structure, atmosphere and magnetosphere.	Transcript Link

2017 05 11	NASA Jet Propulsion Laboratory	https://youtu.be/gun0Vo0BS6s	Going out in a Blaze of Glory Cassini Science Highlights and Grand Finale (public talk)	The Cassini mission’s findings have revolutionized our understanding of Saturn, its complex rings, the amazing assortment of moons and the planet’s dynamic magnetic environment. Icy jets shoot from the tiny moon Enceladus; Titan’s hydrocarbon lakes and seas are dominated by liquid ethane and methane, and complex pre-biotic chemicals form in the atmosphere and rain to the surface. What new puzzles will Cassini solve before it plunges into Saturn’s atmosphere rather than risk crashing into one of Saturn’s ocean worlds and contaminating it? Come and hear the story of recent science discoveries and the upcoming excitement during Cassini’s final orbits. Dr. Linda Spilker, Cassini Project Scientist, will present highlights of Cassini’s ambitious inquiry at Saturn and an overview of science observations in the final orbits. Dr. Earl Maize, Cassini Program Manager, will discuss Cassini’s exciting challenges, ultimately flying through a region where no spacecraft has ever flown before. Speakers: Linda Spilker, Cassini Project Scientist Earl H. Maize, Cassini Program Manager	0
2017 05 09	NASA Jet Propulsion Laboratory	https://youtu.be/7mLVEgwFH-U	New Radar Images of Asteroid 2014 JO25	This movie of asteroid 2014 JO25 was generated using radar data collected by NASA's 230-foot-wide (70-meter) Deep Space Network antenna at Goldstone, California on April 19, 2017. When the observations began 2014 JO25 was 1.53 million miles (2.47 million kilometers) from Earth. By the time the observations concluded, the asteroid was 1.61 million miles (2.59 million kilometers) away. The asteroid has a contact binary structure -- two lobes connected by a neck-like region. The largest of the asteroid's two lobes is estimated to be 2,000 feet (610 meters) across. Asteroid 2014 JO25 approached to within 1.1 million miles (1.8 million kilometers) of Earth on April 19. There are no future flybys by 2014 JO25 as close as this one for more than 400 years. The resolution of the radar images is about 25 feet (7.5 meters) per pixel. 154 images were used to create the movie shown. More information regarding asteroid 2014 JO25 can be found at: https://cneos.jpl.nasa.gov/news/news196.html Image credit: NASA/JPL-Caltech/GSSR	Transcript Link

2017 05 05	NASA Jet Propulsion Laboratory	https://youtu.be/y6D3qUPEVGA	Mars in a Minute How Long is a Year on Mars	Mars takes a longer trip around the Sun than Earth does. Find out what that means for spacecraft in this 60-second video. Find out more about the Martian New Year here: https://mars.jpl.nasa.gov/allaboutmars/extreme/martianyear/	Transcript Link
2017 05 05	NASA Jet Propulsion Laboratory	https://youtu.be/SWCs3BBzPoU	What's in the Air NASA's Atmospheric Infrared Sounder	Accurate weather forecasts save lives. NASA's Atmospheric Infrared Sounder (AIRS) instrument, launched May 4, 2002, on NASA's Aqua satellite, significantly increased weather forecasting accuracy within a couple of years by providing extraordinary three-dimensional maps of clouds, air temperature and water vapor throughout the atmosphere's weather-making layer. Fifteen years later, AIRS continues to be a valuable asset for forecasters worldwide, sending 7 billion observations streaming into forecasting centers every day. For more info about AIRS, visit https://www.jpl.nasa.gov/news/news.php?feature=6836	Transcript Link
2017 05 04	NASA Jet Propulsion Laboratory	https://youtu.be/V3qr9AqZyEI	NASA's Curiosity Mars Rover at Ogunquit Beach (360 View)	This 360-degree panorama was acquired by the Mast Camera (Mastcam) on NASA's Curiosity rover looking out over part of an area called Bagnold Dunes, which stretch for miles on Mars. This location, called "Ogunquit Beach," is on the northwestern flank of lower Mount Sharp. Points of interest include the dune's ripples, and bedrock made from sediments deposited in lakes billions of years ago. From February to April 2017, Curiosity examined linear sand dunes to compare with what it found in 2015 and 2016 during an investigation of crescent-shaped dunes. This two-phase campaign is the first close-up study of active dunes anywhere other than Earth. This panorama was stitched together from 115 individual images acquired on March 24-25, 2017, (PST) during the 1,647th Martian day, or sol, of Curiosity's work on Mars. The rover's position on Sol 1647 is shown at https://mars.nasa.gov/multimedia/images/2017/curiositys-traverse-map-through-sol-1646 as the location reached by a drive on Sol 1646. The scene is presented with a color adjustment that approximates white balancing, to resemble how the rocks and sand would appear under daytime lighting conditions on Earth. Important note: Not all browsers support viewing 360 videos/images. YouTube supports uploading and playback of 360	Transcript Link

2017 05 03	NASA Jet Propulsion Laboratory	https://youtu.be/9LBLCgCYy0I	NASA Cassini's First Fantastic Dive Past Saturn	As NASA's Cassini spacecraft made its first-ever dive through the gap between Saturn and its rings on April 26, 2017, one of its imaging cameras took a series of rapid-fire images that were used to make this movie sequence. The video begins with a view of the vortex at Saturn's north pole, then heads past the outer boundary of the planet's hexagon-shaped jet stream and continues further southward. The movie sequence of Cassini images was produced by Kunio Sayanagi and John Blalock of Hampton University, working in collaboration with the Cassini imaging team. Credit: NASA/JPL-Caltech/Space Science Institute/Hampton University A detailed caption describing these video clips, and the unedited clips themselves, are available at https://photojournal.jpl.nasa.gov/catalog/PIA21441. For more information about Cassini's Grand Finale, visit https://saturn.jpl.nasa.gov/grandfinale.	Transcript Link
2017 05 01	NASA Jet Propulsion Laboratory	https://youtu.be/kpxKXstCm2w	What's Up for May 2017	This month, Jupiter is well placed for easy evening viewing, Saturn rises before midnight, and the moon dances with Venus, Mercury and Mars. Keep up with all of NASA's missions at http://www.nasa.gov .	Transcript Link
2017 04 27	NASA Jet Propulsion Laboratory	https://youtu.be/BQmTdYPVJxM	Cassini's First Dive Between Saturn and Its Rings	After the first-ever dive through the narrow gap between the planet Saturn and its rings, NASA's Cassini spacecraft called home to mission control at NASA’s Jet Propulsion Laboratory in Pasadena, California. See highlights from the scene at JPL on April 26-27, 2017, and some of the first raw images the spacecraft sent back from its closest-ever look at Saturn’s atmosphere. For more information about Cassini and its “Grand Finale,” visit https://saturn.jpl.nasa.gov/ .	Transcript Link

2017 04 24	NASA Jet Propulsion Laboratory	https://youtu.be/hFjzFSidX3s	NASA VR Cassini's Grand Finale (360 view)	Dive between Saturn and its rings with NASA's Cassini spacecraft in the final chapter of its mission. In this 360-degree visualization, you are traveling along with the spacecraft at tens of thousands of miles per hour as it makes one of 22 planned dives through this unexplored gap. The first dive of Cassini's Grand Finale takes place on April 26, 2017, with additional dives about once a week. Watch the full story of the Grand Finale at https://youtu.be/xrGAQCq9BMU. More information about the finale is available at https://saturn.jpl.nasa.gov/grandfinale. Note: Not all browsers support viewing 360 videos. YouTube supports playback of 360-degree videos on computers using Chrome, Firefox, Internet Explorer, and Opera browsers. Use the YouTube app to view it on a smart phone.	Transcript Link
2017 04 19	NASA Jet Propulsion Laboratory	https://youtu.be/pMvc2sEMdJ0	Crazy Engineering Astrodynamics	NASA's Cassini spacecraft, in orbit around Saturn for nearly 13 years, is beginning its Grand Finale — and it's thanks to some Crazy Engineering! A team of engineers called astrodynamicists used math and physics to plot a course for the hardy spacecraft that would send it on a series of dives through the gap between Saturn and its famous rings. And as always, the efforts of these engineers are helping to enable some truly thrilling exploration and scientific discovery. More information about Cassini's Grand Finale is available at https://saturn.jpl.nasa.gov/grandfinale	Transcript Link
2017 04 19	NASA Jet Propulsion Laboratory	https://youtu.be/usPrwjyggEM	NASA Radar Images of Asteroid 2014 JO25	Radar images of asteroid 2014 JO25 were generated and collected on April 18, 2017, by NASA's Goldstone Solar System Radar in California's Mojave Desert. At the time, asteroid 2014 JO25 was 1.9 million miles (3 million kilometers) from Earth. The asteroid will safely pass Earth at a distance of 1.1 million miles (1.8 million km) on April 19 at about 8:24 a.m EDT (12:24 UTC).	Transcript Link

2017 04 13	NASA Jet Propulsion Laboratory	https://youtu.be/-nzaFDkDU7c	NASA Ingredients for Life at Saturn's Moon Enceladus	NASA's Cassini spacecraft discovered hydrogen in the plume of gas and icy particles spraying from Saturn's moon Enceladus. The discovery means the small, icy moon — which has a global ocean under its surface — has a source of chemical energy that could be useful for microbes, if any exist there. The finding also provides further evidence that warm, mineral-laden water is pouring into the ocean from vents in the seafloor. On Earth, such hydrothermal vents support thriving communities of life in complete isolation from sunlight. Enceladus now appears likely to have all three of the ingredients scientists think life needs: liquid water, a source of energy (like sunlight or chemical energy), and the right chemical ingredients (like carbon, hydrogen, nitrogen, oxygen). Cassini is not able to detect life, and has found no evidence that Enceladus is inhabited. But if life is there, that means life is probably common throughout the cosmos; if life has not evolved there, it would suggest life is probably more complicated or unlikely than we have thought. Either way the implications are profound. Future missions to this icy moon may shed light on its habitability. Read the full news release at http://go.nasa.gov/2owaLgU White smoker footage courtesy of: NOAA-OER / C.German (WHOI)	Transcript Link
2017 04 04	NASA Jet Propulsion Laboratory	https://youtu.be/xrGAQCq9BMU	NASA at Saturn Cassini's Grand Finale	The final chapter in a remarkable mission of exploration and discovery, Cassini's Grand Finale is in many ways like a brand new mission. Twenty-two times, NASA's Cassini spacecraft will dive through the unexplored space between Saturn and its rings. What we learn from these ultra-close passes over the planet could be some of the most exciting revelations ever returned by the long-lived spacecraft. This animated video tells the story of Cassini's final, daring assignment and looks back at what the mission has accomplished. For more about the making of this video, including the science behind the imagery, see the feature at https://saturn.jpl.nasa.gov/news/3016/making-cassinis-grand-finale/ The Cassini mission is a cooperative project of NASA, ESA (the European Space Agency) and the Italian Space Agency. The Jet Propulsion Laboratory, a division of the California Institute of Technology in Pasadena, manages the mission for NASA's Science Mission Directorate, Washington. For more information about Cassini's Grand Finale, please visit https://saturn.jpl.nasa.gov/grandfinale	Transcript Link

2017 03 31	NASA Jet Propulsion Laboratory	https://youtu.be/nBzBeYsdNsM	Exploring Ocean Worlds with NASA Robots	The search for life beyond Earth needs robots. But to explore distant ocean worlds like Europa, we'll need a new set of tools to drill through ice, reach faraway samples and cross difficult terrain. NASA's Jet Propulsion Laboratory recently finished a series of prototypes that might make that exploration a little easier. For more information, read the article at: https://go.nasa.gov/2nQrBYd	Transcript Link
2017 03 30	NASA Jet Propulsion Laboratory	https://youtu.be/r7RHlKVd87M	What's Up for April 2017	What's up in the night sky this April? Jupiter, king of the planets, is visible all night long, and the Lyrid meteor shower peaks on April 22. For more astronomy events near you, visit the Night Sky Network site at https://nightsky.jpl.nasa.gov/	Transcript Link
2017 03 15	NASA Jet Propulsion Laboratory	https://youtu.be/fKVPFyu_tHQ	15 Years of GRACE Earth Observations	For 15 years, the GRACE mission has unlocked mysteries of how water moves around our planet. It gave us the first view of underground aquifers from space, and shows how fast polar ice sheets and mountain glaciers are melting. For more information about this mission, visit https://www.nasa.gov/mission_pages/Grace/overview/index.html and https://grace.jpl.nasa.gov/mission/grace/	Transcript Link
2017 03 01	NASA Jet Propulsion Laboratory	https://youtu.be/KlzUpDKo7sA	What's Up for March 2017	This month the moon hides red Aldebaran, Venus and Mercury show their phases. Find more astronomy information and events in your area by visiting https://nightsky.jpl.nasa.gov/	Transcript Link
2017 02 28	NASA Jet Propulsion Laboratory	https://youtu.be/k8lfJ0c7WQ8	Dust Devils on Mars Seen by NASA's Curiosity Rover	On recent summer afternoons on Mars, navigation cameras aboard NASA's Curiosity Mars rover observed several whirlwinds carrying Martian dust across Gale Crater. Dust devils result from sunshine warming the ground, prompting convective rising of air. All the dust devils were seen in a southward direction from the rover. Timing is accelerated and contrast has been modified to make frame-to-frame changes easier to see. For more information, read the full article at https://www.jpl.nasa.gov/news/news.php?feature=6758 Credit: NASA/JPL-Caltech/TAMU	Transcript Link

2017 02 22	NASA Jet Propulsion Laboratory	https://youtu.be/bnKFaAS30X8	NASA & TRAPPIST-1 A Treasure Trove of Planets Found	Seven Earth-sized planets have been observed by NASA's Spitzer Space Telescope around a tiny, nearby, ultra-cool dwarf star called TRAPPIST-1. Three of these planets are firmly in the habitable zone. Over 21 days, NASA's Spitzer Space Telescope measured the drop in light as each planet passed in front of the star. Spitzer was able to identify a total of seven rocky worlds, including three in the habitable zone, where liquid water might be found. The video features interviews with Sean Carey, manager of the Spitzer Science Center, Caltech/IPAC; Nikole Lewis, James Webb Space Telescope project scientist, Space Telescope Science Institute; and Michaël Gillon, principal investigator, TRAPPIST, University of Liege, Belgium. The system has been revealed through observations from NASA's Spitzer Space Telescope and the ground-based TRAPPIST (TRAnsiting Planets and PlanetesImals Small Telescope) telescope, as well as other ground-based observatories. The system was named for the TRAPPIST telescope. NASA's Jet Propulsion Laboratory, Pasadena, California, manages the Spitzer Space Telescope mission for NASA's Science Mission Directorate, Washington. Science operations are conducted at the Spitzer Science Center at Caltech in Pasadena. Spacecraft operations are based at Lockheed Martin Space Systems Company, Littleton, Colorado. Data are archived at the Infrared Science Archive housed	Transcript Link
2017 02 22	NASA Jet Propulsion Laboratory	https://youtu.be/o2MgG6KhO1E	NASA VR On the Surface of Planet TRAPPIST-1d (360 view)	This 360-degree panorama depicts the surface of a newly detected planet, TRAPPIST-1d, part of a seven planet system some 40 light years away. You can explore this artist’s rendering of an alien world by moving the view using your mouse or your mobile device. The depiction is based on the latest scientific data about this planetary system, and this world’s sister planets can be seen as bright points of light in a dark sky. Each world is roughly in Earth’s size range, in terms of both mass and diameter. Further observations will be needed to determine whether any or all of these worlds might be habitable. Note: Not all browsers support viewing 360 videos. YouTube supports playback of 360-degree videos on computers using Chrome, Firefox, Internet Explorer, and Opera browsers. Use the YouTube app to view it on a smart phone. For more on TRAPPIST 1, visit: http://exoplanets.nasa.gov and https://exoplanets.nasa.gov/trappist1	Transcript Link

2017 02 22	NASA Jet Propulsion Laboratory	https://youtu.be/qyK9ZQkAdhM	TRAPPIST-1 Weirdest habitable worlds	A new discovery by NASA's Spitzer Space Telescope has revealed seven Earth-sized planets around the M dwarf star known as TRAPPIST-1. Three of them lie in what is known as the habitable zone -- where there is the potential for liquid water. It is the largest batch of Earth-sized worlds ever discovered in the habitable zone of a single star. While we don't know if there is life on the TRAPPIST-1 planets, we do know that any life discovered there would likely be very different from life on Earth. It would have to survive the stormy solar flares of an M dwarf, adapt to a planet that might have extreme temperature swings, and thrive in red and infrared light. All seven worlds are early ambassadors of a new generation of planet-hunting targets that promise a new vision of the word "habitable." For more information about life around an M dwarf, visit: https://exoplanets.nasa.gov/news/1416 For more information about TRAPPIST-1, visit: https://exoplanets.nasa.gov/trappist1 Image credits: NASA/JPL-Caltech/ESO/E.Jehin/J. Major	Transcript Link
2017 02 16	NASA Jet Propulsion Laboratory	https://youtu.be/s6xl9abYL2k	Enceladus Cassini Cracks the Case of the Icy Moon	How Cassini's sleuthing revealed an active ocean world in orbit around Saturn. For more info, visit https://saturn.jpl.nasa.gov/	Transcript Link
2017 02 01	NASA Jet Propulsion Laboratory	https://youtu.be/HT2htvbcmm8	What's Up for February 2017	Use Venus and Mars to find the zodiacal light, plus two comets and the brightest asteroid. Find more astronomy information and events in your area by visiting https://nightsky.jpl.nasa.gov/ .	Transcript Link
2017 01 24	NASA Jet Propulsion Laboratory	https://youtu.be/R1RKjSQwWFk	Six Ways Opportunity is like a Teenager	On January 24, 2017, the Opportunity rover celebrates her 13 years on Mars. On Earth, she's officially a teenager and has been behaving like one. For more info on the mission and to see images Opportunity sent back from the surface of Mars, visit http://mars.nasa.gov/mer	Transcript Link

2017 01 18	NASA Jet Propulsion Laboratory	https://youtu.be/r3-CmT9rL4Y	Rover Ride-Along in the Mars Yard (360 Video)	Get a robot's-eye-view of the "Mars Yard," a terrain simulation area at NASA's Jet Propulsion Laboratory where rover hardware and software is tested before being sent to the Red Planet. Ride alongside, atop and below the Scarecrow test mobility double for the Curiosity and Mars 2020 rovers. Learn more about Scarecrow here: http://go.nasa.gov/2iD37jr Important note: Not all browsers support viewing 360 videos/images. YouTube supports uploading and playback of 360 degree videos/images on computers using Chrome, Firefox, Internet Explorer, and Opera browsers, as well as on the YouTube app. For more information about the missions, visit http://mars.nasa.gov/msl/ http://mars.nasa.gov/mars2020/	Transcript Link
2017 01 11	NASA Jet Propulsion Laboratory	https://youtu.be/msiLWxDayuA	Titan Touchdown	On Jan. 14, 2005, ESA's Huygens probe made its descent to the surface of Saturn's hazy moon, Titan. Carried to Saturn by NASA's Cassini spacecraft, Huygens made the most distant landing ever on another world, and the only landing on a body in the outer solar system. This video uses actual images taken by the probe during its two-and-a-half hour fall under its parachutes. Huygens was a signature achievement of the international Cassini-Huygens mission, which will conclude on Sept. 15, 2017, when Cassini plunges into Saturn's atmosphere. For more info, visit https://saturn.jpl.nasa.gov/mission/spacecraft/huygens-probe/	Transcript Link
2016 12 30	NASA Jet Propulsion Laboratory	https://youtu.be/e1QyhUqv1yE	What's Up for January 2017	A comet, plus the moon, Venus, Mars and Quadrantid Meteor shower ring in the new year!	Transcript Link
2016 12 21	NASA Jet Propulsion Laboratory	https://youtu.be/O2qIJjrKqIY	Blackhole Hunting with NuSTAR (live public talk)	Original air date: Thursday, Dec. 15, 2016, 7 p.m. PT (10 p.m. ET; Dec. 16 at 0300 UTC/GMT) Spinning black Holes, exploding Stars, and hyperluminous pulsars: Tune in to hear recent results from NASA's Nuclear Spectroscopic Telescope Array, or NuSTAR. NuSTAR launched in June 2012 and became the first telescope in orbit to focus high energy X-ray light, which reveals some of the most energetic phenomena in the universe. Crisp, sensitive images enabled by NuSTAR's new technology have dramatically changed our picture of the extreme universe. This talk will present some of the highlights from the first four years of NuSTAR observations, including the surprising discovery of a new class of hyperluminous neutron stars, measurements of how fast black holes spin, and unique insight into the physics of supernova explosions. Speaker: Dr. Daniel K. Stern, NuSTAR Project Scientist, JPL	Transcript Link

2016 12 15	NASA Jet Propulsion Laboratory	https://youtu.be/PpWaL7o-UoQ	NASA's Dawn Spacecraft Flight Over Occator Crater on Dwarf Planet Ceres	This video shows the intriguing Occator Crater on Ceres, home to the dwarf planet's brightest area. It may have been produced by upwelling of salt-rich liquids after the impact that formed the crater. The animated flyover includes topographic and enhanced-color views of the crater, highlighting the central dome feature. The animation was produced by the German Aerospace Center (DLR). Original music by Stefan Elgner, DLR. For more information about the Dawn mission, visit http://dawn.jpl.nasa.gov . Image Credit: NASA/JPL-Caltech/UCLA/MPS/DLR/IDA	Transcript Link
2016 12 08	NASA Jet Propulsion Laboratory	https://youtu.be/CDBTZaxNYd4	Hello, Universe Meet Charles in JPL Software	JPL Software powers all of the Lab's missions and projects, and we're looking for talented developers to join our team. Meet Charles, one of our extraordinary software engineers. Are you a student, new grad or experienced? Apply now to "Dare Mighty Things" every day: Experienced: http://www.jpl.nasa.gov/softwarejobs/experienced New grad: http://www.jpl.nasa.gov/softwarejobs/newgrad/ Student: http://www.jpl.nasa.gov/softwarejobs/student/ All JPL jobs: http://www.jpl.nasa.gov/opportunities	Transcript Link
2016 12 01	NASA Jet Propulsion Laboratory	https://youtu.be/6k2MYtL5Kpw	Hello, Universe Meet Tiffany in JPL Software	JPL Software powers all of the Lab's missions and projects, and we're looking for talented developers to join our team. Meet Tiffany, one of our extraordinary software engineers. Are you a student, new grad or experienced? Apply now to "Dare Mighty Things" every day: Experienced: http://www.jpl.nasa.gov/softwarejobs/experienced New grad: http://www.jpl.nasa.gov/softwarejobs/newgrad/ Student: http://www.jpl.nasa.gov/softwarejobs/student/ All JPL jobs: http://www.jpl.nasa.gov/opportunities	Transcript Link
2016 12 01	NASA Jet Propulsion Laboratory	https://youtu.be/8rS1zU2zB34	What's Up for December 2016	See Mercury, Venus and Mars all month long and a New Year's Eve comet. With some luck, you may catch some Geminid and Ursid meteors, too. Catch up on all of NASA's missions at http://www.nasa.gov	Transcript Link

2016 11 22	NASA Jet Propulsion Laboratory	https://youtu.be/gj8l2f9prYk	Cassini's High-Flying, Ring-Grazing Orbits	Now in its final year of operations, on Nov. 30, 2016, NASA's Cassini mission will begin a daring set of ring-grazing orbits, skimming past the outside edge of Saturn's main rings. Cassini will fly closer to Saturn's rings than it has since its 2004 arrival. It will begin the closest study of the rings and offer unprecedented views of moons that orbit near them. Even more dramatic orbits ahead will bring Cassini closer to Saturn than any spacecraft has dared to go before.	Transcript Link
2016 11 18	NASA Jet Propulsion Laboratory	https://youtu.be/7X5VQfLbPgQ	Hello, Universe Meet Nat in JPL Software	JPL Software powers all of the Lab's missions and projects, and we're looking for talented developers to join our team. Meet Nat, one of our extraordinary software engineers. Are you a student, new grad or experienced? Apply now to "Dare Mighty Things" every day: Experienced: http://www.jpl.nasa.gov/softwarejobs/experienced New grad: http://www.jpl.nasa.gov/softwarejobs/newgrad/ Student: http://www.jpl.nasa.gov/softwarejobs/student/ All JPL jobs: http://www.jpl.nasa.gov/opportunities	Transcript Link
2016 11 04	NASA Jet Propulsion Laboratory	https://youtu.be/0seT55Jk4Ko	Summer Clouds on Saturn's Moon Titan	NASA's Cassini spacecraft watched clouds of methane moving across the far northern regions of Saturn's largest moon, Titan, on Oct. 29---- and 30, 2016. Read more at http://go.nasa.gov/2fnVoBw Saturn orbits the sun much farther than Earth, at a distance of about 888 million miles (1.4 million kilometers). For more information about the Cassini-Huygens mission visit http://saturn.jpl.nasa.gov and http://www.nasa.gov/cassini The Cassini imaging team homepage is at http://ciclops.org	Transcript Link
2016 11 02	NASA Jet Propulsion Laboratory	https://youtu.be/aNb5cZsTHd8	2016 Halloween Asteroid Has Its Own Gremlin	Scientists captured radar data of asteroid 2003 YT1 as it passed Earth on Oct. 31, 2016 at a distance of 3.3 million miles (5.3 million km). The asteroid has its own tiny moon.	Transcript Link
2016 11 01	NASA Jet Propulsion Laboratory	https://youtu.be/aj7hDvy9bgI	What's Up for November 2016	This month, learn where and when to look for Venus, Jupiter and Saturn. Plus, more meteor showers to enjoy!	Transcript Link

2016 10 27	NASA Jet Propulsion Laboratory	https://youtu.be/bYGiEg-nkIA	History Rediscovered Found Tapes	Recently rediscovered audio recordings from the JPL archives, highlights the lab's involvement in America's early satellites for communication.	Transcript Link
2016 10 27	NASA Jet Propulsion Laboratory	https://youtu.be/iW_3uXXoWIk	Explorer 1 America's First Satellite	This footage from the U.S. Army's "The Big Picture" TV series recounts the tense days leading up to the successful launch of America's first satellite in 1958.	Transcript Link
2016 10 27	NASA Jet Propulsion Laboratory	https://youtu.be/MtU66pRzfIk	JATO JPL's First Project for the Army	The U.S. Army was the first patron of what would become the Jet Propulsion Laboratory, commissioning the lab to develop "jet-assisted take-off" rockets starting in 1939.	Transcript Link
2016 10 27	NASA Jet Propulsion Laboratory	https://youtu.be/MynIh-W6fOE	Corporal America's First Guided Ballistic Missile	In mid-1944, the Jet Propulsion Laboratory embarked on the "Corporal" program to develop a guided ballistic missile.	Transcript Link
2016 10 13	NASA Jet Propulsion Laboratory	https://youtu.be/47UotH8-9VU	Spacecraft Power	There are no gas stations or power outlets in space. That's why NASA's Curiosity rover on Mars--and some other NASA spacecraft that explore the solar system--use something called "radioisotope power." NASA's Jet Propulsion Laboratory is working with the Department of Energy on ways to make the next generation of radioisotope power systems even more powerful and capable. This video explains more. For details, visit http://rps.nasa.gov	Transcript Link

2016 10 03	NASA Jet Propulsion Laboratory	https://youtu.be/Hs8c8hPwNr8	NASA's Curiosity Mars Rover Looks Back on Murray Buttes (360 View)	This 360-degree panorama was acquired by the Mast Camera (Mastcam) on NASA's Curiosity Mars rover while the rover was in an area called "Murray Buttes" on lower Mount Sharp, one of the most scenic landscapes yet visited by any Mars rover. The view stitches together many individual images taken by Mastcam's left-eye camera on Sept. 4, 2016, during the 1,451st Martian day, or sol, of the mission. The rover's location when it recorded this scene was the site it reached in its Sol 1448 drive. (See map at http://mars.nasa.gov/msl/multimedia/images/?ImageID=8015.) The scene is presented with a color adjustment that approximates white balancing, to resemble how the rocks and sand would appear under daytime lighting conditions on Earth. Important note: Not all browsers support viewing 360 videos/images. YouTube supports uploading and playback of 360 degree videos/images on computers using Chrome, Firefox, Internet Explorer, and Opera browsers. For more info about this panorama, visit: http://go.nasa.gov/2dlUicw Download high-res images used to make this 360-degree video from: http://go.nasa.gov/2cYab5T	Transcript Link
2016 09 29	NASA Jet Propulsion Laboratory	https://youtu.be/TwLaBKi3LaY	What's Up for October 2016	What's Up for October? Moon phases, International Observe the Moon night and three meteor showers. Watch this video to get sky maps showing where and when to look. For star parties and astronomy events near you, visit https://nightsky.jpl.nasa.gov/index.cfm	Transcript Link
2016 09 15	NASA Jet Propulsion Laboratory	https://youtu.be/gqXcXNUu1lg	Four Days at Saturn	NASA's Cassini spacecraft stared at Saturn for nearly 44 hours in April 2016 to obtain this movie showing four Saturn days. Cassini will begin a series of dives between the planet and its rings in April 2017, building toward a dramatic end of mission -- a final plunge into the planet, six months later. For more information about the Cassini-Huygens mission visit http://saturn.jpl.nasa.gov and http://www.nasa.gov/cassini.	Transcript Link

2016 09 07	NASA Jet Propulsion Laboratory	https://youtu.be/P0RbbNb8Pns	Dunes of Shangri-La on Saturn's Moon Titan	NASA's Cassini spacecraft has radar vision that allows it to peer through the haze that surrounds Saturn's largest moon, Titan. This video focuses on Shangri-la, a large, dark area on Titan filled with dunes. The long, linear dunes are thought to be comprised of grains derived from hydrocarbons that have settled out of Titan's atmosphere. Cassini has shown that dunes of this sort encircle most of Titan's equator. Scientists can use the dunes to learn about winds, the sands they're composed of, and highs and lows in the landscape. The radar image was obtained by the Cassini Synthetic Aperture radar (SAR) on July 25, 2016, during the mission's 122nd targeted Titan encounter. For more information about the Cassini-Huygens mission visit http://saturn.jpl.nasa.gov and http://www.nasa.gov/cassini. Image Credit: NASA/JPL-Caltech/ASI/Université Paris-Diderot	Transcript Link
2016 09 02	NASA Jet Propulsion Laboratory	https://youtu.be/i9TtSCkoERw	Jupiter's Glow in Infrared Light	As Juno approached Jupiter on August 27, 2016, it's Jovian Infrared Auroral Mapper (JIRAM) instrument captured the planet's glow in infrared light. The full story and more images from Juno's first pass of Jupiter with all instruments on is at: https://www.nasa.gov/feature/jpl/jupiter-s-north-pole-unlike-anything-encountered-in-solar-system	Transcript Link
2016 09 02	NASA Jet Propulsion Laboratory	https://youtu.be/slE2i0O0pDY	Juno Listens to Jupiter's Auroras	Thirteen hours of radio emissions from Jupiter's intense auroras are presented here, both visually and in sound. The data was collected when the spacecraft made its first orbital pass of the gas giant on Aug 27, 2016, with all spacecraft instruments turned on. The frequency range of these signals is from 7 to 140 kilohertz. Radio astronomers call these "kilometric emissions" because their wavelengths are about a kilometer long. The full story and more images from Juno's first pass of Jupiter with all instruments on is at: https://www.nasa.gov/feature/jpl/jupiter-s-north-pole-unlike-anything-encountered-in-solar-system	Transcript Link
2016 08 31	NASA Jet Propulsion Laboratory	https://youtu.be/n_2rgiyJ5Pg	What's Up for September 2016	What's up in the sky this month? An eclipse in Africa, two minor meteor showers, and planet and moon pair-ups. Plus: Get information now to help plan for the August 2017 total solar eclipse, which will span the United States from Oregon to South Carolina.	Transcript Link

2016 08 25	NASA Jet Propulsion Laboratory	https://youtu.be/E3Rp8PSd1qU	Spitzer Beyond	NASA's Spitzer Space Telescope, which launched Aug. 25, 2003, will begin an extended mission—the “Beyond” phase—on Oct. 1, 2016. This mission was designed to last at least two-and-a-half years; 13 years later, Spitzer has operated far beyond the scope of the original mission. Spitzer’s infrared vision has revealed the Universe in new ways, from mapping extrasolar planet temperatures, to discovering a ring around Saturn hundreds of times larger than any previously known. Spitzer has also discovered tiny buckyball molecules in space, and produced a 360-degree infrared panorama of the Milky Way. For more information about the Spitzer Space Telescope, visit http://www.nasa.gov/spitzer	Transcript Link
2016 08 19	NASA Jet Propulsion Laboratory	https://youtu.be/UUweNrpFTwA	NASA's Curiosity Mars Rover at Murray Buttes (360 View)	Explore this Mars panorama by moving the view with your mouse or mobile device. This 360-degree panorama was acquired on Aug. 5, 2016, by the Mastcam on NASA's Curiosity Mars rover as the rover neared features called "Murray Buttes" on lower Mount Sharp. The dark, flat-topped mesa seen to the left of the rover's arm is about 50 feet (about 15 meters) high and, near the top, about 200 feet (about 60 meters) wide. Important note: Not all browsers support viewing 360 videos/images. YouTube supports uploading and playback of 360 degree videos/images on computers using Chrome, Firefox, Internet Explorer, and Opera browsers. If your browser does not support 360, a static view of this same panorama image is available at: http://www.jpl.nasa.gov/spaceimages/details.php?id=PIA20765 Download raw images used to make this 360-degree mosaic from: http://mars.jpl.nasa.gov/msl/multimedia/raw/?s=#/?slide=1421 Credit: NASA/JPL-Caltech/MSSS	Transcript Link

2016 08 15	NASA Jet Propulsion Laboratory	https://youtu.be/QA-Uq-HFW6I	Rosetta & the Comet (live public talk)	Original air date: August 11 at 7 p.m. PT (10 p.m. ET); August 12 at 2:00 UTC Rosetta has been one of the most difficult space missions ever attempted. After 10 years of flight, it caught up with a comet speeding at 55,000 km/h and dropped a lander on its surface. Then the mother craft orbited the comet for another year and a half, coming as close as 6 km from the surface. In September of 2016, the mothership, not designed for landing, will touch down onto the comet and end the mission. This public talk will describe the upcoming landing, and tell you what we've learned from Rosetta about comets and the formation of the solar system. Speakers: Bonnie Buratti, U.S. Rosetta Project Scientist, JPL Artur Chmielewski, U.S. Rosetta Project Manager, JPL	Transcript Link
2016 08 04	NASA Jet Propulsion Laboratory	https://youtu.be/E6t1kxX-EpI	Curiosity Rover Report (August 5, 2016) Four Years on Mars	After four years on Mars, Curiosity rover and her operations team are now seasoned explorers, anxious to climb to greater heights on Mount Sharp.	Transcript Link
2016 07 29	NASA Jet Propulsion Laboratory	https://youtu.be/0vE5Jr6HttU	What's Up for August 2016	How to spot Mercury, Venus, Mars, Jupiter and Saturn, as well as the and the annual Perseid meteor shower. For more summertime skywatching tips, visit https://nightsky.jpl.nasa.gov/index.cfm.	Transcript Link
2016 07 28	NASA Jet Propulsion Laboratory	https://youtu.be/mkZPuJySQ5U	Why with Nye (Ep. 8) Bill Nye Explains How Jupiter is Like a Blender	Bill Nye explains how Jupiter helped spread the building blocks of life and the planet's role in the formation of our solar system. Find out more about the mission at: http://nasa.gov/juno and http://missionjuno.swri.edu	Transcript Link

2016 07 26	NASA Jet Propulsion Laboratory	https://youtu.be/6h6HzmuUOuI	Ceres' Missing Large Craters	Ceres' lack of giant impact basins presents a puzzle to scientists. They expected to observe more large craters on the dwarf planet than have been found by NASA's Dawn mission. Researchers are investigating a variety of processes that might have caused the appearance of the largest basins to be softened or erased over time. For more information about the Dawn mission, visit http://dawn.jpl.nasa.gov/.	Transcript Link
2016 07 19	NASA Jet Propulsion Laboratory	https://youtu.be/629IZFfBTi4	Rosetta's Last Act	The European Space Agency's Rosetta spacecraft is set to complete its mission in a controlled descent to the surface of comet 67P/Churyumov–Gerasimenkoon on September 30, 2016. NASA contributed three instruments to Rosetta - ALICE, MIRO, and IES - plus a significant portion of the electronics package for another instrument, ROSINA. More information on Rosetta's finale at http://www.esa.int/Our_Activities/Space_Science/Rosetta/Rosetta_finale_set_for_30_September	Transcript Link
2016 07 07	NASA Jet Propulsion Laboratory	https://youtu.be/jsrRzfTXKF4	Inside Juno Mission Control (360 Video)	Go inside mission control at NASA's Jet Propulsion Laboratory in Pasadena, Calif., as team members were anxiously awaiting the signal indicating the Juno spacecraft had achieved orbit at Jupiter. This 360 view places you between the high-fives and handshakes as team members received confirmation. After an almost five-year journey to the solar system's largest planet, NASA's Juno spacecraft successfully entered Jupiter's orbit during a 35-minute engine burn. Confirmation that the burn had completed was received on Earth at 8:53 p.m. PDT (11:53 p.m. EDT) Monday, July 4. To view in 360, use your mouse or move your device to look up and down, back and forth, for a 360-degree view around the mission support area in JPL's Spaceflight Operations Center. Note: Not all browsers support viewing 360 videos. YouTube supports playback of 360-degree videos on computers using Chrome, Firefox, Internet Explorer, and Opera browsers. Use the YouTube app to view it on a smart phone.	Transcript Link
2016 07 06	NASA Jet Propulsion Laboratory	https://youtu.be/lm2tAADgp8E	'We Conquered Jupiter' Juno Enters Orbit	A recap of the July 4 excitement as NASA's Juno spacecraft entered orbit around Jupiter. After an almost five-year journey to the solar system's largest planet, Juno successfully entered Jupiter's orbit during a 35-minute engine burn. Confirmation that the burn had completed was received on Earth at 8:53 pm. PDT (11:53 p.m. EDT) Monday, July 4. For more about Juno, visit http://nasa.gov/juno and http://missionjuno.swri.edu.	Transcript Link

2016 07 05	NASA Jet Propulsion Laboratory	https://youtu.be/wJiYoNN9lKk	Juno's Final Approach to Jupiter	During it's final approach to Jupiter, NASA's Juno spacecraft captured this unique time-lapse movie of the Galilean satellites in motion about the planet. The images were taken 5 days prior to arrival and end when the spacecraft was 3 million miles distant. The innermost moon is volcanic Io; next in line is the ice-crusted ocean world Europa, followed by massive Ganymede, and finally, heavily cratered Callisto.	Transcript Link
2016 07 04	NASA Jet Propulsion Laboratory	https://youtu.be/kjfQCTat-8s	Juno's Approach to Jupiter	After nearly five years traveling through space to its destination, NASA's Juno spacecraft will arrive in orbit around Jupiter on July 4, 2016. This video shows a peek of what the spacecraft saw as it closed in on its destination. Jupiter is visible along with the four Galilean moons: Callisto, Ganymede, Europa and Io. The images were taken prior to June 30, 2016, when the JunoCam camera and science instruments were turned off to prepare the spacecraft for the daring orbit insertion maneuver.	Transcript Link
2016 07 03	NASA Jet Propulsion Laboratory	https://youtu.be/O-9r_kRjFm8	NASA's Eyes App See Juno Get to Jupiter	Fly along with Juno during Jupiter orbit insertion with NASA's "Eyes on the Solar System" app. This video shows how in four simple steps. Visit http://eyes.nasa.gov to get started.	Transcript Link
2016 07 01	NASA Jet Propulsion Laboratory	https://youtu.be/vQ9yrZuxSFE	What's Up for July 2016	Use Saturn as your guide to a tour of the summer Milky Way. Spot planets, constellations, nebulae and galaxies. For more stargazing tips, visit https://nightsky.jpl.nasa.gov/index.cfm.	Transcript Link
2016 07 01	NASA Jet Propulsion Laboratory	https://youtu.be/tk-qeZ8gB0g	Why with Nye (Ep. 7) Deadliest Radiation in the Solar System	Bill Nye takes on Jupiter's deadly radiation. Jupiter produces the radiation equivalent of 100 million X-rays. Nye explains how NASA protects the instruments on the Juno spacecraft from this incredibly fierce environment.	Transcript Link

2016 07 01	NASA Jet Propulsion Laboratory	https://youtu.be/8CT_txWEo5I	Juno Captures the Roar of Jupiter	NASA's Juno spacecraft has crossed the boundary of Jupiter's immense magnetic field. Juno's Waves instrument recorded the encounter with the bow shock over the course of about two hours on June 24, 2016. "Bow shock" is where the supersonic solar wind is heated and slowed by Jupiter's magnetosphere. It is analogous to a sonic boom on Earth. The next day, June 25, 2016, the Waves instrument witnessed the crossing of the magnetopause. "Trapped continuum radiation" refers to waves trapped in a low-density cavity in Jupiter's magnetosphere. For more information, please see: http://www.jpl.nasa.gov/news/news.php?feature=6550 Credit: NASA/JPL-Caltech/SwRI/Univ. of Iowa	Transcript Link
2016 06 30	NASA Jet Propulsion Laboratory	https://youtu.be/r5SuUY7dF1w	Juno Mission to Jupiter 360 Video (Narrated)	Fly along with NASA's Juno spacecraft at Jupiter. Turn on your sound to find out more about the planet, the mission and the spacecraft. Click and drag the view on your computer, or move your mobile device up and down and around to explore the entire 360-degree experience. This experience was made before Juno arrived at Jupiter on July 4 and uses mission animations. Note: Not all browsers support viewing 360 videos. YouTube supports playback of 360-degree videos on computers using Chrome, Firefox, Internet Explorer, and Opera browsers. Use the YouTube app to view it on a smart phone. For more on the mission, visit http://nasa.gov/juno and http://missionjuno.swri.edu.	Transcript Link
2016 06 23	NASA Jet Propulsion Laboratory	https://youtu.be/SgEsf4QcR0Q	Jupiter Into the Unknown (NASA Juno Mission Trailer)	Secrets lie deep within Jupiter, shrouded in the solar system's strongest magnetic field and most lethal radiation belts. On July 4, 2016, NASA's Juno spacecraft will plunge into uncharted territory, entering orbit around the gas giant and passing closer than any spacecraft before. Juno will see Jupiter for what it really is, but first it must pass the trial of orbit insertion. For more information: http://www.nasa.gov/juno and http://missionjuno.swri.edu	Transcript Link
2016 06 23	NASA Jet Propulsion Laboratory	https://youtu.be/2pDQfIGBtoc	Why with Nye (Ep. 6) How Not to Get Lost in Space	Watch Bill Nye explain how NASA will successfully steer the Juno spacecraft into orbit around Jupiter. Nye reveals the science behind interplanetary navigation. In the vast reaches of space, being of course by even a single degree can have catastrophic result.	Transcript Link

2016 06 23	NASA Jet Propulsion Laboratory	https://youtu.be/zMJc7gmychk	Asteroid 2016 HO3 - Earth's Constant Companion	A small asteroid has been discovered in an orbit around the sun that keeps it as a constant companion of Earth, and it will remain so for centuries to come. Full story at http://go.nasa.gov/1UdQoAF	Transcript Link
2016 06 22	NASA Jet Propulsion Laboratory	https://youtu.be/tH4F1juB2jM	Crazy Engineering Flying Solar to Jupiter	NASA’s Juno spacecraft has traveled 1.7 billion miles to reach its destination, Jupiter. Find out how engineers made humanity’s most distant solar-powered spacecraft.	Transcript Link
2016 06 16	NASA Jet Propulsion Laboratory	https://youtu.be/RmMT4mHgzS4	Why with Nye (Ep. 5) Is Jupiter Like a Piece of the Sun asks Bill Nye	Bill Nye sheds some light on the similarities and differences between Jupiter and the sun. For more information about the Juno mission, which will go into orbit around Jupiter on July 4, 21016, visit http://nasa.gov/juno and http://missionjuno.swri.edu.	Transcript Link
2016 06 09	NASA Jet Propulsion Laboratory	https://youtu.be/GdJIpvwpH6Q	Why with Nye (Ep. 4) Bill Nye and Jupiter’s Super Storm	Bill Nye goes deep inside Jupiter’s mysterious Great Red Spot. First discovered over three centuries ago, this super storm is a gigantic, swirling mass of gas and clouds that is bigger than three Earths combined. NASA’s Juno mission hopes to reveal many of the secrets of the Great Red Spot. For more information about the Juno mission, visit: http://nasa.gov/juno http://missionjuno.swri.edu	Transcript Link
2016 06 02	NASA Jet Propulsion Laboratory	https://youtu.be/FOWNrvvTIZM	America’s First Lunar Surveyor 50 Years Later	Surveyor 1 landed on the lunar surface on June 2, 1966. It was America's first spacecraft to make a powered soft landing on the moon and the robotic precursor to the Apollo astronaut missions to come.	Transcript Link

2016 06 02	NASA Jet Propulsion Laboratory	https://youtu.be/cMdjAKn_uXw	Why with Nye (Ep. 3) 'Does Jupiter Have a Core ' Asks Bill Nye	Watch as Bill Nye shows how NASA's Juno spacecraft will use a combination of cutting-edge technology and the good old Doppler effect to take a peek deep inside the gas giant planet. Learn more about the mission at: http://nasa.gov/juno http://missionjuno.swri.edu	Transcript Link
2016 06 01	NASA Jet Propulsion Laboratory	https://youtu.be/M7RtIa9zBYA	What's Up for June 2016 Saturn Opposition and more!	Find out where to look in the sky this month to find Saturn, Mars, Jupiter and a comet.	Transcript Link
2016 05 26	NASA Jet Propulsion Laboratory	https://youtu.be/AnwwPYvnu_U	Why with Nye (Ep. 2) Throwback to Juno's 2013 Earth Flyby, with Bill Nye	On October 9, 2013, NASA's Juno spacecraft used the Earth's gravity to slingshot it all the way to Jupiter. Bill Nye gives the inside scoop on Juno's historic Earth flyby. Learn more about the mission at: http://nasa.gov/juno http://missionjuno.swri.edu	Transcript Link
2016 05 19	NASA Jet Propulsion Laboratory	https://youtu.be/jQe8tBsMJw0	Why with Nye (Ep. 1) Bill Nye and Juno the Solar-Powered Spacecraft	Bill Nye unravels the mysteries of solar-powered space travel. See how NASA's Juno spacecraft will use the power of the sun to keep the juice running during its long journey to and orbits of Jupiter. Learn more about the mission at: http://nasa.gov/juno http://missionjuno.swri.edu	Transcript Link
2016 05 11	NASA Jet Propulsion Laboratory	https://youtu.be/-mkA6uxBI2Y	Curiosity Rover Report (May 11, 2016) Mars Weather Report	After two Martian years, NASA's Curiosity Mars rover is more than a geologist, scientist and explorer. It’s a weather reporter, too! See the changing seasons on Mars, and find out about clouds, frost and methane on the Red Planet. For more about the mission, visit http://mars.jpl.nasa.gov/msl/	Transcript Link

2016 05 02	NASA Jet Propulsion Laboratory	https://youtu.be/TQ-qbykREXE	What's Up For May 2016	What can you see in the sky this month? Mercury transits the sun and Mars is closer to Earth than it has been in 11 years. Watch to learn how and where to look for them.	Transcript Link
2016 04 29	NASA Jet Propulsion Laboratory	https://youtu.be/ALGI0ex0-ac	Crazy Engineering Starshade Coronagraph	Sometimes light just gets in the way. A look at two technologies that block starlight to give telescopes a better view of distant Earth-like planets. For more information on exoplanet research: exoplanets.jpl.nasa.gov	Transcript Link
2016 04 27	NASA Jet Propulsion Laboratory	https://youtu.be/QI69jN_P3IA	NASA's Curiosity Mars Rover at Naukluft Plateau (360 View)	Explore this Mars panorama in 360-degrees by moving the view with your mouse or mobile device. This mid-afternoon, 360-degree panorama was acquired by the Mast Camera (Mastcam) on NASA's Curiosity Mars rover on April 4, 2016. The scene is presented with a color adjustment that approximates white balancing, to resemble how the rocks and sand would appear under daytime lighting conditions on Earth. The view combines dozens of images taken during the mission's 1,302nd sol, or Martian day, by Mastcam's left-eye camera from a location on top of what rover team members call "Naukluft Plateau" on lower Mount Sharp, which stands inside Gale Crater. The science goals of this panorama called only for terrain images, which is why frames showing the sky and rover hardware were not imaged or included in the mosaic. This science mosaic is part of long-term campaign to document the geology along the rover's traverse since landing in August 2012. The foreground and middle distance show a geologic scene dominated by eroded remnants of a finely layered ancient sandstone deposit. The sandstone here appears to be dominated by thick layers of windblown sand, suggesting that these deposits formed in a drier epoch. For more info about this panorama, visit: http://go.nasa.gov/1pGew0i	Transcript Link

2016 04 05	NASA Jet Propulsion Laboratory	https://youtu.be/omnznsZThHA	Two Years of NEOWISE Asteroid Data	NASA's asteroid-hunting NEOWISE survey uses infrared to detect and characterize asteroids and comets. Since December 2013, NEOWISE has discovered 72 near-Earth objects and characterized 439 others.	Transcript Link
2016 03 31	NASA Jet Propulsion Laboratory	https://youtu.be/af0zVX8nIBc	What's Up for April 2016	Where to look in the night sky this month for Jupiter, Mars, the Lyrid meteor shower and 2016's best views of Mercury.	Transcript Link
2016 03 30	NASA Jet Propulsion Laboratory	https://youtu.be/wPOCcG33mJQ	Mixed-Reality Tech Brings Mars to Earth	NASA and Microsoft have teamed up to create "Destination: Mars," a guided tour of Mars using the same Hololens technology that helps scientists plan the Curiosity rover's activities.	Transcript Link
2016 03 24	NASA Jet Propulsion Laboratory	https://youtu.be/OVzKlYWSd2U	Flyby Comet Imaged By Radar	Radar data of comet P/2016 BA14 taken over three days (March 21—23, 2016), when the comet was between 2.5 million miles and 2.2 million miles (4.1 million kilometers and 3.6 million kilometers) from Earth. Radar images and data from the flyby indicated that the comet is about 3,000 feet (1 kilometer) in diameter. Image credit: NASA/JPL-Caltech/GSSR	Transcript Link
2016 03 22	NASA Jet Propulsion Laboratory	https://youtu.be/AtLdprhvtVE	Unveiling Ceres	NASA's Dawn spacecraft has revealed marvelous sights on dwarf planet Ceres during its first year in orbit, including the mysterious bright spots in Occator Crater. See full-resolution images and read the news article: http://go.nasa.gov/1MA6ifH More information about Dawn is available at the following sites: http://dawn.jpl.nasa.gov http://www.nasa.gov/dawn	Transcript Link

2016 03 10	NASA Jet Propulsion Laboratory	https://youtu.be/bdHkgtLgcSY	Magnificent Mars 10 Years of Mars Reconnaissance Orbiter	NASA's Mars Reconnaissance Orbiter has clocked more than a decade of service at the Red Planet and has yielded scientific discoveries and magnificent views of a distant world. These images taken by MRO's HiRISE camera are not in true color because they include infrared information in order to be optimized for geological science. For more info about MRO go to: http://www.nasa.gov/mro	Transcript Link
2016 02 29	NASA Jet Propulsion Laboratory	https://youtu.be/MmTINt3vCSw	What's Up for March 2016	Jupiter, its moons and moon shadows Catch Jupiter at opposition March 8th, but you'll have great views after dark all month long, and through August 2016. Mission Juno's Citizen Science program JunoCam website: https://www.missionjuno.swri.edu/junocam/	Transcript Link
2016 02 26	NASA Jet Propulsion Laboratory	https://youtu.be/9HGRReKUzfU	NASA's Mars Pathfinder & Sojourner Rover (360 View)	Explore the landing site of NASA's Pathfinder mission to Mars with your mouse or mobile device. This 360-degree panorama includes the lander's companion rover, Sojourner, and top science targets. NOTE: Not all browsers support viewing 360 videos/images. View & download at http://go.nasa.gov/1TcjxuN. Click the links below to find out more about each point of interest. Pathfinder Lander & Sojourner Rover http://mars.nasa.gov/MPF/index1.html Mission Facts [PDF] http://go.nasa.gov/21ndzM7 Yogi http://go.nasa.gov/21ndEiO Twin Peaks http://go.nasa.gov/21ndHeD Barnacle Bill http://go.nasa.gov/21ndKqF Rock Garden http://go.nasa.gov/21ndRTi Science Results	Transcript Link

2016 02 08	NASA Jet Propulsion Laboratory	https://youtu.be/ME_T4B1rxCg	NASA's Curiosity Mars Rover at Namib Dune (360 view)	This image of the downwind face of "Namib Dune" on Mars covers 360 degrees, including a portion of Mount Sharp on the horizon. Use the arrows in the top left, or click and drag your cursor or mouse, to move the view up/down and right/left. Important note: Not all browsers support viewing 360 videos/images. YouTube supports uploading and playback of 360 degree videos/images on computers using Chrome, Firefox, Internet Explorer, and Opera browsers. If your browser does not support 360, a static view of this same panorama image is available at http://www.jpl.nasa.gov/spaceimages/details.php?id=pia20284 The rover's location is in the dark-sand "Bagnold Dunes" field along the northwestern flank of Mount Sharp. Images taken from orbit indicate that dunes in the Bagnold field move as much as about 3 feet (1 meter) per Earth year. The component images of this scene were taken on Dec. 18, 2015, by the Mast Camera (Mastcam) on NASA's Curiosity Mars rover during the 1,197th Martian day, or sol, of the rover's work on Mars. Full caption and downloadable images at http://www.jpl.nasa.gov/spaceimages/details.php?id=pia20284 Image credit: NASA/JPL-Caltech/MSSS	Transcript Link
2016 01 29	NASA Jet Propulsion Laboratory	https://youtu.be/EOo_qBNWpbc	What's Up for February 2016	Set your alarm! Five planets will be visible in the early morning sky until Feb. 20. Plus, learn what other celestial objects will be visible this month.	Transcript Link
2016 01 29	NASA Jet Propulsion Laboratory	https://youtu.be/nJiw2NxqoBU	Flight Over Dwarf Planet Ceres	Take a flight over dwarf planet Ceres in this video made with images from NASA's Dawn spacecraft. The simulated flyover was made by the mission's camera team at Germany's national aeronautics and space research center (DLR).	Transcript Link

2015 12 30	NASA Jet Propulsion Laboratory	https://youtu.be/2j5-rRiUNbU	What's Up for January 2016	What's Up for January? A meteor shower, a binocular comet, and the winter circle of stars! For more sky-watching tips, and to find astronomy clubs and events near you, visit http://nightsky.jpl.nasa.gov/ . Learn about all of NASA's missions at http://www.nasa.gov .	Transcript Link
2015 12 18	NASA Jet Propulsion Laboratory	https://youtu.be/RgtDTF5u-R4	Radar Teamwork Captures Clearer Asteroid Images	These radar images of Asteroid 1998 WT24 were obtained using NASA's 70-meter Goldstone antenna, paired with the National Radio Astronomy Observatory's Green Bank Telescope, on Dec. 10, 2015 when the asteroid was about 2.7 million miles (4.3 million kilometers) from Earth. The video compares the 2015 observations with observations of the same asteroid made in 2001.	Transcript Link
2015 12 15	NASA Jet Propulsion Laboratory	https://youtu.be/ur_TeOs3S64	Curiosity Rover Report (Dec. 15, 2015) First Visit to Martian Dunes	Curiosity performs the first investigation of active sand dunes on another planet. Studying the Bagnold Dunes on Mars will help scientists understand the physics of Martian dunes and how they move.	Transcript Link
2015 12 09	NASA Jet Propulsion Laboratory	https://youtu.be/8er_0yY1S1o	Ceres Rotation and Occator Crater	Dwarf planet Ceres is shown in these false-color renderings, which highlight differences in surface materials. Images from NASA's Dawn spacecraft were used to create a movie of Ceres rotating, followed by a flyover view of Occator Crater, home of Ceres' brightest area.	Transcript Link
2015 12 03	NASA Jet Propulsion Laboratory	https://youtu.be/7RrWZJHkREI	Crazy Engineering CubeSats	Honey, I shrunk the satellites! Mini-satellites are following in the footsteps of cell phones and computers. CubeSats are small but highly capable of performing a variety of space missions. For more about our CubeSats, visit http://www.jpl.nasa.gov/cubesat/	Transcript Link

2015 12 02	NASA Jet Propulsion Laboratory	https://youtu.be/hv8hVvJlcJQ	What's Up for December 2015	View Mars this month, and get a preview of great Mars views in 2016—the best since 2005! For more about NASA's exploration of the Red Planet, visit http://mars.nasa.gov.	Transcript Link
2015 11 13	NASA Jet Propulsion Laboratory	https://youtu.be/MpeoPfyerrQ	A Breathing Planet, Off Balance	NASA scientists and missions are researching the movement of carbon through the atmosphere, ocean, and plant life to better understand how, and for how long, the Earth can continue to absorb half of all carbon emissions.	Transcript Link
2015 11 06	NASA Jet Propulsion Laboratory	https://youtu.be/rWUNDB97EVM	The Rosetta Mission Asks Did Comets Bring Life to Earth	Could comets have brought the ingredients of life to Earth? It's one of the questions the Rosetta mission to comet 67P/Churyumov-Gerasimenko hopes to answer. Find out more about the mission at http://rosetta.jpl.nasa.gov/.	Transcript Link
2015 11 05	NASA Jet Propulsion Laboratory	https://youtu.be/1tUSiWLyN9A	The Search For Another Earth	Twenty years ago, the first exoplanet discovered around a sun-like star, 51 Pegasi b, made us question what we knew about our universe and launched the search for new worlds. This is the story of the pioneers in planet-hunting and how those who have followed are closer to answering one of humanity’s most ancient questions: Is there life elsewhere in the universe?	Transcript Link
2015 11 03	NASA Jet Propulsion Laboratory	https://youtu.be/2njQdqPvwm8	What's Up for November 2015	See all the phases of the moon, by day and by night! Find out why the same side of the moon always faces the Earth, and look for the areas where Apollo missions landed. For more about all of NASA's missions, visit http://www.nasa.gov.	Transcript Link

2015 10 29	NASA Jet Propulsion Laboratory	https://youtu.be/RQoMAWTAxY4	Halloween Asteroid is a Radar Science Treat	JPL scientist Marina Brozovic explains how radar will be used to study asteroid 2015 TB145 when it safely passes Earth on Oct. 31, 2015. Scientists are tracking the Halloween flyby with several optical observatories and the radar capabilities of the agency's Deep Space Network at Goldstone, California. Radar images should be available within a few days of the flyby. The asteroid will fly past Earth at a safe distance slightly farther than the moon's orbit on Oct. 31 at 10:01 a.m. PDT (1:01 p.m. EDT). Scientists are treating the flyby of the estimated 1,300-foot-wide (400-meter) asteroid as a science target of opportunity. Full story at http://www.jpl.nasa.gov/news/news.php?feature=4745	Transcript Link
2015 10 29	NASA Jet Propulsion Laboratory	https://youtu.be/h9jTn0Cujn4	JPL Director Charles Elachi Announces Retirement	On October 28, 2015, Dr. Charles Elachi announced his plans to retire in front of a packed crowd during an all-hands meeting at the Jet Propulsion Laboratory. Elachi's career at JPL spans 45 years, the past 15 years as its director. He will retire on June 30, 2016.	Transcript Link
2015 10 26	NASA Jet Propulsion Laboratory	https://youtu.be/BZ1KowQXc3Y	Deep Dive into Enceladus Plume	On Oct. 28, 2015, NASA's Cassini spacecraft will take the deepest dive ever through the plume of Saturn's moon Enceladus. Scientists hope this close flyby will shed light on what's happening beneath the moon's icy surface. With a global ocean and likely hydrothermal activity, could Enceladus have the ingredients needed to support simple forms of life?	Transcript Link
2015 10 01	NASA Jet Propulsion Laboratory	https://youtu.be/DebUcfb0lmE	What's Up for October 2015	To celebrate the 100th episode of What's Up, here's our top ten favorite celestial targets you can view this month.	Transcript Link
2015 09 24	NASA Jet Propulsion Laboratory	https://youtu.be/r_NwlkW1BXw	Buoyant Rover for Under Ice Exploration	Researchers at NASA’s Jet Propulsion Laboratory are developing the Buoyant Rover for Under-Ice Exploration, a technology that could one day explore oceans under the ice layers of planetary bodies. The prototype was tested in arctic lakes near Barrow, Alaska.	Transcript Link

2015 09 24	NASA Jet Propulsion Laboratory	https://youtu.be/sYClNsU_M-o	The Rosetta Mission Asks Are Comets Magnetized	Are comets magnetized? The Rosetta spacecraft arrived at comet 67P/Churyumov Gerasimenko in August 2014 and dispatched the Philae lander to the surface in November. In 2015, the mothercraft continues to orbit and study the comet as it passes through the inner solar system to answer some of these questions and more.	Transcript Link
2015 09 03	NASA Jet Propulsion Laboratory	https://youtu.be/bDmoqjNQAu8	How to Explore the Surface of a Comet or Asteroid	A robot concept called Hedgehog could explore the microgravity environment of comets and asteroids by hopping and rolling around on them. See Hedgehog in action in the microgravity environment of a "vomit comet" parabolic flight. Read more about Hedgehog here: http://www.jpl.nasa.gov/news/news.php?feature=4712	Transcript Link
2015 09 01	NASA Jet Propulsion Laboratory	https://youtu.be/jXMZmEOGLRc	What's Up for September 2015	What's up in the night sky this September? A total eclipse of the Harvest Moon, plus planets and the late-summer Milky Way. For more sky-watching tips, and to find astronomy clubs and events near you, visit http://nightsky.jpl.nasa.gov/ . Learn about all of NASA's missions at http://www.nasa.gov .	Transcript Link
2015 08 20	NASA Jet Propulsion Laboratory	https://youtu.be/pwipxdQ74pU	50 Years of Mars Exploration	2015 marks 50 years of successful NASA missions to Mars starting with Mariner 4 in 1965. Since then, a total of 15 robotic missions led by various NASA centers have laid the groundwork for future human missions to the Red Planet. The journey to Mars continues with additional robotic missions planned for 2016 and 2020, and human missions in the 2030s.	Transcript Link
2015 08 17	NASA Jet Propulsion Laboratory	https://youtu.be/BGosqRfMTMM	Drought In or Out	Original air date: Thursday, August 13, 2015. California faces its most severe drought emergency in decades. How did we get into this drought? Did a much advertised El Nino give us drought relief? How does drought impact the Southern California coastal marine environment? Find out what happened to this drought and how we deal with future droughts. Speaker: Dr. William Patzert, Climatologist, JPL	Transcript Link

2015 08 12	NASA Jet Propulsion Laboratory	https://youtu.be/6zasTmmR95E	Crazy Engineering Gecko Gripper	See how geckos inspired a new NASA technology that makes things stick to each other in space. Potential future applications might be to grab satellites to service them or to salvage space garbage to try to clear it out of the way. More info: http://www.jpl.nasa.gov/news/news.php?feature=4688	Transcript Link
2015 08 10	NASA Jet Propulsion Laboratory	https://youtu.be/TGqQptXEPIM	Space Shorts Could Jupiter's Moon Europa Have an Ocean	Jupiter's moon Europa may have an ocean more than twice the size of Earth's oceans combined. Why do scientists think so? Find out in 60 seconds.	Transcript Link
2015 08 06	NASA Jet Propulsion Laboratory	https://youtu.be/Inc9BtRip04	Tour Weird Ceres Bright Spots and a Pyramid-Shaped Mountain	Take a tour of weird Ceres! Visit a 2-mile-deep crater and a 4-mile-tall mountain in the video narrated by mission director Marc Rayman. Get your red/blue glasses ready for the finale - a global view of the dwarf planet in 3D. All of the data was generated from NASA's Dawn spacecraft, currently in orbit around Ceres.	Transcript Link
2015 08 03	NASA Jet Propulsion Laboratory	https://youtu.be/TxtiOXLxOzI	Curiosity Rover Report (August 2015) Three Years on Mars!	After three action-packed years on Mars, the Curiosity rover is ready to take on higher slopes of Mount Sharp.	Transcript Link
2015 08 03	NASA Jet Propulsion Laboratory	https://youtu.be/u-R1tk775PI	What's Up for August 2015	Learn where and when to look for the 2015 Perseid shower. Also this month, look for all the current and former planets (all 12 of them) in the night sky.	Transcript Link

2015 07 31	NASA Jet Propulsion Laboratory	https://youtu.be/Tcg_QKfwCTM	Radar Observations of Asteroid 1999 JD6		Radar data of asteroid 1999 JD6 revealed the object is a contact binary consisting of two lobes. The data was collected over seven and a half hours on July 25, 2015, when the asteroid was about 4.5 million miles (7.2 million kilometers) from Earth.	Transcript Link
2015 07 24	NASA Jet Propulsion Laboratory	https://youtu.be/xgkuasnJaVg	Radar Movie of Asteroid 2011 UW158		Scientists using two giant, Earth-based radio telescopes bounced radar signals off passing asteroid 2011 UW158 to create the "images" in this animation showing the rocky body's fast rotation. The asteroid measures 2000 by 1000 feet (600 by 300 meters) across. The passing asteroid made its closest approach to Earth on July 19, 2015 at 7:37 a.m. PST (4:37 a.m. EST) at a distance of about 1.5 million miles (2.4 million kilometers, or 6 times the distance from Earth to the moon). The close proximity during the pass made 2011 UW158 one of the best asteroid flybys of 2015 for studying from Earth using radar. The radar images reveal that the shape of the asteroid is extremely irregular and quite elongated. Prominent parallel, linear features run along the length of the object that cause a large increase in brightness of the radar images as they rotate into view. Scientists note that the asteroid appears to be fairly unusual. Its fast rotation suggests the object has greater mechanical strength than other asteroids its size. A fast-rotating asteroid with lower mechanical strength would tend to split apart. To obtain the views, researchers paired the 230-foot- (70-meter-) wide Deep Space Network antenna at Goldstone, California, in concert with the National Radio Astronomy Observatory's 330-foot (100-meter) Green Bank Telescope. Using this technique, the	Transcript Link
2015 07 20	NASA Jet Propulsion Laboratory	https://youtu.be/q5dzDWjN7Z4	1965 Discovery at Mars		Original air date: Thursday, July 16, 2015. July 2015 marks the 50th anniversary of Mariner 4, the first spacecraft to successfully fly by the planet Mars. Scientists were surprised by what the first images revealed, a theme that has continued through a half century of exploring the Red Planet. This is a celebration of a half century of Mars exploration, including portions of the documentary, "The Changing Face of Mars" with introductory remarks by its producer/director/writer, Blaine Baggett, Director, Office of Communication and Education, JPL.	Transcript Link

2015 07 10	NASA Jet Propulsion Laboratory	https://youtu.be/-yyzw45ouPQ	Five Ways Mariner 4 Changed Mars Exploration	Mariner 4 was the first spacecraft to fly by Mars and send home close-up images. Find out how the mission changed the way we explore the Red Planet.	Transcript Link
2015 07 01	NASA Jet Propulsion Laboratory	https://youtu.be/MTZpZuNnCtE	What's Up for July 2015	Take a grand tour of the Milky Way this month – with binoculars or a telescope.	Transcript Link
2015 06 18	NASA Jet Propulsion Laboratory	https://youtu.be/dS_Q7BFGuu0	MarCO First Interplanetary CubeSat Mission	Two miniature satellites will be hitching a ride to the Red Planet to get a front row seat for InSight‘s landing on Mars.	Transcript Link
2015 06 17	NASA Jet Propulsion Laboratory	https://youtu.be/GqTaDCt_F1Y	Alien Ocean NASA’s Mission to Europa	Could a liquid water ocean beneath the surface of Jupiter’s moon Europa have the ingredients to support life? Here's how NASA's mission to Europa would find out.	Transcript Link

2015 06 10	NASA Jet Propulsion Laboratory	https://youtu.be/nA_LmjKgd-E	Ride Along with RoboSimian	This video shows the robot's-eye view from JPL's RoboSimian on the DARPA Robotics Challenge Finals course on June 5, 2015. Video speed is enhanced. The RoboSimian team at JPL is collaborating with partners at the University of California, Santa Barbara, and the California Institute of Technology in Pasadena. Caltech manages JPL for NASA. Additional information about RoboSimian can be found at http://www.jpl.nasa.gov/news/news.php?feature=4617 Additional footage provided by DARPA. For more information about the DARPA Robotics Challenge, visit http://theroboticschallenge.org	Transcript Link
2015 06 08	NASA Jet Propulsion Laboratory	https://youtu.be/uSaLVAl-ObY	Fly Over Dwarf Planet Ceres	A new video animation of dwarf planet Ceres, based on images taken by NASA's Dawn spacecraft, provides dramatic flyover views of this heavily cratered, mysterious world. The images come from Dawn's first mapping orbit at Ceres, at an altitude of 8,400 mile (13,600 kilometers), as well as navigational images taken from 3,200 miles (5,100 kilometers) away. The images provided information for a three-dimensional terrain model. The vertical dimension has been exaggerated by a factor of two, and a star field has been added in the background.	Transcript Link
2015 06 03	NASA Jet Propulsion Laboratory	https://youtu.be/r8yn9W1zUCo	JPL's RoboSimian Arrives at the DARPA Robotics Challenge Finals	Go behind the scenes at the DARPA Robotics Challenge Finals to see Team RoboSimian getting their robot ready for competition. Time-lapse video shows the set-up of the team garage and robotic hardware. Team RoboSimian is led by NASA's Jet Propulsion Laboratory in Pasadena, California, with contributions from the California Institute of Technology and the University of California, Santa Barbara. For more information about the DARPA DRC and to watch a live stream of the finals on June 5-6, 2015, visit http://theroboticschallenge.org. To join the conversation online, use hashtags #DARPADRC and #RoboSimian.	Transcript Link
2015 06 03	NASA Jet Propulsion Laboratory	https://youtu.be/tNuQjrI52Hc	Crazy Engineering RoboSimian Robot	RoboSimian, a four-limbed disaster response robot under development at JPL, is ready to compete in the 2015 DARPA Robotics Challenge on June 5-6, 2015. You go buddy! Track the latest information about the challenge on Twitter with the hashtag #DARPADRC. More info on RoboSimian and the DARPA challenge is at: http://www.jpl.nasa.gov/news/news.php?feature=4603	Transcript Link

2015 06 01	NASA Jet Propulsion Laboratory	https://youtu.be/A_S7-3FJy9k	What's Up for June 2015	The month starts off with a beautiful close pairing of the moon and Saturn. Dwarf planet Pluto will be near the moon on Friday, June 5 and on June 11 asteroid hunters should be able to spot Pallas, the second asteroid to be discovered. Watch to learn where and when to look..	Transcript Link
2015 05 27	NASA Jet Propulsion Laboratory	https://youtu.be/vs5MmXH-U4E	The Rosetta Mission Asks How Did Our Solar System Form	Scientists for the Rosetta mission explain the origins of our solar system. The Rosetta spacecraft arrived at comet 67P/Churyumov Gerasimenko in August 2014 and dispatched the Philae lander to the surface in November. In 2015, the mothercraft continues to orbit and study the comet as it passes through the inner solar system for its closest approach to the sun in August.	Transcript Link
2015 05 14	NASA Jet Propulsion Laboratory	https://youtu.be/H2a3Oemo1e4	Antarctica's Larsen B Ice Shelf The Final Act	NASA research has found that the last section of Antarctica's Larsen B Ice Shelf is likely to disintegrate before the end of the decade. For more on the story, see the news release at http://www.jpl.nasa.gov/news/news.php?feature=4589 Image Credit: NASA/Operation IceBridge/Michael Studinger	Transcript Link
2015 05 08	NASA Jet Propulsion Laboratory	https://youtu.be/Er5L6cxnRTc	Space Shorts What is a Dwarf Planet	Dwarf planets are a lot like regular planets. What's the big difference? Find out in 60 seconds.	Transcript Link
2015 05 08	NASA Jet Propulsion Laboratory	https://youtu.be/MLFwOBnyvio	Curiosity Rover Report (May 8, 2015) Rover Road Trip	Getting a head start on summer, Curiosity is planning a road trip to Logan's Pass on Mars. Just like Earthlings, the rover relies on a highway map and takes scenic detours along the way.	Transcript Link

2015 05 06	NASA Jet Propulsion Laboratory	https://youtu.be/w8OgqZDqS5M	NASA’s SMAP Satellite Monitors Texas Drought	NASA's Soil Moisture Active Passive satellite gives Texas water agencies critical information for managing the lone star state's limited water.	Transcript Link
2015 05 04	NASA Jet Propulsion Laboratory	https://youtu.be/e4iAzvZsnUU	What's Up for May 2015	Venus and Mercury grace the west-northwest sky an hour past sunset while the giant planets Jupiter and Saturn rule the sky this month.	Transcript Link
2015 04 23	NASA Jet Propulsion Laboratory	https://youtu.be/E9w3MB5WiCY	Crazy Engineering The Camera that Fixed Hubble	In 1990, when the first images from NASA's Hubble Space Telescope were too blurry to use, JPL scientists and engineers went to work to devise one of the greatest fixes of all time: a camera with corrective vision to bring Hubble images into sharp focus.	Transcript Link
2015 04 22	NASA Jet Propulsion Laboratory	https://youtu.be/uY-WHf1UChY	The Rosetta Mission Asks What Has Comet C-G Revealed About Our Beginnings	Rosetta mission scientists answer the question, “Did comet Churyumov Gerasimenko (aka comet C-G) bring water to Earth?	Transcript Link
2015 04 09	NASA Jet Propulsion Laboratory	https://youtu.be/QltdZY485nk	JPL Runners Celebrate Mars Marathon	JPL employees pounded the pavement in celebration of a Mars marathon milestone. The Opportunity rover took 11 years and 2 months to cover 26.2 miles on the Red Planet, stopping to conduct science all along the way. The JPL team's time was considerably less, about five hours. The marathon at JPL was run as a relay with teams of runners covering 22 laps around the JPL campus (each lap was 1.2 mile or 1.92 km per lap). For more information on the rover completing its marathon on Mars, see: http://www.jpl.nasa.gov/news/news.php?feature=4521	Transcript Link

2015 04 01	NASA Jet Propulsion Laboratory	https://youtu.be/WaTqzp43UI4	What's Up for April 2015	A total lunar eclipse that takes place on the night of a full moon and, later this month, the Lyrid meteor shower.	Transcript Link
2015 03 11	NASA Jet Propulsion Laboratory	https://youtu.be/TEf9a9W_S90	What's Up for March 2015	A total solar eclipse will be visible from the North Atlantic this month, plus tips to prepare for the 2017 total solar eclipse visible from the U.S.	Transcript Link
2015 03 02	NASA Jet Propulsion Laboratory	https://youtu.be/WLu4P4goZ1s	Destination Dwarf Planet The Dawn Mission Nears Ceres	On March 6, the Dawn spacecraft will slip into orbit around Ceres, a dwarf planet located in the main asteroid belt. This mission marks the first time a dwarf planet has been visited by a spacecraft and scientists are eager to see its surface in detail. Ceres gets its name from the ancient Roman goddess of agriculture and grain crops.	Transcript Link
2015 03 02	NASA Jet Propulsion Laboratory	https://youtu.be/LP2zbGFXyk0	Dawn Nears Ceres Approach Images, Movies and Animations	NASA's Dawn mission will arrive at Ceres on March 6, 2015, and will be the first spacecraft to explore a dwarf planet. Ceres is the largest body in the main asteroid belt. At the time of its discovery in 1801 it was considered a planet and later demoted.	Transcript Link

2015 02 28	NASA Jet Propulsion Laboratory	https://youtu.be/txctk1BF6o	NASA's Soil Moisture Mapper Deploys Antenna	On Feb. 24, 2015 commands were sent to NASA's soil moisture mapper (SMAP) to unfurl its 20-foot-wide antenna. The successful opening of the antenna is critical to the mission's ability to measure global soil moisture from space. The Soil Moisture Active Passive mission will track soil moisture and the freeze-thaw state of the ground worldwide. The mission will help improve climate and weather forecasts and allow scientists to monitor droughts and better predict flooding caused by severe rainfall or snowmelt -- information that can save lives and property. In addition, since plant growth depends on the amount of water in the soil, SMAP data will allow nations to better forecast crop yields and assist in global famine early-warning systems. For more information, go to http://smap.jpl.nasa.gov/mission/desc	Transcript Link
2015 02 27	NASA Jet Propulsion Laboratory	https://youtu.be/4ObsViTRT18	Dawn, Mission to the Asteroid Belt (HD) – Narrated by Leonard Nimoy	Produced in 2007, this overview video about NASA's Dawn mission to giant asteroid Vesta and dwarf planet Ceres was released before the spacecraft's launch that year. The mission greatly appreciated Leonard Nimoy's support and participation. Dawn investigated Vesta in 2011-2012, and will arrive at Ceres March 6, 2015. For more information about Dawn, visit http://dawn.jpl.nasa.gov/ .	Transcript Link
2015 02 13	NASA Jet Propulsion Laboratory	https://youtu.be/d7aL0ZGjoeg	Reflections on the Pale Blue Dot	Ann Druyan, Carl Sagan's co-author and widow, reflects on the meaning of Voyager's "pale blue dot" image of Earth. For more information about the iconic photo taken Feb. 14, 1990, visit http://photojournal.jpl.nasa.gov/catalog/PIA00452 and http://go.nasa.gov/1vrTaRo .	Transcript Link
2015 02 12	NASA Jet Propulsion Laboratory	https://youtu.be/IXSIZcj8WgA	Curiosity Rover Report (Feb. 12, 2015) Rover Walkabout	Curiosity wraps up an investigation at Mars' Pink Cliffs while trying out a style of exploration used by geologists on Earth called “the walkabout.”	Transcript Link

2015 02 05	NASA Jet Propulsion Laboratory	https://youtu.be/NR8HCsog5MM	What's Up for February 2015	This month: see planetary pairs grace the sky in time for Valentine's Day and Jupiter's moons perform a celestial ballet.	Transcript Link
2015 02 01	NASA Jet Propulsion Laboratory	https://youtu.be/UoIu0z8orC8	NASA Launches Soil Moisture Mapper	Highlights from launch, separation and solar array deployment of the SMAP spacecraft. SMAP launched on a Delta II rocket from Vandenberg Air Force Base, Ca., on January 31, 2015. SMAP will provide high resolution, space-based measurements of soil moisture and its state -- frozen or thawed -- a new capability that will allow scientists to better predict natural hazards of extreme weather, climate change, floods and droughts, and help reduce uncertainties in our understanding of Earth's water, energy and carbon cycles.	Transcript Link
2015 01 30	NASA Jet Propulsion Laboratory	https://youtu.be/ef2kkhY0teM	New Views of Asteroid 2004 BL86	This movie of asteroid 2004 BL86 and its small moon was created from radar data obtained by NASA's Deep Space Network antenna at Goldstone, Ca., and the Green Bank Telescope in West Virginia, as the asteroid was passing Earth.	Transcript Link
2015 01 26	NASA Jet Propulsion Laboratory	https://youtu.be/1y7CYf4X3Lo	Asteroid 2004 BL86 Has a Small Moon	Asteroid 2004 BL86 passed Earth on Jan. 26, 2015 at 16:19 UTC (11:19am EST). This "movie" of the asteroid was generated from radar data collected on that date by NASA's Deep Space Network antenna at Goldstone, California. Twenty individual images were used. Radar observations allow scientists to better measure an asteroid's size, rotation and location. As a bonus, radar observations of 2004 BL86 detected a tiny moon orbiting the asteroid.	Transcript Link
2015 01 23	NASA Jet Propulsion Laboratory	https://youtu.be/EADbiFTHirk	11 Years and Counting - Opportunity on Mars	The Mars Opportunity rover has driven 25.9 miles (41.7 kilometers) since it landed in the Meridiani Planum region of Mars on Jan. 25, 2004 (Universal Time, which was Jan. 24, PST). That is farther than any other off-Earth surface vehicle has driven. The rover's work on Mars was initially planned for three months. During that prime mission and for more than a decade of bonus performance in extended missions, Opportunity has returned compelling evidence about wet environments on ancient Mars.	Transcript Link

2015 01 23	NASA Jet Propulsion Laboratory	https://youtu.be/vpBsFzjyRO8	Crazy Engineering Mars Helicopter	JPL engineers are working on a small helicopter that could 'scout' a trail for future Mars rovers, but getting a chopper that could fly in the Martian atmosphere is tricky. Episode 2 of Crazy Engineering.	Transcript Link
2015 01 16	NASA Jet Propulsion Laboratory	https://youtu.be/t4LLIJz0fQ	Found Mars Orbiter Locates Beagle 2 Lander	The Beagle 2 Lander, built by the United Kingdom, has been thought lost on Mars since Dec. 25, 2003, but has now been found in images from NASA's Mars Reconnaissance Orbiter. A set of three observations with the orbiter's High Resolution Imaging Science Experiment (HiRISE) camera shows Beagle 2 partially deployed on the surface of the planet, ending the mystery of what happened to the mission more than a decade ago. They show that the lander survived its Dec. 25, 2003, touchdown enough to at least partially deploy its solar arrays.	Transcript Link
2015 01 16	NASA Jet Propulsion Laboratory	https://youtu.be/FiszlEHZRu8	One Year of NEOWISE Asteroid Comet Observations	This movie shows the progression of NASA's NEOWISE survey in the year after its Dec. 2013 restart. Each dot represents an asteroid or comet that the mission observed. Green dots represent near-Earth objects (asteroids and comets that come within 1.3 astronomical units of the sun; one astronomical unit is Earth's distance from the sun). Yellow squares represent comets. Gray dots represent all other asteroids, which are mostly in the main asteroid belt between Mars and Jupiter. The orbits of Mercury, Venus, Earth, and Mars are shown. More information at: http://www.jpl.nasa.gov/news/news.php?feature=4444	Transcript Link
2015 01 14	NASA Jet Propulsion Laboratory	https://youtu.be/TMxL3ZhO8A8	Approaching Titan a Billion Times Closer	Remember the Titan (Landing): Ten years ago today, Jan. 14, 2005, the Huygens probe touched down on Saturn's largest moon, Titan. This new, narrated movie was created with data collected by Cassini's imaging cameras and the Huygens Descent Imager/Spectral Radiometer (DISR). The first minute shows a zoom into images of Titan from Cassini's cameras, while the remainder of the movie depicts the view from Huygens during the last few hours of its historic descent and landing. It was October 15, 1997, when NASA's Cassini orbiter embarked on an epic, seven-year voyage to the Saturnian system. Hitching a ride was ESA's Huygens probe, destined for Saturn's largest moon, Titan. The final chapter of the interplanetary trek for Huygens began on 25 December 2004 when it deployed from the orbiter for a 21-day solo cruise toward the haze-shrouded moon. Plunging into Titan's atmosphere, on January 14 2005, the probe survived the hazardous 2 hour 27 minute descent to touch down safely on Titan's frozen surface. Today, the Cassini spacecraft remains in orbit at Saturn. Its mission will end in 2017, 20 years after its journey began. More information and images from the mission at http://saturn.jpl.nasa.gov	Transcript Link

2015 01 05	NASA Jet Propulsion Laboratory	https://youtu.be/YWlYTppifhI	What's Up for January 2015	Jupiter's moons are putting on an amazing show this month. The orbital path of the moons is tilting edge-on to Earth and the sun. This lineup makes it possible to watch the moons pass in front of each other and even eclipse each other with their shadows. Get all the details, including where to find Jupiter in the sky this month, in this edition of What's Up.	Transcript Link
2014 12 29	NASA Jet Propulsion Laboratory	https://youtu.be/5OFgJwdZxRc	Crazy Engineering Ion Propulsion and the Dawn Mission	Ion propulsion isn't something found only in science fiction. JPL engineer Mike Meacham looks at how ion engines are being used to drive NASA's Dawn spacecraft through the solar system. Dawn is approaching dwarf planet Ceres in the main asteroid belt with arrival expected in March 2015. Previously, Dawn orbited Vesta, the second-largest body in the asteroid belt. Learn how ion propulsion works and why it's the reason Dawn will be the first spacecraft ever to orbit two solar system bodies beyond Earth. More about Dawn at: http://dawn.jpl.nasa.gov/	Transcript Link
2014 12 18	NASA Jet Propulsion Laboratory	https://youtu.be/GCBBEbKVwm4	NASA's SMAP Mapping the Water Under Our Feet	Launching in January 2015, NASA's next mission to study Earth is a soil moisture mapper know as SMAP (Soil Moisture Active Passive). Data from SMAP will be used to enhance understanding of processes that link the water, energy and carbon cycles, and to extend the capabilities of weather and climate prediction models including improved flood prediction and drought monitoring capabilities. Learn more about the mission here: http://smap.jpl.nasa.gov/	Transcript Link
2014 12 15	NASA Jet Propulsion Laboratory	https://youtu.be/_u-RZTwpECg	Voyager 1 Experiences Three Tsunami Waves in Interstellar Space	The Voyager 1 spacecraft has experienced three "tsunami waves" in interstellar space. This kind of wave occurs as a result of a coronal mass ejection erupting from the sun. The most recent tsunami wave that Voyager experienced began in February 2014, and may still be going. Listen to how these waves cause surrounding ionized matter to ring like a bell.	Transcript Link
2014 12 08	NASA Jet Propulsion Laboratory	https://youtu.be/oS99yR1cooE	Curiosity Rover Report The Making of Mount Sharp (Dec. 8, 2014)	Layers of intrigue: See how a Martian mountain inside of a crater came to be. Related story and images: http://www.jpl.nasa.gov/news/news.php?feature=4398	Transcript Link

2014 12 02	NASA Jet Propulsion Laboratory	https://youtu.be/VR59NXwy7a0	What's Up for December 2014	The December Geminids and Ursids offer up two more chances to see meteor showers this year. Plus, there are two comets to look for through telescopes.	Transcript Link
2014 11 21	NASA Jet Propulsion Laboratory	https://youtu.be/Ifrh9FZUSdE	Extreme Shrimp May Hold Clues to Alien Life	This extreme oasis of life deep in the Caribbean Sea may hold clues to life on other planetary bodies, including Jupiter's moon Europa. Related news release: http://www.jpl.nasa.gov/news/news.php?feature=4388	Transcript Link
2014 11 21	NASA Jet Propulsion Laboratory	https://youtu.be/kz9VhCQbPAk	Europa Ocean World	Scientists believe there is an ocean hidden beneath the surface of Jupiter's moon Europa. NASA-JPL astrobiologist Kevin Hand explains why scientists are so excited about the potential of this ice-covered world to answer one of humanity's most profound questions. Undersea footage provided by John Delaney, University of Washington To learn more about Europa, visit: http://solarsystem.nasa.gov/europa/overview.cfm	Transcript Link
2014 11 12	NASA Jet Propulsion Laboratory	https://youtu.be/20MFL9L8KEc	Landing on a Comet - ESA's Rosetta Mission	On November 12, the European Space Agency will attempt something that's never been done — make a soft landing on a comet. Find out how NASA is assisting.	Transcript Link
2014 11 11	NASA Jet Propulsion Laboratory	https://youtu.be/LK1TGWh-tSk	The Rosetta Mission Asks – How Do You Land On A Comet	Right now the Rosetta spacecraft is in the orbit of the comet getting its lander ready for this historic event. Watch and learn how easy or how hard it is to land on a comet because nobody has done it before.	Transcript Link

2014 11 10	NASA Jet Propulsion Laboratory	https://youtu.be/6BQUoiv59Xc	What's Up for November 2014	Twin meteor showers feature the slow Taurids and the swift Leonids while Rosetta's lander Philae is scheduled to land on Comet C-G and transmit data from the surface about the comet's composition.	Transcript Link
2014 11 08	NASA Jet Propulsion Laboratory	https://youtu.be/iL48DLbA4OI	Q&Alien What's in an Exoplanet Name	Exoplanets – planets around other stars – are pretty weird places. But why are their names things like HD 20504b and Kepler-12c rather than Alderaan or Vulcan? PlanetQuest explains.	Transcript Link
2014 11 07	NASA Jet Propulsion Laboratory	https://youtu.be/Rcuulo5tQCg	NASA Rocket Experiment Finds Flood of Cosmic Light	A NASA sounding rocket experiment has detected a surprising surplus of infrared light in the dark space between galaxies, a diffuse cosmic glow as bright as all known galaxies combined. The glow is thought to be from orphaned stars flung out of galaxies. The findings redefine what scientists think of as galaxies. Galaxies may not have a set boundary of stars, but instead stretch out to great distances, forming a vast, interconnected sea of stars. Read more: http://www.jpl.nasa.gov/news/news.php?feature=4363	Transcript Link

2014 10 10	NASA Jet Propulsion Laboratory	https://youtu.be/YQCwezsJnzQ	NASA Science Update Comet Siding Spring	Streamed live on Oct 9, 2014 NASA hosted a news briefing to outline the space and Earth-based assets that will have extraordinary opportunities to image and study a comet from relatively close range to Mars on Sunday, Oct. 19. Comet C/2013 A1 Siding Spring will miss Mars by only about 88,000 miles (139,500 kilometers). That is less than half the distance between Earth and its moon and less than one-tenth the distance of any known comet flyby of Earth. The comet's nucleus will come closest to Mars at about 11:27 a.m. PDT (2:27 p.m. EDT), hurtling at about 126,000 mph (56 kilometers per second), relative to Mars. The concerted campaign of observations by multiple spacecraft at Mars and by numerous NASA assets is directed at the comet and its effect on the Martian atmosphere. The observations of the comet may yield fresh clues to our solar system's earliest days more than four billion years ago. Panelists include: - Jim Green, director, Planetary Science Division (PSD), NASA Headquarters, Washington - Kelly Fast, program scientist, PSD - Carey Lisse, senior astrophysicist, Johns Hopkins University Applied	Transcript Link
2014 10 09	NASA Jet Propulsion Laboratory	https://youtu.be/Oq8lEKAY_fI	Comet Siding Spring A Close Encounter with Mars	Comet C/2013 A1 Siding Spring will make a very close flyby of Mars on Oct. 19, 2014. Passing at a distance of only 87,000 miles (by comparison that's little more than 1/3 the distance between Earth and our moon), it'll be a near miss of the Red Planet. Find out how NASA's Mars orbiters will evade the onslaught of dust particles from the comet.	Transcript Link
2014 10 01	NASA Jet Propulsion Laboratory	https://youtu.be/uPQh0JwfEh4	What's Up for October 2014	What's Up for October? A lunar eclipse, a solar eclipse and Mars has a close encounter with a comet.	Transcript Link

2014 09 25	NASA Jet Propulsion Laboratory	https://youtu.be/QWaUCFccvPk	Curiosity Rover Report A Taste of Mount Sharp (Sept. 25, 2014)	NASA's Curiosity Mars rover has collected its first drill sample from the base of Mount Sharp. The scientific allure of the layered mountain inside a crater drew the team to choose this part Mars as its landing site. For more information on the mission, visit http://mars.jpl.nasa.gov/msl/	Transcript Link
2014 09 15	NASA Jet Propulsion Laboratory	https://youtu.be/bsGyKUyLz4Q	Exoplanet Q & Alien	In this inaugural edition of Exoplanet Q & Alien, JPL's Josh Rodriguez explains some of the techniques used for direct imaging of "exoplanets" -- planets outside of our solar system.	Transcript Link
2014 09 11	NASA Jet Propulsion Laboratory	https://youtu.be/7szg3JrNT-4	Curiosity Rover Report We made it! Curiosity reaches Mount Sharp (Sept 11, 2014)	More science ahead! After 2 years and nearly 9 kilometers of driving, NASA's Mars Curiosity has arrived at the base of Mount Sharp to begin a whole new phase of exploration.	Transcript Link

2014 09 09	NASA Jet Propulsion Laboratory	https://youtu.be/Ka08deWohpQ	Opportunity's Long Tracks on Crater Rim	From a ridgeline viewpoint, NASA's Mars Exploration Rover Opportunity recently recorded a scene looking back over its own tracks made from nearly half-a-mile (more than 700 meters) of southbound driving. The video begins with a view from orbit of the 25-mile journey Opportunity has made since landing in 2004. The view then shifts to ground level showing several hundred yards of the rover's tracks made along the rim of Endeavour Crater. Opportunity is now exploring Murray Ridge. Opportunity's panoramic camera (Pancam) recorded the component images on Aug. 15, 2014, from an elevated portion of the west rim of Endeavour Crater. The video places the scene into context with the rover's entire driving route of more than 25 miles (40 kilometers) since the mission's 2004 landing in the Meridiani Planum region of Mars. The Pancam image in approximate true color is available at: http://www.jpl.nasa.gov/spaceimages/details.php?id=PIA18604 The Opportunity mission has been investigating outcrops on the western rim of Endeavour Crater for three years. The crater spans 14 miles (22 kilometers) in diameter. During Opportunity's first decade on Mars and the 2004-to-2010 career of its twin, Spirit, NASA's Mars Exploration Rover Project yielded a range of findings	Transcript Link
2014 09 09	NASA Jet Propulsion Laboratory	https://youtu.be/8SIfh-zEMYg	RapidScat NASA's Newest Wind Watcher	Mission scientists and engineers describe how their small team, on a tight budget and short deadline, created the ISS-RapidScat instrument to gather high-priority measurements of ocean winds from a berth on the International Space Station.	Transcript Link
2014 08 29	NASA Jet Propulsion Laboratory	https://youtu.be/gj9MshXoUy0	What's Up for September 2014	View the red star Antares near the red planet Mars, plus the Zodiacal Light that points towards Jupiter in the morning sky.	Transcript Link

2014 08 27	NASA Jet Propulsion Laboratory	https://youtu.be/KKcvzgUaSxo	The Rosetta Mission Asks What Can We Learn from Comets	The Rosetta mission will give us an unprecedented look inside a comet, watching the icy traveler become active as it nears the sun. What can we learn from this adventure? Composed of an orbiter and lander, Rosetta's objectives since arriving at comet 67P/Churyumov-Gerasimenko in August 2014 are to study the celestial object up close in unprecedented detail, prepare for landing a probe on the comet's nucleus in November, and track its changes through 2015, as it sweeps past the sun.	Transcript Link
2014 08 22	NASA Jet Propulsion Laboratory	https://youtu.be/6ByGDB8dM_c	Sailing Past Neptune's Moon Triton	Sail past Neptune's moon Triton, with data obtained from NASA's Voyager 2 spacecraft in 1989. The historical footage has been restored and used to construct the best-ever global color map of the strange moon. The new Triton map has a resolution of 1,970 feet (600 meters) per pixel. The colors have been enhanced to bring out contrast but are a close approximation to Triton's natural colors. Voyager's "eyes" saw in colors slightly different from human eyes, and this map was produced using orange, green and blue filter images. In 1989, most of the northern hemisphere was in darkness and unseen by Voyager. Because of the speed of Voyager's visit and the slow rotation of Triton, only one hemisphere was seen clearly at close distance. The rest of the surface was either in darkness or seen as blurry markings.	Transcript Link
2014 08 08	NASA Jet Propulsion Laboratory	https://youtu.be/9yRWhu0UGYw	LDSD Supersonic Test Flight (HD)	Ian Clark, principal investigator of the Low-Density Supersonic Decelerator, takes us through a play-by-play of NASA's recent 'flying saucer' Test in Hawaii, using high-definition video shot from cameras on board the test vehicle.	Transcript Link
2014 08 06	NASA Jet Propulsion Laboratory	https://youtu.be/BUvrwPBSo3A	The Rosetta Mission Asks What is a Comet	The Rosetta Mission Asks: What is a Comet? Scientists attempt to answer these questions and more as the Rosetta Mission's Orbiter arrives and escorts comet 67/p Churyumov Gerasimenko into our inner solar system.	Transcript Link

2014 08 06	NASA Jet Propulsion Laboratory	https://youtu.be/g7wX-feyWac	Curiosity Rover Report (Aug. 5, 2014) A Softer Trek to Mount Sharp	On the second anniversary of landing, NASA's Curiosity rover on Mars is preparing to navigate through a series of sandy valleys on its way to Mount Sharp. The base of Mount Sharp sits 3 kilometers (1.8 miles) from the rover's current position.	Transcript Link
2014 08 01	NASA Jet Propulsion Laboratory	https://youtu.be/yLxtK2WDhU0	What's Up for August 2014	Go outside to see Venus and Jupiter at dawn, Saturn and Mars at dusk. No telescope required! Plus the annual Perseid meteor shower is in full swing now through the 17th. The shower peaks the night of August 12-13, but the bright moon that night will likely interfere with viewing some of the fainter meteors. The Perseid shower occurs each year when Earth travels through a trail of dusty particles left behind by comet 109P/Swift-Tuttle.	Transcript Link
2014 07 30	NASA Jet Propulsion Laboratory	https://youtu.be/EN3Dc3F3zLM	NASA's Next Giant Leap — Comic-Con 2014	In honor of the 45th anniversary of the Apollo 11 moon landing, NASA went to Comic-Con International to hold a far-out discussion on plans for the future with Dr. Jim Green (NASA's division director of Planetary Science), Buzz Aldrin (Apollo 11 Astronaut), Mike Fincke (NASA Astronaut), and "Mohawk Guy" Bobak Ferdowsi (NASA-JPL Engineer; Curiosity and Europa Missions). The panel was moderated by actor, producer, space enthusiast Seth Green. Recorded July 28, 2014.	Transcript Link
2014 07 28	NASA Jet Propulsion Laboratory	https://youtu.be/5Z7GGiXRAo0	Ranger 7 'Meets' the Moon	The historic 1964 Ranger 7 mission was the first true success in the United States' early quest to explore the moon. The JPL-built spacecraft launched July 28. Three days later, it made a targeted impact on the moon, sending back more than 4,300 photos along the way	Transcript Link
2014 07 18	NASA Jet Propulsion Laboratory	https://youtu.be/8DmAATUO3nc	NASA's Next Giant Leap	Original air date: 10:30 a.m. PT (1730 UTC) NASA TV aired a live conversation about the future of space exploration with actor, director and narrator Morgan Freeman. He spoke at NASA's Jet Propulsion Laboratory in Pasadena, California, about his personal vision for space. The event also included NASA astronaut Reid Wiseman and Commander Steve Swanson participating from the International Space Station.	Transcript Link

2014 07 16	NASA Jet Propulsion Laboratory	https://youtu.be/r0cauXpMniw	Flash from Curiosity Rover's Laser Hitting a Martian Rock	The sparks that appear on the baseball-sized rock (starting at :17) result from the laser of the ChemCam instrument on NASA's Curiosity Mars rover hitting the rock. ChemCam's laser zapping of this particular rock was the first time the team used Curiosity's arm-mounted Mars Hand Lens Imager (MAHLI) camera to try and capture images of the spark generated by the laser hitting a rock on Mars. Their efforts were a success. The video is compiled from single images from the MAHLI camera, taken during the 687th Martian day, or sol, of Curiosity's work on Mars (July 12, 2014). Since Curiosity landed in Mars' Gale Crater in August 2012, researchers have used ChemCam's laser and spectrometers to examine more than 600 rock or soil targets. The laser itself has been fired more than 150,000 times. The process, called laser-induced breakdown spectroscopy, hits a target with pulses from the laser to generate sparks, whose spectra provide information about which chemical elements are in the target. Multiple laser shots are fired in sequence, each blasting away a thin layer of material so that the following shot examines a slightly deeper layer. In this case, "Nova" displayed an increasing concentration of aluminum as a series of laser shots from the rover penetrated through dust on the rock's surface.	Transcript Link
2014 07 03	NASA Jet Propulsion Laboratory	https://youtu.be/Yzb1H81yegg	NEOWISE Spies Comet Pan-STARRS Against Galaxy Backdrop	NASA's NEOWISE mission captured a series of infrared images of comet C/2012 K1 -- also referred to as comet Pan-STARRS -- as it swept across our skies in May 2014. This animation shows the progression of the comet across a field of stars -- and a more distant spiral galaxy, called NGC 3726, which appears as a blue oval. Image credit: NASA/JPL-Caltech	Transcript Link
2014 07 02	NASA Jet Propulsion Laboratory	https://youtu.be/PnR5umhGDy0	LDSD Test Vehicle Returns	First video of NASA's saucer-shaped test vehicle, the Low-Density Supersonic Decelerator (LDSD) after it was recovered from the ocean and returned to Port Allen, Kauai, on June 29, 2014. The LDSD vehicle had completed its first test flight from the Pacific Missile Range Facility on Kauai one day earlier.	Transcript Link

2014 07 01	NASA Jet Propulsion Laboratory	https://youtu.be/lSejxrjhD_M	What's Up for July 2014	Spot Pluto and see the Milky Way and planets all month long.	Transcript Link
2014 06 25	NASA Jet Propulsion Laboratory	https://youtu.be/s8sNsmkXb8M	Cassini Saturn Arrival	On June 30, 2004 (PDT), as mission controllers at NASA's Jet Propulsion Laboratory held their collective breath, the international Cassini-Huygens mission successfully arrived in orbit around Saturn. NASA's Cassini spacecraft delivered the European Space Agency's Huygens probe to Titan in early 2005. Cassini completed its four-year primary mission in 2008 and went on to perform dozens more flybys of Titan, Enceladus and Saturn's other icy moons through its 10th anniversary in 2014. The mission may continue through 2017. Credit: NASA/JPL-Caltech	Transcript Link
2014 06 23	NASA Jet Propulsion Laboratory	https://youtu.be/SSf1HenQhWs	Curiosity Rover Report (6 24 2014) Curiosity Completes Its First Martian Year	On June 24, 2014, NASA's Curiosity rover completes her first Martian year (687 Earth days). Hear team members describe how the mission accomplished its main goal to find a past habitable environment on the Red Planet and the ongoing science studies.	Transcript Link
2014 06 12	NASA Jet Propulsion Laboratory	https://youtu.be/-uP_fqEfYWg	Orbiting Carbon Observatory-2 (OCO-2) NASA's New Carbon Counter	NASA's Orbiting Carbon Observatory-2, launching July 2014, will study carbon dioxide in the atmosphere and help us understand how fast it will build up in the future. The mission will provide a more complete, global picture of the human and natural sources of CO2 as well their "sinks," the places where CO2 is pulled out of the atmosphere and stored (such as in plants and the ocean). Learn more about the mission at www.nasa.gov/oco2	Transcript Link

2014 06 12	NASA Jet Propulsion Laboratory	https://youtu.be/6r7ncRra1hI	Radar Observations of Asteroid 2014 HQ124	Radar data of asteroid 2014 HQ124 taken over four hours on June 8, 2014, when the asteroid was between 864,000 miles (1.39 million kilometers) and 902,000 miles (1.45 million kilometers) from Earth. The data reveals asteroid 2014 HQ124 to be an elongated, irregular object that is at least 1,200 feet (370 meters) wide on its long axis. The radar data were obtained using NASA's 70-meter Goldstone antenna, the same antenna used for communicating with spacecraft in deep space. The Goldstone radar team paired with the Arecibo Observatory (Goldstone sending radar, Arecibo receiving) for the first five frames of this movie in order to collect higher quality data, resulting in sharper images. The other frames were made by both sending and receiving with antennas at the Goldstone complex.	Transcript Link
2014 06 06	NASA Jet Propulsion Laboratory	https://youtu.be/hPOstCZKycI	'Hello, World' NASA OPALS' First Official Video Sent Via Laser	NASA beamed this video from the International Space Station back to Earth via laser on June 5, 2014. It is the first official transmission from the Optical Payload for Lasercomm Science, or OPALS. An homage to the standard first output of a computer program, and a nod to the young team's enthusiasm, the message and title of the video is, "Hello, World." This technology demonstration is an important step in changing the way NASA communicates with future spacecraft. The data rates for optical communication are much higher than radio frequencies. For more information about OPALS, go to: http://go.nasa.gov/10MMPDO For more information about the International Space Station, see: http://www.nasa.gov/station	Transcript Link
2014 06 06	NASA Jet Propulsion Laboratory	https://youtu.be/1efsA8PQmDA	NASA's OPALS Beams Video from Space	The Optical Payload for Lasercomm Science will beam video via laser from the International Space Station back to Earth. Here is animation showing how the technology works, with an explanation from the OPALS mission manager, Matt Abrahamson of JPL, plus the video NASA slated for OPALS' first official transmission. More information about OPALS is at: http://go.nasa.gov/10MMPDO	Transcript Link
2014 06 03	NASA Jet Propulsion Laboratory	https://youtu.be/3YwSXAba6Ik	LDSD The Great Shakeout Test For Mars	NASA readies for the experimental flight of the Low-Density Supersonic Decelerator (LDSD), a test vehicle designed for landing larger payloads on Mars. The saucer-shaped vehicle will undergo its first test flight in June 2014 from the U.S. Navy's Pacific Missile Range Facility in Kauai, Hawaii.	Transcript Link

2014 06 02	NASA Jet Propulsion Laboratory	https://youtu.be/qSWbSq7vTXk	What's Up for June 2014	Moon and planet pairings at dawn and dusk. Spot elusive Mercury, some comets, and more.	Transcript Link
2014 05 22	NASA Jet Propulsion Laboratory	https://youtu.be/vBEXJYDU6E	Mars Weathercam Helps Find Big, New Crater	Scientists using NASA's Mars Reconnaissance Orbiter found a fresh meteor-impact crater, and by golly it's big. It's the largest ever located anywhere by using before-and-after pictures. Using the initial pictures, scientists could nail down the time of impact to just 24 hours between March 27-28, 2012. Using the higher resolution cameras on MRO, scientists spotted not only the crater but possible landslides that occurred as a result of the impact. Deputy Project Scientist Leslie Tamppari explains.	Transcript Link
2014 05 22	NASA Jet Propulsion Laboratory	https://youtu.be/HPLXubBmVBc	%23GlobalSelfie Photos of our Beautiful World	People from over 100 countries participated in NASA's #GlobalSelfie campaign on Earth Day, April 22, 2014, by sending photographs from some of the most beautiful spots on our planet. Here are a few.	Transcript Link
2014 05 22	NASA Jet Propulsion Laboratory	https://youtu.be/G0asOKx5Xp0	LDSD We Brake for Mars (Part 2)	In part 2, JPL engineer Mike Meacham explains how an inflatable decelerator will help larger spacecraft land on Mars. The device will be tested at the Pacific Missile Range Facility in Hawaii in June, 2014. LDSD: We Brake for Mars (Part 1) https://www.youtube.com/watch?v=9h1NtQJ59kM	Transcript Link
2014 05 20	NASA Jet Propulsion Laboratory	https://youtu.be/ZVnfzVmViKs	Orbiting Carbon Observatory 2 NASA's New Carbon Sleuth	NASA's OCO-2 mission, scheduled to launch July 1 from Vandenberg AFB, California, will make precise measurements of carbon dioxide in Earth's atmosphere. The orbiting observatory is NASA's first satellite mission dedicated to studying carbon dioxide, a critical component of Earth's carbon cycle that is the leading human-produced greenhouse gas driving changes in Earth's climate. OCO-2 will provide a better understanding of the sources of carbon dioxide emissions and the natural processes that remove carbon dioxide from the atmosphere, and how they are changing over time. Learn more at http://science.nasa.gov/missions/oco-2/	Transcript Link

2014 05 16	NASA Jet Propulsion Laboratory	https://youtu.be/C9jrpMPI_Ag	%23GlobalSelfie Photos from Schools Around the World	Schools from around the world participated in NASA's #GlobalSelfie campaign by submitting photos taken on Earth Day, April 22, 2014. 50,000 images were submitted on Earth Day and are being assembled into a mosaic image to be released May 21. The Global Selfie event was designed to encourage environmental awareness and recognize NASA's ongoing work to protect our home planet.	Transcript Link
2014 05 16	NASA Jet Propulsion Laboratory	https://youtu.be/Gb_tvl_tTXM	NASA %23GlobalSelfie Photos of Animal Friends	Several of the 50,000 images submitted to NASA for its Earth Day #GlobalSelfie campaign included greetings from animal friends with whom we share the planet. The photos were submitted as part of NASA's campaign to produce a mosaic "Global Selfie" to be released on May 21. The event was designed to encourage environmental awareness and remind people of NASA's ongoing work to protect our home planet.	Transcript Link
2014 05 15	NASA Jet Propulsion Laboratory	https://youtu.be/HPSv1vUZ3bc	NASA's RapidScat Watching the Winds from Space	Explore the science behind NASA's wind-watching mission, ISS-RapidScat, launching to the International Space Station in 2014.	Transcript Link
2014 05 12	NASA Jet Propulsion Laboratory	https://youtu.be/RmjNqsnH6WQ	West Antarctica Glaciers Past the Point of No Return	A rapidly disappearing section of the West Antarctic Ice Sheet appears to be on an unstoppable path to complete meltdown. The glaciers contain enough ice to raise global sea level by 4 feet (1.2 meters)	Transcript Link
2014 05 12	NASA Jet Propulsion Laboratory	https://youtu.be/YQMtb1Pd07E	Runaway Glaciers in West Antarctica	Glaciologist Eric Rignot of NASA's Jet Propulsion Laboratory and the University of California, Irvine, narrates this animation depicting the processes leading to the decline of six rapidly melting glaciers in West Antarctica. A new study by Rignot and others finds the rapidly melting section of the West Antarctic Ice Sheet appears to be in an irreversible state of decline, with nothing to stop the glaciers in this area from melting into the sea. Full press release at: http://www.jpl.nasa.gov/news/news.php?release=2014-148	Transcript Link

2014 05 07	NASA Jet Propulsion Laboratory	https://youtu.be/Ibtjx8XgDvs	100 %23GlobalSelfie Photos from Around the World	These photos from around the world represent just a small number of the 50,000 photos that were posted to social media platforms in response to NASA's #GlobalSelfie campaign on Earth Day 2014. The 50,000 images are being assembled into a mosaic image of Earth to be released later in May. The Global Selfie event was designed to encourage environmental awareness and recognize NASA's ongoing work to protect our home planet.	Transcript Link
2014 04 30	NASA Jet Propulsion Laboratory	https://youtu.be/4mxFlUCliWg	What's Up for May 2014	What's up for May. Great views of Saturn and Mars all night long. And a possible new meteor shower.	Transcript Link
2014 04 09	NASA Jet Propulsion Laboratory	https://youtu.be/9h1NtQJ59kM	LDSD We Brake for Mars (Part 1)	NASA and JPL are testing a supersonic parachute under Mars-like conditions for future exploration. LDSD: We Brake for Mars (Part 2): https://www.youtube.com/watch?v=G0asOKx5Xp0	Transcript Link
2014 03 31	NASA Jet Propulsion Laboratory	https://youtu.be/DOS-LkdTTGE	What's Up For April 2014	Mars opposition Apr 8, lunar eclipse Apr 14-15, April's Lyrid meteors Apr 23.	Transcript Link

2014 03 21	NASA Jet Propulsion Laboratory	https://youtu.be/AZk0IQ9pFOU	360-Degree View of the Milky Way	This video shows a continually-looping infrared view of our Milky Way galaxy, as seen by NASA's Spitzer Space Telescope. MORE INFO BELOW... The icon in the lower right corner shows how the view changes over time, from our position in the Milky Way. The mosaic comes primarily from the GLIMPSE360 project, which stands for Galactic Legacy Mid-Plane Survey Extraordinaire. It consists of more than 2 million snapshots taken in infrared light over ten years, beginning in 2003 when Spitzer launched. This infrared image reveals much more of the galaxy than can be seen in visible-light views. Whereas visible light is blocked by dust, infrared light from stars and other objects can travel through dust to reach Spitzer's detectors. For instance, when looking up at our night skies, we see stars that are an average of 1,000 light-years away; the rest are hidden. In Spitzer's mosaic, light from stars throughout the galaxy -- which stretches 100,000 light-years across -- shines through. This picture covers only about three percent of the sky, but includes more than half of the galaxy's stars and the majority of its star formation activity. The red color shows dusty areas of star formation. Throughout the galaxy, tendrils, bubbles and sculpted dust structures are apparent. These are the result of massive stars blasting out winds and radiation. Stellar clusters deeply embedded in gas and dust, green	Transcript Link
2014 03 20	NASA Jet Propulsion Laboratory	https://youtu.be/vW8pi8WMu0s	Studying Other Worlds with the Help of a Starshade	This animation shows the prototype starshade, a giant structure designed to block the glare of stars so that future space telescopes can take pictures of planets. More info here: http://planetquest.jpl.nasa.gov/video/15	Transcript Link
2014 03 14	NASA Jet Propulsion Laboratory	https://youtu.be/fAQM9rfZq7w	Cassini Coming Attractions at Saturn	What incredible things will the Cassini spacecraft at Saturn see and do over the next few years? Here's a preview.	Transcript Link

2014 03 04	NASA Jet Propulsion Laboratory	https://youtu.be/U78i1gLPeaY	What's Up for March 2014	Watch starlight get blocked by a passing asteroid, planets march across the sky and a lunar eclipse preview.	Transcript Link
2014 02 28	NASA Jet Propulsion Laboratory	https://youtu.be/dI6CG2qvYHc	NASA's AIRS Sees Rivers of Rain for California	Wet weather is again hitting drought-stricken California as the second and larger of two back-to-back storms makes its way ashore. The storms are part of an atmospheric river, a narrow channel of concentrated moisture in the atmosphere connecting tropical air with colder, drier regions around Earth's middle latitudes. The storm that arrived on Feb. 26, 2014, and the one about to hit, are contained within the "Pineapple Express," an atmospheric river that extends from the Pacific Ocean near Hawaii to the Pacific coast of North America, where it often brings heavy precipitation. This next storm is expect to be the largest rain producer in Southern California in three years. This animation, created with data acquired by the Atmospheric Infrared Sounder (AIRS) instrument on NASA's Aqua satellite, shows the total amount of water vapor contained in the atmosphere for most of the month of February if it were all to fall as rain. Typically, the atmosphere over Southern California and most of the continental U.S. in winter holds only about 0.4 inch (10 millimeters) or less of water vapor. However, much wetter air lies tantalizingly close in regions to the south and west. The largest amounts of atmospheric moisture, up to 2.4 inches (60 millimeters), are associated with a persistent band of thunderstorms circling the tropics. These thunderstorms are the source of several atmospheric rivers apparent in this animation. One atmospheric river arises near Hawaii around Feb. 10 and comes ashore in Central California a few days later, bringing the largest Sierra Nevada snowfall of the season to date. Other atmospheric rivers can be see originating in the Gulf	Transcript Link
2014 02 25	NASA Jet Propulsion Laboratory	https://youtu.be/6PU8obSU9Tc	Radar Movie Highlights Asteroid 2006 DP14	Radar data of asteroid 2006 DP14 were obtained on Feb. 11, 2014, using the 230-foot (70-meter) Deep Space Network antenna at Goldstone, Calif. While this asteroid would appear as no more than a point of light to optical telescopes, using radar we're able to discern the physical characteristics of the asteroid and we're able to measure its exact distance from Earth. In order to point the enormous 70-meter dish antenna in the precise direction of the asteroid, numerous amateur astronomers assisted in the days leading up to Feb. 11 by supplying observational data to help pinpoint the location. The asteroid is about 1,300 feet (400 meters) long, 660 feet (200 meters) wide. Related feature - http://www.nasa.gov/jpl/asteroid/asteroid2006dp14-20140225 Image credit: NASA/JPL-Caltech/GSSR	Transcript Link

2014 02 19	NASA Jet Propulsion Laboratory	https://youtu.be/J37cgldLMYU	Sloshing Star Goes Supernova	NuSTAR is showing that exploding stars slosh around before blasting apart.This 3-D computer simulation demonstrates how the supernova explosion might look. Related release: http://www.nasa.gov/jpl/nustar/supernova-explosion-20140219/	Transcript Link
2014 02 14	NASA Jet Propulsion Laboratory	https://youtu.be/PiBbFC4Isr0	Curiosity Rover Report (Feb. 14, 2014) Rover's 5K Run	Curiosity logs 5K after a punishing trek over sharp terrain. To celebrate, JPLers put on their running shoes!	Transcript Link
2014 02 11	NASA Jet Propulsion Laboratory	https://youtu.be/p32xzRSBXuk	Dance of Saturn's Auroras	Ultraviolet and infrared images from NASA's Cassini spacecraft and Hubble Space Telescope show active and quiet auroras at Saturn's north and south poles. Saturn's auroras glow when energetic electrons dive into the planet's atmosphere and collide with hydrogen molecules. Sometimes a blast of fast solar wind, composed of mostly electrons and protons, creates an active aurora at Saturn, as occurred on April 5 and May 20, 2013. The first set of images, as seen in the ultraviolet part of the spectrum by Hubble, shows an active aurora dancing around Saturn's north pole on April 5. The movie then shows a relatively quiet time between April 19 to 22 and between May 18 and 19. The aurora flares up again in Hubble images from May 20. This version, shown in false-color, has been processed to show the auroras more clearly. A second set of ultraviolet images shows a closer view of an active north polar aurora in white. This set comes from Cassini ultraviolet imaging spectrograph observations on May 20 and 21. The last set of images, in the infrared, shows a quiet southern aurora (in green) in observations from Cassini's visual and infrared mapping spectrometer on May 17. Saturn's inner heat glows in red, with dark areas showing where high clouds block the heat.	Transcript Link

2014 02 03	NASA Jet Propulsion Laboratory	https://youtu.be/KiSqDIy3ZRs	What's Up for February 2014	See all the planets, plus mission updates from comet and asteroid missions Dawn and Rosetta.	Transcript Link
2014 01 24	NASA Jet Propulsion Laboratory	https://youtu.be/ha8GPZsMl8Y	Opportunity 10 Years on Mars - Science	Two Mars Exploration Rovers, Spirit and Opportunity, landed on the Red Planet in January, 2004, on a 90-day mission. Spirit's mission lasted 2,269 days (over 6 years) and ended in 2010. Ten years after landing, the Opportunity rover continues to explore. The rover's science team explains how Opportunity traversed the Red Planet, examined the diverse environment and sent back data that transformed our understanding of Mars.	Transcript Link
2014 01 24	NASA Jet Propulsion Laboratory	https://youtu.be/-gmOjit4kQM	Opportunity 10 Years on Mars - Operating A Rover	There are no vehicle repair stations on Mars. The Opportunity rover landed on the Red Planet in January 2004 for a 90-day mission. Ten years later it's still going strong despite not being serviced by human hands in over a decade. The engineering team discusses the demands of driving a rover millions of miles away, keeping it alive in the extreme Martian elements and doing long-distance repairs.	Transcript Link
2014 01 24	NASA Jet Propulsion Laboratory	https://youtu.be/t1NtFWF2jEE	10 Years on Mars How Spirit & Opportunity Affected Our Lives	Some of the team members from NASA's Mars Exploration Rover project were still in college -- or even high school -- when the rovers landed in 2004. Hear their stories of becoming part of this remarkably long-lived and successful mission.	Transcript Link
2014 01 22	NASA Jet Propulsion Laboratory	https://youtu.be/PzHaWc5n70A	G-FOLD Diversion Test	NASA's Jet Propulsion Laboratory tested its G-FOLD divert algorithm experimental landing system on September 20, 2013 at the Mohave Air & Space Port in Mojave, Calif. G-FOLD, which stands for Fuel Optimal Large Divert Guidance Algorithm, enables a rocket to select an alternate landing site, autonomously. The test was performed aboard a Masten Xombie rocket. This effort was performed by NASA's Jet Propulsion Laboratory with participation from the University of Texas at Austin, Masten Space Systems, Inc. and NASA's Flight Opportunities Program, which is managed by NASA's Dryden Flight Research Center.	Transcript Link

2014 01 22	NASA Jet Propulsion Laboratory	https://youtu.be/99dVBmrzP0s	Earth Right Now	In 2014, five NASA missions will launch to provide scientists critical data about Earth, continuing the agency's commitment to better understanding our home planet	Transcript Link
2014 01 18	NASA Jet Propulsion Laboratory	https://youtu.be/PCtDB0zOcO4	Polar Vortex Behind U.S. Big Chill	A narrated version of this video is at: http://youtu.be/6KEkSfgHJNk This movie of temperature observations from NASA's Atmospheric Infrared Sounder (AIRS) instrument on NASA's Aqua spacecraft depicts the first major North American weather event of 2014: cold air moving out of the Arctic and south to cover much of the continent. The temperatures shown are at a pressure of 850 hectopascals (hPa, formerly knows as millibars; sea level pressure is normally around 1000 hPa). Pressures of 850 hPa correspond to an altitude of about 3,000 feet (1 kilometer) above sea level. The temperatures in the movie range from about minus 18 degrees Fahrenheit (245 Kelvin or minus 28 degrees Celsius) to warmer than 66 degrees Fahrenheit (290 Kelvin or about 17 degrees Celsius). The very coldest temperatures in purples and blues are minus 18 to 17 degrees Fahrenheit (minus 28 to about minus 8 degrees Celsius). The most obvious feature of the movie is the tongue of cold air moving out of Canada and southward to cover much of the eastern United States during early January 2014. This event was covered extensively in the media, and introduced the term 'polar vortex' to a broader audience. This global perspective illustrates some features not noted in all the recent media attention. Perhaps most obvious: this is not a global phenomenon. The eastern half of the United States includes only about one percent of the total surface area of the planet (about two million of 197 million square miles). One advantage of satellite	Transcript Link

2014 01 18	NASA Jet Propulsion Laboratory	https://youtu.be/6KEkSfgHJNk	Polar Vortex Behind U.S. Big Chill Explained	The chilling weather phenomenon that hit much of the U.S. in January is explained by scientist Eric Fetzer using data from NASA's AIRS instrument. To see a data only version, watch at: http://youtu.be/PCtDB0zOcO4 This movie of temperature observations from NASA's Atmospheric Infrared Sounder (AIRS) instrument on NASA's Aqua spacecraft depicts the first major North American weather event of 2014: cold air moving out of the Arctic and south to cover much of the continent. The temperatures shown are at a pressure of 850 hectopascals (hPa, formerly knows as millibars; sea level pressure is normally around 1000 hPa). Pressures of 850 hPa correspond to an altitude of about 3,000 feet (1 kilometer) above sea level. The temperatures in the movie range from about minus 18 degrees Fahrenheit (245 Kelvin or minus 28 degrees Celsius) to warmer than 66 degrees Fahrenheit (290 Kelvin or about 17 degrees Celsius). The very coldest temperatures in purples and blues are minus 18 to 17 degrees Fahrenheit (minus 28 to about minus 8 degrees Celsius). The most obvious feature of the movie is the tongue of cold air moving out of Canada and southward to cover much of the eastern United States during early January 2014. This event was covered extensively in the media, and introduced the term 'polar vortex' to a broader audience. This global perspective illustrates some features not noted in all the recent media attention. Perhaps most obvious: this is not a global	Transcript Link
2014 01 15	NASA Jet Propulsion Laboratory	https://youtu.be/rG4nINlpMzc	Clouds Over Cracks in Arctic Sea Ice Show Mercury Pumping	Time-lapse movie of clouds rising from cracks in sea ice near Barrow, Alaska. The cracks are not visible. The heat and moisture that form the clouds drive a newly discovered process that pumps atmospheric mercury down to the Arctic surface, where it can enter the polar food chain. Related feature: http://www.jpl.nasa.gov/news/news.php?release=2014-012 Video copyright: Chris Linder Photography / University of Washington	Transcript Link
2014 01 14	NASA Jet Propulsion Laboratory	https://youtu.be/3HFXO_qx5ZY	JPL's RoboSimian	Meet RoboSimian, the Jet Propulsion Laboratory's official entry at the DARPA Robotics Challenge in December 2013. Also known as "Clyde," the robot is is four-footed, but can also stand on two feet. It has four general-purpose limbs and hands capable of both mobility and manipulation. It came in 5th place out of 16 entries. See RoboSimian in action at the disaster-response competition. Challenges includes turning a valve, traversing uneven terrain, clearing debris, opening and passing through doorways.	Transcript Link

2014 01 11	NASA Jet Propulsion Laboratory	https://youtu.be/0z9oq6dCJik	ESA's 'Wake Up Rosetta!' Video Competition	Complete contest rules and information are available on the European Space Agency's website. Click "show more" to see links below. In 2014, the European Space Agency's Rosetta spacecraft will chase down, and land, on a speeding comet that is racing toward the sun. Before the spacecraft can do this, it has to wake-up its computers from hibernation on January 20, 2014. The European Space Agency has begun the "Wake Up Rosetta" video competition, so get your camera and record a short video of a fun and creative way to wake up the Rosetta spacecraft. ESA will invite two of the top ten participants to ESA's Mission Operations Centre in Darmstadt, Germany, for the landing of Rosetta's Philae probe in November 2014. There are two ways to enter your video: 1: Upload your video to YouTube, then paste its URL to the Rosetta mission's facebook page - https://www.facebook.com/RosettaMission/app_380544765399431 2: Upload your video to Vine or Instagram using #WakeUpRosetta. For official rules visit: http://download.esa.int/esoc/wur/esa_wakeuprosetta_rules.pdf	Transcript Link
2013 12 30	NASA Jet Propulsion Laboratory	https://youtu.be/1jnVdoX8Dn0	What's Up for January 2014	Jupiter at opposition. Venus at conjunction. A Juno mission update. And the Quadrantid meteor shower.	Transcript Link
2013 12 19	NASA Jet Propulsion Laboratory	https://youtu.be/NGgzq8eXZOQ	Deep Space Network A Discussion on NASA's Vital Lifeline to Spacecraft	Original airdate: Thursday, Nov. 8 at 7 p.m. PT (10 p.m. ET, 0200 UTC) How does NASA capture the faint whispers of spacecraft voyaging to far flung destinations across the solar system? The answer involves giant radio antennas, global cooperation, and a LOT of careful planning. NASA's Deep Space Network is a vital lifeline between Earth and the spacecraft that extend our senses outward. This panel-style discussion will share how the network turns radio waves into science and engineering data, along with plans for the DSN's future. Speakers: Suzanne Dodd - Director, Interplanetary Network, JPL Leslie Deutsch - Deputy Director, Interplanetary Network, JPL Follow us on your favorite social media platforms for updates @NASAJPL.	Transcript Link

2013 12 12	NASA Jet Propulsion Laboratory	https://youtu.be/RrGPtCdItBw	Soaring Over Titan Extraterrestrial Land of Lakes	This colorized movie from NASA's Cassini mission takes viewers over the largest seas and lakes on Saturn's moon Titan. The movie is made from radar data received during multiple flyovers of Titan from 2004 to 2013. More: This colorized movie from NASA's Cassini mission shows the most complete view yet of Titan's northern land of lakes and seas. Saturn's moon Titan is the only world in our solar system other than Earth that has stable liquid on its surface. The liquid in Titan's lakes and seas is mostly methane and ethane. The data were obtained by Cassini's radar instrument from 2004 to 2013. In this projection, the north pole is at the center. The view extends down to 50 degrees north latitude. In this color scheme, liquids appear blue and black depending on the way the radar bounced off the surface. Land areas appear yellow to white. A haze was added to simulate the Titan atmosphere. Kraken Mare, Titan's largest sea, is the body in black and blue that sprawls from just below and to the right of the north pole down to the bottom right. Ligeia Mare, Titan's second largest sea, is a nearly heart-shaped body to the left and above the north pole. Punga Mare is just below the north pole. The area above and to the left of the north pole is dotted with smaller lakes. Lakes in this area are about 30 miles (50 kilometers)	Transcript Link
2013 12 10	NASA Jet Propulsion Laboratory	https://youtu.be/3nW03lcrw_8	Hams Detected From Space by NASA's Juno Spacecraft	During its close flyby of Earth, NASA's Jupiter-bound Juno spacecraft listened for a communication from amateur radio operators transmitting from locations around the world. This video clip depicts results, the "dits" and the "dahs," of this high-flying social experiment. The full image caption for this movie is available at: http://photojournal.jpl.nasa.gov/catalog/PIA17744 A four-minute documentary depicting the efforts of a few of the amateur radio operators who participated in the event can be seen at: http://youtu.be/_yqHy_MpNiQ Credit: NASA/JPL-Caltech/University of Iowa	Transcript Link

2013 12 10	NASA Jet Propulsion Laboratory	https://youtu.be/_CzBlSXgzqI	Earth and Moon Seen by Passing Juno Spacecraft with Music by Vangelis	When NASA's Juno spacecraft flew past Earth on Oct. 9, 2013, it received a boost in speed of more than 8,800 mph (about 7.3 kilometer per second), which set it on course for a July 4, 2016, rendezvous with Jupiter. One of Juno's sensors, a special kind of camera optimized to track faint stars, also had a unique view of the Earth-moon system. The result was an intriguing, low-resolution glimpse of what our world would look like to a visitor from afar. The cameras that took the images for the movie are located near the pointed tip of one of the spacecraft's three solar-array arms. They are part of Juno's Magnetic Field Investigation (MAG) and are normally used to determine the orientation of the magnetic sensors. These cameras look away from the sunlit side of the solar array, so as the spacecraft approached, the system's four cameras pointed toward Earth. Earth and the moon came into view when Juno was about 600,000 miles (966,000 kilometers) away -- about three times the Earth-moon separation. During the flyby, timing was everything. Juno was traveling about twice as fast as a typical satellite, and the spacecraft itself was spinning at 2 rpm. To assemble a movie that wouldn't make viewers dizzy, the star tracker had to capture a frame each time the camera was facing Earth at exactly the right instant. The frames were sent to Earth, where they were processed into video format.	Transcript Link
2013 12 10	NASA Jet Propulsion Laboratory	https://youtu.be/_yqHy_MpNiQ	Juno Spacecraft Listens for a Greeting From Earth	As NASA's Jupiter-bound Juno spacecraft swung past Earth on Oct. 9, 2013, amateur radio operators around the world sent a Morse Code "HI" to the spacecraft. Would Juno hear their call? Hear a sonification of the data here: http://youtu.be/3nW03lcrw_8	Transcript Link
2013 12 10	NASA Jet Propulsion Laboratory	https://youtu.be/FuVq6dcvqEg	Airborne Snow Observatory Measuring Snowpack from the Sky	Maps from NASA's Airborne Snow Observatory recently gave water resource managers in California precise information about snowpack and water availability that they have always wanted but never had before. The snowpack maps enabled them to achieve near-perfect water operations during the driest year in California history.	Transcript Link

2013 12 09	NASA Jet Propulsion Laboratory	https://youtu.be/X-iqwAt2Qmk	Curiosity Rover Report (Dec. 9, 2013) Dating Younger Rocks	NASA's Curiosity has determined the age of a Martian rock and provided first readings of radiation on the surface of Mars.	Transcript Link
2013 12 07	NASA Jet Propulsion Laboratory	https://youtu.be/8P5gI9JERDs	Saturn's Unique Hexagon in Full View	New views from NASA's Cassini spacecraft of the unique six-sided jet stream around Saturn's north pole known as "the hexagon."	Transcript Link
2013 11 25	NASA Jet Propulsion Laboratory	https://youtu.be/_UlmGDoUI5Y	What's Up for December 2013	Track comet ISON's journey as bright planets and starry events fill the sky this December.	Transcript Link
2013 11 25	NASA Jet Propulsion Laboratory	https://youtu.be/4GmTmmxDXbI	Comet ISON - Dazzle or Dust	Get the facts about comet ISON. The manager of NASA's Near-Earth Object Program Office shares the low-down on the stellar object's holiday travel plans.	Transcript Link
2013 11 13	NASA Jet Propulsion Laboratory	https://youtu.be/KKhBTrW_W5Y	Curiosity's Path to Mount Sharp	John Grotzinger, Curiosity's project scientist, narrates an aerial tour of the rover's past, present and future traverses on the Red Planet.	Transcript Link

2013 11 08	NASA Jet Propulsion Laboratory	https://youtu.be/bO63E5BSPhE	Curiosity and MAVEN Explore Mars	This animation first shows Curiosity working to understand Mars as a past habitat, with a cut to MAVEN arriving at Mars to study the upper Martian atmosphere. Curiosity will not be able to "see" MAVEN on its arrival. Later in the mission, Curiosity may be able to view MAVEN when its orbit passes over Gale Crater at dusk, similar to viewing a low-earth-orbiting (LEO) satellite around Earth. As a precedent, Mars rover Spirit captured the Mars Odyssey orbiter as a bright point in the Martian sky. MAVEN is larger and flies lower, and Curiosity's cameras are better, so this animation imagines a similar sighting. The animation ends with a celebration of MAVEN, which will help in understanding Mars' climate history and uncovering when and how long Mars may have had an environment more favorable to microbial life than found today. Credit: NASA/GSFC/JPL-Caltech	Transcript Link
2013 11 05	NASA Jet Propulsion Laboratory	https://youtu.be/kAvFhVBY5Po	Learning How To Navigate Eyes on the Solar System	(Video updated from the original version posted March 2011) Welcome to Eyes on the Solar System -- a new way for you to explore our cosmic neighborhood. Eyes on the Solar System lets you fly to the planets, ride aboard our spacecraft and discover the wonders of robotic space exploration from right inside your web-browser.	Transcript Link
2013 10 31	NASA Jet Propulsion Laboratory	https://youtu.be/MwP1UVCH6ck	What's Up for November 2013	MAVEN, the Mars Atmosphere and Volatile Evolution Mission, will explore the planet's upper atmosphere and backyard astronomers can watch Comet ISON race towards the sun at 5 degrees a day.	Transcript Link
2013 09 30	NASA Jet Propulsion Laboratory	https://youtu.be/ReoS1xVQGVI	What's Up for October 2013	Juno flies by Earth Oct 9, Observe The Moon Night Oct 12, and glimpse the Moons far side.	Transcript Link

2013 09 25	NASA Jet Propulsion Laboratory	https://youtu.be/82Xi9x0EZxc	FINDER Radar for Locating Disaster Victims	A new portable radar device can detect heartbeats and breathing of victims trapped under rubble in a disaster.	Transcript Link
2013 09 19	NASA Jet Propulsion Laboratory	https://youtu.be/kpqdCBiK1w8	Curiosity Rover Report (Sept. 19, 2013) Leave the Driving to Autonav	As NASA's Curiosity heads to Mount Sharp, the rover is using autonomous navigation to pick the best route.	Transcript Link
2013 09 12	NASA Jet Propulsion Laboratory	https://youtu.be/lwW3ZNdaeU0	Message to Voyager Welcome to Interstellar Space	Heartfelt messages to Voyager as it enters interstellar space. In order of appearance: Neil deGrasse Tyson, Astrophysicist Ann Druyan, Creative Director of the Golden Record Bill Prady, Producer/Co-Creator of "The Big Bang Theory" Mike Massimino, NASA astronaut LeVar Burton, actor, Star Trek: Next Generation Wil Weaton, actor, Star Trek: Next Generation Tim Ferris, Producer of the Golden Record Nick Sagan, son of Carl Sagan and speaker on the Golden Record Janet Sternberg, Portuguese speaker on the Golden Record	Transcript Link
2013 09 12	NASA Jet Propulsion Laboratory	https://youtu.be/L4hf8HyP0LI	Voyager Reaches Interstellar Space	After decades of exploration, Voyager 1 reaches a historic milestone for mankind--interstellar space. Learn how the team discovered the craft had reached the space between the stars.	Transcript Link

2013 09 06	NASA Jet Propulsion Laboratory	https://youtu.be/LIAZWb9_si4	Voyager Captures Sounds of Interstellar Space	NASA's Voyager 1 spacecraft captured these sounds of interstellar space. Voyager 1's plasma wave instrument detected the vibrations of dense interstellar plasma, or ionized gas, from October to November 2012 and April to May 2013. The graphic shows the frequency of the waves, which indicate the density of the plasma. Colors indicate the intensity of the waves, or how "loud" they are. Red indicates the loudest waves and blue indicates the weakest. The soundtrack reproduces the amplitude and frequency of the plasma waves as "heard" by Voyager 1. The waves detected by the instrument antennas can be simply amplified and played through a speaker. These frequencies are within the range heard by human ears. Scientists noticed that each occurrence involved a rising tone. The dashed line indicates that the rising tones follow the same slope. This means a continuously increasing density. When scientists extrapolated this line even further back in time (not shown), they deduced that Voyager 1 first encountered interstellar plasma in August 2012. The Voyager spacecraft were built and continue to be operated by NASA's Jet Propulsion Laboratory, in Pasadena, Calif. Caltech manages JPL for NASA. The Voyager missions are a part of NASA's	Transcript Link
2013 09 05	NASA Jet Propulsion Laboratory	https://youtu.be/agj7futqHpM	Eclipse at Mars Casts Shadow Around Mars Rover Curiosity	When the Martian moon Phobos passed in front of the sun, from the perspective of NASA's Mars rover Curiosity, the rover recorded the eclipse in the sky as well as the shadow darkening the ground.	Transcript Link
2013 09 05	NASA Jet Propulsion Laboratory	https://youtu.be/OyZoD7BRTtg	Mars' Moon Phobos Eclipses the Sun, as Seen by Curiosity	This video clip shows the larger of the two moons of Mars, Phobos, passing directly in front of the sun, in an eclipse photographed by NASA's Mars rover Curiosity.	Transcript Link

2013 08 30	NASA Jet Propulsion Laboratory	https://youtu.be/YMt5CIsr-D8	What's Up for September 2013	LADEE launch, Comet ISON spotted, moon meetups with Saturn, Venus, Mars and Jupiter. Juno Earth Swingby Oct 9 preview	Transcript Link
2013 08 29	NASA Jet Propulsion Laboratory	https://youtu.be/i7xRFSygA5Y	Moments With Former JPL Director Bruce Murray (1931-2013)	Through his own words and historical footage, this video offers a view of former JPL Director Bruce Murray and his accomplishments. Murray died on Aug. 29, 2013, at the age of 81.	Transcript Link
2013 08 29	NASA Jet Propulsion Laboratory	https://youtu.be/GyPo0WjUCUc	NASA's AIRS Instrument Sees Spread of Pollution from Western Wildfires	Data from the Atmospheric Infrared Sounder instrument on NASA's Aqua spacecraft show the spread of carbon monoxide pollution from California's Rim Fire and other Western U.S. wildfires across North America.	Transcript Link
2013 08 26	NASA Jet Propulsion Laboratory	https://youtu.be/BF9pPDHjNec	Spitzer Space Telescope 10 Years of Innovation	Ten years after launch, NASA's Spitzer Space Telescope continues to illuminate the dark side of the cosmos with its infrared eyes.	Transcript Link
2013 08 23	NASA Jet Propulsion Laboratory	https://youtu.be/ryZatqbdnDw	Curiosity Rover Report (Aug. 23, 2013) The Odometer Keeps Turning	While Curiosity continues to blaze a trail to Mount Sharp, the rover takes time to shoot a Martian moon movie	Transcript Link

2013 08 19	NASA Jet Propulsion Laboratory	https://youtu.be/YsLQ_ycsNU	Ape-Like RoboSimian Under Construction	RoboSimian is an ape-like robot designed to meet the disaster-recovery tasks of the DARPA Robotics Challenge. This video shows RoboSimian and its unique hands under construction at NASA's Jet Propulsion Laboratory, Pasadena, Calif., as well as simulations of the finished robot. The RoboSimian team is led by JPL. Stanford University, Palo Alto, Calif., collaborated on the development of the robot's unique hands. More information about RoboSimian is at http://www-robotics.jpl.nasa.gov/tasks/showTask.cfm?TaskID=236&tdaID=700043. For details about the DARPA Robotics Challenge, visit http://www.theroboticschallenge.org/.	Transcript Link
2013 08 16	NASA Jet Propulsion Laboratory	https://youtu.be/n3vyeBlcNas	One Martian Moon Passes the Other	This video depicts NASA's Curiosity rover observing Mars' two moons, then shows one moon passing in front of the other.	Transcript Link
2013 08 15	NASA Jet Propulsion Laboratory	https://youtu.be/DaVSCmuOJwI	Two Moons Passing in the Martian Night	This sped-up movie from the Curiosity rover shows Phobos (the larger of Mars' two moons) passing in front of smaller Deimos. Credit: NASA/JPL-Caltech/Malin Space Science Systems/Texas A&M Univ.	Transcript Link
2013 08 08	NASA Jet Propulsion Laboratory	https://youtu.be/sS3CY5td4RE	CloudSat Looking Inside Clouds	This animation depicts how CloudSat will help "see' through clouds.	Transcript Link

2013 08 02	NASA Jet Propulsion Laboratory	https://youtu.be/Mt20kTRV-_M	Curiosity Rover One Year on Mars	A look at the challenges and achievements of Curiosity's first year on Mars	Transcript Link
2013 08 01	NASA Jet Propulsion Laboratory	https://youtu.be/Gftb6ka5kIQ	What's up August 2013 Perseids and a Comet ISON Update	Perseid Meteors and a Comet ISON update	Transcript Link
2013 08 01	NASA Jet Propulsion Laboratory	https://youtu.be/8Alq08Poqb0	Twelve Months in Two Minutes; Curiosity's First Year on Mars	Here is a rover's eye view of driving, scooping and drilling during Curiosity's first year on Mars, August 2012 through July 2013.	Transcript Link
2013 07 12	NASA Jet Propulsion Laboratory	https://youtu.be/vluaivJgo9w	Curiosity Rover Report (July 11, 2013) Trek to Mount Sharp Begins	NASA's Mars rover Curiosity heads on the long journey to the mission's main destination, Mount Sharp.	Transcript Link
2013 07 09	NASA Jet Propulsion Laboratory	https://youtu.be/cU5MWtEs4L4	Proposed 2020 Mars Rover Science Goals	A team of scientists and engineers gives proposals for NASA's 2020 Mars rover mission.	Transcript Link

2013 07 01	NASA Jet Propulsion Laboratory	https://youtu.be/Fdz6eM7Wv2w	Phobos Passing Overhead	This movie clip shows Phobos, the larger of the two moons of Mars, passing overhead, as observed by NASA's Mars rover Curiosity in a series of images centered straight overhead starting shortly after sunset. Phobos first appears near the lower center of the view and moves toward the top of the view. The clip runs at accelerated speed; the amount of time covered in it is about 27 minutes. The 86 frames combined into this clip were taken by the rover's Navigation Camera (Navcam) on the 317th Martian day of Curiosity's work on Mars (June 28, 2013, PDT). The apparent ring about halfway between the center of the frames and the edges is an artifact of the imaging due to scattering of light inside the camera.	Transcript Link
2013 07 01	NASA Jet Propulsion Laboratory	https://youtu.be/GIC9RUark1s	What's Up for July 2013	Earth will shine from beyond the rings of Saturn while Cassini takes a mosaic of the planet and its rings on July 19. That's when you can wave at Saturn and be part of the one-pixel portrait.	Transcript Link
2013 06 26	NASA Jet Propulsion Laboratory	https://youtu.be/DWQBsug5SnI	NuSTAR in Space	NASA's newest X-ray telescope will have a lengthy structure that unfolds in space, allowing it to see high-energy objects like feeding black holes.	Transcript Link
2013 06 13	NASA Jet Propulsion Laboratory	https://youtu.be/b2rwWECbEHg	Curiosity Rover Report (June 13, 2013) Curiosity's Cameras	Curiosity is at Point Lake on Mars and will snap pictures to send home. Find out more about the rover's 17 cameras, including why some shoot in color and others others take black-and-white images.	Transcript Link

2013 06 11	NASA Jet Propulsion Laboratory	https://youtu.be/mNXBfz1iVzc	Dry Ice Moves on Mars	Is frozen carbon dioxide a key to features in some Martian gullies? To find out, scientists grabbed a bag of dry ice and took a road trip.	Transcript Link
2013 06 07	NASA Jet Propulsion Laboratory	https://youtu.be/GH56wMh3FZg	Curiosity Rover Report (June 7, 2013) Rover Ready to Switch Gears	NASA's Curiosity rover switches to long-distance driving mode as she heads to Mount Sharp.	Transcript Link
2013 06 06	NASA Jet Propulsion Laboratory	https://youtu.be/EJR4ZUU9Hnc	Radar Movies Highlight Asteroid 1998 QE2 and Its Moon	Radar data depicting the asteroid's primary body. Its moon, or secondary body, is the bright dot ascending just to the left of image center.	Transcript Link
2013 06 05	NASA Jet Propulsion Laboratory	https://youtu.be/o6jf82YfupU	Curiosity Mars Rover Drilling Into Its Second Rocks	This sequence of images from the Front Hazard-Avoidance Camera on NASA's Mars rover Curiosity shows the rover drilling into a rock target "Cumberland" on May 19, 2013. The video is at accelerated speed. It loops the sequence four times.	Transcript Link
2013 06 03	NASA Jet Propulsion Laboratory	https://youtu.be/N_azbn1WGOY	What's Up for June 2013	Asteroids, planets and rare meteor showers, oh my! June skies alight with stellar happenings.	Transcript Link

2013 05 30	NASA Jet Propulsion Laboratory	https://youtu.be/VnMyDYrgFws	Radar Reveals Asteroid 1998 QE2 has a Moon	Radar data of asteroid 1998 QE2 obtained on May 29, 2013, when the asteroid was about 3.75 million miles (6 million kilometers) from Earth. 1998 QE2 measures approximately 1.7 miles (2.7 kilometers) in diameter. About 16 percent of asteroids are binary or triple systems. The data is looped one time.	Transcript Link
2013 05 29	NASA Jet Propulsion Laboratory	https://youtu.be/1hkb_IrBmD4	Revealing Asteroids with Radar	When Asteroid 1998 QE2 makes its closest approach to Earth on May 31, 2013, it promises to be a bonanza for radar science.	Transcript Link
2013 05 22	NASA Jet Propulsion Laboratory	https://youtu.be/27GuouB9BLg	Mega Galaxy Merger	This simulation shows the merging of two massive galaxies, sped up to cover 1.5 billion years of time. The merging galaxies are split into two views: a visible-light view is on the left, in which blue shows young stars and red indicates older stars and dust. The view at right shows emission from dust, which is what infrared telescopes like the Herschel Space Observatory see. When the galaxies finally merge, the strong burst of star formation can be seen best in infrared views.	Transcript Link
2013 05 16	NASA Jet Propulsion Laboratory	https://youtu.be/YVwuOByJ5zw	Curiosity Rover Report (May 16, 2013) Rover Readies for Second Drilling	Curiosity prepares for a second drilling and a tutorial on the complicated choreography to get the drill sample to her instruments.	Transcript Link
2013 05 09	NASA Jet Propulsion Laboratory	https://youtu.be/ft5gJbqdzfY	Curiosity Rover Report (May 9, 2013) 'Spring Break' Over Commanding Resumes	Curiosity gets new software and new capabilities for the long trek to Mt. Sharp.	Transcript Link

2013 04 30	NASA Jet Propulsion Laboratory	https://youtu.be/sqnHalYn_tc	What's up for May 2013	Spot popular astronomical sights this month including nebulae, a galaxy trio and the site of a recent planetary discovery.	Transcript Link
2013 04 29	NASA Jet Propulsion Laboratory	https://youtu.be/75RnmfKNiP8	Mysterious Hurricane at Saturn's North Pole	Narrated video about a hurricane-like storm seen at Saturn's north pole by NASA's Cassini spacecraft	Transcript Link
2013 04 29	NASA Jet Propulsion Laboratory	https://youtu.be/71AFyQBLhyc	Saturn Hurricane Movie	This movie, made from images obtained by NASA's Cassini spacecraft, shows the clouds of a hurricane-like storm, which circulate around the north pole of Saturn out to 88.5 degrees north latitude.	Transcript Link
2013 04 12	NASA Jet Propulsion Laboratory	https://youtu.be/B8OUL9QYNpI	Curiosity Rover Report (April 12, 2013) Mars' Bygone Atmosphere	NASA's Curiosity finds that the Red Planet doesn't have the same atmosphere it used to.	Transcript Link
2013 04 04	NASA Jet Propulsion Laboratory	https://youtu.be/uixpiY42kAw	Inspiring Students to Build Robots	Bobak Ferdowsi, Curiosity flight director, shares a special message with students on building robots.	Transcript Link

2013 04 01	NASA Jet Propulsion Laboratory	https://youtu.be/kdCYwyq3kes	What's Up for April 2013	Saturn's north pole is now tilted towards Earth, giving us the best view of the rings since 2006.	Transcript Link
2013 03 21	NASA Jet Propulsion Laboratory	https://youtu.be/-XQODQnEr9o	A Journey of Light Through Time and Space	Follow the "life" of a photon, or particle of light, as it travels across space and time, from the very early universe to the Planck space telescope.	Transcript Link
2013 03 21	NASA Jet Propulsion Laboratory	https://youtu.be/Kkf8dX59sWk	Planck Exposes Ancient Light of Our Universe	Animation illustrating how scientists work to extract the oldest light in our universe from maps of the whole sky taken by the Planck mission.	Transcript Link
2013 03 20	NASA Jet Propulsion Laboratory	https://youtu.be/TZw74PKoajU	Mars in a Minute What Happens When the Sun Blocks our Signal	How can you communicate with Mars spacecraft when the Sun is in the way? Learn more about "solar conjunction" in this 60-second video.	Transcript Link
2013 03 15	NASA Jet Propulsion Laboratory	https://youtu.be/UUVmyI9yjyU	Curiosity Rover Report (Mar. 15, 2013) Rover Hits Paydirt	Curiosity's analyzed rock sample proves ancient Mars could have supported living microbes.	Transcript Link

2013 03 06	NASA Jet Propulsion Laboratory	https://youtu.be/ztL3hLIjv64	Mars in a Minute Why is Curiosity Looking for Organics	Has Mars ever had the right ingredients for life? What are organic molecules, and what can they tell us about the history of Mars? Learn more in this 60-second video from NASA's Jet Propulsion Laboratory.	Transcript Link
2013 02 28	NASA Jet Propulsion Laboratory	https://youtu.be/oznt7a-fxaE	Micro-sub Explores Buried Antarctic Lake	NASA/JPL researcher Alberto Behar joins an international Antarctic expedition to investigate a subglacial lake.	Transcript Link
2013 02 27	NASA Jet Propulsion Laboratory	https://youtu.be/RWC5xAxKTU0	What's Up for March 2013	The first of this year's two potential bright comets is visible for those who can see low on the western horizon and find out which spacecraft is on a 10-year mission to catch up with another comet.	Transcript Link
2013 02 22	NASA Jet Propulsion Laboratory	https://youtu.be/yFfRhXxEeGk	Curiosity Rover Report (Feb. 21, 2013) Curiosity Collects First Rock Sample on Mars	Curiosity rover obtains the first sample ever collected from the interior of a rock on another planet.	Transcript Link
2013 02 19	NASA Jet Propulsion Laboratory	https://youtu.be/Zy0p0D3h9iA	Early Radar Observations of Asteroid 2012 DA14	Radar observations of asteroid 2012 DA14 generated from data obtained by NASA's Goldstone Solar System Radar on Feb. 15-16, 2013. During the observations, the space rock's distance increased from 74,000 to 195,000 miles (120,000 to 314,000 km) from Earth. The movie is comprised of 73 radar "images" (radar echoes) looped nine times. Resolution is 4 meters per pixel. Credit: NASA-JPL/Caltech	Transcript Link

2013 02 15	NASA Jet Propulsion Laboratory	https://youtu.be/YoGGdEpso84	Curiosity Rover Report (February 15, 2013) Curiosity Drills on Mars	NASA's Curiosity drills for first sample from inside a rock on Mars	Transcript Link
2013 02 15	NASA Jet Propulsion Laboratory	https://youtu.be/C1a_u_I202g	Gingin Observatory Spots Near-Earth Asteroid at Closest Approach	Observatory in Australia around the time of its closest approach, 11:24:42 a.m. PST (2:24:42 p.m. EST, or 19:24:24 UTC), Feb. 15, 2013. At that time, the asteroid was about 17,150 miles (27,600 kilometers) above Earth's surface. The asteroid appears streaked because the telescope was focused on the stars while the asteroid passed through the field of view. Images courtesy of Gingin Observatory/Tonello	Transcript Link
2013 02 15	NASA Jet Propulsion Laboratory	https://youtu.be/DSeN1L3NnGA	Gingin Observatory Spots Near-Earth Asteroid	This movie shows the asteroid 2012 DA14 flying safely by Earth, as seen by the Gingin Observatory in Australia at 9:50 a.m. PST (12:50 p.m. EST/17:50 UTC), Feb. 15, 2013. At the time of its closest approach to Earth, at approximately 11:25 a.m. PST (2:25 p.m. EST/19:25 UTC), the asteroid will be about 17,150 miles (27,600 kilometers) above Earth's surface. The asteroid appears streaked because the telescope was focused on the stars while the asteroid passed through the field of view. Image courtesy of Gingin Observatory/Tonello	Transcript Link
2013 02 15	NASA Jet Propulsion Laboratory	https://youtu.be/6pgtJjYTCRQ	Approach of Asteroid 2012 DA14 as Seen by Murrumbateman Observatory	Movie from the Murrumbateman Observatory in Australia of asteroid 2012 DA14 during its close -- but safe -- flyby of Earth. The images were taken around 17:18 UTC (12:18 p.m. EST, or 9:18 a.m. PST) on Feb. 15, 2013. Image credit: D. Herald	Transcript Link

2013 02 15	NASA Jet Propulsion Laboratory	https://youtu.be/RSpZ---xSts	Asteroid 2012 DA14 Flight Path	A narrated animation depicting the trajectory of asteroid 2012 DA14 as it travels within the Earth-moon system on Feb. 15, 2013.	Transcript Link
2013 02 15	NASA Jet Propulsion Laboratory	https://youtu.be/ZxKVzJcUW-Q	Approach of Asteroid 2012 DA14 from Samford Valley Observatory	This movie from the Samford Valley Observatory in Brisbane, Australia, shows the progress of asteroid 2012 DA14 across the night sky as it nears its closest approach. It was taken at 12:59 UTC on Feb. 15 (7:59 a.m. EST, or 4:59 a.m. PST). The movie has been sped up 50 times. Credit: J. Bradshaw	Transcript Link
2013 02 05	NASA Jet Propulsion Laboratory	https://youtu.be/pv7x1H1b9MA	NASA's Deep Impact Spacecraft Images Comet ISON	This series of images of comet C/2012 S1 (ISON) was taken by the Medium-Resolution Imager of NASA's Deep Impact spacecraft over a 36-hour period on Jan. 17 and 18, 2013. At the time, the spacecraft was 493 million miles (793 million kilometers) from the comet. Image credit: NASA/JPL-Caltech/UMD	Transcript Link
2013 02 05	NASA Jet Propulsion Laboratory	https://youtu.be/ISSArm_yvtQ	Asteroid 2012 DA14 Flight Path	An animation depicting the trajectory of asteroid 2012 DA14 as it travels within the Earth-moon system on Feb. 15, 2013.	Transcript Link
2013 02 04	NASA Jet Propulsion Laboratory	https://youtu.be/VsBUZy1ZCYQ	Asteroid 2012 DA14 to Safely Pass Earth	The flyby of asteroid 2012 DA14 on Feb. 15, 2013, will be the closest known approach to Earth for an object its size.	Transcript Link

2013 02 01	NASA Jet Propulsion Laboratory	https://youtu.be/jYs6Mw744VA	What's Up for February 2013	On February 15 a small asteroid named 2012 DA-14 will whiz by, 17,200 miles from Earth. It doesn't pose any threat to us, but it is sure to create a buzz around the world.	Transcript Link
2013 01 24	NASA Jet Propulsion Laboratory	https://youtu.be/Hc_o5PF17yY	Mars Dry Ice and Dunes	Mars Reconnaissance Orbiter captures the springtime thaw of seasonal carbon dioxide ice on Mars.	Transcript Link
2013 01 18	NASA Jet Propulsion Laboratory	https://youtu.be/U5pnfpRiwi8	Curiosity Rover Report (Jan. 18, 2013) Curiosity Finds Calcium-Rich Deposits	NASA's Curiosity rover finds calcium deposits on Mars similar to those seen on Earth when water circulates in cracks and rock fractures.	Transcript Link
2013 01 10	NASA Jet Propulsion Laboratory	https://youtu.be/PODCa9sA34A	Parting Moon Shots from NASA's GRAIL mission	Three days prior to its planned impact on a lunar mountain, mission controllers activated the camera aboard one of NASA's GRAIL twins to take some final photos from lunar orbit.	Transcript Link
2013 01 10	NASA Jet Propulsion Laboratory	https://youtu.be/MVE1LaV5iMI	Curiosity Rover Report (Jan. 10, 2013) Giving Mars the Brush-off	NASA's Curiosity rover dusts off a rock on Mars for the first time.	Transcript Link

2013 01 01	NASA Jet Propulsion Laboratory	https://youtu.be/pk7J68MhOoQ	Curiosity's New Year Greeting for Times Square	New Year's Eve revelers watching giant screens in New York's Times Square saw a special Happy New Year greeting from Mars, which was 206 million miles away as of Dec. 31, 2012. The video is silent and formatted to fit the Times Square screens.	Transcript Link
2012 12 27	NASA Jet Propulsion Laboratory	https://youtu.be/uEqt0yE6EG0	What's Up January 2013 Encounters of the Planetary Kind	What's Up January 2013? Close encounters of the planetary kind	Transcript Link
2012 12 21	NASA Jet Propulsion Laboratory	https://youtu.be/tpeK_V5JLCk	Curiosity Rover Report (Dec. 21, 2012) Curiosity's Martian Holiday	Curiosity will spend the holidays at a location on Mars dubbed "Grandma's House."	Transcript Link
2012 12 18	NASA Jet Propulsion Laboratory	https://youtu.be/_hN4XdS7NMY	Mars in a Minute How Do Rovers Drive on Mars	The "keys" to NASA's Mars rovers are in the capable hands of the official rover drivers. Learn how they operate the vehicles from millions of miles away in this 60-second video from NASA's Jet Propulsion Laboratory.	Transcript Link
2012 12 14	NASA Jet Propulsion Laboratory	https://youtu.be/waH9zfEbNJs	Surface Features of Asteroid Toutatis Revealed by Radar	With optical telescopes, it's difficult to make out the surface features of asteroid Toutatis. Radar gives us a different picture. On Dec. 12 and 13, 2012, scientists pointed NASA's Goldstone Solar System Radar precisely on the asteroid while it was over four million miles/6.9 million kilometers away. Using the bounced radar signals scientists assembled these "images" showing the surface features of Toutatis, an asteroid measuring about 3 miles long (4.8 km). The orbit of Toutatis is well understood. An analysis indicates there is zero possibility of an Earth impact over the entire interval over which its motion can be accurately computed, which is about the next four centuries.	Transcript Link

2012 12 13	NASA Jet Propulsion Laboratory	https://youtu.be/wI58FbevAM4	America's First 'First' in Space The 50th Anniversary of Planetary Exploration	On Dec. 14, 1962, NASA's Mariner 2 spacecraft flew by Venus, making the United States the first country to complete a successful mission to another planet.	Transcript Link
2012 12 07	NASA Jet Propulsion Laboratory	https://youtu.be/dvrw486cFsI	Curiosity Rover Report (Dec. 7, 2012) Rover Results at Rocknest	NASA's Curiosity Mars rover team wraps up its scientific study at Rocknest.	Transcript Link
2012 12 04	NASA Jet Propulsion Laboratory	https://youtu.be/IQMsvQkISiE	Voyager's Ride on the Magnetic Highway	NASA's Voyager 1 spacecraft has entered a new region of our solar system that scientists feel is the final area the spacecraft has to cross before reaching interstellar space.	Transcript Link
2012 11 30	NASA Jet Propulsion Laboratory	https://youtu.be/QApb9l2JAbQ	Curiosity Rover Report (Nov. 29, 2012) Curiosity Roves Again	After spending six weeks doing science investigations at Rocknest, NASA's Curiosity Mars rover is on the move again to Point Lake and a place to try out the drill.	Transcript Link
2012 11 28	NASA Jet Propulsion Laboratory	https://youtu.be/5t1VksGYeFw	What's up for December 2012	Starry fireworks end the year with a bang and the Geminid meteor shower is usually one of the best of the year. Though the shower's peak is brief, on the night of December 13 and 14, up to 120 meteors per hour are predicted, if you live in an area with dark skies.	Transcript Link

2012 11 21	NASA Jet Propulsion Laboratory	https://youtu.be/cOgfzWhrRf8	Animation of Curiosity Rover's First 'Touch and Go'	Animation shows NASA's Mars Curiosity rover touching a rock with an instrument on its arm, then stowing the arm and driving on.	Transcript Link
2012 11 15	NASA Jet Propulsion Laboratory	https://youtu.be/_0596IF-8s4	Curiosity Rover Report (Nov. 15, 2012) Wind and Radiation on Mars	Curiosity monitors radiation and spots elusive whirlwinds on Mars.	Transcript Link
2012 11 10	NASA Jet Propulsion Laboratory	https://youtu.be/e6uWUrxuuok	Curiosity Rover Report (Nov. 9, 2012) SAM Sniffs Mars' Atmosphere	The Curiosity rover's Sample Analysis at Mars (SAM) instruments make the most sensitive measurements ever to search for methane gas on the Red Planet.	Transcript Link
2012 11 06	NASA Jet Propulsion Laboratory	https://youtu.be/J7kJx0OLAmM	What's Up for November 2012	Jupiter "stars" in the evening sky all month.You can't miss it!	Transcript Link
2012 11 02	NASA Jet Propulsion Laboratory	https://youtu.be/L70uKS_4wGM	Curiosity Rover Report (Nov. 1, 2012) First CheMin Results	NASA's Curiosity rover gets its first taste of Mars and finds plagioclase feldspar, pyroxene, and olivine minerals.	Transcript Link

2012 11 01	NASA Jet Propulsion Laboratory	https://youtu.be/62zKxexJrIM	Mars in a Minute Is Mars Red Hot	What would it feel like if you could stand on Mars -- toasty warm, or downright chilly? Find out more about the temperature on Mars in this 60-second video from NASA's Jet Propulsion Laboratory.	Transcript Link
2012 11 01	NASA Jet Propulsion Laboratory	https://youtu.be/6JHv4FX0RP4	Cassini 15 Years of Exploration	This video highlights sights and sounds from the journey of NASA's Cassini spacecraft. Cassini launched 15 years ago and has been exploring the Saturn system since 2004.	Transcript Link
2012 10 26	NASA Jet Propulsion Laboratory	https://youtu.be/iDgv14Qtl1c	Curiosity Rover Report (Oct. 26, 2012) Working with Curiosity's ChemCam Laser	Curiosity uses its ChemCam laser to explore a tiny cluster of rocks nicknamed "Stonehenge."	Transcript Link
2012 10 19	NASA Jet Propulsion Laboratory	https://youtu.be/neUJ5y4hrkE	Curiosity Rover Report (Oct. 19, 2012) Mars Soil Sample Delivered	NASA's Curiosity rover delivers its first soil sample to its chemistry and mineralogy instrument.	Transcript Link
2012 10 12	NASA Jet Propulsion Laboratory	https://youtu.be/rLmHedIEbus	Curiosity Rover Report (Oct. 12, 2012) Here's the Scoop!	Curiosity shakes up a scoopful of dirt, dusts off the sampling system and investigates a shiny object on the surface of Mars. For up to date status reports go to: www.jpl.nasa.gov/msl	Transcript Link

2012 10 09	NASA Jet Propulsion Laboratory	https://youtu.be/cGhC32X0vm8	What's Up for October 2012	Be on the lookout for two of the brightest objects in the asteroid belt, Ceres and Vesta near Jupiter plus two meteor showers!	Transcript Link
2012 10 08	NASA Jet Propulsion Laboratory	https://youtu.be/V10goCmY2FQ	Curiosity's First Scoopful of Mars	This video clip shows the first Martian material collected by the scoop on the robotic arm of NASA's Mars Curiosity rover, being vibrated inside the scoop after it was lifted from the ground on Oct. 7, 2012.	Transcript Link
2012 10 08	NASA Jet Propulsion Laboratory	https://youtu.be/sN1ufBQTVxU	Curiosity Report (Oct. 4, 2012) Rover Gets Set to Scoop	NASA scientists and engineers prepare Mars Curiosity rover for its first scoop of soil for analysis. For written updated status reports check out: www.jpl.nasa.gov/msl	Transcript Link
2012 09 28	NASA Jet Propulsion Laboratory	https://youtu.be/HYHc2alzdUk	Curiosity Rover Report (Sept. 28, 2012) Mars Streambed	Curiosity science team member Sanjeev Gupta explains how rounded pebbles spotted by the rover are convincing evidence of an ancient streambed on Mars. Curiosity status reports: www.jpl.nasa.gov/msl	Transcript Link
2012 09 24	NASA Jet Propulsion Laboratory	https://youtu.be/C2TebJUvMgU	First Rock Contact by Curiosity's Arm	This engineering animation depicts the moves that NASA's rover Curiosity made on Sept. 22, 2012, when the rover touched a Martian rock with its robotic arm for the first time. Curiosity status reports: www.jpl.nasa.gov/msl	Transcript Link

2012 09 21	NASA Jet Propulsion Laboratory	https://youtu.be/slOaSwcO1NE	Curiosity Rover Report (Sept. 20, 2012) Tribute to Jake	NASA's Curiosity heads to rock target "Jake," named in honor of Mars Science Laboratory engineer Jacob Matijevic. Curiosity status reports: www.jpl.nasa.gov/msl	Transcript Link
2012 09 13	NASA Jet Propulsion Laboratory	https://youtu.be/JQiB2Nkj6ng	Curiosity Rover Report (Sept. 13, 2012)	Living on Mars Time: NASA Curiosity flight director David Oh updates us on the rover and his family's experience on Mars time. Curiosity status reports: www.jpl.nasa.gov/msl	Transcript Link
2012 09 06	NASA Jet Propulsion Laboratory	https://youtu.be/uRod4vTyzkg	Curiosity Rover Report (Sept. 6, 2012)	Stopping and Stretching: NASA's Curiosity rover takes a short breather on the trek to Glenelg to check out her arm instruments. Curiosity status reports: www.jpl.nasa.gov/msl	Transcript Link
2012 09 05	NASA Jet Propulsion Laboratory	https://youtu.be/vSS8yuk4bDw	Dawn's Greatest Hits at Vesta	This video highlights Dawn's top accomplishments during its orbit around the giant asteroid Vesta.	Transcript Link
2012 08 31	NASA Jet Propulsion Laboratory	https://youtu.be/RkEFfnOhQ18	What's Up Sept 2012 - Observe & Wink at the moon this month	Celebrate International Observe the Moon night on September 22, and honor the memory of Astronaut Neil Armstrong by looking up and winking at the moon this month.	Transcript Link

2012 08 31	NASA Jet Propulsion Laboratory	https://youtu.be/qj86ZqkxNpQ	Curiosity Rover Report (Aug. 31, 2012)	Curiosity sends home special messages before heading onto the Martian plain towards her first target. Curiosity status reports: www.jpl.nasa.gov/msl	Transcript Link
2012 08 30	NASA Jet Propulsion Laboratory	https://youtu.be/84vz6J8cnc8	Dawn's Farewell Portrait of Giant Asteroid Vesta	A simulated flyover of the most intriguing landmarks on giant asteroid Vesta, as seen by NASA's Dawn spacecraft.	Transcript Link
2012 08 24	NASA Jet Propulsion Laboratory	https://youtu.be/JhhueOO0iqU	Curiosity Rover Report (Aug. 24, 2012)	Flex, Zap, Roll: NASA's Curiosity Mars rover performs a series of firsts this week -- flexing its arm, laser-zapping a rock and rolling on its wheels. See the rover's landing site, named for author Ray Bradbury on the day that would have been his 92nd birthday. Curiosity status reports: www.jpl.nasa.gov/msl	Transcript Link
2012 08 23	NASA Jet Propulsion Laboratory	https://youtu.be/e1ebHThBdlY	Curiosity Drops in on Mars in High-Res	This movie from NASA's Curiosity rover shows most of the high-resolution frames acquired by the Mars Descent Imager between the jettison of the heat shield and touchdown.	Transcript Link
2012 08 22	NASA Jet Propulsion Laboratory	https://youtu.be/JEhFinlRMBM	Curiosity Rover First Drive Celebration	Team members celebrate in the NASA Jet Propulsion Laboratory (JPL) Curiosity Surface Mission Support Area (SMSA) when images are received confirming the rover's first drive on Mars on Aug. 22, 2012. Image credit: NASA/JPL-Caltech	Transcript Link

2012 08 21	NASA Jet Propulsion Laboratory	https://youtu.be/GMsdobLq1-4	What It's Like to Land On Mars	This video steps viewers through a portion of the choreography needed to land NASA's Curiosity rover on Mars. It starts with a computer simulation from NASA's Eyes on the Solar System program and uses actual images from Curiosity's Mars Descent Imager. It ends with a high-resolution color image from Curiosity's Mast Camera.	Transcript Link
2012 08 20	NASA Jet Propulsion Laboratory	https://youtu.be/i7U5UiFSg5o	Digging Deep with NASA's Next Mars Lander	Mission team members for InSight, the new Mars lander mission selected by NASA to launch in 2016, explain how the spacecraft will advance our knowledge of Mars' history and rocky planet evolution.	Transcript Link
2012 08 20	NASA Jet Propulsion Laboratory	https://youtu.be/7BIfky0G3jo	Voyager 35 Years Later	Thirty-five years ago today, Aug. 20, 2012, NASA's Voyager 2 spacecraft, the first Voyager spacecraft to launch, departed on a journey that would make it the only spacecraft to have visited Uranus and Neptune and the longest operating NASA spacecraft ever. Voyager 2 and its twin Voyager 1 that launched sixteen days later on Sept. 5, 1977, are still going strong, hurtling away from our sun. Mission managers are eagerly anticipating the day when they break on through to the other side -- the space between stars.	Transcript Link
2012 08 17	NASA Jet Propulsion Laboratory	https://youtu.be/vVLPXfF3l_U	Heat Shield, Meet Mars	This sequence of images shows the heat shield from NASA's Mars Science Laboratory hitting the ground on Mars and raising a cloud of dust. The images were taken by the Mars Descent Imager on the mission's Curiosity rover while the rover was still suspended on a parachute, after the spacecraft had jettisoned the heat shield. A dark spot, the shadow of the heat shield, enters the scene from lower left, moving toward the center. The bright heat shield itself is also apparent just before the shadow and hardware meet in the impact on the surface. The area of ground visible in the images is about six-tenths of a mile (1 kilometer) across. The frames shown here are cropped portions of full-frame images from the Mars Descent Imager. The sequence includes 25 frames, repeated in five run-throughs for this presentation. The action is full speed in the first, fourth and fifth run-throughs. It is one-half and one-eighth speeds in the second and third run-throughs.	Transcript Link

2012 08 17	NASA Jet Propulsion Laboratory	https://youtu.be/mz2eVthmNn4	Curiosity Rover Report (Aug. 17, 2012)	Curiosity remains busy on Mars by checking out her instruments and getting ready for her first test drive. Curiosity status reports: www.jpl.nasa.gov/msl	Transcript Link
2012 08 15	NASA Jet Propulsion Laboratory	https://youtu.be/zervvVw2dnU	Where Were You When Curiosity Landed on Mars	Relive the worldwide sensation of the Curiosity rover's historic landing on Mars with audiences across the country who watched the live events unfold.	Transcript Link
2012 08 13	NASA Jet Propulsion Laboratory	https://youtu.be/GYUN9AWwui0	President Obama Calls NASA's Mars Curiosity Rover Team	On August 13, 2012, President Barack Obama called to congratulate JPL director, Dr. Charles Elachi and members of NASA's Curiosity Mars rover team for a successful landing on the Red Planet.	Transcript Link
2012 08 13	NASA Jet Propulsion Laboratory	https://youtu.be/IYla6MSRRI0	Curiosity's First Low-Resolution Color Panorama	THIS REPLACES THE VERSION POSTED ON AUG. 10, 2012. This movie shows the first 360-degree panorama in color of the Gale crater landing site taken by NASA's Curiosity rover. It was made from thumbnail versions of images taken by the 34-millimeter Mast Camera on Aug. 8, 2012.	Transcript Link
2012 08 10	NASA Jet Propulsion Laboratory	https://youtu.be/yKDBojlncss	Mars Curiosity Rover Report (Aug.10, 2012)	Mars Science Laboratory team member Jessica Samuels gives a progress report on Curiosity's first days on Mars. Curiosity status reports: www.jpl.nasa.gov/msl	Transcript Link

2012 08 08	NASA Jet Propulsion Laboratory	https://youtu.be/wM8tVnwS8F8	Curiosity Bids Goodbye to Heat Shield	This video of thumbnail images from the Mars Descent Imager (MARDI) on NASA's Curiosity rover shows the heat shield dropping away from the rover on Aug. 5 PDT (Aug. 6 EDT).	Transcript Link
2012 08 08	NASA Jet Propulsion Laboratory	https://youtu.be/fojvpMmyuKM	CSI Mars	NASA's Mars Reconnaissance Orbiter imaged the Curiosity rover and the components that helped it survive its ordeal from space to its present location on Mars.	Transcript Link
2012 08 06	NASA Jet Propulsion Laboratory	https://youtu.be/UcGMDXy-Y1I	Curiosity's Descent	The Curiosity Mars Descent Imager (MARDI) captured the rover's descent to the surface of the Red Planet. The instrument shot 4 fps video from heatshield separation to the ground.	Transcript Link
2012 08 06	NASA Jet Propulsion Laboratory	https://youtu.be/N9hXqzkH7YA	Curiosity Has Landed	Relive the nail-biting terror and joy as NASA's Curiosity rover successfully landed on Mars the evening of Aug. 5 PDT (morning of Aug. 6 EDT). See and hear the team inside JPL mission control along with a visualization of the spacecraft's entry, descent and landing.	Transcript Link
2012 08 04	NASA Jet Propulsion Laboratory	https://youtu.be/2t7p08hcQzs	Phoning Home Communicating from Mars	How will we know if Curiosity has landed safely on the surface of Mars?	Transcript Link

2012 07 31	NASA Jet Propulsion Laboratory	https://youtu.be/tqJ6DF4R_fw	What's Up for August 2012 Mars&Meteors	View Mars as the rover Curiosity lands on its surface, and check out the Perseid meteor shower later this month.	Transcript Link
2012 07 24	NASA Jet Propulsion Laboratory	https://youtu.be/oHLbXTOaw7w	The Science of Curiosity Seeking Signs of Past Mars Habitability	Unlike previous rovers to Mars, Curiosity is a robot chemist seeking evidence of past habitability on Mars.	Transcript Link
2012 07 18	NASA Jet Propulsion Laboratory	https://youtu.be/-wnECM1ae4w	NASA Unveils 'Mars Rover Landing' Game for Xbox Kinect	Danielle Roosa, granddaughter of Apollo 14 astronaut Stuart Roosa, demonstrates NASA and Microsoft's free Kinect interactive Xbox video game, "Mars Rover Landing." The new game lets players try their skill at landing the Curiosity rover on Mars. The game is available free of charge in the Xbox Live Marketplace and Kinect Central.	Transcript Link
2012 07 03	NASA Jet Propulsion Laboratory	https://youtu.be/AVqsV4rQ4bE	Martian Dune Buggy	NASA engineers take the Curiosity test rover to California's Mojave desert to learn how to drive on Martian sand dunes.	Transcript Link
2012 07 02	NASA Jet Propulsion Laboratory	https://youtu.be/gjCT53Lm1Kk	What's Up July 2012 - Mars&Saturn&Milky Way	The Milky Way rises in the east this month and is best seen from a dark sky. View Mars and Saturn after sunset, Venus and Jupiter before dawn.	Transcript Link

2012 06 22	NASA Jet Propulsion Laboratory	https://youtu.be/Ki_Afo9Q9s	7 Minutes of Terror The Challenges of Getting to Mars	Team members at NASA's Jet Propulsion Laboratory share the challenges of the Curiosity Mars rover's final minutes to landing on the surface of Mars.	Transcript Link
2012 06 08	NASA Jet Propulsion Laboratory	https://youtu.be/KTUyHeQaIPM	WISE Finds Few Brown Dwarfs Close to Home	NASA's WISE telescope has discovered that there are fewer brown dwarfs in our solar neighborhood than previously thought.	Transcript Link
2012 06 07	NASA Jet Propulsion Laboratory	https://youtu.be/syA7ml64zY4	Mars in a Minute How Hard Is It to Land Curiosity on Mars	Landing the Curiosity rover on Mars is the most difficult and nail-biting part of the whole mission. See just how hard it is to land on Mars in this 60-second video.	Transcript Link
2012 06 07	NASA Jet Propulsion Laboratory	https://youtu.be/LJvl51q5TNU	Inspired by Ray Bradbury	A Mars rover driver pays tribute to author and visionary, Ray Bradbury.	Transcript Link
2012 06 06	NASA Jet Propulsion Laboratory	https://youtu.be/EBtZjbTDTDk	In Memoriam Ray Bradbury 1920-2012	Through the years, Ray Bradbury attended several major space mission events at JPL/Caltech. On Nov. 12, 1971, on the eve of Mariner 9 going into orbit at Mars, Bradbury took part in a symposium at Caltech with Arthur C. Clarke, journalist Walter Sullivan, and scientists Carl Sagan and Bruce Murray. In this excerpt, Bradbury reads his poem, "If Only We Had Taller Been."	Transcript Link

2012 06 06	NASA Jet Propulsion Laboratory	https://youtu.be/fXFm3YOL3ho	Asteroid Vesta's Coat of Many Colors	This animation based on data from NASA's Dawn spacecraft starts with high-resolution black and white images of the giant asteroid Vesta wrapped onto a 3-D shape model and transitions to false-color images. The colors were chosen to highlight differences in surface composition that are too subtle for the human eye to see.	Transcript Link
2012 06 04	NASA Jet Propulsion Laboratory	https://youtu.be/TG9Gk0nYw98	What's Up for June 2012	It won't happen again until December 2117. On June 5th, 2012, Venus will transit (pass in front of) the face of the sun in an event of both historical and observational importance.	Transcript Link
2012 05 25	NASA Jet Propulsion Laboratory	https://youtu.be/Be0feMxWRug	Tsunami Makes Waves in More Than Just the Ocean	GPS technology helps scientists track tsunamis and improve future warning systems.	Transcript Link
2012 05 24	NASA Jet Propulsion Laboratory	https://youtu.be/mjEgTuCFLU4	Curiosity Rover Sampling System Scoop Test	Curiosity will be a rolling geology lab on Mars. See how engineers take a soil sample using her stunt double.	Transcript Link
2012 05 17	NASA Jet Propulsion Laboratory	https://youtu.be/kguwj9cDWp4	What is FINESSE	FINESSE was a mission proposed by JPL in 2013 as part of NASA's Explorers program, but the concept was not selected for flight. FINESSE was characterized as "the first mission dedicated to finding out what exoplanet atmospheres are made of, what conditions or processes are responsible for their composition, and how our own solar system fits into the larger family of planets." Press release from NASA announcing the results of the Explorers competition: http://go.nasa.gov/Z6s5Wy. Credit: NASA/JPL-Caltech	Transcript Link

2012 05 10	NASA Jet Propulsion Laboratory	https://youtu.be/YYxPw_T8Vlk	NASA Dawn's Virtual Flight Over Asteroid Vesta	Ride aboard NASA's Dawn spacecraft on a virtual flyover of giant asteroid Vesta. Mission data was used to create the topography you see. Waypoints include: Divialia Fossa; Marcia crater, part of the "snowman" feature; and Aricia Tholus. Credits: NASA/JPL-Caltech/UCLA/MPS/DLR/IDA	Transcript Link
2012 05 07	NASA Jet Propulsion Laboratory	https://youtu.be/b3EkMlpbJaE	Black-Hole Hunter	NASA's NuSTAR will use its X-ray eyes to scout for hidden black holes in the universe.	Transcript Link
2012 05 01	NASA Jet Propulsion Laboratory	https://youtu.be/aOkpqK4FGjQ	What's Up for May 2012	View sunspots and a solar eclipse through solar-safe 'scopes this month.	Transcript Link
2012 04 25	NASA Jet Propulsion Laboratory	https://youtu.be/Q3qrGPFmG38	Giant Asteroid Vesta's Shape and Gravity	This video from NASA's Dawn mission shows that the gravity field of Vesta closely matches the surface topography of the giant asteroid Vesta.	Transcript Link
2012 04 13	NASA Jet Propulsion Laboratory	https://youtu.be/8-X8acD_r38	Mars in a Minute How Do You Land on Mars	Getting a spacecraft to Mars is one thing; getting it safely to the ground is a whole other challenge! This 60-second video from NASA's Jet Propulsion Laboratory explains three ways to land on the surface of the Red Planet.	Transcript Link

2012 04 10	NASA Jet Propulsion Laboratory	https://youtu.be/-qU0NWI0F5g	Robotic Arm Target Practice	How engineers teach Curiosity to use a robotic arm on Mars.	Transcript Link
2012 04 04	NASA Jet Propulsion Laboratory	https://youtu.be/zb94PxX_q38	Mars' Whirling Dust Devil	Animation of a skinny 'dust devil' on the dust-covered Amazonis Planitia region of northern Mars.	Transcript Link
2012 03 30	NASA Jet Propulsion Laboratory	https://youtu.be/nJSOTMm8wiQ	What's Up April Ice in the Solar System, Saturn Opposition	View Saturn all night this month, and view icy moons through a telescope	Transcript Link
2012 03 29	NASA Jet Propulsion Laboratory	https://youtu.be/T6wlEALQfVk	Robot Rumble!	High school students compete in a robot smackdown. Teams go head to head in a competition to create March madness robot-style!	Transcript Link
2012 03 20	NASA Jet Propulsion Laboratory	https://youtu.be/wyjX0FiKnXU	Storm Chaser on Mars	We're not in Kansas anymore! Video simulation makes a twister seen recently by HiRISE camera on Mars Reconnaissance Orbiter appear even more dramatic.	Transcript Link

2012 03 19	NASA Jet Propulsion Laboratory	https://youtu.be/TR0u1vk6_qs	The Challenges of Getting to Mars The Cruise to Mars	The long journey to Mars through the harsh environment of space confronts the Curiosity navigation team with a long list of challenges to get the spacecraft safely to its destination.	Transcript Link
2012 03 14	NASA Jet Propulsion Laboratory	https://youtu.be/3GnHXaF-sfc	Cassini Spies Wave Rattling Jet Stream on Jupiter	New movies of Jupiter are the first to catch an invisible wave shaking up one of the giant planet's jet streams, an interaction that also takes place in Earth's atmosphere and influences the weather. The movies, made from images taken by NASA's Cassini spacecraft when it flew by Jupiter in 2000, are part of an in-depth study conducted by a team of scientists and amateur astronomers led by Amy Simon-Miller at NASA's Goddard Space Flight Center in Greenbelt, Md., and published in the April 2012 issue of Icarus.	Transcript Link
2012 03 13	NASA Jet Propulsion Laboratory	https://youtu.be/fYnSRkVcDlk	12-21-2012 Just Another Day (Updated version)	NASA scientist explains why the world won't end in 2012.	Transcript Link
2012 03 07	NASA Jet Propulsion Laboratory	https://youtu.be/RaKcPEBiZZw	12-21-2012 Just Another Day	NASA scientist debunks 2012 end of the world doomsday scenarios. **March 13, 2012 Correction: Mayan calendar in this video was mistakenly depicted with an Aztec sun stone. See updated video for the correct image: http://www.youtube.com/watch?v=fYnSRkVcDlk	Transcript Link
2012 03 06	NASA Jet Propulsion Laboratory	https://youtu.be/lbOrlhzUcrk	Cruising with Curiosity Landing Practice	Mars Science Laboratory engineers have a dress rehearsal for Curiosity's landing day on the Red Planet.	Transcript Link

2012 03 02	NASA Jet Propulsion Laboratory	https://youtu.be/DV7NFhhS45A	What's Up March 2012	Not a week goes by this month where there isn't an amazing planetary view. Mars is at Opposition - meaning it's visible all night long and is closest to Earth in its 2-year orbit. Plus, planets paired with the moon for easy Identification.	Transcript Link
2012 02 01	NASA Jet Propulsion Laboratory	https://youtu.be/geWg8mt-Hkg	GRAIL Mission Returns First Video of Moon's Far Side	NASA's GRAIL mission has beamed back its first video of the far side of the moon. The imagery was taken on Jan. 19 by the MoonKAM aboard the mission's "Ebb" spacecraft.	Transcript Link
2012 02 01	NASA Jet Propulsion Laboratory	https://youtu.be/y-t-1z03aMI	What's Up for February 2012	Mars gets closer and two comets delight viewers.	Transcript Link
2012 01 26	NASA Jet Propulsion Laboratory	https://youtu.be/6GUXzC1-zcg	The Martians Launching Curiosity to Mars	Behind the scenes look at launching the Curiosity rover to Mars.	Transcript Link
2012 01 26	NASA Jet Propulsion Laboratory	https://youtu.be/CC2RN8LBHRA	The Challenges of Getting to Mars Launching a Mars Rover	Lift-off of the Mars Science Laboratory Curiosity rover to Mars!	Transcript Link

2012 01 24	NASA Jet Propulsion Laboratory	https://youtu.be/-67q-YcrAeo	Opportunity on Mars 8 years and counting!	NASA's Opportunity rover celebrates its 8th anniversary on Mars just before Martian winter arrives.	Transcript Link
2012 01 24	NASA Jet Propulsion Laboratory	https://youtu.be/PQCH4fVP-3A	Inflatable Planetarium - Creating Stories in the Sky	Learn how to easily build an inexpensive planetarium to introduce students to star patterns and let them create their own constellations. This activity integrates science and language arts, and is great to use at school, with a club or during a family event. Learn more: http://www.jpl.nasa.gov/education/planetarium/	Transcript Link
2012 01 17	NASA Jet Propulsion Laboratory	https://youtu.be/rzXf71aEsMc	Montana 4th Grade Class Names NASA's Lunar Spacecraft Twins	NASA's twin GRAIL spacecraft have new names, thanks to some enthusiastic 4th graders from Bozeman, Montana who reveal the names in dramatic fashion. The two spacecraft were previously known as GRAIL-A and GRAIL-B. The students came up with the name and wrote the winning essay in this nationwide contest. As a prize, they will be the first classroom to target the MoonKAM cameras on board the spacecraft.	Transcript Link
2012 01 13	NASA Jet Propulsion Laboratory	https://youtu.be/MDD9pAkMqR8	Curiosity Tweaks Course to Mars	NASA rover makes first big maneuver en route to August rendezvous with Mars.	Transcript Link
2012 01 01	NASA Jet Propulsion Laboratory	https://youtu.be/qp0GYH9gulY	GRAIL-A Spacecraft Arrives at the Moon	A view from mission control at NASA's Jet Propulsion Laboratory as the GRAIL-A spacecraft was captured into lunar orbit on December 31, 2011. The spacecraft fired its main engine for 39 minutes during the lunar orbit insertion (LOI) maneuver. GRAIL-A's mirror twin, GRAIL-B, will do the exact same maneuver on Jan. 1, 2012. Once their orbits are refined, the two spacecraft will fly in formation around the moon. By measuring minute differences in the distances between the twin spacecraft, scientists will study the moon's gravity and its interior.	Transcript Link

2011 12 30	NASA Jet Propulsion Laboratory	https://youtu.be/xCE3pNqjimE	Explore Space 2011 A Year in Review	A look back at an exciting year of exploration.	Transcript Link
2011 12 29	NASA Jet Propulsion Laboratory	https://youtu.be/udTu2K15Boo	What's Up January 2012 Dusk to Dawn Planets	Venus, Jupiter, Mars and Saturn are on display this month. There's the Quadrantid meteor shower on the 4th plus a telescopic challenge - asteroid Eros.	Transcript Link
2011 12 21	NASA Jet Propulsion Laboratory	https://youtu.be/4r3G4NNixEw	Sleigh Ride Over Mars	Take a virtual sleigh ride over the real landscapes of Mars, courtesy of NASA's Mars Reconnaissance Orbiter.	Transcript Link
2011 12 15	NASA Jet Propulsion Laboratory	https://youtu.be/edbVq5By3Og	2011 JPL Invention Challenge It's a Kick	Kick a ball into a can. Sound easy? Think again. Student inventors and Jet Propulsion Laboratory engineers compete in the 2011 Invention Challenge to see whose robot is best at kicking a football over a barrier and into a can. For more info, visit: http://www.jpl.nasa.gov/news/news.cfm?release=2011-383 For a full list of participants and award winners, please see: http://www.jpl.nasa.gov/events/inventionchallenge/2011/results.cfm	Transcript Link
2011 12 06	NASA Jet Propulsion Laboratory	https://youtu.be/K5BuUwUNEYU	Dark Hill on Asteroid Vesta	This video includes images from NASA's Dawn framing camera instrument. The hill is about 26 miles (42.5 kilometers) long by about 17 miles (28 kilometers) wide, and appears to be sculpted by impact craters.	Transcript Link

2011 12 05	NASA Jet Propulsion Laboratory	https://youtu.be/0VAirwGdpBQ	What's Up for December	What's Up for December: a mission recap and lots of planets to view.	Transcript Link
2011 12 01	NASA Jet Propulsion Laboratory	https://youtu.be/tGpZT8WL2y0	Soar Over Asteroid Vesta in 3-D	Glide over the giant asteroid Vesta with NASA's Dawn spacecraft in a new 3-D video. Best viewed with red-blue glasses, the video incorporates images from Dawn's framing camera from July to August 2011. A 2D version of this video is available at http://www.youtube.com/user/jplnews#p/u/20/SshcJt0QycU Dawn has been orbiting Vesta since July 15, obtaining high-resolution images of its bumpy, cratered surface and making other scientific measurements.	Transcript Link
2011 11 29	NASA Jet Propulsion Laboratory	https://youtu.be/kA887wF_5iI	Re-launching History	A rocket hobbyist builds a WAC Corporal replica to honor aeronautics pioneer Frank Malina.	Transcript Link
2011 11 29	NASA Jet Propulsion Laboratory	https://youtu.be/etu76bAaekM	Curiosity Heads to Mars	The Mars Science Laboratory spacecraft separates from the upper stage of its Atlas V launch vehicle and heads to Mars.	Transcript Link
2011 11 23	NASA Jet Propulsion Laboratory	https://youtu.be/aU_Z-6snF0Q	The Challenges of Getting to Mars Getting a Rover Ready for Launch	Engineers put the rover through thousands of hours of testing. They did drop tests; pull tests; drive tests; load tests, and many other tests to get Curiosity ready for launch.	Transcript Link

2011 11 21	NASA Jet Propulsion Laboratory	https://youtu.be/-nAhag_iFx0	Mars in a Minute How Do You Get to Mars	What does it take to get a spacecraft to Mars? This 60-second video covers a few key things to remember when planning a trip to the Red Planet.	Transcript Link
2011 11 16	NASA Jet Propulsion Laboratory	https://youtu.be/PXb2sXgZ8uM	The Challenges of Getting to Mars Transporting a Mars Rover	A look at getting the Curiosity rover from its birthplace at the Jet Propulsion Laboratory in Pasadena, California, to a cleanroom at the Kennedy Space Center in Florida.	Transcript Link
2011 11 11	NASA Jet Propulsion Laboratory	https://youtu.be/Q7UL8hvlk7k	Mars in a Minute Is Mars Really Red	Mars is often known as the 'Red Planet,' but is it really red? This 60-second video answers one of the most frequently asked questions about our planetary neighbor.	Transcript Link
2011 11 11	NASA Jet Propulsion Laboratory	https://youtu.be/4J93DOx8mHk	Updated Radar Movie of Asteroid 2005 YU55	This 28-frame movie of asteroid 2005 YU55 was generated from data obtained by NASA's Goldstone Solar System Radar on Nov. 7, 2011. In the movie clip, the rotation of the asteroid appears faster than it occurs in nature. 2005 YU55 has a rotation period of about 18 hours.	Transcript Link
2011 11 08	NASA Jet Propulsion Laboratory	https://youtu.be/cIwX0Qeid9o	First Movie of Asteroid 2005 YU55	Using radar data, scientists from NASA's Jet Propulsion Laboratory created this six-frame movie of asteroid 2005 YU55. The data was obtained Nov. 7, 2011 using NASA's Goldstone Solar System Radar (located at the Deep Space Network facility in Goldstone, Ca.) At the time, the space rock was approximately 860,000 miles (1.38 million kilometers) away from Earth. At its closest approach on Nov. 8, 2011, YU55 will be about 200,000 miles from Earth. It poses no threat. Resolution is 4 meters per pixel. The movie is looped 5 times.	Transcript Link

2011 11 04	NASA Jet Propulsion Laboratory	https://youtu.be/ucuegbwT8MU	Asteroid 2005 YU55	An aircraft carrier-sized asteroid will make a safe, close flyby of Earth on Nov. 8, 2011.	Transcript Link
2011 11 04	NASA Jet Propulsion Laboratory	https://youtu.be/J0VOnNvbGto	What's Up Nov Mars Launch & Planet Magnetospheres	Every magnet generates a magnetic field, and several objects in our solar system generate their own magnetic fields. The Sun, Earth, Mercury, Jupiter, Saturn, Uranus, and Neptune all have them. Plus this month learn about the launch of Mars Science Laboratory, the rover named Curiosity. Oh, and when and where to see Jupiter,Mars, Venus and Mercury!	Transcript Link
2011 10 19	NASA Jet Propulsion Laboratory	https://youtu.be/fBtXnug-rgM	Building Curiosity Mars Rover Power	NASA's Curiosity is the biggest robot explorer ever to rove Mars. How do you power something like that?	Transcript Link
2011 10 10	NASA Jet Propulsion Laboratory	https://youtu.be/Vj4e2FyNFIE	Opportunity A Rover's Eye View of Three-Year Trek on Mars	During the three-year trek of NASA's Mars Rover Opportunity from Victoria crater to Endeavour crater, rover planners captured a horizon photograph at the end of each drive. 309 images taken during the 13-mile journey appear in this video.	Transcript Link
2011 10 04	NASA Jet Propulsion Laboratory	https://youtu.be/yf43XKK4c3k	What's Up Oct Moons and Meteors	How many moons can you see this month? Jupiter's moons, our moon, and a few others are on display.	Transcript Link

2011 09 30	NASA Jet Propulsion Laboratory	https://youtu.be/GFH2EXO_wrA	WISE Finds Fewer Asteroids	New observations by NASA's Wide-field Infrared Survey Explorer, or WISE, show there are significantly fewer near-Earth asteroids in the mid-size range than previously thought.	Transcript Link
2011 09 16	NASA Jet Propulsion Laboratory	https://youtu.be/SshcJt0QycU	NASA'S Journey Above Vesta	New views of the second most massive object in the asteroid belt.	Transcript Link
2011 09 15	NASA Jet Propulsion Laboratory	https://youtu.be/Sm91FSiYhVU	Mars Technology Finds Earth's Hidden Water	How do you find water in the driest places on Earth? Scientists look to Mars for answers.	Transcript Link
2011 09 01	NASA Jet Propulsion Laboratory	https://youtu.be/OO6GflxS6Io	What's Up Sept The moon and GRAIL launch	Enjoy a tour of lunar landing sites as the NASA's Grail Mission launches to the moon this month.	Transcript Link
2011 08 25	NASA Jet Propulsion Laboratory	https://youtu.be/_hknIsPNsl8	NASA's Moon-Bound GRAIL Mission	NASA's GRAIL precision flyers will determine the lunar structure from crust to core.	Transcript Link

2011 08 10	NASA Jet Propulsion Laboratory	https://youtu.be/ZixfG0mrRR0	Curiosity Rover Trailer	This animation shows key events of NASA's Mars Science Laboratory mission Curiosity rover, which will launch in late 2011 and land on Mars in August 2012.	Transcript Link
2011 08 04	NASA Jet Propulsion Laboratory	https://youtu.be/UfBaM2F6Qzk	Possible Water Flows on Mars	Could there be flowing water on Mars? Mysterious features on slopes hint there could be water flows on Mars.	Transcript Link
2011 08 01	NASA Jet Propulsion Laboratory	https://youtu.be/edeI89vNfPc	What's Up August Windy planets, Juno Launch	What's up for August? Planets with atmospheres! Venus has thick clouds, Mars has dust devils, and the outer planets have fierce winds. Why not have a look at Jupiter rising near midnight this month? The Juno Mission to Jupiter launches this month, too.	Transcript Link
2011 08 01	NASA Jet Propulsion Laboratory	https://youtu.be/KKw8E1kqZoM	'As the Asteroid Turns'	See asteroid Vesta spin before your very eyes. In this movie, strung together from a series of images provided by the framing camera on NASA's Dawn spacecraft, we see a full rotation of Vesta, which occurs over the course of roughly five hours. These images were obtained on July 24, 2011, from a distance of about 3,200 miles (5,200 kilometers). The Dawn mission to Vesta and Ceres is managed by NASA's Jet Propulsion Laboratory, Pasadena, Calif., for NASA's Science Mission Directorate, Washington, D.C.	Transcript Link
2011 07 28	NASA Jet Propulsion Laboratory	https://youtu.be/r2a42x2DDYk	Unlocking Jupiter's Mysteries	Overview of NASA's Juno mission to Jupiter. The launch window opens at 8:34 a.m. PDT (11:34 a.m. EDT) on Friday, Aug. 5, 2011. The spacecraft will arrive at Jupiter in 2016 to investigate the gas giant's interior, atmosphere and aurora. Juno's color camera will provide close-up images of Jupiter, including the first detailed glimpse of the planet's poles.	Transcript Link

2011 07 27	NASA Jet Propulsion Laboratory	https://youtu.be/R4lF5Wzl0ek	Building Curiosity Rover at Kennedy Space Center	All the pieces are in place for the NASA Curiosity rover's upcoming launch to Mars.	Transcript Link
2011 07 22	NASA Jet Propulsion Laboratory	https://youtu.be/qrxvbRA2xCI	Mars Science Laboratory Landing Site Gale crater	Soar over the crater on Mars that will be the landing site for NASA's Curiosity rover.	Transcript Link
2011 07 19	NASA Jet Propulsion Laboratory	https://youtu.be/UrrF1UhPi_k	Spirit's Photo Diary	Some of Spirit's most memorable snapshots from Mars. These views are just a small sampling from the 124,000 images returned by the Mars Exploration Rover.	Transcript Link
2011 07 05	NASA Jet Propulsion Laboratory	https://youtu.be/MqCceKLXMao	What's Up for July Asteroids!	This month you can learn about asteroids, and see Vesta, as the Dawn spacecraft closes in.	Transcript Link
2011 06 24	NASA Jet Propulsion Laboratory	https://youtu.be/P4boyXQuUIw	Mars Science Laboratory Curiosity Rover Animation	This 11-minute animation depicts key events of NASA's Mars Science Laboratory mission, which will launch in late 2011 and land a rover, Curiosity, on Mars in August 2012. A shorter 4-minute version of this animation, with narration, is also available on our youtube page.	Transcript Link

2011 06 24	NASA Jet Propulsion Laboratory	https://youtu.be/MIpFgump7so	Next Mars Rover in Action-Animation	A narrated play-by-play of Curiosity's entry, descent, and landing on Mars! A longer 11-minute non-narrated version of this animation is also available on this YouTube channel.	Transcript Link
2011 06 23	NASA Jet Propulsion Laboratory	https://youtu.be/oUwPKRkB0_s	Building Curiosity The Big Move	How do you move NASA's next Mars rover from one coast to the other?	Transcript Link
2011 06 22	NASA Jet Propulsion Laboratory	https://youtu.be/reK2wZ6_ArM	Building Curiosity Packing for Florida	A last look at NASA's Curiosity rover as it gets packed up for the trip to Florida. Time-lapse movie of the NASA Mars Curiosity rover's last days in the clean room before being shipped to Florida for launch.	Transcript Link
2011 06 14	NASA Jet Propulsion Laboratory	https://youtu.be/c6wsAo4-73s	Aquarius Update Lift-off!	NASA's Aquarius begins its mission to study the salt in Earth's ocean.	Transcript Link
2011 06 06	NASA Jet Propulsion Laboratory	https://youtu.be/KoBTMV7NJDs	Imagine Mars Project Student Music Video	Chicago inner-city students compose a rap about the Red Planet after designing computer models of a future human outpost on Mars. The track is called "Bye Bye Earth," by student artists Chi-Town Royalty and the Media Wizards. They were inspired by a teacher and NASA/JPL outreach. For more information on the Imagine Mars project, click here: http://imaginemars.jpl.nasa.gov/ Video acknowledgements: http://imaginemars.jpl.nasa.gov/leaders/project_examples/Green_Tech_acknowledgements.pdf	Transcript Link

2011 06 06	NASA Jet Propulsion Laboratory	https://youtu.be/xNhjPn8h5uY	Imagine Mars Overview	Students Get Inspired About Mars! The Imagine Mars Project gives students a chance to work with scientists and engineers to build and design a future human community on Mars.	Transcript Link
2011 06 01	NASA Jet Propulsion Laboratory	https://youtu.be/oJtib5X81WE	What's Up June Collisions & Craters	http://solarsystem.nasa.gov/yss/index.cfm http://www.nasa.gov/ The early solar system was a messy place and asteroids, moons and planets frequently collided.	Transcript Link
2011 05 27	NASA Jet Propulsion Laboratory	https://youtu.be/SwxVgCGmOjQ	Spirit's Triumphs on Mars	Reflections on Spirit's Journey	Transcript Link
2011 05 27	NASA Jet Propulsion Laboratory	https://youtu.be/wC3bIX8PCnY	Aquarius Update Aquarius Secured to Rocket	NASA's Aquarius is secured to a rocket in preparation for launch.	Transcript Link
2011 05 19	NASA Jet Propulsion Laboratory	https://youtu.be/KGzlfCjk4tI	AquariusUpdate Solar Panels Attached	Engineers attach and test solar panels to the Aquarius/SAC-D spacecraft, as it's readied for launch.	Transcript Link

2011 05 19	NASA Jet Propulsion Laboratory	https://youtu.be/vvuIUaC-A3Q	The Challenges of Getting to Mars Selecting a Landing Site	Scientists get closer to selecting a landing site for the Curiosity rover.	Transcript Link
2011 05 17	NASA Jet Propulsion Laboratory	https://youtu.be/OmAI6_fbPhg	Aquarius Studying the Salt of the Sea	One of the keys to understanding climate change may be found in the salt of the sea. NASA's salt-seeking Aquarius ascends to the heavens this June. Find out how it can help answer questions about climate change. More info: http://1.usa.gov/lSL8Pz	Transcript Link
2011 05 17	NASA Jet Propulsion Laboratory	https://youtu.be/02-c1b9ffzI	JPL Up to the Minute	2011 is a busy year! JPL is preparing to launch four NASA missions: ocean-sensing Aquarius, Jupiter-bound Juno, the Gravity Recovery and Interior Laboratory (GRAIL) twin moon orbiters and the Mars Science Laboratory rover, Curiosity. Get a first look at these new projects, plus the latest science from some of our other missions. This video was originally produced for JPL Open House held May 14-15, 2011.	Transcript Link
2011 05 10	NASA Jet Propulsion Laboratory	https://youtu.be/S2zkw7LqrPQ	Building Curiosity Going For A Spin	Engineers put the rover through spin tests to ensure smooth sailing in space.	Transcript Link
2011 05 09	NASA Jet Propulsion Laboratory	https://youtu.be/nNhdFfP64jA	Aquarius Mission Update	First of a series leading up to the launch of the Aquarius mission to study ocean surface, which plays a key role in climate change.	Transcript Link

2011 05 02	NASA Jet Propulsion Laboratory	https://youtu.be/_dG3v_gMi3w	What's Up May Dawn planets & the moon!	All month long watch four planets and the moon gather just before sunrise. And don't forget Saturn, the solitary evening planet.	Transcript Link
2011 04 28	NASA Jet Propulsion Laboratory	https://youtu.be/nje5VEauHqQ	Voyage of Discovery	These animations show NASA's Voyager spacecraft encounters with Jupiter, Saturn, Uranus and Neptune. The mission continues... Destination: Interstellar space	Transcript Link
2011 04 28	NASA Jet Propulsion Laboratory	https://youtu.be/UVP2tLl0fDU	Voyager Spacecraft Humanity's Farthest Journey	Where no spacecraft has gone before. After 33 years, NASA's twin Voyager spacecraft are still going strong and still sending home information. This video features highlights of the Voyager journeys to the outer planets, and looks at their current status, at the edge of our solar system, poised to cross over into interstellar space.	Transcript Link
2011 04 05	NASA Jet Propulsion Laboratory	https://youtu.be/BudlaGh1A0o	Mars Science Laboratory (Curiosity Rover) Mission Animation	This artist's concept animation depicts key events of NASA's Mars Science Laboratory mission, which will launch in late 2011 and land a rover, Curiosity, on Mars in August 2012.	Transcript Link
2011 04 01	NASA Jet Propulsion Laboratory	https://youtu.be/pBUkTMk-Icw	What's Up for April 2011 Saturn!	Saturn shines all night long, rising in the east at sunset and setting in the west at dawn.	Transcript Link

2011 03 31	NASA Jet Propulsion Laboratory	https://youtu.be/sLK9LY1XAv0	NASA Space Images 3-D	Get out your red-cyan glasses and travel with NASA spacecraft. See everything from solar flares to rover tracks on Mars... in 3-D. Images in order of appearance are from the following: Mars Pathfinder, Phoenix Mars Lander, Spirt and Opportunity Rovers, the HiRISE camera on Mars Reconnaissance Orbiter, Deep Space Network antennae, STEREO mission to the sun and Voyager.	Transcript Link
2011 03 30	NASA Jet Propulsion Laboratory	https://youtu.be/N7ibTj_wkkU	Building Curiosity Mars Rover Goes From Shake to Bake	First shake then bake -- NASA's recipe to prepare the next Mars rover for space and the Red Planet.	Transcript Link
2011 03 24	NASA Jet Propulsion Laboratory	https://youtu.be/SqR5LKv6tKQ	Virtual Vesta	This video shows the scientists' best guess to date of what the surface of the protoplanet Vesta might look like.	Transcript Link
2011 03 18	NASA Jet Propulsion Laboratory	https://youtu.be/G019Jci0abs	Curiosity Update Curiosity's Stunt Double Takes a Spin	Engineers test Curiosity's hill-climbing capabilities using her Earthbound twin .	Transcript Link
2011 03 02	NASA Jet Propulsion Laboratory	https://youtu.be/wMXWlb23jfY	Building Curiosity Rover Shakedown	Engineers put the rover through a human-made earthquake to make sure nothing breaks during launch and its long trip to Mars.	Transcript Link

2011 03 01	NASA Jet Propulsion Laboratory	https://youtu.be/oRYPETV0CB8	What's Up for March Sun-Earth Day + Mercury	Celebrate Sun-Earth day on the 19th, and view the sun through solar safe telescopes. And learn about the Messenger spacecraft and when to view Mercury	Transcript Link
2011 02 17	NASA Jet Propulsion Laboratory	https://youtu.be/M3tq-RoOsMc	First impressions of Stardust-NExT flyby of comet Tempel 1	Scientists reveal sights and sounds of comet Tempel 1 flyby.	Transcript Link
2011 02 05	NASA Jet Propulsion Laboratory	https://youtu.be/cvOkKkARoMM	Date with a Comet	All about NASA's Stardust NExT mission, its goals and the Feb. 14 flyby of comet Tempel 1.	Transcript Link
2011 02 01	NASA Jet Propulsion Laboratory	https://youtu.be/_x1AoHYxWts	What's Up February Moon & Planet Pairs	This month see Jupiter at sunset, Saturn at midnight, pretty moon and planet couples in-between. Plus find a comet, and an asteroid in your telescope. Also features the Valentines day flyby of comet Temple 1 by the Stardust NExT spacecraft.	Transcript Link
2011 01 25	NASA Jet Propulsion Laboratory	https://youtu.be/xIifv3i1z2g	Opportunity's Traverse on Mars January 2004-January 2011	In this video map, trace the path that NASA's Mars Exploration Rover Opportunity has taken in her seven years on Mars.	Transcript Link

2011 01 24	NASA Jet Propulsion Laboratory	https://youtu.be/xQf8At-PIcU	Magnificent Seven on Mars Opportunity	NASA's Opportunity celebrates its 7th birthday at Santa Maria Crater.	Transcript Link
2011 01 21	NASA Jet Propulsion Laboratory	https://youtu.be/cwqwd6aBAz0	Building Curiosity Curiosity Goes Head Over Wheels	After two months "belly up" for internal work, the Curiosity rover is flipped right side up in this time-lapse movie.	Transcript Link
2011 01 19	NASA Jet Propulsion Laboratory	https://youtu.be/YasCQRAWRwU	Building Curiosity Landing System Drop Test	Engineers test the first-of-its-kind landing system on NASA's next Mars rover, Curiosity.	Transcript Link
2011 01 12	NASA Jet Propulsion Laboratory	https://youtu.be/Cp2Gci5-lco	NASA Radar Reveals Features on Asteroid	NASA's Goldstone Solar System Radar, located near Barstow, California, captured the rotation of asteroid 2010 JL33 -- an irregular, elongated object roughly 1.8 kilometers (1.1) miles wide. The radar observations were made December 11-12, 2010, as the asteroid safely passed Earth at a distance of 8.5 million km (5.3 million miles) . The video consists of 36 individual frames.	Transcript Link
2010 12 28	NASA Jet Propulsion Laboratory	https://youtu.be/HvIHDwYSwIk	What's Up for January 2011	Shooting star fireworks ring in the new year!	Transcript Link

2010 12 24	NASA Jet Propulsion Laboratory	https://youtu.be/U7s2eSF67pU	2010 A Year in Pictures from NASAJPL	Lightning on Saturn and rovers on Mars, infrared sky scans and new baby stars. Closeups of comets, a robot that swings. These are a few of our "favorite things" that appear in this 2010 retrospective video from NASAJPL.	Transcript Link
2010 12 22	NASA Jet Propulsion Laboratory	https://youtu.be/VIksHVxEH2c	I'm Dreaming of a Blue Sunset--on Mars	This Martian sunset, captured by NASA's Mars Exploration Rover Opportunity on Nov. 4 and 5, 2010, appears bluish. The panoramic camera movie combines exposures taken through different camera filters and accelerates about 17 minutes of sunset into a 30-second simulation. This clip is the longest sunset movie from Mars ever produced, taking advantage of adequate solar energy currently available to Opportunity.	Transcript Link
2010 12 22	NASA Jet Propulsion Laboratory	https://youtu.be/ViiriVhIhjE	Mars Moon Phobos Eclipse	The silhouette of the Martian moon Phobos is seen as the moon passes in front of the sun, in imagery captured Nov. 9, 2010, by NASA's Mars rover Opportunity. The rover's panoramic camera took exposures four seconds apart that were combined into this 30-second eclipse movie.	Transcript Link
2010 12 15	NASA Jet Propulsion Laboratory	https://youtu.be/dMzX3odi1K8	Mars Odyssey Earns Longevity Badge		Transcript Link
2010 12 14	NASA Jet Propulsion Laboratory	https://youtu.be/a_t-1VrKBKg	Cold Case Possible Ice Volcano on Titan	Cassini scientists have done their detective work and may have cracked the case of the ice volcano on Titan.	Transcript Link

2010 12 02	NASA Jet Propulsion Laboratory	https://youtu.be/wRkCyflxPpE	What's Up for Dec. 2010 Lunar Eclipse	A lunar eclipse and a planetary trio grace the morning sky in December.	Transcript Link
2010 11 24	NASA Jet Propulsion Laboratory	https://youtu.be/6s6al8U4Mu0	Building Curiosity Getting Wired for Mars	Engineers test new software for NASA's Mars Curiosity mission.	Transcript Link
2010 11 19	NASA Jet Propulsion Laboratory	https://youtu.be/_4EE_6p62yI	EPOXI Mission to Hartley 2	Information about NASA's EPOXI mission, which flew by comet Hartley 2 on Nov. 4, 2010	Transcript Link
2010 11 19	NASA Jet Propulsion Laboratory	https://youtu.be/5p3fm_NuEuc	Cosmic Comet Snow Storm	NASA's EPOXI mission spacecraft spots a cometary snow storm with basketball-sized, fluffy ice particles at comet Hartley 2.	Transcript Link
2010 11 05	NASA Jet Propulsion Laboratory	https://youtu.be/dN7d21FecOA	NASA Epoxi Mission Successfully Flies by Comet Hartley 2	Applause erupted in EPOXI Mission Control at JPL after the spacecraft transmitted close-up images of comet Hartley 2. Read more about the EPOXI mission's flyby of comet Hartley 2: http://www.jpl.nasa.gov/news/news.cfm?release=2010-371 Read some of the initial science findings from the comet encounter: http://www.jpl.nasa.gov/news/news.cfm?release=2010-373	Transcript Link

2010 10 29	NASA Jet Propulsion Laboratory	https://youtu.be/ZgtrPsXXqmg	What's Up Nov 2010 Meteors!	Catch two meteor showers in November while you're out spotting the gas giants. And don't miss the opening act from Venus in the morning hours.	Transcript Link
2010 10 26	NASA Jet Propulsion Laboratory	https://youtu.be/7tm5p96ag7Q	Comets Remnants of the Beginning	Cool leftovers! Comets are the leftover building blocks of solar system formation. NASA's Epoxi mission will fly by a comet to learn how our solar system may have gotten its start..	Transcript Link
2010 10 04	NASA Jet Propulsion Laboratory	https://youtu.be/w3W57ouRsB4	Asteroid and Comet Census from WISE		Transcript Link
2010 10 01	NASA Jet Propulsion Laboratory	https://youtu.be/Pej2wXeiVUc	What's Up October 2010 Solar System	October 2010 kicks off the Year of the Solar system, celebrating NASA mission discoveries. See the solar system this month, and make a scale model for yourself.	Transcript Link
2010 09 23	NASA Jet Propulsion Laboratory	https://youtu.be/BC441bV1wFc	Building Curiosity Rover Rocks Rocker-Bogie	NASA engineers run the Curiosity rover through an obstacle course.	Transcript Link

2010 09 04	NASA Jet Propulsion Laboratory	https://youtu.be/XJk9dlk-Gzk	Building Curiosity Teaching Hand-Eye Coordination	Teaching a rover new tricks. This week's lesson: hand-eye coordination.	Transcript Link
2010 09 02	NASA Jet Propulsion Laboratory	https://youtu.be/wq0XfghpHH0	What's Up September 2010 The moon!	Get ready for International Observe the Moon Night on September 18.	Transcript Link
2010 08 20	NASA Jet Propulsion Laboratory	https://youtu.be/e1noAqa_Ukc	Building Curiosity Robotic Arm Attached	The latest report from the clean room where Curiosity (Mars Science Laboratory) is being built. This week, the robotic arm was attached to the rover.	Transcript Link
2010 08 03	NASA Jet Propulsion Laboratory	https://youtu.be/GxBc4dA37So	What's Up for August 2010 Perseids!	This month catch the Perseid Meteor Shower.	Transcript Link
2010 07 30	NASA Jet Propulsion Laboratory	https://youtu.be/vwFrCpYavt4	ATHLETE Rover Busts a Move A Dancing Robot	So you think you can dance? The ATHLETE rover thinks it can, too. Under development at NASA's Jet Propulsion Laboratory, ATHLETE is a 1/2-scale working prototype of a robot for potential use on the moon or Mars. More info and pics of ATHLETE at work at: http://athlete.jpl.nasa.gov/	Transcript Link

2010 07 25	NASA Jet Propulsion Laboratory	https://youtu.be/hO-jGItiXgU	Mars Curiosity Takes First Baby Steps	Mission team members gathered in a gallery above a clean room at NASA's Jet Propulsion Laboratory to watch the Mars Curiosity rover drive for the first time.	Transcript Link
2010 07 24	NASA Jet Propulsion Laboratory	https://youtu.be/yGklQmFd2_M	Mars Curiosity Rover - First Test Drive	Captured from live broadcast on 07/23/10. The Mars Curiosity Rover (aka Mars Science Laboratory) takes a first short drive in the JPL clean room where it is being built. Cheers and commentary provided by mission team members who watched the event from a viewing gallery above the clean room floor. In this clip the rover drives backward for the first time.	Transcript Link
2010 07 23	NASA Jet Propulsion Laboratory	https://youtu.be/7q47nuOI0vU	Mini Soccer Balls in Space	Astronomers have discovered "buckyballs," soccer-ball-shaped molecules in space.	Transcript Link
2010 07 15	NASA Jet Propulsion Laboratory	https://youtu.be/lX535Ynf3Y4	The Usual Suspects	A scientist goes to Death Valley to unravel the mysteries of a lake on Titan.	Transcript Link
2010 07 15	NASA Jet Propulsion Laboratory	https://youtu.be/kK4n5l7bHSw	See Beautiful Ontario Lacus	NASA's Cassini spacecraft takes us on a guided tour of this mysterious lake on Titan.	Transcript Link

2010 07 14	NASA Jet Propulsion Laboratory	https://youtu.be/GY_7d55vJko	Building Curiosity - Hot New Rover Wheels	An update on the construction of NASA's next rover to Mars, Curiosity. In this segment, Curiosity gets wheels!	Transcript Link
2010 06 30	NASA Jet Propulsion Laboratory	https://youtu.be/W8H6cxqh3a4	What's Up for July Dark Nebulae	This month look for dark interstellar clouds blocking patches of Milky Way stars.	Transcript Link
2010 06 22	NASA Jet Propulsion Laboratory	https://youtu.be/94AdUhdyvNk	Martians Series Life at 79 Degrees North	The Martians video series chronicles people in and outside the Mars missions. This episode follows a team of scientists and engineers as they visit the Bockfjorden area of the Norwegian island of Svalbard, at 79 degrees north. The team is at the foot of a volcano called Sverrefjell, which serves as a terrestrial analog for Mars. This site is ideal for testing rovers and instruments being developed for Mars.	Transcript Link
2010 06 09	NASA Jet Propulsion Laboratory	https://youtu.be/UjNMwqMnNK0	What's Up June - A Planetary Necklace	This month you can view a planetary necklace spanning the sky from dusk to dawn.	Transcript Link
2010 05 27	NASA Jet Propulsion Laboratory	https://youtu.be/J6TceTZq1L0	Martian Series Curiosity Parachute Test Part 4	Segment of the Be A Martian video series, which chronicles people in and outside the Mars' missions. This 4-part story shows engineers testing a new parachute in the largest wind tunnel on Earth for the Curiosity rover (also known as Mars Science Laboratory), scheduled to launch to Mars in Fall of 2011.	Transcript Link

2010 05 27	NASA Jet Propulsion Laboratory	https://youtu.be/-NJamPhtRjA	Martian Series Testing Curiosity's Parachute Part 3	Segment of the Be A Martian video series, which chronicles people in and outside the Mars' missions. This 4-part story shows engineers testing a new parachute in the largest wind tunnel on Earth for the Curiosity rover (also known as Mars Science Laboratory), scheduled to launch to Mars in Fall of 2011	Transcript Link
2010 05 27	NASA Jet Propulsion Laboratory	https://youtu.be/JRRcbZlofOk	Martian Series Testing Curiosity's Parachute Part 2	Segment of the Be A Martian video series, which chronicles people in and outside the Mars' missions. This 4-part story shows engineers testing a new parachute in the largest wind tunnel on Earth for the Curiosity rover (also known as Mars Science Laboratory), scheduled to launch to Mars in Fall of 2011	Transcript Link
2010 05 27	NASA Jet Propulsion Laboratory	https://youtu.be/O7vf2HUMMdo	Martian Series Testing Curiosity's Parachute Part 1	Segment of the Be A Martian video series, which chronicles people in and outside the Mars' missions. This 4-part story shows engineers testing a new parachute in the largest wind tunnel on Earth for the Curiosity rover (also known as Mars Science Laboratory), scheduled to launch to Mars in Fall of 2011	Transcript Link
2010 05 25	NASA Jet Propulsion Laboratory	https://youtu.be/D0Al-WSBCyw	Space Rock Census	Principal investigator Amy Mainzer describes the ongoing tally of space rocks and comets amassed by NASA's Wide-field Infrared Survey Explorer, or WISE.	Transcript Link
2010 05 10	NASA Jet Propulsion Laboratory	https://youtu.be/1YrrYZe9zyE	What's Up for May	The earliest star catalogs are over six thousand years old, but the stories are even older.	Transcript Link

2010 04 20	NASA Jet Propulsion Laboratory	https://youtu.be/tw9niHHBxyk	For Earth Day 2010	Images of our Earth from the International Space Station and NASA's Space Shuttles and Earth observing satellites.	Transcript Link
2010 04 14	NASA Jet Propulsion Laboratory	https://youtu.be/Nt7uyRWc0pQ	Saturn's Flashdance of Lightning	Cassini scientists waited years for the right conditions to produce the first movie that shows lightning on another planet -- Saturn.	Transcript Link
2010 04 06	NASA Jet Propulsion Laboratory	https://youtu.be/TfMiKZi0ba4	What's Up for April Space Station	Have you ever seen the Space Station pass overhead? It's easy if you know when and where to look.	Transcript Link
2010 04 06	NASA Jet Propulsion Laboratory	https://youtu.be/uvlgcjJzbLE	Robotics for Kids	NASA/JPL education specialist Ota Lutz offers tips to parents and students.	Transcript Link

2010 03 17	NASA Jet Propulsion Laboratory	https://youtu.be/gi3mqV8L5r8	Feisty Little Shrimp in the Antarctic	[Silent] JPL researcher Alberto Behar captured this video of a pinkish-orange creature, known as a Lyssianasid amphipod, swimming beneath the ice of the West Antarctic ice sheet during a joint NASA-National Science Foundation expedition November 2009. The unexpected discovery occurred after Behar and fellow researchers submerged the camera, which Behar designed, down an 8-inch-diameter hole in the ice sheet to obtain what are believed to be the first images of the underbelly of an ice shelf. The camera view is from below looking up. At a depth of 600 feet beneath the West Antarctic ice sheet, the small shrimp-like creature managed to brighten up an otherwise gray polar day. This 3-inch critter was found beneath the Ross Ice Shelf, about 12.5 miles away from open water. Credit: NASA	Transcript Link
2010 03 05	NASA Jet Propulsion Laboratory	https://youtu.be/YX7qbHOXxOA	Titan Canyon Country	New analysis of Cassini data indicates Saturn's moon Titan has more in common with Earth than we thought.	Transcript Link
2010 03 04	NASA Jet Propulsion Laboratory	https://youtu.be/1dIe5_SvToE	What's Up for March Saturn & asteroid 21 Lutetia	The study of asteroids helps us understand more about early Solar System history. You can see a faint asteroid this month, and a bright planet - Saturn!	Transcript Link
2010 02 17	NASA Jet Propulsion Laboratory	https://youtu.be/eS3OPTZyf-Q	First Medley of WISE Pictures	Treat yourself to some of the first images from NASA's recently launched Wide-field Infrared Survey Explorer space telescope. NASA's WISE showcases brand new images, including a wispy comet and the grand Andromeda galaxy.	Transcript Link

2010 02 05	NASA Jet Propulsion Laboratory	https://youtu.be/x5lY_1MM1HY	Spirit's Last Moves Before Winter	Recent drives by the Spirit rover from Jan. 14 to Feb. 4, 2010 (Sols 2145 to 2165) moved the center of the rover approximately 13.4 inches (34 centimeters) backwards. Since Jan 26 (sol 2157), drive commands have concentrated on placing Spirit into a favorable tilt toward the sun as the Martian winter approaches.	Transcript Link
2010 02 05	NASA Jet Propulsion Laboratory	https://youtu.be/ZTHB9oCMO4s	What's Up for February	This month we celebrate the 400th anniversary of Galileo's first telescopic view of Jupiter and its 4 largest moons.	Transcript Link
2010 01 26	NASA Jet Propulsion Laboratory	https://youtu.be/oIL0lauhfd8	Spirit - Six Years of Roving Mars	After six years on the move, NASA's Mars Exploration Rover Spirit prepares for a new phase of science.	Transcript Link
2010 01 26	NASA Jet Propulsion Laboratory	https://youtu.be/t7dYTuVz2tQ	Spirit of Mars	Six years of exploration through the 'eyes' of the Mars Exploration Rover Spirit	Transcript Link
2010 01 22	NASA Jet Propulsion Laboratory	https://youtu.be/YcXelcgGMIY	Opportunity Making Tracks on Mars	Six years after landing on Mars, our rover Opportunity keeps trekking along. Her most recent find -- a basketball-sized rock -- may harbor clues about the planet's interior.	Transcript Link

2010 01 14	NASA Jet Propulsion Laboratory	https://youtu.be/Ohagd6X1PMk	What's Up for January 2010	This month, Mars grows closer, bigger and brighter as it reaches opposition to the Sun on Jan. 29th Look for the red planet rising in the east after sunset. Its the brightest object in the eastern sky!	Transcript Link
2010 01 06	NASA Jet Propulsion Laboratory	https://youtu.be/nPKyhRE5rA	Cassini's Roadmap to Saturn An Evening with the Scientists (Lecture)	On Oct. 21, 2009, the Griffith Observatory in Los Angeles, Calif., hosted a lecture on the latest science from the Cassini mission to Saturn. The event was hosted by Griffith Curator, Laura Danly and the featured speakers were Cassini scientists, Kevin Baines (JPL), Linda Spilker (JPL), Tamas Gombosi (Univ. of Michigan), Amanda Hendrix (JPL), Jonathan Lunine (Univ. of Arizona)	Transcript Link
2010 01 04	NASA Jet Propulsion Laboratory	https://youtu.be/ylPN-wCkWIc	2009 JPL Invention Challenge - Crescenta Valley High Team	Once a year, JPL invites local schools to compete in its Invention Challenge. The 2009 challenge was to build the most efficient cardboard or paper bridge capable of carrying several pounds of bricks. Teams from Crescenta Valley High in La Crescenta, California, captured first, second and third place honors.	Transcript Link
2009 12 31	NASA Jet Propulsion Laboratory	https://youtu.be/Se5fZZtXG4w	Six Years on Mars!	On their sixth anniversary of landing on Mars, one of two scrappy rovers faces an uncertain future.	Transcript Link
2009 12 24	NASA Jet Propulsion Laboratory	https://youtu.be/hkJo9yb1byk	Saturn Moon Ballet	A new spin on the Nutcracker Suite, featuring the moons of Saturn. The movie clips are a compilation of some 61 images taken by NASA's Cassini spacecraft.	Transcript Link

2009 12 03	NASA Jet Propulsion Laboratory	https://youtu.be/qRXiVgdsh2s	What's Up for Dec. 2009 Orion Nebula	The final month of the International Year of Astronomy wraps up with an exploration of one of the most recognizable constellations: Orion.	Transcript Link
2009 12 03	NASA Jet Propulsion Laboratory	https://youtu.be/hkGq9lN4-n4	Saturn's Aurora in a New Light	Saturn has flickering 'northern lights' just like we do on Earth. Cassini scientists have a visible-light movie of the aurora for the first time ever!	Transcript Link
2009 11 19	NASA Jet Propulsion Laboratory	https://youtu.be/v0mFxug3_iA	WISE and the Celestial Treasure Hunt	NASA's Wide-field Infrared Survey Explorer will provide a map to the universe's hidden treasures. The infrared telescope will uncover hidden cosmic creatures, including the coolest stars, dark asteroids and the most luminous galaxies.	Transcript Link
2009 11 13	NASA Jet Propulsion Laboratory	https://youtu.be/UXR__mc_fU0	Free Spirit Plotting an Escape	NASA's long running Mars rover Spirit will begin critical drives for escaping a sand trap.	Transcript Link
2009 11 11	NASA Jet Propulsion Laboratory	https://youtu.be/5_T7FTIFyAA	2012 A Scientific Reality Check	JPL scientist Don Yeomans provides the 411 on 2012 -- The manager of NASA's Near Earth Object office presents the scientific realities of the celestial happenings in the year 2012. For more information go to the Near Earth Object page at http://neo.jpl.nasa.gov or the Asteroid Watch page at http://www.jpl.nasa.gov/asteroidwatch	Transcript Link

2009 11 06	NASA Jet Propulsion Laboratory	https://youtu.be/DSRP2XoLgxk	What's Up For Nov. 2009 Crab Nebula	This month you can see the remains of a stellar explosion visible in 1054 - the Crab Nebula. And the Leonid meteor shower is on the 17th	Transcript Link
2009 10 17	NASA Jet Propulsion Laboratory	https://youtu.be/mWLN_m332uw	What's Up for Oct. 2009 Andromeda Galaxy	This month you can see the Andromeda Galaxy, the Milky Way and Jupiter. And for Halloween a late night treat, Mars!	Transcript Link
2009 09 25	NASA Jet Propulsion Laboratory	https://youtu.be/DaMIVSXIwl8	Mars Exposed - Icy Revelations from the Red Planet	How meteorites uncovered a Martian secret. NASA's Mars Reconnaissance Orbiter has revealed frozen water hiding just below the surface of mid-latitude Mars.	Transcript Link
2009 09 24	NASA Jet Propulsion Laboratory	https://youtu.be/NSsJSVEBpEM	NASA JPL Video Elements - Mars Icy Craters	Visuals and interview excerpts on new findings about frozen water hiding just below the surface of mid-latitude Mars. The findings were made by NASA's Mars Reconnaissance Orbiter. Interview excerpts from deputy project scientist,Sue Smrekar and planetary scientist, Shane Byrne.	Transcript Link
2009 09 24	NASA Jet Propulsion Laboratory	https://youtu.be/t2-Tk7XEscQ	NASA JPL Video elements - Moon Water	NASA JPL video file containing isolated video and soundbites on the discovery of water molecules in the polar regions of the moon.	Transcript Link

2009 09 22	NASA Jet Propulsion Laboratory	https://youtu.be/jXkxfJtz1NY	Equinox at Saturn	After a 15-year wait, equinox arrived at Saturn and Cassini was there to witness the spectacle of light and shadow.	Transcript Link
2009 09 09	NASA Jet Propulsion Laboratory	https://youtu.be/2mA6ow2Xvew	What's Up for Sept. 2009 Jupiter	This month we're showcasing the planet Jupiter, and the icy body which hit the planet in July. We'll be telling you about the Juno mission to Jupiter, too..	Transcript Link
2009 08 28	NASA Jet Propulsion Laboratory	https://youtu.be/xv6RUs4AW00	Free Spirit Update August 27, 2009	A Second Rover Rolls in Test Area. JPL engineers are using a second, lighter rover to test maneuvers to Free Spirit.	Transcript Link
2009 08 11	NASA Jet Propulsion Laboratory	https://youtu.be/z2CnH_0V5_I	How to Build a Planet	JPL Spitzer Space Telescope astronomer explains a colorful animation of two planets colliding and spewing lava and vaporized rock.	Transcript Link
2009 08 06	NASA Jet Propulsion Laboratory	https://youtu.be/bwY7SLrtUrQ	What's Up for Aug. 2009 Meteors!	The Perseid meteor shower will dazzle in the early morning hours of Aug. 13. Plus, a popular planet shows up in the night sky.	Transcript Link

2009 07 29	NASA Jet Propulsion Laboratory	https://youtu.be/pDBikAs4H1I	I am NASA - Engineer Rocker	Contrary to popular belief, not all NASA engineers wear lab coats and pocket protectors. (Produced in 2007)	Transcript Link
2009 07 28	NASA Jet Propulsion Laboratory	https://youtu.be/mzWrcrAKhNA	Ustream Chat Free Spirit (full hour version)	Full hour of Ustream chat on efforts to free the Mars rover Spirit from a sand trap on the red planet. Interviewees: John Callas, Mars Exploration Rover Project Manager (1st half) and Ashley Stroupe, rover driver (2nd half).	Transcript Link
2009 07 23	NASA Jet Propulsion Laboratory	https://youtu.be/nTHQZosmhlw	Free Spirit Rescuing a Rover Part 2	Ustream chat from NASA's Jet Propulsion Laboratory on efforts to rescue the Spirit rover, which is stuck in loose soil on Mars. We chat with with the Mars Project Manager, John Callas and Rover Driver Ashley Stroupe. Captured live on Ustream Catch NASAJPL live on Ustream at http://www.ustream.tv/channel/nasajpl	Transcript Link
2009 07 16	NASA Jet Propulsion Laboratory	https://youtu.be/EGvu98yfcYk	Free Spirit Update July 15, 2009	Engineers at JPL continue to test maneuvers on a test rover at JPL in order to free Spirit from a sand trap on Mars.	Transcript Link
2009 07 13	NASA Jet Propulsion Laboratory	https://youtu.be/unbA1au4tMg	What's Up for July 2009 Milky Way	Early astronomers like Galileo used telescopes to map the Milky Way galaxy. This month, you can see the Milky Way in the late evening.	Transcript Link

2009 07 08	NASA Jet Propulsion Laboratory	https://youtu.be/lZeVbwMiAFQ	Free Spirit Exploring Options	JPL engineers are trying out maneuvers with a test rover on Earth, to plan an escape on Mars for Spirit.	Transcript Link
2009 07 08	NASA Jet Propulsion Laboratory	https://youtu.be/Bbd3_bICPg	What's Up for July 2009 Milky Way	Galileo drew the stars using four different sizes to distinguish their different brightnesses, and he published his findings in 1610. Today, spacecraft and orbiting telescopes join ground-based observers to learn more about our galaxy.	Transcript Link
2009 07 01	NASA Jet Propulsion Laboratory	https://youtu.be/HWHsXPvR7QY	Free Spirit - Into the Sandbox	Rover Project Manager John Callas explains how getting a test rover stuck in a sandbox on Earth may help get Spirit out of a predicament on Mars.	Transcript Link
2009 06 29	NASA Jet Propulsion Laboratory	https://youtu.be/87Fxwg_OXS0	Cruising Over Los Angeles	Take a close-up tour of the L.A. area, courtesy of the space-based ASTER instrument.	Transcript Link
2009 06 29	NASA Jet Propulsion Laboratory	https://youtu.be/m_vdT83W7AQ	Cruising Over California	Looking for an inexpensive stay-cation? Join JPL scientist Mike Abrams for a space-based flyover tour of California.	Transcript Link

2009 06 27	NASA Jet Propulsion Laboratory	https://youtu.be/G2mxZio6qOE	JPL Free Spirit Update - June 26, 2009	While the Spirit rover is embedded on Mars, engineers are working to create a Mars-scape on Earth to test an escape plan. The latest in JPLs Free Spirit Update.	Transcript Link
2009 06 24	NASA Jet Propulsion Laboratory	https://youtu.be/OZsU75Eit-E	Briny Breath of Enceladus	NASA's Cassini has found salt in Saturn's E ring, hinting that the moon Encelaus could have an underground liquid reservoir, perhaps even an ocean.	Transcript Link
2009 06 11	NASA Jet Propulsion Laboratory	https://youtu.be/IbALJ3U_sEE	Mars Rover Report June 2009	Being a rover on Mars, one can get into messes it cant get out of alone. Find out how engineers on Earth are working to help Spirit out of her latest pinch on Mars.	Transcript Link
2009 06 10	NASA Jet Propulsion Laboratory	https://youtu.be/0l05KjrF6NU	What's Up for June 2009 Hercules Cluster	Look up this month and see hundreds of thousands of ancient stars, all held together by gravity. It's the Hercules Globular Cluster - M-13!	Transcript Link
2009 05 27	NASA Jet Propulsion Laboratory	https://youtu.be/GzR0hvzawbo	Soaring Over Mars	NASAs Mars Reconnaissance Orbiter gives us an unprecedented birds-eye view of the Red Planet.	Transcript Link

2009 05 27	NASA Jet Propulsion Laboratory	https://youtu.be/sfYK8r6tlrg	Looking at Landing Sites for the Mars Science Laboratory	From space, the Mars Reconnaissance Orbiter takes a closer look at four possible landing sites for NASAs next Mars rover.	Transcript Link
2009 05 15	NASA Jet Propulsion Laboratory	https://youtu.be/WsbKDqfXu7M	The Camera That Saved Hubble	Two of the unsung heros of NASA's Hubble mission are a camera and the team from JPL that put it all together.	Transcript Link
2009 05 15	NASA Jet Propulsion Laboratory	https://youtu.be/0-Gsw0mPnS0	Hubble's Eye on the Universe		Transcript Link
2009 05 12	NASA Jet Propulsion Laboratory	https://youtu.be/VIkG8eKhICY	Student of the Stars	A love of astronomy helped one college student set a course for a variety of science internships at JPL.	Transcript Link
2009 05 12	NASA Jet Propulsion Laboratory	https://youtu.be/JER2dvgFyNs	What's Up for May 2009 The Sun	The brightest object around gets our attention this month as we take in the sun. Visit with solar observers past and present.	Transcript Link

2009 04 21	NASA Jet Propulsion Laboratory	https://youtu.be/WNpzc3SLkxs	Oceans of Climate Change	What can a water balloon teach us about climate change on Earth?	Transcript Link
2009 04 03	NASA Jet Propulsion Laboratory	https://youtu.be/HAiYGoOFIR0	What's Up for April 2009 Whirlpool Galaxy	Take a tour of the Whirlpool galaxy, with views from early astronomers and NASA space telescopes.	Transcript Link
2009 03 27	NASA Jet Propulsion Laboratory	https://youtu.be/WaRS2PAHJGA	Mars Science Laboratory	This animation demonstrates how the rover will enter, descend and land on the surface of Mars.	Transcript Link
2009 03 20	NASA Jet Propulsion Laboratory	https://youtu.be/fgwoIOyusOc	Video Robot Madness	Students used Lego robots to compete on a Mars-like obstacle course during an annual robotics competition at JPL.	Transcript Link
2009 03 17	NASA Jet Propulsion Laboratory	https://youtu.be/wcTwTo0dWIQ	What's Up for March 2009 Saturn!	Saturn takes center stage this month. Learn how the ringed world has been observed through history.	Transcript Link

2009 03 12	NASA Jet Propulsion Laboratory	https://youtu.be/QKpkRvFq1NA	Video Rover Undergrad	Internships at JPL helped one woman build her career as a software engineer working on robotics.	Transcript Link
2009 02 27	NASA Jet Propulsion Laboratory	https://youtu.be/MCa0hw0z_TI	What's Up for Feb. 2009 The Moon!	Take a step back in time and see how astronomers like Galileo studied the moon, you'll see the same views that enchanted and startled ancient astronomers centuries ago.	Transcript Link
2009 02 24	NASA Jet Propulsion Laboratory	https://youtu.be/ynYREYmjA1U	Building a Clean Dream Machine for Space	Take a tour of the Space Assembly Facility clean room at NASA's Jet Propulsion Laboratory and learn about about the Mars Science Laboratory, NASA's next mission to mars, scheduled to launch in 2011.	Transcript Link
2009 02 20	NASA Jet Propulsion Laboratory	https://youtu.be/VkWHQwq6VbM	Mars Exploration Rover Update Feb 2009	Both rovers have had a little trouble recently, but now they're both back on the road and driving again on Mars.	Transcript Link
2009 02 19	NASA Jet Propulsion Laboratory	https://youtu.be/TiCWk3J26y0	JPL Open House	Once a year NASA's Jet Propulsion Laboratory opens its doors and invites the public to a behind-the-scenes look at exploration at its best. Here's highlights of the 2008 event. Get ready for it to happen again on May 2 and 3, 2009.	Transcript Link

2009 02 19	NASA Jet Propulsion Laboratory	https://youtu.be/elm2CGKKuQk	Titan Saturn System Mission	A proposed mission to Titan would use a balloon, a lander and an orbiter to explore this Earth-like world.	Transcript Link
2009 02 19	NASA Jet Propulsion Laboratory	https://youtu.be/3C84cYlHzn4	Europa Jupiter System Mission	Can there be life elsewhere? A proposed mission to Jupiter's icy moons would explore Europa and Ganymede.	Transcript Link
2009 02 10	NASA Jet Propulsion Laboratory	https://youtu.be/zd5JKL1_vLI	Orbiting Carbon Observatory	The satellite will track vast hidden warehouses of carbon dioxide around Earth.	Transcript Link
2009 02 05	NASA Jet Propulsion Laboratory	https://youtu.be/Eqmno7gMTRI	NASA and Caltech Test Steep-Terrain Rover	Engineers from NASA's Jet Propulsion Laboratory and students at the California Institute of Technology have designed and tested a versatile, low-mass robot that can rappel off cliffs, travel nimbly over steep and rocky terrain, and explore deep craters.	Transcript Link
2009 02 04	NASA Jet Propulsion Laboratory	https://youtu.be/hx6erB_vwZU	5th Anniversary Celebration for NASA's Mars Rovers	A celebration was held at NASA's Jet Propulsion Laboratory on January 15, 2009, to celebrate the fifth anniversary of the landings of NASA's Mars Exploration Rovers. Former CNN science correspondent Miles OBrien delivered the keynote address and the team received an unexpected visit by science fiction author, Ray Bradbury.	Transcript Link

2009 01 24	NASA Jet Propulsion Laboratory	https://youtu.be/OvRnNbiXolk	JPL Tweetup	JPL's first ever Tweetup. A face to face meeting of Twitter users and JPLers.	Transcript Link
2009 01 20	NASA Jet Propulsion Laboratory	https://youtu.be/95mzd4XkA-I	Five Years and Still Roving Mars - Opportunity	Opportunity landed near a geological treasure trove on Mars - and that was just the beginning of the rover's discoveries.	Transcript Link
2009 01 20	NASA Jet Propulsion Laboratory	https://youtu.be/EWKLRXTqzf4	Five Years and Still Roving Mars - Spirit	NASA's Spirit rover has faced several challenges over the past five years but it's always been 'the little rover that could.'	Transcript Link
2009 01 16	NASA Jet Propulsion Laboratory	https://youtu.be/LJwztv7mktQ	2009 - International Year of Astronomy	To celebrate this stargazing year, amateur astronomers around the world are going to encourage their communities to look to the stars.	Transcript Link
2008 12 24	NASA Jet Propulsion Laboratory	https://youtu.be/pqogZAmPzAs	What's Up for Jan. 2009 Venus!	Take a look at Earth's sister planet, Venus this month as we kick off International Year of Astronomy	Transcript Link

2008 12 24	NASA Jet Propulsion Laboratory	https://youtu.be/v_tiG5DUx8M	Shooting for the Moon	Engineers test an instrument that may be used in future moon landing missions.	Transcript Link
2008 12 24	NASA Jet Propulsion Laboratory	https://youtu.be/XvKg68DcTZA	Flying Down to Hadley Rille, Apollo 15 Moon Landing, 1971	Archival footage shows the Apollo 15 astronauts' viewpoint during their moon landing in 1971.	Transcript Link
2008 12 22	NASA Jet Propulsion Laboratory	https://youtu.be/EIr03Cz-3zc	Spirit & Opportunity Celebrating Five Years on Mars	In January, JPL will celebrate the fifth anniversary of Spirit and Opportunity landing on Mars, and the twin rovers will continue with their newest adventures.	Transcript Link
2008 12 17	NASA Jet Propulsion Laboratory	https://youtu.be/dLom2NfutSA	2008 Invention Challenge, Aerial Car Race	The idea of the Invention Challenge is to show students that math and science can lead to some very fun and entertaining projects.	Transcript Link
2008 12 17	NASA Jet Propulsion Laboratory	https://youtu.be/zoXA9aKx9Rg	Name That Rover	NASA wants your help to name its next rover to Mars.	Transcript Link

2008 12 03	NASA Jet Propulsion Laboratory	https://youtu.be/-zvugQ0jaDE	What's Up for Dec. 2008 The Solar System	December will be a fantastic time to see the solar system from your own back yard.	Transcript Link
2008 11 15	NASA Jet Propulsion Laboratory	https://youtu.be/DiFNeZcYrH0	Rover Flight Director Report - 11 14 2008 - Dust storm For Spirit	Spirit is talking again, after a dust storm put her in a vulnerable state. Engineers hope her energy will continue to improve.	Transcript Link
2008 11 11	NASA Jet Propulsion Laboratory	https://youtu.be/9ZltzkoF9zc	Phoenix -- A Tribute	After a picture-perfect landing, the Phoenix Mars Lander returned unprecedented views and new findings from Mars' north polar region.	Transcript Link
2008 11 10	NASA Jet Propulsion Laboratory	https://youtu.be/l_8QvdY95l8	Phoenix	The Mars Lander surpassed its original three-month mission, lasting five months in the Martian northern plains, digging up scientific 'firsts' along the way.	Transcript Link
2008 11 06	NASA Jet Propulsion Laboratory	https://youtu.be/5SKvq-CDLQ	Mars Science Laboratory	Did Mars once have an environment capable of supporting life? NASA's next rover will further unravel that mystery.	Transcript Link

2008 10 31	NASA Jet Propulsion Laboratory	https://youtu.be/jWKHIxfIlMA	Mars Rover Report - 11 01 2008	After surviving a long, cold winter on Mars, both Spirit and Opportunity are on the move again, heading for intriguing science features. The Mars Exploration Rovers are moving ahead to study a hill, a depression and a very large crater.	Transcript Link
2008 10 15	NASA Jet Propulsion Laboratory	https://youtu.be/9z5k2Ph7EGw	Saturn's Cyclones	Saturn's serene appearance belies the roiling atmosphere beneath the clouds that is producing features such as cyclones.	Transcript Link
2008 10 13	NASA Jet Propulsion Laboratory	https://youtu.be/QO-SbkCMMi0	What's Up for Oct. 2008 Trick or Treat views	Spooky sights fill the night sky on Halloween and celestial treats will surprise you all month long.	Transcript Link
2008 10 08	NASA Jet Propulsion Laboratory	https://youtu.be/GhSOFNLM9tM	News from Saturn	Preview two flybys of Saturns geyser moon Enceladus. The first, on Oct. 9, will bring Cassini within about 16 miles of the moons surface.	Transcript Link
2008 10 07	NASA Jet Propulsion Laboratory	https://youtu.be/UoZ1WK7_L7c	2008 TC3- Small Asteroid to Light Up Sky Over Africa	An asteroid measuring several feet in diameter is expected to enter the atmosphere over northern Sudan before dawn Tuesday, setting off a potentially brilliant natural fireworks display. (Oct. 6)	Transcript Link

2008 10 07	NASA Jet Propulsion Laboratory	https://youtu.be/at6YFKU0r4A	2008 TC3 --Small Asteroid to Light Up Sky Over Africa	An asteroid measuring several feet in diameter is expected to enter the atmosphere over northern Sudan before dawn Tuesday, setting off a potentially brilliant natural fireworks display (Oct. 6).	Transcript Link
2008 09 25	NASA Jet Propulsion Laboratory	https://youtu.be/ZJs1TeIFwak	A Students Perspective Computer Science	Returning for his fourth summer at JPL, Victor Mejia knows his way around the Lab. This years focus: Writing software for JPL scientists.	Transcript Link
2008 09 25	NASA Jet Propulsion Laboratory	https://youtu.be/5jSgdvmJ6U8	A Students Perspective Robotics	As a college student, Gisselle Cunningham studies robotics and computer engineering. Her summer stint on a JPL robotics project was the perfect fit.	Transcript Link
2008 09 15	NASA Jet Propulsion Laboratory	https://youtu.be/C22yccwgAic	What's Up for Sept. 2008 Milky Way	Step away from the city lights and gaze up at our Milky Way galaxy. You may even see one of the galaxy's spiral arms with your own eyes!	Transcript Link
2008 08 25	NASA Jet Propulsion Laboratory	https://youtu.be/f7BaUZCkUT8	Cassini Four Years of Discovery	New revelations of Saturn, its moons and rings, courtesy of NASA's Cassini mission to Saturn.	Transcript Link

2008 08 11	NASA Jet Propulsion Laboratory	https://youtu.be/YwzvmxnsYGE	What's Up for Aug. 2008 Jupiter!	Jupiter reigns the night sky this month. Find out where to look and what you'll see through a telescope.	Transcript Link
2008 06 30	NASA Jet Propulsion Laboratory	https://youtu.be/M0HgIIe4hPk	What's Up for June 2008 The Sun!	Summer is here so it's the perfect season to talk about the sun.	Transcript Link
2008 06 13	NASA Jet Propulsion Laboratory	https://youtu.be/E-kb3U0buJw	Video Sun Sets on Solar Mission	The sun will soon set on the Ulysses solar mission, which forever changed the way scientists view the sun and its affect on space.	Transcript Link
2008 06 11	NASA Jet Propulsion Laboratory	https://youtu.be/hH5pNFROlYU	Phoenix Mars Landing Nerves and Joy	Animation and mission control video from Mars Phoenix landing day May 25, 2008.	Transcript Link
2008 05 26	NASA Jet Propulsion Laboratory	https://youtu.be/fbOT1pCE1Zk	Video Phoenix Landing - Nerves and Joy	JPL Mission Control during Phoenix landing on Mars, inter-cut with landing animation.	Transcript Link

2008 05 26	NASA Jet Propulsion Laboratory	https://youtu.be/mP-TvGs87D0	Mars Landing Challenge -- Big Science Ahead	Scientists plan intriguing research, once Phoenix lands safely on Mars.	Transcript Link
2008 05 23	NASA Jet Propulsion Laboratory	https://youtu.be/YeLA2ekPMmI	Guided Tour of Mars Landing	Rob Manning, chief engineer for JPL's Mars Program, walks us through a simulation of the Mars Phoenix	Transcript Link
2008 05 21	NASA Jet Propulsion Laboratory	https://youtu.be/QPpLz42wqdo	Video News From Saturn	Cassini completes the final Titan flybys of its original Saturn tour and prepares for a two-year extension.	Transcript Link
2008 05 21	NASA Jet Propulsion Laboratory	https://youtu.be/QXIhMS4JTGc	Watching Our Oceans	A new satellite mission will help monitor Earth's changing climate and improve weather forecasting.	Transcript Link
2008 05 02	NASA Jet Propulsion Laboratory	https://youtu.be/zHO2uRxOsQM	What's Up for May 2008 Galaxies!	Get ready to gaze at galaxies through your telescope. Then compare your views to those taken in infrared by the Spitzer Space Telescope.	Transcript Link

2008 04 15	NASA Jet Propulsion Laboratory	https://youtu.be/54kYS2lUTik	The Tour Designers	Cassini tour designers worked at breakneck speed on plans for the spacecraft's extended stay at Saturn.	Transcript Link
2008 04 10	NASA Jet Propulsion Laboratory	https://youtu.be/fgY_iZ0t84U	The Challenges of Getting to Mars - Transport for Launch	Getting the Phoenix spacecraft from its "birthplace" in Colorado to its launch pad at Cape Canaveral, Florida is no easy task.	Transcript Link
2008 04 10	NASA Jet Propulsion Laboratory	https://youtu.be/2hZFC29FfiE	Phoenix Mars Lander - Countdown to Launch	On Saturday August 4, the Mars Phoenix spacecraft launched from Cape Canaveral, Florida.	Transcript Link
2008 04 09	NASA Jet Propulsion Laboratory	https://youtu.be/U-UfSOkRHG4	Phoenix Mars Lander Cruising to Mars	The word "cruise" implies that this is an easy phase of the mission, however nothing could be further from the truth.	Transcript Link
2008 03 31	NASA Jet Propulsion Laboratory	https://youtu.be/Hf43t7lsHn0	What's Up for March 2008 Saturn!	Saturn and its moons are visible, while Mars is getting smaller in the night sky.	Transcript Link

2008 03 31	NASA Jet Propulsion Laboratory	https://youtu.be/5TaP8YMM524	Phoenix Mars Lander 7 minutes of Terror	Entry Descent and Landing The Phoenix Entry Descent and Landing will be a real nail-biter for engineers on May 25, 2008. In order to survive, the Phoenix spacecraft must perform a series of challenging maneuvers correctly, before it lands on Mars.	Transcript Link
2008 03 05	NASA Jet Propulsion Laboratory	https://youtu.be/nZSHxdqgrW4	Enceladus Taking the Plunge	On March 12, NASA's Cassini spacecraft will make its closest flyby yet to Saturn's moon Enceladus. Cassini's goal: To scoop up samples of water-ice and gas spewing from Old-Faithful-like geysers.	Transcript Link
2008 03 04	NASA Jet Propulsion Laboratory	https://youtu.be/JjNrcjoyYHg	NASA Spacecraft Photographs Avalanches on Mars	NASA's Mars Reconnaissance Orbiter has taken the first ever image of active avalanches near the Red Planet's north pole. The image shows tan clouds billowing away from the foot of a towering slope, where ice and dust have just cascaded down.	Transcript Link
2008 02 20	NASA Jet Propulsion Laboratory	https://youtu.be/bec2TwQTMX0	What's Up for Feb. 2008 Lunar Eclipse and Saturn	Don't miss this month's lunar eclipse on Feb. 20. A few days later, Saturn moves to center stage.	Transcript Link
2008 02 19	NASA Jet Propulsion Laboratory	https://youtu.be/7i4_HWcWRa8	What's Up for Feb. 2008 Lunar Eclipse and Saturn	Don't miss this month's lunar eclipse on Feb. 20. A few days later, Saturn moves to center stage.	Transcript Link

2008 02 15	NASA Jet Propulsion Laboratory	https://youtu.be/q2-fhqR_Vmo	News from Saturn, February 2008	Cassini's ballet of orbital maneuvers is delivering close flybys and new infrared, ultraviolet and visible-light views of Saturn's moon Titan.	Transcript Link
2008 02 05	NASA Jet Propulsion Laboratory	https://youtu.be/7jbLZYMeDuY	A Postcard From Opportunity	Views from the jagged-edged Victoria Crater on Mars, taken by NASA's Opportunity rover. For more information on the Mars Rovers go to www.jpl.nasa.gov	Transcript Link
2008 02 05	NASA Jet Propulsion Laboratory	https://youtu.be/iVQKFhBxV7M	A Postcard From Spirit	NASA's Spirit rover sends a stunning panorama from Gusev Crater, Mars.	Transcript Link
2008 02 01	NASA Jet Propulsion Laboratory	https://youtu.be/el7SpPFJ9uw	What's up for Jan. 2008 Stars with orbiting planets	Several stars are viewable in the night sky that have planets orbiting them. We focus on the star with more known planets than any other.	Transcript Link
2008 01 29	NASA Jet Propulsion Laboratory	https://youtu.be/oIJXlRtglPE	Asteroid 2007 TU24 Close Approach	Scientists at NASA's Near-Earth Object Program Office at the Jet Propulsion Laboratory in Pasadena, Calif., have been monitoring asteroid 2007 TU24, which will pass about 344,000 miles of Earth tomorrow (Jan. 29) at 12:33 a.m. Pacific time (3:33 a.m. Eastern time). (more)	Transcript Link

2008 01 29	NASA Jet Propulsion Laboratory	https://youtu.be/tjjx5T0JUvI	Asteroid 2007 TU24 Close Approach	Scientists at NASA's Near-Earth Object Program Office at the Jet Propulsion Laboratory in Pasadena, Calif., have been monitoring asteroid 2007 TU24, which will pass about 344,000 miles of Earth tomorrow (Jan. 29) at 12:33 a.m. Pacific time (3:33 a.m. Eastern time).	Transcript Link
2007 12 28	NASA Jet Propulsion Laboratory	https://youtu.be/Mb5bxy1LS1g	2007 An Out-of-This-World Year	Exciting news about Saturn's moons and distant galaxies, future missions to Earth's moon and promising findings about hurricanes on Earth were just a few of the developments in 2007.	Transcript Link
2007 12 27	NASA Jet Propulsion Laboratory	https://youtu.be/8lQ3bdy8A0Q	Explorer 1 -- JPL and the Beginnings of the Space Age	Take a step back in time and follow the historic story of how the United States responded to Sputnik, the world's first Earth-orbiting satellite launched by the Soviets in 1957.	Transcript Link
2007 12 19	NASA Jet Propulsion Laboratory	https://youtu.be/dVuP9Obs_2I	Video News From Saturn	In the latest Cassini News from Saturn, find out why scientists now believe Saturn's rings are much older than they look.	Transcript Link
2007 12 14	NASA Jet Propulsion Laboratory	https://youtu.be/UadcJIqTrA4	Europa - Cool Destination for Life	Jupiter's moon, Europa, with its warm salty ocean, might be a good place to start.	Transcript Link

2007 12 14	NASA Jet Propulsion Laboratory	https://youtu.be/w_7DxudyOus	What's Up for Dec. 2007 Mars!	Mars and Earth are at their closest this month so now is your best chance to see our planetary neighbor.	Transcript Link
2007 11 17	NASA Jet Propulsion Laboratory	https://youtu.be/e6To88zFde4	Video News From Saturn	Another close flyby of Titan is next on the agenda for the Cassini spacecraft. Cassini will again dip its toe into the atmosphere of Saturn's largest moon.	Transcript Link
2007 11 09	NASA Jet Propulsion Laboratory	https://youtu.be/huQBj7vyllE	What's Up for Nov. 2007 Red Mars & Mira	This month you'll have great views of a red planet and a red star. Plus, find out when the Mars rovers are facing Earth.	Transcript Link
2007 10 19	NASA Jet Propulsion Laboratory	https://youtu.be/As9ULH-2vKE	Backstage Pass to Iapetus	Go backstage as scientists watch in real-time as the closest-ever pictures of Saturn's mysterious moon Iapetus are beamed back by NASA's Cassini spacecraft.	Transcript Link
2007 10 15	NASA Jet Propulsion Laboratory	https://youtu.be/3yjYLkAJZN8	What's Up for Oct. 2007 Iapetus, Jupiter and Mars	Pull out your telescope to see Saturn's black-and-white moon Iapetus. And there's something for everyone on Halloween: Jupiter for the early crowd and Mars for the late-night trick or treaters.	Transcript Link

2007 10 09	NASA Jet Propulsion Laboratory	https://youtu.be/4ezHG7vHgfE	JPL Video The Space Age is Born	Excerpts from an upcoming documentary, "Explorer 1: JPL and the Beginnings of the Space. For more information go to: www.jpl.nasa.gov	Transcript Link
2007 10 01	NASA Jet Propulsion Laboratory	https://youtu.be/hFFgBhgN-s0	JPL Video The Big Thaw	A thick chunk of Arctic sea ice the size of two states has disappeared. Is it global warming or normal causes? A new NASA-led study found a 23-percent loss in the extent of the Arctic's thick, year-round sea ice cover during the past two winters. Between winter 2005 and winter 2007, the perennial ice shrunk by an area the size of Texas and California combined. This drastic reduction of perennial winter sea ice is the primary cause of the fastest-ever sea ice retreat on record this summer. Scientists say the rapid decline in winter perennial ice was caused by unusual winds. For more information go to: www.jpl.nasa.gov	Transcript Link
2007 09 27	NASA Jet Propulsion Laboratory	https://youtu.be/YDCGeDUfGUw	JPL Video Mars - A Feast for the Eyes	A look at Mars up close through the lens of a high resolution camera aboard NASA's Mars Reconnaissance Orbiter. The views of gullies, craters and ice layers are truly remarkable. For more information go to : www.jpl.nasa.gov.	Transcript Link
2007 09 24	NASA Jet Propulsion Laboratory	https://youtu.be/VdUIFBMalQo	Dawn, Mission to the Asteroid Belt	NASA's Dawn mission is getting ready to launch on an unprecedented tour of two residents of the asteroid belt. For more information: www.jpl.nasa.gov	Transcript Link
2007 09 12	NASA Jet Propulsion Laboratory	https://youtu.be/ZUOwQpVtZf0	Mars Rover Flight Director Report 9 7 07	The Mars rovers have weathered dust storms and are now back in action. For more information: www.jpl.nasa.gov	Transcript Link

2007 09 12	NASA Jet Propulsion Laboratory	https://youtu.be/BRmBfk7hHQY	What's Up for Sept. 2007 Voyager's planets	It's the 30th anniversary of the Voyager mission and you can see all four planets that Voyager studied in the night sky this month.	Transcript Link
2007 08 30	NASA Jet Propulsion Laboratory	https://youtu.be/hW24Vk4wacA	Re JPL Video Cassini At Saturn Report 7 18 07	Cassini scientists Saturn's famous rings formed. G-ring outer rings, near heavily-cratered moon Mimas.	Transcript Link
2007 08 27	NASA Jet Propulsion Laboratory	https://youtu.be/bkwTBm0uKE	JPL Video Voyager Inspiring Generations	For the past 30 years, NASA's Voyager twins have phoned home everyday, sending snapshots and stories that shaped our view of the solar system.	Transcript Link
2007 08 10	NASA Jet Propulsion Laboratory	https://youtu.be/SraIR-ZN07Q	What's Up for Aug. 2007 Perseids!	The Perseid meteor shower will dazzle in the early morning hours of Aug. 13. Plus, a popular planet shows up in the night sky.	Transcript Link
2007 08 10	NASA Jet Propulsion Laboratory	https://youtu.be/n_Bs8dAJsHE	Athlete of the Future	JPL engineers built a futuristic robot that may one day go to the moon.	Transcript Link

2007 08 03	NASA Jet Propulsion Laboratory	https://youtu.be/yfokc0xdKJU	JPL Video Phoenix Mars Lander Hunting for Habitats	Literally going where no spacecraft has gone before, NASA's Phoenix Mars Lander will visit the north polar region of Mars.	Transcript Link
2007 08 03	NASA Jet Propulsion Laboratory	https://youtu.be/ec_gAvA978Y	JPL Video Cassini At Saturn Report 7 18 07	Breath-taking views of Saturn's rings, and scenes from the moon Tethys, which has a system of canyons four times as long as Earth's Grand Canyon.	Transcript Link
2007 07 24	NASA Jet Propulsion Laboratory	https://youtu.be/DkLZ1gOExZo	JPL Video Looking for Life in All the Right Places	Find out how NASA scientists are gathering exciting clues that will help them pick the best spots to search for possible signs of life beyond Earth.	Transcript Link
2007 07 24	NASA Jet Propulsion Laboratory	https://youtu.be/DuHQLZ1sAvc	JPL Video Opportunity - Waiting for the Dust to Settle	Can NASA's Opportunity rover weather gigantic dust storms on Mars? Dust storms on Mars in recent weeks have darkened skies over both Opportunity and its twin, Spirit. The rovers rely on electricity that their solar panels generate from sunlight.	Transcript Link
2007 07 16	NASA Jet Propulsion Laboratory	https://youtu.be/mg_0RXlmDPA	What's Up for July 2007 Moon Phases	Take a guided tour of the moon and discover some cool lunar sites visible without a telescope.	Transcript Link

2007 06 26	NASA Jet Propulsion Laboratory	https://youtu.be/G2uJt7Y9jos	JPL Video Dawn, Mission to the Asteroid Belt	NASA's Dawn mission is getting ready to launch on an unprecedented tour of two residents of the asteroid belt.	Transcript Link
2007 06 07	NASA Jet Propulsion Laboratory	https://youtu.be/qIRz8SIlvhU	What's Up for June 2007 Venus and Jupiter	Amateur Astronomy - Jupiter and Venus put on a spectacular show this month. Our two-minute night sky video guide tells you where to look.	Transcript Link
2007 05 25	NASA Jet Propulsion Laboratory	https://youtu.be/prVhFhez2Uo	JPL Video Cassini at Saturn 5 24 07	News From Saturn The Cassini spacecraft turns up new findings as it investigates Saturn's atmosphere.	Transcript Link
2007 05 25	NASA Jet Propulsion Laboratory	https://youtu.be/83uuEZV8CaA	Mars Rover Flight Director Report 5 22 07	The Spirit rover found soil deposits on Mars that were formed by processes that require the presence of water.	Transcript Link
2007 05 07	NASA Jet Propulsion Laboratory	https://youtu.be/WTC98n3TyEI	What's Up for May 2007 Planets and Vesta	Lots of planets are visible in the night sky this month. Plus, an asteroid makes a guest appearance. Our two-minute video guide will tell you where to look to see these great views.	Transcript Link

2007 04 24	NASA Jet Propulsion Laboratory	https://youtu.be/De_w8BSkOHs	JPL Video 4 23 07 - News From Saturn	Latest news from Cassini mission at Saturn and its moons.	Transcript Link
2007 04 09	NASA Jet Propulsion Laboratory	https://youtu.be/blJA7LiXT9s	What's Up for April 2007 Saturn and the moon	Take a 2-minute guided tour on where to look in the night sky for this month's stunning views.	Transcript Link
2007 03 22	NASA Jet Propulsion Laboratory	https://youtu.be/9Sulvusy8HA	JPL Video International Polar Year	Glaciers, ice sheets and oceans at Earth's poles are the subject of the International Polar Year. NASA also begins work to explore other poles in our solar system.	Transcript Link
2007 03 22	NASA Jet Propulsion Laboratory	https://youtu.be/nkwJcl0__io	JPL Video 3 22 07 - News From Saturn	A movie showing seas on Saturn's moon Titan is part of the latest Cassini report.	Transcript Link
2007 03 15	NASA Jet Propulsion Laboratory	https://youtu.be/1ET0qfIF40E	SIM PlanetQuest animation	This movie provides a visualization of NASA's future SIM PlanetQuest spacecraft, and a demonstration of its sensitivity.	Transcript Link

2007 03 02	NASA Jet Propulsion Laboratory	https://youtu.be/ZaTAYOpUP6o	JPL Video The Great Crossing	This movie sequence captures Saturn's rings during a ring plane crossing from the Cassini spacecraft's point of view. The movie begins with a view of the sunlit side of the rings. As the spacecraft speeds from south to north, the rings appear to tilt downward and collapse to a thin plane, and then open again to reveal the un-illuminated side of the ring plane, where sunlight filters through only dimly. The movie consists of 34 images taken over the course of 12 hours as Cassini pierced the ring plane. Six moons careen through the field of view during the sequence. The first large one is Enceladus, whose slanted motion from the upper left to center right nicely illustrates the inclination of its orbit with respect to the rings. The second large one, seen in the second half of the movie, is Mimas, going from right to left.	Transcript Link
2007 02 27	NASA Jet Propulsion Laboratory	https://youtu.be/q6djiF27S6g	JPL Video Taking in the Atmospheres of Faraway Worlds	NASA's Spitzer Space Telescope has uncovered clues about the atmospheres of two planets beyond our solar system. The new finding is a stepping stone to eventually studying signs of life on other worlds. It represents a significant step toward being able to detect possible life on rocky planets beyond our solar sytem.	Transcript Link
2007 02 07	NASA Jet Propulsion Laboratory	https://youtu.be/sYU-OKga6G0	JPL Video CSI - Comet Asteroid Scene Investigation	JPL scientists use advanced technologies to track asteroids and comets that have the potential to one day come close to Earth. This story details what seemed to be a close call with an asteroid named Apophis in 2004.	Transcript Link
2007 01 25	NASA Jet Propulsion Laboratory	https://youtu.be/I_MzQkWR3JU	JPL Video Mars Flight Director Report Jan. 23, 2007	Latest news from NASA's Mars Exploration Rovers, Spirit and Opportunity.	Transcript Link

2007 01 23	NASA Jet Propulsion Laboratory	https://youtu.be/O-vlapmgB7Q	JPL Video Three Years on Mars - Opportunity's Story	NASA's Opportunity rover, now exploring Mars for three years, is half a world away from its twin, Spirit.	Transcript Link
2007 01 17	NASA Jet Propulsion Laboratory	https://youtu.be/lIsF-LZTECI	JPL Video Postcards From Saturn, Cassini's Tale of Tw	Halfway through its 4-year Saturn tour, Cassini's travel log is brimming with news. One amazing discovery after another, like postcards from an excited tourist, information streams home.	Transcript Link
2007 01 17	NASA Jet Propulsion Laboratory	https://youtu.be/1idwpDhZ9us	JPL Video Who Ya Gonna Call	NASA's Spitzer Space Telescope is a galactic ghost buster, spotting hidden massive stars and other cosmic monsters lurking in our galaxy.	Transcript Link
2007 01 17	NASA Jet Propulsion Laboratory	https://youtu.be/FhDKjMebFWU	JPL Video The Rocketmen	The Jet Propulsion Laboratory is a pioneer in America's Space Age. Hear from one of the original 'rocketmen' as he describes the first experiments that led to the making of JPL.	Transcript Link
2007 01 17	NASA Jet Propulsion Laboratory	https://youtu.be/1-bkxMzJOSk	JPL Video Smart Art - Imaging the Cosmos	Ever wonder how astronomers get those amazing pictures from space telescopes? A how-to from the space visualization artist for NASA's Spitzer Space Telescope.	Transcript Link

2007 01 17	NASA Jet Propulsion Laboratory	https://youtu.be/uuRupEJlGic	JPL Video Seeing Mars Better Than Ever	NASA's newest orbiter, the Mars Reconnaissance Orbiter, provides an unprecedented view of the surface of the red planet.	Transcript Link
2007 01 17	NASA Jet Propulsion Laboratory	https://youtu.be/aaAIAZDusUQ	JPL Video Recent Water Flow on Mars	Evidence of liquid water and new impact craters on the red planet	Transcript Link
2007 01 17	NASA Jet Propulsion Laboratory	https://youtu.be/F1bfawJoPJ8	JPL Video Three Years on Mars - Spirit's Story	Scientists expected the Mars Rovers Spirit and Opportunity to run for three months. Three years later the hardy rovers are still operating on opposite sides of the red planet. This is Spirit's story.	Transcript Link