This Week at NASA…

NASA Administrator Charles Bolden joined other agency officials and dignitaries at the Washington National Cathedral to honor the life and career of astronaut Neil Armstrong, the first man to walk on the moon, who died Aug. 25.

The memorial was broadcast live on NASA Television and streamed on nasa.gov and the National Cathedral’s website.

The historic landmark is considered the spiritual home for the nation and brings Americans together at important moments to pray, commemorate, celebrate, and mourn.

"Neil Armstrong left more than footprints and a flag on the moon. In fact, as President Obama said in a letter, ‘future generations will draw inspiration from his spirit of discovery, humble composure and pioneering leadership in setting a bold, new course for space exploration.}
The imprint he left on the surface of the moon and the story of human history is matched only by the extraordinary mark he left on the hearts of all Americans."

"Fate looked down kindly on us when she chose Neil to be the first to venture to another world and to have the opportunity to look back from space at the beauty of our own.

It could have been another but it wasn't.

It wasn't for a reason.

No one, no one, but no one could have accepted the responsibility of his remarkable accomplishment with more dignity and more grace than Neil Armstrong."

The memorial was befitting the man whose prowess as an X-15 test pilot, whose "one giant leap for mankind" ushered in a new era of exploration and whose contributions in academia and business in the private sector also enabled and inspired others to achieve.

Neil Armstrong was 82.
One feature of the National Cathedral will long remain an iconic reminder of the Apollo 11 mission commanded by Armstrong, his fellow crew members, and their service to the nation and the world in the cause of exploration.

"The window is one of the centerpieces of this Cathedral. It's one of the most popular things people want to see."

"The center of it is the moon rock that was presented to the Cathedral in 1974 by Neil Armstrong, Buzz Aldrin, and Michael Collins. Michael Collins is a graduate of one of the Cathedral schools, St. Alban’s School for Boys."

"A gift...of a former NASA Administrator, Thomas Paine."

"The window is very, very stark and very beautiful."

"One of the larger presentations that we have in this place."
And, it's very, very impressive in its whole look in here, and people do seek it out.”

“One of the things that impresses me about it is, is that there is a deep connection between the spiritual enterprise and the exploration of space.

Both of them are about exploring: exploring the darkness that surrounds us as a planet, exploring the darkness from which we come at birth and to which we return at death.

The journey inward and the spiritual and the theological, the journey outward of the space programs are very closely connected to exploration and it ties in, in my mind, perfectly and beautifully in this place.”

I’m David Oh, lead flight director for the Mars Curiosity rover and this is your Curiosity rover report.

Over the past seven days, we've been doing checkouts of the arm instruments including the MAHLI imager, which is a very versatile instrument that can focus on things that are
close-by and very far away.

The imager has generated some spectacular shots of the underbelly of the rover and its wheels, of a 1909 Lincoln penny that we mounted on the rover for calibration purposes so we can check that the camera is operating properly.

And its also been used to generate a nice self-portrait of the Mastcam on the rover,

a portrait that's taken by the arm looking back, the same way you would take a picture of yourself using a cell phone.

We've also been testing the APXS instrument, an instrument for doing contact mineralogy science.

It generates spectra that allow us to identify the minerals that are present in a rock.

When the checkout of the arm is complete, we'll be continuing our drive to the scientific target, Glenelg, but we'll be stopping along the way to take some video of the Martian
moons, Phobos and Deimos, passing overhead.

We control the rover from Earth, but we have to operate it on Mars time.

A Martian day is 39 minutes longer than an Earth day.

So every day, the whole operations team comes in 40 minutes later, every single day, to send commands to the rover.

In the month after landing, my whole family joined me on Mars time and we got to jump a time zone a day for 30 days going all the way around the clock.

As we did that, we got to explore Mars here at JPL and to explore Los Angeles at night, and it was a great adventure for the whole family.

This has been your Curiosity rover report.

Check back for more updates on what’s happening on Mars.

Mars Science Laboratory team members at Headquarters were at Washington’s Florida House for Mars
Day in DC, a celebration of the Curiosity rover’s successful landing on the Red Planet.

NASA Mars Program Director Doug McQuistion briefed members of Congress and other invited guests on what science Curiosity is expected to provide during its two-year mission.

Additional presentations detailed how Curiosity and its suite of ten science instruments will conduct in Gale Crater the most difficult planetary exploration mission ever undertaken.

NASA Deputy Administrator Lori Garver delivered the keynote address at the SPACE 2012 Conference in Pasadena, California.

The annual American Institute of Aeronautics and Astronautics gathering is considered the premier event on space technology, policy, programs, management, and education.

“This is truly something that we work with together as industry and government and academia and we look forward to strengthening our partnerships as our commercial spaceflight industry assumes even more of a role in this new era of human
and space scientific space exploration.”

The theme of this year’s AIAA conference was “Creating a Sustainable Vision for Space”.

Also at the conference, the mission team at JPL for NASA’s long-lived Mars Exploration Rovers Spirit and Opportunity was presented the Haley Space Flight Award for the advancement of the art, science or technology of astronautics.

In its eighth year of operation on Mars, Opportunity is surveying a crater rim about 5,200 miles from Curiosity’s current position.

Spirit explored the Red Planet for more than six years, 24 times longer than its planned three-month mission.

Past recipients of the Haley Space Flight Award include astronauts Alan Shepard, John Glenn, Tom Stafford, Bob Crippen, Kathy Sullivan and the crew of STS-125, the last space shuttle servicing mission to the Hubble Space Telescope.

After weathering Hurricane Isaac, engineers at the Stennis Space Center returned to testing
97
00:07:54,129 --> 00:07:55,990
the J-2X engine!

98
00:07:55,990 --> 00:08:01,610
The first post-storm J-2X test firing was of the engine’s upper stage that lasted

99
00:08:01,610 --> 00:08:02,610
250 seconds.

100
00:08:02,610 --> 00:08:08,908
The J-2X will help power NASA’s Space Launch System, the new heavy-lift rocket that will

101
00:08:08,908 --> 00:08:13,808
send astronauts beyond Earth orbit.

102
00:08:13,809 --> 00:08:18,490
NASA Chief Technologist Mason Peck joined state and local officials at the University

103
00:08:18,490 --> 00:08:24,610
of Texas at El Paso for the official opening of UTEP’s Center for Space Exploration Technology

104
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Research, or cSETR (C-STIR), and the NASA Science, Engineering, Mathematics and Aerospace

105
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Education Laboratory located in the university’s engineering building.

106
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“It’s the kind of collaborative activity that we, now at NASA recognize as essential

107
00:08:40,899 --> 00:08:44,730
to how we are trying to form the future of space technology at the agency.”

108
00:08:44,730 --> 00:08:51,039
The NASA-funded cSETR conducts analytical, experimental and computational research in
energy and propulsion engineering.

The Aerospace Education Laboratory offers technology and innovation learning opportunities to students of all ages, from K-12 to post-graduate and life-long learners.

“Three, two, one, release…”

The vertical water drop tests continue for the Orion Multi-purpose Crew Vehicle at the Langley Research Center’s Hydro Impact Basin.

The latest drop for Orion was from a height of 25 feet.

Unlike last summer’s swing drop tests that certified Orion for water landings, these vertical drops tests help predict Orion’s landing loads.

Orion is scheduled to launch in 2014 on its Exploration Flight Test-1 and travel 15 times deeper into space than the International Space Station before returning to Earth.

The Shuttle Carrier Aircraft that is Space Shuttle Endeavour’s ride for the cross country
journey to California made its arrival at Kennedy Space Center.

Like Discovery and Enterprise before it, Space Shuttle Endeavour is taking its turn in the ferry flight spotlight.

The first class piggyback ride atop the SCA culminates for NASA’s youngest orbiter at Los Angeles International Airport – with appearances along the way in the skies over several NASA installations including the Johnson Space Center, Stennis, Michoud, White Sands and the Ames Research Center.

Endeavour is scheduled to arrive at its new home, the California Science Center, on October 13, and go on display October 30.

Meanwhile, the structure for the new Florida home of space shuttle Atlantis has been “topped out” with its highest beam.

In a ceremony marking a milestone in the construction of the 90,000-square-foot exhibit hall that
will house the orbiter at the Kennedy Space Center Visitor Complex, the 38-foot-long,

one-ton steel beam was lifted 116 feet off the ground and locked into place.

A small tree and an American flag were fitted onto the beam that bore the signatures of hundreds of NASA employees.

"Atlantis, the last space shuttle to ever fly in space is going to look like it actually is in space here at the Kennedy Space Center and I can't think of a more fitting place to tell that story."

On November 2 Atlantis will be the last shuttle to move out of the operational area at KSC.

The shuttle will be transported by the orbiter transport vehicle, or OTV from the Vehicle Assembly Building to the Visitor Complex.

Three future residents of the International Space Station previewed their upcoming mission during a media briefing at the Johnson Space Center.
Expedition 34 and 35 crew members Tom Marshburn of NASA, Chris Hadfield of the Canadian Space Agency and Roman Romanenko of the Russian Federal Space Agency are set to launch to the station Dec. 5.

When they arrive at the world's only research laboratory in microgravity, the trio will join NASA astronaut Kevin Ford and Russian cosmonauts Evgeny Tarelkin and Oleg Novitskiy who are scheduled to launch to the ISS from Russia on October 15.

Meanwhile, the current crew onboard station got rid of some unneeded items. After spending almost two months attached to the Harmony module, the Japanese “Kounotori” Transfer Vehicle, or HTV-3, was unberthed and released by Expedition 32 crew members Joe Acaba and Aki Hoshide. An engine firing sent the trash-packed cargo vehicle back into Earth’s atmosphere to burn up over the Pacific Ocean.
The HTV-3 craft launched from the Japan Aerospace Exploration Agency’s launch site in Tanegashima, Japan, July 21 and arrived at the station six days later to deliver several tons of food, supplies and science experiments for the station residents.

Ten years ago on September 16, 2002, Expedition Five crew member Dr. Peggy Whitson was named as the first NASA Science Officer of the International Space Station.

Since then, each Expedition crew has had a NASA Science Officer working with the U.S. research community to maximize returns of station science experiments.

During her tenure as Science Officer, Whitson conducted 21 investigations in human life sciences and microgravity sciences as well as commercial payloads.

The name is Luis Dominguez and I work for Mars Science Laboratory in the Mission Systems Testbed as a Test Conductor.

I am half Honduran, half Mexican.
So my mom is from Mexico, Southern Mexico and my dad’s from Central Honduras.

I do come from a very hard working family so I always have that you know that very like

I’ll work till it’s done you know attitude and like you know no job is to menial or you

mean sometimes things are mundane and you know but they have to get done.

At JPL what I do is a lot of trouble shooting for the most part with the actual internal

robotics in the rover.

I’ve been on MSL for about five years now.

I started off in ATLO, the assembly, test, and launch operations team, but I started

there as an intern and then I moved over to the test bed.

On a day to day basis I usually just go around helping people with their tests or if they

get into certain configurations that they don’t understand I help them get out of
them.. if they trip fault protection that we have in the rover.

I really enjoyed the challenge that they gave me.

Wow, like I actually helped build something that's on the surface of Mars.

It's an amazing feeling.

And that's This Week @NASA.

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