



1
00:00:00,979 --> 00:00:05,020

“Here’s some of the stories trending This
Week at NASA!”

2
00:00:05,020 --> 00:00:09,940

During a Nov. 2 media event at NASA’s Goddard
Space Flight Center, Administrator Charlie

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00:00:09,940 --> 00:00:15,419

Bolden was joined by Goddard Center Director
Chris Scolese and Senior Project Scientist,

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00:00:15,419 --> 00:00:21,670

Dr. John Mather for an update on the James
Webb Space Telescope, including a rare glimpse

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00:00:21,670 --> 00:00:24,359

at the telescope’s primary mirror.

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00:00:24,359 --> 00:00:29,020

Engineers and technicians recently completed
a “Center of Curvature” test on the mirror,

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00:00:29,020 --> 00:00:31,289

which measures the shape of the mirror.

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00:00:31,289 --> 00:00:36,420

This is the first important optical measurement
before the mirror goes into the testing chambers.

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00:00:36,420 --> 00:00:41,160

Meanwhile, the telescope’s sunshield layers
also have been finished.

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00:00:41,160 --> 00:00:46,219

This will protect Webb’s sensitive instruments
from the sun when the telescope is in space.

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00:00:46,219 --> 00:00:51,489

The Webb Telescope, which is targeted for launch in 2018, will study every phase in

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00:00:51,489 --> 00:00:57,120

the history of our universe, including the cosmos' first luminous glows, the formation

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00:00:57,120 --> 00:01:04,470

of planetary systems capable of supporting life, and the evolution of our own solar system.

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00:01:04,470 --> 00:01:10,180

On Oct. 30 Kazakhstan time, the International Space Station's Expedition 49 crew, including

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00:01:10,180 --> 00:01:13,730

NASA astronaut Kate Rubins, returned to Earth.

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00:01:13,730 --> 00:01:18,770

The Soyuz spacecraft carrying Rubins and her crewmates Anatoly Ivanishin of the Russian

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00:01:18,770 --> 00:01:25,210

space agency Roscosmos and Takuya Onishi of the Japan Aerospace Exploration Agency, touched

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00:01:25,210 --> 00:01:27,580

down safely in Kazakhstan.

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00:01:27,580 --> 00:01:33,160

During their 115 days in space, the Expedition 49 crew members contributed to hundreds of

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00:01:33,160 --> 00:01:39,910

experiments in biology, biotechnology, physical science and Earth science, and Rubins became

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00:01:39,910 --> 00:01:43,720

the first person to sequence DNA in space.

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00:01:43,720 --> 00:01:49,600
Meanwhile, prelaunch training continues for Expedition 50-51 – the next crew headed

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00:01:49,600 --> 00:01:50,970
to the space station.

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00:01:50,970 --> 00:01:56,490
NASA's Peggy Whitson, Oleg Novitskiy of the Russian space agency Roscosmos and Thomas

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00:01:56,490 --> 00:02:02,270
Pesquet of the European Space Agency participated in traditional ceremonies in Star City, Russia

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00:02:02,270 --> 00:02:05,560
Nov. 1, with members of the back-up crew.

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00:02:05,560 --> 00:02:10,380
They later headed to the Baikonur Cosmodrome in Kazakhstan for final preparations for the

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00:02:10,380 --> 00:02:16,459
launch of Novitskiy, Whitson and Pesquet on Nov. 17 Eastern time, for a five-month mission

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00:02:16,459 --> 00:02:19,560
on the space station.

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00:02:19,560 --> 00:02:24,519
Also on Nov. 1, NASA held an Agency Innovation Mission (AIM) Day to highlight innovation

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00:02:24,519 --> 00:02:27,670
by NASA employees across the agency.

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00:02:27,670 --> 00:02:32,200
The event featured a keynote speech by Deputy Administrator Dava Newman from Kennedy Space

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00:02:32,200 --> 00:02:33,689

Center in Florida.

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00:02:33,689 --> 00:02:39,189

The endeavor also featured online cross-center collaboration activities, and other special

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00:02:39,189 --> 00:02:44,409

events to allow employees across the agency to pitch innovative ideas.

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00:02:44,409 --> 00:02:50,499

AIM Day is a project of the NASA FIRST leadership program, which is designed to develop future

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00:02:50,499 --> 00:02:53,550

agency leaders.

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00:02:53,550 --> 00:03:00,310

On Oct. 30, NASA's Solar Dynamics Observatory, or (SDO), experienced a partial solar eclipse

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00:03:00,310 --> 00:03:04,579

in space when it caught the moon passing in front of the sun.

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00:03:04,579 --> 00:03:09,609

The lunar transit lasted an hour, with the moon covering about 59 percent of the sun

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00:03:09,609 --> 00:03:12,799

at the peak of its journey across the face of the sun.

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00:03:12,799 --> 00:03:19,410

SDO captured these images in extreme ultraviolet light, which is invisible to human eyes.

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00:03:19,410 --> 00:03:23,950

The imagery is colorized in red to make it visible.

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00:03:23,950 --> 00:03:30,090

NASA's Magnetospheric Multiscale mission, or MMS, now holds the Guinness World Record

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00:03:30,090 --> 00:03:33,700

for highest altitude fix of a GPS signal.

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00:03:33,700 --> 00:03:38,069

The mission's four identical satellites set the record while operating in a highly

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00:03:38,069 --> 00:03:42,859

elliptical orbit 43,500 miles above Earth.

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00:03:42,859 --> 00:03:48,269

The team of satellites incorporates GPS measurements into their precise tracking systems, which

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00:03:48,269 --> 00:03:55,430

require extremely sensitive position and orbit calculations to guide tight flying formations.

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00:03:55,430 --> 00:04:01,510

Earlier this year, MMS achieved the closest flying separation of a multi-spacecraft formation

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00:04:01,510 --> 00:04:04,620

with only four-and-a-half miles between the four satellites.

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00:04:04,620 --> 00:04:11,629

MMS is giving scientists new insight into a phenomenon known as magnetic reconnection,

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00:04:11,629 --> 00:04:16,579

which occurs as the sun and Earth's magnetic

fields interact.

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00:04:16,579 --> 00:04:21,140

Studying this process could help scientists
better understand other naturally occurring

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00:04:21,140 --> 00:04:23,370

phenomena around the universe.

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00:04:23,370 --> 00:04:27,230

And that's what's up this week @NASA ...