

1
00:00:07,040 --> 00:00:11,320
This Week at NASA...

2
00:00:11,320 --> 00:00:17,380
So what can a planetary rover do with a year
on Mars? All NASA's Curiosity rover did was

3
00:00:17,380 --> 00:00:24,390
beam back over 190 gigabits of data, more
than 36-thousand images and zap 75-thousand-plus

4
00:00:24,390 --> 00:00:29,680
laser shots at science targets ... and oh
by the way, it also completed the mission's

5
00:00:29,680 --> 00:00:35,400
main science goal by finding evidence that
life was possible on Mars in the past.

6
00:00:35,400 --> 00:00:40,250
The agency celebrated the one year anniversary
of Curiosity's landing on Mars with live events

7
00:00:40,250 --> 00:00:43,710
from the Jet Propulsion Laboratory -- featuring
rover team members.

8
00:00:43,710 --> 00:00:47,870
"Forever, you know, people are just always
mentioning the seven minutes of terror. In

9
00:00:47,870 --> 00:00:56,930
fact, people were tweeting, 'thanks for the
terror'; hashtag, thanks for terror, so that's

10
00:00:56,930 --> 00:01:00,220
been phenomenal."

11
00:01:00,220 --> 00:01:11,050

"What a fantastic job that the group at JPL did with this rover and again, jus fascinated

12
00:01:11,050 --> 00:01:16,350
by what an impact it had over the entire world."
Curiosity has also found evidence that Mars

13
00:01:16,350 --> 00:01:21,400
lost most of its original atmosphere through processes that occurred near the top of the

14
00:01:21,400 --> 00:01:25,260
planet's atmosphere.

15
00:01:25,260 --> 00:01:30,659
NASA's next mission to Mars, the Mars Atmosphere and Volatile Evolution or MAVEN, will study

16
00:01:30,659 --> 00:01:36,000
the Red Planet's upper atmosphere for clues about what existed there before the atmospheric

17
00:01:36,000 --> 00:01:41,390
loss occurred. The MAVEN spacecraft arrived at Kennedy Space Center recently for processing

18
00:01:41,390 --> 00:01:46,979
in advance of its November launch to Mars.

19
00:01:46,979 --> 00:01:51,780
After four years as NASA's Deputy Administrator, Lori Garver is leaving the agency to become

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00:01:51,780 --> 00:01:57,840
General Manager of the Air Line Pilots Association. In a statement, Administrator Charlie Bolden

21
00:01:57,840 --> 00:02:03,390
called Garver, "an indispensable partner in our efforts to keep NASA on a trajectory of

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00:02:03,390 --> 00:02:05,520

progress and innovation."

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00:02:05,520 --> 00:02:11,220

Garver led the way on many of the Obama Administration's space priorities, including NASA's commercial

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00:02:11,220 --> 00:02:16,549

crew and cargo programs, the re-establishment of a space technology mission directorate,

25

00:02:16,549 --> 00:02:23,290

NASA's use of challenges and prizes, and an unwavering commitment to diversity and inclusion.

26

00:02:23,290 --> 00:02:28,329

Garver will leave her NASA post on September 6.

27

00:02:28,329 --> 00:02:33,430

A fireball from a kilonova, a new kind of stellar blast, spotted by the Hubble Space

28

00:02:33,430 --> 00:02:39,120

Telescope in a galaxy almost 4 billion light-years from Earth, is the strongest evidence yet

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00:02:39,120 --> 00:02:44,359

that short-duration gamma ray bursts happen when two small, super-dense stellar objects

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00:02:44,359 --> 00:02:48,139

come together.

A kilonova comes from the energy released

31

00:02:48,139 --> 00:02:53,230

by the collision of two compact objects. It had been predicted that kilonovas accompany

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00:02:53,230 --> 00:03:00,419

short-duration GRBs, but this is the first time it's been seen.

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00:03:00,419 --> 00:03:05,730

Six days after launching from the Tanegashima Space Center in Japan, the automated Kounotori4

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00:03:05,730 --> 00:03:11,829

H-II Transfer Vehicle or HTV-4, met up with The International Space Station, was captured

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00:03:11,829 --> 00:03:17,379

with the station's robotic arm by the Expedition 36 crew aboard the ISS and was installed on

36

00:03:17,379 --> 00:03:23,879

the station's Harmony module. HTV-4 delivered about 3 ½ tons of cargo and experiments to

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00:03:23,879 --> 00:03:27,879

the orbital laboratory.

38

00:03:27,879 --> 00:03:32,589

NASA Administrator Charlie Bolden recently toured Orbital Sciences Corporation's Satellite

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00:03:32,589 --> 00:03:37,870

Manufacturing Facility near Phoenix, Arizona to check out The Orbiting Carbon Observatory

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00:03:37,870 --> 00:03:45,269

-2 or OCO-2 satellite. A carbon copy of a satellite lost to a mishap in 2009, OCO-2

41

00:03:45,269 --> 00:03:50,019

is designed to take precise measurements of carbon dioxide in Earth's atmosphere.

42

00:03:50,019 --> 00:03:57,529

"Orbital continues its record of performance of producing satellites that help us understand

43

00:03:57,529 --> 00:04:03,169

our earth as a system. The climate, what's happening to it? What are we doing? What's

44

00:04:03,169 --> 00:04:07,920

happening naturally? And just data we absolutely have to have."

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00:04:07,920 --> 00:04:15,359

The Observatory will be launched from California's Vandenberg Air Force Base in July 2014.

46

00:04:15,359 --> 00:04:20,291

The first completed liquid hydrogen tank barrel segment for the core stage of NASA's Space

47

00:04:20,291 --> 00:04:25,030

Launch System heavy-lift rocket has been rolled off the production line at the Michoud Assembly

48

00:04:25,030 --> 00:04:26,870

Facility in New Orleans.

49

00:04:26,870 --> 00:04:32,440

The 22-foot structure validates the vertical weld center and friction stir welding process,

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00:04:32,440 --> 00:04:37,310

which uses frictional heating and forging pressure to produce high-strength bonds virtually

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00:04:37,310 --> 00:04:43,700

free of defects. The SLS core stage liquid hydrogen tank will be more than 200 feet tall

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00:04:43,700 --> 00:04:49,970

when completed.

NASA's SOFIA airborne observatory has returned

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00:04:49,970 --> 00:04:55,150

to Palmdale, California from a two-and-a-half week campaign to study celestial objects from

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00:04:55,150 --> 00:05:01,410

a vantage point in the southern hemisphere.

The modified 747 flew nine astronomical science

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00:05:01,410 --> 00:05:06,310

flights from Christchurch, New Zealand -- demonstrating its capability to fly back-to-back missions

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00:05:06,310 --> 00:05:07,740

with high reliability:

57

00:05:07,740 --> 00:05:10,690

And that's This Week @NASA.