



1
00:00:07,029 --> 00:00:10,769
This Week at NASA...

2
00:00:10,769 --> 00:00:15,620
"3-2-1...drop...Pegasus is away"!!!

3
00:00:15,620 --> 00:00:20,410
NASA's Interface Region Imaging Spectrograph
or IRIS mission is underway.

4
00:00:20,410 --> 00:00:25,189
IRIS was air-launched on an Orbital Sciences
Corporation Pegasus rocket over the Pacific

5
00:00:25,189 --> 00:00:28,970
Ocean near Vandenberg Air Force Base in California.

6
00:00:28,970 --> 00:00:33,600
The NASA Small Explorer Mission will observe
the characteristics of solar material as it

7
00:00:33,600 --> 00:00:38,840
moves through the little-understood interface
region between the sun's photosphere and corona

8
00:00:38,840 --> 00:00:45,510
that powers the sun's million-degree atmosphere
and drives the solar wind.

9
00:00:45,510 --> 00:00:50,989
Astronomers using the Pan-STARRS-1 telescope
on the summit of the Haleakala crater in Maui,

10
00:00:50,989 --> 00:00:57,879
have detected the 10,000th near-Earth object,
an asteroid called 2013 MZ5.

11
00:00:57,879 --> 00:01:02,450
Near-Earth objects are asteroids and comets

that can approach the Earth's orbital distance

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00:01:02,450 --> 00:01:07,910

to within about 28 million miles and range
in size from a few feet to as large as 25

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00:01:07,910 --> 00:01:08,910

miles across.

14

00:01:08,910 --> 00:01:15,640

2013 MZ5, about 1,000 feet across, wont approach
close enough to Earth to be considered potentially

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00:01:15,640 --> 00:01:21,909

hazardous.

16

00:01:21,909 --> 00:01:26,380

NASA Associate Administrator for Human Exploration
and Operations Bill Gerstenmaier and other

17

00:01:26,380 --> 00:01:31,290

agency officials attended a ribbon-cutting
ceremony at Michoud Assembly Facility for

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00:01:31,290 --> 00:01:36,439

the vertical weld center, where friction-stir
weld tooling will be used to assemble the

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00:01:36,439 --> 00:01:40,259

core stage of the Space Launch System heavy-lift
rocket.

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00:01:40,259 --> 00:01:45,420

The event included a tour of the SLS assembly
area and an update on work in support of NASA's

21

00:01:45,420 --> 00:01:46,789

Orion spacecraft.

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00:01:46,789 --> 00:01:53,119

The first SLS mission — Exploration Mission 1 — in 2017 will launch an un-crewed Orion

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00:01:53,119 --> 00:01:57,520

to demonstrate performance of the integrated system prior to a crewed flight.

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00:01:57,520 --> 00:02:02,219

"It seems like a long way away when we talk about 2017 or we talk about 2021.

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00:02:02,219 --> 00:02:07,040

But I think when you think about all of the manufacturing and all the work and all the

26

00:02:07,040 --> 00:02:11,701

hardware and all the systems and all of the design work that needs to come together, it's

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00:02:11,701 --> 00:02:13,150

not that far away."

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00:02:13,150 --> 00:02:18,590

The core stage of the SLS, which stands some 200 feet-tall, will store cryogenic fuel to

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00:02:18,590 --> 00:02:21,709

feed the rocket's RS-25 engines.

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00:02:21,709 --> 00:02:32,349

NASA is developing the SLS and Orion to provide an entirely new capability for human exploration.

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00:02:32,349 --> 00:02:37,730

Media were updated on NASA's human spaceflight programs at the Kennedy Space Center.

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00:02:37,730 --> 00:02:43,909

Orion and NASA's new Space Launch System will

enable future missions of deep space exploration.

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00:02:43,909 --> 00:02:50,790

"We are designing a rocket that will be evolvable, sustainable and affordable for this country

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00:02:50,790 --> 00:02:51,970

and for the world."

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00:02:51,970 --> 00:02:57,790

The agency's Commercial Crew Program and its industry partners will ensure America's own

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00:02:57,790 --> 00:03:03,319

domestic crew launch capability to low-Earth orbit and the International Space Station.

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00:03:03,319 --> 00:03:08,799

"If I had a hat, I would take it off and salute all of those folks that are working very hard

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00:03:08,799 --> 00:03:13,930

today within the program in order to get a U.S. capability."

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00:03:13,930 --> 00:03:19,689

Kennedy's Ground Systems Development and Operations program is refurbishing the center's infrastructure

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00:03:19,689 --> 00:03:25,670

for all future government and commercial launches.

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00:03:25,670 --> 00:03:30,410

Aboard the International Space Station, Expedition 36 Flight Engineers Fyodor Yurchikhin and

42

00:03:30,410 --> 00:03:35,290

Alexander Misurkin of the Russian Federal Space Agency conducted a 6-hour 34-minute

- 43
00:03:35,290 --> 00:03:39,939
spacewalk to prepare for the arrival of a
new Russian module later this year.
- 44
00:03:39,939 --> 00:03:44,860
The pair replaced a fluid flow control panel
on the station's Zarya module and installed
- 45
00:03:44,860 --> 00:03:50,380
clamps for the power cables of the combination
research facility, airlock and docking port,that
- 46
00:03:50,380 --> 00:03:52,780
will replace the Pirs airlock.
- 47
00:03:52,780 --> 00:03:56,579
This is the second of up to six Russian spacewalks
planned this year.
- 48
00:03:56,579 --> 00:04:02,189
Two U.S. spacewalks by NASA's Chris Cassidy
and Luca Parmitano of the European Space Agency
- 49
00:04:02,189 --> 00:04:05,959
are scheduled in July.
- 50
00:04:05,959 --> 00:04:10,250
International Space Station Program Manager
Mike Suffredini attended a recent unveiling
- 51
00:04:10,250 --> 00:04:15,790
ceremony at Marshall Space Flight Center for
Marshall's upgraded Payload Operations Integration
- 52
00:04:15,790 --> 00:04:19,570
Center, which plans and coordinates the science
activities onboard the International Space
- 53
00:04:19,570 --> 00:04:20,570

Station.

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00:04:20,570 --> 00:04:23,400

"The reason we're going to unveil this is about research.

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00:04:23,400 --> 00:04:27,390

And where research is managed is right here at Marshall Space Flight Center."

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00:04:27,390 --> 00:04:32,780

The renovated room features a video wall that can be configured to display images and scientific

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00:04:32,780 --> 00:04:35,940

data from multiple experiments and sources.

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00:04:35,940 --> 00:04:40,460

With more than 200 experiments on the station at any time, rapid sharing of information

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00:04:40,460 --> 00:04:46,480

between the ground and the crew in space is important.

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00:04:46,480 --> 00:04:50,979

The new, \$100-million Space Shuttle Atlantis attraction is making its debut at the Kennedy

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00:04:50,979 --> 00:04:53,669

Space Center Visitor Complex.

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00:04:53,669 --> 00:05:00,790

Atlantis is raised 30 feet off the ground and rotated at a 43.21 angle as if orbiting

63

00:05:00,790 --> 00:05:08,670

Earth, providing guests with an up-close, 360-degree, multi-level view of the orbiter.

64
00:05:08,670 --> 00:05:14,460
Multimedia presentations and more than 60
interactive exhibits and high-tech simulators

65
00:05:14,460 --> 00:05:22,800
tell the story of NASA's successful, 30-year
Space Shuttle Program.

66
00:05:22,800 --> 00:05:27,680
NASA Langley has developed a "HUNCH" for students
interested in Science, Technology, Engineering

67
00:05:27,680 --> 00:05:28,680
and Math.

68
00:05:28,680 --> 00:05:33,990
The HUNCH program, which stands for High School
students United to Create Hardware program,

69
00:05:33,990 --> 00:05:41,980
helps students develop skills needed to pursue
a technical or scientific career.

70
00:05:41,980 --> 00:05:47,160
With the help of Langley engineers HUNCH students
design and build complex projects, such as

71
00:05:47,160 --> 00:05:52,669
this Barany chair used to test spatial disorientation
in pilots and astronauts.

72
00:05:52,669 --> 00:05:56,680
There's even time to take some projects for
a test spin.

73
00:05:56,680 --> 00:06:01,340
Langley plans to continue its HUNCH endeavors
with potential plans to build a mockup of

74

00:06:01,340 --> 00:06:11,440
the International Space Station's Destiny
Laboratory in a future project.

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00:06:11,440 --> 00:06:15,050
Rocket science students and teachers from
across the nation gathered at NASA's Wallops

76
00:06:15,050 --> 00:06:18,050
Flight Facility for Rocket Week 2013.

77
00:06:18,050 --> 00:06:20,870
There were three courses for the students;
RockOn!

78
00:06:20,870 --> 00:06:25,830
RockSat-C and RockSat-X -- with each step
more technically challenging than the previous,

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00:06:25,830 --> 00:06:30,069
to help the students expand on the skills
needed to support the aerospace industry.

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00:06:30,069 --> 00:06:35,610
Also part of Rocket Week was the Wallops Rocket
Academy for Teachers and Students, or WRATS

81
00:06:35,610 --> 00:06:36,610
program.

82
00:06:36,610 --> 00:06:40,442
WRATS provides high school teachers with knowledge
about the dynamics of rocketry and the science

83
00:06:40,442 --> 00:06:47,139
gained from suborbital sounding rockets, to
reinforce STEM concepts they teach in their

84
00:06:47,139 --> 00:06:49,509
classrooms.

85

00:06:49,509 --> 00:06:54,250

"3,2,1, ROCKON!!!"

86

00:06:54,250 --> 00:07:00,199

On July 4, 1997 the Mars Pathfinder landed on The Red Planet seven months after it was

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00:07:00,199 --> 00:07:01,199

launched.

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00:07:01,199 --> 00:07:05,889

Pathfinder landed in the Chryse Planitia region of the Oxia Palus quadrangle.

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00:07:05,889 --> 00:07:10,360

The mission carried a series of scientific instruments to analyze the Martian atmosphere

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00:07:10,360 --> 00:07:12,949

and the composition of its rocks and soil.

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00:07:12,949 --> 00:07:18,110

Pathfinder consisted of a lander, renamed the Carl Sagan Memorial Station, and a lightweight

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00:07:18,110 --> 00:07:20,940

robotic rover named Sojourner.

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00:07:20,940 --> 00:07:25,271

In addition to scientific objectives, the mission was also a "proof-of-concept" for

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00:07:25,271 --> 00:07:31,349

various technologies, such as the airbag-mediated touchdown and automated obstacle avoidance,

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00:07:31,349 --> 00:07:35,910

both later used by the Mars Exploration Rovers.

96

00:07:35,910 --> 00:07:37,750

And that's This Week @NASA.