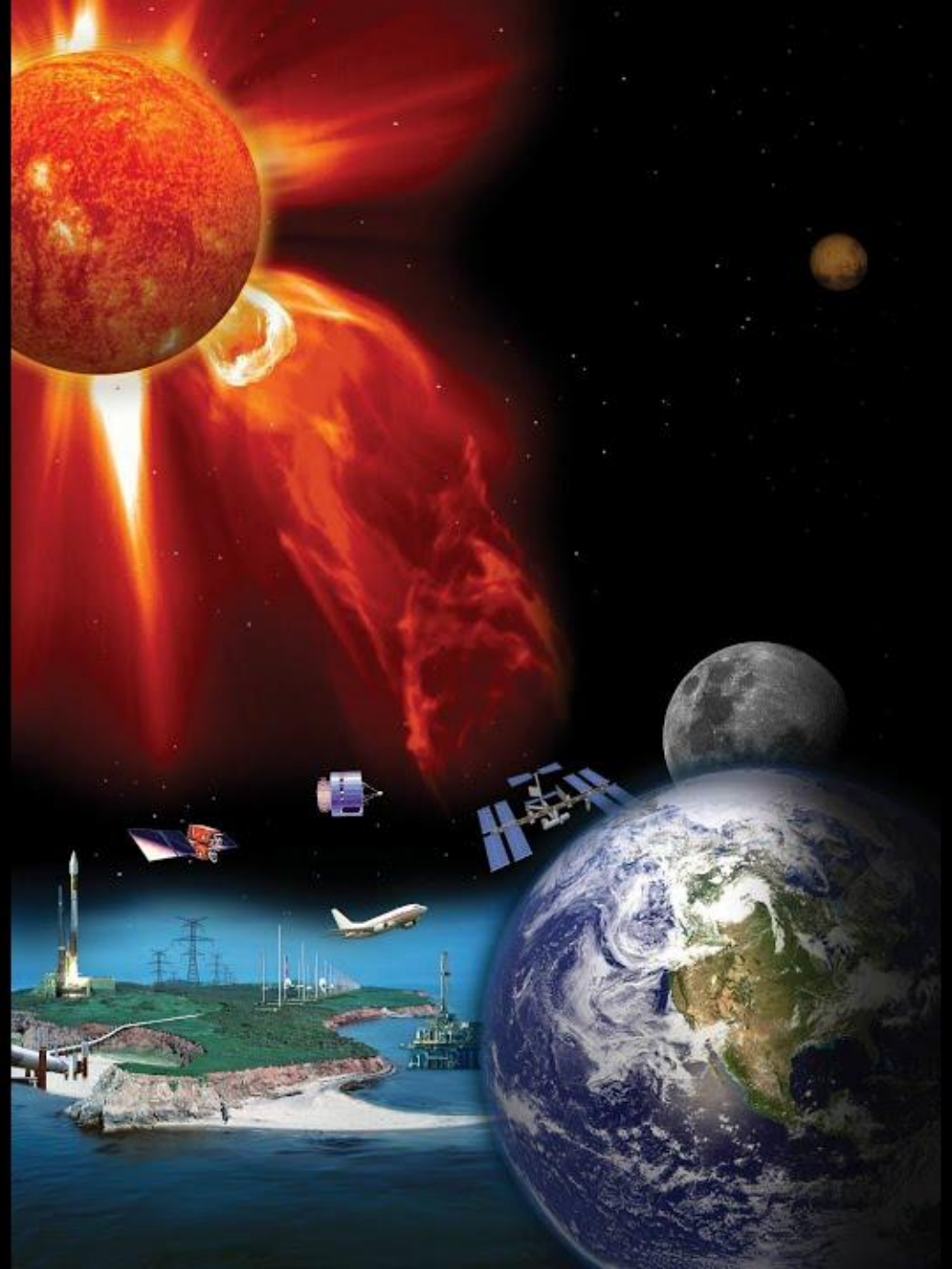

1
00:00:07,040 --> 00:00:11,290
This Week at NASA

2
00:00:11,290 --> 00:00:15,400
NASA Administrator Charlie Bolden delivered
the keynote address for this year's Space

3
00:00:15,400 --> 00:00:20,390
Weather Enterprise Forum at the National Oceanic
and Atmospheric Administration's Auditorium

4
00:00:20,390 --> 00:00:23,200
and Science Center in Silver Spring, Maryland.

5
00:00:23,200 --> 00:00:28,860
The annual forum includes researchers, policymakers
and forecasters discussing space weather and

6
00:00:28,860 --> 00:00:33,530
how to mitigate its effects on communications,
navigation and national security.

7
00:00:33,530 --> 00:00:38,200
Given the growing importance of space to our
nation's economic well being and security,

8
00:00:38,200 --> 00:00:44,021
it's of increasing importance that NASA and
its partner agencies continue to advance our

9
00:00:44,021 --> 00:00:48,430
nation's capability to understand and predict
space weather events.

10
00:00:48,430 --> 00:00:53,150
Space weather involves conditions and events
on the sun and in near-Earth space that can

11
00:00:53,150 --> 00:00:58,120

affect critical systems, such as electric
power grids and communications and navigation

12
00:00:58,120 --> 00:01:01,280
systems.

13
00:01:01,280 --> 00:01:05,900
During a pre-launch news conference at NASA
headquarters investigators and managers briefed

14
00:01:05,900 --> 00:01:11,600
the media on the upcoming Interface Region
Imaging Spectrograph, or IRIS mission which

15
00:01:11,600 --> 00:01:16,920
will observe certain characteristics of solar
material as it travels through a little-understood

16
00:01:16,920 --> 00:01:19,130
region in the sun's lower atmosphere.

17
00:01:19,130 --> 00:01:22,550
So it can take images about once a second.

18
00:01:22,550 --> 00:01:28,360
This is critical because the processes that
occur in this part of the atmosphere happen

19
00:01:28,360 --> 00:01:30,090
very, very fast.

20
00:01:30,090 --> 00:01:35,190
The region of the solar atmosphere IRIS will
observe is the origin of most of the ultraviolet

21
00:01:35,190 --> 00:01:36,850
solar emission that impacts Earth.

22
00:01:36,850 --> 00:01:42,980

IRIS will launch June 26 aboard a Pegasus
rocket deployed by an L-1011 aircraft from

23
00:01:42,980 --> 00:01:47,810
Vandenberg Air Force Base in California.

24
00:01:47,810 --> 00:01:50,840
Progress continues on the Orion spacecraft.

25
00:01:50,840 --> 00:01:55,380
Technicians at Textron Defense Systems in
Willmington, Massachusetts are using Avcoat

26
00:01:55,380 --> 00:02:00,720
to fill the holes in the honeycomb shaped
structure of Orion's heat shield with Avcoat

27
00:02:00,720 --> 00:02:05,280
is a material able to endure temperatures
up to 4,000 degrees Fahrenheit.

28
00:02:05,280 --> 00:02:09,509
The heat shield will protect the spacecraft
from the extreme temperatures it will experience

29
00:02:09,509 --> 00:02:11,610
on its return from deep space.

30
00:02:11,610 --> 00:02:18,640
In 2014, Orion will travel 3,600 miles into
space on Exploration Flight Test-1 and return

31
00:02:18,640 --> 00:02:25,329
to Earth at speeds of more than 20,000 miles
per hour.

32
00:02:25,329 --> 00:02:29,400
Engineers at the Stennis Space Center are
fabricating a new 77-hundred-pound thrust

33
00:02:29,400 --> 00:02:35,610
frame adapter to enable testing, in the A-1
Test Stand, of the RS-25 engines, which will

34
00:02:35,610 --> 00:02:39,269
provide core-stage power for NASA's Space
Launch System.

35
00:02:39,269 --> 00:02:45,230
A thrust adapter unique to each rocket engine
type holds an engine in place and absorbs

36
00:02:45,230 --> 00:02:50,200
the thrust produced during a test to allow
accurate measurement of the engine's performance.

37
00:02:50,200 --> 00:02:57,559
The stand component is scheduled to be completed
and installed by November 2013.

38
00:02:57,559 --> 00:03:01,700
NASA's Mars Exploration Rover Opportunity
is on the move again.

39
00:03:01,700 --> 00:03:06,909
Opportunity, approaching its10th anniversary
of leaving Earth, is trekking to a new study

40
00:03:06,909 --> 00:03:10,870
area still many weeks away called "Solander
Point."

41
00:03:10,870 --> 00:03:16,000
The new destination offers a much taller stack
of geological layering than the "Cape York"

42
00:03:16,000 --> 00:03:19,690
area in which the rover has worked for the
past 20 months.

43
00:03:19,690 --> 00:03:25,379
Since landing in January 2004, Opportunity
and its twin Spirit, which ceased operations

44
00:03:25,379 --> 00:03:33,059
in 2010, have both found evidence of wet environments
on ancient Mars.

45
00:03:33,059 --> 00:03:38,080
News from the American Astronomical Society's
Summer Meeting in Indianapolis included info

46
00:03:38,080 --> 00:03:43,370
about the key role of NASA's Swift satellite
in producing the most detailed ultraviolet

47
00:03:43,370 --> 00:03:50,519
light surveys ever of the Large and Small
Magellanic Clouds, our two closest major galaxies.

48
00:03:50,519 --> 00:03:56,010
Swift's Ultra-Violet/Optical telescope snapped
more than 28-hundred individual shots which

49
00:03:56,010 --> 00:04:03,290
astronomers used to produce the 160-megapixel
mosaic of the LMC and the 57-megapixel mosaic

50
00:04:03,290 --> 00:04:04,909
of the SMC.

51
00:04:04,909 --> 00:04:10,629
The mosaics will enable astronomers to better
study the evolution of stars in each galaxy.

52
00:04:10,629 --> 00:04:17,630
Meanwhile, astronomers say celestial conditions
in October 2014 and February 2016 will present

53

00:04:17,630 --> 00:04:23,450
prime opportunities for NASA's Hubble Space Telescope to hunt for Earth-sized planets

54
00:04:23,450 --> 00:04:28,890
around the red dwarf Proxima Centauri, the star nearest to our sun.

55
00:04:28,890 --> 00:04:33,720
When Proxima Centauri passes in front of two other stars during those two time periods,

56
00:04:33,720 --> 00:04:38,980
astronomers plan to look for any imaging distortion -- called microlensing.

57
00:04:38,980 --> 00:04:43,790
Microlensing occurs when a foreground star passes in front of distant star and could

58
00:04:43,790 --> 00:04:52,100
indicate the existence of smaller planets.

59
00:04:52,100 --> 00:04:57,040
Loaded with more than 7 tons of supplies for the Expedition 36 crew aboard the International

60
00:04:57,040 --> 00:05:03,570
Space Station, Albert Einstein, the European Space Agency's fourth Automated Transfer Vehicle,

61
00:05:03,570 --> 00:05:07,360
was launched from Kourou, French Guiana on June 5.

62
00:05:07,360 --> 00:05:12,720
The supply craft, named after the 20th century icon of science and physics, is scheduled

63
00:05:12,720 --> 00:05:14,820

dock to the station on June 15.

64
00:05:14,820 --> 00:05:21,010
NASA Television coverage of the rendezvous
and docking starts at 8:00 a.m.

65
00:05:21,010 --> 00:05:26,000
NASA and the LEGO Group are collaborating
to inspire the next generation of aerospace

66
00:05:26,000 --> 00:05:32,500
engineers with a new design competition called
"NASA's Missions: Imagine and Build".

67
00:05:32,500 --> 00:05:37,450
The competition offers two categories in which
students of all ages use the toy bricks to

68
00:05:37,450 --> 00:05:40,750
build models of future airplanes and spacecraft.

69
00:05:40,750 --> 00:05:46,060
Deadline for entry is July 31 with winners
selected on September 1.

70
00:05:46,060 --> 00:05:49,960
Prizes include NASA memorabilia and items
from LEGO.

71
00:05:49,960 --> 00:05:58,020
For details visit http://rebrick.lego.com/.

72
00:05:58,020 --> 00:06:02,990
Marshall Space Flight Center astrophysicist,
Dr. Chryssa Kouveliotou, has been selected

73
00:06:02,990 --> 00:06:06,090
for membership to the National Academy of
Sciences.

74
00:06:06,090 --> 00:06:11,670
The honor recognizes her extensive and continuing achievements in original scientific research

75
00:06:11,670 --> 00:06:18,020
on a host of astronomical phenomena, including black holes, neutron stars and gamma-ray bursts.

76
00:06:18,020 --> 00:06:23,820
Kouveliotou, currently involved with scientific investigations conducted by NASA's Fermi,

77
00:06:23,820 --> 00:06:35,020
Swift and NuSTAR programs; is one of 84 new members of the academy.

78
00:06:35,020 --> 00:06:40,680
On June 11, 2008, NASA launched the space observatory from Cape Canaveral known then

79
00:06:40,680 --> 00:06:45,280
as the Gamma-ray Large Area Space Telescope or GLAST.

80
00:06:45,280 --> 00:06:50,970
Renamed the Fermi Gamma-ray Space Telescope two months later after Italian physicist Enrico

81
00:06:50,970 --> 00:06:56,390
Fermi, NASA's largest gamma-ray observatory has enabled scientists to learn more about

82
00:06:56,390 --> 00:07:01,950
the ever-changing Universe, answer persistent questions about super-massive black-hole systems,

83
00:07:01,950 --> 00:07:08,560
pulsars and cosmic rays, and search for signals of new physics in the cosmos.

84
00:07:08,560 --> 00:07:09,740
And that's This Week @NASA.