1
00:00:07,029 --> 00:00:14,200
This Week at NASA…

2
00:00:14,200 --> 00:00:21,430
After bidding farewell to the Kennedy Space Center and Florida’s Space Coast, Space

3
00:00:21,430 --> 00:00:25,369
Shuttle Endeavour headed west toward its new home in California.

4
00:00:25,369 --> 00:00:31,529
Secured to NASA 905, the Shuttle Carrier Aircraft, Endeavour made appearances in the skies over

5
00:00:31,529 --> 00:00:36,160
several NASA installations – including Stennis Space Center in Mississippi …

6
00:00:36,160 --> 00:00:39,670
… the Michoud Assembly Facility in New Orleans …

7
00:00:39,670 --> 00:00:46,210
…and Endeavour soared around the Houston area -- before landing at Ellington Field

8
00:00:46,210 --> 00:00:49,219
near the Johnson Space Center, for the night.

9
00:00:49,219 --> 00:00:54,179
The next day Endeavour and the SCA arrived at the Dryden Flight Research Center – a

10
00:00:54,179 --> 00:00:58,550
homecoming of sorts for the orbiter which was built in nearby Palmdale, California,

11
00:00:58,550 --> 00:01:01,479

in 19-91.

12
00:01:01,479 --> 00:01:07,070
After leaving Dryden the following day, Endeavour
continued its farewell tour up in Northern

13
00:01:07,070 --> 00:01:10,270
California – with flyovers of Ames Research
Center …

14
00:01:10,270 --> 00:01:18,490
… and several iconic locations in that portion
of the Golden State…

15
00:01:18,490 --> 00:01:22,359
… before heading back downstate for a salute
to The Jet Propulsion Laboratory …

16
00:01:22,359 --> 00:01:29,479
… and Endeavour provided a series of spectacular
photo ops elsewhere in Southern California

17
00:01:36,250 --> 00:01:30,479
…

18
00:01:36,250 --> 00:01:49,649
“It is a great day for NASA – for America
and for the people who live here in Southern

19
00:01:49,649 --> 00:01:50,649
California.

20
00:01:50,649 --> 00:01:55,970
The fact that the Space Shuttles were developed
here, built here just down the road and Endeavour’s

21
00:01:55,970 --> 00:02:00,789
coming back on her last ferry flight on the
747 is a wonderful thing.”

22
00:02:00,789 --> 00:02:05,380
Next month, Endeavour will be towed through
the streets of Los Angeles to begin its new

23
00:02:05,380 --> 00:02:13,020
mission of education and inspiration – on
display, at the California Science Center.

24
00:02:13,020 --> 00:02:17,940
Some forty randomly-selected NASA social media
followers welcomed Endeavour to Dryden with

25
00:02:17,940 --> 00:02:20,080
a two-day NASA social.

26
00:02:20,080 --> 00:02:24,819
Those who engage with the agency through Twitter,
Facebook and Google+ watched the landing and

27
00:02:24,819 --> 00:02:29,580
departure of the orbiter as it piggybacked
on the SCA.

28
00:02:29,580 --> 00:02:34,470
Participants also spoke with experts, toured
aircraft, and met up with other space enthusiasts

29
00:02:34,470 --> 00:02:37,680
and members of the NASA social media team.

30
00:02:37,680 --> 00:02:44,489
Hi, I’m Jessica Samuels, member of the engineering
operations team and this is your Curiosity

31
00:02:44,489 --> 00:02:46,590
rover update.

32
00:02:46,590 --> 00:02:50,390
Last week, we completed our second round of

vehicle health checkouts.

33
00:02:50,390 --> 00:02:55,239
This was primarily targeted on the robotic
arm and the hardware at the end of the robotic

34
00:02:55,239 --> 00:02:56,959
arm called the turret.

35
00:02:56,959 --> 00:03:02,940
This included different instruments and the
sample processing hardware and sample acquisitioning

36
00:03:02,940 --> 00:03:04,470
hardware.

37
00:03:04,470 --> 00:03:09,900
Our arm checkout activity was in preparation
for our first contact science.

38
00:03:09,900 --> 00:03:14,770
This is an exciting time for the robotic arm
team and the mission as a whole as we will

39
00:03:14,770 --> 00:03:21,720
do our first placement of an instrument on
a target called “Jake Matijevic.”

40
00:03:21,720 --> 00:03:27,580
Our target was named specifically for our
surface operations team chief engineer, who

41
00:03:27,580 --> 00:03:31,970
unfortunately passed shortly after landing.

42
00:03:31,970 --> 00:03:37,519
The target Matijevic has been selected to
cross calibrate two of our instruments on

43

00:03:37,519 --> 00:03:38,519
the rover.

44
00:03:38,519 --> 00:03:43,200
The alpha particle X-ray spectrometer, which
resides on the end of the robotic arm, and

45
00:03:43,200 --> 00:03:48,220
the ChemCam instrument, which resides on top
of the remote sensing mast.

46
00:03:48,220 --> 00:03:53,569
Recently we completed a Mastcam panorama of
a ridge, which will give us a great vantage

47
00:03:53,569 --> 00:03:56,290
point of the Glenelg target area.

48
00:03:56,290 --> 00:04:02,650
A few sols ago we completed a interesting
campaign where we actually acquired images

49
00:04:02,650 --> 00:04:08,260
of the Martian moons, Phobos and Deimos, transiting
across the sun.

50
00:04:08,260 --> 00:04:10,969
So that is your Curiosity rover update.

51
00:04:10,969 --> 00:04:15,439
Check in for future reports.

52
00:04:15,439 --> 00:04:20,880
Among those instrumental in Curiosity's
success are American small businesses.

53
00:04:20,880 --> 00:04:27,199
One company, ATA Engineering, hosted a Google-Plus
"Hangout" with NASA Administrator Charlie

54
00:04:27,199 --> 00:04:31,820
Bolden and Small Business Administration Administrator
Karen Mills.

55
00:04:31,820 --> 00:04:35,100
A Google-Plus "Hangout" is a group video chat.

56
00:04:35,100 --> 00:04:40,720
The Herndon, Virginia, firm partnered with
NASA's Jet Propulsion Laboratory to test and

57
00:04:40,720 --> 00:04:43,470
analyze Curiosity's entry, descent and landing.

58
00:04:43,470 --> 00:04:47,370
"And it deployed its wheels to get ready
for landing and it actually landed on the

59
00:04:47,370 --> 00:04:48,860
surface of Mars."

60
00:04:48,860 --> 00:04:59,050
ATA Engineering also contributed to the rover's
wheels, actuators and thermal control systems.

61
00:04:59,050 --> 00:05:03,370
The next three residents of the International
Space Station are training for their upcoming

62
00:05:03,370 --> 00:05:06,050
launch to the orbiting laboratory.

63
00:05:06,050 --> 00:05:12,030
NASA Flight Engineer Kevin Ford, Soyuz Commander
Oleg Novitskiy and Flight Engineer Evgeny

64
00:05:12,030 --> 00:05:18,069
Tarelkin of the Russian Federal Space Agency,
together the Expedition 33/34 crew, are at

65
00:05:18,069 --> 00:05:23,819
the Gagarin Cosmonaut Training Center in Star City, Russia, familiarizing themselves with

66
00:05:23,819 --> 00:05:26,919
the gear they'll use and procedures they'll follow.

67
00:05:26,919 --> 00:05:32,150
Their Soyuz spacecraft is scheduled to liftoff from the Baikonur Cosmodrome in Kazakhstan

68
00:05:32,150 --> 00:05:35,300
in mid-October.

69
00:05:35,300 --> 00:05:40,330
International Space Station Program Scientist Julie Robinson met with researchers and managers

70
00:05:40,330 --> 00:05:45,430
at the Glenn Research Center about the experiments they're responsible for aboard the station.

71
00:05:45,430 --> 00:05:50,440
The orbiting lab's microgravity provides scientists with unique insight to the physical

72
00:05:50,440 --> 00:05:54,600
processes presented by problems we encounter here on Earth.

73
00:05:54,600 --> 00:05:59,870
Glenn is among several NASA field centers with key roles in station science.

74
00:05:59,870 --> 00:06:04,490
"There's a great capability across the country for knowing how to do an experiment

75
00:06:04,490 --> 00:06:08,940
in space and helping a scientist to do that
even if they haven’t done an experiment

76
00:06:08,940 --> 00:06:09,940
in space before.”

77
00:06:09,940 --> 00:06:14,460
With assembly of the station complete, Robinson
has overseen the introduction of hundreds

78
00:06:14,460 --> 00:06:23,979
of new, scientific investigations on the ISS,
the world’s only laboratory in microgravity.

79
00:06:23,979 --> 00:06:29,020
September is National Preparedness Month,
and the Emergency Management Team at NASA

80
00:06:29,020 --> 00:06:35,120
Headquarters is sponsoring events and activities
to help employees ready themselves for emergencies

81
00:06:35,120 --> 00:06:36,120
at work …

82
00:06:36,120 --> 00:06:37,120
“Don’t panic.”

83
00:06:37,120 --> 00:06:39,400
“Don’t panic and never try to self-evacuate.”

84
00:06:39,400 --> 00:06:42,690
… as well as for emergencies at home, and
elsewhere.

85
00:06:42,690 --> 00:06:47,139
“One of the things we recommend that everyone
have in their home or even in their office

86
00:06:47,139 --> 00:06:49,330
is the NOAA Weather Radio.”

87
00:06:49,330 --> 00:06:58,410
For steps you can take to prepare for an emergency,
visit www.ready.gov.

88
00:06:58,410 --> 00:07:03,690
The first of two Global Hawk unmanned aerial
vehicles expected from NASA's Dryden Flight

89
00:07:03,690 --> 00:07:09,420
Research Center has arrived at Wallops Flight
Facility and has started its five-year Hurricane

90
00:07:09,420 --> 00:07:15,300
and Severe Storm Sentinel, or HS3 mission,
to study Atlantic hurricanes closer to the

91
00:07:15,300 --> 00:07:16,300
source.

92
00:07:16,300 --> 00:07:19,629
“The HS3 mission in general is a great pathfinder.

93
00:07:19,629 --> 00:07:25,199
We’re building a Global Hawk Operations
Center East, which will have a permanent ground

94
00:07:25,199 --> 00:07:26,199
station here.

95
00:07:26,199 --> 00:07:28,949
So Global Hawks will be a permanent part of
our future here”.

96
00:07:28,949 --> 00:07:34,250
The aircraft, which can reach altitudes in

excess of 55-thousand feet has already conducted

97
00:07:34,250 --> 00:07:45,050
a 26-hour flight to study the recent tropical
storm Nadine in the Azores.

98
00:07:45,050 --> 00:07:49,310
Model makers at the Langley Research Center
have built to-scale three versions of the

99
00:07:49,310 --> 00:07:53,240
Space Launch System for a series of wind tunnel
tests.

100
00:07:53,240 --> 00:07:57,880
Officials in the SLS project office at Marshall
will see how these configurations, each complete

101
00:07:57,880 --> 00:08:03,650
with solid rocket boosters, center body and
crew capsule, behave during ascent.

102
00:08:03,650 --> 00:08:08,340
Each of the 12-foot long models, built to
three-percent scale, is being instrumented

103
00:08:08,340 --> 00:08:11,840
with more than 350 active sensors.

104
00:08:11,840 --> 00:08:16,320
The SLS wind tunnel testing at Langley’s
Transonic Dynamics Tunnel is scheduled to

105
00:08:16,320 --> 00:08:18,240
last about five weeks.

106
00:08:18,240 --> 00:08:25,629
NASA’s new Space Launch System will send
astronauts farther into space than ever before.

107
00:08:25,629 --> 00:08:29,930
At the Wallops Flight Facility, university
students who used their academic skills to

108
00:08:29,930 --> 00:08:35,070
develop atmospheric and technology experiments
watched those experiments launched on a NASA

109
00:08:35,070 --> 00:08:37,420
suborbital sounding rocket.

110
00:08:37,420 --> 00:08:43,330
Four university experiments were flown as
part of an educational project called RockSat-X,

111
00:08:43,330 --> 00:08:48,280
which is designed to give students hands-on
experience in designing, fabricating, testing

112
00:08:48,280 --> 00:08:50,760
and conducting experiments for space flight.

113
00:08:50,760 --> 00:08:55,000
“We have multiple experiments on the Virginia
Tech Baylor collaboration.

114
00:08:55,000 --> 00:09:02,890
Nitric Oxide censors and IMU censors as well
as trying to detect space particles”.

115
00:09:02,890 --> 00:09:09,220
The program began with a hands-on workshop
on rocketry called RockOn, followed by RockSat-C,

116
00:09:09,220 --> 00:09:14,480
during which experiments were developed for
flight inside a special canister.

117
00:09:14,480 --> 00:09:18,950

The program is supported by NASA, in partnership with the Colorado and Virginia Space Grant

118
00:09:18,950 --> 00:09:19,950
Consortia.

119
00:09:19,950 --> 00:09:20,950
NASA's "Rockets to Racecars" was at the Richmond International Raceway to connect

120
00:09:20,950 --> 00:09:21,950
the science of NASCAR with the Mars Science Laboratory mission.

121
00:09:21,950 --> 00:09:22,950
Employees from Langley discussed the physics of Curiosity's landing, such as "drag"

122
00:09:22,950 --> 00:09:23,950
and "G-forces" and how those same processes are employed in auto racing.

123
00:09:23,950 --> 00:09:24,950
Kids went "hands on" by landing their own paper rover and touching an actual rover

124
00:09:24,950 --> 00:09:25,950
wheel.

125
00:09:25,950 --> 00:09:26,950
"Rockets to Racecars" shares with NASCAR fans how NASA has helped improve race car

126
00:09:26,950 --> 00:09:27,950
safety and performance.

127
00:09:27,950 --> 00:09:29,560
"This is a rear footprint of a kind of armored dinosaur, almost certainly a Nodosaur."

128
00:09:29,560 --> 00:09:34,670
Paleontologist Robert Weems has confirmed
that the ancient imprint recently found on

129
00:09:34,670 --> 00:09:39,640
the campus of Goddard Space Flight Center
was, indeed made by a prehistoric creature

130
00:09:39,640 --> 00:09:41,160
that once roamed here.

131
00:09:41,160 --> 00:09:48,530
Nodasaur, a large plant-eating dinosaur left
the footprint 110 to 112 million years ago.

132
00:09:48,530 --> 00:09:51,800
But it turns out it may not have been alone.

133
00:09:51,800 --> 00:09:57,370
Weems says there's a much smaller, similar
looking footprint inside the larger one made,

134
00:09:57,370 --> 00:10:01,710
perhaps by a young nodosaur who was traveling
with an adult.

135
00:10:01,710 --> 00:10:07,270
"This probably was a breeding area for many
of them based on some of these small ones

136
00:10:07,270 --> 00:10:08,270
being found."

137
00:10:08,270 --> 00:10:13,180
But it's the adult nodosaur tracks that
are so rare on the East Coast and make this

138
00:10:13,180 --> 00:10:15,500
such a unique find.

139
00:10:15,500 --> 00:10:22,160
Dinosaur tracker Ray Stanford, who discovered
the footprint says he’s excited by this

140
00:10:22,160 --> 00:10:23,160
confirmation.

141
00:10:23,160 --> 00:10:25,900
“His expert word is as good as you can get.

142
00:10:25,900 --> 00:10:26,900
I’m thrilled.”

143
00:10:26,900 --> 00:10:30,770
The next step is to further excavate around
the footprint and see if there are any other

144
00:10:30,770 --> 00:10:57,590
tracks

145
00:10:57,590 --> 00:11:16,390
in

146
00:11:16,390 --> 00:11:20,950
the immediate area.

147
00:11:20,950 --> 00:11:28,510
Fifteen years ago, on September 25, 1997,
STS-86 got underway at the Kennedy Space Center.

148
00:11:28,510 --> 00:11:34,270
Commanding Atlantis on its ten-day mission
to the Russian Mir Space Station was Jim Weatherbee.

149
00:11:34,270 --> 00:11:38,790
Piloting this seventh shuttle docking to Mir
was Michael Bloomfield.

150
00:11:38,790 --> 00:11:44,590
Rounding out the seven-person crew were NASA
Mission Specialists Scott Parazynski, Wendy

151
00:11:44,590 --> 00:11:52,330
Lawrence and Dave Wolf, Mission Specialist
and Russian Cosmonaut Vladimar Titov and Mission

152
00:11:52,330 --> 00:11:55,830
Specialist Jean-Loup Chretien (kray-tee-in)
of France.

153
00:11:55,830 --> 00:12:01,300
Dave Wolf replaced Mike Foale as a Mir crew
member, making Wolf the sixth U.S. astronaut

154
00:12:01,300 --> 00:12:04,180
in succession to live on Mir.

155
00:12:04,180 --> 00:12:12,150
Foale returned to Earth after spending 145
days in space, 134 of them aboard Mir.

156
00:12:12,150 --> 00:12:19,770
And, five years ago, on September 27, 2007,
the Dawn spacecraft launched atop a Delta

157
00:12:19,770 --> 00:12:30,290
2 rocket from Cape Canaveral for the asteroid
belt between Mars and Jupiter.

158
00:12:30,290 --> 00:12:39,420
There, Vesta and Ceres, two of the largest
protoplanets remaining intact since their

159
00:12:39,420 --> 00:12:46,330
formation billions of years ago, are believed
to hold keys to the origins of our solar system.

160

00:12:46,330 --> 00:12:52,540
From July 15, 2011 until earlier this month,
Dawn orbited Vesta – mapping its surface

161
00:12:52,540 --> 00:12:56,080
for clues to its mineralogical composition.

162
00:12:56,080 --> 00:13:15,420
Dawn is now making its way to Ceres: estimated
arrival is February 2015.

163
00:13:15,420 --> 00:13:20,290
Hi I'm Omar De Frias, I am the lead for
the Integration Evaluation team for the Science

164
00:13:20,290 --> 00:13:22,020
Mission Directorate at NASA Headquarters.

165
00:13:22,020 --> 00:13:25,200
So we basically manage the execution of the
budget for Science.

166
00:13:25,200 --> 00:13:27,510
Every time I'm asked the question, 'hey,
where do you work?'

167
00:13:27,510 --> 00:13:29,540
I say, I work for NASA.

168
00:13:29,540 --> 00:13:32,240
Obviously, the first response is, 'wow,
really?

169
00:13:32,240 --> 00:13:36,040
And they're fascinated first because of
what we do as an agency.

170
00:13:36,040 --> 00:13:39,920
I try to tell them, 'and here's how I
tie into the big picture.

171
00:13:39,920 --> 00:13:46,120
Here’s how we do what we do to make, you know, MSL and Curiosity happen.’

172
00:13:46,120 --> 00:13:52,240
I basically got recruited as part of the corporate recruitment effort that NASA did in the University

173
00:13:52,240 --> 00:13:55,770
of Puerto Rico at Mayaguez and this was back in 2004.

174
00:13:55,770 --> 00:14:01,630
I was dealing with a multitude of offers – I was dealing with IBM as a potential hiring

175
00:14:01,630 --> 00:14:06,410
possibility and I was dealing with Kimberly-Clark and I ended up choosing NASA because of the

176
00:14:06,410 --> 00:14:08,590
path I saw forward.

177
00:14:08,590 --> 00:14:13,860
I used to be a professional basketball player in the Dominican Republic, where I had a chance

178
00:14:13,860 --> 00:14:18,810
to really hone in on the skills of teamwork.

179
00:14:18,810 --> 00:14:24,750
It’s very important to be able to have a good diverse team you want people with different

180
00:14:24,750 --> 00:14:27,520
backgrounds, you want people that have worked internationally.

181

00:14:27,520 --> 00:14:33,300
The biggest thing on diversity on my part
is always to put diversity and inclusion in

182
00:14:33,300 --> 00:14:37,960
the workforce, so it's not only about, hey
let's go ahead and hire people from different

183
00:14:37,960 --> 00:14:43,110
races we're building them to be the next
leaders of our agency and I think NASA's

184
00:14:43,110 --> 00:14:44,800
done a good job on that.

185
00:14:44,800 --> 00:14:51,140
The family of the late NASA Astronaut Sally
Ride joined with officials at the Johnson

186
00:14:51,140 --> 00:14:56,510
Space Center to dedicate a tree in memory
of the first American woman in space.

187
00:14:56,510 --> 00:15:02,850
The live oak was planted in a grove among
62 trees honoring NASA astronauts and space

188
00:15:02,850 --> 00:15:03,920
pioneers.

189
00:15:03,920 --> 00:15:11,680
Ride, who made her history-making flight in
1983 aboard shuttle Challenger on STS-7, died

190
00:15:11,680 --> 00:15:15,170
in July at age 61.

191
00:15:15,170 --> 00:15:17,310
And that's This Week @NASA.

192
00:15:17,310 --> 00:15:22,290
For more on these and other stories, or to
follow us on Facebook, Twitter and other social