1
00:00:07,120 --> 00:00:10,709
this week at nasa

2
00:00:17,750 --> 00:00:14,789
and liftoff of the atlas 5 with juno on

3
00:00:19,510 --> 00:00:17,760
a trek to jupiter the wait is over and

4
00:00:21,429 --> 00:00:19,520
launch teams are celebrating the

5
00:00:24,070 --> 00:00:21,439
successful liftoff of the juno

6
00:00:26,390 --> 00:00:24,080
spacecraft from the kennedy space center

7
00:00:28,390 --> 00:00:26,400
as it begins a five-year cruise to the

8
00:00:30,630 --> 00:00:28,400
planet jupiter to investigate the

9
00:00:32,870 --> 00:00:30,640
planet's structure atmosphere and

10
00:00:35,270 --> 00:00:32,880
magnetosphere it will also provide

11
00:00:37,830 --> 00:00:35,280
detailed images of jupiter's surface and

12
00:00:41,110 --> 00:00:37,840
capture the first high-resolution views

13
00:00:42,549 --> 00:00:41,120

of its poles we're on our way and

14
00:00:44,389 --> 00:00:42,559
you know at this point the the

15
00:00:46,630 --> 00:00:44,399
spacecraft's out it's open the solar

16
00:00:48,869 --> 00:00:46,640
rays are open we're flowing our

17
00:00:51,110 --> 00:00:48,879
electricity through the veins of juno

18
00:00:54,150 --> 00:00:51,120
the juno spacecraft will orbit the gas

19
00:00:56,229 --> 00:00:54,160
giant for about a year and in doing so

20
00:00:58,630 --> 00:00:56,239
will improve our understanding of our

21
00:01:03,270 --> 00:00:58,640
solar system's beginnings by revealing

22
00:01:07,990 --> 00:01:05,350
these dark finger-like features

23
00:01:10,390 --> 00:01:08,000
extending down some martian slopes could

24
00:01:12,950 --> 00:01:10,400
be flowing water occurring during the

25
00:01:15,030 --> 00:01:12,960
warmest months on the planet mars

26
00:01:17,030 --> 00:01:15,040
nasa's mars reconnaissance orbiter has

27
00:01:19,350 --> 00:01:17,040
been repeatedly tracking and observing

28
00:01:21,830 --> 00:01:19,360
seasonal changes in these recurring

29
00:01:24,149 --> 00:01:21,840
patterns in mars's southern hemisphere

30
00:01:26,550 --> 00:01:24,159
we have followed the water

31
00:01:28,149 --> 00:01:26,560
and we have found

32
00:01:30,230 --> 00:01:28,159
repeated

33
00:01:33,030 --> 00:01:30,240
and predictable evidence suggesting

34
00:01:34,870 --> 00:01:33,040
water flowing on mars this discovery

35
00:01:37,510 --> 00:01:34,880
which was discussed at a press briefing

36
00:01:39,510 --> 00:01:37,520
held at nasa headquarters could be vital

37
00:01:41,990 --> 00:01:39,520
to continued studies on whether life

38
00:01:44,469 --> 00:01:42,000

could exist on the red planet i really

39
00:01:47,830 --> 00:01:44,479
think that this is a very exciting

40
00:01:49,270 --> 00:01:47,840
discovery because it is our first chance

41
00:01:52,069 --> 00:01:49,280
to see

42
00:01:53,749 --> 00:01:52,079
an environment on mars that might allow

43
00:01:56,709 --> 00:01:53,759
for the expression of an active

44
00:01:59,510 --> 00:01:56,719
biological process if there is present

45
00:02:01,670 --> 00:01:59,520
day life on mars according to scientists

46
00:02:04,550 --> 00:02:01,680
the flow of liquid briny water is the

47
00:02:06,389 --> 00:02:04,560
best explanation thus far for these dark

48
00:02:08,150 --> 00:02:06,399
lineations which spread down some

49
00:02:09,510 --> 00:02:08,160
martian slopes during late spring

50
00:02:11,990 --> 00:02:09,520
through summer

51
00:02:13,430 --> 00:02:12,000
fade in winter and then return during

52
00:02:15,270 --> 00:02:13,440
the next spring

53
00:02:17,350 --> 00:02:15,280
these observations are the closest

54
00:02:19,589 --> 00:02:17,360
scientists have come to finding evidence

55
00:02:20,830 --> 00:02:19,599
of liquid water on the planet's surface

56
00:02:31,110 --> 00:02:20,840
to

57
00:02:33,589 --> 00:02:31,120
the surface is like we did not imagine

58
00:02:35,670 --> 00:02:33,599
the detail that we're seeing newly

59
00:02:38,309 --> 00:02:35,680
captured full-frame images of the

60
00:02:40,150 --> 00:02:38,319
asteroid vesta were unveiled by the dawn

61
00:02:42,710 --> 00:02:40,160
mission team at a jet propulsion

62
00:02:44,790 --> 00:02:42,720
laboratory news conference vesta is much

63
00:02:46,070 --> 00:02:44,800

larger than the state of california and

64
00:02:47,830 --> 00:02:46,080
it has some very exciting

65
00:02:49,270 --> 00:02:47,840
geomorphological features and

66
00:02:50,949 --> 00:02:49,280
composition features that you'll be

67
00:02:53,670 --> 00:02:50,959
hearing about which shed some light

68
00:02:55,750 --> 00:02:53,680
about how our solar system actually was

69
00:02:57,910 --> 00:02:55,760
formed the dawn spacecraft was

70
00:03:00,550 --> 00:02:57,920
successfully inserted into the giant

71
00:03:02,790 --> 00:03:00,560
asteroids orbit several weeks ago and

72
00:03:05,750 --> 00:03:02,800
has since begun collecting scientific

73
00:03:07,830 --> 00:03:05,760
data observations of vesta will provide

74
00:03:10,149 --> 00:03:07,840
first of its kind information to help

75
00:03:12,390 --> 00:03:10,159
scientists understand the beginnings of

76
00:03:14,869 --> 00:03:12,400
our solar system as the mission

77
00:03:17,350 --> 00:03:14,879
progresses we will be taking data at

78
00:03:19,830 --> 00:03:17,360
higher and higher resolution that will

79
00:03:22,790 --> 00:03:19,840
enable us to understand the surface

80
00:03:25,110 --> 00:03:22,800
processes and interior processes better

81
00:03:27,350 --> 00:03:25,120
dawn is the first spacecraft to orbit an

82
00:03:30,149 --> 00:03:27,360
asteroid in the main asteroid belt

83
00:03:33,030 --> 00:03:30,159
between mars and jupiter after a year in

84
00:03:35,350 --> 00:03:33,040
vesta's orbit don will move on and begin

85
00:03:40,789 --> 00:03:35,360
orbiting a second destination the dwarf

86
00:03:45,589 --> 00:03:43,190
after years of searching astronomers

87
00:03:49,030 --> 00:03:45,599
have confirmed for the first time the

88
00:03:51,110 --> 00:03:49,040

existence of oxygen molecules in space

89
00:03:53,509 --> 00:03:51,120
the european space agency's herschel

90
00:03:55,990 --> 00:03:53,519
space observatory's large telescope and

91
00:03:57,990 --> 00:03:56,000
state-of-the-art infrared detectors with

92
00:04:00,149 --> 00:03:58,000
help from mission enabling technology

93
00:04:02,710 --> 00:04:00,159
from the jet propulsion laboratory

94
00:04:04,470 --> 00:04:02,720
spotted the molecules in the orion star

95
00:04:06,789 --> 00:04:04,480
forming complex

96
00:04:10,229 --> 00:04:06,799
while individual atoms of oxygen are

97
00:04:12,470 --> 00:04:10,239
common in space molecular oxygen or o2

98
00:04:13,670 --> 00:04:12,480
has seemed nearly impossible to locate

99
00:04:16,310 --> 00:04:13,680
until now

100
00:04:19,270 --> 00:04:16,320
astronomers believe o2 which consists of

101
00:04:21,509 --> 00:04:19,280
two oxygen atoms bound together has been

102
00:04:24,950 --> 00:04:21,519
difficult to find because it's locked up

103
00:04:27,030 --> 00:04:24,960
in water ice that coats tiny dust grains

104
00:04:29,670 --> 00:04:27,040
they've determined herschel can detect

105
00:04:32,469 --> 00:04:29,680
oxygen formed when starlight warms the

106
00:04:35,510 --> 00:04:32,479
icy grains and releases water which is

107
00:04:38,070 --> 00:04:35,520
then converted into oxygen molecules

108
00:04:40,150 --> 00:04:38,080
aided by this new revelation researchers

109
00:04:45,270 --> 00:04:40,160
plan to continue their hunt for oxygen

110
00:04:49,830 --> 00:04:47,350
the drought in texas has revealed an

111
00:04:53,030 --> 00:04:49,840
object from space shuttle columbia which

112
00:04:56,550 --> 00:04:53,040
broke apart during entry in 2003 before

113
00:04:59,189 --> 00:04:56,560

concluding its sts-107 mission debris

114
00:05:01,430 --> 00:04:59,199
from colombia fell to earth in texas as

115
00:05:03,270 --> 00:05:01,440
well as parts of louisiana

116
00:05:05,510 --> 00:05:03,280
the discovery was made in lake

117
00:05:07,350 --> 00:05:05,520
nacogdoches where waters have receded

118
00:05:09,110 --> 00:05:07,360
due to a severe drought plaguing the

119
00:05:11,270 --> 00:05:09,120
area since october

120
00:05:13,670 --> 00:05:11,280
nasa has confirmed that the four-foot

121
00:05:15,430 --> 00:05:13,680
globe-shaped item was a fuel tank and

122
00:05:17,110 --> 00:05:15,440
part of the shuttle's electrical power

123
00:05:19,110 --> 00:05:17,120
distribution system

124
00:05:21,670 --> 00:05:19,120
officials say that it's not toxic or

125
00:05:23,830 --> 00:05:21,680
hazardous to the public nasa is working

126
00:05:25,670 --> 00:05:23,840
with local authorities to transport the

127
00:05:33,189 --> 00:05:25,680
object to the agency's kennedy space

128
00:05:36,710 --> 00:05:35,350
the astronauts who flew on the next to

129
00:05:38,909 --> 00:05:36,720
the last shuttle mission to the

130
00:05:41,909 --> 00:05:38,919
international space station

131
00:05:44,790 --> 00:05:41,919
sts-134 plus members of the station's

132
00:05:47,029 --> 00:05:44,800
expedition 26 crew were in washington to

133
00:05:49,510 --> 00:05:47,039
discuss their june visit to the complex

134
00:05:52,150 --> 00:05:49,520
the last flight of an incredible vehicle

135
00:05:53,990 --> 00:05:52,160
endeavor mission commander mark kelly

136
00:05:56,629 --> 00:05:54,000
pilot greg johnson and mission

137
00:05:58,790 --> 00:05:56,639
specialist mike fink and european space

138
00:06:00,550 --> 00:05:58,800

agency astronaut roberto vittori

139
00:06:02,710 --> 00:06:00,560
presented to headquarters personnel

140
00:06:03,590 --> 00:06:02,720
video highlights from their 16-day

141
00:06:06,070 --> 00:06:03,600
journey

142
00:06:08,629 --> 00:06:06,080
what level of detail can you see just

143
00:06:10,550 --> 00:06:08,639
with your eyes up in space i've seen uh

144
00:06:12,710 --> 00:06:10,560
you can see cities roads easily i've

145
00:06:14,309 --> 00:06:12,720
seen the great pyramids with my with my

146
00:06:16,790 --> 00:06:14,319
eyeball and then through a camera it's

147
00:06:19,430 --> 00:06:16,800
even better also available to talk about

148
00:06:21,749 --> 00:06:19,440
their part in this 34th and penultimate

149
00:06:24,710 --> 00:06:21,759
mission to the orbiting laboratory were

150
00:06:27,029 --> 00:06:24,720
expedition 2627 flight engineers katie

151
00:06:30,390 --> 00:06:27,039
coleman and european space agency

152
00:06:32,309 --> 00:06:30,400
astronaut paolo nespoli later in the day

153
00:06:34,710 --> 00:06:32,319
nasa working with the maryland space

154
00:06:36,469 --> 00:06:34,720
grant consortium in baltimore invited

155
00:06:39,189 --> 00:06:36,479
the public to a discussion with mark

156
00:06:40,710 --> 00:06:39,199
kelly johnson fink and vittori about

157
00:06:44,390 --> 00:06:40,720
their mission

158
00:06:46,550 --> 00:06:44,400
the sts-134 astronauts also comprised of

159
00:06:48,790 --> 00:06:46,560
mission specialists drew feustel and

160
00:06:51,110 --> 00:06:48,800
greg shamatta delivered to the space

161
00:06:54,070 --> 00:06:51,120
station the alpha magnetic spectrometer

162
00:06:56,790 --> 00:06:54,080
2 a particle physics detector which

163
00:06:59,670 --> 00:06:56,800

searches for unusual matter by measuring

164
00:07:04,469 --> 00:07:01,990
cosmonauts sergey volkov and alexander

165
00:07:06,710 --> 00:07:04,479
samacutiev conducted a six-hour

166
00:07:08,790 --> 00:07:06,720
spacewalk to continue outfitting the

167
00:07:11,430 --> 00:07:08,800
russian segment of the international

168
00:07:13,510 --> 00:07:11,440
space station the expedition 28 flight

169
00:07:15,909 --> 00:07:13,520
engineers also installed laser

170
00:07:20,710 --> 00:07:15,919
communications equipment and replaced

171
00:07:20,720 --> 00:07:27,830
and now centerpieces

172
00:07:31,350 --> 00:07:29,589
as part of the airborne astronomy

173
00:07:32,870 --> 00:07:31,360
ambassadors program

174
00:07:34,629 --> 00:07:32,880
two teachers from germany and their

175
00:07:36,629 --> 00:07:34,639
escort recently flew aboard the

176
00:07:41,830 --> 00:07:36,639
stratospheric observatory for infrared

177
00:07:45,029 --> 00:07:43,189
check i'll check all the pointing for

178
00:07:46,790 --> 00:07:45,039
nearby stars and then check in on saturn

179
00:07:48,869 --> 00:07:46,800
again when observation time was

180
00:07:51,350 --> 00:07:48,879
completed the researchers began to

181
00:07:53,670 --> 00:07:51,360
analyze the data explaining each step of

182
00:07:55,749 --> 00:07:53,680
the process to the teachers

183
00:07:57,990 --> 00:07:55,759
the germans joined six teachers from the

184
00:08:00,710 --> 00:07:58,000
united states as the first educators to

185
00:08:02,629 --> 00:08:00,720
observe sofia's scientific research

186
00:08:10,309 --> 00:08:02,639
and then take that experience back to

187
00:08:16,629 --> 00:08:13,589
july 26 through august 7th marks the

188
00:08:19,029 --> 00:08:16,639

40th anniversary of the apollo 15 flight

189
00:08:22,550 --> 00:08:19,039
which took astronauts dave scott jim

190
00:08:24,469 --> 00:08:22,560
irwin and al worden into lunar orbit

191
00:08:26,629 --> 00:08:24,479
in commemoration the smithsonian's

192
00:08:29,110 --> 00:08:26,639
national air and space museum held a

193
00:08:31,909 --> 00:08:29,120
special book talk and signing featuring

194
00:08:34,469 --> 00:08:31,919
apollo 15's command module pilot

195
00:08:36,630 --> 00:08:34,479
wharton and his co-author francis french

196
00:08:38,870 --> 00:08:36,640
talked about his newly released book

197
00:08:41,430 --> 00:08:38,880
falling to earth an apollo 15

198
00:08:43,190 --> 00:08:41,440
astronaut's journey to the moon i've had

199
00:08:45,509 --> 00:08:43,200
a growing feeling over the years that

200
00:08:47,350 --> 00:08:45,519
this book needed to be written

201
00:08:48,310 --> 00:08:47,360
over the past four or five years i've

202
00:08:51,190 --> 00:08:48,320
been

203
00:08:53,190 --> 00:08:51,200
kind of pushed into doing a book by some

204
00:08:55,750 --> 00:08:53,200
of the other astronauts i finally

205
00:08:57,430 --> 00:08:55,760
decided that enough time had gone by

206
00:09:00,070 --> 00:08:57,440
that i needed to do it it was during

207
00:09:02,230 --> 00:09:00,080
apollo 15 nasa's fourth mission to the

208
00:09:04,310 --> 00:09:02,240
moon that the lunar roving vehicle was

209
00:09:07,030 --> 00:09:04,320
first used and it also featured the

210
00:09:08,949 --> 00:09:07,040
first deep space eva carried out by

211
00:09:10,630 --> 00:09:08,959
worden he got to spend six days out

212
00:09:12,870 --> 00:09:10,640
there three of them completely on his

213
00:09:14,389 --> 00:09:12,880

own with time to look at that to look at

214
00:09:16,230 --> 00:09:14,399
all that incredible topography and to

215
00:09:17,670 --> 00:09:16,240
think what does this mean i guess it's a

216
00:09:18,870 --> 00:09:17,680
testament to the way we do things in

217
00:09:20,470 --> 00:09:18,880
this country

218
00:09:22,310 --> 00:09:20,480
because you could take a kid like me who

219
00:09:23,269 --> 00:09:22,320
grew up on a farm and sent him to the

220
00:09:25,030 --> 00:09:23,279
moon

221
00:09:31,190 --> 00:09:25,040
and there aren't too many places where

222
00:09:36,150 --> 00:09:33,430
nasa faced off with department of energy

223
00:09:38,790 --> 00:09:36,160
staff during a dunk contest in support

224
00:09:41,190 --> 00:09:38,800
of the fed speed family program we're

225
00:09:43,430 --> 00:09:41,200
gonna win we're gonna win

226
00:09:47,990 --> 00:09:43,440
the event took place in the west plaza

227
00:09:52,310 --> 00:09:50,070
nasa's best throwing arms went up

228
00:09:54,150 --> 00:09:52,320
against those of department of energies

229
00:10:01,990 --> 00:09:54,160
with at least five pounds of food

230
00:10:07,269 --> 00:10:04,790
music pep talks games and food were also

231
00:10:09,509 --> 00:10:07,279
included in the morning's fun

232
00:10:11,350 --> 00:10:09,519
the government-wide fed feeds families

233
00:10:14,310 --> 00:10:11,360
program collects more than a million

234
00:10:16,470 --> 00:10:14,320
pounds of non-perishable goods each year

235
00:10:17,590 --> 00:10:16,480
to help feed the hungry across the

236
00:10:20,790 --> 00:10:17,600
country

237
00:10:23,590 --> 00:10:20,800
and that's this week at nasa for more on