



1
00:00:07,040 --> 00:00:10,709
this week at nasa

2
00:00:14,070 --> 00:00:12,709
nasa has finalized a cooperative

3
00:00:17,269 --> 00:00:14,080
agreement with the center for the

4
00:00:19,189 --> 00:00:17,279
advancement of science in space cases to

5
00:00:21,670 --> 00:00:19,199
manage the portion of the international

6
00:00:23,590 --> 00:00:21,680
space station that operates as a u.s

7
00:00:25,589 --> 00:00:23,600
national laboratory

8
00:00:27,429 --> 00:00:25,599
located in the space life sciences

9
00:00:29,990 --> 00:00:27,439
laboratory at the kennedy space center

10
00:00:32,229 --> 00:00:30,000
in florida the independent non-profit

11
00:00:33,990 --> 00:00:32,239
research management organization will

12
00:00:36,389 --> 00:00:34,000
help ensure the station's unique

13
00:00:38,470 --> 00:00:36,399

capabilities are available to the

14

00:00:41,430 --> 00:00:38,480

broadest possible cross-section of the

15

00:00:43,830 --> 00:00:41,440

us scientific technological and

16

00:00:46,150 --> 00:00:43,840

industrial communities it's an asset for

17

00:00:49,750 --> 00:00:46,160

science it's an asset for exploration

18

00:00:52,150 --> 00:00:49,760

it's an asset for industry it's an asset

19

00:00:55,430 --> 00:00:52,160

for our nation the world as a whole

20

00:00:57,670 --> 00:00:55,440

quite frankly we stand ready to develop

21

00:00:58,790 --> 00:00:57,680

the premier institution needed to really

22

00:01:00,709 --> 00:00:58,800

advance

23

00:01:02,950 --> 00:01:00,719

space-based research and technology

24

00:01:06,149 --> 00:01:02,960

development and education initiatives

25

00:01:09,190 --> 00:01:06,159

and also to to engage the community of

26
00:01:11,590 --> 00:01:09,200
advocacy and enthusiasm that is needed

27
00:01:14,710 --> 00:01:11,600
to drive the discoveries that can't be

28
00:01:16,710 --> 00:01:15,749
three

29
00:01:17,830 --> 00:01:16,720
two

30
00:01:21,270 --> 00:01:17,840
one

31
00:01:23,830 --> 00:01:21,280
zero and liftoff of the delta ii with

32
00:01:26,230 --> 00:01:23,840
grail on a journey to the center of the

33
00:01:27,910 --> 00:01:26,240
moon a delta ii rocket launched from

34
00:01:30,310 --> 00:01:27,920
cape canaveral air force station in

35
00:01:32,950 --> 00:01:30,320
florida has sent the twin grail

36
00:01:35,030 --> 00:01:32,960
spacecraft on their way to the moon

37
00:01:36,710 --> 00:01:35,040
the two spacecraft will fly in tandem

38
00:01:39,429 --> 00:01:36,720

orbits around the moon for several

39

00:01:43,109 --> 00:01:39,439

months to measure its gravity field in

40

00:01:44,550 --> 00:01:43,119

unprecedented detail from crust to core

41

00:01:46,870 --> 00:01:44,560

the mission also will answer

42

00:01:48,870 --> 00:01:46,880

long-standing questions about the moon

43

00:01:51,190 --> 00:01:48,880

and provide scientists with a better

44

00:01:55,590 --> 00:01:51,200

understanding of how earth and other

45

00:01:57,270 --> 00:01:55,600

rocky planets in the solar system formed

46

00:01:59,030 --> 00:01:57,280

i thought if this is a tweet up i

47

00:02:01,350 --> 00:01:59,040

shouldn't give a talk

48

00:02:04,310 --> 00:02:01,360

without tweeting

49

00:02:07,830 --> 00:02:06,069

among those at the cape for the grail

50

00:02:09,430 --> 00:02:07,840

launch were

51
00:02:11,430 --> 00:02:09,440
twitter followers

52
00:02:14,150 --> 00:02:11,440
these tweets were selected from more

53
00:02:16,229 --> 00:02:14,160
than 800 people who registered online to

54
00:02:18,229 --> 00:02:16,239
attend the two-day nasa tweet

55
00:02:20,470 --> 00:02:18,239
the messages that you are able to get

56
00:02:21,990 --> 00:02:20,480
out across the world

57
00:02:23,750 --> 00:02:22,000
is absolutely incredible nasa

58
00:02:25,830 --> 00:02:23,760
administrator charlie bolden headed a

59
00:02:28,710 --> 00:02:25,840
list of guest speakers the tweeps

60
00:02:31,670 --> 00:02:28,720
represented 32 states and seven foreign

61
00:02:35,030 --> 00:02:31,680
countries including australia india and

62
00:02:38,070 --> 00:02:36,710
as you can see just passing to the left

63
00:02:40,470 --> 00:02:38,080

of the view

64

00:02:42,630 --> 00:02:40,480

one of the larger plumes

65

00:02:44,630 --> 00:02:42,640

here's how those wildfires burning up

66

00:02:47,110 --> 00:02:44,640

thousands of parched acres in central

67

00:02:50,150 --> 00:02:47,120

texas look from space when external

68

00:02:53,030 --> 00:02:50,160

cameras aboard the iss first passed to

69

00:02:54,949 --> 00:02:53,040

the southeast of austin on september 6th

70

00:02:57,430 --> 00:02:54,959

the video was accompanied by comments

71

00:03:00,070 --> 00:02:57,440

from expedition 28 flight engineer mike

72

00:03:03,270 --> 00:03:00,080

fossum we're coming on just across the

73

00:03:05,430 --> 00:03:03,280

coast see houston quite clearly and it

74

00:03:07,830 --> 00:03:05,440

is a sad sight with all the fires

75

00:03:10,070 --> 00:03:07,840

burning in texas right now the station

76
00:03:12,710 --> 00:03:10,080
also continued its coverage of hurricane

77
00:03:15,270 --> 00:03:12,720
katria and other tropical storms in the

78
00:03:17,350 --> 00:03:16,149
we have

79
00:03:19,430 --> 00:03:17,360
some of the most stunning images of the

80
00:03:22,869 --> 00:03:19,440
lunar surface that i've ever seen

81
00:03:25,270 --> 00:03:22,879
nasa's lunar reconnaissance orbiter lro

82
00:03:28,149 --> 00:03:25,280
has captured the sharpest images ever

83
00:03:29,830 --> 00:03:28,159
taken from space of where three apollo

84
00:03:32,789 --> 00:03:29,840
missions were conducted on the moon's

85
00:03:36,149 --> 00:03:32,799
surface the pictures of the apollo 17

86
00:03:38,789 --> 00:03:36,159
apollo 14 and apollo 12 landing sites

87
00:03:41,589 --> 00:03:38,799
were taken while lro was in what's

88
00:03:44,149 --> 00:03:41,599

referred to as a dipping orbit where the

89

00:03:46,630 --> 00:03:44,159

spacecraft was roughly 15 miles above

90

00:03:48,630 --> 00:03:46,640

the surface they reveal the twists and

91

00:03:51,110 --> 00:03:48,640

turns of the paths made when the

92

00:03:53,589 --> 00:03:51,120

mission's six moonwalkers explored these

93

00:03:55,830 --> 00:03:53,599

areas example at the apollo 17 landing

94

00:03:57,509 --> 00:03:55,840

site we can see where the lunar rover is

95

00:03:59,990 --> 00:03:57,519

parked on the surface we can see where

96

00:04:01,190 --> 00:04:00,000

it drove around around the lunar module

97

00:04:02,789 --> 00:04:01,200

you can see the areas where the

98

00:04:04,390 --> 00:04:02,799

astronauts kicked up the dust when they

99

00:04:05,830 --> 00:04:04,400

walked around you can see some of the

100

00:04:07,830 --> 00:04:05,840

experiments that were left behind

101
00:04:09,190 --> 00:04:07,840
sitting on the surface 40 years ago you

102
00:04:11,190 --> 00:04:09,200
can see where they are still sitting

103
00:04:12,229 --> 00:04:11,200
there on the lunar surface

104
00:04:13,270 --> 00:04:12,239
three

105
00:04:15,910 --> 00:04:13,280
two

106
00:04:19,270 --> 00:04:15,920
one main engine ignition

107
00:04:22,870 --> 00:04:19,280
and liftoff of the atlas v rocket with

108
00:04:25,189 --> 00:04:22,880
Iro I-cross launched in june 2009 the

109
00:04:27,270 --> 00:04:25,199
lunar reconnaissance orbiter is creating

110
00:04:29,990 --> 00:04:27,280
a comprehensive atlas of the moon's

111
00:04:32,310 --> 00:04:30,000
features and resources necessary to

112
00:04:35,270 --> 00:04:32,320
design and build an outpost for human

113
00:04:40,230 --> 00:04:37,590

data gathered by nasa's solar dynamic

114

00:04:43,510 --> 00:04:40,240

observatory show that a second delayed

115

00:04:46,310 --> 00:04:43,520

wave of extreme ultraviolet radiation

116

00:04:47,430 --> 00:04:46,320

emanates from a solar flare well after

117

00:04:50,469 --> 00:04:47,440

its peak

118

00:04:53,189 --> 00:04:50,479

this distinct late phase flare minutes

119

00:04:56,310 --> 00:04:53,199

to hours later has never before been

120

00:04:59,270 --> 00:04:56,320

fully observed in fact this second wave

121

00:05:01,189 --> 00:04:59,280

sometimes has more euv energy than the

122

00:05:03,990 --> 00:05:01,199

x-ray flare itself

123

00:05:05,990 --> 00:05:04,000

in one case on november 3rd 2010

124

00:05:07,909 --> 00:05:06,000

measuring only the effects of the main

125

00:05:09,830 --> 00:05:07,919

flare would have resulted in

126

00:05:12,550 --> 00:05:09,840

underestimating the amount of energy

127

00:05:13,830 --> 00:05:12,560

shooting into earth's atmosphere by 70

128

00:05:15,830 --> 00:05:13,840

percent

129

00:05:18,070 --> 00:05:15,840

understanding solar flares erupting on

130

00:05:19,909 --> 00:05:18,080

the sun can help scientists predict

131

00:05:22,230 --> 00:05:19,919

space weather that can interfere with

132

00:05:26,150 --> 00:05:22,240

communications and global positioning

133

00:05:31,670 --> 00:05:28,629

nasa's decommissioned upper atmosphere

134

00:05:33,909 --> 00:05:31,680

research satellite also known as uars is

135

00:05:36,790 --> 00:05:33,919

expected to re-enter earth's atmosphere

136

00:05:39,110 --> 00:05:36,800

in late september or early october

137

00:05:40,950 --> 00:05:39,120

uars was deployed from the payload bay

138

00:05:44,790 --> 00:05:40,960

of space shuttle discovery on september

139

00:05:46,710 --> 00:05:44,800

15 1991 on sts-48

140

00:05:48,950 --> 00:05:46,720

it was the first multi-instrumented

141

00:05:51,110 --> 00:05:48,960

satellite to observe numerous chemicals

142

00:05:52,870 --> 00:05:51,120

in the atmosphere and how they travel

143

00:05:54,950 --> 00:05:52,880

and react to light

144

00:05:57,510 --> 00:05:54,960

data gathered by uars initiated

145

00:05:59,510 --> 00:05:57,520

long-term records for many key chemical

146

00:06:01,749 --> 00:05:59,520

species in the atmosphere

147

00:06:03,350 --> 00:06:01,759

the satellite also provided key data on

148

00:06:05,830 --> 00:06:03,360

the amount of light that comes from the

149

00:06:07,029 --> 00:06:05,840

sun at ultraviolet and visible

150

00:06:09,350 --> 00:06:07,039

wavelengths

151

00:06:13,510 --> 00:06:09,360

uars ceased its productive scientific

152

00:06:17,990 --> 00:06:15,909

finally nasa joins the nation and the

153

00:06:21,510 --> 00:06:18,000

world this week in remembering the

154

00:06:23,110 --> 00:06:21,520

terrorist attacks of september 11 2001.

155

00:06:25,270 --> 00:06:23,120

plans for commemorating the 10th

156

00:06:27,590 --> 00:06:25,280

anniversary included a special

157

00:06:29,830 --> 00:06:27,600

headquarters presentation featuring

158

00:06:33,350 --> 00:06:29,840

former nasa astronaut frank culbertson

159

00:06:35,590 --> 00:06:33,360

who at the time of the 2001 attacks was

160

00:06:38,550 --> 00:06:35,600

aboard the international space station

161

00:06:40,150 --> 00:06:38,560

as commander of expedition 3. i realized

162

00:06:42,070 --> 00:06:40,160

our country was under attack i was

163

00:06:43,909 --> 00:06:42,080

ironically halfway through

164

00:06:46,309 --> 00:06:43,919

a tom clancy novel about a similar

165

00:06:48,230 --> 00:06:46,319

situation at the time and it almost put

166

00:06:50,710 --> 00:06:48,240

me inside the novel which was a very

167

00:06:53,990 --> 00:06:50,720

strange feeling and then once i saw it

168

00:06:56,710 --> 00:06:54,000

out the window and we took video as the

169

00:06:58,150 --> 00:06:56,720

second tower was collapsing

170

00:06:59,510 --> 00:06:58,160

i didn't know exactly what was happening

171

00:07:01,830 --> 00:06:59,520

but i knew it was really bad because

172

00:07:03,990 --> 00:07:01,840

there was a big cloud of debris covering

173

00:07:05,589 --> 00:07:04,000

manhattan that's when it really became

174

00:07:07,270 --> 00:07:05,599

painful because it was like seeing a

175

00:07:08,710 --> 00:07:07,280

wound in the side of

176
00:07:13,110 --> 00:07:08,720
of

177
00:07:16,309 --> 00:07:13,120
and ten years later two interplanetary

178
00:07:17,589 --> 00:07:16,319
tributes to the 9 11 victims remain on

179
00:07:20,309 --> 00:07:17,599
mars

180
00:07:23,670 --> 00:07:20,319
this image taken by the panoramic camera

181
00:07:26,309 --> 00:07:23,680
on nasa's mars exploration rover spirit

182
00:07:28,870 --> 00:07:26,319
shows an american flag on a cuff serving

183
00:07:30,710 --> 00:07:28,880
as a cable shield for the spacecraft's

184
00:07:33,350 --> 00:07:30,720
rock abrasion tool

185
00:07:36,309 --> 00:07:33,360
the rat on both spirit and its twin

186
00:07:38,629 --> 00:07:36,319
opportunity was manufactured by honeybee

187
00:07:41,110 --> 00:07:38,639
robotics of lower manhattan

188
00:07:43,749 --> 00:07:41,120

honeybees employees made each rover's

189

00:07:46,550 --> 00:07:43,759

cuff using aluminum recovered from the

190

00:07:48,550 --> 00:07:46,560

destroyed world trade center towers we

191

00:07:50,309 --> 00:07:48,560

felt as a team that it was important for

192

00:07:52,629 --> 00:07:50,319

us to have something on board that was

193

00:07:54,230 --> 00:07:52,639

very quiet reminder of the events of

194

00:07:55,589 --> 00:07:54,240

that year and what was going on in the

195

00:07:57,589 --> 00:07:55,599

world as we were building these rovers

196

00:07:59,110 --> 00:07:57,599

and preparing to send them to mars it

197

00:08:00,550 --> 00:07:59,120

wasn't something that we publicized a

198

00:08:02,309 --> 00:08:00,560

lot it was something really internally

199

00:08:03,110 --> 00:08:02,319

that the team wanted to do for our own

200

00:08:05,350 --> 00:08:03,120

sake

201

00:08:07,189 --> 00:08:05,360

as something that was very closely

202

00:08:09,110 --> 00:08:07,199

associated with the honeybee robotics

203

00:08:10,950 --> 00:08:09,120

folks in new york and all the effects it

204

00:08:12,390 --> 00:08:10,960

had immediately on them but on the the

205

00:08:14,230 --> 00:08:12,400

team as a whole around the world as a

206

00:08:17,430 --> 00:08:14,240

whole

207

00:08:19,990 --> 00:08:17,440

and that's this week at nasa for more on