1
00:00:06,799 --> 00:00:10,709
this week at nasa

2
00:00:15,589 --> 00:00:13,509
scientists from argentina brazil canada

3
00:00:17,830 --> 00:00:15,599
france and italy were at nasa

4
00:00:19,510 --> 00:00:17,840
headquarters in washington for a news

5
00:00:21,349 --> 00:00:19,520
briefing about their upcoming

6
00:00:24,630 --> 00:00:21,359
international spacecraft mission

7
00:00:27,349 --> 00:00:24,640
aquarius sac d it is by far

8
00:00:28,870 --> 00:00:27,359
the most complex and challenging mission

9
00:00:30,790 --> 00:00:28,880
ever attempted through a partnership

10
00:00:33,990 --> 00:00:30,800
between the united states and argentina

11
00:00:35,430 --> 00:00:34,000
and has capability as comparable to any

12
00:00:38,150 --> 00:00:35,440
earth science mission that nasa has

13
00:00:40,069 --> 00:00:38,160

flown scheduled to launch june 9 the

14
00:00:42,229 --> 00:00:40,079
spacecraft's primary instrument will

15
00:00:44,470 --> 00:00:42,239
make the agency's first space-based

16
00:00:47,029 --> 00:00:44,480
global measurements of salinity or

17
00:00:48,630 --> 00:00:47,039
concentration of salt at the surface of

18
00:00:51,189 --> 00:00:48,640
the world's oceans

19
00:00:53,189 --> 00:00:51,199
salinity influences ocean circulation

20
00:00:55,830 --> 00:00:53,199
and the global balance of fresh water

21
00:00:58,310 --> 00:00:55,840
and climate until now it has remained

22
00:01:01,270 --> 00:00:58,320
unmeasured by existing earth observing

23
00:01:03,349 --> 00:01:01,280
satellites seven other sacd instruments

24
00:01:05,830 --> 00:01:03,359
will collect environmental data for a

25
00:01:08,710 --> 00:01:05,840
wide range of applications including

26
00:01:13,350 --> 00:01:08,720
studies of natural hazards air quality

27
00:01:17,109 --> 00:01:15,270
space shuttle atlantis has made its

28
00:01:19,350 --> 00:01:17,119
final rollover from the processing

29
00:01:21,910 --> 00:01:19,360
hangar to the vehicle assembly building

30
00:01:24,789 --> 00:01:21,920
at the kennedy space center in florida

31
00:01:26,950 --> 00:01:24,799
inside the vab atlantis was attached to

32
00:01:29,429 --> 00:01:26,960
its external fuel tank and twin solid

33
00:01:31,830 --> 00:01:29,439
rocket boosters already perched on a

34
00:01:34,550 --> 00:01:31,840
mobile launcher platform

35
00:01:36,630 --> 00:01:34,560
during sts-135 the final mission for

36
00:01:38,550 --> 00:01:36,640
atlantis and the space shuttle program

37
00:01:40,630 --> 00:01:38,560
the orbiter and its four-member crew

38
00:01:43,109 --> 00:01:40,640

will carry the rafaello multi-purpose

39
00:01:45,030 --> 00:01:43,119
logistics module filled with supplies

40
00:01:46,310 --> 00:01:45,040
and spare parts to the international

41
00:01:48,630 --> 00:01:46,320
space station

42
00:01:50,469 --> 00:01:48,640
among other tasks the mission will also

43
00:01:52,710 --> 00:01:50,479
fly a system to investigate the

44
00:01:55,030 --> 00:01:52,720
viability of robotically refueling

45
00:01:57,109 --> 00:01:55,040
existing spacecraft

46
00:02:00,870 --> 00:01:57,119
space shuttle atlantis was delivered to

47
00:02:04,469 --> 00:02:00,880
ksc in april of 1985 and made its maiden

48
00:02:07,510 --> 00:02:04,479
voyage on mission 51j on october 3rd

49
00:02:09,430 --> 00:02:07,520
subsequent flights included sts-34 and

50
00:02:14,229 --> 00:02:09,440
the launch of the galileo probe to

51
00:02:17,270 --> 00:02:14,239
jupiter in 1989 and in 1991 sts-37 with

52
00:02:18,869 --> 00:02:17,280
the gamma-ray observatory gro as its

53
00:02:21,430 --> 00:02:18,879
primary payload

54
00:02:24,790 --> 00:02:21,440
atlantis final mission will be its 27th

55
00:02:29,110 --> 00:02:27,110
nasa administrator charles bolden toured

56
00:02:31,350 --> 00:02:29,120
the astrotech payload processing

57
00:02:33,190 --> 00:02:31,360
facility near the kennedy space center

58
00:02:35,509 --> 00:02:33,200
for a close-up look at the juno

59
00:02:38,150 --> 00:02:35,519
spacecraft accompanied by his wife

60
00:02:39,830 --> 00:02:38,160
jackie bolden toured juno's test control

61
00:02:41,350 --> 00:02:39,840
center and talked with members of the

62
00:02:43,270 --> 00:02:41,360
juno test team

63
00:02:45,750 --> 00:02:43,280

the solar-powered spacecraft will head

64
00:02:49,030 --> 00:02:45,760
for jupiter on august 5th where it will

65
00:02:51,110 --> 00:02:49,040
orbit the gas giant's poles 33 times to

66
00:02:55,990 --> 00:02:51,120
learn more about the planet's origins

67
00:03:00,070 --> 00:02:57,910
the ames research center recently

68
00:03:02,070 --> 00:03:00,080
completed a series of tests that may

69
00:03:04,470 --> 00:03:02,080
help take some of the loudness out of

70
00:03:07,110 --> 00:03:04,480
sonic booms and allow supersonic

71
00:03:09,589 --> 00:03:07,120
aircraft to fly over land

72
00:03:11,350 --> 00:03:09,599
inside ames nine foot by seven foot

73
00:03:14,070 --> 00:03:11,360
supersonic wind tunnel

74
00:03:16,790 --> 00:03:14,080
fans or compressors moved air over a

75
00:03:20,550 --> 00:03:16,800
sleek new aircraft design at speeds

76
00:03:25,190 --> 00:03:22,710
a sonic boom occurs when an aircraft

77
00:03:28,390 --> 00:03:25,200
flies faster than the speed of sound

78
00:03:31,830 --> 00:03:28,400
typically around 660 miles per hour at

79
00:03:33,990 --> 00:03:31,840
the cruise altitude of most airplanes

80
00:03:36,470 --> 00:03:34,000
like these help researchers understand

81
00:03:38,869 --> 00:03:36,480
the forces acting on a real aircraft and

82
00:03:41,430 --> 00:03:38,879
its impact like the creation of a sonic

83
00:03:43,190 --> 00:03:41,440
boom on the surrounding atmosphere we're

84
00:03:44,710 --> 00:03:43,200
measuring the sonic booms from these

85
00:03:46,550 --> 00:03:44,720
models in the tunnel

86
00:03:48,630 --> 00:03:46,560
we do that with sophisticated pressure

87
00:03:50,630 --> 00:03:48,640
measurement apparatus

88
00:03:52,550 --> 00:03:50,640

and and then we take those measurements

89
00:03:54,070 --> 00:03:52,560
and run them through the computer codes

90
00:03:56,229 --> 00:03:54,080
and then we can predict how loud the

91
00:03:58,229 --> 00:03:56,239
sonic boom is going to be on the ground

92
00:04:01,270 --> 00:03:58,239
data gleaned from this research will

93
00:04:03,350 --> 00:04:01,280
literally help shape a new generation of

94
00:04:05,990 --> 00:04:03,360
quieter environmentally friendly

95
00:04:13,350 --> 00:04:06,000
supersonic aircraft that may fly twice

96
00:04:18,150 --> 00:04:15,509
investigating how best to prepare for

97
00:04:21,670 --> 00:04:18,160
possible future space missions nasa

98
00:04:24,070 --> 00:04:21,680
astronauts become aquanauts each autumn

99
00:04:25,590 --> 00:04:24,080
to dive into a series of undersea

100
00:04:27,430 --> 00:04:25,600
experiments

101
00:04:29,270 --> 00:04:27,440
preparations are underway at the

102
00:04:31,510 --> 00:04:29,280
national oceanic and atmospheric

103
00:04:34,390 --> 00:04:31,520
administration's aquarius underwater

104
00:04:36,629 --> 00:04:34,400
laboratory off key largo florida

105
00:04:39,189 --> 00:04:36,639
that's where this year's participants in

106
00:04:41,830 --> 00:04:39,199
nemo nasa's extreme environment mission

107
00:04:44,070 --> 00:04:41,840
operations will live for nine days under

108
00:04:47,110 --> 00:04:44,080
the atlantic to explore the challenges

109
00:04:49,749 --> 00:04:47,120
of a trip to an asteroid the ocean beds

110
00:04:51,350 --> 00:04:49,759
buoyancy and topography will serve as a

111
00:04:54,230 --> 00:04:51,360
good stand-in

112
00:04:56,390 --> 00:04:54,240
unlike the moon or mars an asteroid has

113
00:04:58,550 --> 00:04:56,400

little gravity to hold astronauts or

114
00:05:01,110 --> 00:04:58,560
vehicles so knowing how and where to

115
00:05:04,230 --> 00:05:01,120
place multiple anchors will be the focus

116
00:05:05,350 --> 00:05:04,240
of this year's event the 15th annual

117
00:05:07,430 --> 00:05:05,360
nemo

118
00:05:10,550 --> 00:05:07,440
the undersea tests are scheduled for

119
00:05:15,270 --> 00:05:12,629
astronaut shannon walker the first

120
00:05:16,790 --> 00:05:15,280
native houstonian in space mingled and

121
00:05:19,270 --> 00:05:16,800
took pictures with students at her

122
00:05:20,310 --> 00:05:19,280
hometown alma mater the johnston middle

123
00:05:22,310 --> 00:05:20,320
school

124
00:05:24,070 --> 00:05:22,320
walker was attending a breakfast in her

125
00:05:25,670 --> 00:05:24,080
honor it's possible to do these big

126
00:05:26,790 --> 00:05:25,680
things no matter who you are i went to

127
00:05:29,189 --> 00:05:26,800
this school i grew up in these

128
00:05:30,629 --> 00:05:29,199
neighborhoods around here so just about

129
00:05:33,029 --> 00:05:30,639
anybody can do anything they put their

130
00:05:35,510 --> 00:05:33,039
mind to during her stay she gave a

131
00:05:37,510 --> 00:05:35,520
presentation about her extended stay on

132
00:05:39,110 --> 00:05:37,520
the international space station you can

133
00:05:41,590 --> 00:05:39,120
do all kinds of things that you cannot

134
00:05:43,749 --> 00:05:41,600
do on the ground when you're in space in

135
00:05:46,710 --> 00:05:43,759
this case tracy and i are moving this

136
00:05:48,390 --> 00:05:46,720
giant rack from the ceiling to the floor

137
00:05:51,350 --> 00:05:48,400
the ground needed us to move it so we

138
00:05:53,350 --> 00:05:51,360

moved it for my particular space flight

139
00:05:55,350 --> 00:05:53,360
i trained for three years and think

140
00:05:57,670 --> 00:05:55,360
about that and in appreciation of her

141
00:05:59,990 --> 00:05:57,680
many accomplishments the school renamed

142
00:06:06,950 --> 00:06:00,000
their science wing the shannon walker

143
00:06:11,830 --> 00:06:09,830
walker served on expeditions 24 and 25

144
00:06:14,309 --> 00:06:11,840
to the international space station last

145
00:06:16,390 --> 00:06:14,319
year she and her crewmates launched on

146
00:06:18,870 --> 00:06:16,400
june 10th aboard a russian soyuz

147
00:06:20,790 --> 00:06:18,880
spacecraft tma19

148
00:06:23,350 --> 00:06:20,800
while aboard the station walker and

149
00:06:27,909 --> 00:06:23,360
crewmate doug wheelock participated in a

150
00:06:27,919 --> 00:06:31,909
and now centerpieces

151
00:06:35,990 --> 00:06:33,590
for a group of engineers from nasa

152
00:06:37,749 --> 00:06:36,000
langley experiencing endeavour's final

153
00:06:39,670 --> 00:06:37,759
flight at cape canaveral was more than

154
00:06:41,029 --> 00:06:39,680
just a launch it was a moment they

155
00:06:43,990 --> 00:06:41,039
wouldn't forget

156
00:06:45,670 --> 00:06:44,000
during the sts-134 mission astronauts

157
00:06:47,990 --> 00:06:45,680
will test out a new state-of-the-art

158
00:06:49,990 --> 00:06:48,000
docking and navigation system developed

159
00:06:52,870 --> 00:06:50,000
in part by nasa langley

160
00:06:55,110 --> 00:06:52,880
the new technology called storm or

161
00:06:57,589 --> 00:06:55,120
sensor test for orion relative

162
00:06:59,749 --> 00:06:57,599
navigation risk mitigation will make it

163
00:07:02,790 --> 00:06:59,759

easier and safer for astronauts to dock

164
00:07:04,790 --> 00:07:02,800
to the international space station it's

165
00:07:06,550 --> 00:07:04,800
really nice to build something and be

166
00:07:09,110 --> 00:07:06,560
able to see it and be able to see it

167
00:07:10,870 --> 00:07:09,120
work and be able to touch it and it's

168
00:07:12,230 --> 00:07:10,880
very gratifying

169
00:07:15,110 --> 00:07:12,240
to know that you're going to be helping

170
00:07:16,950 --> 00:07:15,120
future space flights nasa langley worked

171
00:07:18,629 --> 00:07:16,960
with johnson space center and industry

172
00:07:20,870 --> 00:07:18,639
partners on storm

173
00:07:22,950 --> 00:07:20,880
langley's role in the project included

174
00:07:24,790 --> 00:07:22,960
engineering management design and build

175
00:07:27,189 --> 00:07:24,800
of the avionics shuttle computer

176
00:07:28,710 --> 00:07:27,199
hardware and the reflective elements

177
00:07:30,950 --> 00:07:28,720
they were also responsible for the

178
00:07:33,510 --> 00:07:30,960
integration testing and certification of

179
00:07:35,830 --> 00:07:33,520
those components one engineer avionics

180
00:07:38,070 --> 00:07:35,840
lead tom johnson even trained astronaut

181
00:07:39,510 --> 00:07:38,080
drew feustel on the flight software it

182
00:07:41,909 --> 00:07:39,520
was a lot of fun getting to work with

183
00:07:44,550 --> 00:07:41,919
drew and really kind of showing him the

184
00:07:46,790 --> 00:07:44,560
hardware that we put together and the

185
00:07:48,550 --> 00:07:46,800
software the nasa langley storm team

186
00:07:49,909 --> 00:07:48,560
braved the crowds and the media to

187
00:07:51,830 --> 00:07:49,919
represent the state-of-the-art

188
00:07:53,830 --> 00:07:51,840

technology during the launch to finally

189
00:07:55,189 --> 00:07:53,840
get the hardware up and tested to

190
00:07:59,990 --> 00:07:55,199
validate everything that we've worked

191
00:08:05,990 --> 00:08:00,950
eats

192
00:08:07,749 --> 00:08:06,000
nasa welcomed the public to the goddard

193
00:08:10,869 --> 00:08:07,759
space flight center for their spring

194
00:08:15,749 --> 00:08:13,189
explore at nasa goddard was the theme

195
00:08:17,430 --> 00:08:15,759
for today's event the public had unique

196
00:08:20,230 --> 00:08:17,440
access to explore

197
00:08:22,390 --> 00:08:20,240
learn and enjoy the energetic atmosphere

198
00:08:23,990 --> 00:08:22,400
of the space agency's largest research

199
00:08:25,990 --> 00:08:24,000
facility

200
00:08:27,830 --> 00:08:26,000
scientists talked about our planet and

201
00:08:29,589 --> 00:08:27,840
brought the wonders of the universe down

202
00:08:31,670 --> 00:08:29,599
to earth for all to see

203
00:08:33,670 --> 00:08:31,680
while engineers discussed new missions

204
00:08:36,070 --> 00:08:33,680
and their future discoveries

205
00:08:38,630 --> 00:08:36,080
at the mad science tent visitors were

206
00:08:40,709 --> 00:08:38,640
amazed by incredible chemistry

207
00:08:43,110 --> 00:08:40,719
others performed their own moonwalk

208
00:08:44,870 --> 00:08:43,120
even darth vader stopped by looking for

209
00:08:46,949 --> 00:08:44,880
some new recruits

210
00:08:48,389 --> 00:08:46,959
each location was a technological

211
00:08:50,630 --> 00:08:48,399
treasure trove

212
00:08:52,230 --> 00:08:50,640
as guests toured many of the seldom seen

213
00:08:54,070 --> 00:08:52,240

facilities

214
00:08:56,230 --> 00:08:54,080
thousands of visitors toured the solar

215
00:08:57,350 --> 00:08:56,240
system and beyond all without leaving

216
00:08:59,990 --> 00:08:57,360
greenbelt

217
00:09:03,750 --> 00:09:00,000
but at nasa goddard

218
00:09:09,829 --> 00:09:06,949
time for a great new american enterprise

219
00:09:11,110 --> 00:09:09,839
time for this nation to take a clearly

220
00:09:12,790 --> 00:09:11,120
leading role

221
00:09:15,389 --> 00:09:12,800
in space achievement

222
00:09:18,550 --> 00:09:15,399
50 years ago on may 25th

223
00:09:20,710 --> 00:09:18,560
1961 president john f kennedy in a

224
00:09:23,030 --> 00:09:20,720
speech before a special joint session of

225
00:09:24,949 --> 00:09:23,040
congress challenged the nation to set

226
00:09:27,590 --> 00:09:24,959
its sights on sending an american to the

227
00:09:29,910 --> 00:09:27,600
moon so directed nasa ramped up its

228
00:09:31,910 --> 00:09:29,920
human space flight effort starting with

229
00:09:42,550 --> 00:09:31,920
project mercury and continuing on

230
00:09:47,190 --> 00:09:43,710
in july

231
00:09:50,230 --> 00:09:47,200
1969 kennedy's goal was realized when

232
00:09:52,389 --> 00:09:50,240
apollo 11's neil armstrong buzz aldrin

233
00:09:53,990 --> 00:09:52,399
and michael collins made their safe

234
00:09:57,110 --> 00:09:54,000
return home

235
00:09:59,750 --> 00:09:57,120
and that's this week at nasa for more on