
Cindy Jones
Teacher, Chesterfield County Schools, Va.

1
00:00:07,040 --> 00:00:10,790
this week at nasa

2
00:00:15,430 --> 00:00:13,030
nasa's new aquarius instrument has

3
00:00:18,230 --> 00:00:15,440
produced its first global map of the

4
00:00:19,269 --> 00:00:18,240
salinity or saltiness of earth's ocean

5
00:00:23,429 --> 00:00:19,279
surface

6
00:00:25,509 --> 00:00:23,439
linked to the cycling of fresh water

7
00:00:28,230 --> 00:00:25,519
around the planet affecting ocean

8
00:00:30,790 --> 00:00:28,240
circulation and the earth's climate

9
00:00:32,229 --> 00:00:30,800
close to 25 or 30 percent of the surface

10
00:00:33,590 --> 00:00:32,239
of the ocean has never even been

11
00:00:35,270 --> 00:00:33,600
observed in other words we have no

12
00:00:37,190 --> 00:00:35,280
salinity samples at all from parts of

13
00:00:38,790 --> 00:00:37,200

the world particularly in the so

14
00:00:40,549 --> 00:00:38,800
southern hemisphere in the south pacific

15
00:00:43,110 --> 00:00:40,559
and south atlantic and southern indian

16
00:00:45,110 --> 00:00:43,120
oceans so there's a big data gap the new

17
00:00:46,709 --> 00:00:45,120
map is a composite of the first two and

18
00:00:49,029 --> 00:00:46,719
a half weeks of data gathered since

19
00:00:52,229 --> 00:00:49,039
aquarius became operational on august

20
00:00:54,470 --> 00:00:52,239
25th it demonstrates aquarius's ability

21
00:00:56,709 --> 00:00:54,480
to detect and clearly display

22
00:00:59,270 --> 00:00:56,719
large-scale salinity distribution

23
00:01:01,349 --> 00:00:59,280
features

24
00:01:03,590 --> 00:01:01,359
this is one of the the neat things about

25
00:01:05,750 --> 00:01:03,600
venturing off into space is that we we

26
00:01:07,590 --> 00:01:05,760
we have another knob that we can

27
00:01:09,510 --> 00:01:07,600
experiment with it's called a gravity

28
00:01:11,510 --> 00:01:09,520
knob three future residents of the

29
00:01:13,990 --> 00:01:11,520
international space station discuss

30
00:01:16,149 --> 00:01:14,000
their upcoming expedition 30 and 31

31
00:01:17,030 --> 00:01:16,159
missions with media at the johnson space

32
00:01:19,350 --> 00:01:17,040
center

33
00:01:22,070 --> 00:01:19,360
nasa astronaut don pennett russian

34
00:01:24,789 --> 00:01:22,080
cosmonaut oleg kononenko and european

35
00:01:26,469 --> 00:01:24,799
space agency astronaut andre kuipers are

36
00:01:28,870 --> 00:01:26,479
set to launch to the station aboard a

37
00:01:31,749 --> 00:01:28,880
soyuz spacecraft in december space

38
00:01:33,670 --> 00:01:31,759

station is so complicated we need all

39
00:01:35,749 --> 00:01:33,680
these folks on the ground that can tell

40
00:01:38,550 --> 00:01:35,759
you what this screw did and what that

41
00:01:40,069 --> 00:01:38,560
terminal does and what kind of fluid is

42
00:01:43,830 --> 00:01:40,079
flowing in that pipe that happens to be

43
00:01:45,990 --> 00:01:43,840
leaking out between our crew on station

44
00:01:47,030 --> 00:01:46,000
and working with the ground we'll be

45
00:01:49,190 --> 00:01:47,040
able to

46
00:01:51,749 --> 00:01:49,200
tackle almost any kind of

47
00:01:54,310 --> 00:01:51,759
repair function that needs to be done

48
00:01:56,630 --> 00:01:54,320
pettit kononenko and kuipers will join

49
00:01:59,670 --> 00:01:56,640
nasa astronaut dan burbank and russian

50
00:02:01,670 --> 00:01:59,680
cosmonauts anton shkaplerov and anatoly

51
00:02:07,190 --> 00:02:01,680
ivanishin they'll have journeyed to the

52
00:02:11,029 --> 00:02:08,550
lies up mid-november the extra

53
00:02:14,949 --> 00:02:11,039
atmosphere and takes infrared pictures

54
00:02:20,070 --> 00:02:17,270
nasa's stratospheric observatory for

55
00:02:22,150 --> 00:02:20,080
infrared astronomy sophia visited

56
00:02:23,350 --> 00:02:22,160
andrews air force base outside

57
00:02:25,430 --> 00:02:23,360
washington

58
00:02:28,309 --> 00:02:25,440
the rare east coast appearance of the

59
00:02:30,550 --> 00:02:28,319
dryden-based aircraft provided d.c area

60
00:02:33,350 --> 00:02:30,560
students from military families an

61
00:02:35,509 --> 00:02:33,360
opportunity to tour sofia and hear from

62
00:02:37,910 --> 00:02:35,519
nasa headquarters officials about the

63
00:02:39,910 --> 00:02:37,920

unique airborne observatory let me say

64
00:02:41,670 --> 00:02:39,920
again how pleased i am that nasa is

65
00:02:43,910 --> 00:02:41,680
giving the students the military

66
00:02:46,470 --> 00:02:43,920
families and teachers the opportunity to

67
00:02:49,910 --> 00:02:46,480
experience and learn from this amazing

68
00:02:52,309 --> 00:02:49,920
technology firsthand sophia's stopover

69
00:02:54,390 --> 00:02:52,319
supported the joining forces initiative

70
00:02:56,949 --> 00:02:54,400
designed to inspire youth from military

71
00:02:59,350 --> 00:02:56,959
families about careers in science

72
00:03:01,430 --> 00:02:59,360
technology engineering and math normally

73
00:03:03,910 --> 00:03:01,440
it's at the dryden aircraft operations

74
00:03:05,190 --> 00:03:03,920
facility in palmdale california but

75
00:03:06,790 --> 00:03:05,200
we've just deployed finished a

76
00:03:08,869 --> 00:03:06,800
deployment to germany and on our way

77
00:03:11,509 --> 00:03:08,879
back to california we stopped off here

78
00:03:15,350 --> 00:03:11,519
at andrews air force base sophia is a

79
00:03:17,589 --> 00:03:15,360
highly modified boeing 747 sp aircraft

80
00:03:20,790 --> 00:03:17,599
fitted with a 100 inch in diameter

81
00:03:23,589 --> 00:03:20,800
telescope flying above 99 percent of the

82
00:03:26,229 --> 00:03:23,599
atmosphere's water vapor allows sofia to

83
00:03:28,710 --> 00:03:26,239
collect world-class astronomical data

84
00:03:31,190 --> 00:03:28,720
unavailable from anywhere else on earth

85
00:03:35,750 --> 00:03:31,200
that help scientists unlock clues about

86
00:03:35,760 --> 00:03:40,869
and now centerpieces

87
00:03:45,990 --> 00:03:42,789
over the last hundred years the skies

88
00:03:49,509 --> 00:03:46,000

have seen enormous changes from biplanes

89
00:03:53,990 --> 00:03:51,430
roger roll atlantis

90
00:03:55,830 --> 00:03:54,000
but what will the future look like nasa

91
00:03:57,670 --> 00:03:55,840
engineers scientists and technicians are

92
00:03:59,910 --> 00:03:57,680
working on that as they have almost

93
00:04:01,509 --> 00:03:59,920
since the beginning of powered flight

94
00:04:03,589 --> 00:04:01,519
nasa researchers are developing

95
00:04:06,309 --> 00:04:03,599
technologies to make aircraft safer

96
00:04:07,990 --> 00:04:06,319
faster quieter more fuel efficient and

97
00:04:09,589 --> 00:04:08,000
environmentally friendly

98
00:04:11,910 --> 00:04:09,599
and they're designing tools to help the

99
00:04:13,190 --> 00:04:11,920
air transportation system accommodate

100
00:04:15,670 --> 00:04:13,200
more traffic

101
00:04:18,789 --> 00:04:15,680
nasa space missions always

102
00:04:21,830 --> 00:04:18,799
are more high priority and high profile

103
00:04:23,430 --> 00:04:21,840
but our aeronautics work is possibly the

104
00:04:25,110 --> 00:04:23,440
place where our work is most seen and

105
00:04:28,150 --> 00:04:25,120
felt by the general public on a daily

106
00:04:30,310 --> 00:04:28,160
basis you'll find nasa dna in nearly

107
00:04:32,469 --> 00:04:30,320
every civilian and military aircraft

108
00:04:34,550 --> 00:04:32,479
flying today nasa administrator and

109
00:04:36,629 --> 00:04:34,560
former astronaut and test pilot charles

110
00:04:38,469 --> 00:04:36,639
bolden spoke at the new horizons and

111
00:04:39,590 --> 00:04:38,479
aviation forum in virginia beach

112
00:04:41,189 --> 00:04:39,600
virginia

113
00:04:43,350 --> 00:04:41,199

the two-day conference was designed to

114
00:04:44,950 --> 00:04:43,360
help promote aviation's opportunities

115
00:04:46,710 --> 00:04:44,960
and potential

116
00:04:48,950 --> 00:04:46,720
after bolden's speech a university

117
00:04:52,070 --> 00:04:48,960
student asked how nasa and the aerospace

118
00:04:55,350 --> 00:04:52,080
industry can compete with higher paying

119
00:04:59,350 --> 00:04:55,360
software jobs in nasa i can compete with

120
00:05:00,629 --> 00:04:59,360
anybody because i do the coolest stuff

121
00:05:02,310 --> 00:05:00,639
you know you see here i'm going to go

122
00:05:04,230 --> 00:05:02,320
ahead and take it out of the gear ratio

123
00:05:06,310 --> 00:05:04,240
just because finding innovative ways to

124
00:05:07,990 --> 00:05:06,320
teach students about engineering led a

125
00:05:10,310 --> 00:05:08,000
virginia teacher to nasa langley

126
00:05:12,150 --> 00:05:10,320
research center's rapid prototyping lab

127
00:05:13,909 --> 00:05:12,160
where an idea to give students a more

128
00:05:16,550 --> 00:05:13,919
hands-on experience with simple and

129
00:05:18,310 --> 00:05:16,560
compound machines became a reality her

130
00:05:19,749 --> 00:05:18,320
idea was to build an engineering kit

131
00:05:21,749 --> 00:05:19,759
that would make learning about simple

132
00:05:23,670 --> 00:05:21,759
and compound machines fun for students

133
00:05:26,150 --> 00:05:23,680
and affordable for teachers

134
00:05:28,150 --> 00:05:26,160
using digital manufacturing nasa langley

135
00:05:30,550 --> 00:05:28,160
technicians built a prototype kit that

136
00:05:32,390 --> 00:05:30,560
could eventually be used in classrooms

137
00:05:35,110 --> 00:05:32,400
what we were tasked to do was create a

138
00:05:36,870 --> 00:05:35,120

kit that was able to be highly modular

139
00:05:39,990 --> 00:05:36,880
and inexpensive

140
00:05:41,749 --> 00:05:40,000
as a prototype to be able to compactly

141
00:05:44,550 --> 00:05:41,759
put all six uh

142
00:05:46,710 --> 00:05:44,560
simple machines together and be able to

143
00:05:48,310 --> 00:05:46,720
interchange them as the the age group

144
00:05:50,870 --> 00:05:48,320
for the elementary schoolers that we

145
00:05:53,029 --> 00:05:50,880
were designing this for

146
00:05:55,270 --> 00:05:53,039
would be able to experiment with the

147
00:05:56,710 --> 00:05:55,280
polycarbonate kit is compact and offers

148
00:05:57,990 --> 00:05:56,720
students a variety of learning

149
00:06:00,550 --> 00:05:58,000
opportunities

150
00:06:03,430 --> 00:06:00,560
so you have a lever you have the gears

151
00:06:05,510 --> 00:06:03,440
you have the rack and pinion and

152
00:06:07,350 --> 00:06:05,520
kids just love seeing things moving then

153
00:06:09,029 --> 00:06:07,360
they can do different things with and

154
00:06:11,110 --> 00:06:09,039
then if you turn it

155
00:06:12,230 --> 00:06:11,120
you have an elevator with the block and

156
00:06:13,830 --> 00:06:12,240
tackle

157
00:06:16,390 --> 00:06:13,840
you have

158
00:06:17,749 --> 00:06:16,400
i mean there's plenty of wheel and axles

159
00:06:19,510 --> 00:06:17,759
you can put weight

160
00:06:21,430 --> 00:06:19,520
you can change the

161
00:06:23,749 --> 00:06:21,440
ratio of the gear ratio you can gear up

162
00:06:25,670 --> 00:06:23,759
gear down as jones continues work on the

163
00:06:28,150 --> 00:06:25,680

engineering kit it is our ultimate goal

164
00:06:30,230 --> 00:06:28,160
to get the kids into the classrooms this

165
00:06:33,909 --> 00:06:30,240
would be tremendous for teachers because

166
00:06:36,469 --> 00:06:33,919
it makes learning exciting and fun and

167
00:06:37,670 --> 00:06:36,479
it gives you the hand on experience

168
00:06:43,110 --> 00:06:37,680
that

169
00:06:47,749 --> 00:06:45,430
nasa's lyndon b johnson space center in

170
00:06:50,230 --> 00:06:47,759
houston marked 50 years of expanding the

171
00:06:52,070 --> 00:06:50,240
frontier of human exploration

172
00:06:54,230 --> 00:06:52,080
the center celebrated the occasion with

173
00:06:57,270 --> 00:06:54,240
a special cake cutting for employees by

174
00:06:58,950 --> 00:06:57,280
jsc director mike coats so the next 50

175
00:07:01,110 --> 00:06:58,960
years is going to be even more exciting

176
00:07:02,550 --> 00:07:01,120
than the first 50 years and we're really

177
00:07:04,309 --> 00:07:02,560
looking forward to that

178
00:07:06,070 --> 00:07:04,319
a variety of activities planned

179
00:07:08,710 --> 00:07:06,080
throughout the coming year will continue

180
00:07:12,150 --> 00:07:08,720
the center's golden celebration

181
00:07:14,230 --> 00:07:12,160
it was on september 19 1961 that nasa

182
00:07:16,790 --> 00:07:14,240
announced its new manned spacecraft

183
00:07:18,550 --> 00:07:16,800
center would be located in houston texas

184
00:07:20,550 --> 00:07:18,560
in the middle of the mercury program

185
00:07:23,270 --> 00:07:20,560
houston welcomed the original seven

186
00:07:26,790 --> 00:07:23,280
astronauts to town in 1962.

187
00:07:29,110 --> 00:07:26,800
by 1963 construction of the new 1 000

188
00:07:31,830 --> 00:07:29,120

acre space center was well underway on

189
00:07:33,589 --> 00:07:31,840
land donated by rice university the

190
00:07:35,510 --> 00:07:33,599
first space flight to be partially

191
00:07:39,029 --> 00:07:35,520
controlled from mission control houston

192
00:07:41,670 --> 00:07:39,039
was gemini 4 in 1965. history has been

193
00:07:44,390 --> 00:07:41,680
made at johnson ever since the center

194
00:07:46,629 --> 00:07:44,400
has planned trained crews and controlled

195
00:07:48,230 --> 00:07:46,639
all nasa human space flights highlighted

196
00:07:51,270 --> 00:07:48,240
by man's first landing on the moon

197
00:07:53,749 --> 00:07:51,280
during apollo 11 in 1969 the launch of

198
00:07:56,390 --> 00:07:53,759
the first u.s space station skylab in

199
00:07:58,150 --> 00:07:56,400
1973 the first joint space flight

200
00:08:01,110 --> 00:07:58,160
between the united states and the soviet

201
00:08:03,589 --> 00:08:01,120
union in 1975 and the space shuttle's

202
00:08:07,189 --> 00:08:03,599
three decades of flight from 1981 to

203
00:08:09,270 --> 00:08:07,199
2011. today the global operations of the

204
00:08:11,749 --> 00:08:09,280
international space station are led from

205
00:08:14,070 --> 00:08:11,759
houston supporting an unprecedented

206
00:08:16,550 --> 00:08:14,080
research laboratory in orbit

207
00:08:18,550 --> 00:08:16,560
johnson also leads development of nasa's

208
00:08:20,550 --> 00:08:18,560
next human spacecraft the orion

209
00:08:22,710 --> 00:08:20,560
multipurpose crew vehicle that will

210
00:08:25,510 --> 00:08:22,720
enable humans to go farther into space

211
00:08:27,189 --> 00:08:25,520
than ever before johnson also is home to

212
00:08:29,270 --> 00:08:27,199
cutting-edge humanoid robotics

213
00:08:31,510 --> 00:08:29,280

development astro materials science

214
00:08:33,670 --> 00:08:31,520
investigations space life sciences

215
00:08:35,029 --> 00:08:33,680
research and spacecraft engineering

216
00:08:36,709 --> 00:08:35,039
expertise

217
00:08:38,709 --> 00:08:36,719
50 years and counting at the top of

218
00:08:41,029 --> 00:08:38,719
human achievement and the next 50 will

219
00:08:46,870 --> 00:08:41,039
go even farther and faster into the

220
00:08:50,870 --> 00:08:48,710
hundreds of hampton roads area boy

221
00:08:54,150 --> 00:08:50,880
scouts turned out for a special event

222
00:08:56,310 --> 00:08:54,160
kicking off a new robotics merit badge

223
00:08:58,630 --> 00:08:56,320
sponsored by the langley research center

224
00:09:00,870 --> 00:08:58,640
and the virginia air and space center

225
00:09:02,389 --> 00:09:00,880
the day's activities included youngsters

226
00:09:04,790 --> 00:09:02,399
talking with engineers about the

227
00:09:07,350 --> 00:09:04,800
challenges of earning the new badge to

228
00:09:09,750 --> 00:09:07,360
do so scouts have to design and

229
00:09:11,910 --> 00:09:09,760
demonstrate a robot that can sense and

230
00:09:14,949 --> 00:09:11,920
respond to its environment

231
00:09:17,110 --> 00:09:14,959
nasa and the vsa develop the badge now

232
00:09:19,990 --> 00:09:17,120
part of boy scouts of america's

233
00:09:24,790 --> 00:09:21,829
finally from aboard the international

234
00:09:27,030 --> 00:09:24,800
space station these unique images of

235
00:09:29,110 --> 00:09:27,040
natural phenomena were captured by the

236
00:09:30,630 --> 00:09:29,120
new super sensitive high definition

237
00:09:32,710 --> 00:09:30,640
television camera

238
00:09:35,430 --> 00:09:32,720

with the help of commander mike fossum

239
00:09:37,430 --> 00:09:35,440
satoshi furukawa of the japan aerospace

240
00:09:39,750 --> 00:09:37,440
exploration agency demonstrated the

241
00:09:43,110 --> 00:09:39,760
camera during interactive broadcasts

242
00:09:45,829 --> 00:09:43,120
with the japanese network nhk also from

243
00:09:47,670 --> 00:09:45,839
the complex fossum and furukawa spoke

244
00:09:50,389 --> 00:09:47,680
with famed anthropologist and

245
00:09:52,630 --> 00:09:50,399
environmentalist dr jane goodall

246
00:09:54,630 --> 00:09:52,640
goodall has been celebrated around the

247
00:10:02,630 --> 00:09:54,640
world for the groundbreaking research

248
00:10:08,790 --> 00:10:05,030
and this could be good morning or it be

249
00:10:13,430 --> 00:10:09,750
oh

250
00:10:16,069 --> 00:10:13,440
very good very good thank you very much

251
00:10:18,230 --> 00:10:16,079
and that's this week at nasa for more on