



THE FIRST 50 YEARS

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