
NASA

1
00:00:07,359 --> 00:00:10,790
this week at nasa

2
00:00:15,350 --> 00:00:13,350
it is great to talk to all of you and i

3
00:00:17,269 --> 00:00:15,360
just want you to know that we could not

4
00:00:19,109 --> 00:00:17,279
be more excited at the jet propulsion

5
00:00:21,029 --> 00:00:19,119
laboratory the mars curiosity flight

6
00:00:23,029 --> 00:00:21,039
control team took a few minutes from

7
00:00:24,790 --> 00:00:23,039
tending to nasa's newest red planet

8
00:00:27,109 --> 00:00:24,800
rover to receive a special

9
00:00:29,349 --> 00:00:27,119
congratulatory phone call from president

10
00:00:31,669 --> 00:00:29,359
barack obama who was aboard air force

11
00:00:33,830 --> 00:00:31,679
one what you've accomplished embodies

12
00:00:36,790 --> 00:00:33,840
the american spirit and your passion and

13
00:00:38,709 --> 00:00:36,800

your commitment is making a difference

14
00:00:42,310 --> 00:00:38,719
and your hard work is now paying

15
00:00:43,590 --> 00:00:42,320
dividends because uh my our expectations

16
00:00:45,910 --> 00:00:43,600
is that uh

17
00:00:48,549 --> 00:00:45,920
curiosity is going to be

18
00:00:50,150 --> 00:00:48,559
uh telling us things that we did not

19
00:00:51,029 --> 00:00:50,160
know before and laying the groundwork

20
00:00:52,869 --> 00:00:51,039
for

21
00:00:54,229 --> 00:00:52,879
an even more audacious undertaking in

22
00:00:56,470 --> 00:00:54,239
the future and that's a human mission of

23
00:00:58,389 --> 00:00:56,480
the red planet jpl director charles

24
00:00:59,910 --> 00:00:58,399
alachi thanked the president for his

25
00:01:01,349 --> 00:00:59,920
praise and echoed the

26
00:01:03,029 --> 00:01:01,359
commander-in-chief's hope that the

27
00:01:04,469 --> 00:01:03,039
excitement generated by the mission

28
00:01:07,270 --> 00:01:04,479
would help inspire a sense of

29
00:01:09,670 --> 00:01:07,280
exploration among younger generations on

30
00:01:11,429 --> 00:01:09,680
behalf of all of us at nasa we thank you

31
00:01:13,270 --> 00:01:11,439
for taking the time to give us a call

32
00:01:14,550 --> 00:01:13,280
and hopefully we inspire some of the

33
00:01:16,630 --> 00:01:14,560
millions of young people who were

34
00:01:18,310 --> 00:01:16,640
watching this landing the president also

35
00:01:20,550 --> 00:01:18,320
emphasized that this mission is an

36
00:01:22,469 --> 00:01:20,560
international effort offering gratitude

37
00:01:24,469 --> 00:01:22,479
to several of the countries that have

38
00:01:27,350 --> 00:01:24,479

contributed science instruments and

39
00:01:30,069 --> 00:01:27,360
expertise to aid curiosity's quest for

40
00:01:33,590 --> 00:01:30,079
evidence of microbial life on mars spain

41
00:01:36,230 --> 00:01:33,600
russia germany france canada italy japan

42
00:01:37,190 --> 00:01:36,240
australia all of them contributed i know

43
00:01:39,910 --> 00:01:37,200
to the

44
00:01:42,069 --> 00:01:39,920
instrumentation curiosity landed on

45
00:01:44,310 --> 00:01:42,079
martian surface the rover team continues

46
00:01:47,109 --> 00:01:44,320
to transition curiosity to a state of

47
00:01:49,270 --> 00:01:47,119
readiness for roving the martian surface

48
00:01:51,990 --> 00:01:49,280
here's a quick report from jpl on what's

49
00:01:53,990 --> 00:01:52,000
been happening since curiosity's landing

50
00:01:55,670 --> 00:01:54,000
hi i'm bobak ferdowsi flight director

51
00:01:59,190 --> 00:01:55,680
with the mars science lab curiosity and

52
00:02:00,630 --> 00:01:59,200
this is your curiosity rover update

53
00:02:02,469 --> 00:02:00,640
this week we did a color panorama

54
00:02:03,429 --> 00:02:02,479
surrounding the rover with both the mast

55
00:02:06,469 --> 00:02:03,439
cam

56
00:02:09,589 --> 00:02:07,670
and we also upgraded the software

57
00:02:10,309 --> 00:02:09,599
onboard both computers of the rover this

58
00:02:11,910 --> 00:02:10,319
week

59
00:02:13,510 --> 00:02:11,920
this new software is like having new

60
00:02:16,150 --> 00:02:13,520
applications with new functionalities on

61
00:02:17,830 --> 00:02:16,160
the rover allow us to do mobility deploy

62
00:02:18,790 --> 00:02:17,840
the arm and get to the science that

63
00:02:20,150 --> 00:02:18,800

we've been looking forward to on the

64
00:02:21,589 --> 00:02:20,160
mission

65
00:02:23,990 --> 00:02:21,599
we also did a series of instrument

66
00:02:25,589 --> 00:02:24,000
checkouts those included the chemcam

67
00:02:31,190 --> 00:02:25,599
instrument

68
00:02:34,830 --> 00:02:31,200
rad science

69
00:02:38,710 --> 00:02:36,790
apxs

70
00:02:40,470 --> 00:02:38,720
sam

71
00:02:43,589 --> 00:02:40,480
and the additional cameras on the rover

72
00:02:45,270 --> 00:02:43,599
including the mali instrument

73
00:02:46,949 --> 00:02:45,280
we also downlinked some marty high

74
00:02:50,070 --> 00:02:46,959
resolution data images those are from

75
00:02:51,750 --> 00:02:50,080
the descent imager

76
00:02:53,670 --> 00:02:51,760
up this week we'll be using the chemcam

77
00:02:55,509 --> 00:02:53,680
to zap targets for the first time also

78
00:02:56,869 --> 00:02:55,519
be deploying the arm

79
00:02:58,710 --> 00:02:56,879
and we'll be checking out the mobility

80
00:03:02,390 --> 00:02:58,720
system by doing what's called a rover

81
00:03:06,390 --> 00:03:04,550
astronomers have found an extraordinary

82
00:03:08,470 --> 00:03:06,400
galaxy cluster one of the largest

83
00:03:11,030 --> 00:03:08,480
objects in the universe that is breaking

84
00:03:13,270 --> 00:03:11,040
several important cosmic records

85
00:03:15,750 --> 00:03:13,280
observations of the phoenix cluster

86
00:03:18,390 --> 00:03:15,760
located about 5.7 billion light years

87
00:03:20,470 --> 00:03:18,400
from earth with nasa's chandra x-ray

88
00:03:23,110 --> 00:03:20,480

observatory the national science

89
00:03:25,589 --> 00:03:23,120
foundation's south pole telescope and

90
00:03:28,229 --> 00:03:25,599
eight other world-class observatories

91
00:03:29,910 --> 00:03:28,239
may force astronomers to rethink how

92
00:03:32,710 --> 00:03:29,920
these colossal structures and the

93
00:03:34,710 --> 00:03:32,720
galaxies that inhabit them evolve

94
00:03:36,869 --> 00:03:34,720
stars are forming in the phoenix cluster

95
00:03:38,949 --> 00:03:36,879
at the highest rate ever observed for

96
00:03:40,869 --> 00:03:38,959
the middle of a galaxy cluster

97
00:03:43,350 --> 00:03:40,879
the object also is the most powerful

98
00:03:45,350 --> 00:03:43,360
producer of x-rays of any known cluster

99
00:03:47,990 --> 00:03:45,360
and among the most massive

100
00:03:49,910 --> 00:03:48,000
the data also suggests the rate of hot

101
00:03:53,030 --> 00:03:49,920
gas cooling in the central regions of

102
00:03:55,429 --> 00:03:53,040
the cluster is the largest ever observed

103
00:03:57,350 --> 00:03:55,439
because of their tremendous size galaxy

104
00:04:00,789 --> 00:03:57,360
clusters are crucial objects for

105
00:04:02,789 --> 00:04:00,799
studying cosmology and galaxy evolution

106
00:04:04,710 --> 00:04:02,799
so finding one with such extreme

107
00:04:07,110 --> 00:04:04,720
properties like the phoenix cluster is

108
00:04:09,750 --> 00:04:07,120
important

109
00:04:12,550 --> 00:04:09,760
the last dva that was performed on space

110
00:04:14,949 --> 00:04:12,560
station by the u.s team

111
00:04:17,509 --> 00:04:14,959
was by mike fossum and ron guerin during

112
00:04:19,430 --> 00:04:17,519
the sts-135 mission the johnson space

113
00:04:21,349 --> 00:04:19,440

center hosted members of the media to

114
00:04:23,830 --> 00:04:21,359
preview two upcoming spacewalks

115
00:04:25,830 --> 00:04:23,840
involving u.s russian and japanese crew

116
00:04:28,870 --> 00:04:25,840
members aboard the international space

117
00:04:30,710 --> 00:04:28,880
station on august 30th nasa flight

118
00:04:32,870 --> 00:04:30,720
engineer suni williams and flight

119
00:04:35,270 --> 00:04:32,880
engineer aki hoshide of the japan

120
00:04:37,749 --> 00:04:35,280
aerospace exploration agency are

121
00:04:40,230 --> 00:04:37,759
scheduled to egress the quest airlock

122
00:04:42,550 --> 00:04:40,240
for a six and a half hour excursion to

123
00:04:44,710 --> 00:04:42,560
perform electrical work on the truss and

124
00:04:47,350 --> 00:04:44,720
install cables for a future russian

125
00:04:49,350 --> 00:04:47,360
laboratory module it will be hoshide's

126
00:04:51,189 --> 00:04:49,360
first spacewalk and the third for

127
00:04:54,070 --> 00:04:51,199
japanese astronaut

128
00:04:56,150 --> 00:04:54,080
ten days before that eva expedition 32

129
00:04:58,310 --> 00:04:56,160
commander gennady padalka and flight

130
00:05:00,629 --> 00:04:58,320
engineer yuri malenchenko of the russian

131
00:05:03,110 --> 00:05:00,639
federal space agency are scheduled to

132
00:05:05,749 --> 00:05:03,120
venture outside the piers airlock for a

133
00:05:08,390 --> 00:05:05,759
six-hour spacewalk to install debris

134
00:05:10,710 --> 00:05:08,400
shields on the zvezda service module and

135
00:05:14,790 --> 00:05:10,720
move a telescoping cargo crane from

136
00:05:18,950 --> 00:05:16,790
while nasa's teams have been taking a

137
00:05:20,870 --> 00:05:18,960
close look at how orion's parachutes

138
00:05:23,430 --> 00:05:20,880

behave as the twenty thousand pound

139
00:05:25,189 --> 00:05:23,440
spacecraft descends through the sky

140
00:05:26,150 --> 00:05:25,199
they've also been investigating another

141
00:05:27,990 --> 00:05:26,160
challenge

142
00:05:30,950 --> 00:05:28,000
how do you recover parachutes that are

143
00:05:32,950 --> 00:05:30,960
100 feet wide from the water

144
00:05:34,870 --> 00:05:32,960
nasa's neutral buoyancy laboratory at

145
00:05:37,350 --> 00:05:34,880
the johnson space center in houston was

146
00:05:39,990 --> 00:05:37,360
the setting as these teams took some of

147
00:05:41,670 --> 00:05:40,000
orion's drove and main parachutes and

148
00:05:43,909 --> 00:05:41,680
dunked them in the water they were

149
00:05:45,510 --> 00:05:43,919
noting how long the chute stayed afloat

150
00:05:47,430 --> 00:05:45,520
and the best ways to get them out of the

151
00:05:49,350 --> 00:05:47,440
water and into a boat

152
00:05:51,909 --> 00:05:49,360
each one of the main chutes weighs close

153
00:05:52,790 --> 00:05:51,919
to 300 pounds the water doubles that

154
00:05:55,029 --> 00:05:52,800
weight

155
00:05:57,670 --> 00:05:55,039
so testing ways of handling them and

156
00:05:59,670 --> 00:05:57,680
doing it safely is important

157
00:06:01,990 --> 00:05:59,680
we learn every time we do a parachute

158
00:06:03,830 --> 00:06:02,000
test of something

159
00:06:06,710 --> 00:06:03,840
we find ways to improve the parachute

160
00:06:08,870 --> 00:06:06,720
design so that when we finally fly the

161
00:06:10,870 --> 00:06:08,880
parachute system for human spaceflight

162
00:06:13,029 --> 00:06:10,880
it's a safe and reliable system the

163
00:06:14,790 --> 00:06:13,039

orion team was joined by members of the

164
00:06:16,390 --> 00:06:14,800
united states navy as well as the

165
00:06:19,110 --> 00:06:16,400
recovery forces that will work

166
00:06:21,350 --> 00:06:19,120
exploration flight test one orion's

167
00:06:22,790 --> 00:06:21,360
first unmanned test flight scheduled for

168
00:06:25,510 --> 00:06:22,800
2014

169
00:06:28,469 --> 00:06:25,520
that flight will send orion more than 3

170
00:06:31,029 --> 00:06:28,479
600 miles into space reaching speeds of

171
00:06:32,629 --> 00:06:31,039
more than 20 000 miles per hour and

172
00:06:35,749 --> 00:06:32,639
returning for a splashdown in the

173
00:06:37,830 --> 00:06:35,759
pacific ocean this recovery testing on

174
00:06:40,150 --> 00:06:37,840
orion's parachutes and the capsule

175
00:06:41,830 --> 00:06:40,160
itself will continue during the lead-up

176
00:06:44,469 --> 00:06:41,840
to eft-1

177
00:06:46,469 --> 00:06:44,479
orion also has more drop tests planned

178
00:06:48,870 --> 00:06:46,479
at the langley research center and

179
00:06:52,790 --> 00:06:48,880
parachute tests at the u.s army yuma

180
00:06:57,350 --> 00:06:54,710
a decade we believe will be one of

181
00:06:59,350 --> 00:06:57,360
discovery and of one of new and

182
00:07:01,350 --> 00:06:59,360
innovative approaches and tools things

183
00:07:03,749 --> 00:07:01,360
that we will develop the national

184
00:07:06,150 --> 00:07:03,759
research council has released its second

185
00:07:09,270 --> 00:07:06,160
decadal survey in solar and space

186
00:07:11,510 --> 00:07:09,280
physics or heliophysics the broad-based

187
00:07:13,830 --> 00:07:11,520
assessment identifies the highest

188
00:07:15,749 --> 00:07:13,840

scientific priorities of the u.s solar

189
00:07:17,749 --> 00:07:15,759
and space physics research enterprise

190
00:07:19,589 --> 00:07:17,759
for the next 10 years it's truly

191
00:07:22,070 --> 00:07:19,599
national in scope it's really intended

192
00:07:24,309 --> 00:07:22,080
to talk about nasa nsf

193
00:07:25,830 --> 00:07:24,319
noaa dod all the investments that are

194
00:07:28,390 --> 00:07:25,840
being made in soul and space physics in

195
00:07:31,189 --> 00:07:28,400
various ways requested by nasa and the

196
00:07:33,990 --> 00:07:31,199
national science foundation this decadal

197
00:07:37,430 --> 00:07:34,000
survey follows the nrc's previous survey

198
00:07:41,350 --> 00:07:39,350
acting associate administrator robert

199
00:07:43,749 --> 00:07:41,360
lightfoot and langley research center

200
00:07:45,749 --> 00:07:43,759
director lisa rowe joined others at a

201
00:07:48,550 --> 00:07:45,759
headquarters recognition ceremony for

202
00:07:50,950 --> 00:07:48,560
contributors to a new flexbook developed

203
00:07:53,589 --> 00:07:50,960
by nasa and the nonprofit education

204
00:07:55,510 --> 00:07:53,599
organization ck12 as we challenge the

205
00:07:57,430 --> 00:07:55,520
boundaries of everything all the

206
00:07:58,790 --> 00:07:57,440
technologies that we need to do that

207
00:08:00,230 --> 00:07:58,800
we've got to have the modeling and

208
00:08:01,749 --> 00:08:00,240
simulation to allow us to deal with

209
00:08:03,510 --> 00:08:01,759
those uncertainties and the environments

210
00:08:05,189 --> 00:08:03,520
we're going to face the temperatures the

211
00:08:06,869 --> 00:08:05,199
pressures all the different things that

212
00:08:08,710 --> 00:08:06,879
our spacecraft are going to see

213
00:08:10,150 --> 00:08:08,720

hopefully this project will help lead to

214
00:08:10,950 --> 00:08:10,160
us having that workforce we're going to

215
00:08:13,270 --> 00:08:10,960
need

216
00:08:15,749 --> 00:08:13,280
in the future a flexbook is an open

217
00:08:17,510 --> 00:08:15,759
source textbook that can be customized

218
00:08:20,390 --> 00:08:17,520
and evolve with the changing needs of a

219
00:08:23,110 --> 00:08:20,400
user and help maximize stem teaching and

220
00:08:25,189 --> 00:08:23,120
learning in grades k through 12.

221
00:08:27,029 --> 00:08:25,199
the new flexbook entitled modeling and

222
00:08:29,110 --> 00:08:27,039
simulation for high school teachers

223
00:08:32,949 --> 00:08:29,120
principles problems and lesson plans is

224
00:08:36,949 --> 00:08:34,630
an upcoming mission to study the

225
00:08:38,949 --> 00:08:36,959
development of atlantic hurricanes using

226
00:08:40,630 --> 00:08:38,959
unmanned aerial vehicles based at the

227
00:08:42,709 --> 00:08:40,640
nasa wallops flight facility was

228
00:08:44,550 --> 00:08:42,719
discussed during a public presentation

229
00:08:47,430 --> 00:08:44,560
at the facilities visitors center the

230
00:08:49,269 --> 00:08:47,440
hurricane and severe storm sentinel hs3

231
00:08:51,350 --> 00:08:49,279
is a five-year mission specifically

232
00:08:53,269 --> 00:08:51,360
targeted to investigate the processes

233
00:08:55,269 --> 00:08:53,279
that underlie hurricane formation and

234
00:08:57,110 --> 00:08:55,279
intensity change in the atlantic ocean

235
00:08:59,030 --> 00:08:57,120
basin if we understand more about the

236
00:09:01,509 --> 00:08:59,040
storms and we can predict that better we

237
00:09:03,190 --> 00:09:01,519
can get people out of harm's way we can

238
00:09:05,750 --> 00:09:03,200

not evacuate people when they don't need

239
00:09:07,670 --> 00:09:05,760
to evacuate and we can you know save

240
00:09:09,030 --> 00:09:07,680
human lives by making sure that

241
00:09:11,990 --> 00:09:09,040
everyone's informed and has the best

242
00:09:13,990 --> 00:09:12,000
information possible hs3 will use two

243
00:09:15,910 --> 00:09:14,000
nasa global hawk unmanned aerial

244
00:09:17,430 --> 00:09:15,920
vehicles one with an instrument sweep

245
00:09:18,870 --> 00:09:17,440
geared toward measurement of the

246
00:09:20,870 --> 00:09:18,880
environment and the other with

247
00:09:23,350 --> 00:09:20,880
instruments suited to inner core

248
00:09:25,590 --> 00:09:23,360
structure and processes the aircraft are

249
00:09:28,550 --> 00:09:25,600
capable of flight altitudes greater than

250
00:09:30,949 --> 00:09:28,560
55 000 feet in flight durations of up to

251
00:09:32,710 --> 00:09:30,959
30 hours more than 200 people will be

252
00:09:34,550 --> 00:09:32,720
involved in preparing and supporting the

253
00:09:36,470 --> 00:09:34,560
aircraft flight planning and aircraft

254
00:09:38,790 --> 00:09:36,480
coordination in conducting the science

255
00:09:40,550 --> 00:09:38,800
data collection it's the volume of data

256
00:09:42,310 --> 00:09:40,560
that really makes it unique and the

257
00:09:43,910 --> 00:09:42,320
scientists are all going to be working

258
00:09:45,509 --> 00:09:43,920
together and communicating and even

259
00:09:48,310 --> 00:09:45,519
showing real-time data during the

260
00:09:50,150 --> 00:09:48,320
mission to help them you know understand

261
00:09:51,829 --> 00:09:50,160
what they're seeing and communicate

262
00:09:53,590 --> 00:09:51,839
during their while they're doing their

263
00:09:55,670 --> 00:09:53,600

evaluation and all this stuff is going

264
00:09:57,590 --> 00:09:55,680
to be fed into models that could help us

265
00:09:59,829 --> 00:09:57,600
better predict storms in addition to the

266
00:10:02,949 --> 00:09:59,839
2012 mission the project will also be

267
00:10:05,030 --> 00:10:02,959
conducted from wallops in 2013 and 2014

268
00:10:07,750 --> 00:10:05,040
providing sustained measurements over

269
00:10:10,069 --> 00:10:07,760
several years due to limited sampling

270
00:10:12,630 --> 00:10:10,079
opportunities in any given hurricane

271
00:10:17,430 --> 00:10:15,030
smokey welcome to nasa welcome to the

272
00:10:19,110 --> 00:10:17,440
johnson space center smokey beer visited

273
00:10:21,829 --> 00:10:19,120
the johnson space center to celebrate

274
00:10:23,670 --> 00:10:21,839
both his 68th birthday and the space act

275
00:10:24,949 --> 00:10:23,680
agreement between nasa and the u.s

276
00:10:27,350 --> 00:10:24,959
forest service

277
00:10:29,590 --> 00:10:27,360
jsc deputy director ellen ochoa

278
00:10:31,269 --> 00:10:29,600
astronaut mike fossum and others rolled

279
00:10:33,910 --> 00:10:31,279
out the red carpet for smokey and

280
00:10:36,069 --> 00:10:33,920
members of both the u.s and the texas

281
00:10:38,630 --> 00:10:36,079
forest service complete with a tour of

282
00:10:40,470 --> 00:10:38,640
mission control and birthday cake

283
00:10:42,949 --> 00:10:40,480
smokey also met robonaut and its

284
00:10:45,990 --> 00:10:42,959
designers and made a special stop at the

285
00:10:48,150 --> 00:10:46,000
jsc child care center to talk about fire

286
00:10:50,630 --> 00:10:48,160
prevention and to plant a tree to

287
00:10:53,990 --> 00:10:50,640
symbolize the partnership between nasa

288
00:10:59,829 --> 00:10:56,790

on august 20th the voyager 2 spacecraft

289
00:11:02,069 --> 00:10:59,839
chalks up another year of exploration

290
00:11:03,990 --> 00:11:02,079
35 years ago on that date forager 2

291
00:11:05,750 --> 00:11:04,000
launched from cape canaveral to explore

292
00:11:07,509 --> 00:11:05,760
jupiter and saturn

293
00:11:09,670 --> 00:11:07,519
after a string of discoveries at those

294
00:11:12,069 --> 00:11:09,680
planets the mission of voyager 2 and its

295
00:11:14,389 --> 00:11:12,079
twin voyager 1 launched less than a

296
00:11:16,550 --> 00:11:14,399
month later was extended to the outer

297
00:11:19,269 --> 00:11:16,560
planets of uranus and neptune

298
00:11:21,750 --> 00:11:19,279
the duel's current campaign the voyager

299
00:11:23,829 --> 00:11:21,760
interstellar mission is helping nasa

300
00:11:26,310 --> 00:11:23,839
reach beyond the outer planets to the

301
00:11:28,790 --> 00:11:26,320
heliosheath the outermost layer of the

302
00:11:30,870 --> 00:11:28,800
heliosphere where the solar wind is

303
00:11:31,910 --> 00:11:30,880
slowed by the pressure of interstellar

304
00:11:33,910 --> 00:11:31,920
gas

305
00:11:35,829 --> 00:11:33,920
this extended mission continues to

306
00:11:37,829 --> 00:11:35,839
characterize the outer solar system

307
00:11:40,550 --> 00:11:37,839
environment and search for the

308
00:11:42,949 --> 00:11:40,560
heliopause boundary the outer limits of

309
00:11:46,949 --> 00:11:42,959
the sun's magnetic field and outward

310
00:11:53,509 --> 00:11:50,790
25 years ago in 1987 the late sally ride

311
00:11:55,190 --> 00:11:53,519
america's first woman in space headed a

312
00:11:57,190 --> 00:11:55,200
group at nasa headquarters that

313
00:11:59,509 --> 00:11:57,200

completed an assessment of nasa's

314
00:12:02,389 --> 00:11:59,519
options beyond the space station

315
00:12:04,389 --> 00:12:02,399
on august 17th of that year nasa

316
00:12:07,030 --> 00:12:04,399
released that group's report

317
00:12:08,949 --> 00:12:07,040
leadership and america's future in space

318
00:12:11,350 --> 00:12:08,959
which came to be known as the ride

319
00:12:13,509 --> 00:12:11,360
report the document recommended major

320
00:12:15,750 --> 00:12:13,519
programs to study earth sciences with

321
00:12:17,829 --> 00:12:15,760
powerful orbiting sensors and

322
00:12:20,550 --> 00:12:17,839
exploration of the solar system with new

323
00:12:23,430 --> 00:12:20,560
generations of robotic probes

324
00:12:25,350 --> 00:12:23,440
and that's this week at nasa for more on

325
00:12:27,350 --> 00:12:25,360
these and other stories or to follow us