



1
00:00:07,680 --> 00:00:11,509
this week at nasa

2
00:00:15,589 --> 00:00:13,030
all right guys give me a smile

3
00:00:17,910 --> 00:00:15,599
expedition 22 commander jeff williams

4
00:00:19,670 --> 00:00:17,920
and flight engineer max surya made a

5
00:00:21,750 --> 00:00:19,680
safe return to earth in a soyuz

6
00:00:23,189 --> 00:00:21,760
spacecraft landing on the remote steps

7
00:00:25,429 --> 00:00:23,199
of kazakhstan

8
00:00:27,349 --> 00:00:25,439
russian recovery teams worked in snow

9
00:00:29,269 --> 00:00:27,359
and frigid temperatures to help the crew

10
00:00:31,750 --> 00:00:29,279
exit the spacecraft and begin their

11
00:00:33,910 --> 00:00:31,760
readjustment to earth's gravity as

12
00:00:37,190 --> 00:00:33,920
members of the expedition 21 and 22

13
00:00:39,350 --> 00:00:37,200

cruise williams and suryav spent 169

14

00:00:41,110 --> 00:00:39,360

days in space residing over the

15

00:00:42,869 --> 00:00:41,120

completion of the assembly of the u.s

16

00:00:45,670 --> 00:00:42,879

segment of the complex

17

00:00:48,310 --> 00:00:45,680

williams has now logged 362 days in

18

00:00:51,189 --> 00:00:48,320

space placing him forth on the all-time

19

00:00:55,029 --> 00:00:51,199

us list of space travelers led by peggy

20

00:00:56,869 --> 00:00:55,039

whitson with 377 days in space

21

00:00:59,430 --> 00:00:56,879

remaining on the station is expedition

22

00:01:02,709 --> 00:00:59,440

23 commander oleg kultan and flight

23

00:01:05,429 --> 00:01:02,719

engineers suicina gucci and tj creamer

24

00:01:08,630 --> 00:01:05,439

three expedition 23 flight engineers

25

00:01:10,870 --> 00:01:08,640

alexander skvorsov tracy caldwell dyson

26
00:01:15,749 --> 00:01:10,880
and mikhail konyenko are scheduled to

27
00:01:20,230 --> 00:01:18,070
students from universities in california

28
00:01:22,390 --> 00:01:20,240
and kentucky built satellites that will

29
00:01:23,350 --> 00:01:22,400
fly on a nasa's suborbital sounding

30
00:01:25,109 --> 00:01:23,360
rocket

31
00:01:27,190 --> 00:01:25,119
the satellites are designed to gather

32
00:01:31,830 --> 00:01:27,200
data for possible use in the development

33
00:01:36,230 --> 00:01:33,590
the students from a consortium of

34
00:01:39,109 --> 00:01:36,240
kentucky universities and cal poly san

35
00:01:41,749 --> 00:01:39,119
luis obispo designed then built the

36
00:01:44,469 --> 00:01:41,759
cubesats using mostly off-the-shelf

37
00:01:46,630 --> 00:01:44,479
components the standard cubesat that's

38
00:01:48,789 --> 00:01:46,640

used for space research is a four-inch

39

00:01:51,350 --> 00:01:48,799

cube weighing about two pounds we're

40

00:01:54,149 --> 00:01:51,360

trying to do is create

41

00:01:56,230 --> 00:01:54,159

a mission that merges the 17-inch

42

00:01:59,270 --> 00:01:56,240

sounding rocket diameter sounding

43

00:02:01,510 --> 00:01:59,280

rockets and nasa wallops with cubesats

44

00:02:04,230 --> 00:02:01,520

which have been flown by educational

45

00:02:05,910 --> 00:02:04,240

university programs for several years

46

00:02:07,990 --> 00:02:05,920

the student cubesats will fly in a

47

00:02:10,630 --> 00:02:08,000

rocket similar to this one from nasa's

48

00:02:13,110 --> 00:02:10,640

wallops flight facility in virginia the

49

00:02:15,510 --> 00:02:13,120

two spacecraft will be ejected 72

50

00:02:18,309 --> 00:02:15,520

seconds into the sub-orbital flight at

51

00:02:20,869 --> 00:02:18,319

an altitude of some 77 miles

52

00:02:22,949 --> 00:02:20,879

nasa is flying the cubesats as secondary

53

00:02:26,790 --> 00:02:22,959

experiments on the flight that'll test

54

00:02:27,830 --> 00:02:26,800

improvements to its rocket's motor

55

00:02:31,270 --> 00:02:27,840

three

56

00:02:33,430 --> 00:02:31,280

two engine start one when liftoff of the

57

00:02:35,750 --> 00:02:33,440

delta ii rocket with kepler it's been a

58

00:02:37,750 --> 00:02:35,760

year since the launch of nasa's kepler

59

00:02:40,470 --> 00:02:37,760

mission from cape canaveral air force

60

00:02:43,509 --> 00:02:40,480

station florida to begin a continuing

61

00:02:45,670 --> 00:02:43,519

survey of our milky way galaxy for signs

62

00:02:47,509 --> 00:02:45,680

of earth-sized planets

63

00:02:49,830 --> 00:02:47,519

since then the kepler spacecraft has

64

00:02:52,790 --> 00:02:49,840

helped scientists discover five planets

65

00:02:54,710 --> 00:02:52,800

beyond our solar system and detect the

66

00:02:57,350 --> 00:02:54,720

atmosphere of another

67

00:02:59,990 --> 00:02:57,360

kepler uses a photometer containing the

68

00:03:02,470 --> 00:03:00,000

largest camera ever flown in space to

69

00:03:04,630 --> 00:03:02,480

document changes in a star's light as a

70

00:03:07,270 --> 00:03:04,640

planet orbiting nearby crosses in front

71

00:03:09,110 --> 00:03:07,280

of it from measurements of these changes

72

00:03:11,670 --> 00:03:09,120

scientists can determine whether these

73

00:03:14,070 --> 00:03:11,680

so-called exoplanets warrant focused

74

00:03:16,790 --> 00:03:14,080

investigation into their suitability for

75

00:03:18,630 --> 00:03:16,800

maintaining life forms in this past year

76

00:03:20,149 --> 00:03:18,640

it's it's like kevlar is a seven course

77

00:03:22,070 --> 00:03:20,159

meal we've just served their jurors

78

00:03:23,990 --> 00:03:22,080

we've announced our first five planets

79

00:03:26,229 --> 00:03:24,000

but you just gotta keep your eyes peeled

80

00:03:27,350 --> 00:03:26,239

and your ears tuned to the news because

81

00:03:29,270 --> 00:03:27,360

the smaller planets are going to be

82

00:03:31,430 --> 00:03:29,280

rolling out the pipeline we just have

83

00:03:33,670 --> 00:03:31,440

patience to find those small planets the

84

00:03:35,589 --> 00:03:33,680

kepler spacecraft nicknamed the planet

85

00:03:39,509 --> 00:03:35,599

finder will continue its scouting

86

00:03:44,630 --> 00:03:42,149

nasa's next space-based observatory the

87

00:03:46,710 --> 00:03:44,640

james webb space telescope was the

88

00:03:49,190 --> 00:03:46,720

featured topic at this year's women's

89

00:03:51,750 --> 00:03:49,200

science forum hosted in baltimore by the

90

00:03:53,750 --> 00:03:51,760

space telescope science institute the

91

00:03:55,509 --> 00:03:53,760

event encouraged young women in middle

92

00:03:57,350 --> 00:03:55,519

and high school to further their

93

00:04:00,710 --> 00:03:57,360

education in the stem disciplines of

94

00:04:03,190 --> 00:04:00,720

science technology engineering and math

95

00:04:05,190 --> 00:04:03,200

46 public private and homeschooled

96

00:04:07,350 --> 00:04:05,200

students from the area participated in

97

00:04:10,070 --> 00:04:07,360

activities and demonstrations centered

98

00:04:13,270 --> 00:04:10,080

on the jwst

99

00:04:15,429 --> 00:04:13,280

planned for launch in 2014 jwst's

100

00:04:17,430 --> 00:04:15,439

instruments will work primarily in the

101
00:04:19,590 --> 00:04:17,440
infrared range of the electromagnetic

102
00:04:21,990 --> 00:04:19,600
spectrum speakers included former

103
00:04:26,830 --> 00:04:22,000
astronaut and institute deputy director

104
00:04:29,189 --> 00:04:26,840
john grunsfeld and jwst scientist tracy

105
00:04:31,110 --> 00:04:29,199
beck informing youngsters and the

106
00:04:33,030 --> 00:04:31,120
general public about nasa's space

107
00:04:35,990 --> 00:04:33,040
communication systems is the goal of a

108
00:04:39,189 --> 00:04:36,000
new interactive 3d computer simulation

109
00:04:41,749 --> 00:04:39,199
available on nasa's website the scan sim

110
00:04:44,629 --> 00:04:41,759
for space communication and navigation

111
00:04:47,030 --> 00:04:44,639
allows virtual explorers to fly through

112
00:04:49,189 --> 00:04:47,040
a 3d tour of nasa's three space

113
00:04:51,510 --> 00:04:49,199

communication networks and learn how

114

00:04:53,670 --> 00:04:51,520

they help scientists and engineers talk

115

00:04:56,230 --> 00:04:53,680

with the mars exploration rover's spirit

116

00:04:58,950 --> 00:04:56,240

and opportunity and other spacecraft

117

00:05:01,590 --> 00:04:58,960

space communication and navigation sends

118

00:05:03,749 --> 00:05:01,600

all of the information that a spacecraft

119

00:05:05,590 --> 00:05:03,759

needs from the earth to the spacecraft

120

00:05:07,590 --> 00:05:05,600

in order to operate and then it

121

00:05:09,270 --> 00:05:07,600

transfers the data that the spacecraft

122

00:05:12,310 --> 00:05:09,280

is collecting whether it's the mars

123

00:05:14,230 --> 00:05:12,320

rover or the space station or others it

124

00:05:15,670 --> 00:05:14,240

sends all that data back to earth so the

125

00:05:18,310 --> 00:05:15,680

scientists and engineers here on earth

126

00:05:21,110 --> 00:05:18,320

can use that visitors can also try a

127

00:05:22,790 --> 00:05:21,120

variety of virtual space experiences

128

00:05:24,390 --> 00:05:22,800

from docking the space shuttle at the

129

00:05:27,510 --> 00:05:24,400

international space station

130

00:05:29,830 --> 00:05:27,520

to taking a trip to mars even exploring

131

00:05:32,550 --> 00:05:29,840

images of star formations taken by the

132

00:05:35,430 --> 00:05:32,560

hubble space telescope all spacecraft

133

00:05:37,590 --> 00:05:35,440

that rely on scan for their success it's

134

00:05:40,670 --> 00:05:37,600

like the cell phone of space check out

135

00:05:44,390 --> 00:05:40,680

the 3d scan sim at

136

00:05:52,070 --> 00:05:44,400

[www.nasa.gov slash multimedia slash 3d](http://www.nasa.gov/multimedia/3d)

137

00:05:56,790 --> 00:05:54,150

nasa scientists drilling through the

138

00:05:59,510 --> 00:05:56,800

thick ice of antarctica's ross ice shelf

139

00:06:01,909 --> 00:05:59,520

last november didn't expect to see this

140

00:06:04,550 --> 00:06:01,919

shrimp-like thing swimming underneath

141

00:06:07,670 --> 00:06:04,560

the creature a three-inch long glycemic

142

00:06:10,629 --> 00:06:07,680

acid amphipod was captured 600 feet

143

00:06:13,029 --> 00:06:10,639

below the west antarctic ice sheet by a

144

00:06:15,189 --> 00:06:13,039

borehole camera lowered through the ice

145

00:06:17,110 --> 00:06:15,199

this was the view looking upwards the

146

00:06:19,110 --> 00:06:17,120

critter was about 12 and a half miles

147

00:06:21,110 --> 00:06:19,120

away from open water

148

00:06:23,430 --> 00:06:21,120

scientists say this is the first time

149

00:06:27,189 --> 00:06:23,440

such a sophisticated life form was found

150

00:06:29,749 --> 00:06:27,199

in this type of sub-glacial environment

151

00:06:32,029 --> 00:06:29,759

and that's this week at nasa for more on