



1
00:00:07,040 --> 00:00:10,709
this week at nasa

2
00:00:16,070 --> 00:00:13,830
just like with hurricane irene nasa eyes

3
00:00:18,790 --> 00:00:16,080
in the sky have helped keep tabs on the

4
00:00:21,029 --> 00:00:18,800
progress of katya the latest storm on

5
00:00:22,710 --> 00:00:21,039
the radar of weather watchers

6
00:00:25,750 --> 00:00:22,720
making the first of its multiple

7
00:00:27,910 --> 00:00:25,760
flyovers of katya on august 31st the

8
00:00:30,550 --> 00:00:27,920
international space station's external

9
00:00:31,990 --> 00:00:30,560
cameras track the storm's path across

10
00:00:34,549 --> 00:00:32,000
the atlantic

11
00:00:36,950 --> 00:00:34,559
nasa satellites and animators have also

12
00:00:39,430 --> 00:00:36,960
provided a wealth of imagery to keep

13
00:00:41,750 --> 00:00:39,440

scientists and the public informed about

14

00:00:44,630 --> 00:00:41,760

katya's path and his potential for

15

00:00:47,270 --> 00:00:44,640

destruction

16

00:00:49,830 --> 00:00:47,280

nasa's npp the prototype for the next

17

00:00:51,750 --> 00:00:49,840

generation of earth observing satellites

18

00:00:54,069 --> 00:00:51,760

has been delivered to vanderberg air

19

00:00:56,549 --> 00:00:54,079

force base in california

20

00:00:58,549 --> 00:00:56,559

npp for national polar orbiting

21

00:01:00,790 --> 00:00:58,559

operational environmental satellite

22

00:01:02,950 --> 00:01:00,800

system preparatory project

23

00:01:03,750 --> 00:01:02,960

we'll look at the entire globe once a

24

00:01:05,830 --> 00:01:03,760

day

25

00:01:08,310 --> 00:01:05,840

its five scientific instruments will

26

00:01:11,270 --> 00:01:08,320

offer continuous observations of the

27

00:01:13,109 --> 00:01:11,280

earth's land oceans and atmosphere

28

00:01:15,350 --> 00:01:13,119

data from the satellite will support

29

00:01:17,190 --> 00:01:15,360

long-term monitoring of climate trends

30

00:01:19,590 --> 00:01:17,200

and global change studies

31

00:01:21,510 --> 00:01:19,600

npp will also assist in life-saving

32

00:01:24,149 --> 00:01:21,520

forecasts and warnings and help

33

00:01:26,630 --> 00:01:24,159

emergency responders monitor and react

34

00:01:29,830 --> 00:01:26,640

to natural disasters there are a lot of

35

00:01:32,870 --> 00:01:29,840

changes happening in our atmosphere the

36

00:01:34,870 --> 00:01:32,880

npp satellite will continue

37

00:01:37,030 --> 00:01:34,880

this series it gives us real-time

38

00:01:39,510 --> 00:01:37,040

information it allows us to see

39

00:01:42,149 --> 00:01:39,520

how our atmosphere and the planet are

40

00:01:46,230 --> 00:01:42,159

changing npp is scheduled to launch from

41

00:01:51,350 --> 00:01:48,469

the federal aviation administration has

42

00:01:53,990 --> 00:01:51,360

granted orbital sciences corporation a

43

00:01:55,590 --> 00:01:54,000

license to launch a nasa cots program

44

00:01:57,830 --> 00:01:55,600

demonstration flight to the

45

00:01:59,510 --> 00:01:57,840

international space station early next

46

00:02:01,830 --> 00:01:59,520

year the commercial orbital

47

00:02:04,469 --> 00:02:01,840

transportation services demo will have

48

00:02:06,789 --> 00:02:04,479

orbital launch its taurus ii rocket

49

00:02:08,389 --> 00:02:06,799

carrying an operational cygnus cargo

50

00:02:11,270 --> 00:02:08,399

logistics spacecraft

51
00:02:14,070 --> 00:02:11,280
the unpiloted craft will rendezvous with

52
00:02:16,790 --> 00:02:14,080
and operate near the iss before it's

53
00:02:20,390 --> 00:02:16,800
grappled with a robotic arm and birthed

54
00:02:25,430 --> 00:02:22,949
the 2011 mission of nasa's desert

55
00:02:27,670 --> 00:02:25,440
research and technology studies analog

56
00:02:30,070 --> 00:02:27,680
program is underway

57
00:02:32,630 --> 00:02:30,080
the two-week series of simulated human

58
00:02:35,509 --> 00:02:32,640
and robotic space exploration activities

59
00:02:39,030 --> 00:02:35,519
is again being held on extreme terrain

60
00:02:41,110 --> 00:02:39,040
some 40 miles north of flagstaff arizona

61
00:02:43,430 --> 00:02:41,120
this year the desert rat team is

62
00:02:46,150 --> 00:02:43,440
investigating and developing realistic

63
00:02:48,869 --> 00:02:46,160

technical and mission-driven operations

64

00:02:51,670 --> 00:02:48,879

similar to that of an asteroid mission

65

00:02:53,910 --> 00:02:51,680

a near-earth asteroid is one destination

66

00:02:57,350 --> 00:02:53,920

nasa is considering for future

67

00:03:02,470 --> 00:02:59,589

initial work at its new location by

68

00:03:04,710 --> 00:03:02,480

nasa's mars rover opportunity shows key

69

00:03:06,949 --> 00:03:04,720

differences from previous studies the

70

00:03:09,350 --> 00:03:06,959

robot conducted in its first seven and a

71

00:03:11,270 --> 00:03:09,360

half years on the red planet

72

00:03:12,390 --> 00:03:11,280

opportunity arrived at endeavour crater

73

00:03:15,430 --> 00:03:12,400

last month

74

00:03:17,910 --> 00:03:15,440

the first rock it examined is tisdale 2

75

00:03:20,710 --> 00:03:17,920

a flat topped footstool size object

76

00:03:21,990 --> 00:03:20,720

we've driven up to it we've put the

77

00:03:25,030 --> 00:03:22,000

instruments on it we've taken

78

00:03:27,910 --> 00:03:25,040

microscopic images of it which show that

79

00:03:29,589 --> 00:03:27,920

it's what we call an impact russia it's

80

00:03:32,070 --> 00:03:29,599

very angular

81

00:03:35,190 --> 00:03:32,080

class it's a bunch of different rocks

82

00:03:37,670 --> 00:03:35,200

kind of all smooshed together apparently

83

00:03:39,990 --> 00:03:37,680

it was unearthed by an impact that dug a

84

00:03:42,070 --> 00:03:40,000

tennis court-sized crater right into

85

00:03:44,949 --> 00:03:42,080

endeavour's rim this is kind of like

86

00:03:47,589 --> 00:03:44,959

starting a whole new mission we drove

87

00:03:49,910 --> 00:03:47,599

off the plains of mourinho where we've

88

00:03:52,229 --> 00:03:49,920

been for the last seven years onto

89

00:03:54,390 --> 00:03:52,239

something that looks totally different

90

00:03:57,350 --> 00:03:54,400

opportunity is in the eighth year of its

91

00:03:59,270 --> 00:03:57,360

90-day mission

92

00:04:01,670 --> 00:03:59,280

the physics professor came up to me in

93

00:04:04,229 --> 00:04:01,680

lab one day and he said you know i

94

00:04:07,589 --> 00:04:04,239

usually try to convince women not to go

95

00:04:10,630 --> 00:04:07,599

into physics but i think maybe you might

96

00:04:13,270 --> 00:04:10,640

make it celebrated astrophysicist nancy

97

00:04:16,310 --> 00:04:13,280

grace roman has a new nasa fellowship

98

00:04:18,789 --> 00:04:16,320

named in her honor the nancy grace roman

99

00:04:20,710 --> 00:04:18,799

technology fellowship in astrophysics

100

00:04:22,629 --> 00:04:20,720

will help early career researchers

101

00:04:24,870 --> 00:04:22,639

develop new technologies for

102

00:04:26,950 --> 00:04:24,880

investigating the origin and physics of

103

00:04:29,270 --> 00:04:26,960

the universe as well as the skills

104

00:04:32,390 --> 00:04:29,280

necessary to lead future astrophysics

105

00:04:35,590 --> 00:04:32,400

projects and exoplanet explorations i

106

00:04:38,150 --> 00:04:35,600

had left teaching which i enjoyed and i

107

00:04:40,230 --> 00:04:38,160

wasn't sure i wanted to leave research

108

00:04:42,310 --> 00:04:40,240

but i finally decided that the challenge

109

00:04:43,350 --> 00:04:42,320

of starting with a completely clean

110

00:04:45,270 --> 00:04:43,360

slate

111

00:04:47,510 --> 00:04:45,280

and mapping out a program that i thought

112

00:04:49,510 --> 00:04:47,520

would influence astronomy for 50 years

113

00:04:52,230 --> 00:04:49,520

was just more than i could

114

00:04:55,189 --> 00:04:52,240

turn down roman who was appointed nasa's

115

00:04:57,350 --> 00:04:55,199

first chief of astronomy in 1959

116

00:04:59,749 --> 00:04:57,360

is widely regarded as the mother of the

117

00:05:02,310 --> 00:04:59,759

hubble space telescope for her role in

118

00:05:03,270 --> 00:05:02,320

its creation and development three

119

00:05:04,070 --> 00:05:03,280

two

120

00:05:06,150 --> 00:05:04,080

one

121

00:05:07,909 --> 00:05:06,160

and liftoff of the space shuttle

122

00:05:10,550 --> 00:05:07,919

discovery with the hubble space

123

00:05:12,469 --> 00:05:10,560

telescope our window on the universe

124

00:05:14,710 --> 00:05:12,479

when the telescope was first launched

125

00:05:16,390 --> 00:05:14,720

and we had the poor images and at the

126

00:05:18,870 --> 00:05:16,400

same time

127

00:05:21,430 --> 00:05:18,880

adaptive optics was becoming usable on

128

00:05:24,469 --> 00:05:21,440

the ground which gave us good images

129

00:05:25,909 --> 00:05:24,479

i wondered had i really oversold

130

00:05:28,390 --> 00:05:25,919

the hubble

131

00:05:30,629 --> 00:05:28,400

and i have to admit that since i've been

132

00:05:33,670 --> 00:05:30,639

convinced that i didn't

133

00:05:36,150 --> 00:05:33,680

since retiring from nasa in 1979

134

00:05:37,749 --> 00:05:36,160

roman spends much of her time consulting

135

00:05:39,990 --> 00:05:37,759

teaching and lecturing across the

136

00:05:42,550 --> 00:05:40,000

country as a passionate advocate for

137

00:05:44,950 --> 00:05:42,560

science the first selection of the nancy

138

00:05:48,469 --> 00:05:44,960

grace roman fellows will be announced

139

00:05:53,510 --> 00:05:51,270

still images captured over a 14-year

140

00:05:55,670 --> 00:05:53,520

period by the hubble space telescope

141

00:05:58,710 --> 00:05:55,680

have been transformed into movies that

142

00:05:59,670 --> 00:05:58,720

show new details about how stars are

143

00:06:01,510 --> 00:05:59,680

born

144

00:06:06,469 --> 00:06:01,520

strung together the high-resolution

145

00:06:08,870 --> 00:06:06,479

hubble images taken in 1994 97 and 2007

146

00:06:11,510 --> 00:06:08,880

show energetic jets of glowing gas

147

00:06:14,070 --> 00:06:11,520

ejected from two young stars

148

00:06:16,230 --> 00:06:14,080

in turn scientists are now performing

149

00:06:18,629 --> 00:06:16,240

laser experiments to recreate in the

150

00:06:21,189 --> 00:06:18,639

laboratory how these stellar jets

151
00:06:23,670 --> 00:06:21,199
interact with their surroundings we have

152
00:06:25,189 --> 00:06:23,680
a small tube a few millimeters across

153
00:06:27,189 --> 00:06:25,199
with a little washer on the end and we

154
00:06:28,870 --> 00:06:27,199
take the laser energy and we strike this

155
00:06:31,350 --> 00:06:28,880
one side of the washer and that

156
00:06:34,790 --> 00:06:31,360
basically squirts plasma or very high

157
00:06:36,790 --> 00:06:34,800
temperature gas into the tube so the

158
00:06:39,029 --> 00:06:36,800
material in the washer becomes the jet

159
00:06:41,029 --> 00:06:39,039
and the material in the tube becomes the

160
00:06:43,510 --> 00:06:41,039
cloud scientists believe that

161
00:06:45,990 --> 00:06:43,520
understanding how stars form can tell us

162
00:06:48,629 --> 00:06:46,000
more about the origins of life here on

163
00:06:54,230 --> 00:06:48,639

earth

164

00:06:59,029 --> 00:06:56,710

the johnson space center hosted almost 8

165

00:07:01,510 --> 00:06:59,039

000 employees in a celebration of nasa's

166

00:07:04,070 --> 00:07:01,520

30-year space shuttle program thanks

167

00:07:06,390 --> 00:07:04,080

very much it's a it's a big night the

168

00:07:08,550 --> 00:07:06,400

salute r shuttle event included comments

169

00:07:10,870 --> 00:07:08,560

from administrator charlie bolden

170

00:07:12,629 --> 00:07:10,880

johnson center director mike coats and

171

00:07:14,550 --> 00:07:12,639

other agency leaders who thanked the

172

00:07:16,629 --> 00:07:14,560

employees for their work on the shuttle

173

00:07:18,950 --> 00:07:16,639

and underscored the importance of future

174

00:07:21,430 --> 00:07:18,960

programs such as the commercial orbital

175

00:07:24,550 --> 00:07:21,440

transportation services and the orion

176

00:07:28,070 --> 00:07:24,560

multipurpose crew vehicle

177

00:07:29,990 --> 00:07:28,080

the program also included a t-38 flyover

178

00:07:32,070 --> 00:07:30,000

and a special retirement ceremony for

179

00:07:34,309 --> 00:07:32,080

each of the five space shuttle orbiter

180

00:07:36,950 --> 00:07:34,319

flags that had flown in front of jsc

181

00:07:39,990 --> 00:07:36,960

during their respective missions

182

00:07:43,029 --> 00:07:40,000

the event included a kids zone food

183

00:07:44,869 --> 00:07:43,039

tours of jsc facilities and a concert by

184

00:07:48,390 --> 00:07:44,879

several bands including five for

185

00:07:54,070 --> 00:07:51,589

and that's this week at nasa for more on