



1
00:00:09,669 --> 00:00:04,470
hi i'm mike massimino and this is inside

2
00:00:12,870 --> 00:00:11,270
there's no red line on here

3
00:00:14,470 --> 00:00:12,880
first of all it started with some good

4
00:00:16,070 --> 00:00:14,480
equipment of course the aurora's you

5
00:00:26,230 --> 00:00:16,080
know my favorite five miles a second

6
00:00:31,109 --> 00:00:29,029
hi i'm mike massimino and this is inside

7
00:00:32,310 --> 00:00:31,119
the international space station

8
00:00:33,750 --> 00:00:32,320
today we're going to go into the mission

9
00:00:36,150 --> 00:00:33,760
control center and we're going to talk

10
00:00:37,910 --> 00:00:36,160
to mike fossum he's been in space for

11
00:00:39,510 --> 00:00:37,920
almost six months and he's coming home

12
00:00:41,190 --> 00:00:39,520
soon and we're going to talk to him

13
00:00:43,270 --> 00:00:41,200

about some of the great images some of

14

00:00:44,950 --> 00:00:43,280

the great photography he's taken while

15

00:00:51,110 --> 00:00:44,960

he's been in space come on let's go say

16

00:00:55,110 --> 00:00:52,150

i'm not even doing anything no you're

17

00:01:04,549 --> 00:00:55,120

not getting any of this emily's best

18

00:01:07,830 --> 00:01:06,390

all right is mike ready for this i think

19

00:01:09,830 --> 00:01:07,840

so what happened to dylan you disappear

20

00:01:12,950 --> 00:01:09,840

again can i see here who's on the phone

21

00:01:14,950 --> 00:01:12,960

someone's ordering a pizza it was really

22

00:01:16,149 --> 00:01:14,960

cool in over an imax theater over space

23

00:01:17,749 --> 00:01:16,159

in houston

24

00:01:20,149 --> 00:01:17,759

if you were traveling that fast how fast

25

00:01:21,670 --> 00:01:20,159

is it though it's uh

26

00:01:23,350 --> 00:01:21,680

well we really appreciate you spending

27

00:01:25,429 --> 00:01:23,360

some time with us we know you're coming

28

00:01:27,109 --> 00:01:25,439

to the to the end of your stay up there

29

00:01:28,870 --> 00:01:27,119

and uh you know very little time and

30

00:01:31,270 --> 00:01:28,880

you're real busy but we just wanted to

31

00:01:32,870 --> 00:01:31,280

ask you a couple questions you know one

32

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

thing that's been going on down here is

33

00:01:37,270 --> 00:01:34,880

we've really been enjoying

34

00:01:38,149 --> 00:01:37,280

this great photography these images

35

00:01:40,149 --> 00:01:38,159

you've been

36

00:01:41,590 --> 00:01:40,159

sending down and it's it's almost it

37

00:01:42,870 --> 00:01:41,600

almost looks like it's science fiction

38

00:01:44,870 --> 00:01:42,880

or some kind of hollywood stuff but

39

00:01:47,270 --> 00:01:44,880

there's no way anyone could imagine this

40

00:01:48,710 --> 00:01:47,280

of how beautiful it is and uh so we're

41

00:01:50,710 --> 00:01:48,720

wondering how did you how did you do

42

00:01:52,630 --> 00:01:50,720

this well how do you get those great

43

00:01:54,230 --> 00:01:52,640

shots that you've been getting them well

44

00:01:56,230 --> 00:01:54,240

first of all it started with some good

45

00:01:58,630 --> 00:01:56,240

equipment that we have and particularly

46

00:02:01,350 --> 00:01:58,640

the low light stuff is the it's the uh

47

00:02:03,270 --> 00:02:01,360

d3 camera is has some really amazing low

48

00:02:06,149 --> 00:02:03,280

light capabilities and then it was good

49

00:02:07,510 --> 00:02:06,159

training the the training team at jsc i

50

00:02:09,350 --> 00:02:07,520

i told them i was interested in this

51
00:02:11,510 --> 00:02:09,360
kind of stuff and so we worked on it

52
00:02:13,110 --> 00:02:11,520
some uh i started with the training and

53
00:02:14,630 --> 00:02:13,120
the procedures up here and then i

54
00:02:16,630 --> 00:02:14,640
started practicing and that's one of the

55
00:02:18,550 --> 00:02:16,640
great things about a long duration

56
00:02:20,630 --> 00:02:18,560
mission on a shuttle mission you're good

57
00:02:22,550 --> 00:02:20,640
if you can point a camera to the window

58
00:02:24,710 --> 00:02:22,560
and take a few snapshots

59
00:02:27,910 --> 00:02:24,720
but up here you have the time and we

60
00:02:29,350 --> 00:02:27,920
have weekends and some off-duty time to

61
00:02:31,350 --> 00:02:29,360
practice these things and that's what i

62
00:02:33,350 --> 00:02:31,360
did i spent a lot of time you know in

63
00:02:34,630 --> 00:02:33,360

the cupola during the night passes

64

00:02:37,030 --> 00:02:34,640

trying to figure out how to get the

65

00:02:40,070 --> 00:02:37,040

right the right lighting and timing yeah

66

00:02:41,990 --> 00:02:40,080

because the the the nighttime imagery

67

00:02:44,150 --> 00:02:42,000

is so amazing because it's so hard to

68

00:02:45,830 --> 00:02:44,160

get up until now you know recently that

69

00:02:47,589 --> 00:02:45,840

you've been able to do it like this you

70

00:02:49,030 --> 00:02:47,599

see all these beautiful scenes during

71

00:02:50,390 --> 00:02:49,040

the day that we can get because there's

72

00:02:52,070 --> 00:02:50,400

plenty of light and you can see with

73

00:02:53,750 --> 00:02:52,080

your eye you know at night time it's

74

00:02:55,589 --> 00:02:53,760

like this magical place in space of

75

00:02:57,910 --> 00:02:55,599

course the aurora's you know my favorite

76
00:03:00,229 --> 00:02:57,920
because it's such a just an unbelievable

77
00:03:02,710 --> 00:03:00,239
phenomenon and i've seen it once from

78
00:03:04,710 --> 00:03:02,720
the ground i saw it once many many years

79
00:03:07,350 --> 00:03:04,720
ago on a boy scout trip into the

80
00:03:08,309 --> 00:03:07,360
wilderness of canada and

81
00:03:09,990 --> 00:03:08,319
i i

82
00:03:11,830 --> 00:03:10,000
you know i've always just dreamed about

83
00:03:13,910 --> 00:03:11,840
seeing it i saw it on that trip and then

84
00:03:15,750 --> 00:03:13,920
ever never have never seen it since

85
00:03:18,229 --> 00:03:15,760
except for the little smudge on on my

86
00:03:20,390 --> 00:03:18,239
shuttle flights and so to see that is

87
00:03:23,750 --> 00:03:20,400
just amazing but it's also really great

88
00:03:25,830 --> 00:03:23,760

to see uh the the uh the planet lit up

89

00:03:27,910 --> 00:03:25,840

particularly by moonlight if you have

90

00:03:30,070 --> 00:03:27,920

more than about a half moon you get

91

00:03:32,550 --> 00:03:30,080

enough illumination to go to really pick

92

00:03:35,110 --> 00:03:32,560

up a lot of things in places like like

93

00:03:37,190 --> 00:03:35,120

africa and the interior of australia

94

00:03:39,110 --> 00:03:37,200

that are so washed out by the sunlight

95

00:03:41,190 --> 00:03:39,120

it's the sunlight so intense it really

96

00:03:43,589 --> 00:03:41,200

washes it out when you light those up

97

00:03:45,910 --> 00:03:43,599

with a cl with a nearly full moon it

98

00:03:48,149 --> 00:03:45,920

really enriches the colors and the

99

00:03:49,910 --> 00:03:48,159

details that you can see that you just

100

00:03:51,509 --> 00:03:49,920

don't notice in the broad daylight but

101
00:03:53,589 --> 00:03:51,519
you get that mo that soft moon

102
00:03:55,990 --> 00:03:53,599
illumination it really brings out the

103
00:03:57,830 --> 00:03:56,000
colors and details it's great

104
00:03:59,429 --> 00:03:57,840
you know we've uh we've really enjoyed a

105
00:04:01,270 --> 00:03:59,439
mike and we're going to be incorporating

106
00:04:03,030 --> 00:04:01,280
some of those images when we uh when we

107
00:04:04,949 --> 00:04:03,040
release this uh little segment here to

108
00:04:06,630 --> 00:04:04,959
the public so it's just been great

109
00:04:08,390 --> 00:04:06,640
you've been kind of taking us along for

110
00:04:10,630 --> 00:04:08,400
the journey you know going going into

111
00:04:12,229 --> 00:04:10,640
space is a is a really cool experience

112
00:04:13,670 --> 00:04:12,239
you've been able to share with

113
00:04:15,589 --> 00:04:13,680

with millions of people down here with

114

00:04:17,509 --> 00:04:15,599

your uh with all your techniques and

115

00:04:19,270 --> 00:04:17,519

photography that you've been you've been

116

00:04:21,509 --> 00:04:19,280

doing i wanted to ask you a little bit

117

00:04:22,870 --> 00:04:21,519

more about the auroras because like you

118

00:04:23,590 --> 00:04:22,880

said you saw him on earth you know i've

119

00:04:25,350 --> 00:04:23,600

been

120

00:04:27,270 --> 00:04:25,360

in in canada you know that's always sort

121

00:04:28,950 --> 00:04:27,280

of it's a northern kind of thing you

122

00:04:30,310 --> 00:04:28,960

know northern lights whatever but you've

123

00:04:31,670 --> 00:04:30,320

been seeing them all over the planet

124

00:04:33,510 --> 00:04:31,680

what's the what's the story with that is

125

00:04:35,430 --> 00:04:33,520

something different going on right now

126

00:04:37,270 --> 00:04:35,440

well the sun's activity is picking up

127

00:04:39,670 --> 00:04:37,280

and that's what really allows us to see

128

00:04:41,590 --> 00:04:39,680

them like this uh and that the

129

00:04:43,590 --> 00:04:41,600

it's the charged particles that are

130

00:04:45,990 --> 00:04:43,600

streaming from the sun when it goes into

131

00:04:48,390 --> 00:04:46,000

an active sunspot time and there's

132

00:04:50,310 --> 00:04:48,400

there's a there's a huge area of

133

00:04:52,870 --> 00:04:50,320

physics associated with this it's just

134

00:04:56,230 --> 00:04:52,880

fascinating science with the sun's cycle

135

00:04:57,670 --> 00:04:56,240

it's roughly an average of 11 years when

136

00:05:00,070 --> 00:04:57,680

you go through this period of high

137

00:05:02,150 --> 00:05:00,080

activity and it's ramping up right now a

138

00:05:03,749 --> 00:05:02,160

great job with the with the photography

139

00:05:05,990 --> 00:05:03,759

and the video and describing it and i

140

00:05:07,749 --> 00:05:06,000

can just tell talking to you tonight

141

00:05:08,710 --> 00:05:07,759

that you're really having a great time

142

00:05:10,870 --> 00:05:08,720

up there

143

00:05:12,950 --> 00:05:10,880

and uh it's been a very special

144

00:05:14,390 --> 00:05:12,960

time in your life to to be up there and

145

00:05:15,590 --> 00:05:14,400

living up there for the amount of time

146

00:05:17,189 --> 00:05:15,600

you've been there and it's almost time

147

00:05:18,550 --> 00:05:17,199

for you to come home

148

00:05:20,390 --> 00:05:18,560

so i just want if you wouldn't mind

149

00:05:22,390 --> 00:05:20,400

sharing a little bit about what you're

150

00:05:24,230 --> 00:05:22,400

feeling right now with uh this wonderful

151
00:05:26,150 --> 00:05:24,240
experience we've had but the same time

152
00:05:28,230 --> 00:05:26,160
you're going to come home and see

153
00:05:29,270 --> 00:05:28,240
see the family and your friends here and

154
00:05:31,590 --> 00:05:29,280
i guess

155
00:05:33,749 --> 00:05:31,600
a few days really and just wondering how

156
00:05:35,590 --> 00:05:33,759
you're feeling about that

157
00:05:37,830 --> 00:05:35,600
the mission has been has met every

158
00:05:40,310 --> 00:05:37,840
expectation i could have

159
00:05:42,790 --> 00:05:40,320
to be here for the final shuttle mission

160
00:05:44,150 --> 00:05:42,800
uh was was a very bittersweet experience

161
00:05:46,870 --> 00:05:44,160
it was very emotional for everybody

162
00:05:48,310 --> 00:05:46,880
involved it truly was but i'm happy to

163
00:05:50,310 --> 00:05:48,320

have been part of it and helped

164

00:05:53,029 --> 00:05:50,320

make that a successful mission

165

00:05:55,110 --> 00:05:53,039

uh the time has flown by i

166

00:05:56,950 --> 00:05:55,120

i can't believe i've been up here over

167

00:05:59,189 --> 00:05:56,960

five months already that's

168

00:06:00,870 --> 00:05:59,199

that's uh doesn't seem possible because

169

00:06:02,950 --> 00:06:00,880

it's really gone fast

170

00:06:04,629 --> 00:06:02,960

that's because we're busy and we're

171

00:06:06,469 --> 00:06:04,639

supposed to be busy

172

00:06:07,510 --> 00:06:06,479

and we've had the chance to do a lot of

173

00:06:09,430 --> 00:06:07,520

things

174

00:06:11,670 --> 00:06:09,440

i enjoy sharing the photography that of

175

00:06:13,749 --> 00:06:11,680

course isn't why i'm here we're here to

176

00:06:15,990 --> 00:06:13,759

run the space station and operate it as

177

00:06:18,469 --> 00:06:16,000

an orbiting laboratory and that's been

178

00:06:21,590 --> 00:06:18,479

been a lot of fun very enjoyable

179

00:06:23,350 --> 00:06:21,600

and very rewarding to do that too

180

00:06:25,270 --> 00:06:23,360

well i i hope you enjoyed that half as

181

00:06:26,950 --> 00:06:25,280

much as i did it was because i was here

182

00:06:29,029 --> 00:06:26,960

and getting a chance to actually speak

183

00:06:30,390 --> 00:06:29,039

to mike but uh getting to hear his

184

00:06:32,550 --> 00:06:30,400

stories

185

00:06:34,790 --> 00:06:32,560

and having a chance to see the imagery

186

00:06:36,710 --> 00:06:34,800

he's taking the pictures he's taken and

187

00:06:39,430 --> 00:06:36,720

getting to hear his uh his personal

188

00:06:41,670 --> 00:06:39,440

feelings about being in space and and

189

00:06:43,990 --> 00:06:41,680

sharing those pictures with us that was

190

00:06:45,830 --> 00:06:44,000

quite a treat so emily i'm very glad

191

00:06:48,870 --> 00:06:45,840

you didn't let us in thank you very much