



1
00:00:04,630 --> 00:00:03,429
aquarius this is charlie bolden how do

2
00:00:08,549 --> 00:00:04,640
you read

3
00:00:10,870 --> 00:00:08,559
administrator charlie

4
00:00:13,990 --> 00:00:10,880
this is donnie metcalf lindenberger i

5
00:00:15,910 --> 00:00:14,000
read you loud and clear

6
00:00:19,750 --> 00:00:15,920
don't be so formal there daddy how are

7
00:00:20,790 --> 00:00:19,760
you and tim doing how are you doing

8
00:00:23,349 --> 00:00:20,800
well

9
00:00:25,189 --> 00:00:23,359
we've been enjoying the most magnificent

10
00:00:28,630 --> 00:00:25,199
week here at

11
00:00:30,230 --> 00:00:28,640
the aquarius habitat 47 feet below sea

12
00:00:32,549 --> 00:00:30,240
level

13
00:00:34,950 --> 00:00:32,559

this is timothy peak from the european

14

00:00:37,430 --> 00:00:34,960

space agency

15

00:00:39,670 --> 00:00:37,440

and i just want to take a moment

16

00:00:41,990 --> 00:00:39,680

this week has been really special it's

17

00:00:44,470 --> 00:00:42,000

been about 12 days

18

00:00:46,950 --> 00:00:44,480

and we've always shared a quote and my

19

00:00:48,950 --> 00:00:46,960

quote earlier this week was from ralph

20

00:00:51,189 --> 00:00:48,960

waldo emerson who said

21

00:00:53,189 --> 00:00:51,199

do not go where the path may lead go

22

00:00:54,630 --> 00:00:53,199

instead where there is no past and leave

23

00:00:55,590 --> 00:00:54,640

a trail

24

00:00:58,950 --> 00:00:55,600

and

25

00:01:01,910 --> 00:00:58,960

50 years ago scott carpenter

26
00:01:04,229 --> 00:01:01,920
flew in space as the second american to

27
00:01:06,149 --> 00:01:04,239
circle the world

28
00:01:08,390 --> 00:01:06,159
and three years later

29
00:01:09,590 --> 00:01:08,400
he lived 28

30
00:01:11,750 --> 00:01:09,600
days

31
00:01:13,429 --> 00:01:11,760
at the sea

32
00:01:18,469 --> 00:01:13,439
the first

33
00:01:20,630 --> 00:01:18,479
an astronaut

34
00:01:22,710 --> 00:01:20,640
and an aquanaut

35
00:01:24,950 --> 00:01:22,720
he blazed a trail

36
00:01:26,950 --> 00:01:24,960
that has led many

37
00:01:30,149 --> 00:01:26,960
including myself

38
00:01:31,190 --> 00:01:30,159

to live both in space and below the

39

00:01:33,910 --> 00:01:31,200

ocean

40

00:01:36,149 --> 00:01:33,920

i just wanted to say that i am honored

41

00:01:37,429 --> 00:01:36,159

to have had a chance to follow in his

42

00:01:39,350 --> 00:01:37,439

trail

43

00:01:40,789 --> 00:01:39,360

but this would not at all have been

44

00:01:43,190 --> 00:01:40,799

possible

45

00:01:44,950 --> 00:01:43,200

without an amazing team and that's

46

00:01:47,429 --> 00:01:44,960

something else that we've been talking a

47

00:01:50,230 --> 00:01:47,439

lot about the last few days

48

00:01:52,789 --> 00:01:50,240

so while tim and i are outside here

49

00:01:55,109 --> 00:01:52,799

and our habitat technician james talisek

50

00:01:57,350 --> 00:01:55,119

is outside with us

51
00:01:59,429 --> 00:01:57,360
inside the habitat

52
00:02:02,630 --> 00:01:59,439
around our state

53
00:02:05,830 --> 00:02:02,640
you will find my other team members

54
00:02:09,270 --> 00:02:05,840
we have steve flyers from cornell

55
00:02:11,990 --> 00:02:09,280
we have kimia yui from the japanese

56
00:02:13,510 --> 00:02:12,000
space agency and we have justin brown

57
00:02:15,670 --> 00:02:13,520
who is our other

58
00:02:16,470 --> 00:02:15,680
habitat technician

59
00:02:20,949 --> 00:02:16,480
and

60
00:02:22,790 --> 00:02:20,959
they're looking out the window but you

61
00:02:24,550 --> 00:02:22,800
can probably see from the camera inside

62
00:02:27,510 --> 00:02:24,560
the habitat

63
00:02:29,430 --> 00:02:27,520

the rest of the team that's been topside

64

00:02:31,589 --> 00:02:29,440

that has supported us

65

00:02:32,710 --> 00:02:31,599

either at the mobile mission control

66

00:02:35,030 --> 00:02:32,720

center

67

00:02:37,190 --> 00:02:35,040

or supported us with divers

68

00:02:39,509 --> 00:02:37,200

or brought in the liberty star and

69

00:02:41,589 --> 00:02:39,519

helped us splash submersibles

70

00:02:42,949 --> 00:02:41,599

or provided us with all of our daily

71

00:02:44,869 --> 00:02:42,959

tools

72

00:02:47,030 --> 00:02:44,879

that is the whole team that has pulled

73

00:02:49,030 --> 00:02:47,040

off nemo 16.

74

00:02:51,110 --> 00:02:49,040

so it's just been a real honor to be

75

00:02:54,150 --> 00:02:51,120

here and i'd like to turn it over to you

76

00:02:55,509 --> 00:02:54,160

to ask some questions

77

00:02:57,270 --> 00:02:55,519

hey daddy i don't know whether i have

78

00:02:59,270 --> 00:02:57,280

any questions or not you know you it's a

79

00:03:01,110 --> 00:02:59,280

great introduction to your whole team

80

00:03:04,869 --> 00:03:01,120

there and i'm glad you gave me an

81

00:03:06,630 --> 00:03:04,879

opportunity uh to go inside uh aquarius

82

00:03:07,990 --> 00:03:06,640

because i was gonna ask you how steve

83

00:03:09,509 --> 00:03:08,000

was doing

84

00:03:12,470 --> 00:03:09,519

you know we let him go from his

85

00:03:14,710 --> 00:03:12,480

chairmanship of the of the nasa advisory

86

00:03:16,550 --> 00:03:14,720

committee council for uh for just a

87

00:03:18,229 --> 00:03:16,560

little while to do this work so

88

00:03:21,190 --> 00:03:18,239

hopefully he's pulling his share of the

89

00:03:26,869 --> 00:03:23,910

oh my goodness i can't tell you how much

90

00:03:28,630 --> 00:03:26,879

it has been a pleasure to work with

91

00:03:31,270 --> 00:03:28,640

i remember when i was a high school

92

00:03:33,830 --> 00:03:31,280

teacher back in vancouver washington

93

00:03:36,710 --> 00:03:33,840

and when spirit and opportunity rick

94

00:03:38,789 --> 00:03:36,720

smart and i watched steve's team

95

00:03:41,670 --> 00:03:38,799

share with excitement

96

00:03:43,589 --> 00:03:41,680

and he has shared so much about what

97

00:03:44,390 --> 00:03:43,599

spirit and opportunity have been able to

98

00:03:49,190 --> 00:03:44,400

do

99

00:03:50,869 --> 00:03:49,200

opportunity

100

00:03:53,270 --> 00:03:50,879

was finding

101
00:03:55,830 --> 00:03:53,280
new information out about

102
00:03:57,270 --> 00:03:55,840
deposits on mars and steve was sharing

103
00:03:59,270 --> 00:03:57,280
that with us

104
00:04:01,990 --> 00:03:59,280
and i think that he would agree that

105
00:04:03,830 --> 00:04:02,000
today was maybe

106
00:04:05,830 --> 00:04:03,840
one of his favorite days although his

107
00:04:07,750 --> 00:04:05,840
favorite change of course been with the

108
00:04:10,470 --> 00:04:07,760
submersibles because we have done some

109
00:04:14,070 --> 00:04:10,480
great science off of the submersibles

110
00:04:16,150 --> 00:04:14,080
but uh today we had an opportunity to

111
00:04:18,229 --> 00:04:16,160
explore using a lot of the different

112
00:04:20,229 --> 00:04:18,239
tools we have our jet pack

113
00:04:23,270 --> 00:04:20,239

we have translation lines we have all

114

00:04:25,990 --> 00:04:23,280

these different ways to collect science

115

00:04:29,030 --> 00:04:26,000

and uh he really led us today with that

116

00:04:30,790 --> 00:04:29,040

so thanks for sharing him with us and

117

00:04:34,469 --> 00:04:30,800

letting him get a little bit away from

118

00:04:37,749 --> 00:04:34,479

his uh regular job

119

00:04:39,510 --> 00:04:37,759

well good hey tim i you know i know um

120

00:04:41,510 --> 00:04:39,520

you're down there and this is your your

121

00:04:43,830 --> 00:04:41,520

first uh experience doing this kind of

122

00:04:46,070 --> 00:04:43,840

stuff and i understand you all have been

123

00:04:48,310 --> 00:04:46,080

really learning a lot about translation

124

00:04:50,469 --> 00:04:48,320

about using tools and the like that that

125

00:04:52,310 --> 00:04:50,479

we may be using when we go to an

126
00:04:53,590 --> 00:04:52,320
asteroid

127
00:04:55,990 --> 00:04:53,600
you know do you

128
00:04:57,749 --> 00:04:56,000
have you found the ability to get around

129
00:05:00,230 --> 00:04:57,759
down there compared to say your ability

130
00:05:03,590 --> 00:05:00,240
to get around in a 1g environment of

131
00:05:13,430 --> 00:05:05,510
that's right minnesota it's been an

132
00:05:18,070 --> 00:05:15,510
i'm really glad that the uh

133
00:05:20,870 --> 00:05:18,080
the european space agency is sending

134
00:05:22,550 --> 00:05:20,880
astronauts now to take part in nemo and

135
00:05:24,790 --> 00:05:22,560
long may that continue it's been a

136
00:05:28,070 --> 00:05:24,800
fantastic mission

137
00:05:29,749 --> 00:05:28,080
and as i say a real privilege to be here

138
00:05:32,390 --> 00:05:29,759

and uh the translation techniques that

139

00:05:33,990 --> 00:05:32,400

we've been using have been uh really

140

00:05:36,390 --> 00:05:34,000

eye-opening

141

00:05:38,150 --> 00:05:36,400

in fact just just this afternoon dorothy

142

00:05:40,469 --> 00:05:38,160

and myself we're really challenging

143

00:05:43,029 --> 00:05:40,479

ourselves not by taking necessarily the

144

00:05:44,950 --> 00:05:43,039

easiest or most efficient route

145

00:05:47,270 --> 00:05:44,960

but by doing some other strange things

146

00:05:49,749 --> 00:05:47,280

using translation lines and booms with

147

00:05:52,469 --> 00:05:49,759

our jet packs using jetpacks to carry

148

00:05:54,950 --> 00:05:52,479

booms from point a to point b and

149

00:05:58,230 --> 00:05:54,960

actually deploying our own translation

150

00:06:00,230 --> 00:05:58,240

line over these asteroid surfaces uh to

151
00:06:03,110 --> 00:06:00,240
try out those methods

152
00:06:06,070 --> 00:06:03,120
and we've had a fantastic mission we've

153
00:06:08,550 --> 00:06:06,080
accomplished all of the objectives and

154
00:06:09,909 --> 00:06:08,560
we've really collected a load of great

155
00:06:11,909 --> 00:06:09,919
data

156
00:06:14,390 --> 00:06:11,919
and uh i'm really looking forward to

157
00:06:15,510 --> 00:06:14,400
seeing the results of that data and to

158
00:06:17,350 --> 00:06:15,520
uh seeing

159
00:06:19,590 --> 00:06:17,360
what the fruits of our labor will

160
00:06:22,230 --> 00:06:19,600
produce in the years to come and it's

161
00:06:24,469 --> 00:06:22,240
just tremendously exciting

162
00:06:26,950 --> 00:06:24,479
to be involved in a project that is

163
00:06:28,950 --> 00:06:26,960

dealing with man's next space

164

00:06:32,390 --> 00:06:28,960

exploration mission the anglo-earth

165

00:06:37,189 --> 00:06:34,390

fantastic daddy i know you know i know

166

00:06:39,350 --> 00:06:37,199

this is the second mission uh on nemo

167

00:06:40,629 --> 00:06:39,360

where we've looked at at uh visiting an

168

00:06:42,790 --> 00:06:40,639

asteroid

169

00:06:43,670 --> 00:06:42,800

if you go back to your experience on

170

00:06:46,629 --> 00:06:43,680

board

171

00:06:49,029 --> 00:06:46,639

shuttle and roaming around station

172

00:06:53,110 --> 00:06:49,039

um how do you find that that life on

173

00:06:57,909 --> 00:06:55,670

oh it reminds me of

174

00:06:59,110 --> 00:06:57,919

both places that i have had a chance to

175

00:07:00,550 --> 00:06:59,120

be at

176
00:07:05,110 --> 00:07:00,560
of course

177
00:07:09,110 --> 00:07:06,950
is surely a sprint

178
00:07:11,270 --> 00:07:09,120
the moment you launch to the moment you

179
00:07:13,749 --> 00:07:11,280
land you are go go go

180
00:07:16,710 --> 00:07:13,759
and uh over these last few days we have

181
00:07:19,189 --> 00:07:16,720
the go go go from six o'clock in the

182
00:07:21,350 --> 00:07:19,199
morning till late at night

183
00:07:23,589 --> 00:07:21,360
but uh it's just such a pleasure to do

184
00:07:24,870 --> 00:07:23,599
all that work so that part compares with

185
00:07:26,950 --> 00:07:24,880
the shuttle

186
00:07:29,510 --> 00:07:26,960
but the inside of this habitat which is

187
00:07:32,309 --> 00:07:29,520
about the size of a school bus

188
00:07:33,909 --> 00:07:32,319

is like being on a small international

189

00:07:36,070 --> 00:07:33,919

space station

190

00:07:37,589 --> 00:07:36,080

and we

191

00:07:39,830 --> 00:07:37,599

had a week of training leading up to

192

00:07:41,270 --> 00:07:39,840

this we were taught about the redundant

193

00:07:43,350 --> 00:07:41,280

systems

194

00:07:46,230 --> 00:07:43,360

and uh just a couple nights ago we

195

00:07:47,749 --> 00:07:46,240

experienced those redundant systems when

196

00:07:49,830 --> 00:07:47,759

one of the

197

00:07:52,469 --> 00:07:49,840

ac power went down

198

00:07:53,909 --> 00:07:52,479

and folks came out and got the other ac

199

00:07:56,309 --> 00:07:53,919

power going

200

00:07:58,950 --> 00:07:56,319

and that was because we had a storm

201
00:08:00,070 --> 00:07:58,960
going on we have sea swell here

202
00:08:01,749 --> 00:08:00,080
and

203
00:08:03,749 --> 00:08:01,759
it reminded me a lot about the space

204
00:08:07,430 --> 00:08:03,759
station with all of our power

205
00:08:10,309 --> 00:08:07,440
redundancies our ways to provide oxygen

206
00:08:12,469 --> 00:08:10,319
to scrub the carbon dioxide

207
00:08:14,070 --> 00:08:12,479
so there's so many good comparisons

208
00:08:15,830 --> 00:08:14,080
between both

209
00:08:18,230 --> 00:08:15,840
uh places that i've had a chance to

210
00:08:23,270 --> 00:08:21,110
fantastic hey tim uh you know i i

211
00:08:25,909 --> 00:08:23,280
understand that that they're introducing

212
00:08:27,909 --> 00:08:25,919
a 50 second or some some time lag and

213
00:08:30,150 --> 00:08:27,919

communication such that there's a

214

00:08:31,749 --> 00:08:30,160

significant time between when someone

215

00:08:33,269 --> 00:08:31,759

communicates with you all and when you

216

00:08:34,709 --> 00:08:33,279

actually hear it and then going back the

217

00:08:36,630 --> 00:08:34,719

other way

218

00:08:38,310 --> 00:08:36,640

was it very difficult to adjust to that

219

00:08:40,709 --> 00:08:38,320

at first or have you adjusted you've

220

00:08:42,149 --> 00:08:40,719

been down there ten days now is it is it

221

00:08:43,430 --> 00:08:42,159

still difficult getting used to

222

00:08:47,190 --> 00:08:43,440

communicating that way with such a

223

00:08:51,430 --> 00:08:49,190

it's been really interesting with the

224

00:08:53,030 --> 00:08:51,440

time delay we've kind of fallen into a

225

00:08:54,630 --> 00:08:53,040

good routine

226

00:08:56,630 --> 00:08:54,640

and we've actually adopted text

227

00:08:58,710 --> 00:08:56,640

messaging with mission control for

228

00:09:00,230 --> 00:08:58,720

rooting ops and that tends to work

229

00:09:02,710 --> 00:09:00,240

really well

230

00:09:04,470 --> 00:09:02,720

and the voice delay is not too much of a

231

00:09:07,030 --> 00:09:04,480

problem during

232

00:09:08,949 --> 00:09:07,040

normal operations but what was

233

00:09:11,430 --> 00:09:08,959

interesting is when we were when we

234

00:09:13,110 --> 00:09:11,440

introduced some similarly the emergency

235

00:09:14,070 --> 00:09:13,120

scenarios and i think that's where we

236

00:09:16,310 --> 00:09:14,080

felt

237

00:09:18,949 --> 00:09:16,320

that the 50-second time delay and even

238

00:09:21,350 --> 00:09:18,959

greater time delays that we stimulated

239

00:09:24,710 --> 00:09:21,360

had had an effect and that's something

240

00:09:26,790 --> 00:09:24,720

that we'll clearly need to address um

241

00:09:28,710 --> 00:09:26,800

but it was very interesting to be uh to

242

00:09:30,949 --> 00:09:28,720

be involved in those emergency scenarios

243

00:09:33,190 --> 00:09:30,959

we've also had the 50 to second delay

244

00:09:35,509 --> 00:09:33,200

for our friends and family

245

00:09:36,630 --> 00:09:35,519

and for things like internet browsing

246

00:09:38,630 --> 00:09:36,640

etc

247

00:09:40,710 --> 00:09:38,640

and uh i haven't found that too much of

248

00:09:43,030 --> 00:09:40,720

a problem actually using today's social

249

00:09:44,389 --> 00:09:43,040

media instant messaging video messaging

250

00:09:47,350 --> 00:09:44,399

etc

251
00:09:49,509 --> 00:09:47,360
it hasn't had as big an impact as i

252
00:09:51,190 --> 00:09:49,519
thought it was going to so really i

253
00:09:55,350 --> 00:09:51,200
think it's just the voice communication

254
00:10:00,550 --> 00:09:57,430
fantastic hey daddy you know you you

255
00:10:02,310 --> 00:10:00,560
started out by talking about

256
00:10:04,470 --> 00:10:02,320
your nostalgia

257
00:10:06,790 --> 00:10:04,480
remembering back to to when scott

258
00:10:09,509 --> 00:10:06,800
carpenter and john glenn were the first

259
00:10:11,269 --> 00:10:09,519
two americans to orbit earth and and uh

260
00:10:13,990 --> 00:10:11,279
saluting scott but

261
00:10:16,470 --> 00:10:14,000
um you know today i understand is the

262
00:10:19,030 --> 00:10:16,480
40th anniversary of title ix

263
00:10:21,269 --> 00:10:19,040

which uh was the act that actually made

264

00:10:24,230 --> 00:10:21,279

it possible for women to

265

00:10:25,910 --> 00:10:24,240

to uh more in energetically get into the

266

00:10:27,509 --> 00:10:25,920

fields of science and engineering by

267

00:10:29,430 --> 00:10:27,519

actually entering those fields of study

268

00:10:31,110 --> 00:10:29,440

in in colleges and universities most

269

00:10:33,590 --> 00:10:31,120

people think about it all the time with

270

00:10:35,750 --> 00:10:33,600

respect to athletics but it also opened

271

00:10:37,670 --> 00:10:35,760

new avenues for women you're an

272

00:10:39,990 --> 00:10:37,680

incredible role model for my three

273

00:10:42,150 --> 00:10:40,000

granddaughters and um hopefully they're

274

00:10:44,550 --> 00:10:42,160

gonna they're gonna watch this as we

275

00:10:46,230 --> 00:10:44,560

replay it and maybe

276

00:10:52,150 --> 00:10:46,240

one at least one of them will want to be

277

00:10:58,310 --> 00:10:55,269

well i uh i have to say that i am very

278

00:10:59,670 --> 00:10:58,320

glad that title ix came along

279

00:11:02,310 --> 00:10:59,680

and

280

00:11:05,350 --> 00:11:02,320

you know my mom was a mathematician

281

00:11:07,990 --> 00:11:05,360

and i grew up just knowing that

282

00:11:10,790 --> 00:11:08,000

because of her strengths that um

283

00:11:13,509 --> 00:11:10,800

i was interested in math and science and

284

00:11:15,350 --> 00:11:13,519

i know that she had had to face some

285

00:11:16,949 --> 00:11:15,360

struggles but

286

00:11:19,670 --> 00:11:16,959

thankfully

287

00:11:22,230 --> 00:11:19,680

in my generation i was able to study

288

00:11:25,190 --> 00:11:22,240

science and and never have to deal with

289

00:11:26,949 --> 00:11:25,200

those uh face the same struggles and i

290

00:11:29,670 --> 00:11:26,959

was able to be

291

00:11:31,590 --> 00:11:29,680

an athlete in college and run on both

292

00:11:33,509 --> 00:11:31,600

the cross country and track team and

293

00:11:36,550 --> 00:11:33,519

compete there

294

00:11:38,470 --> 00:11:36,560

and my daughter who is just now five and

295

00:11:40,150 --> 00:11:38,480

is probably also watching with your

296

00:11:42,069 --> 00:11:40,160

granddaughters

297

00:11:44,630 --> 00:11:42,079

believes that she can do whatever she

298

00:11:46,310 --> 00:11:44,640

wants and knows no boundaries and i am

299

00:11:48,150 --> 00:11:46,320

so proud of her

300

00:11:49,430 --> 00:11:48,160

and i'm so thankful for all that lived

301
00:11:52,550 --> 00:11:49,440
before

302
00:11:54,790 --> 00:11:52,560
so uh i uh i'm really glad that all

303
00:11:56,389 --> 00:11:54,800
those people took risk you know

304
00:11:59,190 --> 00:11:56,399
again that thinking back like i said

305
00:12:01,190 --> 00:11:59,200
with the nostalgia to before the world

306
00:12:03,750 --> 00:12:01,200
continues to change

307
00:12:06,310 --> 00:12:03,760
we chase because we help each other

308
00:12:09,030 --> 00:12:06,320
we're an international community

309
00:12:11,750 --> 00:12:09,040
and we are all different people that

310
00:12:14,230 --> 00:12:11,760
bring different strengths to the table

311
00:12:16,550 --> 00:12:14,240
and this is all possible because we

312
00:12:19,509 --> 00:12:16,560
believe in our own dreams so

313
00:12:21,590 --> 00:12:19,519

thanks for bringing that up

314

00:12:24,150 --> 00:12:21,600

oh great hey you know i know you all

315

00:12:25,829 --> 00:12:24,160

need to get back to work but um can the

316

00:12:27,670 --> 00:12:25,839

folk in the lab

317

00:12:29,590 --> 00:12:27,680

can they i know they can hear me but can

318

00:12:32,629 --> 00:12:29,600

they talk steve or

319

00:12:34,389 --> 00:12:32,639

uh can any of them talk in there

320

00:12:36,550 --> 00:12:34,399

to me i don't know if they're myself are

321

00:12:48,310 --> 00:12:36,560

they myself in there

322

00:12:54,150 --> 00:12:51,990

i know i do i do hey uh a tim final

323

00:12:55,509 --> 00:12:54,160

question i have for you is you know

324

00:12:57,190 --> 00:12:55,519

now that you've been through this stuff

325

00:12:58,790 --> 00:12:57,200

for 10 days i know you got you're coming

326

00:13:01,750 --> 00:12:58,800

home on friday but or coming to the

327

00:13:03,509 --> 00:13:01,760

surface on friday um does what you've

328

00:13:06,230 --> 00:13:03,519

been doing for all this period of time

329

00:13:08,550 --> 00:13:06,240

does it based on what you imagined a

330

00:13:10,550 --> 00:13:08,560

mission to an asteroid would be like

331

00:13:12,870 --> 00:13:10,560

since we haven't done that yet do you

332

00:13:14,710 --> 00:13:12,880

see you see this training as realistic

333

00:13:17,430 --> 00:13:14,720

is it is it something that that you find

334

00:13:18,470 --> 00:13:17,440

beneficial and and uh add some realism

335

00:13:19,829 --> 00:13:18,480

to your

336

00:13:21,350 --> 00:13:19,839

your thoughts about what it will really

337

00:13:24,790 --> 00:13:21,360

be like when you get to go to an

338

00:13:29,590 --> 00:13:26,470

it's been an incredibly realistic

339

00:13:32,629 --> 00:13:29,600

mission yes absolutely um

340

00:13:34,870 --> 00:13:32,639

i was lucky enough to do a caves mission

341

00:13:36,629 --> 00:13:34,880

last september with a european space

342

00:13:38,710 --> 00:13:36,639

agency and that was uh what i thought at

343

00:13:39,829 --> 00:13:38,720

the time was a good analog for the space

344

00:13:42,870 --> 00:13:39,839

flight but

345

00:13:44,949 --> 00:13:42,880

i don't think you can beat aquarius on

346

00:13:47,509 --> 00:13:44,959

what we've been doing down here as far

347

00:13:49,590 --> 00:13:47,519

as the space analog is concerned

348

00:13:52,150 --> 00:13:49,600

it's the next best thing to uh to

349

00:13:54,949 --> 00:13:52,160

actually going into space uh i would

350

00:13:56,870 --> 00:13:54,959

imagine being down here and isolated as

351
00:13:58,310 --> 00:13:56,880
a crew working together for a long

352
00:14:00,629 --> 00:13:58,320
period of time

353
00:14:03,269 --> 00:14:00,639
being able to do the neutral buoyancy

354
00:14:05,350 --> 00:14:03,279
tasks that we've done and also being

355
00:14:07,430 --> 00:14:05,360
involved with the submersibles and

356
00:14:09,269 --> 00:14:07,440
having the ability to bring you know big

357
00:14:11,350 --> 00:14:09,279
pieces of machinery down here deep

358
00:14:13,350 --> 00:14:11,360
workers submersibles working with real

359
00:14:15,670 --> 00:14:13,360
rocks real sediments

360
00:14:19,509 --> 00:14:15,680
it's been a fantastic simulation

361
00:14:22,069 --> 00:14:19,519
scenario and a tremendous mission and i

362
00:14:24,069 --> 00:14:22,079
think i have gained a huge amount

363
00:14:25,750 --> 00:14:24,079

i've learned a lot about myself and i've

364

00:14:27,750 --> 00:14:25,760

learned a lot about my my crewmates

365

00:14:28,710 --> 00:14:27,760

we've had a great time got on really

366

00:14:30,230 --> 00:14:28,720

well

367

00:14:32,150 --> 00:14:30,240

and it's just been a tremendous

368

00:14:34,069 --> 00:14:32,160

experience all round one that i i will

369

00:14:36,230 --> 00:14:34,079

treasure and i will learn an awful lot

370

00:14:39,509 --> 00:14:36,240

from and hopefully take that forward

371

00:14:44,150 --> 00:14:41,990

well i i tell you um i just think it's

372

00:14:45,910 --> 00:14:44,160

tremendous this international crew we

373

00:14:48,629 --> 00:14:45,920

have up there down there i started to

374

00:14:51,910 --> 00:14:48,639

say up there uh camilla there i know you

375

00:14:53,110 --> 00:14:51,920

can't answer uh you in the in the module

376

00:14:55,910 --> 00:14:53,120

and steve

377

00:14:58,230 --> 00:14:55,920

uh representing cornell university very

378

00:14:59,990 --> 00:14:58,240

well dottie and tim uh thanks so much

379

00:15:01,750 --> 00:15:00,000

for letting me intrude upon your time

380

00:15:03,350 --> 00:15:01,760

down there and uh i'll let you go back

381

00:15:05,509 --> 00:15:03,360

to work right now but but thanks so much

382

00:15:07,430 --> 00:15:05,519

for sharing your time with us and and

383

00:15:09,189 --> 00:15:07,440

sharing your experiences with uh with

384

00:15:10,629 --> 00:15:09,199

the hopefully the public around the

385

00:15:13,110 --> 00:15:10,639

world will have an opportunity to see

386

00:15:15,350 --> 00:15:13,120

this

387

00:15:17,269 --> 00:15:15,360

well like i said charlie it has been a

388

00:15:18,790 --> 00:15:17,279

real pleasure speaking with you and

389

00:15:20,949 --> 00:15:18,800

thanks so much for coming down and

390

00:15:24,230 --> 00:15:20,959

talking with us today through the

391

00:15:29,910 --> 00:15:25,750

fantastic i look forward to getting

392

00:15:29,920 --> 00:15:34,550

you would love it it's fantastic

393

00:15:39,030 --> 00:15:36,790

okay well this is this is charlie bolden

394

00:15:41,829 --> 00:15:39,040

in in washington dc out so thanks very