



1
00:01:07,990 --> 00:00:47,470
[Music]

2
00:01:08,000 --> 00:01:15,300
all right

3
00:02:39,760 --> 00:01:17,330
[Music]

4
00:03:08,110 --> 00:02:39,770
thank you

5
00:03:11,410 --> 00:03:08,120
[Music]

6
00:03:13,850 --> 00:03:11,420
what's up um

7
00:03:17,630 --> 00:03:13,860
if there's any audio problems let me

8
00:03:21,110 --> 00:03:19,070
I'll lower this a little bit I didn't

9
00:03:24,290 --> 00:03:21,120
plan on doing this but

10
00:03:27,070 --> 00:03:24,300
how often does NASA do a public meeting

11
00:03:28,850 --> 00:03:27,080
on UFOs

12
00:03:31,790 --> 00:03:28,860
never

13
00:03:34,729 --> 00:03:31,800

so yeah I figured I'd do it

14

00:03:37,250 --> 00:03:34,739

even though I didn't sleep as usual

15

00:03:37,260 --> 00:03:40,309

in the meantime

16

00:03:50,809 --> 00:03:43,250

I may have to I'll probably take

17

00:03:56,089 --> 00:03:53,210

uh sorry about that

18

00:03:58,970 --> 00:03:56,099

call me you can hear okay tell me tell

19

00:04:07,750 --> 00:03:58,980

them tell me you can hear me okay

20

00:04:14,089 --> 00:04:11,809

anybody chime in all right good thanks

21

00:04:15,050 --> 00:04:14,099

green hiker

22

00:04:16,550 --> 00:04:15,060

um

23

00:04:18,590 --> 00:04:16,560

[Music]

24

00:04:20,810 --> 00:04:18,600

in the meantime I don't know if

25

00:04:23,150 --> 00:04:20,820

everybody is on Twitter because not

26

00:04:25,490 --> 00:04:23,160

everybody is on Twitter

27

00:04:28,969 --> 00:04:25,500

um but they're the last couple of weeks

28

00:04:34,129 --> 00:04:28,979

they were supposedly supposed to be a

29

00:04:38,510 --> 00:04:36,830

say that yes there was supposed to be no

30

00:04:42,530 --> 00:04:38,520

a hundred percent

31

00:04:47,270 --> 00:04:43,909

I

32

00:04:48,350 --> 00:04:47,280

rooted but supposedly it's still coming

33

00:04:49,790 --> 00:04:48,360

so

34

00:04:51,170 --> 00:04:49,800

we'll see

35

00:04:54,170 --> 00:04:51,180

um

36

00:04:56,749 --> 00:04:54,180

uh and if it comes I don't really know

37

00:05:00,469 --> 00:04:56,759

any details except it could be really

38

00:05:02,990 --> 00:05:00,479

good I know that's cryptic but

39

00:05:07,430 --> 00:05:05,749

let's hope it comes out but like I said

40

00:05:08,990 --> 00:05:07,440

on Twitter if it doesn't come out it'll

41

00:05:10,370 --> 00:05:09,000

something else will come out eventually

42

00:05:12,469 --> 00:05:10,380

and

43

00:05:14,210 --> 00:05:12,479

whistleblowers behind the scenes we've

44

00:05:17,930 --> 00:05:14,220

heard about that we've heard about this

45

00:05:21,770 --> 00:05:17,940

closure for 2023 Labor Day Thanksgiving

46

00:05:24,409 --> 00:05:21,780

the end of the year I don't know

47

00:05:27,710 --> 00:05:24,419

um I think stuff will happen and if that

48

00:05:29,870 --> 00:05:27,720

article comes out that will be a big

49

00:05:31,850 --> 00:05:29,880

a big help

50

00:05:35,390 --> 00:05:31,860

um so

51
00:05:38,810 --> 00:05:35,400
other things we had the 29 Palms flares

52
00:05:43,730 --> 00:05:38,820
slash UFO incident

53
00:05:48,469 --> 00:05:46,129
which originally

54
00:05:50,930 --> 00:05:48,479
looked like it could be a true UAP

55
00:05:52,730 --> 00:05:50,940
unknown case but as far as I know right

56
00:05:54,890 --> 00:05:52,740
now after the work of Mick West did

57
00:05:57,529 --> 00:05:54,900
comparing two videos it looks like a

58
00:06:00,170 --> 00:05:57,539
flares case but

59
00:06:02,390 --> 00:06:00,180
I'm glad Jeremy Jeremy Corbell was able

60
00:06:04,550 --> 00:06:02,400
to let the Marines have their say and

61
00:06:06,529 --> 00:06:04,560
and that's not over yet anyway here's

62
00:06:09,170 --> 00:06:06,539
the meeting I'll shut up for now hello

63
00:06:11,270 --> 00:06:09,180

good morning and welcome my name is Dan

64

00:06:13,430 --> 00:06:11,280

Evans and as the designated federal

65

00:06:15,590 --> 00:06:13,440

official for NASA's unidentified

66

00:06:17,450 --> 00:06:15,600

anomalous phenomena independent study

67

00:06:20,390 --> 00:06:17,460

team I'd like to call this meeting to

68

00:06:23,090 --> 00:06:20,400

order and introduce the panelists in the

69

00:06:26,749 --> 00:06:23,100

back row we have Nadia Drake Paula

70

00:06:29,870 --> 00:06:26,759

bontempi Federica Bianco David grinspoon

71

00:06:32,270 --> 00:06:29,880

Carlin toner Josh sametta and Jennifer

72

00:06:35,090 --> 00:06:32,280

Buss well in the front row we have

73

00:06:37,370 --> 00:06:35,100

Walter Scott Warren Randolph Reggie

74

00:06:38,809 --> 00:06:37,380

Brothers Shelley Wright

75

00:06:40,370 --> 00:06:38,819

Scott Kelly

76

00:06:43,490 --> 00:06:40,380

Anna Maria

77

00:06:45,170 --> 00:06:43,500

Mike gold and David spurgle who serves

78

00:06:47,809 --> 00:06:45,180

as chair of the team

79

00:06:49,309 --> 00:06:47,819

I have a few opening remarks but to

80

00:06:50,270 --> 00:06:49,319

begin I'd like to start with the

81

00:06:52,490 --> 00:06:50,280

following

82

00:06:54,529 --> 00:06:52,500

first I'd like to pay tribute to the

83

00:06:57,110 --> 00:06:54,539

life of retired Air Force Master

84

00:06:58,850 --> 00:06:57,120

Sergeant Sam Sato who's been laid to

85

00:06:59,870 --> 00:06:58,860

rest at Arlington National Cemetery

86

00:07:02,330 --> 00:06:59,880

today

87

00:07:04,249 --> 00:07:02,340

following his active duty service Sam

88

00:07:06,110 --> 00:07:04,259

served as the intelligence collection

89

00:07:08,689 --> 00:07:06,120

manager for the National Intelligence

90

00:07:11,870 --> 00:07:08,699

manager for Aviation where he played a

91

00:07:14,450 --> 00:07:11,880

critical role in UAP analysis all of us

92

00:07:17,749 --> 00:07:14,460

at Nasa offer our condolences to Sam's

93

00:07:20,089 --> 00:07:17,759

family friends and colleagues

94

00:07:22,730 --> 00:07:20,099

second I'd like to take this opportunity

95

00:07:24,650 --> 00:07:22,740

to express my profound gratitude to our

96

00:07:27,890 --> 00:07:24,660

distinguished panel of experts for their

97

00:07:30,170 --> 00:07:27,900

unwavering commitment and dedication

98

00:07:32,089 --> 00:07:30,180

it's disheartening to note that several

99

00:07:34,490 --> 00:07:32,099

of them have been subjected to online

100

00:07:36,890 --> 00:07:34,500

abuse due to their decision to

101
00:07:38,870 --> 00:07:36,900
participate on this panel a NASA

102
00:07:39,950 --> 00:07:38,880
security team is actively addressing

103
00:07:43,129 --> 00:07:39,960
this issue

104
00:07:45,529 --> 00:07:43,139
we at Nasa are acutely aware of the

105
00:07:48,290 --> 00:07:45,539
considerable public interest in UAP

106
00:07:50,089 --> 00:07:48,300
however it's critical to understand any

107
00:07:52,129 --> 00:07:50,099
form of harassment towards our panelists

108
00:07:54,230 --> 00:07:52,139
only serves to detract from the

109
00:07:57,409 --> 00:07:54,240
scientific process which requires an

110
00:07:59,749 --> 00:07:57,419
environment of respect and openness

111
00:08:01,610 --> 00:07:59,759
now every member of our team is a

112
00:08:03,890 --> 00:08:01,620
recognized Authority in their respective

113
00:08:06,890 --> 00:08:03,900

field and they have our unequivocal

114

00:08:09,170 --> 00:08:06,900

support NASA stands in solidarity with

115

00:08:11,450 --> 00:08:09,180

them advocating for a respectful

116

00:08:13,490 --> 00:08:11,460

discourse that befits their expertise

117

00:08:15,230 --> 00:08:13,500

and the significance of their work

118

00:08:17,930 --> 00:08:15,240

thanks

119

00:08:20,570 --> 00:08:17,940

now in recent years the subjects of

120

00:08:22,850 --> 00:08:20,580

unidentified aerial phenomena nowadays

121

00:08:25,670 --> 00:08:22,860

termed unidentified anomalous phenomena

122

00:08:28,610 --> 00:08:25,680

or uaps has captured the attention of

123

00:08:31,010 --> 00:08:28,620

the public the scientific community and

124

00:08:33,409 --> 00:08:31,020

the government alike and it's now our

125

00:08:35,570 --> 00:08:33,419

Collective responsibility to investigate

126
00:08:39,409 --> 00:08:35,580
these occurrences with the rigorous

127
00:08:42,110 --> 00:08:39,419
scientific scrutiny that they deserve

128
00:08:44,449 --> 00:08:42,120
NASA administrator sent us a Bill Nelson

129
00:08:46,970 --> 00:08:44,459
believes that understanding uaps is

130
00:08:48,710 --> 00:08:46,980
vital for several reasons which is why

131
00:08:51,050 --> 00:08:48,720
he directed this study

132
00:08:53,690 --> 00:08:51,060
first and foremost it provides an

133
00:08:56,030 --> 00:08:53,700
opportunity for us to expand our

134
00:08:58,550 --> 00:08:56,040
understanding of the world around us

135
00:09:01,310 --> 00:08:58,560
as an organization dedicated to

136
00:09:03,230 --> 00:09:01,320
exploring the unknown this work is in

137
00:09:05,690 --> 00:09:03,240
our DNA

138
00:09:08,269 --> 00:09:05,700

secondly this study aims to enhance

139

00:09:11,269 --> 00:09:08,279

situational awareness the presence of

140

00:09:13,310 --> 00:09:11,279

uaps raises concerns about the safety of

141

00:09:15,530 --> 00:09:13,320

our skies and it's this nation's

142

00:09:18,230 --> 00:09:15,540

obligation to determine whether these

143

00:09:19,790 --> 00:09:18,240

phenomena pose any potential risks to

144

00:09:22,730 --> 00:09:19,800

airspace safety

145

00:09:25,250 --> 00:09:22,740

by understanding the nature of uaps we

146

00:09:27,230 --> 00:09:25,260

can ensure that our skies remain a safe

147

00:09:29,810 --> 00:09:27,240

space for all

148

00:09:32,329 --> 00:09:29,820

in order to achieve these goals it is

149

00:09:35,870 --> 00:09:32,339

crucial that we employ a scientific lens

150

00:09:38,509 --> 00:09:35,880

for our UAP work it's precisely this

151
00:09:42,050 --> 00:09:38,519
rigorous evidence-based approach that

152
00:09:45,230 --> 00:09:42,060
allows one to separate fact from fiction

153
00:09:47,930 --> 00:09:45,240
this team is comprised of experts from

154
00:09:49,970 --> 00:09:47,940
various disciplines which allows them to

155
00:09:51,110 --> 00:09:49,980
approach this work from multiple

156
00:09:53,690 --> 00:09:51,120
perspective

157
00:09:55,610 --> 00:09:53,700
and we have greatly benefited from that

158
00:09:58,550 --> 00:09:55,620
Collective expertise

159
00:10:00,710 --> 00:09:58,560
now why do we value a scientific

160
00:10:03,650 --> 00:10:00,720
approach it's because science is built

161
00:10:05,650 --> 00:10:03,660
on evidence it thrives on scrutiny it

162
00:10:09,650 --> 00:10:05,660
demands reproduce

163
00:10:12,290 --> 00:10:09,660

reproducibility account sorry and above

164

00:10:14,269 --> 00:10:12,300

all objectivity when we approach uaps

165

00:10:16,070 --> 00:10:14,279

from a scientific perspective we do not

166

00:10:18,410 --> 00:10:16,080

come in with an agenda we come in

167

00:10:20,389 --> 00:10:18,420

needing a roadmap indeed the primary

168

00:10:22,490 --> 00:10:20,399

objective of this incredible team of

169

00:10:25,009 --> 00:10:22,500

experts is not to go back and look at

170

00:10:27,470 --> 00:10:25,019

grainy footage of uaps but rather to

171

00:10:30,110 --> 00:10:27,480

give us a roadmap to guide us for future

172

00:10:33,590 --> 00:10:30,120

analysis and this is the very scientific

173

00:10:35,930 --> 00:10:33,600

method that NASA holds true to its heart

174

00:10:38,870 --> 00:10:35,940

scientific research is intended to be

175

00:10:41,690 --> 00:10:38,880

publicly available and transparent a

176

00:10:44,329 --> 00:10:41,700

NASA Prides itself on making its data

177

00:10:47,269 --> 00:10:44,339

and images available to the public to

178

00:10:49,310 --> 00:10:47,279

learn and explore on their own by

179

00:10:51,889 --> 00:10:49,320

holding public meetings like this one we

180

00:10:54,230 --> 00:10:51,899

aim for open and honest dialogue with

181

00:10:57,050 --> 00:10:54,240

the public we recognize that public

182

00:10:58,569 --> 00:10:57,060

interest in uaps is high and that the

183

00:11:01,190 --> 00:10:58,579

demand for answers is strong

184

00:11:03,230 --> 00:11:01,200

conversations like this one are the

185

00:11:05,329 --> 00:11:03,240

first step to reducing the stigma

186

00:11:07,610 --> 00:11:05,339

surrounding UAP reporting

187

00:11:10,069 --> 00:11:07,620

moreover transparency is essential for

188

00:11:12,470 --> 00:11:10,079

fostering trust between NASA the public

189

00:11:15,110 --> 00:11:12,480

and the scientific community

190

00:11:17,930 --> 00:11:15,120

in order to do things right we must work

191

00:11:21,110 --> 00:11:17,940

together pulling our resources our

192

00:11:22,370 --> 00:11:21,120

knowledge and our expertise and by

193

00:11:24,350 --> 00:11:22,380

maintaining open channels of

194

00:11:26,630 --> 00:11:24,360

communication we can facilitate

195

00:11:29,210 --> 00:11:26,640

collaboration encourage the exchange of

196

00:11:30,949 --> 00:11:29,220

ideas and ensure that our work is as

197

00:11:32,389 --> 00:11:30,959

robust as possible

198

00:11:34,850 --> 00:11:32,399

not only that

199

00:11:37,730 --> 00:11:34,860

our commitment to openness is in itself

200

00:11:39,410 --> 00:11:37,740

a reflection of NASA's commitment to

201
00:11:41,569 --> 00:11:39,420
Scientific integrity

202
00:11:43,910 --> 00:11:41,579
there's an organization dedicated to the

203
00:11:46,610 --> 00:11:43,920
pursuit of knowledge it is NASA's

204
00:11:48,350 --> 00:11:46,620
responsibility to be honest and

205
00:11:49,130 --> 00:11:48,360
forthright and to and to follow the

206
00:11:51,410 --> 00:11:49,140
science

207
00:11:53,449 --> 00:11:51,420
and by being transparent in our work we

208
00:11:54,829 --> 00:11:53,459
uphold our dedication to Scientific

209
00:11:57,050 --> 00:11:54,839
excellence

210
00:11:58,970 --> 00:11:57,060
the meeting today represents the first

211
00:12:01,310 --> 00:11:58,980
deliberative actions that the team has

212
00:12:03,590 --> 00:12:01,320
taken and so it's important to keep in

213
00:12:06,230 --> 00:12:03,600

mind that they still have several months

214

00:12:08,090 --> 00:12:06,240

of work ahead of them their final report

215

00:12:09,949 --> 00:12:08,100

will be released this summer and we will

216

00:12:12,710 --> 00:12:09,959

publish it on our website

217

00:12:14,769 --> 00:12:12,720

NASA believes that the study of

218

00:12:17,810 --> 00:12:14,779

unidentified anomalous phenomena

219

00:12:20,210 --> 00:12:17,820

represents an exciting step forward in

220

00:12:22,670 --> 00:12:20,220

our quest to uncover the mysteries of

221

00:12:24,829 --> 00:12:22,680

the world around us by embracing a

222

00:12:27,230 --> 00:12:24,839

scientific lens we ensure that our work

223

00:12:29,810 --> 00:12:27,240

is rigorous and reliable and by valuing

224

00:12:32,509 --> 00:12:29,820

transparency and openness we can foster

225

00:12:36,050 --> 00:12:32,519

trust and collaboration with the public

226

00:12:38,750 --> 00:12:36,060

simply put this is why we do what we do

227

00:12:41,090 --> 00:12:38,760

now before I introduce Nikki there are a

228

00:12:43,250 --> 00:12:41,100

few administrative matters to attend to

229

00:12:45,470 --> 00:12:43,260

firstly the identified anomalous

230

00:12:47,509 --> 00:12:45,480

phenomena independent study team has

231

00:12:49,490 --> 00:12:47,519

been established in accordance with the

232

00:12:51,829 --> 00:12:49,500

federal advisory committee act known as

233

00:12:54,769 --> 00:12:51,839

fako its parent committee is the earth

234

00:12:56,090 --> 00:12:54,779

science advisory committees as such this

235

00:12:58,430 --> 00:12:56,100

group does not report to the government

236

00:12:59,690 --> 00:12:58,440

it reports to the earth science advisory

237

00:13:01,850 --> 00:12:59,700

committee who'll debate the

238

00:13:03,949 --> 00:13:01,860

recommendations and formally transmit

239

00:13:06,050 --> 00:13:03,959

this team's report to the government

240

00:13:08,569 --> 00:13:06,060

next our deliberative committee meetings

241

00:13:11,090 --> 00:13:08,579

such as this one are open to the public

242

00:13:13,129 --> 00:13:11,100

and also after this panel was convened

243

00:13:16,250 --> 00:13:13,139

the National Defense authorization act

244

00:13:17,810 --> 00:13:16,260

known as the ndaa changed the a in UAP

245

00:13:20,030 --> 00:13:17,820

to be anomalous

246

00:13:23,870 --> 00:13:20,040

accordingly this Pals remit was expanded

247

00:13:25,970 --> 00:13:23,880

to Encompass not just aerial UAP

248

00:13:28,430 --> 00:13:25,980

however the majority of UAP sightings to

249

00:13:30,590 --> 00:13:28,440

date have been in the aerial domain so

250

00:13:33,610 --> 00:13:30,600

it's fair to say that this panel's focus

251
00:13:36,290 --> 00:13:33,620
is on the aerial aspect of anomalous

252
00:13:37,970 --> 00:13:36,300
now in compliance with the fact of

253
00:13:39,170 --> 00:13:37,980
federal statute four more minutes have

254
00:13:41,690 --> 00:13:39,180
been taken throughout the meeting today

255
00:13:43,550 --> 00:13:41,700
and these meetings and these minutes are

256
00:13:45,829 --> 00:13:43,560
for the public record and hence all

257
00:13:47,750 --> 00:13:45,839
presentations and discussions and

258
00:13:50,449 --> 00:13:47,760
comments by the committee members should

259
00:13:53,030 --> 00:13:50,459
be considered to be on the record

260
00:13:54,889 --> 00:13:53,040
each member of this UAP study team has

261
00:13:57,050 --> 00:13:54,899
been appointed because of their specific

262
00:14:00,170 --> 00:13:57,060
subject matter expertise as individuals

263
00:14:02,210 --> 00:14:00,180

and hence each member is subject to

264

00:14:04,069 --> 00:14:02,220

Federal ethics laws

265

00:14:06,889 --> 00:14:04,079

this category of appointment is called

266

00:14:08,750 --> 00:14:06,899

special government employees or sges for

267

00:14:10,069 --> 00:14:08,760

our non-government members and our two

268

00:14:12,110 --> 00:14:10,079

federal employees

269

00:14:14,870 --> 00:14:12,120

serve as regular government employees

270

00:14:16,850 --> 00:14:14,880

known as rges to the panel

271

00:14:19,490 --> 00:14:16,860

all members on this committee should

272

00:14:22,190 --> 00:14:19,500

remember to recuse themselves if a topic

273

00:14:23,870 --> 00:14:22,200

comes up in which you have a potential

274

00:14:25,610 --> 00:14:23,880

conflict of interest between your

275

00:14:26,870 --> 00:14:25,620

financial interests including those of

276

00:14:29,210 --> 00:14:26,880

your employer

277

00:14:30,889 --> 00:14:29,220

and matters that we're discussing and

278

00:14:32,449 --> 00:14:30,899

then finally panel if you have any

279

00:14:34,910 --> 00:14:32,459

ethics questions please see me

280

00:14:37,970 --> 00:14:34,920

separately and if needed I'll put you in

281

00:14:39,949 --> 00:14:37,980

contact with a NASA ethics attorney

282

00:14:41,650 --> 00:14:39,959

thanks for bearing with me I'd now like

283

00:14:43,850 --> 00:14:41,660

to turn to the amazing Dr Nikki Fox

284

00:14:45,470 --> 00:14:43,860

associate administrator for NASA's

285

00:14:51,949 --> 00:14:45,480

science Mission director over to you

286

00:14:57,889 --> 00:14:54,829

thank you Dan and thank you to all the

287

00:15:00,590 --> 00:14:57,899

members of NASA's UAP independent study

288

00:15:02,990 --> 00:15:00,600

team your selfless dedication to the

289

00:15:05,629 --> 00:15:03,000

pursuit of knowledge is just so

290

00:15:07,850 --> 00:15:05,639

commendable and I want to thank you the

291

00:15:10,250 --> 00:15:07,860

audience for tuning in today to watch

292

00:15:13,129 --> 00:15:10,260

our first deliberative meeting of NASA's

293

00:15:15,829 --> 00:15:13,139

independent study team on evaluating and

294

00:15:17,150 --> 00:15:15,839

categorizing unidentified anomalous

295

00:15:19,430 --> 00:15:17,160

phenomena

296

00:15:22,610 --> 00:15:19,440

before I begin though I really do want

297

00:15:24,470 --> 00:15:22,620

to double down on Dan's words that it is

298

00:15:26,750 --> 00:15:24,480

really disheartening to hear of the

299

00:15:29,030 --> 00:15:26,760

harassment that our panelists have faced

300

00:15:29,990 --> 00:15:29,040

online all because they're studying this

301
00:15:32,629 --> 00:15:30,000

topic

302
00:15:35,449 --> 00:15:32,639

NASA stands behind our panelists and we

303
00:15:37,550 --> 00:15:35,459

do not tolerate abuse harassment only

304
00:15:40,490 --> 00:15:37,560

leads to further stigmatization of the

305
00:15:42,590 --> 00:15:40,500

UAP field significantly hindering the

306
00:15:44,870 --> 00:15:42,600

scientific progress and discouraging

307
00:15:46,069 --> 00:15:44,880

others to study this important subject

308
00:15:48,170 --> 00:15:46,079

matter

309
00:15:49,970 --> 00:15:48,180

your harassment also obstructs the

310
00:15:52,250 --> 00:15:49,980

Public's right to knowledge our

311
00:15:54,410 --> 00:15:52,260

panelists are leading experts in the

312
00:15:57,530 --> 00:15:54,420

scientific Aeronautics and data

313
00:15:59,689 --> 00:15:57,540

analytics communities we are very lucky

314

00:16:02,030 --> 00:15:59,699

to have them on board to share their

315

00:16:04,430 --> 00:16:02,040

invaluable insights to inform NASA on

316

00:16:06,650 --> 00:16:04,440

what possible data could be collected in

317

00:16:09,769 --> 00:16:06,660

the future and how it can be collected

318

00:16:11,750 --> 00:16:09,779

to help us better understand the nature

319

00:16:13,550 --> 00:16:11,760

of UAP

320

00:16:16,250 --> 00:16:13,560

the UAP independent study was

321

00:16:18,769 --> 00:16:16,260

commissioned to create a road map on how

322

00:16:21,829 --> 00:16:18,779

to use the tools of science to evaluate

323

00:16:24,410 --> 00:16:21,839

and categorize the nature of uaps going

324

00:16:26,509 --> 00:16:24,420

forward this roadmap of course will help

325

00:16:29,210 --> 00:16:26,519

the federal government obtain usable

326

00:16:30,910 --> 00:16:29,220

data to explain the nature of future

327

00:16:33,530 --> 00:16:30,920

uaps

328

00:16:36,050 --> 00:16:33,540

transparency openness and scientific

329

00:16:38,329 --> 00:16:36,060

Integrity are Pinnacle to NASA's Mission

330

00:16:40,490 --> 00:16:38,339

they're at the Forefront of this public

331

00:16:43,490 --> 00:16:40,500

meeting and have been throughout the

332

00:16:45,590 --> 00:16:43,500

team's seven months on this study

333

00:16:47,569 --> 00:16:45,600

as Dan noted this is a working meeting

334

00:16:50,150 --> 00:16:47,579

and so the public will have the

335

00:16:52,850 --> 00:16:50,160

incredible opportunity to witness the

336

00:16:55,310 --> 00:16:52,860

process of Science in action

337

00:16:57,710 --> 00:16:55,320

at Nasa we lead the world in Exploration

338

00:16:59,269 --> 00:16:57,720

and are committed to rigorous scientific

339

00:17:01,189 --> 00:16:59,279

inquiry

340

00:17:03,530 --> 00:17:01,199

the nature of science is to better

341

00:17:06,230 --> 00:17:03,540

understand the unknown and to do that

342

00:17:08,449 --> 00:17:06,240

our scientists need data

343

00:17:10,909 --> 00:17:08,459

right now there is very limited number

344

00:17:13,309 --> 00:17:10,919

of high quality observations and data

345

00:17:15,289 --> 00:17:13,319

curation of UAP

346

00:17:17,809 --> 00:17:15,299

the existing data available from

347

00:17:19,850 --> 00:17:17,819

eyewitness reports are often modeled and

348

00:17:23,510 --> 00:17:19,860

cannot provide conclusive evidence that

349

00:17:25,789 --> 00:17:23,520

supports UAP recognition and Analysis

350

00:17:28,010 --> 00:17:25,799

additionally an object's background can

351
00:17:31,010 --> 00:17:28,020
complicate the data further and render

352
00:17:32,810 --> 00:17:31,020
it unusable due to Conventional objects

353
00:17:34,909 --> 00:17:32,820
that can mimic or overshadow the

354
00:17:37,730 --> 00:17:34,919
phenomena completely such as commercial

355
00:17:41,690 --> 00:17:37,740
aircraft military equipment the weather

356
00:17:44,270 --> 00:17:41,700
and ionospheric phenomena like auroras

357
00:17:45,770 --> 00:17:44,280
this lack of high quality data make it

358
00:17:49,250 --> 00:17:45,780
impossible to draw scientific

359
00:17:51,830 --> 00:17:49,260
conclusions on the nature of UAP

360
00:17:53,510 --> 00:17:51,840
now this team has used unclassified data

361
00:17:56,330 --> 00:17:53,520
from civilian government entities

362
00:17:58,370 --> 00:17:56,340
commercial data and data from other

363
00:18:00,590 --> 00:17:58,380

sources to inform uh their

364

00:18:02,510 --> 00:18:00,600

recommendations and as Dan noted they

365

00:18:04,730 --> 00:18:02,520

will be published in a public report

366

00:18:06,470 --> 00:18:04,740

that comes out this summer

367

00:18:08,750 --> 00:18:06,480

I want to emphasize that there is really

368

00:18:11,150 --> 00:18:08,760

great benefit to studying unclassified

369

00:18:12,529 --> 00:18:11,160

data rather than classified data for

370

00:18:15,350 --> 00:18:12,539

this study

371

00:18:17,210 --> 00:18:15,360

first unidentified anomalous phenomena

372

00:18:19,730 --> 00:18:17,220

sightings themselves are not classified

373

00:18:21,350 --> 00:18:19,740

it's often the sensor platform that is

374

00:18:24,710 --> 00:18:21,360

classified and you can kind of think of

375

00:18:26,750 --> 00:18:24,720

it if a fighter jet took a picture of

376

00:18:28,970 --> 00:18:26,760

the Statue of Liberty then that image

377

00:18:30,770 --> 00:18:28,980

would be classified not because of the

378

00:18:32,690 --> 00:18:30,780

subject in the picture but because of

379

00:18:34,850 --> 00:18:32,700

the sensors on the plane

380

00:18:36,529 --> 00:18:34,860

second unclassified data that make it

381

00:18:39,230 --> 00:18:36,539

possible for our team to communicate

382

00:18:42,289 --> 00:18:39,240

openly to advance our understanding of

383

00:18:44,390 --> 00:18:42,299

UAP not only with each other but across

384

00:18:45,409 --> 00:18:44,400

the scientific community and to the

385

00:18:48,110 --> 00:18:45,419

public

386

00:18:50,270 --> 00:18:48,120

this ensures a clear and transparent

387

00:18:52,250 --> 00:18:50,280

pipeline of information that can be

388

00:18:55,970 --> 00:18:52,260

built upon through the general through

389

00:18:58,130 --> 00:18:55,980

generations to expand our understanding

390

00:19:01,310 --> 00:18:58,140

this study relies on open data

391

00:19:03,710 --> 00:19:01,320

everything we use at Nasa is open and

392

00:19:05,930 --> 00:19:03,720

anyone can look at these records so I

393

00:19:07,090 --> 00:19:05,940

invite you to visit our open data portal

394

00:19:15,529 --> 00:19:07,100

at

395

00:19:18,470 --> 00:19:15,539

and fully accessible to the public

396

00:19:22,430 --> 00:19:18,480

additionally please check out data.gov

397

00:19:24,529 --> 00:19:22,440

open slash data for a great overview of

398

00:19:26,870 --> 00:19:24,539

where you can find the archives for our

399

00:19:29,090 --> 00:19:26,880

science and Mission data sites

400

00:19:31,070 --> 00:19:29,100

I am very very much looking forward to

401
00:19:33,049 --> 00:19:31,080
hearing the deliberations put forth

402
00:19:35,870 --> 00:19:33,059
today from our distinguished panel of

403
00:19:37,730 --> 00:19:35,880
experts thank you so much for being here

404
00:19:39,110 --> 00:19:37,740
thank you Dr Fox

405
00:19:41,330 --> 00:19:39,120
um before you've got a little just want

406
00:19:44,270 --> 00:19:41,340
to open up to questions let me start

407
00:19:45,710 --> 00:19:44,280
with uh a question on this oh on the

408
00:19:48,650 --> 00:19:45,720
NASA data

409
00:19:50,150 --> 00:19:48,660
um I think one of the important things

410
00:19:52,850 --> 00:19:50,160
um that we'll be looking at with other

411
00:19:55,250 --> 00:19:52,860
data sets and events is the data is not

412
00:19:56,810 --> 00:19:55,260
very well calibrated can you say just a

413
00:19:58,370 --> 00:19:56,820

little bit about how NASA goes through

414

00:20:01,970 --> 00:19:58,380

calibrating some of its earth science

415

00:20:04,190 --> 00:20:01,980

data oh yes we very very rigorous um us

416

00:20:05,690 --> 00:20:04,200

I mean all of our data sets not just

417

00:20:08,210 --> 00:20:05,700

earth science go through extremely

418

00:20:10,310 --> 00:20:08,220

rigorous calibration

419

00:20:12,230 --> 00:20:10,320

um we don't release anything until it's

420

00:20:15,350 --> 00:20:12,240

really perfect I mean we have quick look

421

00:20:17,150 --> 00:20:15,360

data that is marked as quick look data

422

00:20:20,330 --> 00:20:17,160

um so you know you can use it to get

423

00:20:22,909 --> 00:20:20,340

preliminary findings but wait for the

424

00:20:26,930 --> 00:20:22,919

the really nicely cleaned up data so I

425

00:20:30,070 --> 00:20:26,940

uh a lot of rigorous protocol in putting

426

00:20:32,630 --> 00:20:30,080

out our data to make sure it is perfect

427

00:20:35,690 --> 00:20:32,640

do we have any other questions from the

428

00:20:35,700 --> 00:20:49,909

all right thank you so much

429

00:20:49,919 --> 00:20:56,870

foreign

430

00:21:01,070 --> 00:20:59,210

and when I look at our chart we have a

431

00:21:04,370 --> 00:21:01,080

lengthy charge but at the high level

432

00:21:08,090 --> 00:21:04,380

summary of it is how can NASA contribute

433

00:21:09,770 --> 00:21:08,100

to understanding the nature of uaps

434

00:21:11,990 --> 00:21:09,780

and our role here

435

00:21:14,750 --> 00:21:12,000

is not to resolve the nature of these

436

00:21:17,029 --> 00:21:14,760

events but rather to give NASA guidance

437

00:21:19,789 --> 00:21:17,039

to provide a roadmap of how it can

438

00:21:21,470 --> 00:21:19,799

contribute in this area

439

00:21:23,870 --> 00:21:21,480

after

440

00:21:27,230 --> 00:21:23,880

my opening remarks we'll hear from Sean

441

00:21:29,390 --> 00:21:27,240

Kirkpatrick from the aaro and it's the

442

00:21:32,029 --> 00:21:29,400

aaro that's charged with leading the

443

00:21:34,190 --> 00:21:32,039

whole of government UAP effort

444

00:21:35,810 --> 00:21:34,200

and they've already issued some

445

00:21:37,130 --> 00:21:35,820

preliminary reports on some of the

446

00:21:39,830 --> 00:21:37,140

events

447

00:21:42,770 --> 00:21:39,840

NASA's role is to use its unique

448

00:21:45,350 --> 00:21:42,780

capabilities and its role as a civilian

449

00:21:47,810 --> 00:21:45,360

agency interacting with the scientific

450

00:21:49,549 --> 00:21:47,820

community in an open and transparent

451
00:21:53,450 --> 00:21:49,559
manner

452
00:21:56,090 --> 00:21:53,460
and you know as Dr Fox emphasized the

453
00:21:57,169 --> 00:21:56,100
defense and intelligence agency data on

454
00:21:59,930 --> 00:21:57,179
UAP

455
00:22:02,810 --> 00:21:59,940
and are often classified primarily

456
00:22:04,549 --> 00:22:02,820
because of how the data is collected not

457
00:22:07,490 --> 00:22:04,559
because what's in the data

458
00:22:10,610 --> 00:22:07,500
the camera on an F-35 took a picture of

459
00:22:13,250 --> 00:22:10,620
a bird it's classified if a spy

460
00:22:16,010 --> 00:22:13,260
satellite takes an image of a balloon

461
00:22:18,950 --> 00:22:16,020
and we've had in the news some balloons

462
00:22:20,990 --> 00:22:18,960
recently that date is classified

463
00:22:22,010 --> 00:22:21,000

and that's because of a desire to not

464

00:22:24,590 --> 00:22:22,020

reveal

465

00:22:26,450 --> 00:22:24,600

all technical capabilities to other

466

00:22:28,730 --> 00:22:26,460

nations

467

00:22:30,590 --> 00:22:28,740

NASA on the other hand operates in a

468

00:22:31,490 --> 00:22:30,600

mode where it's collecting data in the

469

00:22:33,649 --> 00:22:31,500

open

470

00:22:36,770 --> 00:22:33,659

and the NASA data is available on

471

00:22:39,470 --> 00:22:36,780

websites and is well characterized and

472

00:22:43,010 --> 00:22:39,480

because of NASA being the civilian

473

00:22:44,570 --> 00:22:43,020

agency studying Air and Space it has a

474

00:22:48,169 --> 00:22:44,580

special role to play

475

00:22:50,930 --> 00:22:48,179

and I see our charge primarily as

476
00:22:53,330 --> 00:22:50,940
helping identify for NASA ways it could

477
00:22:56,029 --> 00:22:53,340
play that role and contribute to

478
00:22:59,690 --> 00:22:58,250
we've gone through a preliminary data

479
00:23:02,270 --> 00:22:59,700
collection stage

480
00:23:03,529 --> 00:23:02,280
and to summarize some of the things that

481
00:23:05,750 --> 00:23:03,539
we've learned

482
00:23:08,390 --> 00:23:05,760
the current data collection efforts

483
00:23:11,350 --> 00:23:08,400
regarding uaps are unsystematic

484
00:23:14,450 --> 00:23:11,360
and fragmented across various agencies

485
00:23:17,330 --> 00:23:14,460
often using instruments uncalibrated for

486
00:23:20,090 --> 00:23:17,340
scientific data collection

487
00:23:22,130 --> 00:23:20,100
and if I think about the data that

488
00:23:23,810 --> 00:23:22,140

people have out there it's in many ways

489

00:23:26,930 --> 00:23:23,820

what we'd like to think of as citizen

490

00:23:28,669 --> 00:23:26,940

science but again it is uncalibrated

491

00:23:33,049 --> 00:23:28,679

Data

492

00:23:36,169 --> 00:23:33,059

um poorly characterized not well curated

493

00:23:39,110 --> 00:23:36,179

and we face looking through this data a

494

00:23:41,630 --> 00:23:39,120

significant background a background of

495

00:23:44,510 --> 00:23:41,640

many of these events are commercial

496

00:23:47,870 --> 00:23:44,520

aircraft civilian America military

497

00:23:50,630 --> 00:23:47,880

drones weather and research balloons

498

00:23:54,490 --> 00:23:50,640

military equipment ionospheric

499

00:23:56,930 --> 00:23:54,500

phenomenon we need to characterize how

500

00:24:01,070 --> 00:23:56,940

when the date when the date is taken

501
00:24:03,169 --> 00:24:01,080
when it sees events like this first

502
00:24:06,350 --> 00:24:03,179
the current existing data and eyewitness

503
00:24:08,149 --> 00:24:06,360
reports alone are insufficient to

504
00:24:10,490 --> 00:24:08,159
provide conclusive evidence about the

505
00:24:13,669 --> 00:24:10,500
nature and origin of every UAP event

506
00:24:17,210 --> 00:24:13,679
they're often uninformative due to lack

507
00:24:19,730 --> 00:24:17,220
of quality control and data curation

508
00:24:22,310 --> 00:24:19,740
to understand UAP better

509
00:24:24,950 --> 00:24:22,320
targeted data collection

510
00:24:27,230 --> 00:24:24,960
thorough data curation and robust

511
00:24:29,649 --> 00:24:27,240
analyses are needed

512
00:24:32,330 --> 00:24:29,659
such an approach will help to discern

513
00:24:34,610 --> 00:24:32,340

unexplained UAP sightings

514

00:24:37,789 --> 00:24:34,620

but even then there's no guarantee that

515

00:24:39,950 --> 00:24:37,799

all sightings will be explained

516

00:24:41,930 --> 00:24:39,960

another challenge in this area is what

517

00:24:44,810 --> 00:24:41,940

we call stigma there's a real stigma

518

00:24:47,690 --> 00:24:44,820

among people reporting events

519

00:24:49,250 --> 00:24:47,700

and despite NASA's extensive efforts to

520

00:24:52,990 --> 00:24:49,260

reduce the stigma

521

00:24:56,270 --> 00:24:53,000

the origin of the uaps remain unclear

522

00:24:59,210 --> 00:24:56,280

and we feel many events remain

523

00:25:01,130 --> 00:24:59,220

unreported commercial pilots for example

524

00:25:05,270 --> 00:25:01,140

are very reluctant

525

00:25:08,270 --> 00:25:05,280

to report anomalies and one of our goals

526
00:25:11,270 --> 00:25:08,280
in having NASA play a role is to remove

527
00:25:14,270 --> 00:25:11,280
stigma and

528
00:25:17,630 --> 00:25:14,280
get high quality data

529
00:25:20,690 --> 00:25:17,640
um in fact if I were to summarize

530
00:25:24,769 --> 00:25:20,700
in one line what I feel we've learned

531
00:25:27,710 --> 00:25:24,779
it's we need high quality data and this

532
00:25:30,950 --> 00:25:27,720
is not some as a research scientist

533
00:25:32,269 --> 00:25:30,960
whose work has been primarily focused in

534
00:25:35,630 --> 00:25:32,279
cosmology

535
00:25:37,789 --> 00:25:35,640
I would say the lesson of my career has

536
00:25:40,310 --> 00:25:37,799
been you want to address important

537
00:25:43,669 --> 00:25:40,320
questions you need high quality data

538
00:25:46,010 --> 00:25:43,679

with well-calibrated instruments

539

00:25:48,470 --> 00:25:46,020

so the let me now

540

00:25:50,630 --> 00:25:48,480

uh introduce the agenda

541

00:25:52,730 --> 00:25:50,640

we're going to hear from a number of

542

00:25:53,990 --> 00:25:52,740

experts who will be presenting up to

543

00:25:58,490 --> 00:25:54,000

lunch

544

00:26:00,830 --> 00:25:58,500

to 12 30.

545

00:26:03,769 --> 00:26:00,840

at 12 30 we'll resume

546

00:26:06,649 --> 00:26:03,779

and we'll have presentations by members

547

00:26:10,370 --> 00:26:06,659

of the panel on some preliminary ideas

548

00:26:12,230 --> 00:26:10,380

for discussion and that will be a period

549

00:26:13,549 --> 00:26:12,240

of time for some open discussion by the

550

00:26:16,430 --> 00:26:13,559

panel

551
00:26:18,710 --> 00:26:16,440
we will then have a q a session based on

552
00:26:21,470 --> 00:26:18,720
questions that have been sent in in

553
00:26:23,390 --> 00:26:21,480
advance uh to the website and we've

554
00:26:25,549 --> 00:26:23,400
curated those questions and grouped them

555
00:26:27,409 --> 00:26:25,559
together and we'll be going through a

556
00:26:29,149 --> 00:26:27,419
lot of those questions and then we'll

557
00:26:32,990 --> 00:26:29,159
summarize

558
00:26:35,570 --> 00:26:33,000
and then over the subsequent uh couple

559
00:26:38,330 --> 00:26:35,580
months we'll work on putting together

560
00:26:40,789 --> 00:26:38,340
the report and as Dan said we're aiming

561
00:26:43,190 --> 00:26:40,799
to make a public report available we

562
00:26:46,730 --> 00:26:43,200
hope by the end of July

563
00:26:49,250 --> 00:26:46,740

so uh now let me turn this over to Sean

564

00:26:50,990 --> 00:26:49,260

Uncle Patrick oh hang on wait we'll do a

565

00:26:53,149 --> 00:26:51,000

couple q and A's probably some Q A's for

566

00:26:55,310 --> 00:26:53,159

me okay from the panel any any questions

567

00:27:05,210 --> 00:26:55,320

on the panel

568

00:27:09,769 --> 00:27:06,169

yeah

569

00:27:12,769 --> 00:27:09,779

um so one of the things I think Dr Fox

570

00:27:15,169 --> 00:27:12,779

um said was looking at the release of

571

00:27:18,049 --> 00:27:15,179

data very important for our study when

572

00:27:21,230 --> 00:27:18,059

it's high quality and you have also

573

00:27:23,570 --> 00:27:21,240

commented that data are not always

574

00:27:25,970 --> 00:27:23,580

perfect when we're doing certain studies

575

00:27:29,330 --> 00:27:25,980

I wonder if you could

576

00:27:31,730 --> 00:27:29,340

um shed some light on the you know the

577

00:27:33,169 --> 00:27:31,740

difference between the application of

578

00:27:36,070 --> 00:27:33,179

certain data to certain scientific

579

00:27:44,269 --> 00:27:41,149

so you know when you look at your camera

580

00:27:46,130 --> 00:27:44,279

your camera is often designed to take an

581

00:27:48,409 --> 00:27:46,140

image in the daytime

582

00:27:49,909 --> 00:27:48,419

and might not be optimized for nighttime

583

00:27:52,190 --> 00:27:49,919

Imaging

584

00:27:55,190 --> 00:27:52,200

or if you take something that

585

00:27:58,850 --> 00:27:55,200

astronomers are very familiar with is we

586

00:28:03,649 --> 00:27:58,860

design our telescopes to work at night

587

00:28:05,570 --> 00:28:03,659

and if the Sun is not even if you can

588

00:28:07,909 --> 00:28:05,580

you know you would never take the Hubble

589

00:28:10,610 --> 00:28:07,919

telescope and point it at the Sun

590

00:28:13,730 --> 00:28:10,620

this would destroy its detectors

591

00:28:15,409 --> 00:28:13,740

not only that if the telescope is

592

00:28:18,169 --> 00:28:15,419

pointing there

593

00:28:20,409 --> 00:28:18,179

and the Sun is over there even though

594

00:28:23,090 --> 00:28:20,419

you're not looking at the sun

595

00:28:25,750 --> 00:28:23,100

Reflections off of the Optics will

596

00:28:30,049 --> 00:28:25,760

produce what we call ghosting

597

00:28:32,210 --> 00:28:30,059

and that kind of ghosting gets produces

598

00:28:34,970 --> 00:28:32,220

some very strange images

599

00:28:37,190 --> 00:28:34,980

and this you know one of the many things

600

00:28:40,789 --> 00:28:37,200

we need to worry about when we see

601
00:28:43,070 --> 00:28:40,799
unusual things taken from a camera

602
00:28:44,149 --> 00:28:43,080
is even if you're pointing the camera

603
00:28:49,070 --> 00:28:44,159
there

604
00:28:51,769 --> 00:28:49,080
those kinds of anomalies degrade the

605
00:28:53,289 --> 00:28:51,779
quality of the data and that's why it's

606
00:28:55,490 --> 00:28:53,299
very important to work with

607
00:28:58,610 --> 00:28:55,500
well-characterized instruments

608
00:29:00,470 --> 00:28:58,620
and to be you know using them in ways in

609
00:29:01,490 --> 00:29:00,480
which you you understand what what's

610
00:29:04,850 --> 00:29:01,500
going on

611
00:29:07,970 --> 00:29:04,860
so I think if you look at

612
00:29:09,710 --> 00:29:07,980
you know data taken from the James Webb

613
00:29:11,090 --> 00:29:09,720

Telescope or from the Hubble or any of

614

00:29:13,789 --> 00:29:11,100

these things and you sort of you know

615

00:29:16,730 --> 00:29:13,799

telescopes looking out in space you'll

616

00:29:18,049 --> 00:29:16,740

see some really you know at first funny

617

00:29:21,590 --> 00:29:18,059

phenomenon

618

00:29:22,490 --> 00:29:21,600

when a telescope points at a star that's

619

00:29:25,909 --> 00:29:22,500

bright

620

00:29:28,430 --> 00:29:25,919

it saturates the detector and puts

621

00:29:30,590 --> 00:29:28,440

bleeding down the detector

622

00:29:35,149 --> 00:29:30,600

and you'll see phenomenon like if

623

00:29:38,210 --> 00:29:35,159

there's a bright star off to the side

624

00:29:40,970 --> 00:29:38,220

of the not even one you're looking at

625

00:29:43,610 --> 00:29:40,980

you get this of the effects where light

626
00:29:47,930 --> 00:29:43,620
bounces off of dust

627
00:29:50,510 --> 00:29:47,940
in your telescope and produces a sort of

628
00:29:52,130 --> 00:29:50,520
diffuse image that has some really

629
00:29:54,230 --> 00:29:52,140
strange properties

630
00:29:57,950 --> 00:29:54,240
so you know when you

631
00:30:00,110 --> 00:29:57,960
see something unusual the first thing

632
00:30:01,610 --> 00:30:00,120
you have to do is understand how that

633
00:30:04,310 --> 00:30:01,620
data was taken

634
00:30:07,490 --> 00:30:04,320
and I think this is one of the

635
00:30:10,669 --> 00:30:07,500
challenges one faces when you have data

636
00:30:13,909 --> 00:30:10,679
taken by uncalibrated instruments

637
00:30:15,889 --> 00:30:13,919
years ago it's very hard to know what's

638
00:30:17,450 --> 00:30:15,899

taken it's very hard to draw conclusions

639

00:30:22,990 --> 00:30:17,460

I think that's one of the challenges

640

00:30:25,789 --> 00:30:23,000

with archival data and I think having

641

00:30:28,130 --> 00:30:25,799

dedicated well-calibrated instruments I

642

00:30:31,370 --> 00:30:28,140

think will be important here is in any

643

00:30:35,090 --> 00:30:31,380

other area to understand what's going on

644

00:30:38,090 --> 00:30:35,100

so David anomalies are so often the

645

00:30:40,070 --> 00:30:38,100

engine of Discovery maybe you could say

646

00:30:42,409 --> 00:30:40,080

a quick word about high risk High reward

647

00:30:44,690 --> 00:30:42,419

research in your field of cosmology and

648

00:30:45,889 --> 00:30:44,700

how you see that impacting the UAP study

649

00:30:47,269 --> 00:30:45,899

as well

650

00:30:49,850 --> 00:30:47,279

so

651
00:30:54,830 --> 00:30:53,570
an area that comes to mind is fast radio

652
00:30:58,490 --> 00:30:54,840
bursts

653
00:30:59,930 --> 00:30:58,500
and uh Shaw prize was just announced

654
00:31:02,090 --> 00:30:59,940
yesterday

655
00:31:04,310 --> 00:31:02,100
I'm rewarded to the discovery of fast

656
00:31:06,110 --> 00:31:04,320
radial bursts and these are these

657
00:31:08,990 --> 00:31:06,120
bursting signals

658
00:31:12,250 --> 00:31:09,000
that go off all over in space

659
00:31:15,169 --> 00:31:12,260
and it's an interesting story because

660
00:31:18,169 --> 00:31:15,179
some of the bursts were real

661
00:31:19,430 --> 00:31:18,179
and are fascinating and some of the

662
00:31:24,710 --> 00:31:19,440
births

663
00:31:27,710 --> 00:31:24,720

this observatory in Australia

664

00:31:29,810 --> 00:31:27,720

and they had really strange structure

665

00:31:31,850 --> 00:31:29,820

and people couldn't figure out what was

666

00:31:33,769 --> 00:31:31,860

going on

667

00:31:37,430 --> 00:31:33,779

and then they start to notice a lot of

668

00:31:41,870 --> 00:31:37,440

them bunched together around lunchtime

669

00:31:44,149 --> 00:31:41,880

and what had happened was the uh

670

00:31:46,370 --> 00:31:44,159

people at the observatory would heat up

671

00:31:48,409 --> 00:31:46,380

their lunch in the microwave

672

00:31:50,090 --> 00:31:48,419

and something they would do is they

673

00:31:51,169 --> 00:31:50,100

would open the door of the microwave

674

00:31:53,710 --> 00:31:51,179

oven

675

00:31:56,330 --> 00:31:53,720

before the

676

00:31:59,230 --> 00:31:56,340

microwave stopped

677

00:32:02,750 --> 00:31:59,240

this is bad for your microwave oven

678

00:32:05,810 --> 00:32:02,760

it wears it out but not only that It

679

00:32:07,310 --> 00:32:05,820

produced a burst of radio signals that

680

00:32:09,710 --> 00:32:07,320

was picked up by these sensitive

681

00:32:12,289 --> 00:32:09,720

detectors so

682

00:32:14,570 --> 00:32:12,299

this I think is an interesting lesson

683

00:32:17,690 --> 00:32:14,580

some events end up being something

684

00:32:21,049 --> 00:32:17,700

unusual and conventional

685

00:32:24,370 --> 00:32:21,059

but some events with these frbs turn out

686

00:32:27,350 --> 00:32:24,380

to be these powerful explosions

687

00:32:29,289 --> 00:32:27,360

which are taking place at cosmological

688

00:32:32,389 --> 00:32:29,299

distances

689

00:32:33,730 --> 00:32:32,399

their nature is still not fully

690

00:32:35,990 --> 00:32:33,740

understood

691

00:32:38,389 --> 00:32:36,000

I think that one of the really most

692

00:32:40,870 --> 00:32:38,399

fascinating objects we have these bursts

693

00:32:43,610 --> 00:32:40,880

going out all over space

694

00:32:45,350 --> 00:32:43,620

they're interesting probes because

695

00:32:48,230 --> 00:32:45,360

they're kind of lighting up space

696

00:32:50,450 --> 00:32:48,240

between here and there and they're a

697

00:32:52,310 --> 00:32:50,460

subject of a reactive research

698

00:32:55,730 --> 00:32:52,320

and if I you know one looks at the

699

00:32:58,310 --> 00:32:55,740

history of these frbs at first they were

700

00:33:00,830 --> 00:32:58,320

discovered not believed and confinedly

701
00:33:02,690 --> 00:33:00,840
confirmed and they were discovered by

702
00:33:04,610 --> 00:33:02,700
instruments that were very sensitive but

703
00:33:07,130 --> 00:33:04,620
not optimized for this

704
00:33:09,409 --> 00:33:07,140
and now what we're doing is we're

705
00:33:13,070 --> 00:33:09,419
optimizing instruments and optimizing

706
00:33:16,190 --> 00:33:13,080
software to look for these events and

707
00:33:17,810 --> 00:33:16,200
it's often these surprises that turn out

708
00:33:21,830 --> 00:33:17,820
to be most interesting

709
00:33:23,810 --> 00:33:21,840
and you know there are phenomenon like

710
00:33:25,490 --> 00:33:23,820
Sprites which you can think of as upward

711
00:33:29,269 --> 00:33:25,500
going lightning

712
00:33:31,250 --> 00:33:29,279
which were seen by commercial pilots and

713
00:33:33,409 --> 00:33:31,260

somewhat not believed right because they

714

00:33:36,169 --> 00:33:33,419

were very strange and then and it was

715

00:33:39,649 --> 00:33:36,179

really only when we were able to take

716

00:33:41,409 --> 00:33:39,659

very high speed Imaging data data taken

717

00:33:45,649 --> 00:33:41,419

often from places like space station

718

00:33:48,110 --> 00:33:45,659

that we're able to see that and learn

719

00:33:51,289 --> 00:33:48,120

about these some fascinating ionospheric

720

00:33:53,029 --> 00:33:51,299

phenomena so it's uh surprises are

721

00:33:53,930 --> 00:33:53,039

really interesting I mean I think this

722

00:33:56,029 --> 00:33:53,940

is

723

00:33:59,330 --> 00:33:56,039

one of the

724

00:34:01,190 --> 00:33:59,340

uh fascinating things about the UAP

725

00:34:02,630 --> 00:34:01,200

phenomenon if it's something that's

726
00:34:04,850 --> 00:34:02,640
anomalous

727
00:34:07,490 --> 00:34:04,860
that makes it interesting and worthy of

728
00:34:10,310 --> 00:34:08,930
other questions

729
00:34:23,149 --> 00:34:10,320
great

730
00:34:27,230 --> 00:34:25,310
thank you David and

731
00:34:29,089 --> 00:34:27,240
pleasure to be back good morning

732
00:34:32,030 --> 00:34:29,099
everyone I want to start by thanking

733
00:34:34,490 --> 00:34:32,040
NASA for convening today's UAP

734
00:34:37,129 --> 00:34:34,500
independent study public meeting and

735
00:34:39,589 --> 00:34:37,139
inviting me to continue to participate

736
00:34:41,750 --> 00:34:39,599
NASA has been an invaluable partner to

737
00:34:44,149 --> 00:34:41,760
our team at Arrow as we work to better

738
00:34:46,550 --> 00:34:44,159

understand and respond to unidentified

739

00:34:48,950 --> 00:34:46,560

anomalous phenomena

740

00:34:50,869 --> 00:34:48,960

we applaud NASA for commissioning its

741

00:34:53,210 --> 00:34:50,879

independent study team and for exploring

742

00:34:56,149 --> 00:34:53,220

what data and tools could be leveraged

743

00:34:58,670 --> 00:34:56,159

to shed greater light on UAP

744

00:35:01,670 --> 00:34:58,680

though NASA and arrow are taking on very

745

00:35:03,550 --> 00:35:01,680

different aspects of the UAP problem set

746

00:35:06,050 --> 00:35:03,560

our efforts are very much complementary

747

00:35:08,930 --> 00:35:06,060

we both are committed to the scientific

748

00:35:10,970 --> 00:35:08,940

method to a data-driven approach

749

00:35:12,770 --> 00:35:10,980

and the highest standards of scientific

750

00:35:15,170 --> 00:35:12,780

research integrity

751
00:35:18,890 --> 00:35:15,180
while NASA is evaluating unclassified

752
00:35:21,950 --> 00:35:18,900
data sources for its study arrows data

753
00:35:24,530 --> 00:35:21,960
set includes classified material with a

754
00:35:27,589 --> 00:35:24,540
focus on National Security areas

755
00:35:29,329 --> 00:35:27,599
however all of this data collectively is

756
00:35:31,870 --> 00:35:29,339
critical to understanding the nature and

757
00:35:34,370 --> 00:35:31,880
origin of UAP

758
00:35:37,430 --> 00:35:34,380
NASA brings unique capabilities

759
00:35:40,730 --> 00:35:37,440
world-class scientists and a wealth of

760
00:35:43,190 --> 00:35:40,740
academic and research linkages

761
00:35:44,450 --> 00:35:43,200
NASA also has access to Earth sensing

762
00:35:46,730 --> 00:35:44,460
satellites

763
00:35:48,650 --> 00:35:46,740

radiological sensors tools for

764

00:35:51,290 --> 00:35:48,660

gravitational wave geomagnetic wave

765

00:35:53,630 --> 00:35:51,300

detection and means for analyzing open

766

00:35:55,970 --> 00:35:53,640

source cloud and crowdsourced data that

767

00:35:58,069 --> 00:35:55,980

may assist both Aero and NASA in their

768

00:36:00,109 --> 00:35:58,079

UAP efforts

769

00:36:03,109 --> 00:36:00,119

we are very grateful for the partnership

770

00:36:04,970 --> 00:36:03,119

and welcome the opportunity to join with

771

00:36:06,950 --> 00:36:04,980

NASA to share our Collective findings

772

00:36:09,470 --> 00:36:06,960

with the public as the U.S government

773

00:36:11,230 --> 00:36:09,480

moves towards greater transparency on

774

00:36:14,030 --> 00:36:11,240

this issue

775

00:36:16,010 --> 00:36:14,040

last month I testified before members of

776

00:36:18,170 --> 00:36:16,020

the Senate armed services committee on

777

00:36:20,870 --> 00:36:18,180

emerging threats and capabilities

778

00:36:24,530 --> 00:36:20,880

and shared some of the progress made

779

00:36:26,390 --> 00:36:24,540

since Arrow's establishment in July 2022

780

00:36:28,069 --> 00:36:26,400

I discussed arrows scientific and

781

00:36:30,710 --> 00:36:28,079

analytic approaches

782

00:36:32,930 --> 00:36:30,720

its efforts to improve UAP data

783

00:36:36,050 --> 00:36:32,940

collection standardize our reporting

784

00:36:38,150 --> 00:36:36,060

processes leverage our Partnerships and

785

00:36:40,970 --> 00:36:38,160

meticulously review the US government's

786

00:36:43,430 --> 00:36:40,980

UAP related historical records

787

00:36:46,490 --> 00:36:43,440

as I told the subcommittee then the

788

00:36:48,589 --> 00:36:46,500

resolution of all UAP cases cannot be

789

00:36:50,270 --> 00:36:48,599

accomplished by DOD and the intelligence

790

00:36:52,190 --> 00:36:50,280

Community alone

791

00:36:54,470 --> 00:36:52,200

era's ultimate success will require

792

00:36:57,530 --> 00:36:54,480

Partnerships with the interagency

793

00:37:00,109 --> 00:36:57,540

industry Academia the scientific

794

00:37:02,390 --> 00:37:00,119

community and the public

795

00:37:06,050 --> 00:37:02,400

which all bring their own resources

796

00:37:09,230 --> 00:37:06,060

ideas and expertise to the UAP challenge

797

00:37:09,950 --> 00:37:09,240

We Believe robust collaboration and peer

798

00:37:12,050 --> 00:37:09,960

review

799

00:37:13,670 --> 00:37:12,060

across a broad range of Partners will

800

00:37:16,730 --> 00:37:13,680

promote greater objectivity and

801
00:37:19,310 --> 00:37:16,740
transparency in the study of UAP

802
00:37:21,109 --> 00:37:19,320
of course NASA's UAP independent study

803
00:37:22,550 --> 00:37:21,119
team was convened very much in that

804
00:37:25,130 --> 00:37:22,560
spirit

805
00:37:27,470 --> 00:37:25,140
I also emphasized to Congress that the

806
00:37:30,170 --> 00:37:27,480
only a very small percentage of UAP

807
00:37:33,589 --> 00:37:30,180
reports displays signatures that could

808
00:37:35,990 --> 00:37:33,599
reasonably be described as anomalous

809
00:37:38,630 --> 00:37:36,000
the majority of unidentified objects

810
00:37:41,690 --> 00:37:38,640
reported to Arrow and in our Holdings

811
00:37:44,030 --> 00:37:41,700
demonstrate mundane characteristics of

812
00:37:46,370 --> 00:37:44,040
readily explainable sources

813
00:37:48,589 --> 00:37:46,380

while a large number of cases in arrows

814

00:37:51,829 --> 00:37:48,599

Holdings remain technically unresolved

815

00:37:54,230 --> 00:37:51,839

this is primarily due to a lack of data

816

00:37:56,630 --> 00:37:54,240

associated with those cases

817

00:37:58,750 --> 00:37:56,640

very much along the lines of what David

818

00:38:01,609 --> 00:37:58,760

was just speaking about

819

00:38:03,770 --> 00:38:01,619

sufficient data we are unable to reach

820

00:38:05,450 --> 00:38:03,780

defendable conclusions that meet the

821

00:38:07,130 --> 00:38:05,460

high scientific standards we set for

822

00:38:09,410 --> 00:38:07,140

resolution

823

00:38:11,089 --> 00:38:09,420

meanwhile for the few objects that do

824

00:38:13,490 --> 00:38:11,099

demonstrate potentially anomalous

825

00:38:15,410 --> 00:38:13,500

characteristics arrows approaching these

826

00:38:18,829 --> 00:38:15,420

cases with the highest level

827

00:38:20,990 --> 00:38:18,839

of objectivity and analytic rigor this

828

00:38:23,810 --> 00:38:21,000

includes physical testing and employing

829

00:38:26,810 --> 00:38:23,820

modeling and simulation to validate our

830

00:38:28,609 --> 00:38:26,820

analyzes and the underlying theories and

831

00:38:30,890 --> 00:38:28,619

then peer-reviewing those results before

832

00:38:33,170 --> 00:38:30,900

reaching any conclusions

833

00:38:35,810 --> 00:38:33,180

Arrow has shared these cases with the

834

00:38:38,150 --> 00:38:35,820

appropriately cleared NASA team members

835

00:38:41,150 --> 00:38:38,160

in order to discuss and help recommend

836

00:38:43,250 --> 00:38:41,160

potential scientific areas of study that

837

00:38:45,530 --> 00:38:43,260

NASA may want to take lead on

838

00:38:47,569 --> 00:38:45,540

I'll underscore here as I did before

839

00:38:50,210 --> 00:38:47,579

Congress at arrows work will take time

840

00:38:51,950 --> 00:38:50,220

if we are committed to doing it right

841

00:38:53,450 --> 00:38:51,960

arrow is committed to the highest

842

00:38:56,089 --> 00:38:53,460

standards of scientific research

843

00:38:57,890 --> 00:38:56,099

Integrity as we know our partners at

844

00:38:59,750 --> 00:38:57,900

Nasa are as well

845

00:39:01,910 --> 00:38:59,760

thanks again to NASA for hosting this

846

00:39:04,069 --> 00:39:01,920

public forum for UAP discussion and

847

00:39:06,170 --> 00:39:04,079

information exchange and I'd like to

848

00:39:08,150 --> 00:39:06,180

turn to a brief presentation that

849

00:39:12,470 --> 00:39:08,160

includes some recently Declassified

850

00:39:15,829 --> 00:39:12,480

footage and trends for discussion

851
00:39:22,190 --> 00:39:18,710
so some of you probably saw a version of

852
00:39:23,650 --> 00:39:22,200
this at the open hearing last month this

853
00:39:26,510 --> 00:39:23,660
is an overall

854
00:39:28,910 --> 00:39:26,520
review of all the analytic trends of all

855
00:39:31,849 --> 00:39:28,920
the cases that we have to date while the

856
00:39:34,750 --> 00:39:31,859
numbers may have changed a little bit

857
00:39:38,510 --> 00:39:34,760
uh the overall Trends remain the same

858
00:39:41,150 --> 00:39:38,520
most of what we are seeing reported by

859
00:39:43,430 --> 00:39:41,160
aircraft are at the altitudes where we

860
00:39:44,630 --> 00:39:43,440
fly aircraft that should not be a

861
00:39:46,910 --> 00:39:44,640
surprise

862
00:39:49,430 --> 00:39:46,920
you will note however that I have no

863
00:39:51,349 --> 00:39:49,440

space reports and I have no Maritime

864

00:39:53,510 --> 00:39:51,359

reports

865

00:39:56,150 --> 00:39:53,520

that is notable even though we are

866

00:39:58,870 --> 00:39:56,160

looking across all of those domains

867

00:40:01,730 --> 00:39:58,880

on the upper right we have UAP

868

00:40:03,710 --> 00:40:01,740

morphologies the vast majority of what

869

00:40:04,430 --> 00:40:03,720

has been reported and what we have data

870

00:40:08,329 --> 00:40:04,440

on

871

00:40:10,569 --> 00:40:08,339

a little less than half now are orbs

872

00:40:14,030 --> 00:40:10,579

round spheres

873

00:40:16,910 --> 00:40:14,040

and in the bottom right you will see in

874

00:40:19,250 --> 00:40:16,920

the really the the Heats map of the

875

00:40:21,829 --> 00:40:19,260

areas where we get most of our reporting

876

00:40:24,890 --> 00:40:21,839

this is very much a collection biased

877

00:40:28,730 --> 00:40:24,900

map this is where our sensors are our

878

00:40:30,290 --> 00:40:28,740

military and our IC and some of the FAA

879

00:40:33,410 --> 00:40:30,300

data

880

00:40:36,170 --> 00:40:33,420

in the middle which is what we call our

881

00:40:38,390 --> 00:40:36,180

typical UAP characteristics for the vast

882

00:40:41,270 --> 00:40:38,400

majority of the cases that we see

883

00:40:43,609 --> 00:40:41,280

one way of looking at that is a is a

884

00:40:46,790 --> 00:40:43,619

we'll call it a Target package this is

885

00:40:48,950 --> 00:40:46,800

the thing we are out hunting for in most

886

00:40:53,510 --> 00:40:48,960

cases

887

00:40:58,730 --> 00:40:55,910

this is an example of one that I showed

888

00:41:01,190 --> 00:40:58,740

at the hearing recently this is a

889

00:41:05,390 --> 00:41:01,200

spherical orb metallic in the Middle

890

00:41:07,010 --> 00:41:05,400

East 2022 by an MQ-9

891

00:41:08,810 --> 00:41:07,020

and we'll come back to the sensor

892

00:41:10,130 --> 00:41:08,820

question that David raised here in a

893

00:41:12,829 --> 00:41:10,140

moment

894

00:41:15,650 --> 00:41:12,839

this is a typical example of the thing

895

00:41:18,890 --> 00:41:15,660

that we see most of we see these all

896

00:41:21,710 --> 00:41:18,900

over the world and we see these in and

897

00:41:25,069 --> 00:41:21,720

making very interesting

898

00:41:29,870 --> 00:41:27,290

this one in particular however I would

899

00:41:32,450 --> 00:41:29,880

point out demonstrated no enigmatic

900

00:41:34,790 --> 00:41:32,460

technical capabilities and was no threat

901
00:41:37,010 --> 00:41:34,800
to Airborne safety

902
00:41:39,349 --> 00:41:37,020
while we are still looking at it I don't

903
00:41:41,390 --> 00:41:39,359
have any more data other than that

904
00:41:44,569 --> 00:41:41,400
and so being able to come to some

905
00:41:47,089 --> 00:41:44,579
conclusion is going to take time until

906
00:41:49,730 --> 00:41:47,099
we can get better resolved data on

907
00:41:51,950 --> 00:41:49,740
similar objects that we can then do a

908
00:41:55,490 --> 00:41:51,960
larger analysis on

909
00:42:01,670 --> 00:41:57,950
I'm going to let this play through this

910
00:42:04,310 --> 00:42:01,680
is a newly released video you'll notice

911
00:42:06,650 --> 00:42:04,320
there are two dots moving back and forth

912
00:42:08,630 --> 00:42:06,660
there is a plane at the bottom that's

913
00:42:11,030 --> 00:42:08,640

moving across the screen and now there

914

00:42:14,089 --> 00:42:11,040

are three dots moving back and forth

915

00:42:15,650 --> 00:42:14,099

the moving back and forth is from the

916

00:42:19,970 --> 00:42:15,660

sensor and the platform that's

917

00:42:21,470 --> 00:42:19,980

collecting it this is a P3 on a

918

00:42:24,170 --> 00:42:21,480

training mission in the Western United

919

00:42:26,630 --> 00:42:24,180

States they picked these up and they

920

00:42:28,490 --> 00:42:26,640

tried to intercept and was unable to

921

00:42:31,310 --> 00:42:28,500

intercept them

922

00:42:34,010 --> 00:42:31,320

apart from that motion and you'll see a

923

00:42:34,930 --> 00:42:34,020

little bit of defocusing from the sensor

924

00:42:37,490 --> 00:42:34,940

itself

925

00:42:40,370 --> 00:42:37,500

there is no other

926

00:42:42,650 --> 00:42:40,380

Oddity about this except for the fact

927

00:42:44,210 --> 00:42:42,660

that they couldn't catch them the reason

928

00:42:47,270 --> 00:42:44,220

they couldn't catch them is because

929

00:42:49,609 --> 00:42:47,280

after further analysis it was shown that

930

00:42:52,490 --> 00:42:49,619

those objects were actually much farther

931

00:42:54,650 --> 00:42:52,500

away from the P3 than they thought

932

00:42:56,810 --> 00:42:54,660

and in fact when we went even deeper

933

00:42:59,329 --> 00:42:56,820

looked at Air Traffic Control Data we

934

00:43:02,809 --> 00:42:59,339

were able to match those to aircraft on

935

00:43:05,210 --> 00:43:02,819

a major flight Corridor heading into a

936

00:43:09,170 --> 00:43:05,220

major airport for landing

937

00:43:12,290 --> 00:43:09,180

this is the kind of thing that can

938

00:43:15,530 --> 00:43:12,300

spooof and or provide misperception of

939

00:43:17,030 --> 00:43:15,540

both very highly trained pilots as well

940

00:43:20,450 --> 00:43:17,040

as sensors

941

00:43:23,270 --> 00:43:20,460

right and this was reported as an odd

942

00:43:24,470 --> 00:43:23,280

grouping of three UAP

943

00:43:27,170 --> 00:43:24,480

all right

944

00:43:29,510 --> 00:43:27,180

that is not to say that the pilots

945

00:43:31,430 --> 00:43:29,520

didn't know what they were looking at or

946

00:43:33,950 --> 00:43:31,440

they they knew what they were looking at

947

00:43:36,050 --> 00:43:33,960

but they weren't really sure but it also

948

00:43:37,849 --> 00:43:36,060

is meant to say that when they're not

949

00:43:39,530 --> 00:43:37,859

sure they're reporting it now and that's

950

00:43:41,430 --> 00:43:39,540

what they're supposed to be doing and

951
00:43:43,010 --> 00:43:41,440
then we have to go look at it

952
00:43:46,370 --> 00:43:43,020
[Music]

953
00:43:49,970 --> 00:43:48,410
that brings us to really what is Arrow

954
00:43:52,010 --> 00:43:49,980
doing in the science and Technical

955
00:43:53,109 --> 00:43:52,020
Realms so this is one of those areas

956
00:43:55,190 --> 00:43:53,119
that

957
00:43:58,690 --> 00:43:55,200
I'm going to expound a little bit more

958
00:44:01,250 --> 00:43:58,700
on than we did in the last hearings

959
00:44:03,829 --> 00:44:01,260
Arrow has a

960
00:44:05,930 --> 00:44:03,839
robust scientific plan that we are

961
00:44:08,470 --> 00:44:05,940
required to then provide to Congress

962
00:44:10,730 --> 00:44:08,480
here pretty soon

963
00:44:12,890 --> 00:44:10,740

one of the first things that we're doing

964

00:44:15,890 --> 00:44:12,900

is looking across all the existing

965

00:44:18,470 --> 00:44:15,900

sensor data against that typical UAP

966

00:44:21,829 --> 00:44:18,480

Target that I gave you up at the very

967

00:44:23,870 --> 00:44:21,839

first slide that goes beyond DOD and IC

968

00:44:26,089 --> 00:44:23,880

sensors that's commercial that's civil

969

00:44:29,410 --> 00:44:26,099

that's in and with partnership with NASA

970

00:44:31,910 --> 00:44:29,420

with NASA sensors and NOAA sensors

971

00:44:34,490 --> 00:44:31,920

understanding if any of these Earth

972

00:44:36,589 --> 00:44:34,500

sensing satellites any of these Airborne

973

00:44:38,930 --> 00:44:36,599

platforms any of these ground Radars

974

00:44:40,970 --> 00:44:38,940

whether it's FAA or other can actually

975

00:44:43,730 --> 00:44:40,980

see these things

976
00:44:45,170 --> 00:44:43,740
given what we've got so far is going to

977
00:44:46,790 --> 00:44:45,180
be an important first step to

978
00:44:49,490 --> 00:44:46,800
understanding which sensors are going to

979
00:44:54,410 --> 00:44:52,250
from there we will we are augmenting

980
00:44:57,589 --> 00:44:54,420
with dedicated sensors that we've

981
00:44:59,930 --> 00:44:57,599
purpose built designed to detect track

982
00:45:02,450 --> 00:44:59,940
and characterize those particular

983
00:45:05,349 --> 00:45:02,460
objects we will be then putting those

984
00:45:08,030 --> 00:45:05,359
out in very select areas for

985
00:45:10,910 --> 00:45:08,040
surveillance purposes

986
00:45:13,130 --> 00:45:10,920
Partnerships with Academia exploring the

987
00:45:15,589 --> 00:45:13,140
signatures to match to our data so

988
00:45:18,109 --> 00:45:15,599

understanding if a thing is moving and

989

00:45:19,609 --> 00:45:18,119

if it is doing certain anomalous

990

00:45:21,770 --> 00:45:19,619

activities what are the signatures we

991

00:45:24,650 --> 00:45:21,780

would expect to see how do we pull on

992

00:45:26,750 --> 00:45:24,660

that and then from there how do I tune

993

00:45:28,130 --> 00:45:26,760

my collection architecture to go after

994

00:45:30,230 --> 00:45:28,140

it

995

00:45:32,270 --> 00:45:30,240

statistical analytic techniques we're

996

00:45:34,250 --> 00:45:32,280

working with a couple of universities on

997

00:45:37,309 --> 00:45:34,260

how do I do broader base statistical

998

00:45:39,470 --> 00:45:37,319

analysis on unclassified and classified

999

00:45:41,990 --> 00:45:39,480

data so that I can apply those analytics

1000

00:45:44,690 --> 00:45:42,000

to our Holdings

1001
00:45:47,750 --> 00:45:44,700
and then Ai and ml analytic techniques

1002
00:45:49,730 --> 00:45:47,760
for searching out through the data what

1003
00:45:52,670 --> 00:45:49,740
are this what are the objects what are

1004
00:45:55,250 --> 00:45:52,680
the targets that we're going after

1005
00:45:57,650 --> 00:45:55,260
we have Partnerships with both DOD and

1006
00:45:59,809 --> 00:45:57,660
doe labs to explore our current

1007
00:46:01,910 --> 00:45:59,819
state-of-the-art fundamental physics of

1008
00:46:04,130 --> 00:46:01,920
UAP observations

1009
00:46:06,650 --> 00:46:04,140
both current and historical in other

1010
00:46:09,109 --> 00:46:06,660
words if I have objects those few that

1011
00:46:11,870 --> 00:46:09,119
are doing some things that are anomalous

1012
00:46:14,089 --> 00:46:11,880
what is our current understanding of

1013
00:46:15,670 --> 00:46:14,099

maneuverability

1014

00:46:18,290 --> 00:46:15,680

speed

1015

00:46:21,050 --> 00:46:18,300

signature management

1016

00:46:22,790 --> 00:46:21,060

propulsion what are those underlying

1017

00:46:26,630 --> 00:46:22,800

signatures that we would expect to see

1018

00:46:28,730 --> 00:46:26,640

and how do I then pull on that

1019

00:46:30,829 --> 00:46:28,740

our interagency and Allied partnership

1020

00:46:32,809 --> 00:46:30,839

ships for calibration of our

1021

00:46:35,750 --> 00:46:32,819

capabilities this is exactly what David

1022

00:46:37,970 --> 00:46:35,760

was pointing at the vast majority of

1023

00:46:41,030 --> 00:46:37,980

what we have reported to us are DOD

1024

00:46:42,890 --> 00:46:41,040

sensors DOD sensors are not scientific

1025

00:46:45,170 --> 00:46:42,900

sensors they are not intelligence

1026

00:46:47,089 --> 00:46:45,180

Community sensors Believe It or Not

1027

00:46:49,010 --> 00:46:47,099

intelligence Community sensors are very

1028

00:46:51,050 --> 00:46:49,020

close to Scientific sensors they are

1029

00:46:53,150 --> 00:46:51,060

calibrated they are high Precision they

1030

00:46:55,370 --> 00:46:53,160

are everything you'd ever want to know

1031

00:46:58,370 --> 00:46:55,380

about a thing

1032

00:47:01,430 --> 00:46:58,380

DOD sensors have one purpose they are to

1033

00:47:02,750 --> 00:47:01,440

identify an object that is known and put

1034

00:47:04,849 --> 00:47:02,760

a weapon on it

1035

00:47:07,730 --> 00:47:04,859

that is what they're for right

1036

00:47:09,710 --> 00:47:07,740

predominantly so understanding how do

1037

00:47:12,890 --> 00:47:09,720

you calibrate those against these known

1038

00:47:15,109 --> 00:47:12,900

objects how do I fly in F-35 against a

1039

00:47:16,730 --> 00:47:15,119

weather balloon at different speeds and

1040

00:47:18,829 --> 00:47:16,740

different altitudes and different Sun

1041

00:47:20,870 --> 00:47:18,839

conditions and different lighting

1042

00:47:23,329 --> 00:47:20,880

conditions and and heating conditions

1043

00:47:25,430 --> 00:47:23,339

those are all important measurements

1044

00:47:28,609 --> 00:47:25,440

that need to be done and we are on the

1045

00:47:30,829 --> 00:47:28,619

in process of doing that right now that

1046

00:47:33,530 --> 00:47:30,839

table on the right is a very simplified

1047

00:47:35,510 --> 00:47:33,540

version of our entire test Matrix which

1048

00:47:38,089 --> 00:47:35,520

you would not be able to fit on three of

1049

00:47:41,870 --> 00:47:38,099

these slides against all of our sensors

1050

00:47:43,730 --> 00:47:41,880

across all of those phenomenologies

1051
00:47:46,309 --> 00:47:43,740
that will be useful in order to then

1052
00:47:49,069 --> 00:47:46,319
train our operators pilots and sensors

1053
00:47:51,050 --> 00:47:49,079
against the known objects

1054
00:47:52,490 --> 00:47:51,060
and then finally our pattern of Life

1055
00:47:54,770 --> 00:47:52,500
analysis

1056
00:47:57,290 --> 00:47:54,780
this is essentially baselining what is

1057
00:47:59,690 --> 00:47:57,300
normal I have all these Hot Spot areas

1058
00:48:01,790 --> 00:47:59,700
but we only have hotspot areas because

1059
00:48:03,470 --> 00:48:01,800
that's when the reports come in from The

1060
00:48:04,370 --> 00:48:03,480
Operators that are operating at that

1061
00:48:11,030 --> 00:48:04,380
time

1062
00:48:14,210 --> 00:48:11,040
so to have a 24 7 collection monitoring

1063
00:48:16,490 --> 00:48:14,220

campaign in some of these areas for

1064

00:48:19,550 --> 00:48:16,500

three months at a time is going to be

1065

00:48:22,190 --> 00:48:19,560

necessary in order to measure out what

1066

00:48:23,030 --> 00:48:22,200

is normal then I'll know what is not

1067

00:48:24,710 --> 00:48:23,040

normal

1068

00:48:27,109 --> 00:48:24,720

right when we have additional things

1069

00:48:30,349 --> 00:48:27,119

that come through those spaces

1070

00:48:32,270 --> 00:48:30,359

and that includes space and maritime

1071

00:48:33,710 --> 00:48:32,280

next slide please

1072

00:48:36,170 --> 00:48:33,720

which brings me to some of my

1073

00:48:40,130 --> 00:48:36,180

recommendations for the panel and their

1074

00:48:44,930 --> 00:48:41,930

some of these we're going to be

1075

00:48:47,270 --> 00:48:44,940

exploring with our our new NASA embed

1076

00:48:49,010 --> 00:48:47,280

I'm happy to be welcoming on for your

1077

00:48:52,430 --> 00:48:49,020

pretty soon who's going to help us in

1078

00:48:56,809 --> 00:48:53,950

um

1079

00:48:58,730 --> 00:48:56,819

crowdsourcing unclassified open source

1080

00:49:01,790 --> 00:48:58,740

data this is where you know some of the

1081

00:49:05,150 --> 00:49:01,800

public can be helpful you know

1082

00:49:07,250 --> 00:49:05,160

imagery from a iPhone is generally not

1083

00:49:09,230 --> 00:49:07,260

helpful unless you are right up on

1084

00:49:12,770 --> 00:49:09,240

whatever it is you're looking at

1085

00:49:16,309 --> 00:49:12,780

however some of the ancillary data that

1086

00:49:19,390 --> 00:49:16,319

your iPhone provides from location to

1087

00:49:21,829 --> 00:49:19,400

speed to you know other

1088

00:49:23,690 --> 00:49:21,839

phenomenologies and more than one of

1089

00:49:25,030 --> 00:49:23,700

those can be very helpful

1090

00:49:27,589 --> 00:49:25,040

right

1091

00:49:30,190 --> 00:49:27,599

large-scale ground-based scientific

1092

00:49:32,150 --> 00:49:30,200

instrumentation

1093

00:49:34,190 --> 00:49:32,160

evaluating

1094

00:49:36,410 --> 00:49:34,200

how can I use some of these other

1095

00:49:40,010 --> 00:49:36,420

instruments for detection the frb

1096

00:49:41,890 --> 00:49:40,020

example was was perfect right you have a

1097

00:49:44,030 --> 00:49:41,900

bunch of large scale

1098

00:49:45,530 --> 00:49:44,040

instruments that were not designed for

1099

00:49:48,349 --> 00:49:45,540

that yet they picked them up because

1100

00:49:49,550 --> 00:49:48,359

there was a microwave

1101
00:49:53,510 --> 00:49:49,560
well

1102
00:49:56,329 --> 00:49:53,520
we have a a surrogate Target package of

1103
00:49:58,490 --> 00:49:56,339
what we think these things are at least

1104
00:50:01,329 --> 00:49:58,500
from a what we've got reported to us

1105
00:50:04,490 --> 00:50:01,339
that was in the front slide

1106
00:50:07,309 --> 00:50:04,500
understanding how can I evaluate that

1107
00:50:09,770 --> 00:50:07,319
against all of these other instruments

1108
00:50:11,390 --> 00:50:09,780
and do any of them have a chance of

1109
00:50:13,609 --> 00:50:11,400
picking anything up that would be

1110
00:50:16,609 --> 00:50:13,619
helpful in tipping and queuing us to get

1111
00:50:19,910 --> 00:50:16,619
other sensors on target

1112
00:50:21,950 --> 00:50:19,920
I think leading that evaluation of the

1113
00:50:25,010 --> 00:50:21,960

scientific ground-based sensors would be

1114

00:50:26,990 --> 00:50:25,020

useful also the same thing for the Earth

1115

00:50:30,490 --> 00:50:27,000

Sciences satellites as we mentioned

1116

00:50:38,690 --> 00:50:33,109

intentional Vice coincidental collection

1117

00:50:42,849 --> 00:50:38,700

so looking at how can I provide a tip in

1118

00:50:45,609 --> 00:50:42,859

queue to both the ground and space-based

1119

00:50:49,190 --> 00:50:45,619

scientific and academic sensor Community

1120

00:50:51,890 --> 00:50:49,200

to put additional sensors on a object

1121

00:50:55,849 --> 00:50:51,900

when it is reported I'm currently doing

1122

00:50:59,569 --> 00:50:55,859

that with arrow The Joint staff the

1123

00:51:02,930 --> 00:50:59,579

commands for when they get tipping queue

1124

00:51:05,510 --> 00:51:02,940

right so a pilot says something they see

1125

00:51:07,309 --> 00:51:05,520

something they report it in and we're

1126
00:51:09,410 --> 00:51:07,319
going to turn on a whole bunch of new

1127
00:51:11,809 --> 00:51:09,420
collection to go after it I should be

1128
00:51:14,150 --> 00:51:11,819
able to hand that same tip and cue to

1129
00:51:15,950 --> 00:51:14,160
the scientific and academic community

1130
00:51:17,329 --> 00:51:15,960
so looking at how that works would be

1131
00:51:20,750 --> 00:51:17,339
helpful

1132
00:51:22,670 --> 00:51:20,760
peer reviewing Advanced capabilities the

1133
00:51:24,049 --> 00:51:22,680
parameterization and the publication of

1134
00:51:25,609 --> 00:51:24,059
that that have not yet been engineered

1135
00:51:26,450 --> 00:51:25,619
we understand a lot of fundamental

1136
00:51:28,390 --> 00:51:26,460
physics

1137
00:51:31,490 --> 00:51:28,400
it is the scientific

1138
00:51:33,950 --> 00:51:31,500

community's responsibility to explore

1139

00:51:35,870 --> 00:51:33,960

and document those fundamentals in

1140

00:51:37,730 --> 00:51:35,880

peer-reviewed scientific journals to

1141

00:51:40,849 --> 00:51:37,740

match to data so that we can weed out

1142

00:51:43,069 --> 00:51:40,859

all kinds of different hypotheses right

1143

00:51:44,870 --> 00:51:43,079

that's how science works we need to make

1144

00:51:47,210 --> 00:51:44,880

sure that we are doing that I think

1145

00:51:49,750 --> 00:51:47,220

leading that conversation would be very

1146

00:51:52,670 --> 00:51:49,760

helpful from NASA's perspective

1147

00:51:55,870 --> 00:51:52,680

archived scientific data so we have a

1148

00:51:58,849 --> 00:51:55,880

whole bunch of calibrated large-scale

1149

00:52:02,510 --> 00:51:58,859

scientific data from all these different

1150

00:52:05,030 --> 00:52:02,520

instrumentations around the world taking

1151
00:52:08,809 --> 00:52:05,040
a look at how can you apply some maybe

1152
00:52:12,109 --> 00:52:08,819
some AIML tools to search through that

1153
00:52:14,030 --> 00:52:12,119
data for anomalous signatures that may

1154
00:52:16,069 --> 00:52:14,040
correlate to things that we've got

1155
00:52:17,770 --> 00:52:16,079
reporting on that would be an

1156
00:52:19,970 --> 00:52:17,780
interesting study

1157
00:52:21,710 --> 00:52:19,980
distributions of sightings I think this

1158
00:52:24,349 --> 00:52:21,720
is a low hanging fruit one right so if

1159
00:52:26,630 --> 00:52:24,359
we take a look at all of the

1160
00:52:28,549 --> 00:52:26,640
distributions of sightings that are

1161
00:52:30,470 --> 00:52:28,559
outside of my National Security areas

1162
00:52:31,970 --> 00:52:30,480
that I've got classified reporting for

1163
00:52:33,950 --> 00:52:31,980

and they generate the similar

1164

00:52:35,750 --> 00:52:33,960

distribution map as we've got and we put

1165

00:52:37,609 --> 00:52:35,760

those two pieces together now I have a

1166

00:52:38,990 --> 00:52:37,619

holistic picture

1167

00:52:40,970 --> 00:52:39,000

and then of course our foreign

1168

00:52:43,609 --> 00:52:40,980

Partnerships building a robust

1169

00:52:47,109 --> 00:52:43,619

scientific community of Interest review

1170

00:52:50,510 --> 00:52:47,119

data capabilities conduct analysis

1171

00:52:53,089 --> 00:52:50,520

expanding upon you know our military and

1172

00:52:55,250 --> 00:52:53,099

intelligence collaborations across the

1173

00:52:57,410 --> 00:52:55,260

world into the scientific and academic

1174

00:53:00,250 --> 00:52:57,420

world

1175

00:53:02,569 --> 00:53:00,260

and with that those were my thoughts

1176

00:53:05,270 --> 00:53:02,579

we've talked about some of these in the

1177

00:53:07,609 --> 00:53:05,280

past it would be uh interesting to to

1178

00:53:09,829 --> 00:53:07,619

hear if there's any further questions or

1179

00:53:11,630 --> 00:53:09,839

deliberations on any of those points and

1180

00:53:13,370 --> 00:53:11,640

I'm happy to take any questions that you

1181

00:53:16,250 --> 00:53:13,380

all have

1182

00:53:17,930 --> 00:53:16,260

great uh thank you Dr Kirkpatrick and I

1183

00:53:21,230 --> 00:53:17,940

also want to you take this opportunity

1184

00:53:24,109 --> 00:53:21,240

to thank you in the Aro for your

1185

00:53:26,990 --> 00:53:24,119

openness uh in providing this committee

1186

00:53:29,150 --> 00:53:27,000

with insight and information about what

1187

00:53:31,549 --> 00:53:29,160

you've learned so far how we could work

1188

00:53:33,170 --> 00:53:31,559

together I think this is very much an

1189

00:53:35,809 --> 00:53:33,180

area where it's going to be essential

1190

00:53:40,250 --> 00:53:35,819

that NASA be a partner and be a good

1191

00:53:42,290 --> 00:53:40,260

partner for aaro and I think you're uh

1192

00:53:44,690 --> 00:53:42,300

really want to thank you for your role

1193

00:53:47,089 --> 00:53:44,700

with this Committee in helping to start

1194

00:53:52,190 --> 00:53:47,099

to build that partnership been my

1195

00:53:55,370 --> 00:53:54,049

um question uh we talked a lot about

1196

00:53:58,190 --> 00:53:55,380

data already

1197

00:53:59,690 --> 00:53:58,200

let's talk about sensors for a second so

1198

00:54:00,829 --> 00:53:59,700

you mentioned that you work for labs

1199

00:54:03,170 --> 00:54:00,839

Academia

1200

00:54:04,970 --> 00:54:03,180

do you see a need to go beyond what you

1201

00:54:07,549 --> 00:54:04,980

mentioned earlier that is the type of

1202

00:54:09,290 --> 00:54:07,559

census we have right now which are based

1203

00:54:10,910 --> 00:54:09,300

on National Security threats and certain

1204

00:54:12,230 --> 00:54:10,920

phenomenologies and frequency range of

1205

00:54:13,849 --> 00:54:12,240

these kinds of things

1206

00:54:16,549 --> 00:54:13,859

do you see a reason of going beyond that

1207

00:54:19,010 --> 00:54:16,559

yep absolutely what what are some of the

1208

00:54:21,650 --> 00:54:19,020

challenges their materials

1209

00:54:24,490 --> 00:54:21,660

so can we go back to the front slide

1210

00:54:26,530 --> 00:54:24,500

just the first slide where the target

1211

00:54:29,990 --> 00:54:26,540

characterization is

1212

00:54:33,710 --> 00:54:30,000

so we've we've purpose built a couple of

1213

00:54:36,890 --> 00:54:33,720

of sensors to do search

1214

00:54:38,270 --> 00:54:36,900

across that nope down one there you go

1215

00:54:39,770 --> 00:54:38,280

that's great

1216

00:54:41,690 --> 00:54:39,780

um to go down some of those

1217

00:54:45,530 --> 00:54:41,700

characteristics to see if we can find

1218

00:54:46,450 --> 00:54:45,540

them correlated to uh pilot reporting

1219

00:54:49,390 --> 00:54:46,460

right

1220

00:54:51,950 --> 00:54:49,400

some of those are

1221

00:54:53,930 --> 00:54:51,960

initially this is going to be I'm going

1222

00:54:56,049 --> 00:54:53,940

to say this is a bootstrap method right

1223

00:54:59,150 --> 00:54:56,059

we're doing a broad spectrum search

1224

00:55:03,170 --> 00:54:59,160

across very few indicators that we can

1225

00:55:06,109 --> 00:55:03,180

point to that will enable us to get a

1226

00:55:07,069 --> 00:55:06,119

little bit more data refine that narrow

1227

00:55:10,549 --> 00:55:07,079

those

1228

00:55:13,130 --> 00:55:10,559

sensors and and and go from there so we

1229

00:55:15,829 --> 00:55:13,140

aren't just relying on the dod and IC

1230

00:55:17,329 --> 00:55:15,839

sensors that exist today because frankly

1231

00:55:19,609 --> 00:55:17,339

they don't point to where we want them

1232

00:55:21,470 --> 00:55:19,619

to point right I mean I'll be frank with

1233

00:55:25,490 --> 00:55:21,480

with everyone

1234

00:55:29,690 --> 00:55:25,500

we we can point the largest

1235

00:55:32,089 --> 00:55:29,700

collection apparatus in the entire Globe

1236

00:55:33,589 --> 00:55:32,099

at any point we want

1237

00:55:34,910 --> 00:55:33,599

you just have to tell me where I want to

1238

00:55:37,370 --> 00:55:34,920

point it

1239

00:55:40,549 --> 00:55:37,380

second piece of that is a lot of what we

1240

00:55:41,809 --> 00:55:40,559

have is is around the continental United

1241

00:55:45,370 --> 00:55:41,819

States

1242

00:55:49,190 --> 00:55:45,380

most people including the government

1243

00:55:52,069 --> 00:55:49,200

don't like it when I point our entire

1244

00:55:55,849 --> 00:55:52,079

collection apparatus to your backyard

1245

00:55:57,589 --> 00:55:55,859

right it's it's not allowed we have some

1246

00:56:00,470 --> 00:55:57,599

laws about that and we've got to figure

1247

00:56:02,809 --> 00:56:00,480

out how to do this only in the areas

1248

00:56:05,450 --> 00:56:02,819

that that I can get high confidence

1249

00:56:07,490 --> 00:56:05,460

there's going to be something there

1250

00:56:09,829 --> 00:56:07,500

and high confidence I'm not going to

1251

00:56:11,809 --> 00:56:09,839

break any laws doing it

1252

00:56:13,910 --> 00:56:11,819

right so there's a there's a trade there

1253

00:56:16,370 --> 00:56:13,920

so some of these ground-based Point

1254

00:56:18,790 --> 00:56:16,380

detectors are going to be necessary for

1255

00:56:21,770 --> 00:56:18,800

that to point up to point out to search

1256

00:56:24,670 --> 00:56:21,780

coupled with we're evaluating a number

1257

00:56:27,490 --> 00:56:24,680

of sensor opportunities across different

1258

00:56:30,049 --> 00:56:27,500

organizations Academia

1259

00:56:32,750 --> 00:56:30,059

industry whatnot that that already exist

1260

00:56:34,849 --> 00:56:32,760

or are being built for similar purposes

1261

00:56:37,490 --> 00:56:34,859

or maybe other purposes that I might be

1262

00:56:39,829 --> 00:56:37,500

able to recalibrate for this

1263

00:56:42,170 --> 00:56:39,839

and see if those will have a chance of

1264

00:56:44,450 --> 00:56:42,180

of seeing that Target right so that's

1265

00:56:46,609 --> 00:56:44,460

where the modeling and Sim comes in can

1266

00:56:49,069 --> 00:56:46,619

I can I take that Target put it into

1267

00:56:54,890 --> 00:56:49,079

your sensor and have a chance of seeing

1268

00:56:54,900 --> 00:57:00,710

no wait who's next are you

1269

00:57:04,670 --> 00:57:03,109

um thanks Sean I have the questions you

1270

00:57:06,710 --> 00:57:04,680

probably don't want which are about

1271

00:57:07,849 --> 00:57:06,720

numbers unless I miss them during your

1272

00:57:09,950 --> 00:57:07,859

presentation

1273

00:57:11,270 --> 00:57:09,960

uh you had said that only a very small

1274

00:57:13,250 --> 00:57:11,280

percentage of your cases display

1275

00:57:14,990 --> 00:57:13,260

signatures that could be anomalous and

1276
00:57:17,049 --> 00:57:15,000
then follow that up with the few objects

1277
00:57:19,730 --> 00:57:17,059
that do demonstrate potentially

1278
00:57:21,829 --> 00:57:19,740
anomalous characteristics

1279
00:57:24,109 --> 00:57:21,839
what numbers are we talking about how

1280
00:57:26,329 --> 00:57:24,119
big is your database how many years was

1281
00:57:29,390 --> 00:57:26,339
it collected over and uh or those

1282
00:57:31,069 --> 00:57:29,400
observations made and then by few what

1283
00:57:35,210 --> 00:57:31,079
do you mean right no that's a great

1284
00:57:38,030 --> 00:57:35,220
question so this chart as I mentioned

1285
00:57:42,230 --> 00:57:38,040
we've updated with our current data

1286
00:57:43,930 --> 00:57:42,240
Holdings at the time of my open hearing

1287
00:57:47,150 --> 00:57:43,940
we were at

1288
00:57:50,290 --> 00:57:47,160

650 cases-ish

1289

00:57:53,930 --> 00:57:50,300

we are now over 800.

1290

00:57:57,710 --> 00:57:53,940

we are putting together our annual

1291

00:58:01,609 --> 00:57:57,720

report which will be due August 1. to

1292

00:58:03,589 --> 00:58:01,619

the hill and in it and there will be an

1293

00:58:05,930 --> 00:58:03,599

unclassified version as there always has

1294

00:58:07,270 --> 00:58:05,940

been we will have those updated numbers

1295

00:58:09,890 --> 00:58:07,280

at that time

1296

00:58:12,230 --> 00:58:09,900

we roughly get I mean you can do the

1297

00:58:15,849 --> 00:58:12,240

math you know it depends anywhere from

1298

00:58:19,370 --> 00:58:15,859

from 50 to

1299

00:58:21,349 --> 00:58:19,380

100-ish new reports a month now the

1300

00:58:24,109 --> 00:58:21,359

reason we had such a big jump recently

1301
00:58:26,210 --> 00:58:24,119
is because I got faa's data integrated

1302
00:58:29,870 --> 00:58:26,220
in finally and so we ended up with like

1303
00:58:31,670 --> 00:58:29,880
100 and some odd new cases

1304
00:58:34,609 --> 00:58:31,680
um so there's there's reason why it's

1305
00:58:36,710 --> 00:58:34,619
going to fluctuate the numbers that I

1306
00:58:38,510 --> 00:58:36,720
would say so

1307
00:58:40,430 --> 00:58:38,520
um

1308
00:58:42,410 --> 00:58:40,440
we're gonna we're gonna try to do a

1309
00:58:44,390 --> 00:58:42,420
little more uh

1310
00:58:47,270 --> 00:58:44,400
um Fidelity on some of the analytics

1311
00:58:51,410 --> 00:58:47,280
when we report out but the numbers I

1312
00:58:56,450 --> 00:58:51,420
would say that we see are

1313
00:58:59,510 --> 00:58:56,460

possibly really anomalous are less than

1314

00:59:02,210 --> 00:58:59,520

single digit percentages of those that

1315

00:59:09,130 --> 00:59:02,220

total database so maybe

1316

00:59:16,130 --> 00:59:13,190

all right

1317

00:59:17,510 --> 00:59:16,140

I'll stand up because I'm on the other

1318

00:59:19,370 --> 00:59:17,520

end of the room

1319

00:59:21,349 --> 00:59:19,380

um thanks Sean for your presentation and

1320

00:59:22,670 --> 00:59:21,359

for the some of the video footage that

1321

00:59:24,710 --> 00:59:22,680

we saw

1322

00:59:26,630 --> 00:59:24,720

um while we're all good scientists on

1323

00:59:28,549 --> 00:59:26,640

this panel I think that I look at it

1324

00:59:31,430 --> 00:59:28,559

with an untrained eye of looking at that

1325

00:59:33,530 --> 00:59:31,440

video and so I see three spots moving

1326
00:59:36,109 --> 00:59:33,540
and everything else in the background

1327
00:59:37,910 --> 00:59:36,119
looks like it's stable can you talk a

1328
00:59:39,470 --> 00:59:37,920
little bit more about either the sensor

1329
00:59:41,390 --> 00:59:39,480
platform or what we're seeing that's

1330
00:59:43,670 --> 00:59:41,400
stable in the background because they've

1331
00:59:47,030 --> 00:59:43,680
been identified as airplanes

1332
00:59:49,549 --> 00:59:47,040
um and there's clear description of of

1333
00:59:51,950 --> 00:59:49,559
from other data sources that came in to

1334
00:59:54,470 --> 00:59:51,960
help clarify that but when I look at

1335
00:59:55,609 --> 00:59:54,480
this what are all of the white spots in

1336
00:59:56,750 --> 00:59:55,619
the background that we're seeing that

1337
00:59:59,569 --> 00:59:56,760
are stable

1338
01:00:01,549 --> 00:59:59,579

so those are these that's a star

1339

01:00:08,630 --> 01:00:01,559

background

1340

01:00:11,329 --> 01:00:08,640

now so you're looking at those planes

1341

01:00:13,089 --> 01:00:11,339

were roughly

1342

01:00:16,309 --> 01:00:13,099

um

1343

01:00:18,410 --> 01:00:16,319

30 to 40-ish miles away if I remember

1344

01:00:20,770 --> 01:00:18,420

correctly and when you see that smaller

1345

01:00:24,650 --> 01:00:20,780

plane that comes in at the bottom

1346

01:00:25,910 --> 01:00:24,660

uh that one was much much closer it was

1347

01:00:29,690 --> 01:00:25,920

like maybe

1348

01:00:33,470 --> 01:00:29,700

six to ten miles away

1349

01:00:38,230 --> 01:00:33,480

right and so the Jitter in the sensor is

1350

01:00:42,770 --> 01:00:41,089

right okay so the three spots because

1351

01:00:46,430 --> 01:00:42,780

they look like they're moving at about

1352

01:00:49,609 --> 01:00:46,440

the same right they are right and and if

1353

01:00:52,010 --> 01:00:49,619

they were flying together but they're

1354

01:00:55,190 --> 01:00:52,020

not is what I'm hearing they're in the

1355

01:00:57,109 --> 01:00:55,200

center they're in a flight line right so

1356

01:00:59,630 --> 01:00:57,119

they're equally spaced in a flight line

1357

01:01:05,650 --> 01:00:59,640

and the sensor is jittering thank you

1358

01:01:10,549 --> 01:01:08,030

hey if you go to your first slide if you

1359

01:01:13,670 --> 01:01:10,559

don't mind not the title slide but the

1360

01:01:16,069 --> 01:01:13,680

the trends the trends yeah

1361

01:01:17,809 --> 01:01:16,079

um it's the previous slide there you go

1362

01:01:19,010 --> 01:01:17,819

thank you so

1363

01:01:20,809 --> 01:01:19,020

I want to make sure I understand the

1364

01:01:22,490 --> 01:01:20,819

slide it says typically reported

1365

01:01:24,490 --> 01:01:22,500

characteristics and there are a bunch of

1366

01:01:28,130 --> 01:01:24,500

things here like for example size

1367

01:01:31,010 --> 01:01:28,140

altitude speed if it's being observed

1368

01:01:33,829 --> 01:01:31,020

from a single sensor

1369

01:01:35,210 --> 01:01:33,839

use the example of like the airplanes

1370

01:01:36,589 --> 01:01:35,220

that were coming in and if you don't

1371

01:01:38,390 --> 01:01:36,599

know how far away they are how do you

1372

01:01:39,829 --> 01:01:38,400

assess the size how do you assess the

1373

01:01:40,789 --> 01:01:39,839

speed

1374

01:01:43,250 --> 01:01:40,799

um

1375

01:01:45,470 --> 01:01:43,260

this is what people would report but it

1376

01:01:47,030 --> 01:01:45,480

isn't necessarily what is the real size

1377

01:01:49,549 --> 01:01:47,040

of the object or the speed or anything

1378

01:01:52,789 --> 01:01:49,559

do I understand that correctly

1379

01:01:55,490 --> 01:01:52,799

partially okay so you this is not all

1380

01:01:58,210 --> 01:01:55,500

single sensor observations some of these

1381

01:02:02,329 --> 01:01:58,220

are very much multi-sensor observations

1382

01:02:04,789 --> 01:02:02,339

and this is parameterized to cover the

1383

01:02:07,970 --> 01:02:04,799

range of things for any given parameter

1384

01:02:08,870 --> 01:02:07,980

the range of of what's possible and what

1385

01:02:12,049 --> 01:02:08,880

is

1386

01:02:14,990 --> 01:02:12,059

been observed okay and then on the next

1387

01:02:17,450 --> 01:02:15,000

Slide the one where you've got the or is

1388

01:02:19,250 --> 01:02:17,460

the meatball moving across the the

1389

01:02:20,089 --> 01:02:19,260

screen that one

1390

01:02:22,510 --> 01:02:20,099

um

1391

01:02:26,690 --> 01:02:22,520

so

1392

01:02:30,609 --> 01:02:26,700

was there any look at

1393

01:02:32,930 --> 01:02:30,619

sensor artifact data processing artifact

1394

01:02:34,970 --> 01:02:32,940

I mean

1395

01:02:37,130 --> 01:02:34,980

the first thing that whenever I say

1396

01:02:39,650 --> 01:02:37,140

anything that's an obelisk I look at how

1397

01:02:43,309 --> 01:02:39,660

is the data collected yeah

1398

01:02:45,770 --> 01:02:43,319

so yes these are these are so this is an

1399

01:02:49,809 --> 01:02:45,780

EO sensor on an MQ-9

1400

01:02:53,150 --> 01:02:49,819

and we understand that very very well

1401

01:03:02,829 --> 01:02:53,160

that is that is a real object

1402

01:03:09,349 --> 01:03:06,650

and you will also use AI techniques or

1403

01:03:12,230 --> 01:03:09,359

existing data sets or possibly some of

1404

01:03:14,569 --> 01:03:12,240

them open source can you explain a

1405

01:03:16,250 --> 01:03:14,579

little bit more what kind of AI ml

1406

01:03:19,849 --> 01:03:16,260

techniques you are using

1407

01:03:22,130 --> 01:03:19,859

um is about anomaly detection or using

1408

01:03:24,230 --> 01:03:22,140

anything related to mentality processing

1409

01:03:26,150 --> 01:03:24,240

or using anything related to computer

1410

01:03:28,490 --> 01:03:26,160

vision

1411

01:03:29,690 --> 01:03:28,500

so we're looking at a number of

1412

01:03:31,910 --> 01:03:29,700

different

1413

01:03:34,750 --> 01:03:31,920

capabilities that span I think a lot of

1414

01:03:37,849 --> 01:03:34,760

what you've just said so we've got

1415

01:03:39,890 --> 01:03:37,859

uh we haven't applied it yet we are

1416

01:03:42,410 --> 01:03:39,900

researching how we're going to apply it

1417

01:03:45,950 --> 01:03:42,420

so natural language processing for the

1418

01:03:48,650 --> 01:03:45,960

reports from Pilots absolutely all right

1419

01:03:51,530 --> 01:03:48,660

Target recognition so I can train a

1420

01:03:54,049 --> 01:03:51,540

model to look for that thing and go back

1421

01:03:57,049 --> 01:03:54,059

through all of our Holdings and go give

1422

01:03:58,370 --> 01:03:57,059

me how many of these you have right

1423

01:04:02,210 --> 01:03:58,380

and then try to figure out what those

1424

01:04:04,190 --> 01:04:02,220

are so I have not put anything out there

1425

01:04:06,890 --> 01:04:04,200

yet or have not looked at anything yet

1426

01:04:10,970 --> 01:04:06,900

for

1427

01:04:13,609 --> 01:04:10,980

um active targeting in real time because

1428

01:04:15,770 --> 01:04:13,619

I don't know exactly what I would train

1429

01:04:18,470 --> 01:04:15,780

it to go look for I just know what we

1430

01:04:21,230 --> 01:04:18,480

have so I want to get more confidence on

1431

01:04:24,349 --> 01:04:21,240

what we have before I go and do that

1432

01:04:26,329 --> 01:04:24,359

except for balloons right we're trying

1433

01:04:31,670 --> 01:04:26,339

to get rid of balloons as quickly as

1434

01:04:34,910 --> 01:04:33,650

so Sean I just wanted to begin by

1435

01:04:36,230 --> 01:04:34,920

thanking you for your service to this

1436

01:04:37,730 --> 01:04:36,240

nation and this committee you don't

1437

01:04:40,190 --> 01:04:37,740

exactly have the easiest job in

1438

01:04:41,930 --> 01:04:40,200

Washington no I do not appreciate it I'm

1439

01:04:44,809 --> 01:04:41,940

glad I don't recognize that

1440

01:04:46,730 --> 01:04:44,819

certainly do I also want to commend you

1441

01:04:49,069 --> 01:04:46,740

noting the international Partnerships

1442

01:04:50,690 --> 01:04:49,079

Spain just signed the Artemis Accords

1443

01:04:53,329 --> 01:04:50,700

yesterday the increasing the membership

1444

01:04:55,430 --> 01:04:53,339

to 25 I think that's a global

1445

01:04:58,250 --> 01:04:55,440

partnership that you could leverage only

1446

01:05:02,390 --> 01:04:58,260

170 more countries to go now everyone

1447

01:05:04,490 --> 01:05:02,400

signed up I just have two questions one

1448

01:05:08,510 --> 01:05:04,500

relative to what Nadia was asking about

1449

01:05:10,730 --> 01:05:08,520

the number of anomalous phenomena what

1450

01:05:12,470 --> 01:05:10,740

makes it anomalous in your view what is

1451

01:05:15,490 --> 01:05:12,480

the phenomenology where you're pulling

1452

01:05:17,870 --> 01:05:15,500

those cases out and saying this is truly

1453

01:05:20,089 --> 01:05:17,880

unexplained and then my second question

1454

01:05:22,730 --> 01:05:20,099

would be relative to the stigma how

1455

01:05:24,589 --> 01:05:22,740

damaging is that in your view and what

1456

01:05:27,470 --> 01:05:24,599

in particular do you think NASA can do

1457

01:05:28,970 --> 01:05:27,480

to help remedy the situation

1458

01:05:30,950 --> 01:05:28,980

that's a great question so I'm going to

1459

01:05:33,010 --> 01:05:30,960

take the second one first because I know

1460

01:05:35,690 --> 01:05:33,020

we're getting short on time

1461

01:05:38,510 --> 01:05:35,700

the the stigma has improved

1462

01:05:41,329 --> 01:05:38,520

significantly over the years since the

1463

01:05:42,589 --> 01:05:41,339

Navy first took this on um some years

1464

01:05:45,410 --> 01:05:42,599

ago

1465

01:05:48,730 --> 01:05:45,420

it is not gone and in fact I would argue

1466

01:05:51,349 --> 01:05:48,740

the stigma exists inside

1467

01:05:55,910 --> 01:05:51,359

the leadership of all of our our

1468

01:05:57,170 --> 01:05:55,920

buildings right wherever that is

1469

01:05:59,809 --> 01:05:57,180

um

1470

01:06:02,450 --> 01:05:59,819

uh my team and I have also been subject

1471

01:06:05,329 --> 01:06:02,460

to lots of harassment especially coming

1472

01:06:07,250 --> 01:06:05,339

out of my last hearing because people

1473

01:06:09,410 --> 01:06:07,260

don't understand the scientific method

1474

01:06:10,789 --> 01:06:09,420

and why it does why we have to do the

1475

01:06:12,890 --> 01:06:10,799

things we have to do

1476

01:06:15,410 --> 01:06:12,900

right and because we can't just come out

1477

01:06:17,690 --> 01:06:15,420

and say you know the greatest the

1478

01:06:19,370 --> 01:06:17,700

greatest thing that could happen to me

1479

01:06:21,710 --> 01:06:19,380

is I could come out and say hey I know

1480

01:06:24,170 --> 01:06:21,720

where all these things are here you go

1481

01:06:27,289 --> 01:06:24,180

right but I don't right and it's going

1482

01:06:28,069 --> 01:06:27,299

to take us time to research all that

1483

01:06:32,210 --> 01:06:28,079

um

1484

01:06:34,809 --> 01:06:32,220

when people want answers now and so they

1485

01:06:38,329 --> 01:06:34,819

are they're actually feeding the stigma

1486

01:06:40,970 --> 01:06:38,339

by by exhibiting that kind of behavior

1487

01:06:43,430 --> 01:06:40,980

to all of us right that is that is a bad

1488

01:06:46,010 --> 01:06:43,440

thing where can NASA help I made that

1489

01:06:48,109 --> 01:06:46,020

recommendation on NASA should lead the

1490

01:06:49,609 --> 01:06:48,119

scientific discourse we need to elevate

1491

01:06:51,349 --> 01:06:49,619

this conversation

1492

01:06:54,289 --> 01:06:51,359

all right we need to have this

1493

01:06:56,210 --> 01:06:54,299

conversation in an open environment like

1494

01:06:57,289 --> 01:06:56,220

this where we aren't going to get

1495

01:06:59,870 --> 01:06:57,299

harassed

1496

01:07:01,490 --> 01:06:59,880

because this is a hard problem that is a

1497

01:07:04,789 --> 01:07:01,500

hard target problem we need to

1498

01:07:07,609 --> 01:07:04,799

understand what is the things that are

1499

01:07:10,069 --> 01:07:07,619

in all of our domains Ace or air or

1500

01:07:12,710 --> 01:07:10,079

undersea and how do we make sense of

1501
01:07:18,829 --> 01:07:15,529
um your first question on what makes it

1502
01:07:21,049 --> 01:07:18,839
anomalous to me we actually developed

1503
01:07:22,849 --> 01:07:21,059
some definitions on all of these things

1504
01:07:24,589 --> 01:07:22,859
we gave it both to the White House and

1505
01:07:26,630 --> 01:07:24,599
to Congress I think we've got some of

1506
01:07:29,390 --> 01:07:26,640
that into law now but essentially

1507
01:07:30,490 --> 01:07:29,400
anomalous is anything that is not

1508
01:07:34,069 --> 01:07:30,500
readily

1509
01:07:37,430 --> 01:07:34,079
understandable by the operator or the

1510
01:07:42,170 --> 01:07:40,250
right so it is doing something weird

1511
01:07:45,109 --> 01:07:42,180
whether that's maneuvering

1512
01:07:48,289 --> 01:07:45,119
Against the Wind and Mach 2 with no

1513
01:07:48,950 --> 01:07:48,299

apparent propulsion or it's

1514

01:07:52,309 --> 01:07:48,960

um

1515

01:07:53,809 --> 01:07:52,319

going into the water which we have we

1516

01:07:55,910 --> 01:07:53,819

have shown is not the case that is

1517

01:07:58,309 --> 01:07:55,920

actually a sensor anomaly

1518

01:08:00,950 --> 01:07:58,319

um that we've now figured out and we're

1519

01:08:03,950 --> 01:08:00,960

going to be publishing all that

1520

01:08:08,569 --> 01:08:03,960

um you know those kinds of things

1521

01:08:11,150 --> 01:08:08,579

make anomalous signature uh we'll call

1522

01:08:12,349 --> 01:08:11,160

it signature management but it's things

1523

01:08:15,669 --> 01:08:12,359

that are

1524

01:08:20,390 --> 01:08:18,769

readily understandable in the context of

1525

01:08:21,410 --> 01:08:20,400

hey I've got a thing that's out in the

1526

01:08:23,329 --> 01:08:21,420

light

1527

01:08:24,169 --> 01:08:23,339

it should reflect a certain amount of

1528

01:08:25,789 --> 01:08:24,179

light

1529

01:08:29,749 --> 01:08:25,799

if it doesn't reflect that amount of

1530

01:08:32,870 --> 01:08:31,010

I think we have time for one last

1531

01:08:35,150 --> 01:08:32,880

question

1532

01:08:37,849 --> 01:08:35,160

John you recommended

1533

01:08:40,729 --> 01:08:37,859

foreign partnership with NASA I'm

1534

01:08:42,169 --> 01:08:40,739

curious especially given your map uh

1535

01:08:43,729 --> 01:08:42,179

have you as era partnered with

1536

01:08:47,689 --> 01:08:43,739

International agencies and those are

1537

01:08:49,610 --> 01:08:47,699

ways for re according to your

1538

01:08:51,950 --> 01:08:49,620

so that's that's a great question I want

1539

01:08:56,090 --> 01:08:51,960

to expound on that just a little bit so

1540

01:08:59,390 --> 01:08:56,100

I have just held uh our first five eyes

1541

01:09:01,610 --> 01:08:59,400

Forum on this subject

1542

01:09:04,550 --> 01:09:01,620

um last week I think it was or earlier

1543

01:09:06,110 --> 01:09:04,560

this week I don't know Dan was there uh

1544

01:09:08,630 --> 01:09:06,120

and we

1545

01:09:11,150 --> 01:09:08,640

have ex you know we've we've entered

1546

01:09:13,430 --> 01:09:11,160

into discussions with our partners on

1547

01:09:15,470 --> 01:09:13,440

data sharing how do they do reporting

1548

01:09:17,450 --> 01:09:15,480

what kind of analysis can they help us

1549

01:09:19,249 --> 01:09:17,460

with what kind of calibration can they

1550

01:09:21,650 --> 01:09:19,259

help us with what can we help them with

1551

01:09:23,150 --> 01:09:21,660

and we're establishing all of that right

1552

01:09:26,990 --> 01:09:23,160

now

1553

01:09:29,809 --> 01:09:27,000

sending their information and data to us

1554

01:09:31,970 --> 01:09:29,819

to feed into the process that we've laid

1555

01:09:34,010 --> 01:09:31,980

out for how we're going to to do all

1556

01:09:34,910 --> 01:09:34,020

this

1557

01:09:38,090 --> 01:09:34,920

um

1558

01:09:40,309 --> 01:09:38,100

beyond that I have not had either the

1559

01:09:43,550 --> 01:09:40,319

time or the bandwidth to do and that's

1560

01:09:45,249 --> 01:09:43,560

why I would look to NASA to expand the

1561

01:09:47,870 --> 01:09:45,259

scientific and and

1562

01:09:51,289 --> 01:09:47,880

academic relationships that they have

1563

01:09:54,470 --> 01:09:51,299

across all of our allies and partners on

1564

01:09:56,930 --> 01:09:54,480

how can we bring them into the fold

1565

01:10:01,010 --> 01:09:56,940

that's where I think there's a lot of

1566

01:10:06,770 --> 01:10:04,570

um great uh thank you but um one just

1567

01:10:09,950 --> 01:10:06,780

clarifications for people who don't know

1568

01:10:11,150 --> 01:10:09,960

what are the five eyes oh I'm sorry uh

1569

01:10:13,189 --> 01:10:11,160

for those of you that aren't familiar

1570

01:10:16,130 --> 01:10:13,199

with the five eyes those are uh that's

1571

01:10:17,990 --> 01:10:16,140

the UK Canada

1572

01:10:21,290 --> 01:10:18,000

um Australia New Zealand and the United

1573

01:10:31,910 --> 01:10:21,300

States so those are the five partners

1574

01:10:38,450 --> 01:10:33,950

so our next presentation is from Mike

1575

01:10:46,090 --> 01:10:38,460

free on from the FAA talking about the

1576

01:10:50,030 --> 01:10:48,350

would like to thank the panel for the

1577

01:10:52,370 --> 01:10:50,040

opportunity to come and give an overview

1578

01:10:55,850 --> 01:10:52,380

of the FAA and and some data points

1579

01:10:58,430 --> 01:10:55,860

around the faa's mission the data the fa

1580

01:11:00,950 --> 01:10:58,440

provides to provide the framing of what

1581

01:11:03,229 --> 01:11:00,960

are the surveillance systems that we can

1582

01:11:05,689 --> 01:11:03,239

bring to bear or there's data around

1583

01:11:07,790 --> 01:11:05,699

Those sensors as well as to frame the

1584

01:11:09,470 --> 01:11:07,800

limitations of those I know Sean talked

1585

01:11:11,630 --> 01:11:09,480

about some of the data points that uh

1586

01:11:12,770 --> 01:11:11,640

that are used and being integrated so

1587

01:11:15,350 --> 01:11:12,780

hopefully this will give you an overview

1588

01:11:18,649 --> 01:11:15,360

of the fa's mission as well as as well

1589

01:11:20,990 --> 01:11:18,659

as that they provide talking about I'd

1590

01:11:24,470 --> 01:11:21,000

like to think around the faa's mission

1591

01:11:25,910 --> 01:11:24,480

the data the fa provides to provide the

1592

01:11:28,610 --> 01:11:25,920

framing of what are the surveillance

1593

01:11:31,010 --> 01:11:28,620

systems that we can bring to bear or

1594

01:11:33,350 --> 01:11:31,020

there's data around Those sensors as

1595

01:11:34,970 --> 01:11:33,360

well as to frame the limitations of

1596

01:11:37,070 --> 01:11:34,980

those I know Sean talked about some of

1597

01:11:38,870 --> 01:11:37,080

the data points that uh that are used

1598

01:11:40,310 --> 01:11:38,880

and being integrated so hopefully this

1599

01:11:42,950 --> 01:11:40,320

will give you an overview of the fa's

1600

01:11:46,669 --> 01:11:42,960

mission as well as as well as those data

1601

01:11:52,490 --> 01:11:49,729

so the the fa's mission is is quite

1602

01:11:55,189 --> 01:11:52,500

large and complex by by a factor of two

1603

01:11:57,410 --> 01:11:55,199

we operate uh more commercial aircraft

1604

01:11:59,630 --> 01:11:57,420

than any other country I think we're

1605

01:12:01,490 --> 01:11:59,640

second only to Australia in total

1606

01:12:04,370 --> 01:12:01,500

airspace but largely because Australia

1607

01:12:06,709 --> 01:12:04,380

has a very large Oceanic volume that

1608

01:12:09,709 --> 01:12:06,719

they're responsible for for managing so

1609

01:12:11,090 --> 01:12:09,719

it is a very complex very large National

1610

01:12:13,070 --> 01:12:11,100

airspace system

1611

01:12:16,010 --> 01:12:13,080

uh we have four over fourteen thousand

1612

01:12:19,510 --> 01:12:16,020

controllers uh 520 Air Traffic Control

1613

01:12:23,149 --> 01:12:19,520

Towers which are located at the the

1614

01:12:24,890 --> 01:12:23,159

highest density of airports and I've

1615

01:12:26,630 --> 01:12:24,900

referred to those as towers and and

1616

01:12:29,990 --> 01:12:26,640

subsequent slides

1617

01:12:32,149 --> 01:12:30,000

we have 147 what we call terminal radar

1618

01:12:36,470 --> 01:12:32,159

approach controls or tracons and those

1619

01:12:38,510 --> 01:12:36,480

are manned control facilities at the

1620

01:12:41,149 --> 01:12:38,520

high and medium density airports around

1621

01:12:43,490 --> 01:12:41,159

the nation as well as 21 air Route

1622

01:12:45,709 --> 01:12:43,500

traffic control centers which are which

1623

01:12:47,450 --> 01:12:45,719

manage the control of air traffic in the

1624

01:12:50,990 --> 01:12:47,460

en route environment

1625

01:12:53,510 --> 01:12:51,000

there's 19 000 over 19 000 airports five

1626
01:12:56,149 --> 01:12:53,520
thousand over five thousand of those are

1627
01:12:58,970 --> 01:12:56,159
associated to public airports uh with

1628
01:13:00,830 --> 01:12:58,980
the remaining 14 000 plus private

1629
01:13:05,090 --> 01:13:00,840
airports

1630
01:13:10,850 --> 01:13:08,270
so the faa's mission is primarily around

1631
01:13:13,010 --> 01:13:10,860
safe and efficient control of manned

1632
01:13:14,990 --> 01:13:13,020
aircraft that has been our historical

1633
01:13:17,510 --> 01:13:15,000
Mission and it remains our primary

1634
01:13:19,850 --> 01:13:17,520
Mission uh certainly as we talk about a

1635
01:13:21,709 --> 01:13:19,860
new entrance with uas's and Advanced Air

1636
01:13:24,470 --> 01:13:21,719
mobility and some of those things there

1637
01:13:26,689 --> 01:13:24,480
will be an evolution of the fa's mission

1638
01:13:30,590 --> 01:13:26,699

to include safe operation of the nas

1639

01:13:33,229 --> 01:13:30,600

with those those new entrants but the

1640

01:13:35,870 --> 01:13:33,239

architecture and design of the Nas is is

1641

01:13:39,010 --> 01:13:35,880

geared around safe and efficient control

1642

01:13:42,530 --> 01:13:39,020

of aircraft and manned aircraft

1643

01:13:44,149 --> 01:13:42,540

the certainly the the commercial aspect

1644

01:13:45,890 --> 01:13:44,159

the commercial flights are a primary

1645

01:13:50,390 --> 01:13:45,900

focus of the agency we certainly support

1646

01:13:52,729 --> 01:13:50,400

general aviation and flights as well

1647

01:13:54,590 --> 01:13:52,739

um but again our mission is around main

1648

01:13:57,350 --> 01:13:54,600

aircraft and safe and an efficient

1649

01:14:01,370 --> 01:13:57,360

operation of those

1650

01:14:06,110 --> 01:14:01,380

um the uh by the Numbers over 16 million

1651

01:14:08,750 --> 01:14:06,120

flights yearly 5400 flights uh at Peak

1652

01:14:10,970 --> 01:14:08,760

any given at the peak time of any given

1653

01:14:14,990 --> 01:14:10,980

day uh 45

1654

01:14:18,669 --> 01:14:15,000

000 daily flights 25 million GA flight

1655

01:14:21,410 --> 01:14:18,679

hours per year a very large very complex

1656

01:14:24,229 --> 01:14:21,420

operation that that we're responsible

1657

01:14:26,390 --> 01:14:24,239

for managing I was certainly providing a

1658

01:14:28,550 --> 01:14:26,400

significant contribution to to that for

1659

01:14:32,750 --> 01:14:28,560

that service to to the nation in the

1660

01:14:36,770 --> 01:14:32,760

form of uh you know product toward a GDP

1661

01:14:41,750 --> 01:14:39,890

so as we get into the discussion of

1662

01:14:43,910 --> 01:14:41,760

surveillance Services I want to provide

1663

01:14:45,410 --> 01:14:43,920

a little bit of framework around the

1664

01:14:47,870 --> 01:14:45,420

categorization of our surveillance

1665

01:14:50,630 --> 01:14:47,880

services and we primarily break those

1666

01:14:52,970 --> 01:14:50,640

into two two bodies The Cooperative

1667

01:14:55,490 --> 01:14:52,980

surveillance which is defined by an a

1668

01:14:57,530 --> 01:14:55,500

sensor that's avionics or equipment on

1669

01:15:00,950 --> 01:14:57,540

board the aircraft that works in

1670

01:15:03,649 --> 01:15:00,960

conjunction with ground-based sensors

1671

01:15:05,510 --> 01:15:03,659

the non-cooperative surveillance is

1672

01:15:07,790 --> 01:15:05,520

independent this is basically the

1673

01:15:10,610 --> 01:15:07,800

classic radar RF energy is transmitted

1674

01:15:12,410 --> 01:15:10,620

out reflects off the Target and we

1675

01:15:14,510 --> 01:15:12,420

receive that signal and from that return

1676
01:15:16,610 --> 01:15:14,520
we can determine where that their their

1677
01:15:18,709 --> 01:15:16,620
that aircraft is

1678
01:15:20,510 --> 01:15:18,719
typically these cooperative and

1679
01:15:23,209 --> 01:15:20,520
non-cooperative sensors are co-located

1680
01:15:25,729 --> 01:15:23,219
together uh one The Cooperative amounted

1681
01:15:27,470 --> 01:15:25,739
on top of the non-cooperative radar

1682
01:15:30,050 --> 01:15:27,480
so for the purpose from a data

1683
01:15:32,689 --> 01:15:30,060
perspective I think in this panel in the

1684
01:15:36,290 --> 01:15:32,699
study I I think that the Cooperative

1685
01:15:39,530 --> 01:15:36,300
sensors those are neither unknown or

1686
01:15:41,149 --> 01:15:39,540
anomalous so for the purposes of this

1687
01:15:43,189 --> 01:15:41,159
this briefing or the rest of this

1688
01:15:46,130 --> 01:15:43,199

briefing I'm going to focus on the the

1689

01:15:50,570 --> 01:15:46,140

non-cooperative aspect

1690

01:15:56,510 --> 01:15:54,169

so the again from the standpoint of the

1691

01:15:58,669 --> 01:15:56,520

mission of the FAA around it again is is

1692

01:16:00,350 --> 01:15:58,679

primarily around demand aircraft and I

1693

01:16:03,169 --> 01:16:00,360

think that serves as an important

1694

01:16:04,729 --> 01:16:03,179

framework for the data points and the

1695

01:16:06,590 --> 01:16:04,739

type of data that we can bring to bear

1696

01:16:09,410 --> 01:16:06,600

for this panel

1697

01:16:10,930 --> 01:16:09,420

so we break our our systems and the

1698

01:16:13,310 --> 01:16:10,940

design of the systems into different

1699

01:16:16,149 --> 01:16:13,320

types of systems so we have short range

1700

01:16:20,090 --> 01:16:16,159

Radars which are typically located at

1701

01:16:22,370 --> 01:16:20,100

the high and medium density airports and

1702

01:16:24,410 --> 01:16:22,380

those operate from a range I have a

1703

01:16:26,810 --> 01:16:24,420

detection range between 40 and 60 miles

1704

01:16:29,270 --> 01:16:26,820

and an altitude detection capability of

1705

01:16:31,790 --> 01:16:29,280

about 24 000 feet

1706

01:16:33,770 --> 01:16:31,800

the long-range radar systems have a

1707

01:16:37,430 --> 01:16:33,780

detection range of 2 to 250 nautical

1708

01:16:39,530 --> 01:16:37,440

miles with altitude detection up to 100

1709

01:16:42,290 --> 01:16:39,540

000 feet so that provides the basic the

1710

01:16:44,870 --> 01:16:42,300

framework for for those I will mention

1711

01:16:47,689 --> 01:16:44,880

the automatic dependence surveillance

1712

01:16:50,390 --> 01:16:47,699

broadcaster adsb only from a context

1713

01:16:52,550 --> 01:16:50,400

that that does serve as a primary data

1714

01:16:53,930 --> 01:16:52,560

source and a preferred data source for

1715

01:16:56,630 --> 01:16:53,940

the management of the airspace system

1716

01:16:58,790 --> 01:16:56,640

but it is a Cooperative system and for

1717

01:17:00,470 --> 01:16:58,800

the purposes of the next slides as I get

1718

01:17:03,050 --> 01:17:00,480

into the discussion of the coverage and

1719

01:17:05,630 --> 01:17:03,060

the type of detection for those

1720

01:17:08,149 --> 01:17:05,640

non-cooperative targets it is not

1721

01:17:11,450 --> 01:17:08,159

considered as part of those

1722

01:17:12,890 --> 01:17:11,460

and also surface surveillance is also

1723

01:17:14,930 --> 01:17:12,900

something that we provide but again for

1724

01:17:16,189 --> 01:17:14,940

the purpose of the study I only include

1725

01:17:19,490 --> 01:17:16,199

those for just a completeness

1726

01:17:25,610 --> 01:17:22,370

the one final Point as I talk about

1727

01:17:28,189 --> 01:17:25,620

manned aircraft and primary mission

1728

01:17:30,470 --> 01:17:28,199

for the

1729

01:17:33,590 --> 01:17:30,480

drones and balloons and things of that

1730

01:17:36,110 --> 01:17:33,600

nature their basic premise is to operate

1731

01:17:37,729 --> 01:17:36,120

in a not to interfere basis that they

1732

01:17:40,250 --> 01:17:37,739

are not to interfere with manned

1733

01:17:42,649 --> 01:17:40,260

operations and that's that's a

1734

01:17:44,870 --> 01:17:42,659

fundamental aspect as we talk to the

1735

01:17:47,990 --> 01:17:44,880

data and what we can and can detect with

1736

01:17:49,970 --> 01:17:48,000

respect to those non-band non-man

1737

01:17:53,750 --> 01:17:49,980

systems

1738

01:17:57,669 --> 01:17:55,910

realizing this is an eye chart this I

1739

01:18:00,410 --> 01:17:57,679

would wanted to provide just a a

1740

01:18:02,750 --> 01:18:00,420

graphical or pictorial depiction of

1741

01:18:06,410 --> 01:18:02,760

where our sensors are located

1742

01:18:07,430 --> 01:18:06,420

the green blue and pink balloons if you

1743

01:18:09,950 --> 01:18:07,440

will

1744

01:18:13,490 --> 01:18:09,960

uh represent our short range Radars

1745

01:18:16,550 --> 01:18:13,500

those are are located at airports those

1746

01:18:20,149 --> 01:18:16,560

are where those are are cited

1747

01:18:22,610 --> 01:18:20,159

the uh the two reddish balloons they

1748

01:18:25,010 --> 01:18:22,620

have letters in them a four and a c

1749

01:18:27,890 --> 01:18:25,020

those represent our long-range Radars

1750

01:18:31,070 --> 01:18:27,900

the rc4s and Karcher systems that are

1751

01:18:32,870 --> 01:18:31,080

used in in the context of both from an

1752

01:18:35,030 --> 01:18:32,880

air traffic control perspective as well

1753

01:18:37,370 --> 01:18:35,040

as for a National Defense and Homeland

1754

01:18:39,130 --> 01:18:37,380

Security mission

1755

01:18:42,050 --> 01:18:39,140

and the the

1756

01:18:43,370 --> 01:18:42,060

perimeter the Archer fours are located

1757

01:18:45,709 --> 01:18:43,380

around the perimeter of the country

1758

01:18:49,330 --> 01:18:45,719

equally spaced and the karcer systems

1759

01:18:52,370 --> 01:18:49,340

are located on the interior of of the US

1760

01:18:55,850 --> 01:18:52,380

I will point out that this only depicts

1761

01:18:57,169 --> 01:18:55,860

the conus there are systems atcs both

1762

01:19:02,090 --> 01:18:57,179

short-range and long-range systems

1763

01:19:04,250 --> 01:19:02,100

Hawaii Alaska and Caribbean those are

1764

01:19:07,310 --> 01:19:04,260

not depicted here I don't think they're

1765

01:19:09,709 --> 01:19:07,320

necessary for the uh the purpose of

1766

01:19:11,930 --> 01:19:09,719

understanding the surveillance and I

1767

01:19:13,610 --> 01:19:11,940

will also point out that both for this

1768

01:19:16,610 --> 01:19:13,620

slide and the subsequent coverage slide

1769

01:19:21,050 --> 01:19:16,620

we I do not talk to any classified DOD

1770

01:19:28,010 --> 01:19:21,060

or DHA systems than an operation

1771

01:19:34,550 --> 01:19:30,890

so what it is what can the fa detect and

1772

01:19:38,030 --> 01:19:34,560

surveil what can can we not this slide

1773

01:19:39,590 --> 01:19:38,040

gives you a buy altitude slice of what

1774

01:19:41,630 --> 01:19:39,600

it is that we can detect so if you look

1775

01:19:43,550 --> 01:19:41,640

at the the

1776

01:19:44,810 --> 01:19:43,560

Square that's labeled a thousand foot

1777

01:19:48,169 --> 01:19:44,820

AGL

1778

01:19:50,750 --> 01:19:48,179

that depicts by sensor for an aircraft

1779

01:19:53,090 --> 01:19:50,760

that is a thousand feet in altitude what

1780

01:19:54,410 --> 01:19:53,100

is the range at which we can detect that

1781

01:19:57,110 --> 01:19:54,420

aircraft

1782

01:19:59,030 --> 01:19:57,120

and so on as you you get higher in

1783

01:20:02,209 --> 01:19:59,040

altitude

1784

01:20:03,709 --> 01:20:02,219

detect it at further range and that's

1785

01:20:05,030 --> 01:20:03,719

basically a phenomenon of the curvature

1786

01:20:08,030 --> 01:20:05,040

of the earth and the line of sight

1787

01:20:10,550 --> 01:20:08,040

aspect of these these radar systems so

1788

01:20:14,450 --> 01:20:10,560

pretty good coverage across the the us

1789

01:20:17,450 --> 01:20:14,460

at 10 000 feet and above

1790

01:20:19,669 --> 01:20:17,460

this is a mathematical model based of a

1791

01:20:21,290 --> 01:20:19,679

pure line of sight as well as some

1792

01:20:23,570 --> 01:20:21,300

geographical screening as you can see in

1793

01:20:25,250 --> 01:20:23,580

the western part of the U.S there are

1794

01:20:29,090 --> 01:20:25,260

there is screening and due to the

1795

01:20:34,130 --> 01:20:30,649

need to take a little bit of time and

1796

01:20:36,910 --> 01:20:34,140

talk about the the nature of the targets

1797

01:20:40,910 --> 01:20:36,920

these line of sight models

1798

01:20:43,189 --> 01:20:40,920

represent an input of a Target that is

1799

01:20:45,590 --> 01:20:43,199

one square meter so think of a sphere of

1800

01:20:47,330 --> 01:20:45,600

one meter in diameter that's the

1801
01:20:49,010 --> 01:20:47,340
assumption that goes into these models

1802
01:20:51,770 --> 01:20:49,020
so if you think about that in the

1803
01:20:55,130 --> 01:20:51,780
context of other forms or aircraft a

1804
01:20:56,689 --> 01:20:55,140
fourth generation F-15 or F-18 is in the

1805
01:20:59,270 --> 01:20:56,699
product proximity of about one square

1806
01:21:01,970 --> 01:20:59,280
meter perhaps a little bit larger a

1807
01:21:02,990 --> 01:21:01,980
large airliner is perhaps a 100 square

1808
01:21:05,570 --> 01:21:03,000
meters

1809
01:21:08,350 --> 01:21:05,580
a small uas

1810
01:21:12,709 --> 01:21:08,360
is perhaps

1811
01:21:14,870 --> 01:21:12,719
one or a 0.01 square meter so the range

1812
01:21:16,850 --> 01:21:14,880
of these detections or the or the size

1813
01:21:21,530 --> 01:21:16,860

and the ability to check these targets

1814

01:21:24,350 --> 01:21:21,540

from an F-15 large airliner 100 times

1815

01:21:27,189 --> 01:21:24,360

larger in size a drone a hundred times

1816

01:21:29,750 --> 01:21:27,199

smaller in size so the detection

1817

01:21:32,149 --> 01:21:29,760

of and the surveillance capability

1818

01:21:33,830 --> 01:21:32,159

really largely depends in part to the

1819

01:21:37,669 --> 01:21:33,840

the Target that we're talking about and

1820

01:21:37,679 --> 01:21:43,250

all right next slide

1821

01:21:49,550 --> 01:21:47,090

so I do include this adsb coverage slide

1822

01:21:51,890 --> 01:21:49,560

just to give a context of from a

1823

01:21:55,250 --> 01:21:51,900

Cooperative perspective there is very

1824

01:21:57,950 --> 01:21:55,260

good coverage across the U.S to a

1825

01:22:00,770 --> 01:21:57,960

thousand uh 1 500 feet above ground

1826

01:22:02,870 --> 01:22:00,780

level so this provided context of what

1827

01:22:04,370 --> 01:22:02,880

when we look at the data and start

1828

01:22:06,470 --> 01:22:04,380

getting a discussion of what it is we

1829

01:22:09,890 --> 01:22:06,480

can detect this will certainly for those

1830

01:22:11,750 --> 01:22:09,900

Cooperative aircraft that have adsp we

1831

01:22:14,209 --> 01:22:11,760

could certainly detect those to a pretty

1832

01:22:17,570 --> 01:22:14,219

a pretty low altitude across across the

1833

01:22:21,830 --> 01:22:19,790

all right a couple of data points I

1834

01:22:23,390 --> 01:22:21,840

think um I know Sean certainly talked

1835

01:22:25,729 --> 01:22:23,400

about some of the data points and I can

1836

01:22:27,550 --> 01:22:25,739

provide a little bit of insight uh from

1837

01:22:30,890 --> 01:22:27,560

an fa perspective

1838

01:22:34,250 --> 01:22:30,900

drones drones are a pretty significant

1839

01:22:36,610 --> 01:22:34,260

challenge there's 880 000 registered

1840

01:22:40,010 --> 01:22:36,620

drones in the US

1841

01:22:42,110 --> 01:22:40,020

small drones I should say part 107

1842

01:22:43,970 --> 01:22:42,120

drones

1843

01:22:46,850 --> 01:22:43,980

um many tens of thousands of those are

1844

01:22:49,310 --> 01:22:46,860

operate operated on a daily basis uh for

1845

01:22:51,649 --> 01:22:49,320

by commercial operators it's not clear

1846

01:22:53,630 --> 01:22:51,659

how many private drone operators are

1847

01:22:55,669 --> 01:22:53,640

taking they're they're drawn up for a

1848

01:22:57,229 --> 01:22:55,679

quick flight

1849

01:22:58,729 --> 01:22:57,239

um but as I said earlier those are

1850

01:23:04,189 --> 01:22:58,739

regulated

1851

01:23:07,910 --> 01:23:04,199

400 feet in altitude so again it's the

1852

01:23:10,310 --> 01:23:07,920

Drone aspect is for those small drones

1853

01:23:12,729 --> 01:23:10,320

in particular and as well as all of all

1854

01:23:14,870 --> 01:23:12,739

classes of drones there are regulatory

1855

01:23:17,149 --> 01:23:14,880

restrictions to where they can and

1856

01:23:18,830 --> 01:23:17,159

cannot fly basically avoiding and not

1857

01:23:22,070 --> 01:23:18,840

interfering with manned aircraft

1858

01:23:26,330 --> 01:23:23,750

second data point we talked about

1859

01:23:28,729 --> 01:23:26,340

balloons uh The Weather Service we know

1860

01:23:31,790 --> 01:23:28,739

on 190 or 92 weather stations they're

1861

01:23:35,870 --> 01:23:31,800

released balloons twice a day it's at 6

1862

01:23:38,209 --> 01:23:35,880

a.m and and uh zero zero hundred Zulu

1863

01:23:40,189 --> 01:23:38,219

and 1200 Zulu

1864

01:23:42,229 --> 01:23:40,199

um typically two-hour duration they fly

1865

01:23:45,050 --> 01:23:42,239

up to 100 000 feet where the envelope

1866

01:23:47,930 --> 01:23:45,060

bursts and and then the payload uh

1867

01:23:49,970 --> 01:23:47,940

descends back back to Earth so certainly

1868

01:23:52,550 --> 01:23:49,980

um you know 100 at least 184 balloon

1869

01:23:54,830 --> 01:23:52,560

flights daily uh in the nas you know not

1870

01:23:56,570 --> 01:23:54,840

to consider universities and hobbyist

1871

01:24:00,350 --> 01:23:56,580

balloons that that may be launched but

1872

01:24:03,410 --> 01:24:00,360

those are typically small small in size

1873

01:24:06,229 --> 01:24:03,420

and finally uh Sean did talk about uaps

1874

01:24:08,270 --> 01:24:06,239

and NFA data a couple of data points

1875

01:24:09,910 --> 01:24:08,280

that we do report there is a process by

1876

01:24:15,470 --> 01:24:09,920

which air traffic controllers can report

1877

01:24:17,030 --> 01:24:15,480

uh UAP sightings or or events uh

1878

01:24:19,669 --> 01:24:17,040

historically those have been in the

1879

01:24:22,610 --> 01:24:19,679

range of about three to five reports per

1880

01:24:27,189 --> 01:24:22,620

month that have been reported uh we did

1881

01:24:29,630 --> 01:24:27,199

see an uptick of of reports in August 22

1882

01:24:31,790 --> 01:24:29,640

that went up to about eight to ten

1883

01:24:33,070 --> 01:24:31,800

perhaps due to startling starlink

1884

01:24:35,450 --> 01:24:33,080

launches

1885

01:24:38,209 --> 01:24:35,460

and finally the

1886

01:24:40,370 --> 01:24:38,219

with a Chinese weather or the Chinese

1887

01:24:42,290 --> 01:24:40,380

balloon incident in February we did see

1888

01:24:45,890 --> 01:24:42,300

a significant up tick and

1889

01:24:48,229 --> 01:24:45,900

there's like 68 UAP reports

1890

01:24:49,610 --> 01:24:48,239

um that that started in February and

1891

01:24:52,790 --> 01:24:49,620

we've seen a large number you know

1892

01:24:55,550 --> 01:24:52,800

subsequent two then to that

1893

01:24:58,010 --> 01:24:55,560

I think that's all I had

1894

01:24:59,930 --> 01:24:58,020

um any questions

1895

01:25:01,790 --> 01:24:59,940

do you want to take the question it's

1896

01:25:04,570 --> 01:25:01,800

easy actually you can choose the

1897

01:25:07,070 --> 01:25:04,580

questioners it's easy for you all right

1898

01:25:09,830 --> 01:25:07,080

yeah so two questions two questions

1899

01:25:12,590 --> 01:25:09,840

about the uh the radar data coverage

1900

01:25:14,450 --> 01:25:12,600

first one is do you retain any of the

1901

01:25:15,110 --> 01:25:14,460

data or is it

1902

01:25:17,810 --> 01:25:15,120

um

1903

01:25:20,450 --> 01:25:17,820

just cycled over as there is a retention

1904

01:25:22,310 --> 01:25:20,460

in long-term retention of data I can't

1905

01:25:24,229 --> 01:25:22,320

recall exactly how long retained that

1906

01:25:28,130 --> 01:25:24,239

there's certainly a requirement from uh

1907

01:25:30,590 --> 01:25:28,140

uh retention from a like legal

1908

01:25:32,750 --> 01:25:30,600

perspective exactly

1909

01:25:34,669 --> 01:25:32,760

um but I do know there is some

1910

01:25:36,830 --> 01:25:34,679

periodicities in a measured and

1911

01:25:39,890 --> 01:25:36,840

determined months is it retained in

1912

01:25:41,810 --> 01:25:39,900

terms of like the raw radar or is some

1913

01:25:43,850 --> 01:25:41,820

processed form of state of this retained

1914

01:25:46,490 --> 01:25:43,860

I believe it's a process form of data

1915

01:25:48,830 --> 01:25:46,500

that is what was displayed on the uh

1916

01:25:50,990 --> 01:25:48,840

whether it's in an Indian root eram

1917

01:25:53,390 --> 01:25:51,000

system or the star system and then the

1918

01:25:55,610 --> 01:25:53,400

other question is for The Radars

1919

01:25:58,790 --> 01:25:55,620

um are they operated in any sort of a

1920

01:26:01,250 --> 01:25:58,800

tasked mode or are they constant search

1921

01:26:03,290 --> 01:26:01,260

the current systems in our inventory

1922

01:26:06,229 --> 01:26:03,300

just they're they're fixed face and they

1923

01:26:08,030 --> 01:26:06,239

just rotate at either 12 RPM or 5 RPM

1924

01:26:10,010 --> 01:26:08,040

depending on whether it's an enroute or

1925

01:26:12,890 --> 01:26:10,020

a terminal surveillance thanks

1926

01:26:21,070 --> 01:26:12,900

requirement all right next question I

1927

01:26:26,930 --> 01:26:23,870

that is three to five reports per month

1928

01:26:29,330 --> 01:26:26,940

for all the controllers in all of the US

1929

01:26:30,590 --> 01:26:29,340

so there's a process by which if they

1930

01:26:33,110 --> 01:26:30,600

see something and they want to report

1931

01:26:36,890 --> 01:26:33,120

that they can go to report that to the

1932

01:26:38,209 --> 01:26:36,900

the then we call it but uh report hey I

1933

01:26:40,850 --> 01:26:38,219

saw something I don't know what it was

1934

01:26:43,790 --> 01:26:40,860

so it's three to five per month across

1935

01:26:45,410 --> 01:26:43,800

the entire 14 000 controllers

1936

01:26:47,629 --> 01:26:45,420

per month so

1937

01:26:50,330 --> 01:26:47,639

you know 45

1938

01:26:52,610 --> 01:26:50,340

000 operations any given day

1939

01:26:53,990 --> 01:26:52,620

30 months 30 days however many days in a

1940

01:26:56,330 --> 01:26:54,000

month you know it's a very small

1941

01:26:59,390 --> 01:26:56,340

percentage

1942

01:27:02,689 --> 01:26:59,400

okay uh can you describe actually about

1943

01:27:05,330 --> 01:27:02,699

this how do you do you encourage uh to

1944

01:27:08,590 --> 01:27:05,340

report do you feel like the stigma on

1945

01:27:11,930 --> 01:27:08,600

uaps is impairing the reporting

1946

01:27:13,729 --> 01:27:11,940

I'm not aware of

1947

01:27:17,450 --> 01:27:13,739

I'll answer it this way

1948

01:27:19,850 --> 01:27:17,460

um the the process by which UAP is

1949

01:27:21,950 --> 01:27:19,860

reported is part of the air traffic

1950

01:27:23,629 --> 01:27:21,960

controller order so basically the Air

1951

01:27:25,189 --> 01:27:23,639

Drive controllers are allowed it says

1952

01:27:26,990 --> 01:27:25,199

you know if you see something here's a

1953

01:27:29,330 --> 01:27:27,000

process by which the procedure by which

1954

01:27:32,629 --> 01:27:29,340

you would report it other than that I'm

1955

01:27:36,709 --> 01:27:32,639

not aware of any any specific stigma or

1956

01:27:38,870 --> 01:27:36,719

or limitations and I really probably not

1957

01:27:40,610 --> 01:27:38,880

in a good position to you know to speak

1958

01:27:42,669 --> 01:27:40,620

to that other than there is that process

1959

01:27:45,649 --> 01:27:42,679

and that is the process that we use and

1960

01:27:47,810 --> 01:27:45,659

is what represents those numbers I talk

1961

01:27:50,629 --> 01:27:47,820

to and if I may have had a question

1962

01:27:52,729 --> 01:27:50,639

prior to this one how do you uh decide

1963

01:27:54,890 --> 01:27:52,739

the sites where you deploy you saw the

1964

01:27:56,689 --> 01:27:54,900

map and it has some very good coverage

1965

01:27:58,790 --> 01:27:56,699

on the coastal areas there were some

1966

01:28:00,950 --> 01:27:58,800

areas of lack of coverage yeah so if we

1967

01:28:03,890 --> 01:28:00,960

want if you go back go back one slide

1968

01:28:06,470 --> 01:28:03,900

from what's presented here

1969

01:28:08,930 --> 01:28:06,480

um the what you'll see is in the eastern

1970

01:28:11,209 --> 01:28:08,940

half of the U.S there's a lot better

1971

01:28:13,189 --> 01:28:11,219

coverage but that's because there's a

1972

01:28:15,169 --> 01:28:13,199

lot more population in the East and

1973

01:28:17,990 --> 01:28:15,179

therefore a lot more airports and these

1974

01:28:19,550 --> 01:28:18,000

systems are historically cited at the

1975

01:28:22,250 --> 01:28:19,560

airport in support of those those

1976

01:28:25,370 --> 01:28:22,260

airport operations to the West obviously

1977

01:28:29,090 --> 01:28:25,380

oops to less less dense and fewer

1978

01:28:31,729 --> 01:28:29,100

systems now the that's from an ASR the

1979

01:28:33,950 --> 01:28:31,739

short range radar perspective the

1980

01:28:36,530 --> 01:28:33,960

long-range Radars are pretty much

1981

01:28:38,390 --> 01:28:36,540

equally spaced to provide in order to

1982

01:28:40,490 --> 01:28:38,400

provide the maximum coverage from a

1983

01:28:43,790 --> 01:28:40,500

Homeland defense and security

1984

01:28:45,970 --> 01:28:43,800

perspective as well as with a higher

1985

01:28:52,189 --> 01:28:45,980

altitude flights the en route

1986

01:28:56,330 --> 01:28:53,390

Warren

1987

01:28:58,070 --> 01:28:56,340

uh Mike first thank you in the fa for

1988

01:29:00,050 --> 01:28:58,080

coming to share this information with us

1989

01:29:02,090 --> 01:29:00,060

second uh can you speak to a little bit

1990

01:29:04,550 --> 01:29:02,100

uh of the filtering techniques that we

1991

01:29:05,870 --> 01:29:04,560

use so with respect to I know Walter had

1992

01:29:07,310 --> 01:29:05,880

a question about the raw data and

1993

01:29:09,410 --> 01:29:07,320

process but can you just talk a little

1994

01:29:10,790 --> 01:29:09,420

bit about we actually aren't trying to

1995

01:29:12,169 --> 01:29:10,800

detect everything you know that's

1996

01:29:14,030 --> 01:29:12,179

actually a very good question and a very

1997

01:29:17,810 --> 01:29:14,040

good point with respect to what we can

1998

01:29:19,850 --> 01:29:17,820

and cannot see so um there are you know

1999

01:29:22,729 --> 01:29:19,860

the closer to the ground you point a

2000

01:29:25,310 --> 01:29:22,739

radar uh certainly you can get lower

2001
01:29:27,649 --> 01:29:25,320
elevations but you also start to see the

2002
01:29:30,110 --> 01:29:27,659
effects of trees and other ground-based

2003
01:29:32,030 --> 01:29:30,120
clutter as we call it that starts to

2004
01:29:34,370 --> 01:29:32,040
interfere so we have great ability to

2005
01:29:37,189 --> 01:29:34,380
detect a lot of things but but from an

2006
01:29:39,050 --> 01:29:37,199
fa Mission perspective our desire is to

2007
01:29:41,149 --> 01:29:39,060
find that sweet spot of seeing

2008
01:29:42,790 --> 01:29:41,159
everything to as low in altitude as we

2009
01:29:45,830 --> 01:29:42,800
can

2010
01:29:47,870 --> 01:29:45,840
to maximize our mission around safe

2011
01:29:49,610 --> 01:29:47,880
operations of manned aircraft

2012
01:29:51,350 --> 01:29:49,620
now to pull that thread just a little

2013
01:29:53,510 --> 01:29:51,360

bit further you know there's also

2014

01:29:55,610 --> 01:29:53,520

limitation with respect to Biologicals

2015

01:29:58,970 --> 01:29:55,620

or or insects and dust and things of

2016

01:30:01,669 --> 01:29:58,980

this this flavor that uh most aircraft

2017

01:30:04,129 --> 01:30:01,679

Fly Above a certain speed so we

2018

01:30:07,790 --> 01:30:04,139

typically will have uh filtering

2019

01:30:09,410 --> 01:30:07,800

settings on our systems to get rid of

2020

01:30:11,990 --> 01:30:09,420

the stuff that really is leaves or

2021

01:30:15,590 --> 01:30:12,000

insects or things of that nature so that

2022

01:30:17,810 --> 01:30:15,600

we provide as clean a a display for the

2023

01:30:20,390 --> 01:30:17,820

controllers so there are specific

2024

01:30:22,430 --> 01:30:20,400

settings that we we can can adjust and

2025

01:30:25,129 --> 01:30:22,440

it's been learned over many years to

2026

01:30:28,070 --> 01:30:25,139

perfect those what we call optimization

2027

01:30:29,930 --> 01:30:28,080

of those kinds of filters to get rid of

2028

01:30:32,750 --> 01:30:29,940

what is not a manned aircraft not an

2029

01:30:35,209 --> 01:30:32,760

aircraft and and provide as clean a

2030

01:30:37,790 --> 01:30:35,219

display for the controllers as we can

2031

01:30:42,290 --> 01:30:40,010

yeah please thanks

2032

01:30:44,030 --> 01:30:42,300

um thank you thanks for the presentation

2033

01:30:44,990 --> 01:30:44,040

um would it be kind of fun what you said

2034

01:30:47,270 --> 01:30:45,000

Warren

2035

01:30:49,729 --> 01:30:47,280

um would it be possible to

2036

01:30:51,649 --> 01:30:49,739

um to collect the raw data and to save

2037

01:30:53,810 --> 01:30:51,659

that because if if it would be possible

2038

01:30:55,850 --> 01:30:53,820

to do some calibration after the fact

2039

01:30:57,169 --> 01:30:55,860

that Sean was mentioning for example you

2040

01:30:59,750 --> 01:30:57,179

might be to capture other phenomenology

2041

01:31:01,129 --> 01:30:59,760

is that possible well when you say raw

2042

01:31:03,290 --> 01:31:01,139

data I think you'd have we'd have to

2043

01:31:06,169 --> 01:31:03,300

talk a little bit about what is meant um

2044

01:31:09,350 --> 01:31:06,179

so you know what from a technical

2045

01:31:13,250 --> 01:31:09,360

perspective pure what we would call inq

2046

01:31:17,149 --> 01:31:13,260

data is huge huge you know gigabyte very

2047

01:31:19,070 --> 01:31:17,159

very very large volumes of data that

2048

01:31:21,890 --> 01:31:19,080

would probably be uh cost prohibitive

2049

01:31:26,149 --> 01:31:21,900

and we certainly don't do that today

2050

01:31:28,129 --> 01:31:26,159

um the there are again we do record data

2051
01:31:29,870 --> 01:31:28,139
but it is effectively the data that is

2052
01:31:31,910 --> 01:31:29,880
has been through some form of these

2053
01:31:34,129 --> 01:31:31,920
processes in these filterings we do that

2054
01:31:36,770 --> 01:31:34,139
today

2055
01:31:38,330 --> 01:31:36,780
um but it it certainly with enough time

2056
01:31:39,950 --> 01:31:38,340
and money we could certainly collect

2057
01:31:42,410 --> 01:31:39,960
that data and I think it but it would be

2058
01:31:44,570 --> 01:31:42,420
a we'd have to look at the challenge of

2059
01:31:46,550 --> 01:31:44,580
in of how we would go about modifying

2060
01:31:48,649 --> 01:31:46,560
the systems or introducing new ways to

2061
01:31:50,270 --> 01:31:48,659
collect that that raw data as you as you

2062
01:31:52,370 --> 01:31:50,280
described certainly it's feasible it's

2063
01:31:53,450 --> 01:31:52,380

possible but it's not without technical

2064

01:31:56,930 --> 01:31:53,460

challenge

2065

01:31:58,729 --> 01:31:56,940

yes 184 balloon flights daily are those

2066

01:32:00,470 --> 01:31:58,739

characterized or they just you just know

2067

01:32:02,209 --> 01:32:00,480

they do that and then they end up where

2068

01:32:04,370 --> 01:32:02,219

they are so under the balloon I'll call

2069

01:32:06,649 --> 01:32:04,380

it part 101 the regulations for balloons

2070

01:32:08,450 --> 01:32:06,659

there's very specific requirements so

2071

01:32:09,950 --> 01:32:08,460

for National Weather Service before they

2072

01:32:12,290 --> 01:32:09,960

release those they'll contact the local

2073

01:32:13,669 --> 01:32:12,300

Air Traffic facility they're going to

2074

01:32:15,709 --> 01:32:13,679

say here's what time I'm going to

2075

01:32:17,870 --> 01:32:15,719

release it and when they release it they

2076
01:32:20,750 --> 01:32:17,880
have tracking and they provide that

2077
01:32:24,470 --> 01:32:20,760
tracking to the air traffic control

2078
01:32:26,209 --> 01:32:24,480
facility throughout the flight of of you

2079
01:32:27,950 --> 01:32:26,219
know that particular blend there are

2080
01:32:29,810 --> 01:32:27,960
commercial balloons that are also

2081
01:32:32,689 --> 01:32:29,820
launched but those most for the most

2082
01:32:35,390 --> 01:32:32,699
part as I understand that have they

2083
01:32:37,310 --> 01:32:35,400
actually transmit their GPS position in

2084
01:32:39,649 --> 01:32:37,320
support of where they're flying so as to

2085
01:32:41,330 --> 01:32:39,659
ensure they're not interfering with with

2086
01:32:43,850 --> 01:32:41,340
their traffic and to ensure they are

2087
01:32:46,729 --> 01:32:43,860
traffic controllers are aware of where

2088
01:32:51,830 --> 01:32:46,739

those those balloons are operating

2089

01:32:55,250 --> 01:32:53,510

um from traffic control but what about

2090

01:32:57,110 --> 01:32:55,260

from the non-cooperative surveillance

2091

01:32:59,689 --> 01:32:57,120

has there been anomalies from the

2092

01:33:01,750 --> 01:32:59,699

sensors themselves and if so what is the

2093

01:33:04,970 --> 01:33:01,760

process for that

2094

01:33:07,430 --> 01:33:04,980

I'd say the fa mission is not around

2095

01:33:10,490 --> 01:33:07,440

anomalies with the the non-cooperative

2096

01:33:12,890 --> 01:33:10,500

sensors themselves so as we build an air

2097

01:33:14,270 --> 01:33:12,900

traffic control picture we we have both

2098

01:33:16,189 --> 01:33:14,280

the non-cooperative systems which

2099

01:33:18,830 --> 01:33:16,199

detects the target we have a Cooperative

2100

01:33:22,070 --> 01:33:18,840

system that also detects a Target and we

2101

01:33:24,950 --> 01:33:22,080

will tend to merge those those uh

2102

01:33:27,050 --> 01:33:24,960

targets together and so on a

2103

01:33:30,050 --> 01:33:27,060

controller's display they'll know is

2104

01:33:32,990 --> 01:33:30,060

this a non-cooperative only or a merged

2105

01:33:35,090 --> 01:33:33,000

or combined Target so that they know you

2106

01:33:37,250 --> 01:33:35,100

know basically an increased level of

2107

01:33:39,890 --> 01:33:37,260

confidence that on what it is they're

2108

01:33:43,310 --> 01:33:39,900

seeing is in fact a real aircraft so we

2109

01:33:44,930 --> 01:33:43,320

don't just make any real distinction uh

2110

01:33:47,149 --> 01:33:44,940

between a non-cooperative and a

2111

01:33:48,950 --> 01:33:47,159

Cooperative other than how they get

2112

01:33:49,850 --> 01:33:48,960

combined and put on a controller's

2113

01:33:53,149 --> 01:33:49,860

display

2114

01:33:58,729 --> 01:33:55,490

uh so so like a ga flight that does

2115

01:34:01,490 --> 01:33:58,739

notice flying visual flight rules those

2116

01:34:02,689 --> 01:34:01,500

will just be picked up by the if they're

2117

01:34:04,430 --> 01:34:02,699

even if they don't if they're not

2118

01:34:07,189 --> 01:34:04,440

equipped with with a court with a

2119

01:34:08,930 --> 01:34:07,199

Cooperative uh avionics those would just

2120

01:34:11,689 --> 01:34:08,940

be picked up by the non-cooperative

2121

01:34:14,030 --> 01:34:11,699

system that if they happen to surveil

2122

01:34:15,350 --> 01:34:14,040

where that aircraft is is flying and so

2123

01:34:17,629 --> 01:34:15,360

that certainly will be put on the

2124

01:34:19,810 --> 01:34:17,639

controller's display and they will be

2125

01:34:22,070 --> 01:34:19,820

able to provide

2126

01:34:25,310 --> 01:34:22,080

awareness in fact there's a flight

2127

01:34:28,490 --> 01:34:25,320

following a procedure by which GA Pilots

2128

01:34:30,950 --> 01:34:28,500

can ask for a I'm not I'm not squawking

2129

01:34:34,250 --> 01:34:30,960

or not a Cooperative system

2130

01:34:36,050 --> 01:34:34,260

but please help me and just via the

2131

01:34:38,629 --> 01:34:36,060

radio I'm gonna going from here to here

2132

01:34:40,610 --> 01:34:38,639

and and providing awareness uh

2133

01:34:42,470 --> 01:34:40,620

situational awareness if the controller

2134

01:34:43,310 --> 01:34:42,480

has the bandwidth to to provide that

2135

01:34:46,250 --> 01:34:43,320

data

2136

01:34:47,750 --> 01:34:46,260

one last question yes so I'm not a

2137

01:34:50,169 --> 01:34:47,760

scientist I'm a recovering attorney and

2138

01:34:52,910 --> 01:34:50,179

I love process and a few questions there

2139

01:34:55,490 --> 01:34:52,920

if I'm a pilot where do I find that

2140

01:34:57,950 --> 01:34:55,500

process for reporting uaps where is that

2141

01:34:59,750 --> 01:34:57,960

articulated or captured second when you

2142

01:35:01,370 --> 01:34:59,760

mentioned that you're reporting these

2143

01:35:03,590 --> 01:35:01,380

incidents who are you reporting it to

2144

01:35:04,910 --> 01:35:03,600

and are those incidents pulling on the

2145

01:35:07,729 --> 01:35:04,920

thread that Reggie started are they

2146

01:35:10,850 --> 01:35:07,739

being archived anywhere I believe they

2147

01:35:13,250 --> 01:35:10,860

are archived they're reported to the

2148

01:35:16,910 --> 01:35:13,260

domestic Network event Network it's an

2149

01:35:19,310 --> 01:35:16,920

fa organization or or function

2150

01:35:21,590 --> 01:35:19,320

um I don't I I can't speak to whether

2151
01:35:24,169 --> 01:35:21,600
for whether they would be say part of

2152
01:35:27,410 --> 01:35:24,179
what Sean would would include as part of

2153
01:35:29,149 --> 01:35:27,420
his database I presume so

2154
01:35:30,709 --> 01:35:29,159
um so I can think that was the answer to

2155
01:35:32,209 --> 01:35:30,719
the second question uh what was the

2156
01:35:34,610 --> 01:35:32,219
first question again I'm sorry where

2157
01:35:36,709 --> 01:35:34,620
does the reporting process live if I'm a

2158
01:35:38,209 --> 01:35:36,719
pilot I see a uip where do I go to find

2159
01:35:40,189 --> 01:35:38,219
that I don't know the answer to that

2160
01:35:41,870 --> 01:35:40,199
question I said I'm familiar with the

2161
01:35:43,550 --> 01:35:41,880
reporting process from a controller

2162
01:35:46,490 --> 01:35:43,560
perspective and the order that's that's

2163
01:35:48,890 --> 01:35:46,500

used to define how controllers do their

2164

01:35:50,450 --> 01:35:48,900

job I am not I I don't know the answer

2165

01:35:53,770 --> 01:35:50,460

to the question from a pilot perspective

2166

01:35:59,270 --> 01:35:56,510

great so uh thank you Mike for your

2167

01:36:00,830 --> 01:35:59,280

presentation and uh for the all the help

2168

01:36:02,629 --> 01:36:00,840

the FAA has given us as we've been

2169

01:36:05,689 --> 01:36:02,639

learning more about the very impressive

2170

01:36:09,050 --> 01:36:05,699

system that the FAA maintains uh thank

2171

01:36:11,390 --> 01:36:09,060

you I know you know for me one of the

2172

01:36:13,129 --> 01:36:11,400

many takeaways from this is uh filling

2173

01:36:15,649 --> 01:36:13,139

it you know just a little bit safer

2174

01:36:17,390 --> 01:36:15,659

every time I fly and thankful for you

2175

01:36:21,050 --> 01:36:17,400

and your colleagues for what they do to

2176
01:36:23,270 --> 01:36:21,060
make that possible thank you and we're

2177
01:36:26,570 --> 01:36:23,280
now going to take a quick lunch break

2178
01:36:28,550 --> 01:36:26,580
we'll be back at 12 30.

2179
01:36:43,790 --> 01:36:28,560
um and uh

2180
01:36:48,110 --> 01:36:46,970
well we weren't really expecting too

2181
01:36:50,629 --> 01:36:48,120
much

2182
01:36:52,910 --> 01:36:50,639
but it actually some interesting things

2183
01:36:54,709 --> 01:36:52,920
in there I'm going to go over

2184
01:36:58,430 --> 01:36:54,719
unless you guys have specific questions

2185
01:37:04,070 --> 01:37:01,310
I'm not completely focused this early so

2186
01:37:07,850 --> 01:37:04,080
I'm going to go through

2187
01:37:10,070 --> 01:37:07,860
some tweets that

2188
01:37:12,470 --> 01:37:10,080

folks are putting on Twitter

2189

01:37:14,570 --> 01:37:12,480

um rizvark did a really great job I'll

2190

01:37:20,270 --> 01:37:14,580

show you his summaries and we

2191

01:37:24,649 --> 01:37:22,310

why don't people believe anything NASA

2192

01:37:26,570 --> 01:37:24,659

and its parents parent organization says

2193

01:37:29,570 --> 01:37:26,580

they're like all lying eight-year-old

2194

01:37:31,550 --> 01:37:29,580

whose mothers works nights none that not

2195

01:37:34,550 --> 01:37:31,560

all these most of these people have

2196

01:37:37,310 --> 01:37:34,560

nothing to do with whatever lies NASA

2197

01:37:38,450 --> 01:37:37,320

has allegedly told in the past in the

2198

01:37:40,990 --> 01:37:38,460

past

2199

01:37:44,270 --> 01:37:41,000

you know I for one think that there's

2200

01:37:47,149 --> 01:37:44,280

structures artificial structures on Mars

2201

01:37:50,450 --> 01:37:47,159

I won't won't know for sure until we get

2202

01:37:51,950 --> 01:37:50,460

up there and have ground truth but these

2203

01:37:54,169 --> 01:37:51,960

folks don't know about that so you need

2204

01:37:56,030 --> 01:37:54,179

to separate for the history from what's

2205

01:37:57,770 --> 01:37:56,040

going on now this is this is positive

2206

01:38:00,290 --> 01:37:57,780

what's going on now especially for the

2207

01:38:02,450 --> 01:38:00,300

General Public

2208

01:38:03,950 --> 01:38:02,460

um they don't know what we know they

2209

01:38:05,810 --> 01:38:03,960

don't know about whistleblowers they

2210

01:38:07,610 --> 01:38:05,820

don't know about what's allegedly going

2211

01:38:09,290 --> 01:38:07,620

on behind the scenes they don't know

2212

01:38:11,810 --> 01:38:09,300

about an alleged

2213

01:38:13,430 --> 01:38:11,820

Washington Post article that's coming up

2214

01:38:15,110 --> 01:38:13,440

so

2215

01:38:19,370 --> 01:38:15,120

not too bad

2216

01:38:23,510 --> 01:38:19,380

standpoint

2217

01:38:29,030 --> 01:38:26,330

let me kill this audio completely

2218

01:38:31,010 --> 01:38:29,040

so they're at lunch now and I'm gonna

2219

01:38:33,229 --> 01:38:31,020

pull this down for now and I'm gonna

2220

01:38:35,689 --> 01:38:33,239

bring up

2221

01:38:37,550 --> 01:38:35,699

the tweets I was referencing just to go

2222

01:38:42,410 --> 01:38:37,560

over it again

2223

01:38:47,990 --> 01:38:46,310

and I'm wearing my Sony shirt that I got

2224

01:38:51,229 --> 01:38:48,000

when I worked I've been working for Sony

2225

01:38:54,229 --> 01:38:51,239

when they come for various conventions

2226

01:38:57,590 --> 01:38:54,239

and this time they gave me a

2227

01:39:01,129 --> 01:38:57,600

shirt so that's what my shirt is and let

2228

01:39:07,189 --> 01:39:04,729

res rizworks who was written about the

2229

01:39:10,070 --> 01:39:07,199

simulation that we're allegedly in

2230

01:39:12,290 --> 01:39:10,080

you pull up his tweets

2231

01:39:15,229 --> 01:39:12,300

here we go I'll just go through what he

2232

01:39:17,870 --> 01:39:15,239

said so I can now I can at least

2233

01:39:19,129 --> 01:39:17,880

add in some of my own comments and let

2234

01:39:24,169 --> 01:39:19,139

me know if you have any problems with

2235

01:39:27,350 --> 01:39:26,030

so we started out

2236

01:39:30,770 --> 01:39:27,360

um

2237

01:39:33,770 --> 01:39:30,780

talking about how members of the panel

2238

01:39:36,050 --> 01:39:33,780

have received harassment

2239

01:39:38,390 --> 01:39:36,060

for looking into this and it's probably

2240

01:39:41,149 --> 01:39:38,400

coming from both sides probably from the

2241

01:39:43,610 --> 01:39:41,159

people who think you know they're hiding

2242

01:39:46,610 --> 01:39:43,620

things from us so

2243

01:39:48,410 --> 01:39:46,620

the quote-unquote Believers and don't

2244

01:39:50,030 --> 01:39:48,420

take that as disparaging I'm just

2245

01:39:51,950 --> 01:39:50,040

separating Believers from the Skeptics

2246

01:39:54,890 --> 01:39:51,960

and I'm sure the Skeptics are on their

2247

01:39:56,450 --> 01:39:54,900

case for wasting time thanks Stars

2248

01:39:57,410 --> 01:39:56,460

starfish

2249

01:39:59,689 --> 01:39:57,420

um

2250

01:40:02,149 --> 01:39:59,699

so there are people probably on their

2251

01:40:04,610 --> 01:40:02,159

case for even wasting time looking into

2252

01:40:06,890 --> 01:40:04,620

this because they know UFOs are nonsense

2253

01:40:08,390 --> 01:40:06,900

so they're probably getting I would like

2254

01:40:10,370 --> 01:40:08,400

to know what kind of harassment they're

2255

01:40:11,990 --> 01:40:10,380

talking about if it's just critic no I

2256

01:40:14,750 --> 01:40:12,000

don't agree with anything

2257

01:40:15,830 --> 01:40:14,760

where anybody harassing anybody involved

2258

01:40:17,570 --> 01:40:15,840

in this

2259

01:40:18,970 --> 01:40:17,580

um even Kirkpatrick got some really

2260

01:40:21,229 --> 01:40:18,980

strong

2261

01:40:22,490 --> 01:40:21,239

criticisms that I think went over the

2262

01:40:26,209 --> 01:40:22,500

line if you're not going to present

2263

01:40:28,550 --> 01:40:26,219

evidence accuse him accusing him of X Y

2264

01:40:31,129 --> 01:40:28,560

and Z but never presenting evidence to

2265

01:40:36,350 --> 01:40:34,010

um res says that the data they talked

2266

01:40:38,270 --> 01:40:36,360

about the data being far you know has

2267

01:40:40,370 --> 01:40:38,280

been unreliable and it's been impossible

2268

01:40:41,450 --> 01:40:40,380

to draw scientific conclusions Mickey

2269

01:40:43,729 --> 01:40:41,460

Fox

2270

01:40:45,350 --> 01:40:43,739

publicly available data

2271

01:40:49,129 --> 01:40:45,360

of course

2272

01:40:51,709 --> 01:40:49,139

but we all know there is data that

2273

01:40:54,470 --> 01:40:51,719

supposedly will blow our socks off if we

2274

01:40:56,209 --> 01:40:54,480

ever get to see it so that's the same

2275

01:40:59,090 --> 01:40:56,219

old story what we get to see publicly

2276

01:41:02,030 --> 01:40:59,100

and what supposedly supposedly exists

2277

01:41:03,709 --> 01:41:02,040

privately is is night and day but we

2278

01:41:05,870 --> 01:41:03,719

haven't seen the private data so we're

2279

01:41:09,770 --> 01:41:05,880

stuck with public data which makes it

2280

01:41:11,629 --> 01:41:09,780

really easy for Skeptics to debunk

2281

01:41:13,550 --> 01:41:11,639

because there isn't you know we have

2282

01:41:16,070 --> 01:41:13,560

tons of anecdotes and we have government

2283

01:41:17,810 --> 01:41:16,080

documents but we don't have you know and

2284

01:41:20,090 --> 01:41:17,820

on and on and on we all know about that

2285

01:41:22,729 --> 01:41:20,100

what we don't have

2286

01:41:25,370 --> 01:41:22,739

is something that blows us away you know

2287

01:41:27,590 --> 01:41:25,380

we have gimbal go fast and the Tic Tac

2288

01:41:28,550 --> 01:41:27,600

but and and the TIC tac's a great case

2289

01:41:32,930 --> 01:41:28,560

but

2290

01:41:35,090 --> 01:41:32,940

like we really we want to see something

2291

01:41:37,609 --> 01:41:35,100

making right angle turns

2292

01:41:39,950 --> 01:41:37,619

instant or almost instantaneous

2293

01:41:43,370 --> 01:41:39,960

acceleration and we don't have that

2294

01:41:45,890 --> 01:41:43,380

supposedly we have amazing videos and

2295

01:41:46,910 --> 01:41:45,900

photos well we haven't seen it publicly

2296

01:41:48,590 --> 01:41:46,920

and

2297

01:41:52,129 --> 01:41:48,600

unless you have clearances you're not

2298

01:41:56,810 --> 01:41:54,950

AP data from VOD is often classified

2299

01:41:59,450 --> 01:41:56,820

because of the sensors not because of

2300

01:42:02,510 --> 01:41:59,460

the actual data and she referenced the

2301

01:42:04,370 --> 01:42:02,520

Statue of Liberty

2302

01:42:06,290 --> 01:42:04,380

um you know if you take a picture of the

2303

01:42:08,149 --> 01:42:06,300

Statue of Liberty well it's it's

2304

01:42:11,030 --> 01:42:08,159

classified because it's taken with

2305

01:42:14,390 --> 01:42:11,040

sensors it's like well we've seen sensor

2306

01:42:16,550 --> 01:42:14,400

video released a few days after it

2307

01:42:18,649 --> 01:42:16,560

happened with you know a Chinese plane

2308

01:42:21,470 --> 01:42:18,659

coming in a Russian plane they release

2309

01:42:24,470 --> 01:42:21,480

it right away so they can release UFO

2310

01:42:26,750 --> 01:42:24,480

videos we all know that that's part of

2311

01:42:29,090 --> 01:42:26,760

their excuse which is nonsense I

2312

01:42:30,590 --> 01:42:29,100

understand some of it yeah sensors I

2313

01:42:32,990 --> 01:42:30,600

understand that's part of the reason but

2314

01:42:34,609 --> 01:42:33,000

it's not all that's not the explanation

2315

01:42:37,010 --> 01:42:34,619

there there's another reason why they're

2316

01:42:38,810 --> 01:42:37,020

not releasing it because in my mind

2317

01:42:43,430 --> 01:42:38,820

and then I think everybody's mind if

2318

01:42:45,530 --> 01:42:43,440

they release something that is clear-cut

2319

01:42:48,770 --> 01:42:45,540

technology that we don't have at least

2320

01:42:53,570 --> 01:42:48,780

publicly it's gonna just it the public

2321

01:42:55,669 --> 01:42:53,580

and the media love they love videos so

2322

01:42:57,470 --> 01:42:55,679

that would really give a boost to this

2323

01:42:58,729 --> 01:42:57,480

conversation and I think it would wake

2324

01:43:01,189 --> 01:42:58,739

up a lot of people

2325

01:43:03,229 --> 01:43:01,199

who have not really realized have who

2326

01:43:06,530 --> 01:43:03,239

have not yet realized this is a real

2327

01:43:09,830 --> 01:43:08,570

and I'm just rizz is just summarizing

2328

01:43:11,629 --> 01:43:09,840

what was said and I'm going to summarize

2329

01:43:15,229 --> 01:43:11,639

and add to it it was it's not our goal

2330

01:43:17,870 --> 01:43:15,239

to solve uaps but to give NASA a road

2331

01:43:20,270 --> 01:43:17,880

map if I were to summarize in one line

2332

01:43:22,070 --> 01:43:20,280

our conclusions we need high quality

2333

01:43:25,129 --> 01:43:22,080

data and that was from David spurgle

2334

01:43:27,470 --> 01:43:25,139

NASA UAP panel lead

2335

01:43:29,930 --> 01:43:27,480

yeah we need high quality data but we

2336

01:43:31,609 --> 01:43:29,940

supposedly have it on same thing Sparkle

2337

01:43:32,570 --> 01:43:31,619

said on scientific anomalies talking

2338

01:43:34,850 --> 01:43:32,580

about

2339

01:43:36,830 --> 01:43:34,860

fast radio bursts

2340

01:43:38,390 --> 01:43:36,840

in microwave signals spiking at

2341

01:43:39,709 --> 01:43:38,400

lunchtime like he's like

2342

01:43:41,209 --> 01:43:39,719

well

2343

01:43:42,350 --> 01:43:41,219

we had this measurement but then we

2344

01:43:44,209 --> 01:43:42,360

realized it was coming from the

2345

01:43:46,129 --> 01:43:44,219

microwave it's like yeah we realize that

2346

01:43:48,169 --> 01:43:46,139

measurements can be

2347

01:43:51,109 --> 01:43:48,179

inaccurate and there could be a natural

2348

01:43:53,090 --> 01:43:51,119

explanation we know all of that and fast

2349

01:43:55,010 --> 01:43:53,100

radio bursts I don't pretend to

2350

01:43:57,290 --> 01:43:55,020

understand them but

2351
01:43:59,689 --> 01:43:57,300
they have baffled scientists if you look

2352
01:44:01,609 --> 01:43:59,699
it up if you if you Google Fast radio

2353
01:44:04,370 --> 01:44:01,619
bursts they're really interesting these

2354
01:44:05,450 --> 01:44:04,380
these bursts that come in high energy

2355
01:44:07,189 --> 01:44:05,460
um they don't know where they're coming

2356
01:44:09,410 --> 01:44:07,199
from there's lots of theories they have

2357
01:44:14,149 --> 01:44:09,420
not been able to explain it

2358
01:44:16,490 --> 01:44:14,159
explain them you talked about Sprites

2359
01:44:18,590 --> 01:44:16,500
which were reported by pilots but not

2360
01:44:20,270 --> 01:44:18,600
they weren't believed until good data

2361
01:44:23,930 --> 01:44:20,280
came in from the International Space

2362
01:44:26,990 --> 01:44:23,940
Station his point was that

2363
01:44:31,669 --> 01:44:28,970

instruments need to be calibrated to get

2364

01:44:34,129 --> 01:44:31,679

good data but that anomalies can lead to

2365

01:44:38,689 --> 01:44:34,139

new discoveries

2366

01:44:46,070 --> 01:44:42,550

uh then Kirkpatrick got up and he said

2367

01:44:49,850 --> 01:44:46,080

unlike the NASA team

2368

01:44:52,310 --> 01:44:49,860

we are looking at classified data so

2369

01:44:55,550 --> 01:44:52,320

I really would love for Chris melon or

2370

01:44:59,870 --> 01:44:55,560

Lou Elizondo to jump in and tell us are

2371

01:45:02,930 --> 01:44:59,880

they s Is Kirkpatrick and arrow seeing

2372

01:45:08,090 --> 01:45:02,940

the 23 minute video that supposedly

2373

01:45:13,790 --> 01:45:10,490

um Kirkpatrick said that we have shared

2374

01:45:16,250 --> 01:45:13,800

the data for a small set of cases which

2375

01:45:18,830 --> 01:45:16,260

are truly anomalous and they've shared

2376

01:45:23,570 --> 01:45:18,840

those with appropriately cleared NASA

2377

01:45:28,550 --> 01:45:25,729

this is interesting and potentially

2378

01:45:31,010 --> 01:45:28,560

significant this is from Riz

2379

01:45:34,010 --> 01:45:31,020

since this NASA panel is only looking at

2380

01:45:36,830 --> 01:45:34,020

unclassified data

2381

01:45:39,350 --> 01:45:36,840

I would love to hear from the people in

2382

01:45:41,570 --> 01:45:39,360

NASA who have seen the classified data

2383

01:45:44,390 --> 01:45:41,580

and get their opinions I don't see why

2384

01:45:46,370 --> 01:45:44,400

that is classified just give us your

2385

01:45:48,290 --> 01:45:46,380

general opinions on what you've seen

2386

01:45:50,450 --> 01:45:48,300

that's why I don't understand why

2387

01:45:54,109 --> 01:45:50,460

Congress can't do that why can't

2388

01:45:58,550 --> 01:45:54,119

Congress give me why can't

2389

01:46:04,129 --> 01:46:02,030

anybody else in Congress

2390

01:46:05,810 --> 01:46:04,139

billabrand why can't they say you know

2391

01:46:08,030 --> 01:46:05,820

what I can't talk about the classified

2392

01:46:10,609 --> 01:46:08,040

data I've seen but I can tell you how I

2393

01:46:13,790 --> 01:46:10,619

reacted when I saw it they can do that I

2394

01:46:16,250 --> 01:46:13,800

think they can do that but they have not

2395

01:46:18,470 --> 01:46:16,260

uh Kirkpatrick of Arrow he said the dod

2396

01:46:20,870 --> 01:46:18,480

sensors are not scientific sensors or

2397

01:46:22,790 --> 01:46:20,880

calibrated for scientific data but are

2398

01:46:24,649 --> 01:46:22,800

optimized for finding and tracking

2399

01:46:25,970 --> 01:46:24,659

weapons yeah he talked about that in his

2400

01:46:32,450 --> 01:46:25,980

hearing

2401
01:46:36,590 --> 01:46:34,850
Kirkpatrick put up various charts images

2402
01:46:39,470 --> 01:46:36,600
from iPhones are not helpful in

2403
01:46:41,510 --> 01:46:39,480
identifying UAP but ancillary data is

2404
01:46:46,070 --> 01:46:41,520
potentially useful we need scientific

2405
01:46:49,729 --> 01:46:46,080
instruments yeah I mean Public public

2406
01:46:52,010 --> 01:46:49,739
UFO videos usually are really weak there

2407
01:46:53,629 --> 01:46:52,020
are a few that are interesting but for

2408
01:46:55,129 --> 01:46:53,639
the most part I usually don't share them

2409
01:46:56,570 --> 01:46:55,139
on Twitter because they're they don't

2410
01:46:58,310 --> 01:46:56,580
show much

2411
01:47:04,010 --> 01:46:58,320
usually a ball of light in the sky

2412
01:47:08,930 --> 01:47:06,649
uh Kirkpatrick

2413
01:47:11,270 --> 01:47:08,940

our data shows collection bias because

2414

01:47:16,070 --> 01:47:11,280

that's where the sensors are we we know

2415

01:47:21,950 --> 01:47:18,950

there has to be some reports over our

2416

01:47:24,229 --> 01:47:21,960

oceans and bodies of water I don't know

2417

01:47:26,810 --> 01:47:24,239

if he's talking about official reports

2418

01:47:28,970 --> 01:47:26,820

from various you know Noah I don't know

2419

01:47:31,970 --> 01:47:28,980

exactly what that means

2420

01:47:33,950 --> 01:47:31,980

um Kirkpatrick I have classified sensors

2421

01:47:35,689 --> 01:47:33,960

in various locations and I'd like to be

2422

01:47:37,970 --> 01:47:35,699

able to pass off data to academic

2423

01:47:41,750 --> 01:47:37,980

scientific sensors and then that data

2424

01:47:47,930 --> 01:47:44,930

Mr Patrick said the dod the dod sensors

2425

01:47:51,050 --> 01:47:47,940

aren't painted at the places we want

2426

01:47:52,790 --> 01:47:51,060

a lot of what we have is around the

2427

01:47:55,010 --> 01:47:52,800

continental United States most people

2428

01:47:57,890 --> 01:47:55,020

don't like it when DOD points high

2429

01:48:00,350 --> 01:47:57,900

resolution sensors in their backyards

2430

01:48:02,870 --> 01:48:00,360

some ground-based detectors will need to

2431

01:48:05,090 --> 01:48:02,880

be there we are evaluating sensors being

2432

01:48:07,910 --> 01:48:05,100

built for similar or other purposes that

2433

01:48:10,010 --> 01:48:07,920

we can recalibrate

2434

01:48:12,169 --> 01:48:10,020

take the Target and put it in your

2435

01:48:13,609 --> 01:48:12,179

sensor and see it

2436

01:48:15,770 --> 01:48:13,619

registering this is potentially

2437

01:48:17,990 --> 01:48:15,780

significant if they're going to add

2438

01:48:20,870 --> 01:48:18,000

sensors in areas where

2439

01:48:22,910 --> 01:48:20,880

it doesn't say if they're picking up

2440

01:48:24,470 --> 01:48:22,920

UAP in those areas that's the sense I

2441

01:48:26,510 --> 01:48:24,480

get and they need to get better sensors

2442

01:48:27,890 --> 01:48:26,520

in those areas where they know UAP is

2443

01:48:31,430 --> 01:48:27,900

showing up

2444

01:48:32,870 --> 01:48:31,440

and certain folks probably

2445

01:48:34,910 --> 01:48:32,880

I don't know if it's contractors or

2446

01:48:35,510 --> 01:48:34,920

government they don't want

2447

01:48:38,270 --> 01:48:35,520

um

2448

01:48:41,750 --> 01:48:38,280

sensors pointed out there sensitive

2449

01:48:42,649 --> 01:48:41,760

areas I mean there's no details on that

2450

01:48:45,229 --> 01:48:42,659

um

2451

01:48:47,270 --> 01:48:45,239

but understandable obviously

2452

01:48:50,209 --> 01:48:47,280

if you have something that's sensitive

2453

01:48:52,970 --> 01:48:50,219

and you find out the dod is

2454

01:48:55,609 --> 01:48:52,980

pointing their sensors at in your

2455

01:49:01,669 --> 01:48:58,669

let's see and then we got to this chart

2456

01:49:03,290 --> 01:49:01,679

how many anomalous cases are there you

2457

01:49:06,709 --> 01:49:03,300

know I think during the hearing it was 6

2458

01:49:09,109 --> 01:49:06,719

50 or so and now there's 800 plus total

2459

01:49:11,270 --> 01:49:09,119

uh which is a single digit percentage of

2460

01:49:14,810 --> 01:49:11,280

about the reports they get you know two

2461

01:49:17,030 --> 01:49:14,820

to five percent are anomalous

2462

01:49:19,490 --> 01:49:17,040

and he put the chart up again

2463

01:49:22,930 --> 01:49:19,500

we saw during the hearing with

2464

01:49:27,229 --> 01:49:25,430

Kirkpatrick not all reports are single

2465

01:49:29,810 --> 01:49:27,239

sensor some are multi-sensor he didn't

2466

01:49:33,350 --> 01:49:29,820

say how many

2467

01:49:35,330 --> 01:49:33,360

and Kirkpatrick on Arrow stigma also

2468

01:49:38,990 --> 01:49:35,340

exists inside government buildings and

2469

01:49:43,250 --> 01:49:41,149

they've been harassed also I don't know

2470

01:49:45,290 --> 01:49:43,260

what he means by harass is it you know

2471

01:49:47,209 --> 01:49:45,300

is it over the top criticism on on

2472

01:49:49,310 --> 01:49:47,219

Twitter is it beyond that he didn't he

2473

01:49:51,109 --> 01:49:49,320

didn't detail that

2474

01:49:53,090 --> 01:49:51,119

he said harassment by the public who

2475

01:49:55,850 --> 01:49:53,100

want answers doesn't help with the

2476

01:49:57,950 --> 01:49:55,860

stigma it actually makes it worse

2477

01:50:00,470 --> 01:49:57,960

the problem is

2478

01:50:02,689 --> 01:50:00,480

we all know or we've been told that that

2479

01:50:05,450 --> 01:50:02,699

Kirkpatrick has spoken to whistleblowers

2480

01:50:06,830 --> 01:50:05,460

and he has not brought it up how's it

2481

01:50:08,450 --> 01:50:06,840

going pix

2482

01:50:10,129 --> 01:50:08,460

um so he has not brought it up and I

2483

01:50:11,510 --> 01:50:10,139

don't see why he can't at least address

2484

01:50:13,609 --> 01:50:11,520

it and say

2485

01:50:17,510 --> 01:50:13,619

it is true this is my Kirkpatrick

2486

01:50:19,669 --> 01:50:17,520

impersonation it is true that there have

2487

01:50:23,810 --> 01:50:19,679

been whistleblowers who have told me

2488

01:50:26,750 --> 01:50:23,820

where to look for specific UAP related

2489

01:50:30,169 --> 01:50:26,760

special access programs but I don't have

2490

01:50:32,990 --> 01:50:30,179

the clearances as of yet to go and look

2491

01:50:34,189 --> 01:50:33,000

to see if that's true or not obviously

2492

01:50:37,129 --> 01:50:34,199

he's not I don't think he would say

2493

01:50:39,290 --> 01:50:37,139

exactly that but he can reference that

2494

01:50:41,270 --> 01:50:39,300

some of the whistleblowers have told me

2495

01:50:44,689 --> 01:50:41,280

some very interesting information

2496

01:50:47,330 --> 01:50:44,699

that I have not been able to verify yet

2497

01:50:49,609 --> 01:50:47,340

um so but he won't he doesn't talk about

2498

01:50:51,890 --> 01:50:49,619

that at all so it gets people upset and

2499

01:50:53,570 --> 01:50:51,900

then people start to criticize and they

2500

01:50:55,490 --> 01:50:53,580

see this kind of data and they say this

2501
01:50:57,050 --> 01:50:55,500
is boring we know you're hearing more

2502
01:50:59,390 --> 01:50:57,060
just tell us

2503
01:51:02,209 --> 01:50:59,400
that's why

2504
01:51:04,729 --> 01:51:02,219
an article in the Washington Post or New

2505
01:51:06,530 --> 01:51:04,739
York Times related to whistleblowers or

2506
01:51:09,290 --> 01:51:06,540
crash retrievals

2507
01:51:12,050 --> 01:51:09,300
is really important and hopefully we

2508
01:51:15,890 --> 01:51:12,060
will get that like I said that article

2509
01:51:18,470 --> 01:51:15,900
was in the works as far as I know still

2510
01:51:23,030 --> 01:51:18,480
is in the works and fingers crossed we

2511
01:51:23,040 --> 01:51:26,149
and then you put up

2512
01:51:31,850 --> 01:51:27,950
so that's

2513
01:51:33,290 --> 01:51:31,860

there's more from folks have put up

2514

01:51:35,270 --> 01:51:33,300

videos of Kirkpatrick on Twitter

2515

01:51:36,950 --> 01:51:35,280

hopefully everybody's on Twitter even if

2516

01:51:37,970 --> 01:51:36,960

you don't like Twitter you can get an

2517

01:51:41,330 --> 01:51:37,980

account

2518

01:51:43,910 --> 01:51:41,340

follow a small a very small amount of

2519

01:51:46,129 --> 01:51:43,920

accounts and you can just stay up to

2520

01:51:47,510 --> 01:51:46,139

date on everything

2521

01:51:50,990 --> 01:51:47,520

because there's some really good Twitter

2522

01:51:53,570 --> 01:51:51,000

accounts updating you know all day every

2523

01:51:57,109 --> 01:51:53,580

day I do a lot but there are other folks

2524

01:51:59,330 --> 01:51:57,119

that are just 20 it's 24 7.

2525

01:52:01,550 --> 01:51:59,340

um a guy from the FAA got up and said

2526

01:52:04,609 --> 01:52:01,560

you know different altitudes

2527

01:52:06,410 --> 01:52:04,619

uh a function of the line of measuring

2528

01:52:09,050 --> 01:52:06,420

you know what they can analyze what they

2529

01:52:10,910 --> 01:52:09,060

can collect data on uh it's from

2530

01:52:12,229 --> 01:52:10,920

different altitudes and it's primarily a

2531

01:52:15,890 --> 01:52:12,239

function of line of sight at those

2532

01:52:18,770 --> 01:52:15,900

altitudes uh 880 000 registered

2533

01:52:20,810 --> 01:52:18,780

registered registered small drones in

2534

01:52:22,970 --> 01:52:20,820

the United States

2535

01:52:25,609 --> 01:52:22,980

and I'm gonna go to back I'm going to go

2536

01:52:26,930 --> 01:52:25,619

to some of some other folks you can see

2537

01:52:29,510 --> 01:52:26,940

some live stuff

2538

01:52:30,890 --> 01:52:29,520

here's Mick West saying Sean Kirkpatrick

2539

01:52:33,050 --> 01:52:30,900

highly trained pilots can make

2540

01:52:34,669 --> 01:52:33,060

occasional mistakes here are three

2541

01:52:36,410 --> 01:52:34,679

distant planes that were misidentified

2542

01:52:38,990 --> 01:52:36,420

yeah so

2543

01:52:40,609 --> 01:52:39,000

Kirkpatrick showed three planes and

2544

01:52:42,109 --> 01:52:40,619

there was some movement or he saw three

2545

01:52:44,149 --> 01:52:42,119

objects they looked some there was some

2546

01:52:45,950 --> 01:52:44,159

movement and he said that's from the

2547

01:52:47,570 --> 01:52:45,960

sensor and he's like all this and then

2548

01:52:49,250 --> 01:52:47,580

they they try to

2549

01:52:50,570 --> 01:52:49,260

I don't know if he said track he saw he

2550

01:52:51,950 --> 01:52:50,580

tried to catch up with these objects

2551

01:52:54,229 --> 01:52:51,960

they could not I'm like oh this is

2552

01:52:56,810 --> 01:52:54,239

really interesting and then he said but

2553

01:53:00,290 --> 01:52:56,820

when we looked further into this it

2554

01:53:02,810 --> 01:53:00,300

turned out they were planes about to

2555

01:53:04,790 --> 01:53:02,820

land so why waste our time on that we

2556

01:53:06,470 --> 01:53:04,800

know people make mistakes there's

2557

01:53:09,350 --> 01:53:06,480

nothing new here

2558

01:53:12,649 --> 01:53:09,360

just like when Mick West said the mosul

2559

01:53:14,810 --> 01:53:12,659

orb was a puddle and then we saw a

2560

01:53:16,729 --> 01:53:14,820

similar video like the mosul orb that

2561

01:53:18,770 --> 01:53:16,739

showed an object moving which I think

2562

01:53:20,750 --> 01:53:18,780

it's pretty clear the mosul orb is the

2563

01:53:22,850 --> 01:53:20,760

same type of object we just haven't seen

2564

01:53:25,669 --> 01:53:22,860

the video yet we've seen a photo

2565

01:53:27,709 --> 01:53:25,679

but Mick West his his default is always

2566

01:53:30,169 --> 01:53:27,719

to explain it he's done some good work

2567

01:53:33,290 --> 01:53:30,179

some good and now analysis on videos but

2568

01:53:35,149 --> 01:53:33,300

his default on the Tic Tac early on was

2569

01:53:37,370 --> 01:53:35,159

well David fravor saw a bird or a

2570

01:53:39,890 --> 01:53:37,380

reflection and then Chad Underwood shot

2571

01:53:42,890 --> 01:53:39,900

a distant plane the gimbal is a distant

2572

01:53:44,510 --> 01:53:42,900

plane early on go fast oh well it's a

2573

01:53:47,750 --> 01:53:44,520

bird it's the same thing with him it's

2574

01:53:50,689 --> 01:53:47,760

never he always and and people say to me

2575

01:53:52,070 --> 01:53:50,699

well are you saying it's an alien no I

2576

01:53:54,290 --> 01:53:52,080

didn't say that I'm saying it's

2577

01:54:00,590 --> 01:53:54,300

unidentified it's an unknown it's

2578

01:54:05,810 --> 01:54:03,470

imagine harassing imagine harassing this

2579

01:54:08,570 --> 01:54:05,820

is a UFO Jesus

2580

01:54:10,310 --> 01:54:08,580

harassing UFO scientists for pursuing

2581

01:54:11,990 --> 01:54:10,320

the UAP issue

2582

01:54:13,370 --> 01:54:12,000

yeah it won't age well it depends on

2583

01:54:15,350 --> 01:54:13,380

what side you're talking about it's not

2584

01:54:18,830 --> 01:54:15,360

good on either side just let them do

2585

01:54:20,390 --> 01:54:18,840

their job we can we can criticize within

2586

01:54:22,609 --> 01:54:20,400

our own Community as long as it doesn't

2587

01:54:24,530 --> 01:54:22,619

go over the top

2588

01:54:27,649 --> 01:54:24,540

I'm gonna go back to what some other

2589

01:54:31,129 --> 01:54:27,659

folks were tweeting out

2590

01:54:34,729 --> 01:54:31,139

besides Riz who did a great job

2591

01:54:39,709 --> 01:54:37,370

tiny class is another account that does

2592

01:54:41,090 --> 01:54:39,719

a lot of a lot of tweeting during the

2593

01:54:43,010 --> 01:54:41,100

day is a good follow

2594

01:54:45,770 --> 01:54:43,020

Kirkpatrick says there are now 800

2595

01:54:49,129 --> 01:54:45,780

result unresolved UAP cases like I said

2596

01:54:51,470 --> 01:54:49,139

and at the hearing it was 6.50

2597

01:54:53,209 --> 01:54:51,480

I want to find the um

2598

01:54:54,830 --> 01:54:53,219

and there's some really good charts in

2599

01:54:56,870 --> 01:54:54,840

here

2600

01:54:59,330 --> 01:54:56,880

that have been tweeted out

2601
01:55:01,850 --> 01:54:59,340
talking about

2602
01:55:03,709 --> 01:55:01,860
recommendations for NASA that Sean

2603
01:55:06,169 --> 01:55:03,719
Kirkpatrick put out

2604
01:55:09,290 --> 01:55:06,179
I'm not going to go into all of that

2605
01:55:10,609 --> 01:55:09,300
one interesting

2606
01:55:14,510 --> 01:55:10,619
the most interesting thing that

2607
01:55:19,970 --> 01:55:17,270
we see these metallic orbs all over the

2608
01:55:22,910 --> 01:55:19,980
world and we see these making very

2609
01:55:25,490 --> 01:55:22,920
interesting apparent Maneuvers so what

2610
01:55:28,129 --> 01:55:25,500
are they what are those orbs

2611
01:55:31,609 --> 01:55:28,139
and

2612
01:55:36,410 --> 01:55:34,370
thinking about the orbs

2613
01:55:38,750 --> 01:55:36,420

and said but I thought some game

2614

01:55:40,970 --> 01:55:38,760

designer said it was a puddle of water

2615

01:55:43,790 --> 01:55:40,980

that's Mick West that was his

2616

01:55:46,609 --> 01:55:43,800

explanation it was a puddle

2617

01:55:48,770 --> 01:55:46,619

it's just so ridiculous it's like

2618

01:55:52,189 --> 01:55:48,780

I'm torn because some of his video

2619

01:55:56,629 --> 01:55:52,199

analysis like he he showed in my opinion

2620

01:56:01,129 --> 01:55:59,090

as far as I can tell from looking at his

2621

01:56:03,350 --> 01:56:01,139

work and

2622

01:56:05,689 --> 01:56:03,360

listening to the witnesses which I still

2623

01:56:08,510 --> 01:56:05,699

have an open mind on it turns out that

2624

01:56:10,430 --> 01:56:08,520

those were flares that's what it looks

2625

01:56:12,050 --> 01:56:10,440

like so his work on that was good he's

2626

01:56:15,169 --> 01:56:12,060

done some other good work

2627

01:56:20,810 --> 01:56:18,109

um but everything he says when he tries

2628

01:56:21,950 --> 01:56:20,820

to explain any UFO case is a prosaic

2629

01:56:23,870 --> 01:56:21,960

answer

2630

01:56:27,169 --> 01:56:23,880

all right enough enough of that enough

2631

01:56:32,209 --> 01:56:30,050

saying that we all know that

2632

01:56:32,870 --> 01:56:32,219

some more of Riz

2633

01:56:38,870 --> 01:56:32,880

um

2634

01:56:42,109 --> 01:56:38,880

from Brazil so he he was tweeting out in

2635

01:56:45,350 --> 01:56:42,119

Portuguese which was great for folks

2636

01:56:50,870 --> 01:56:48,229

trying to think what else I missed if

2637

01:56:55,609 --> 01:56:50,880

anybody else has comments let me know

2638

01:57:00,229 --> 01:56:57,350

and I've talked about it before I met

2639

01:57:03,350 --> 01:57:00,239

one of the whistleblowers Last Summer

2640

01:57:08,930 --> 01:57:03,360

guy was really really sharp

2641

01:57:13,790 --> 01:57:10,729

God was really sharp

2642

01:57:16,209 --> 01:57:13,800

I stumbled upon it I wasn't

2643

01:57:19,209 --> 01:57:16,219

it wasn't anything I did it was somebody

2644

01:57:22,729 --> 01:57:19,219

introduced me to this person

2645

01:57:24,589 --> 01:57:22,739

and at the time I didn't know they were

2646

01:57:26,390 --> 01:57:24,599

a whistleblower but I knew they were

2647

01:57:28,629 --> 01:57:26,400

involved with UFOs and I knew they

2648

01:57:31,370 --> 01:57:28,639

worked somewhere in the government

2649

01:57:34,609 --> 01:57:31,380

probably intelligence

2650

01:57:36,830 --> 01:57:34,619

for an intelligence agency so

2651
01:57:39,770 --> 01:57:36,840

I asked that person you know

2652
01:57:42,770 --> 01:57:39,780

various questions and they explained to

2653
01:57:45,169 --> 01:57:42,780

me in their opinion why certain groups

2654
01:57:46,970 --> 01:57:45,179

want to keep this quiet why they want to

2655
01:57:48,770 --> 01:57:46,980

keep it secret some groups you know they

2656
01:57:50,510 --> 01:57:48,780

have the technology and they just want

2657
01:57:53,450 --> 01:57:50,520

to keep it to themselves others don't

2658
01:57:56,629 --> 01:57:53,460

want to rock the boat and basically

2659
01:57:57,770 --> 01:57:56,639

upset the world

2660
01:57:59,390 --> 01:57:57,780

um

2661
01:58:00,950 --> 01:57:59,400

by putting out this information that

2662
01:58:02,810 --> 01:58:00,960

would just

2663
01:58:03,830 --> 01:58:02,820

you know undermine religions and things

2664

01:58:06,530 --> 01:58:03,840

like that

2665

01:58:08,750 --> 01:58:06,540

and then we had the the Evangelical

2666

01:58:10,370 --> 01:58:08,760

event Evangelical Christians which he

2667

01:58:12,350 --> 01:58:10,380

told me you know we know who those we

2668

01:58:15,050 --> 01:58:12,360

know who those people are

2669

01:58:17,030 --> 01:58:15,060

like it wasn't a really big deal as far

2670

01:58:20,810 --> 01:58:17,040

as the overall

2671

01:58:22,550 --> 01:58:20,820

groups of folks who want this kept quiet

2672

01:58:25,370 --> 01:58:22,560

um and then and I'll get to your

2673

01:58:27,709 --> 01:58:25,380

question in a second Rick

2674

01:58:29,930 --> 01:58:27,719

and this person also told me some of the

2675

01:58:32,810 --> 01:58:29,940

harassment that they had gone you know

2676

01:58:35,149 --> 01:58:32,820

been subject to intimidation and I don't

2677

01:58:36,649 --> 01:58:35,159

want to give specific intimidation what

2678

01:58:38,510 --> 01:58:36,659

he told me

2679

01:58:40,310 --> 01:58:38,520

because I don't want this person because

2680

01:58:41,810 --> 01:58:40,320

other people may know the story and

2681

01:58:43,370 --> 01:58:41,820

they're like oh

2682

01:58:46,129 --> 01:58:43,380

he's sharing that story I just don't

2683

01:58:48,470 --> 01:58:46,139

want to give specifics that can

2684

01:58:50,570 --> 01:58:48,480

that can you know help others figure out

2685

01:58:52,189 --> 01:58:50,580

who this person is and like I said on

2686

01:58:55,570 --> 01:58:52,199

Twitter I hope people hear from him

2687

01:58:57,649 --> 01:58:55,580

because he's a really really good

2688

01:58:59,930 --> 01:58:57,659

non-ufo person from what I could tell

2689

01:59:01,609 --> 01:58:59,940

who got involved and has a lot of things

2690

01:59:04,850 --> 01:59:01,619

to say

2691

01:59:08,390 --> 01:59:04,860

know

2692

01:59:12,709 --> 01:59:10,609

what do you think of Anjali crawling

2693

01:59:13,609 --> 01:59:12,719

back out from she was always around on

2694

01:59:14,689 --> 01:59:13,619

Twitter

2695

01:59:17,810 --> 01:59:14,699

um

2696

01:59:20,390 --> 01:59:17,820

and Ramirez says that

2697

01:59:23,030 --> 01:59:20,400

the UAP task force interviewed her he

2698

01:59:24,950 --> 01:59:23,040

swears that they did and she said they

2699

01:59:27,530 --> 01:59:24,960

did and Jay Stratton who was the head

2700

01:59:30,350 --> 01:59:27,540

one of the heads of the UAP task force

2701

01:59:32,510 --> 01:59:30,360

the original had did denied it through

2702

01:59:33,770 --> 01:59:32,520

Tim McMillan so I don't know

2703

01:59:36,649 --> 01:59:33,780

you know

2704

01:59:38,870 --> 01:59:36,659

I don't have a problem with her I I

2705

01:59:41,510 --> 01:59:38,880

don't really follow her I wrote One blog

2706

01:59:43,790 --> 01:59:41,520

early on on her which is still still on

2707

01:59:44,990 --> 01:59:43,800

my on my blog

2708

01:59:47,149 --> 01:59:45,000

um

2709

01:59:50,149 --> 01:59:47,159

the CAA just needs to come out and say

2710

01:59:53,570 --> 01:59:50,159

hey let us keep muddying the water

2711

01:59:55,910 --> 01:59:53,580

we're here trust us you know the ca CAA

2712

01:59:57,709 --> 01:59:55,920

is definitely in in this deep why

2713

02:00:00,770 --> 01:59:57,719

wouldn't they be of course every agency

2714

02:00:03,470 --> 02:00:00,780

is involved in this people who think

2715

02:00:05,270 --> 02:00:03,480

they're not I think you know why would

2716

02:00:06,890 --> 02:00:05,280

you not you have unknown objects in our

2717

02:00:08,810 --> 02:00:06,900

airspace everybody wants to know what

2718

02:00:09,770 --> 02:00:08,820

that what that is

2719

02:00:11,870 --> 02:00:09,780

um

2720

02:00:13,490 --> 02:00:11,880

and I don't I'm not to the point where

2721

02:00:15,290 --> 02:00:13,500

I'm going to debate it with Skeptics who

2722

02:00:17,089 --> 02:00:15,300

say well we really don't have proof we

2723

02:00:19,490 --> 02:00:17,099

don't have proof

2724

02:00:20,930 --> 02:00:19,500

um yeah we do I think it's overwhelming

2725

02:00:22,609 --> 02:00:20,940

in a court of law we can prove that

2726

02:00:24,890 --> 02:00:22,619

there are objects

2727

02:00:26,629 --> 02:00:24,900

in our airspace and let me just go

2728

02:00:28,609 --> 02:00:26,639

through live Twitter

2729

02:00:32,030 --> 02:00:28,619

um

2730

02:00:37,010 --> 02:00:34,550

I don't have the audio from that do we

2731

02:00:39,649 --> 02:00:37,020

so John um Jeremy's talking about the

2732

02:00:41,270 --> 02:00:39,659

the citizen hearing on disclosure which

2733

02:00:44,149 --> 02:00:41,280

is on

2734

02:00:46,490 --> 02:00:44,159

YouTube you could see the entire thing

2735

02:00:48,169 --> 02:00:46,500

it was cleaned up it was

2736

02:00:49,729 --> 02:00:48,179

I mean it looks really good for

2737

02:00:51,109 --> 02:00:49,739

something I forget the date of when it

2738

02:00:54,229 --> 02:00:51,119

was but it looks really good and here

2739

02:00:55,970 --> 02:00:54,239

that's John Callahan talking about John

2740

02:00:58,850 --> 02:00:55,980

Callahan was

2741

02:01:00,770 --> 02:00:58,860

with the FAA when the Japan Airlines

2742

02:01:03,250 --> 02:01:00,780

incident happened and they had he had

2743

02:01:06,649 --> 02:01:03,260

radar of the object

2744

02:01:08,510 --> 02:01:06,659

and the FBI I believe came in and

2745

02:01:11,149 --> 02:01:08,520

confiscated it or they told him to

2746

02:01:12,530 --> 02:01:11,159

destroy everything but he did not

2747

02:01:13,729 --> 02:01:12,540

it's one of the few times we've had

2748

02:01:18,350 --> 02:01:13,739

radar

2749

02:01:19,910 --> 02:01:18,360

the 2019 instance which a lot of people

2750

02:01:22,850 --> 02:01:19,920

still think

2751
02:01:25,550 --> 02:01:22,860
are drones I I don't know what that was

2752
02:01:27,410 --> 02:01:25,560
but it's not Chinese drones I do not

2753
02:01:30,490 --> 02:01:27,420
believe that and

2754
02:01:33,649 --> 02:01:30,500
you guys will get to hear more from

2755
02:01:36,169 --> 02:01:33,659
hopefully the next couple of days when

2756
02:01:39,050 --> 02:01:36,179
Jay Stratton and Travis Taylor spoke at

2757
02:01:41,629 --> 02:01:39,060
alien con and spoke about that case in

2758
02:01:46,430 --> 02:01:43,970
let's see if I can find anything else

2759
02:01:51,050 --> 02:01:46,440
new so yeah we're on a lunch break right

2760
02:01:54,709 --> 02:01:53,030
are they did Kirkpatrick could talk

2761
02:01:56,930 --> 02:01:54,719
about the five eyes who were briefed the

2762
02:02:02,629 --> 02:01:56,940
last week that's the United States

2763
02:02:08,270 --> 02:02:04,669

New Zealand

2764

02:02:13,609 --> 02:02:10,970

no NASA has not mentioned any sightings

2765

02:02:15,410 --> 02:02:13,619

in space alleged sightings of UFOs we've

2766

02:02:18,050 --> 02:02:15,420

seen we've seen videos over the years

2767

02:02:19,729 --> 02:02:18,060

that look like UFOs or have been

2768

02:02:22,189 --> 02:02:19,739

explained as

2769

02:02:24,050 --> 02:02:22,199

ice crystals being jettisoned by the

2770

02:02:26,570 --> 02:02:24,060

space shuttles

2771

02:02:28,930 --> 02:02:26,580

rocket boosters and taking off and

2772

02:02:33,410 --> 02:02:28,940

people said no it was a UFO that was

2773

02:02:34,790 --> 02:02:33,420

escaping a ground-based weapon I don't

2774

02:02:36,649 --> 02:02:34,800

know we don't have anything clear-cut

2775

02:02:38,330 --> 02:02:36,659

from NASA footage and if they have their

2776

02:02:44,689 --> 02:02:38,340

own footage that's

2777

02:02:51,950 --> 02:02:48,709

uh Nick Pope who ran a UFO desk in the

2778

02:02:54,189 --> 02:02:51,960

UK Nick Pope has a lot of detractors for

2779

02:02:56,870 --> 02:02:54,199

me I I'm not a fan of him being

2780

02:02:58,850 --> 02:02:56,880

connected to Stephen Green Street I

2781

02:03:01,550 --> 02:02:58,860

don't know if he still is but

2782

02:03:04,430 --> 02:03:01,560

Nick says for UK journalists covering

2783

02:03:07,910 --> 02:03:04,440

the NASA UAP meeting

2784

02:03:10,010 --> 02:03:07,920

I can't overstate

2785

02:03:11,750 --> 02:03:10,020

the significance of the five eyes

2786

02:03:14,030 --> 02:03:11,760

statement

2787

02:03:15,830 --> 02:03:14,040

the ministry of Defense has previously

2788

02:03:18,649 --> 02:03:15,840

refused to comment on whether it's

2789

02:03:22,490 --> 02:03:18,659

liaison liaising with arrow and the mod

2790

02:03:26,149 --> 02:03:22,500

axed their UFO desk in 2009 so it's good

2791

02:03:31,129 --> 02:03:28,729

Ariel Elizabeth talks about the

2792

02:03:32,450 --> 02:03:31,139

stigma that was mentioned several times

2793

02:03:35,149 --> 02:03:32,460

during

2794

02:03:36,890 --> 02:03:35,159

the panel and so stigma is still a big

2795

02:03:39,050 --> 02:03:36,900

issue and hopefully

2796

02:03:40,729 --> 02:03:39,060

anybody harassing these people needs to

2797

02:03:42,830 --> 02:03:40,739

need to stop

2798

02:03:52,310 --> 02:03:42,840

critical being critical is fine but

2799

02:03:56,510 --> 02:03:54,229

so music and Truth says he certainly

2800

02:04:00,229 --> 02:03:56,520

harassed Nadia Drake for saying she

2801
02:04:05,390 --> 02:04:03,649
she got a lot of flack for that comment

2802
02:04:07,250 --> 02:04:05,400
yeah I don't know if that's considered

2803
02:04:08,570 --> 02:04:07,260
harassment or not

2804
02:04:10,430 --> 02:04:08,580
so

2805
02:04:12,410 --> 02:04:10,440
unless they specifically tell us I

2806
02:04:15,050 --> 02:04:12,420
really came coming coming they're coming

2807
02:04:16,729 --> 02:04:15,060
back in the room yes thank you

2808
02:04:26,209 --> 02:04:16,739
let me get it back

2809
02:04:30,210 --> 02:04:29,810
share screen boom

2810
02:04:31,790 --> 02:04:30,220
boom

2811
02:04:35,930 --> 02:04:31,800
[Music]

2812
02:04:43,370 --> 02:04:38,390
should be back audio they're just quiet

2813
02:04:43,380 --> 02:04:47,030

foreign

2814

02:04:51,709 --> 02:04:50,510

I just think maybe he doesn't have that

2815

02:04:53,089 --> 02:04:51,719

data

2816

02:04:55,070 --> 02:04:53,099

um

2817

02:04:57,709 --> 02:04:55,080

I don't think he's lying

2818

02:05:00,229 --> 02:04:57,719

at the at the the most you could say of

2819

02:05:01,850 --> 02:05:00,239

Kirkpatrick he's very conservative and

2820

02:05:03,350 --> 02:05:01,860

he's not going to say more than he has

2821

02:05:05,149 --> 02:05:03,360

to

2822

02:05:06,649 --> 02:05:05,159

like I said with whistleblowers he

2823

02:05:08,209 --> 02:05:06,659

doesn't want to talk about that maybe he

2824

02:05:10,490 --> 02:05:08,219

has been told do not talk about

2825

02:05:12,410 --> 02:05:10,500

whistleblowers unless you're asked about

2826
02:05:15,050 --> 02:05:12,420
Witnesses you can see say something

2827
02:05:17,750 --> 02:05:15,060
basic but do not go anything into depth

2828
02:05:19,310 --> 02:05:17,760
of what you're being told

2829
02:05:21,109 --> 02:05:19,320
Kirkpatrick said entering the water

2830
02:05:23,390 --> 02:05:21,119
videos has been explained I think he

2831
02:05:25,490 --> 02:05:23,400
said it was a sensor anomaly and I

2832
02:05:29,209 --> 02:05:25,500
missed that I saw somebody tweet it they

2833
02:05:31,070 --> 02:05:29,219
would be releasing info later

2834
02:05:33,410 --> 02:05:31,080
um yeah I don't know if that's what he's

2835
02:05:35,270 --> 02:05:33,420
talking about the splash splash video

2836
02:05:37,070 --> 02:05:35,280
that Jeremy put out

2837
02:05:38,810 --> 02:05:37,080
um then you have Aguadilla that looks

2838
02:05:40,550 --> 02:05:38,820

like it goes into the water but it's not

2839

02:05:42,109 --> 02:05:40,560

clear-cut

2840

02:05:43,729 --> 02:05:42,119

um

2841

02:05:45,109 --> 02:05:43,739

yeah we've been told these are trans

2842

02:05:47,689 --> 02:05:45,119

medium I mean that's one of the five

2843

02:05:49,430 --> 02:05:47,699

observables Lou has spoken about trans

2844

02:05:51,589 --> 02:05:49,440

medium travel so

2845

02:05:53,450 --> 02:05:51,599

do we have any classified data on that I

2846

02:05:55,669 --> 02:05:53,460

mean if there is and he's saying the

2847

02:05:57,290 --> 02:05:55,679

opposite that would be a lie but so I

2848

02:05:58,669 --> 02:05:57,300

don't think he I don't know I don't know

2849

02:06:00,890 --> 02:05:58,679

what to think on that

2850

02:06:04,609 --> 02:06:00,900

and hopefully

2851
02:06:07,910 --> 02:06:04,619
oh no wonder I haven't paused damn it

2852
02:06:10,070 --> 02:06:07,920
sorry but

2853
02:06:11,870 --> 02:06:10,080
[Music]

2854
02:06:15,109 --> 02:06:11,880
just

2855
02:06:15,119 --> 02:06:17,930
get up

2856
02:06:17,940 --> 02:06:21,709
sorry about that

2857
02:06:26,870 --> 02:06:23,270
not really behind because I'm catching

2858
02:06:33,589 --> 02:06:28,609
and I'm having some computer issues

2859
02:06:33,599 --> 02:06:37,970
I lost my oh there we go concert

2860
02:06:41,270 --> 02:06:40,609
all right we're live now good

2861
02:06:42,589 --> 02:06:41,280
um

2862
02:06:43,970 --> 02:06:42,599
yeah I don't know I'm really curious to

2863
02:06:45,350 --> 02:06:43,980

see what he comes up with on that I

2864

02:06:48,229 --> 02:06:45,360

don't know why

2865

02:06:50,209 --> 02:06:48,239

he would go out of his way to to mislead

2866

02:06:51,890 --> 02:06:50,219

us on trans medium

2867

02:06:54,530 --> 02:06:51,900

but maybe he has he has something

2868

02:06:56,629 --> 02:06:54,540

clear-cut that shows

2869

02:06:58,609 --> 02:06:56,639

the videos we've seen so far are not

2870

02:07:00,950 --> 02:06:58,619

trans medium I know Jeremy Corbell has

2871

02:07:02,450 --> 02:07:00,960

spoken about he has spoken to Witnesses

2872

02:07:05,570 --> 02:07:02,460

I believe

2873

02:07:07,550 --> 02:07:05,580

who feel they I don't know if they saw

2874

02:07:09,050 --> 02:07:07,560

objects coming in and out of the water I

2875

02:07:11,990 --> 02:07:09,060

think they were folks in helicopters

2876

02:07:13,850 --> 02:07:12,000

related to the 2019 incidents

2877

02:07:15,770 --> 02:07:13,860

who went out looking but I'm not sure

2878

02:07:18,470 --> 02:07:15,780

about that I mean don't do not quote me

2879

02:07:21,709 --> 02:07:20,270

yeah I don't know what kind of music

2880

02:07:23,930 --> 02:07:21,719

they have

2881

02:07:25,729 --> 02:07:23,940

a series a short presentations by

2882

02:07:29,629 --> 02:07:25,739

members of the panel and their thoughts

2883

02:07:31,370 --> 02:07:29,639

on different aspects of our charge

2884

02:07:34,189 --> 02:07:31,380

and the format is we're going to have

2885

02:07:35,990 --> 02:07:34,199

them come up to the podium and speak

2886

02:07:37,729 --> 02:07:36,000

and I'm going to ask each of the

2887

02:07:40,010 --> 02:07:37,739

speakers then to take questions it's

2888

02:07:42,050 --> 02:07:40,020

actually the angle with this setup is

2889

02:07:43,850 --> 02:07:42,060

you you can see the people better from

2890

02:07:45,350 --> 02:07:43,860

the podium than I can where it's hard to

2891

02:07:49,070 --> 02:07:45,360

see people behind you

2892

02:07:51,950 --> 02:07:49,080

I'm going to try to keep manage the time

2893

02:07:53,570 --> 02:07:51,960

so as those questions you know come to

2894

02:07:54,589 --> 02:07:53,580

an end I'll cut you off and bring up the

2895

02:07:58,129 --> 02:07:54,599

next speaker

2896

02:08:00,109 --> 02:07:58,139

and we'll move through the the six

2897

02:08:02,810 --> 02:08:00,119

topics and then we'll have some time at

2898

02:08:05,629 --> 02:08:02,820

the end for some general discussion

2899

02:08:07,970 --> 02:08:05,639

uh the first speaker will be Dr Nadia

2900

02:08:11,209 --> 02:08:07,980

Drake talking about framing the issues

2901

02:08:11,219 --> 02:08:14,709

thank you

2902

02:08:19,990 --> 02:08:17,930

hello and welcome back from lunch

2903

02:08:22,310 --> 02:08:20,000

everybody and uh welcome to those of you

2904

02:08:24,169 --> 02:08:22,320

watching us virtually

2905

02:08:26,270 --> 02:08:24,179

um I'm Nadia I am a Scientist by

2906

02:08:29,450 --> 02:08:26,280

training I'm also a science journalist

2907

02:08:31,070 --> 02:08:29,460

now and my job is to try and synthesize

2908

02:08:34,129 --> 02:08:31,080

the information that we've learned so

2909

02:08:36,649 --> 02:08:34,139

far and summarize the situation so if

2910

02:08:39,410 --> 02:08:36,659

you will put together a framework for

2911

02:08:41,750 --> 02:08:39,420

thinking about UAP now I'm going to try

2912

02:08:43,490 --> 02:08:41,760

and do this in a way that reflects the

2913

02:08:45,649 --> 02:08:43,500

thoughts of the entire panel although

2914

02:08:48,229 --> 02:08:45,659

obviously we have a variety of opinions

2915

02:08:50,149 --> 02:08:48,239

and ideas Among Us so I'd like to leave

2916

02:08:52,250 --> 02:08:50,159

some time at the end for you to weigh in

2917

02:08:53,510 --> 02:08:52,260

with disagreements or concurrences as

2918

02:08:56,390 --> 02:08:53,520

needed

2919

02:08:58,850 --> 02:08:56,400

so first a housekeeping matter the

2920

02:09:00,910 --> 02:08:58,860

definition of UAP changed during the

2921

02:09:03,530 --> 02:09:00,920

seven months of our fact-finding process

2922

02:09:05,629 --> 02:09:03,540

UAP initially stood for unidentified

2923

02:09:07,310 --> 02:09:05,639

aerial phenomena with Ariel referring to

2924

02:09:10,070 --> 02:09:07,320

events occurring in Earth's atmosphere

2925

02:09:12,350 --> 02:09:10,080

that a is now defined as anomalous which

2926

02:09:14,570 --> 02:09:12,360

includes the space air and undersea

2927

02:09:16,370 --> 02:09:14,580

domains as a panel I think we have

2928

02:09:18,350 --> 02:09:16,380

decided to continue focusing our

2929

02:09:20,030 --> 02:09:18,360

recommendations on the aerial domain

2930

02:09:22,250 --> 02:09:20,040

because that is where the majority of

2931

02:09:24,109 --> 02:09:22,260

sightings and events have occurred and

2932

02:09:25,609 --> 02:09:24,119

also because we couldn't fully pivot to

2933

02:09:28,189 --> 02:09:25,619

address the expanded scope of the new

2934

02:09:32,990 --> 02:09:30,290

beyond that there are three points I

2935

02:09:35,570 --> 02:09:33,000

want to make the first is that for UAP

2936

02:09:39,229 --> 02:09:35,580

are obviously quite interesting right

2937

02:09:41,209 --> 02:09:39,239

that is why we are here

2938

02:09:43,370 --> 02:09:41,219

recently many credible Witnesses have

2939

02:09:45,229 --> 02:09:43,380

reported seeing unidentified objects in

2940

02:09:48,470 --> 02:09:45,239

the sky some of which are behaving

2941

02:09:50,689 --> 02:09:48,480

rather peculiarly peculiarly

2942

02:09:52,189 --> 02:09:50,699

in some instances these reports include

2943

02:09:54,709 --> 02:09:52,199

corroborating data from various

2944

02:09:57,530 --> 02:09:54,719

instruments various sensors

2945

02:09:59,390 --> 02:09:57,540

the challenge that we have is that the

2946

02:10:01,910 --> 02:09:59,400

data needed to explain these anomalous

2947

02:10:04,070 --> 02:10:01,920

sightings often do not exist or

2948

02:10:05,930 --> 02:10:04,080

incomplete for generating a conclusive

2949

02:10:08,689 --> 02:10:05,940

analysis

2950

02:10:10,370 --> 02:10:08,699

this includes eyewitness reports which

2951

02:10:12,530 --> 02:10:10,380

on their own can be interesting and

2952

02:10:14,330 --> 02:10:12,540

compelling but often lack the

2953

02:10:17,689 --> 02:10:14,340

information needed to make definitive

2954

02:10:19,669 --> 02:10:17,699

conclusions about an object's provenance

2955

02:10:21,470 --> 02:10:19,679

we as a panel are thinking about the

2956

02:10:23,570 --> 02:10:21,480

types of data that might add value to

2957

02:10:25,490 --> 02:10:23,580

those reports and which could be useful

2958

02:10:28,850 --> 02:10:25,500

on their own

2959

02:10:31,070 --> 02:10:28,860

as a corollary to date in the refereed

2960

02:10:32,810 --> 02:10:31,080

scientific literature there is no

2961

02:10:36,109 --> 02:10:32,820

conclusive evidence suggesting an

2962

02:10:38,209 --> 02:10:36,119

extraterrestrial origin for UAP

2963

02:10:40,250 --> 02:10:38,219

collecting more good data for the

2964

02:10:41,930 --> 02:10:40,260

scientific Community to review in a

2965

02:10:46,850 --> 02:10:41,940

peer-reviewed context will be important

2966

02:10:46,860 --> 02:10:49,970

foreign

2967

02:10:55,430 --> 02:10:53,450

UAP offer an excellent opportunity to

2968

02:10:58,129 --> 02:10:55,440

demonstrate the power of the scientific

2969

02:10:59,750 --> 02:10:58,139

method and of empirically addressing a

2970

02:11:00,950 --> 02:10:59,760

question using a multi-disciplinary

2971

02:11:03,290 --> 02:11:00,960

approach

2972

02:11:05,270 --> 02:11:03,300

it is our job as a panel to make some

2973

02:11:07,910 --> 02:11:05,280

recommendations about how NASA might go

2974

02:11:09,470 --> 02:11:07,920

about tackling this topic scientifically

2975

02:11:13,129 --> 02:11:09,480

taking advantage of the agency's

2976

02:11:15,709 --> 02:11:13,139

resources Global Outreach and reputation

2977

02:11:17,930 --> 02:11:15,719

key points to keep in mind here

2978

02:11:19,490 --> 02:11:17,940

are that science is hypo science is

2979

02:11:21,709 --> 02:11:19,500

hypothesis driven

2980

02:11:24,550 --> 02:11:21,719

scientists build confidence in their

2981

02:11:26,810 --> 02:11:24,560

theories by relying on well-calibrated

2982

02:11:29,209 --> 02:11:26,820

well-collected data using

2983

02:11:32,990 --> 02:11:29,219

well-established methods with rigorous

2984

02:11:36,410 --> 02:11:33,000

evaluation and independent corroboration

2985

02:11:38,030 --> 02:11:36,420

in science skepticism is not a bias nor

2986

02:11:40,310 --> 02:11:38,040

is it a bad word

2987

02:11:41,990 --> 02:11:40,320

it is not our job to Define nature but

2988

02:11:44,750 --> 02:11:42,000

to study it in ways that let nature

2989

02:11:47,030 --> 02:11:44,760

reveal itself to us regardless of how

2990

02:11:48,709 --> 02:11:47,040

exciting or disappointing that reality

2991

02:11:50,330 --> 02:11:48,719

might be

2992

02:11:52,550 --> 02:11:50,340

and to that end when we're thinking

2993

02:11:53,810 --> 02:11:52,560

about making recommendations about how

2994

02:11:55,970 --> 02:11:53,820

NASA can tackle this topic

2995

02:11:57,589 --> 02:11:55,980

scientifically I think it's important to

2996

02:11:58,910 --> 02:11:57,599

remember that it's not NASA's job to

2997

02:12:00,950 --> 02:11:58,920

replicate the efforts of the Department

2998

02:12:02,990 --> 02:12:00,960

of Defense but rather to consider

2999

02:12:04,729 --> 02:12:03,000

approaches that are complementary to

3000

02:12:07,129 --> 02:12:04,739

what the all domain anomaly resolution

3001

02:12:08,870 --> 02:12:07,139

office is doing

3002

02:12:11,390 --> 02:12:08,880

and so one of the questions that we as a

3003

02:12:13,609 --> 02:12:11,400

panel I think need to Center is what can

3004

02:12:16,550 --> 02:12:13,619

we recommend that NASA can do that the

3005

02:12:20,990 --> 02:12:19,010

third point to that end what are we even

3006

02:12:22,129 --> 02:12:21,000

looking for how are we defining this

3007

02:12:24,109 --> 02:12:22,139

problem

3008

02:12:26,510 --> 02:12:24,119

and how do the available data Define

3009

02:12:28,490 --> 02:12:26,520

what seems to be to borrow a cliché a

3010

02:12:29,750 --> 02:12:28,500

very slender needle in a very big

3011

02:12:31,129 --> 02:12:29,760

haystack

3012

02:12:34,550 --> 02:12:31,139

we heard a little bit about that today

3013

02:12:36,729 --> 02:12:34,560

from Dr Kirkpatrick who reported that

3014

02:12:40,370 --> 02:12:36,739

there have been 800 events

3015

02:12:42,709 --> 02:12:40,380

collected over about 27 years

3016

02:12:44,510 --> 02:12:42,719

and between two and five percent of

3017

02:12:47,030 --> 02:12:44,520

those events display signatures that

3018

02:12:48,950 --> 02:12:47,040

could be anomalous defined as anything

3019

02:12:51,109 --> 02:12:48,960

that is not readily understandable by

3020

02:12:54,229 --> 02:12:51,119

the operator or the sensor something

3021

02:12:58,910 --> 02:12:56,689

Mr free and some of the experts on our

3022

02:13:01,370 --> 02:12:58,920

panel have defined the background on

3023

02:13:04,069 --> 02:13:01,380

which those events exist the amount of

3024

02:13:05,870 --> 02:13:04,079

stuff in the sky at any given time like

3025

02:13:08,629 --> 02:13:05,880

so

3026
02:13:11,209 --> 02:13:08,639
on average FAA air traffic control

3027
02:13:14,390 --> 02:13:11,219
handles 45 000 flights per day in U.S

3028
02:13:15,830 --> 02:13:14,400
airspace with 5400 aircraft in the sky

3029
02:13:17,689 --> 02:13:15,840
at Peak time

3030
02:13:20,330 --> 02:13:17,699
worldwide on average there are about

3031
02:13:22,970 --> 02:13:20,340
1600 weather balloon launches per day

3032
02:13:24,290 --> 02:13:22,980
in the U.S there are at least 184 of

3033
02:13:25,850 --> 02:13:24,300
those balloons launched and that doesn't

3034
02:13:27,410 --> 02:13:25,860
include private companies or research

3035
02:13:29,689 --> 02:13:27,420
flights

3036
02:13:32,330 --> 02:13:29,699
there are about 1.69 million

3037
02:13:33,830 --> 02:13:32,340
recreational or model small uncrewed

3038
02:13:36,709 --> 02:13:33,840

aircraft systems

3039

02:13:38,140 --> 02:13:36,719

and an additional 880 000 drones are

3040

02:13:39,350 --> 02:13:38,150

registered for commercial use

3041

02:13:40,729 --> 02:13:39,360

[Music]

3042

02:13:42,649 --> 02:13:40,739

and these are not controlled by air

3043

02:13:44,270 --> 02:13:42,659

traffic control and they are not

3044

02:13:45,470 --> 02:13:44,280

scheduled flights

3045

02:13:47,890 --> 02:13:45,480

so that's our challenge

3046

02:13:50,270 --> 02:13:47,900

[Music]

3047

02:13:52,069 --> 02:13:50,280

so when making recommendations as a

3048

02:13:54,290 --> 02:13:52,079

panel I think we need to look at what

3049

02:13:56,030 --> 02:13:54,300

kind of imprint we want to leave what

3050

02:13:58,189 --> 02:13:56,040

does the situation look like five years

3051
02:13:59,209 --> 02:13:58,199
from now what does it look like 10 years

3052
02:14:02,030 --> 02:13:59,219
from now

3053
02:14:03,530 --> 02:14:02,040
why are we making these recommendations

3054
02:14:06,109 --> 02:14:03,540
we heard a little bit about this this

3055
02:14:07,609 --> 02:14:06,119
morning from both Mike and David who

3056
02:14:09,709 --> 02:14:07,619
noted that many discoveries in science

3057
02:14:12,530 --> 02:14:09,719
are rooted and initially unexplained and

3058
02:14:14,689 --> 02:14:12,540
bizarre phenomena so by carefully

3059
02:14:17,149 --> 02:14:14,699
scrutinizing the sky or however we end

3060
02:14:18,950 --> 02:14:17,159
up defining our search space and by

3061
02:14:21,050 --> 02:14:18,960
collaborating across disciplines we are

3062
02:14:23,209 --> 02:14:21,060
likely to learn new things about our

3063
02:14:24,950 --> 02:14:23,219

planet that's a fact

3064

02:14:25,970 --> 02:14:24,960

and that's the commensal science case we

3065

02:14:26,970 --> 02:14:25,980

might want to consider when making

3066

02:14:28,129 --> 02:14:26,980

recommendations here

3067

02:14:30,770 --> 02:14:28,139

[Music]

3068

02:14:33,290 --> 02:14:30,780

all right

3069

02:14:37,669 --> 02:14:33,300

does anyone have questions thoughts

3070

02:14:37,679 --> 02:14:40,970

oh Carlin

3071

02:14:45,840 --> 02:14:43,250

I guess I want to challenge a little bit

3072

02:14:51,350 --> 02:14:47,890

[Music]

3073

02:14:53,390 --> 02:14:51,360

but I'm not sure we've precluded

3074

02:14:55,910 --> 02:14:53,400

um anything beyond the aerial for this

3075

02:14:57,490 --> 02:14:55,920

panel and and so I'm just very excited

3076

02:14:59,990 --> 02:14:57,500

because the question for us even though

3077

02:15:02,990 --> 02:15:00,000

mostly what we've seen and I think

3078

02:15:04,850 --> 02:15:03,000

Nash's NASA's mission space will be more

3079

02:15:07,490 --> 02:15:04,860

the aerial

3080

02:15:09,470 --> 02:15:07,500

I agree with you and I think that is a

3081

02:15:11,810 --> 02:15:09,480

parameter that we need to Define as a

3082

02:15:15,950 --> 02:15:14,450

I'll just uh quickly jump in and Echo

3083

02:15:17,990 --> 02:15:15,960

some remarks I made this morning that

3084

02:15:20,750 --> 02:15:18,000

yes the a change from aerial to

3085

02:15:22,729 --> 02:15:20,760

anomalous but it's also accurate to say

3086

02:15:25,189 --> 02:15:22,739

that the preponderance for events

3087

02:15:27,649 --> 02:15:25,199

are in the aerial domain that being said

3088

02:15:29,330 --> 02:15:27,659

your panel scope has expanded outwards

3089

02:15:32,990 --> 02:15:29,340

so I think we'll hear a little bit um

3090

02:15:35,569 --> 02:15:33,000

from David later on that very subject

3091

02:15:37,669 --> 02:15:35,579

I mean I think anomalous

3092

02:15:40,790 --> 02:15:37,679

people often think about it as going

3093

02:15:43,010 --> 02:15:40,800

down including ocean but I think what's

3094

02:15:46,729 --> 02:15:43,020

very relevant for NASA is going out

3095

02:15:48,229 --> 02:15:46,739

right and you know looking at things in

3096

02:15:50,870 --> 02:15:48,239

our solar system

3097

02:15:52,129 --> 02:15:50,880

and I think in some sense

3098

02:15:55,189 --> 02:15:52,139

um I think there's certain

3099

02:15:57,890 --> 02:15:55,199

responsibilities in you know we look at

3100

02:16:01,550 --> 02:15:57,900

airspace there's FAA responsibilities

3101
02:16:03,609 --> 02:16:01,560
there's DOD responsibilities as you get

3102
02:16:06,470 --> 02:16:03,619
further and further away from the earth

3103
02:16:08,990 --> 02:16:06,480
eventually it's all massive

3104
02:16:10,970 --> 02:16:09,000
once you get up you know towards you

3105
02:16:13,550 --> 02:16:10,980
know most certainly much of the solar

3106
02:16:18,169 --> 02:16:13,560
system and out uh to our galaxy that's

3107
02:16:21,050 --> 02:16:18,179
all massive and uh when we start you

3108
02:16:22,250 --> 02:16:21,060
know thinking about things like uh you

3109
02:16:23,990 --> 02:16:22,260
know and this will be you know David

3110
02:16:25,910 --> 02:16:24,000
will get to this observations beyond the

3111
02:16:29,569 --> 02:16:25,920
Earth's atmosphere I think this change

3112
02:16:31,609 --> 02:16:29,579
in language lets us also think about uh

3113
02:16:35,030 --> 02:16:31,619

out you know further out

3114

02:16:36,770 --> 02:16:35,040

in the solar system as well

3115

02:16:39,290 --> 02:16:36,780

good yeah

3116

02:16:41,629 --> 02:16:39,300

other thoughts

3117

02:16:46,669 --> 02:16:41,639

great did I summarize everything totally

3118

02:16:46,679 --> 02:16:56,830

well

3119

02:17:05,270 --> 02:16:58,969

all right

3120

02:17:09,349 --> 02:17:05,280

was the perfect uh intro and segue by Dr

3121

02:17:12,110 --> 02:17:09,359

Drake for addressing why NASA uh what

3122

02:17:13,910 --> 02:17:12,120

what is or what are NASA's roles in UAP

3123

02:17:17,570 --> 02:17:13,920

studies

3124

02:17:19,250 --> 02:17:17,580

so NASA primarily is a science-driven

3125

02:17:22,129 --> 02:17:19,260

agency

3126

02:17:25,190 --> 02:17:22,139

committed to exploring and understanding

3127

02:17:27,169 --> 02:17:25,200

air and space and this includes as we

3128

02:17:29,810 --> 02:17:27,179

were just discussing the unknown right

3129

02:17:31,790 --> 02:17:29,820

whether that's the farthest reaches of

3130

02:17:33,290 --> 02:17:31,800

the universe or right here on our home

3131

02:17:36,349 --> 02:17:33,300

planet

3132

02:17:39,110 --> 02:17:36,359

in that light NASA has over 60 years of

3133

02:17:41,570 --> 02:17:39,120

experience measuring phenomena in air

3134

02:17:43,370 --> 02:17:41,580

and space in space

3135

02:17:45,110 --> 02:17:43,380

um an air that might be Aeronautics

3136

02:17:46,969 --> 02:17:45,120

astronomy

3137

02:17:50,089 --> 02:17:46,979

as well as measuring other Earth

3138

02:17:52,490 --> 02:17:50,099

phenomena and this may include aquatic

3139

02:17:54,169 --> 02:17:52,500

or atmospheric phenomena as well and

3140

02:17:56,089 --> 02:17:54,179

they do this using the unique vantage

3141

02:17:59,209 --> 02:17:56,099

point of space

3142

02:18:02,570 --> 02:17:59,219

NASA's Mission data and Technical

3143

02:18:05,870 --> 02:18:02,580

expertise in science and engineering may

3144

02:18:07,790 --> 02:18:05,880

also help investigate and understand any

3145

02:18:10,790 --> 02:18:07,800

of the reported phenomena

3146

02:18:13,250 --> 02:18:10,800

it makes sense to explore what new

3147

02:18:15,889 --> 02:18:13,260

observations or measurements or studies

3148

02:18:17,929 --> 02:18:15,899

might contribute to the understanding of

3149

02:18:20,929 --> 02:18:17,939

reported phenomena

3150

02:18:22,669 --> 02:18:20,939

in that light uh Dr Fox made this point

3151

02:18:25,910 --> 02:18:22,679

this morning there's a tremendous

3152

02:18:27,830 --> 02:18:25,920

Archive of NASA data these are from

3153

02:18:29,750 --> 02:18:27,840

satellites and other space-based and

3154

02:18:31,610 --> 02:18:29,760

ground networks as well as other assets

3155

02:18:34,549 --> 02:18:31,620

and these are freely and openly

3156

02:18:38,030 --> 02:18:34,559

available to the public

3157

02:18:41,209 --> 02:18:38,040

NASA research as was mentioned also

3158

02:18:43,810 --> 02:18:41,219

supports a wide range of methods

3159

02:18:46,910 --> 02:18:43,820

this includes Advanced Data analysis

3160

02:18:49,490 --> 02:18:46,920

modeling Cutting Edge computational and

3161

02:18:52,429 --> 02:18:49,500

data visualization tools and these are

3162

02:18:53,870 --> 02:18:52,439

all useful for investigating unexplained

3163

02:18:56,929 --> 02:18:53,880

observations

3164

02:18:59,570 --> 02:18:56,939

which may be crucial in studying these

3165

02:19:03,709 --> 02:19:02,509

discoveries and results are all publicly

3166

02:19:05,270 --> 02:19:03,719

available

3167

02:19:07,009 --> 02:19:05,280

and this can be something from the

3168

02:19:09,230 --> 02:19:07,019

characterization of extraterrestrial

3169

02:19:10,129 --> 02:19:09,240

solar planets or the hole in the ozone

3170

02:19:11,929 --> 02:19:10,139

layer

3171

02:19:15,650 --> 02:19:11,939

and these are communicated publicly

3172

02:19:18,230 --> 02:19:15,660

through many outlets through the agency

3173

02:19:19,490 --> 02:19:18,240

NASA also has a long-standing public

3174

02:19:21,889 --> 02:19:19,500

Trust

3175

02:19:24,730 --> 02:19:21,899

this is essential to communicate those

3176
02:19:27,530 --> 02:19:24,740
findings about phenomena to the public

3177
02:19:29,929 --> 02:19:27,540
and as was mentioned several times very

3178
02:19:32,690 --> 02:19:29,939
important to destigmatize

3179
02:19:37,009 --> 02:19:32,700
the reporting and raise awareness of

3180
02:19:39,709 --> 02:19:37,019
cultural and social barriers to doing so

3181
02:19:41,570 --> 02:19:39,719
NASA has a unique strength in leveraging

3182
02:19:43,849 --> 02:19:41,580
public and private Partnerships that

3183
02:19:45,410 --> 02:19:43,859
could result in new technologies that

3184
02:19:47,870 --> 02:19:45,420
may be useful in observing and

3185
02:19:49,370 --> 02:19:47,880
understanding reported phenomena

3186
02:19:51,110 --> 02:19:49,380
these Partners could include other

3187
02:19:55,070 --> 02:19:51,120
federal agencies we've heard from the

3188
02:19:56,870 --> 02:19:55,080

FAA today as well as NOAA was identified

3189

02:19:59,450 --> 02:19:56,880

and they may collect data that could

3190

02:20:02,929 --> 02:19:59,460

help to understand reported phenomena

3191

02:20:05,389 --> 02:20:02,939

in addition NASA has a strong

3192

02:20:07,610 --> 02:20:05,399

record of international collaboration

3193

02:20:09,889 --> 02:20:07,620

which could be beneficial

3194

02:20:12,530 --> 02:20:09,899

to study any of these phenomena as that

3195

02:20:14,630 --> 02:20:12,540

may require Global cooperation and data

3196

02:20:18,050 --> 02:20:14,640

sharing

3197

02:20:20,150 --> 02:20:18,060

and then one thing that really strikes

3198

02:20:22,130 --> 02:20:20,160

me is that new

3199

02:20:24,050 --> 02:20:22,140

understanding of anomalous events really

3200

02:20:26,030 --> 02:20:24,060

comes from when we bring communities

3201
02:20:29,210 --> 02:20:26,040
together interdisciplinary communities

3202
02:20:31,310 --> 02:20:29,220
that would not necessarily collaborate

3203
02:20:33,050 --> 02:20:31,320
um in in in my world that might be

3204
02:20:34,610 --> 02:20:33,060
biological and physical oceanographers

3205
02:20:35,750 --> 02:20:34,620
and I tell people to think a little more

3206
02:20:38,150 --> 02:20:35,760
broadly what if we brought together

3207
02:20:39,530 --> 02:20:38,160
astronomers and earth scientists like we

3208
02:20:40,610 --> 02:20:39,540
did on this panel

3209
02:20:42,770 --> 02:20:40,620
so

3210
02:20:44,929 --> 02:20:42,780
um that those interdisciplinary research

3211
02:20:47,050 --> 02:20:44,939
teams as well as citizen scientists

3212
02:20:50,389 --> 02:20:47,060
could explore historical and current

3213
02:20:52,490 --> 02:20:50,399

NASA and partner data for events or more

3214

02:20:55,190 --> 02:20:52,500

importantly for environmental conditions

3215

02:20:57,710 --> 02:20:55,200

around the time of reported events this

3216

02:21:00,650 --> 02:20:57,720

may help in our understanding

3217

02:21:02,990 --> 02:21:00,660

and then finally given NASA's experience

3218

02:21:06,170 --> 02:21:03,000

with long-term missions long-term

3219

02:21:08,750 --> 02:21:06,180

projects and scientific Focus the agency

3220

02:21:11,170 --> 02:21:08,760

is really well equipped to handle the

3221

02:21:15,110 --> 02:21:11,180

extensive and ongoing study of phenomena

3222

02:21:17,870 --> 02:21:15,120

investigation that this likely requires

3223

02:21:20,570 --> 02:21:17,880

so hopefully that gave you some thoughts

3224

02:21:23,090 --> 02:21:20,580

as to why NASA I don't know if any of my

3225

02:21:24,310 --> 02:21:23,100

fellow panelists agree or disagree

3226

02:21:27,710 --> 02:21:24,320

discuss

3227

02:21:31,910 --> 02:21:27,720

[Laughter]

3228

02:21:35,690 --> 02:21:31,920

yes father thank you so NASA has a great

3229

02:21:38,270 --> 02:21:35,700

visibility in the community and not and

3230

02:21:40,610 --> 02:21:38,280

uaps are obviously of great interest to

3231

02:21:41,990 --> 02:21:40,620

a very diverse range of people so can

3232

02:21:46,130 --> 02:21:42,000

you speak a bit about the opportunity

3233

02:21:47,809 --> 02:21:46,140

that this provides for NASA to expand

3234

02:21:49,429 --> 02:21:47,819

um you know the knowledge of the

3235

02:21:50,809 --> 02:21:49,439

understanding of the scientific method

3236

02:21:53,690 --> 02:21:50,819

yes

3237

02:21:55,790 --> 02:21:53,700

um so it's a great question uh there are

3238

02:21:57,290 --> 02:21:55,800

multiple opportunities I think UAP

3239

02:21:59,210 --> 02:21:57,300

present

3240

02:22:02,450 --> 02:21:59,220

um the first as I mentioned I think is

3241

02:22:04,670 --> 02:22:02,460

to bring together interdisciplinary

3242

02:22:07,370 --> 02:22:04,680

research teams and scientists and

3243

02:22:09,950 --> 02:22:07,380

citizen scientists to really take a look

3244

02:22:11,270 --> 02:22:09,960

at with an objective and perhaps unique

3245

02:22:13,969 --> 02:22:11,280

eye

3246

02:22:17,270 --> 02:22:13,979

um what the NASA data archive actually

3247

02:22:18,830 --> 02:22:17,280

means blend in the Partnerships A

3248

02:22:20,690 --> 02:22:18,840

Renewed partnership that's at the

3249

02:22:22,790 --> 02:22:20,700

federal the international and the

3250

02:22:24,349 --> 02:22:22,800

private level right

3251

02:22:27,410 --> 02:22:24,359

um so I think there are any number of

3252

02:22:29,929 --> 02:22:27,420

Pathways that people could pursue that

3253

02:22:32,389 --> 02:22:29,939

could be really advantageous for helping

3254

02:22:37,429 --> 02:22:32,399

us to understand what's happening with

3255

02:22:37,439 --> 02:22:41,450

the questions

3256

02:22:46,309 --> 02:22:44,450

thank you Paula this is Jolly Wright um

3257

02:22:48,969 --> 02:22:46,319

actually my question and comment

3258

02:22:51,830 --> 02:22:48,979

actually goes to both uh you and Nadia

3259

02:22:54,710 --> 02:22:51,840

uh Dr Kirkpatrick gave us a definition

3260

02:22:56,570 --> 02:22:54,720

of anomalous that was that it was not

3261

02:22:58,010 --> 02:22:56,580

readily understandable to the operator

3262

02:23:00,530 --> 02:22:58,020

or the sensor

3263

02:23:02,630 --> 02:23:00,540

and from the NASA's perspective I'm for

3264

02:23:04,849 --> 02:23:02,640

our panel I think we have to consider a

3265

02:23:07,610 --> 02:23:04,859

broader definition if we're talking

3266

02:23:09,830 --> 02:23:07,620

about citizen science and I'm curious of

3267

02:23:11,570 --> 02:23:09,840

how we incorporate that especially

3268

02:23:14,690 --> 02:23:11,580

within the communication avenues that we

3269

02:23:18,050 --> 02:23:16,670

it's a good question

3270

02:23:19,250 --> 02:23:18,060

um so

3271

02:23:22,070 --> 02:23:19,260

um

3272

02:23:24,230 --> 02:23:22,080

not all data in an archive are user

3273

02:23:27,230 --> 02:23:24,240

friendly right right out of the the gate

3274

02:23:30,050 --> 02:23:27,240

but uh I think NASA does an excellent

3275

02:23:32,510 --> 02:23:30,060

job making things like quick look or

3276

02:23:34,429 --> 02:23:32,520

browse products available you can go on

3277

02:23:36,110 --> 02:23:34,439

the NASA website you can look at

3278

02:23:38,330 --> 02:23:36,120

different aspects of different things

3279

02:23:42,349 --> 02:23:38,340

that the agency has in its mission to

3280

02:23:44,030 --> 02:23:42,359

study and I think if nothing else people

3281

02:23:45,650 --> 02:23:44,040

have become a lot more in touch with

3282

02:23:48,889 --> 02:23:45,660

their surroundings and their environment

3283

02:23:51,349 --> 02:23:48,899

and the changes happening there and so I

3284

02:23:53,990 --> 02:23:51,359

think there's probably an opportunity uh

3285

02:23:57,050 --> 02:23:54,000

for people to maybe not become overnight

3286

02:23:59,870 --> 02:23:57,060

experts in how to process satellite data

3287

02:24:02,630 --> 02:23:59,880

and use it for basic research in a

3288

02:24:04,130 --> 02:24:02,640

complex fashion but there are ways to

3289

02:24:06,770 --> 02:24:04,140

utilize those data to look at your

3290

02:24:08,990 --> 02:24:06,780

environment if you think you've you know

3291

02:24:12,050 --> 02:24:09,000

seen something or you wish to report

3292

02:24:13,730 --> 02:24:12,060

something so communication engagement in

3293

02:24:16,790 --> 02:24:13,740

the public I think is a really important

3294

02:24:18,230 --> 02:24:16,800

part of the destigmatization for sure

3295

02:24:20,330 --> 02:24:18,240

Nadia I don't know if you have anything

3296

02:24:22,849 --> 02:24:20,340

to add

3297

02:24:24,650 --> 02:24:22,859

um I was I was struck by the phrase not

3298

02:24:26,990 --> 02:24:24,660

readily understandable I felt like that

3299

02:24:29,090 --> 02:24:27,000

was actually doing a lot of work

3300

02:24:30,830 --> 02:24:29,100

um so I think for our purposes we

3301
02:24:32,510 --> 02:24:30,840
probably want to come up with a slightly

3302
02:24:40,610 --> 02:24:32,520
more specific definition of what

3303
02:24:40,620 --> 02:24:51,170
thanks Federica

3304
02:24:56,210 --> 02:24:53,030
hello everybody my name is Federica

3305
02:24:58,070 --> 02:24:56,220
Bianco I am an astrophysicist and a data

3306
02:25:00,349 --> 02:24:58,080
scientist and I bring this perspective

3307
02:25:02,150 --> 02:25:00,359
to the panel so for the next few minutes

3308
02:25:03,290 --> 02:25:02,160
I want to emphasize some of the things

3309
02:25:05,450 --> 02:25:03,300
that my colleagues have already

3310
02:25:08,270 --> 02:25:05,460
mentioned about the data particularly

3311
02:25:10,730 --> 02:25:08,280
the status of the data that exists and

3312
02:25:13,969 --> 02:25:10,740
what the data that we should collect

3313
02:25:14,990 --> 02:25:13,979

um to really understand what maybe

3314

02:25:17,450 --> 02:25:15,000

um

3315

02:25:19,070 --> 02:25:17,460

we've already heard in a few cases by a

3316

02:25:20,870 --> 02:25:19,080

few people that NASA's role is to

3317

02:25:23,030 --> 02:25:20,880

explore the universe through the

3318

02:25:24,950 --> 02:25:23,040

scientific method the application of the

3319

02:25:27,889 --> 02:25:24,960

scientific method to Discovery requires

3320

02:25:30,410 --> 02:25:27,899

that the data meets some standards that

3321

02:25:31,670 --> 02:25:30,420

allow the data-driven approach and there

3322

02:25:33,170 --> 02:25:31,680

are many standards that have been

3323

02:25:35,570 --> 02:25:33,180

established in the scientific community

3324

02:25:37,550 --> 02:25:35,580

over the years I can mention one for

3325

02:25:39,849 --> 02:25:37,560

example it's called the fair standard

3326

02:25:41,830 --> 02:25:39,859

where Fair stands for findability

3327

02:25:45,770 --> 02:25:41,840

accessibility

3328

02:25:48,650 --> 02:25:45,780

interoperability and reusability

3329

02:25:51,410 --> 02:25:48,660

the current status of the of the data

3330

02:25:53,270 --> 02:25:51,420

about uaps does not meet these standards

3331

02:25:55,309 --> 02:25:53,280

that their collection is inconsistent

3332

02:25:58,010 --> 02:25:55,319

it's in homogeneous it's uncalibrated

3333

02:26:00,550 --> 02:25:58,020

the data are poorly documented and

3334

02:26:03,050 --> 02:26:00,560

largely incomplete

3335

02:26:05,389 --> 02:26:03,060

they're also now not systematically

3336

02:26:08,330 --> 02:26:05,399

retrievable which causes a problem in

3337

02:26:10,130 --> 02:26:08,340

automation of the analysis so what could

3338

02:26:11,809 --> 02:26:10,140

benefit from data science and machine

3339

02:26:13,849 --> 02:26:11,819

learning methods from artificial

3340

02:26:15,950 --> 02:26:13,859

intelligence that is developing at a

3341

02:26:17,929 --> 02:26:15,960

rapid Pace but machine learning and AI

3342

02:26:20,630 --> 02:26:17,939

cannot be applied until the data mean

3343

02:26:22,429 --> 02:26:20,640

the standards even to study a single

3344

02:26:24,889 --> 02:26:22,439

event currently requires a significant

3345

02:26:26,570 --> 02:26:24,899

lift in retrieving the data and the

3346

02:26:29,150 --> 02:26:26,580

metadata that may or may not be

3347

02:26:31,309 --> 02:26:29,160

available and this lift is at the moment

3348

02:26:33,410 --> 02:26:31,319

entirely person power which means that

3349

02:26:34,969 --> 02:26:33,420

it cannot be automated to apply machine

3350

02:26:37,849 --> 02:26:34,979

learning methods

3351
02:26:39,530 --> 02:26:37,859
organized repositories need to exist to

3352
02:26:41,690 --> 02:26:39,540
enable the automation of retrieval of

3353
02:26:43,849 --> 02:26:41,700
the data and the metadata and this is a

3354
02:26:46,190 --> 02:26:43,859
necessary premise to enable the

3355
02:26:48,230 --> 02:26:46,200
systematic scientific approach to the

3356
02:26:50,090 --> 02:26:48,240
study of ouaps

3357
02:26:52,610 --> 02:26:50,100
anomaly detection is a well-developed

3358
02:26:54,290 --> 02:26:52,620
although notoriously hard discipline and

3359
02:26:56,030 --> 02:26:54,300
which has seen tremendous advances

3360
02:26:57,290 --> 02:26:56,040
recently with data science and machine

3361
02:27:00,469 --> 02:26:57,300
learning

3362
02:27:02,809 --> 02:27:00,479
usually this means that acting rare and

3363
02:27:05,510 --> 02:27:02,819

unusual signals in a complex that is

3364

02:27:06,349 --> 02:27:05,520

noisy and Rich with phenomena that we

3365

02:27:08,750 --> 02:27:06,359

know

3366

02:27:10,490 --> 02:27:08,760

so there are two general approaches to

3367

02:27:11,330 --> 02:27:10,500

anomaly detection in the scientific

3368

02:27:13,429 --> 02:27:11,340

community

3369

02:27:15,770 --> 02:27:13,439

one is the following if we know the

3370

02:27:17,630 --> 02:27:15,780

signal that we expect we can model it

3371

02:27:20,389 --> 02:27:17,640

and we can simulate it and maybe inject

3372

02:27:23,750 --> 02:27:20,399

it in our data so we can develop methods

3373

02:27:25,670 --> 02:27:23,760

that are specific to finding those exact

3374

02:27:26,570 --> 02:27:25,680

signals or signals that are similar to

3375

02:27:28,370 --> 02:27:26,580

those

3376

02:27:29,990 --> 02:27:28,380

and we might be able to conceptualize

3377

02:27:32,389 --> 02:27:30,000

signals coming from physical systems

3378

02:27:34,190 --> 02:27:32,399

that responds to the laws of physics as

3379

02:27:36,290 --> 02:27:34,200

we know them but we cannot

3380

02:27:38,990 --> 02:27:36,300

comprehensively produce all possible

3381

02:27:40,429 --> 02:27:39,000

signals that could relate to or explain

3382

02:27:42,469 --> 02:27:40,439

uaps

3383

02:27:44,690 --> 02:27:42,479

so the alternative approach in detecting

3384

02:27:47,450 --> 02:27:44,700

anomalies requires a thorough and deep

3385

02:27:50,870 --> 02:27:47,460

understanding of what is normal and

3386

02:27:52,550 --> 02:27:50,880

usual to tease out what is unusual and

3387

02:27:54,950 --> 02:27:52,560

unlike the rest

3388

02:27:56,870 --> 02:27:54,960

these methods typically found in the

3389

02:27:58,250 --> 02:27:56,880

realm of what we call unsupervised

3390

02:27:59,510 --> 02:27:58,260

machine learning

3391

02:28:02,150 --> 02:27:59,520

uh

3392

02:28:04,250 --> 02:28:02,160

what is usual maybe the balloons the

3393

02:28:06,710 --> 02:28:04,260

aircrafts and wealth of natural

3394

02:28:09,170 --> 02:28:06,720

phenomena that we have heard of and what

3395

02:28:11,690 --> 02:28:09,180

is unusual what is an anomaly means

3396

02:28:13,670 --> 02:28:11,700

anything in there is not consistent with

3397

02:28:15,349 --> 02:28:13,680

the way in which those things look in

3398

02:28:17,630 --> 02:28:15,359

our data

3399

02:28:19,730 --> 02:28:17,640

once the animal signal is detected it

3400

02:28:22,070 --> 02:28:19,740

can be studied in more deaths either

3401

02:28:24,469 --> 02:28:22,080

through the discovery data itself but

3402

02:28:26,330 --> 02:28:24,479

that may not be sufficient so then we

3403

02:28:29,210 --> 02:28:26,340

may need to collect additional data for

3404

02:28:31,010 --> 02:28:29,220

to study these on these anomalies and

3405

02:28:33,889 --> 02:28:31,020

this is something that in astrophysics

3406

02:28:36,469 --> 02:28:33,899

we typically refer to as follow-up data

3407

02:28:38,570 --> 02:28:36,479

this can be very hard especially if the

3408

02:28:40,670 --> 02:28:38,580

phenomena that are anomalies are also

3409

02:28:43,490 --> 02:28:40,680

ephemeral in time so you have to

3410

02:28:45,710 --> 02:28:43,500

promptly respond to the detection and

3411

02:28:47,809 --> 02:28:45,720

set up follow-up observations it's an

3412

02:28:49,490 --> 02:28:47,819

extremely hard game but it's something

3413

02:28:51,830 --> 02:28:49,500

that is seeing a large developing in

3414

02:28:53,929 --> 02:28:51,840

astrophysics in recent years with the

3415

02:28:55,550 --> 02:28:53,939

study of anomalous detections in the

3416

02:28:57,950 --> 02:28:55,560

universe

3417

02:28:59,270 --> 02:28:57,960

this approach relies entirely on a

3418

02:29:01,309 --> 02:28:59,280

comprehensive and systematic

3419

02:29:03,650 --> 02:29:01,319

organization of the data which is

3420

02:29:06,770 --> 02:29:03,660

Paramount and on a deep understanding of

3421

02:29:08,150 --> 02:29:06,780

all the data that is actually usual and

3422

02:29:10,250 --> 02:29:08,160

known

3423

02:29:11,809 --> 02:29:10,260

the data that women want to collect

3424

02:29:14,450 --> 02:29:11,819

ideally will be collected in a

3425

02:29:17,690 --> 02:29:14,460

multi-sensor and multi-platform and

3426
02:29:19,570 --> 02:29:17,700
multi-site manner eyewitnesses reports I

3427
02:29:22,670 --> 02:29:19,580
want to elevate what Dr Drake said

3428
02:29:24,349 --> 02:29:22,680
cannot a certain the nature of uaps

3429
02:29:25,670 --> 02:29:24,359
however they should be considered

3430
02:29:27,830 --> 02:29:25,680
because they may contain important

3431
02:29:30,830 --> 02:29:27,840
information for example persistent

3432
02:29:33,650 --> 02:29:30,840
siting locations or seasonality but they

3433
02:29:36,950 --> 02:29:33,660
only really work if joined with

3434
02:29:38,389 --> 02:29:36,960
quantitative data collected by sensors

3435
02:29:39,889 --> 02:29:38,399
as well as biophysical and

3436
02:29:41,210 --> 02:29:39,899
psychophysical assessments of the

3437
02:29:43,730 --> 02:29:41,220
witness and the impact that the

3438
02:29:47,150 --> 02:29:43,740

experience has on them to really reveal

3439

02:29:47,870 --> 02:29:47,160

the nature of uaps

3440

02:29:49,730 --> 02:29:47,880

um

3441

02:29:52,250 --> 02:29:49,740

you've heard it from them from my

3442

02:29:53,990 --> 02:29:52,260

colleagues a number of times the data

3443

02:29:56,929 --> 02:29:54,000

needs to be collected by sensors that

3444

02:29:58,730 --> 02:29:56,939

need to be calibrated or calibratable so

3445

02:30:01,490 --> 02:29:58,740

we need to collect not only the data

3446

02:30:04,429 --> 02:30:01,500

images sound spectral characterization

3447

02:30:06,710 --> 02:30:04,439

of what we see but metadata the sensor

3448

02:30:08,690 --> 02:30:06,720

type the brand the brand of the sensor

3449

02:30:10,969 --> 02:30:08,700

the noise characteristics time of the

3450

02:30:12,849 --> 02:30:10,979

acquisition instrument sensitivity as

3451

02:30:15,469 --> 02:30:12,859

well as information about the

3452

02:30:18,290 --> 02:30:15,479

circumstances of the data collection for

3453

02:30:20,330 --> 02:30:18,300

example temperature or the location or

3454

02:30:22,130 --> 02:30:20,340

the conditions in which the sensor is at

3455

02:30:23,570 --> 02:30:22,140

the time of collecting the data

3456

02:30:25,790 --> 02:30:23,580

the data should be collected

3457

02:30:27,950 --> 02:30:25,800

simultaneously by different platforms

3458

02:30:31,070 --> 02:30:27,960

ideally ideally in different locations

3459

02:30:32,570 --> 02:30:31,080

in a multi-sensor system so some of the

3460

02:30:34,490 --> 02:30:32,580

data that we may want to collect are

3461

02:30:37,190 --> 02:30:34,500

images but also temperature sound

3462

02:30:40,190 --> 02:30:37,200

recording spectral data emissivity that

3463

02:30:42,490 --> 02:30:40,200

tells you the color in a very fine grid

3464

02:30:44,990 --> 02:30:42,500

um as well as other as well as

3465

02:30:47,389 --> 02:30:45,000

monitoring the motion of objects which

3466

02:30:49,550 --> 02:30:47,399

has been very important to identify what

3467

02:30:51,050 --> 02:30:49,560

we have seen as uaps that have been

3468

02:30:53,450 --> 02:30:51,060

reported

3469

02:30:54,889 --> 02:30:53,460

much of this certainly can be achieved

3470

02:30:58,190 --> 02:30:54,899

with professional grade infrastructure

3471

02:31:00,950 --> 02:30:58,200

and both new and existing infrastructure

3472

02:31:02,990 --> 02:31:00,960

to do that such as astrophysical and

3473

02:31:05,150 --> 02:31:03,000

geographical observatories both on the

3474

02:31:06,950 --> 02:31:05,160

ground and satellites some Modern

3475

02:31:08,690 --> 02:31:06,960

observatories in particular are designed

3476

02:31:11,030 --> 02:31:08,700

for the deflection of time anomalies

3477

02:31:12,830 --> 02:31:11,040

specifically as well as for the

3478

02:31:15,830 --> 02:31:12,840

detection of objects that move rapidly

3479

02:31:18,770 --> 02:31:15,840

in space near Earth objects asteroids

3480

02:31:20,870 --> 02:31:18,780

meteors Etc so those could be leveraged

3481

02:31:23,450 --> 02:31:20,880

for the study of uaps

3482

02:31:25,309 --> 02:31:23,460

there is also some effort in ongoing in

3483

02:31:27,230 --> 02:31:25,319

the developing of facilities that are

3484

02:31:30,110 --> 02:31:27,240

specifically to detect designed to

3485

02:31:31,610 --> 02:31:30,120

detect uaps and many of those comply

3486

02:31:33,110 --> 02:31:31,620

with the characteristics that I just

3487

02:31:35,090 --> 02:31:33,120

described

3488

02:31:37,790 --> 02:31:35,100

this level of information though can

3489

02:31:40,010 --> 02:31:37,800

also be obtained by the public we could

3490

02:31:43,370 --> 02:31:40,020

crowdsource the data collection if a

3491

02:31:45,230 --> 02:31:43,380

platform to crowdsource exists that

3492

02:31:47,270 --> 02:31:45,240

supports the collection of data and

3493

02:31:49,790 --> 02:31:47,280

metadata and the transmission of data

3494

02:31:51,469 --> 02:31:49,800

and metadata and we think that NASA

3495

02:31:54,130 --> 02:31:51,479

might be able to play an important role

3496

02:31:58,910 --> 02:31:54,140

in the development of this platform

3497

02:32:00,469 --> 02:31:58,920

to Echo Dr bontempi said NASA has a

3498

02:32:02,690 --> 02:32:00,479

wealth of experience in coordinating

3499

02:32:04,670 --> 02:32:02,700

scientific studies efforts across

3500

02:32:06,410 --> 02:32:04,680

discipline and domains serving as a

3501
02:32:08,630 --> 02:32:06,420
bridge between communities in the

3502
02:32:11,150 --> 02:32:08,640
interdisciplinary studies and studies

3503
02:32:13,969 --> 02:32:11,160
across different countries

3504
02:32:16,070 --> 02:32:13,979
all of these can be supported all of

3505
02:32:18,590 --> 02:32:16,080
these can be leveraged to support the

3506
02:32:20,870 --> 02:32:18,600
work of the other agencies in the

3507
02:32:25,010 --> 02:32:20,880
identification and explaining explaining

3508
02:32:27,469 --> 02:32:25,020
uaps NASA also has a really important

3509
02:32:29,750 --> 02:32:27,479
experience in data curation we have

3510
02:32:31,969 --> 02:32:29,760
heard about the sophistication of the

3511
02:32:34,490 --> 02:32:31,979
analysis of the data that NASA provides

3512
02:32:37,150 --> 02:32:34,500
of the sophistication of the calibration

3513
02:32:39,830 --> 02:32:37,160

the data that NASA shares

3514

02:32:43,670 --> 02:32:39,840

arrives to we have heard about the open

3515

02:32:45,590 --> 02:32:43,680

data policy that NASA data goes under

3516

02:32:47,990 --> 02:32:45,600

furthermore NASA has recently

3517

02:32:50,809 --> 02:32:48,000

spearheaded an effort to review NASA and

3518

02:32:53,570 --> 02:32:50,819

namazam partner archival data to prepare

3519

02:32:55,070 --> 02:32:53,580

them for machine learning and AI so that

3520

02:32:58,190 --> 02:32:55,080

data can be served to the community

3521

02:33:00,230 --> 02:32:58,200

directly and ready to apply AI methods

3522

02:33:02,570 --> 02:33:00,240

on it this is an important experience

3523

02:33:05,330 --> 02:33:02,580

that could be leveraged in the study of

3524

02:33:08,510 --> 02:33:05,340

uaps however we do want to emphasize

3525

02:33:11,210 --> 02:33:08,520

that the current status of the UAP data

3526

02:33:13,610 --> 02:33:11,220

will make this left really hard compared

3527

02:33:15,290 --> 02:33:13,620

to even what is being done by NASA for

3528

02:33:17,750 --> 02:33:15,300

astrophysical data

3529

02:33:19,309 --> 02:33:17,760

and finally I wanted to emphasize what

3530

02:33:22,250 --> 02:33:19,319

my colleague said NASA has a great

3531

02:33:25,010 --> 02:33:22,260

visibility uaps have a great power of

3532

02:33:27,590 --> 02:33:25,020

great public interest and this could be

3533

02:33:29,570 --> 02:33:27,600

an opportunity to really increase the

3534

02:33:31,790 --> 02:33:29,580

reach of science help people understand

3535

02:33:33,889 --> 02:33:31,800

the scientific process and maybe

3536

02:33:36,410 --> 02:33:33,899

diversify the scientific Community by

3537

02:33:38,450 --> 02:33:36,420

attracting new Talent into the

3538

02:33:40,429 --> 02:33:38,460

scientific Community due to the

3539

02:33:44,990 --> 02:33:40,439

visibility of the problem

3540

02:33:49,150 --> 02:33:45,000

and I think that's all of my remarks

3541

02:33:54,710 --> 02:33:52,130

so uh on the whole crowdsourcing front

3542

02:33:57,410 --> 02:33:54,720

and getting uh reports from citizen

3543

02:33:59,630 --> 02:33:57,420

scientists uh what do you think along

3544

02:34:02,630 --> 02:33:59,640

those lines is it uh providing a set of

3545

02:34:05,450 --> 02:34:02,640

guidelines for how you report is it open

3546

02:34:07,690 --> 02:34:05,460

sourcing a set of applications for cell

3547

02:34:10,910 --> 02:34:07,700

phones to be able to pull in a lot of

3548

02:34:12,710 --> 02:34:10,920

metadata uh what does that look like

3549

02:34:15,110 --> 02:34:12,720

yeah so

3550

02:34:19,370 --> 02:34:15,120

um I think guidance wouldn't just a set

3551
02:34:21,170 --> 02:34:19,380
of guidance of best practices Etc would

3552
02:34:24,110 --> 02:34:21,180
just now be sufficient I think what

3553
02:34:25,849 --> 02:34:24,120
needs to be provided is a platform you

3554
02:34:27,650 --> 02:34:25,859
mentioned cell phones cell phones have

3555
02:34:29,809 --> 02:34:27,660
been used for

3556
02:34:33,349 --> 02:34:29,819
um crowdsourcing the study and detection

3557
02:34:35,389 --> 02:34:33,359
of a number of things in astrophysics in

3558
02:34:38,510 --> 02:34:35,399
space science so that can definitely be

3559
02:34:41,690 --> 02:34:38,520
done the issue I think is going to be to

3560
02:34:43,969 --> 02:34:41,700
make sure that this platform is

3561
02:34:46,370 --> 02:34:43,979
um that this platform reaches a large

3562
02:34:48,710 --> 02:34:46,380
enough Community to really have a crowd

3563
02:34:50,630 --> 02:34:48,720

to Source the problem and coordination

3564

02:34:53,030 --> 02:34:50,640

something that this could achieve for

3565

02:34:54,950 --> 02:34:53,040

example is the follow-up that I

3566

02:34:57,349 --> 02:34:54,960

mentioned earlier right so we need this

3567

02:34:59,870 --> 02:34:57,359

community that would use

3568

02:35:02,570 --> 02:34:59,880

um the crowdsourcing facilities to be

3569

02:35:05,630 --> 02:35:02,580

connected so that if something is cited

3570

02:35:08,210 --> 02:35:05,640

by one person that message can go across

3571

02:35:09,530 --> 02:35:08,220

and a broader Community can point their

3572

02:35:10,730 --> 02:35:09,540

sensors

3573

02:35:14,389 --> 02:35:10,740

um to the problem

3574

02:35:16,070 --> 02:35:14,399

to the sighting and the data has to be

3575

02:35:17,270 --> 02:35:16,080

transmitted to that has to be

3576

02:35:20,710 --> 02:35:17,280

transmitted to a place that can

3577

02:35:22,969 --> 02:35:20,720

centralize it and curate it

3578

02:35:24,469 --> 02:35:22,979

yeah please feel free to say this is a

3579

02:35:26,570 --> 02:35:24,479

bad idea but if you thought about

3580

02:35:27,889 --> 02:35:26,580

synthetic data oh so as you were talking

3581

02:35:30,349 --> 02:35:27,899

I was thinking you know given the fact

3582

02:35:32,870 --> 02:35:30,359

we don't have enough quality data to

3583

02:35:34,730 --> 02:35:32,880

train a net a neural net if we're to

3584

02:35:36,290 --> 02:35:34,740

generate synthetic data based on the

3585

02:35:38,150 --> 02:35:36,300

information we do have and then filling

3586

02:35:40,190 --> 02:35:38,160

out the other characteristics as we

3587

02:35:43,190 --> 02:35:40,200

might guess because that that help us

3588

02:35:45,170 --> 02:35:43,200

train something to iterate an AI to be

3589

02:35:47,690 --> 02:35:45,180

to find other correlations within data

3590

02:35:50,210 --> 02:35:47,700

as we get it so we do it all the time in

3591

02:35:52,849 --> 02:35:50,220

data science right we do generate data

3592

02:35:54,710 --> 02:35:52,859

sets where the data sets our sparse or

3593

02:35:56,690 --> 02:35:54,720

scars and we cannot train machine

3594

02:35:59,090 --> 02:35:56,700

learning models it's a risky business

3595

02:36:01,969 --> 02:35:59,100

because in the data that we generate we

3596

02:36:03,590 --> 02:36:01,979

embed the bias that we have so we are

3597

02:36:05,990 --> 02:36:03,600

thinking about the data the way in which

3598

02:36:07,429 --> 02:36:06,000

we think the data looks and the way in

3599

02:36:09,530 --> 02:36:07,439

which the things that they anomalies

3600

02:36:12,110 --> 02:36:09,540

look so particularly in anomaly

3601
02:36:13,490 --> 02:36:12,120
detection it is a very difficult thing

3602
02:36:15,349 --> 02:36:13,500
to do

3603
02:36:18,590 --> 02:36:15,359
um to try to make sure that you don't

3604
02:36:20,210 --> 02:36:18,600
buy a Seer models to what you know I

3605
02:36:22,190 --> 02:36:20,220
want to come back to this topic of

3606
02:36:23,990 --> 02:36:22,200
anomaly discussion in our general

3607
02:36:26,330 --> 02:36:24,000
discussion we're sort of starting to run

3608
02:36:28,670 --> 02:36:26,340
a little late so want to cut off

3609
02:36:31,969 --> 02:36:28,680
questions now but we do have a little

3610
02:36:33,950 --> 02:36:31,979
time later at the end so don't forget

3611
02:36:35,750 --> 02:36:33,960
don't forget your questions bring them

3612
02:36:37,610 --> 02:36:35,760
up again in discussion and we'll we'll

3613
02:36:46,910 --> 02:36:37,620

talk more more later

3614

02:36:50,389 --> 02:36:48,710

all right good afternoon

3615

02:36:52,670 --> 02:36:50,399

my name is David grinspoon I'm a

3616

02:36:55,250 --> 02:36:52,680

planetary scientist and astrobiologist

3617

02:36:56,870 --> 02:36:55,260

and I'm going to talk for uh just a

3618

02:36:59,750 --> 02:36:56,880

couple of minutes about

3619

02:37:01,670 --> 02:36:59,760

um how observations beyond Earth are

3620

02:37:05,330 --> 02:37:01,680

relevant to

3621

02:37:06,770 --> 02:37:05,340

um our uh study of uaps

3622

02:37:09,710 --> 02:37:06,780

um

3623

02:37:11,809 --> 02:37:09,720

many of NASA's missions are at least in

3624

02:37:15,429 --> 02:37:11,819

part focused on answering the question

3625

02:37:17,990 --> 02:37:15,439

of whether life exists beyond Earth

3626

02:37:20,690 --> 02:37:18,000

astrobiology is the study of the origin

3627

02:37:22,849 --> 02:37:20,700

Evolution distribution and future of

3628

02:37:25,490 --> 02:37:22,859

life in the universe

3629

02:37:28,309 --> 02:37:25,500

as part of this we consider how to

3630

02:37:30,349 --> 02:37:28,319

search for biosignatures observations we

3631

02:37:33,770 --> 02:37:30,359

can make of other planets which may

3632

02:37:36,650 --> 02:37:33,780

might betray the presence of life so we

3633

02:37:39,050 --> 02:37:36,660

look for things like anomalous gases in

3634

02:37:42,110 --> 02:37:39,060

the atmospheres of planets and other

3635

02:37:44,630 --> 02:37:42,120

anomalies which may possibly reveal the

3636

02:37:46,730 --> 02:37:44,640

presence of life when we discover such

3637

02:37:49,250 --> 02:37:46,740

an anomaly we don't

3638

02:37:51,830 --> 02:37:49,260

conclude that we've discovered life we

3639

02:37:54,889 --> 02:37:51,840

seek more data to understand what we're

3640

02:37:56,330 --> 02:37:54,899

seeing and often this leads to other new

3641

02:37:58,370 --> 02:37:56,340

discoveries

3642

02:38:01,190 --> 02:37:58,380

similarly we can talk about looking for

3643

02:38:02,990 --> 02:38:01,200

techno signatures observations we can

3644

02:38:06,170 --> 02:38:03,000

make which might reveal the presence of

3645

02:38:08,270 --> 02:38:06,180

technological activity somewhere else

3646

02:38:10,730 --> 02:38:08,280

NASA is also supporting some research

3647

02:38:13,790 --> 02:38:10,740

studying techno signatures

3648

02:38:15,590 --> 02:38:13,800

while there is a present no evidence

3649

02:38:18,830 --> 02:38:15,600

we're aware of suggesting an

3650

02:38:20,809 --> 02:38:18,840

extraterrestrial source for uaps these

3651
02:38:23,330 --> 02:38:20,819
existing NASA programs are relevant to

3652
02:38:24,889 --> 02:38:23,340
the question of uaps in at least two

3653
02:38:26,210 --> 02:38:24,899
ways

3654
02:38:29,450 --> 02:38:26,220
first

3655
02:38:30,950 --> 02:38:29,460
researchers in astrobiology and seti the

3656
02:38:33,230 --> 02:38:30,960
search for extraterrestrial intelligence

3657
02:38:35,750 --> 02:38:33,240
have focused for many years on

3658
02:38:38,809 --> 02:38:35,760
techniques and methods for identifying

3659
02:38:40,849 --> 02:38:38,819
anomalous signatures and determining if

3660
02:38:43,250 --> 02:38:40,859
they have mundane natural explanations

3661
02:38:44,990 --> 02:38:43,260
as opposed to revealing unknown

3662
02:38:46,610 --> 02:38:45,000
biological or even technological

3663
02:38:48,650 --> 02:38:46,620

activity

3664

02:38:50,570 --> 02:38:48,660

the City Community has expertise and

3665

02:38:53,150 --> 02:38:50,580

methodologies for determining whether a

3666

02:38:55,550 --> 02:38:53,160

potential techno signature is in fact a

3667

02:38:57,710 --> 02:38:55,560

natural phenomenon or misinterpreted

3668

02:38:59,570 --> 02:38:57,720

terrestrial technology

3669

02:39:02,929 --> 02:38:59,580

when a possible techno signature is

3670

02:39:05,870 --> 02:39:02,939

observed we asked is it a real signal

3671

02:39:09,710 --> 02:39:05,880

is it a known or unknown natural

3672

02:39:13,730 --> 02:39:09,720

phenomena must it be technological

3673

02:39:15,950 --> 02:39:13,740

uh is it known terrestrial technology

3674

02:39:17,870 --> 02:39:15,960

so these scientific communities have

3675

02:39:20,150 --> 02:39:17,880

relevant experience in determining and

3676
02:39:22,610 --> 02:39:20,160
communicating about whether observations

3677
02:39:25,490 --> 02:39:22,620
which first appeared to reveal

3678
02:39:29,389 --> 02:39:25,500
extraordinary evidence actually justify

3679
02:39:33,170 --> 02:39:31,010
second

3680
02:39:35,750 --> 02:39:33,180
if we do acknowledge an extraterrestrial

3681
02:39:38,990 --> 02:39:35,760
Source however unlikely as one

3682
02:39:40,790 --> 02:39:39,000
possibility for uaps then these objects

3683
02:39:43,730 --> 02:39:40,800
must have traveled through the solar

3684
02:39:51,469 --> 02:39:47,330
Within the scientific Community there's

3685
02:39:53,150 --> 02:39:51,479
a widespread but by no means Universal

3686
02:39:55,309 --> 02:39:53,160
belief that there are extraterrestrial

3687
02:39:57,590 --> 02:39:55,319
civilizations and we have a

3688
02:39:59,030 --> 02:39:57,600

well-developed rationale there's a lot

3689

02:40:02,090 --> 02:39:59,040

of literature for discussing this which

3690

02:40:03,650 --> 02:40:02,100

I won't go into now uh in the interest

3691

02:40:05,809 --> 02:40:03,660

of brevity but it has to do with the

3692

02:40:08,270 --> 02:40:05,819

vast numbers of exoplanets and the time

3693

02:40:10,429 --> 02:40:08,280

scales of evolution and the possibility

3694

02:40:12,290 --> 02:40:10,439

of convergent evolution on different

3695

02:40:15,070 --> 02:40:12,300

planets leading to somewhat similar

3696

02:40:18,889 --> 02:40:15,080

outcomes it's a fascinating subject but

3697

02:40:21,050 --> 02:40:18,899

uh the the relevant Point here is that

3698

02:40:22,870 --> 02:40:21,060

the same rationale which support

3699

02:40:25,490 --> 02:40:22,880

supports the idea the extra

3700

02:40:28,790 --> 02:40:25,500

extraterrestrial civilizations may exist

3701

02:40:30,469 --> 02:40:28,800

and may be detectable also supports the

3702

02:40:33,110 --> 02:40:30,479

idea that finding extraterrestrial

3703

02:40:34,910 --> 02:40:33,120

artifacts in our own solar system is at

3704

02:40:37,309 --> 02:40:34,920

least plausible

3705

02:40:39,050 --> 02:40:37,319

NASA is the lead Agency for solar system

3706

02:40:41,270 --> 02:40:39,060

exploration

3707

02:40:42,889 --> 02:40:41,280

it already has an active program of

3708

02:40:45,230 --> 02:40:42,899

detecting objects in our Solar

3709

02:40:47,750 --> 02:40:45,240

neighborhood using both ground-based and

3710

02:40:49,370 --> 02:40:47,760

space-based facilities and it could

3711

02:40:51,530 --> 02:40:49,380

leverage those capabilities to search

3712

02:40:53,150 --> 02:40:51,540

for objects in space with anomalous

3713

02:40:55,370 --> 02:40:53,160

motion

3714

02:40:58,790 --> 02:40:55,380

anomalous trajectories

3715

02:41:01,550 --> 02:40:58,800

unusual light curves anomalous spectral

3716

02:41:03,889 --> 02:41:01,560

signatures or other characteristics

3717

02:41:06,710 --> 02:41:03,899

uh most of the solar system has not been

3718

02:41:09,710 --> 02:41:06,720

searched for artifacts or anomalies and

3719

02:41:12,110 --> 02:41:09,720

these modest data analysis efforts could

3720

02:41:14,389 --> 02:41:12,120

potentially be applied to existing and

3721

02:41:17,510 --> 02:41:14,399

planned planetary missions

3722

02:41:19,250 --> 02:41:17,520

the Galaxy does not stop at the edge of

3723

02:41:22,309 --> 02:41:19,260

the solar system and the solar system

3724

02:41:24,469 --> 02:41:22,319

does not stop at the top of the Earth's

3725

02:41:28,250 --> 02:41:24,479

atmosphere it's all a Continuum of

3726

02:41:30,710 --> 02:41:28,260

possibilities worthy of Investigation

3727

02:41:33,590 --> 02:41:30,720

if NASA applies the same rigorous

3728

02:41:35,690 --> 02:41:33,600

methodology toward uaps that it applies

3729

02:41:38,870 --> 02:41:35,700

to the study of possible life elsewhere

3730

02:41:40,670 --> 02:41:38,880

then we stand to learn something new and

3731

02:41:43,670 --> 02:41:40,680

interesting whatever the ultimate

3732

02:41:46,490 --> 02:41:43,680

explanation is of those phenomena

3733

02:41:49,309 --> 02:41:46,500

and that's all I wanted to say right now

3734

02:41:54,650 --> 02:41:49,319

now we have time for uh one or two

3735

02:41:57,830 --> 02:41:55,910

yeah

3736

02:41:59,809 --> 02:41:57,840

um thank you for that you know it struck

3737

02:42:03,710 --> 02:41:59,819

me while you were speaking

3738

02:42:05,870 --> 02:42:03,720

um about bio signatures that we do a lot

3739

02:42:07,809 --> 02:42:05,880

of that type of analysis right and our

3740

02:42:10,730 --> 02:42:07,819

home planet in in different capacities

3741

02:42:12,410 --> 02:42:10,740

and so it's more of a comment but I

3742

02:42:14,870 --> 02:42:12,420

wondered your thoughts on you know

3743

02:42:17,570 --> 02:42:14,880

bringing together those communities that

3744

02:42:20,349 --> 02:42:17,580

might not work together and whether that

3745

02:42:23,870 --> 02:42:20,359

would Aid in you know not only

3746

02:42:26,150 --> 02:42:23,880

establishing what's normal but you know

3747

02:42:28,550 --> 02:42:26,160

enabling the detection or maybe the

3748

02:42:31,670 --> 02:42:28,560

understanding explanation of a UAP if

3749

02:42:32,990 --> 02:42:31,680

reported absolutely I mean uh you know

3750

02:42:35,270 --> 02:42:33,000

the focus of my talk was was

3751

02:42:37,849 --> 02:42:35,280

observations elsewhere but in fact most

3752

02:42:39,710 --> 02:42:37,859

of what the field of astrobiology has to

3753

02:42:41,330 --> 02:42:39,720

study is here on Earth because after all

3754

02:42:42,830 --> 02:42:41,340

it's our one example of an inhabited

3755

02:42:46,070 --> 02:42:42,840

planet and it's a little bit easier to

3756

02:42:48,650 --> 02:42:46,080

get to to make observations so yes uh

3757

02:42:51,469 --> 02:42:48,660

any any insights do you have uh in that

3758

02:42:52,610 --> 02:42:51,479

area or any any suggestions for uh for

3759

02:42:59,809 --> 02:42:52,620

uh collaboration between those

3760

02:43:04,309 --> 02:43:02,330

so of course NASA hasn't been

3761

02:43:05,990 --> 02:43:04,319

researching the Techno signature field

3762

02:43:08,330 --> 02:43:06,000

for very long and there's been a stigma

3763

02:43:11,090 --> 02:43:08,340

with techno signatures for many decades

3764

02:43:13,790 --> 02:43:11,100

are there any Lessons Learned

3765

02:43:16,429 --> 02:43:13,800

we can impose from the Techno signature

3766

02:43:19,490 --> 02:43:16,439

in the study Community to the UAP and

3767

02:43:20,870 --> 02:43:19,500

solar system studies

3768

02:43:22,370 --> 02:43:20,880

so really

3769

02:43:24,830 --> 02:43:22,380

good question

3770

02:43:27,290 --> 02:43:24,840

um I guess the the immediate thought it

3771

02:43:29,330 --> 02:43:27,300

Sparks in me is that um

3772

02:43:33,349 --> 02:43:29,340

yeah techno signatures

3773

02:43:35,450 --> 02:43:33,359

were kind of treated uh at kept at arm's

3774

02:43:37,130 --> 02:43:35,460

length for a long time by NASA because

3775

02:43:40,250 --> 02:43:37,140

of stigma

3776

02:43:41,990 --> 02:43:40,260

um and ultimately uh

3777

02:43:44,510 --> 02:43:42,000

can't be kept

3778

02:43:46,610 --> 02:43:44,520

away forever if you're if you are an

3779

02:43:47,929 --> 02:43:46,620

agency curiosity driven trying to

3780

02:43:49,849 --> 02:43:47,939

understand the whole universe you have

3781

02:43:51,590 --> 02:43:49,859

to move Beyond stigmas and just try to

3782

02:43:53,690 --> 02:43:51,600

honestly look at whatever evidence there

3783

02:43:58,849 --> 02:43:53,700

is and so I think in that broad sense

3784

02:44:03,710 --> 02:44:01,490

um so someone who has been working in

3785

02:44:07,370 --> 02:44:03,720

astrobiology and data Sciences for some

3786

02:44:10,010 --> 02:44:07,380

time now it strikes me when both Dr

3787

02:44:11,389 --> 02:44:10,020

Bianco and you talked that the

3788

02:44:13,610 --> 02:44:11,399

differences that seem to me between

3789

02:44:17,450 --> 02:44:13,620

biosignatures and techno signatures

3790

02:44:19,130 --> 02:44:17,460

fields and UAP field again relies on the

3791

02:44:22,070 --> 02:44:19,140

data so biosignatures and techno

3792

02:44:24,349 --> 02:44:22,080

signatures they have are very well

3793

02:44:26,830 --> 02:44:24,359

standardized data sets they have collect

3794

02:44:29,389 --> 02:44:26,840

been collecting data sets for some time

3795

02:44:31,130 --> 02:44:29,399

and they are able to apply machine

3796

02:44:33,590 --> 02:44:31,140

learning artificial intelligence

3797

02:44:36,830 --> 02:44:33,600

algorithms while it's a totally

3798

02:44:38,990 --> 02:44:36,840

different question with uaps in how we

3799

02:44:43,610 --> 02:44:39,000

can apply artificial intelligence here

3800

02:44:47,510 --> 02:44:43,620

so again just like Dr how she said it's

3801
02:44:51,530 --> 02:44:47,520
about data standardization so I hope

3802
02:44:53,090 --> 02:44:51,540
that the UAP field will learn how to

3803
02:44:54,889 --> 02:44:53,100
work with the data from the

3804
02:44:57,110 --> 02:44:54,899
biosignatures and techno signatures

3805
02:44:58,910 --> 02:44:57,120
Fields yeah that's a good point the one

3806
02:45:00,830 --> 02:44:58,920
the one uh point I pushed back on a

3807
02:45:03,230 --> 02:45:00,840
little bit is whether techno signatures

3808
02:45:06,110 --> 02:45:03,240
has been has a lot of data in that sense

3809
02:45:09,110 --> 02:45:06,120
the the one part of techno signatures

3810
02:45:10,670 --> 02:45:09,120
which is looking for signals from radio

3811
02:45:12,230 --> 02:45:10,680
and Optical and that sort of thing

3812
02:45:13,610 --> 02:45:12,240
that's been you know associated with

3813
02:45:15,050 --> 02:45:13,620

study for a long time you're right

3814

02:45:17,210 --> 02:45:15,060

there's a lot of data there that we've

3815

02:45:18,830 --> 02:45:17,220

been collecting but the term techno

3816

02:45:21,889 --> 02:45:18,840

signature is this sort of newly being

3817

02:45:23,929 --> 02:45:21,899

adopted in it uh in a way it reminds me

3818

02:45:25,910 --> 02:45:23,939

of the distinction we heard um from the

3819

02:45:28,730 --> 02:45:25,920

FAA about a cooperative and you know

3820

02:45:30,230 --> 02:45:28,740

non-cooperative uh that with techno

3821

02:45:32,510 --> 02:45:30,240

signatures we're looking

3822

02:45:33,889 --> 02:45:32,520

um there's more of an emphasis on

3823

02:45:35,450 --> 02:45:33,899

finding

3824

02:45:37,790 --> 02:45:35,460

um technology that is not necessarily

3825

02:45:40,190 --> 02:45:37,800

intended to Signal us but just sort of

3826

02:45:41,929 --> 02:45:40,200

uh doing what technology does and

3827

02:45:43,910 --> 02:45:41,939

finding ways to you know so it's not

3828

02:45:45,830 --> 02:45:43,920

looking for signals as much and in that

3829

02:45:47,929 --> 02:45:45,840

domain we have not necessarily been

3830

02:45:49,790 --> 02:45:47,939

collecting information for that long but

3831

02:45:51,590 --> 02:45:49,800

but your point is well taken that there

3832

02:45:53,750 --> 02:45:51,600

are lessons learned from uh certainly

3833

02:45:55,490 --> 02:45:53,760

the astrobiology and the the sort of

3834

02:45:57,650 --> 02:45:55,500

classical seti field where we've had a

3835

02:46:00,230 --> 02:45:57,660

lot of data and we could look at how

3836

02:46:02,870 --> 02:46:00,240

that is analyzed and tried collect the

3837

02:46:05,870 --> 02:46:02,880

data for uaps that will be amenable to

3838

02:46:17,809 --> 02:46:05,880

that same sort of analysis

3839

02:46:22,190 --> 02:46:20,389

hello everybody I'm Carlin toner a

3840

02:46:24,230 --> 02:46:22,200

monerospace engineer

3841

02:46:26,090 --> 02:46:24,240

you know it really struck me when Dr

3842

02:46:28,910 --> 02:46:26,100

Drake opened up this afternoon and

3843

02:46:31,010 --> 02:46:28,920

talked about this really small needle in

3844

02:46:33,889 --> 02:46:31,020

a really big Haystack that we're looking

3845

02:46:36,410 --> 02:46:33,899

for and I'm going to talk to you about

3846

02:46:38,990 --> 02:46:36,420

reporting a theme that we've heard a lot

3847

02:46:41,090 --> 02:46:39,000

how can we make that Haystack smaller

3848

02:46:43,910 --> 02:46:41,100

and that needle bigger

3849

02:46:46,370 --> 02:46:43,920

so reporting of uip events has received

3850

02:46:48,410 --> 02:46:46,380

a lot of attention recently but I think

3851
02:46:50,330 --> 02:46:48,420
that there are still barriers for people

3852
02:46:52,969 --> 02:46:50,340
to report

3853
02:46:55,490 --> 02:46:52,979
how or where should they report will

3854
02:46:58,250 --> 02:46:55,500
someone take action on their report

3855
02:47:00,410 --> 02:46:58,260
will the reporter be believed or will

3856
02:47:03,110 --> 02:47:00,420
they be shamed

3857
02:47:05,510 --> 02:47:03,120
we've heard over the course of our fact

3858
02:47:08,809 --> 02:47:05,520
finding that many scientists and

3859
02:47:11,450 --> 02:47:08,819
aviators consider the study of uaps to

3860
02:47:13,370 --> 02:47:11,460
be Fringe at best

3861
02:47:15,650 --> 02:47:13,380
so this suggests there's a significant

3862
02:47:18,170 --> 02:47:15,660
negative stigma associated with

3863
02:47:20,170 --> 02:47:18,180

reporting or even researching such

3864

02:47:23,230 --> 02:47:20,180

phenomena

3865

02:47:25,910 --> 02:47:23,240

that said by encouraging military

3866

02:47:28,070 --> 02:47:25,920

aviators to disclose anomalies that

3867

02:47:30,170 --> 02:47:28,080

they've seen or detected the Department

3868

02:47:33,050 --> 02:47:30,180

of Defense is receiving many more

3869

02:47:35,330 --> 02:47:33,060

reports I think in the time that we've

3870

02:47:37,550 --> 02:47:35,340

been looking at this topic growing from

3871

02:47:39,410 --> 02:47:37,560

an ODI report that was something like

3872

02:47:41,210 --> 02:47:39,420

500 to I think this morning we heard

3873

02:47:42,770 --> 02:47:41,220

something like 800 now so that's

3874

02:47:46,010 --> 02:47:42,780

accelerating

3875

02:47:48,349 --> 02:47:46,020

and DOD will soon also mandate if not

3876

02:47:50,630 --> 02:47:48,359

already reporting by pilots which will

3877

02:47:53,809 --> 02:47:50,640

even grow that set

3878

02:47:56,210 --> 02:47:53,819

I would propose to this panel that NASA

3879

02:47:58,969 --> 02:47:56,220

can help make it safer for researchers

3880

02:48:01,969 --> 02:47:58,979

to explore data in the Civil airspace

3881

02:48:04,550 --> 02:48:01,979

domain simply by starting that work

3882

02:48:06,950 --> 02:48:04,560

internally

3883

02:48:08,809 --> 02:48:06,960

NASA could look at how civil anomaly

3884

02:48:11,990 --> 02:48:08,819

data is shared

3885

02:48:14,690 --> 02:48:12,000

study how to incentivize reporting

3886

02:48:16,309 --> 02:48:14,700

assess the possibility of crowdsourcing

3887

02:48:17,870 --> 02:48:16,319

data which I think we've heard a bit

3888

02:48:19,730 --> 02:48:17,880

about this afternoon

3889

02:48:23,690 --> 02:48:19,740

or sponsor and participate in

3890

02:48:26,990 --> 02:48:23,700

conferences on UAP detection

3891

02:48:30,170 --> 02:48:27,000

our team has really only seen I'd say a

3892

02:48:32,450 --> 02:48:30,180

few unclassified images of UAP

3893

02:48:35,750 --> 02:48:32,460

which lack the contextual data that's

3894

02:48:37,849 --> 02:48:35,760

needed to understand their true nature

3895

02:48:39,830 --> 02:48:37,859

and I believe we've heard a single

3896

02:48:42,410 --> 02:48:39,840

first-hand account from a former

3897

02:48:45,349 --> 02:48:42,420

military Aviator

3898

02:48:47,990 --> 02:48:45,359

so one of my colleagues Josh has an

3899

02:48:51,889 --> 02:48:48,000

example to show just why it would be

3900

02:48:56,690 --> 02:48:51,899

important for NASA to also help shape

3901
02:48:59,570 --> 02:48:56,700
how the data and information is reported

3902
02:49:01,250 --> 02:48:59,580
but before I turn the mic over to Josh I

3903
02:49:03,469 --> 02:49:01,260
want to make a recommendation to my

3904
02:49:07,010 --> 02:49:03,479
fellow panelists that we consider

3905
02:49:09,830 --> 02:49:07,020
advising NASA to more fully assess the

3906
02:49:12,950 --> 02:49:09,840
cultural and social barriers to studying

3907
02:49:15,410 --> 02:49:12,960
and Reporting up and for NASA to

3908
02:49:20,750 --> 02:49:15,420
implement a plan to leverage its brand

3909
02:49:24,590 --> 02:49:22,910
that

3910
02:49:28,250 --> 02:49:24,600
you just want to go up and then we'll

3911
02:49:42,469 --> 02:49:30,170
so you can call on a slide deck if you

3912
02:49:48,050 --> 02:49:44,570
so it's not it's not the charge of our

3913
02:49:49,790 --> 02:49:48,060

panel to evaluate UAP evidence but part

3914

02:49:52,730 --> 02:49:49,800

of our statement of task is to assess

3915

02:49:54,290 --> 02:49:52,740

the scientific analysis techniques that

3916

02:49:58,010 --> 02:49:54,300

are available you don't have to start it

3917

02:49:59,570 --> 02:49:58,020

just yet and the um and how we might use

3918

02:50:01,790 --> 02:49:59,580

them to determine physical constraints

3919

02:50:04,370 --> 02:50:01,800

on UAP

3920

02:50:06,770 --> 02:50:04,380

uh you know the UAP reports with the

3921

02:50:09,110 --> 02:50:06,780

most detailed contextual information are

3922

02:50:12,170 --> 02:50:09,120

the ones from the Navy aviators uh and

3923

02:50:14,450 --> 02:50:12,180

they're using a combination of um of

3924

02:50:16,550 --> 02:50:14,460

ranging and uh infrared Imaging

3925

02:50:18,349 --> 02:50:16,560

information and for these cases we can

3926

02:50:21,530 --> 02:50:18,359

directly calculate critical parameters

3927

02:50:24,230 --> 02:50:21,540

of a UAP such as altitude and velocity

3928

02:50:25,849 --> 02:50:24,240

under certain assumptions uh and it's

3929

02:50:27,889 --> 02:50:25,859

you know the main point I want to make

3930

02:50:30,950 --> 02:50:27,899

here is that this multi-sensor approach

3931

02:50:33,590 --> 02:50:30,960

is absolutely critical to um charting a

3932

02:50:35,450 --> 02:50:33,600

path forward for UAP investigations and

3933

02:50:37,550 --> 02:50:35,460

that pertains to NASA as well

3934

02:50:39,830 --> 02:50:37,560

so I'm going to provide one example here

3935

02:50:42,490 --> 02:50:39,840

just to illustrate the crucial role of

3936

02:50:44,030 --> 02:50:42,500

Science and scientific analysis

3937

02:50:46,429 --> 02:50:44,040

and

3938

02:50:49,070 --> 02:50:46,439

the role of scientific analysis to avoid

3939

02:50:51,469 --> 02:50:49,080

misinterpretation in some sense next

3940

02:50:51,479 --> 02:50:56,870

hit space

3941

02:51:00,950 --> 02:50:59,389

yeah okay so this is um

3942

02:51:02,809 --> 02:51:00,960

this video was recorded by

3943

02:51:05,929 --> 02:51:02,819

um Pilots deployed from the aircraft

3944

02:51:08,090 --> 02:51:05,939

carrier USS Theodore Roosevelt in 2015.

3945

02:51:10,550 --> 02:51:08,100

the example has been given the nickname

3946

02:51:12,349 --> 02:51:10,560

go fast because it gives an impression

3947

02:51:14,809 --> 02:51:12,359

of an object moving very rapidly against

3948

02:51:16,370 --> 02:51:14,819

the ocean surface and uh you know the

3949

02:51:18,349 --> 02:51:16,380

question is is this impression correct

3950

02:51:20,570 --> 02:51:18,359

and you know if not what can we say

3951
02:51:23,090 --> 02:51:20,580
quantitatively about what that object is

3952
02:51:26,090 --> 02:51:23,100
doing in uh kind of earth-centered

3953
02:51:27,710 --> 02:51:26,100
coordinate system

3954
02:51:29,630 --> 02:51:27,720
um fortunately the information needed to

3955
02:51:31,190 --> 02:51:29,640
determine the altitude and velocity of

3956
02:51:33,410 --> 02:51:31,200
this object is contained on the display

3957
02:51:35,150 --> 02:51:33,420
so go ahead and

3958
02:51:37,070 --> 02:51:35,160
next

3959
02:51:39,770 --> 02:51:37,080
and uh

3960
02:51:41,090 --> 02:51:39,780
this includes the elevation angle of the

3961
02:51:46,130 --> 02:51:41,100
camera

3962
02:51:48,349 --> 02:51:46,140
target range in nautical miles aircraft

3963
02:51:51,070 --> 02:51:48,359

altitude uh the time reference in

3964

02:51:53,389 --> 02:51:51,080

seconds indicated air speed and Knots

3965

02:51:55,070 --> 02:51:53,399

you know this information in this video

3966

02:51:57,290 --> 02:51:55,080

in particular has been discussed quite a

3967

02:51:58,190 --> 02:51:57,300

bit on the on the web

3968

02:52:01,790 --> 02:51:58,200

um

3969

02:52:05,630 --> 02:52:01,800

so let's begin with the object altitude

3970

02:52:10,070 --> 02:52:07,849

so knowing the Jet's altitude and the

3971

02:52:12,650 --> 02:52:10,080

bearing to the Target we can apply basic

3972

02:52:14,889 --> 02:52:12,660

trigonometry to figure out where that

3973

02:52:17,570 --> 02:52:14,899

object is in altitude space and it's

3974

02:52:20,929 --> 02:52:17,580

turns out to be you know provided the

3975

02:52:22,490 --> 02:52:20,939

range information is accurate which can

3976
02:52:24,889 --> 02:52:22,500
have some uncertainties associated with

3977
02:52:28,969 --> 02:52:24,899
it but the object appears to be at about

3978
02:52:30,650 --> 02:52:28,979
13 000 feet an important aspect of this

3979
02:52:34,250 --> 02:52:30,660
here is that it's sort of midway between

3980
02:52:35,990 --> 02:52:34,260
the uh the jet and the ocean so it's the

3981
02:52:39,830 --> 02:52:36,000
ocean that looks like it's right behind

3982
02:52:42,590 --> 02:52:39,840
it is actually 4.2 miles away and this

3983
02:52:44,450 --> 02:52:42,600
is our first indication that some or

3984
02:52:46,450 --> 02:52:44,460
most of the motion that we observe the

3985
02:52:49,429 --> 02:52:46,460
apparent motion of the object

3986
02:52:51,950 --> 02:52:49,439
is in fact due to the rapid motion of

3987
02:52:54,769 --> 02:52:51,960
the sensing platform which is about 430

3988
02:52:58,370 --> 02:52:54,779

miles per hour in this case

3989

02:53:00,110 --> 02:52:58,380

uh but we don't have to guess about this

3990

02:53:03,050 --> 02:53:00,120

so we have enough information on this

3991

02:53:06,889 --> 02:53:03,060

display to actually reconstruct

3992

02:53:10,130 --> 02:53:06,899

um the encounter go to the next slide

3993

02:53:12,050 --> 02:53:10,140

please and uh so this is what this is

3994

02:53:15,590 --> 02:53:12,060

this is using additional information on

3995

02:53:18,050 --> 02:53:15,600

the screen including the time axis and

3996

02:53:20,030 --> 02:53:18,060

um so we know that this aircraft is

3997

02:53:22,250 --> 02:53:20,040

banking about 15 degrees left and you

3998

02:53:24,469 --> 02:53:22,260

can compute through a simple calculator

3999

02:53:27,349 --> 02:53:24,479

the radius approximate radius of

4000

02:53:28,790 --> 02:53:27,359

curvature of the flight and you the

4001
02:53:30,710 --> 02:53:28,800
bottom line is I won't go into detail

4002
02:53:32,570 --> 02:53:30,720
here but if you can get the bearing and

4003
02:53:34,610 --> 02:53:32,580
range to the Target at two locations

4004
02:53:36,469 --> 02:53:34,620
with known separation in time you can

4005
02:53:40,190 --> 02:53:36,479
figure out how far it moved and in this

4006
02:53:43,190 --> 02:53:40,200
case this object moved about 390 meters

4007
02:53:46,490 --> 02:53:43,200
um in 22 seconds and that corresponds to

4008
02:53:48,290 --> 02:53:46,500
a velocity of just 40 miles per hour

4009
02:53:51,050 --> 02:53:48,300
and so that's a velocity is consistent

4010
02:53:53,090 --> 02:53:51,060
with wind speeds at 13 000 feet

4011
02:53:54,590 --> 02:53:53,100
so it's not our task to conjecture what

4012
02:53:55,969 --> 02:53:54,600
this object is

4013
02:53:58,070 --> 02:53:55,979

um but it's an example that illustrates

4014

02:53:59,570 --> 02:53:58,080

the type of data needed to determine

4015

02:54:02,950 --> 02:53:59,580

critical parameters that will help us

4016

02:54:04,910 --> 02:54:02,960

identify sub-job objects going forward

4017

02:54:06,710 --> 02:54:04,920

in addition to the importance of

4018

02:54:08,330 --> 02:54:06,720

quantitative analysis this example also

4019

02:54:10,190 --> 02:54:08,340

serves to illustrate the kind of

4020

02:54:13,550 --> 02:54:10,200

cognitive bias we have to contend with

4021

02:54:16,969 --> 02:54:13,560

for uaps recorded from unfamiliar

4022

02:54:18,830 --> 02:54:16,979

perspectives and uh Sean Kirkpatrick

4023

02:54:22,670 --> 02:54:18,840

showed another example of that this is

4024

02:54:24,410 --> 02:54:22,680

um this is a parallax effect case

4025

02:54:26,750 --> 02:54:24,420

foreign

4026
02:54:29,330 --> 02:54:26,760
thank you

4027
02:54:31,370 --> 02:54:29,340
any questions thanks um actually before

4028
02:54:34,610 --> 02:54:31,380
we have questions actually a good moment

4029
02:54:37,190 --> 02:54:34,620
uh Sean I don't want to comment on his

4030
02:54:38,950 --> 02:54:37,200
one of the questions if we bring Sean up

4031
02:54:46,870 --> 02:54:38,960
and then take questions for everybody

4032
02:54:51,110 --> 02:54:49,010
thanks that was that was actually very

4033
02:54:53,330 --> 02:54:51,120
helpful for everyone I'm sure

4034
02:54:55,010 --> 02:54:53,340
um just one piece of clarification on

4035
02:54:56,570 --> 02:54:55,020
the video that we showed the second one

4036
02:54:59,030 --> 02:54:56,580
that was the new

4037
02:55:01,550 --> 02:54:59,040
newly released one had the three uh

4038
02:55:03,290 --> 02:55:01,560

aircraft in it the question was asked

4039

02:55:06,230 --> 02:55:03,300

about if it was a stabilized background

4040

02:55:08,929 --> 02:55:06,240

against which the Jitter was showing I I

4041

02:55:10,790 --> 02:55:08,939

am not 100 certain of that answer it

4042

02:55:13,250 --> 02:55:10,800

might just be a bunch of dust on that

4043

02:55:15,590 --> 02:55:13,260

sensor but let me go back and get you a

4044

02:55:17,330 --> 02:55:15,600

more Folsom answer it is either

4045

02:55:19,610 --> 02:55:17,340

stabilized background

4046

02:55:22,610 --> 02:55:19,620

or it's just garbage but in either event

4047

02:55:25,190 --> 02:55:22,620

the three aircraft are

4048

02:55:27,050 --> 02:55:25,200

um shittering because of the platform

4049

02:55:28,429 --> 02:55:27,060

but that's another example of exactly

4050

02:55:31,010 --> 02:55:28,439

what you're saying right it's the

4051
02:55:32,750 --> 02:55:31,020
perception of the of the operator who

4052
02:55:35,870 --> 02:55:32,760
thinks it's doing something else when

4053
02:55:38,750 --> 02:55:35,880
it's actually just your own camera

4054
02:55:40,849 --> 02:55:38,760
right yes I could just Sean in your

4055
02:55:42,769 --> 02:55:40,859
event it seemed to me that what you mean

4056
02:55:44,389 --> 02:55:42,779
by Jitter in this case is the the plane

4057
02:55:47,210 --> 02:55:44,399
is actually making motions that are

4058
02:55:50,330 --> 02:55:47,220
causing a parallax so it's actually more

4059
02:55:51,950 --> 02:55:50,340
than that uh so the plane will move and

4060
02:55:52,910 --> 02:55:51,960
that'll cause The Parallax that you just

4061
02:55:56,510 --> 02:55:52,920
showed

4062
02:55:58,490 --> 02:55:56,520
but the sensor itself the a lot of these

4063
02:56:00,170 --> 02:55:58,500

cameras are in gimbals

4064

02:56:02,030 --> 02:56:00,180

for those of you not certain what a

4065

02:56:04,130 --> 02:56:02,040

gimbal is it's the thing that your your

4066

02:56:05,450 --> 02:56:04,140

cameras sit on your telescopes sit on it

4067

02:56:06,650 --> 02:56:05,460

moves it around and in different

4068

02:56:10,969 --> 02:56:06,660

directions

4069

02:56:12,530 --> 02:56:10,979

uh those can sometimes be stabilized in

4070

02:56:15,710 --> 02:56:12,540

which case they

4071

02:56:16,790 --> 02:56:15,720

they uh damp out the motion of the

4072

02:56:19,130 --> 02:56:16,800

platform

4073

02:56:20,690 --> 02:56:19,140

and in other cases they're not and they

4074

02:56:23,030 --> 02:56:20,700

they jump around and so what you're

4075

02:56:26,030 --> 02:56:23,040

actually seeing in that video is what we

4076
02:56:28,490 --> 02:56:26,040
call Jitter of the sensor against the

4077
02:56:30,170 --> 02:56:28,500
platform so the platform's moving and

4078
02:56:33,590 --> 02:56:30,180
the sensor is moving it's not as

4079
02:56:35,929 --> 02:56:33,600
stabilized against the target but the

4080
02:56:38,269 --> 02:56:35,939
once it's collected sometimes in

4081
02:56:40,070 --> 02:56:38,279
processing the background is stabilized

4082
02:56:44,389 --> 02:56:40,080
frame to frame just like some of those

4083
02:56:46,790 --> 02:56:44,399
Tick Tock videos you see right same idea

4084
02:56:48,769 --> 02:56:46,800
yeah I just wanted to jump in here I

4085
02:56:51,769 --> 02:56:48,779
think uh make a couple of comments so

4086
02:56:56,570 --> 02:56:51,779
just follow up on what uh Josh said in

4087
02:56:59,570 --> 02:56:56,580
my experience of flying you know over 15

4088
02:57:02,030 --> 02:56:59,580

000 hours 30 something years uh in

4089

02:57:05,330 --> 02:57:02,040

airplanes and and both in space

4090

02:57:08,090 --> 02:57:05,340

and the environment that we fly in space

4091

02:57:11,510 --> 02:57:08,100

or you know an atmospheric flight very

4092

02:57:14,330 --> 02:57:11,520

very conducive to optical illusions so I

4093

02:57:16,309 --> 02:57:14,340

get it why these Pilots would look at

4094

02:57:18,889 --> 02:57:16,319

that go fast video and think it was

4095

02:57:20,690 --> 02:57:18,899

going really really fast

4096

02:57:22,730 --> 02:57:20,700

um I remember one time I was flying in

4097

02:57:25,550 --> 02:57:22,740

the warning areas off of Virginia Beach

4098

02:57:27,230 --> 02:57:25,560

Military operating area there and my Rio

4099

02:57:30,469 --> 02:57:27,240

thought the guy that sits in the back of

4100

02:57:31,790 --> 02:57:30,479

the Tomcat was convinced we flew by a

4101

02:57:34,490 --> 02:57:31,800

UFO

4102

02:57:37,429 --> 02:57:34,500

so I didn't see it we turned around we

4103

02:57:40,290 --> 02:57:37,439

went to go look at it it turns out it

4104

02:57:42,050 --> 02:57:40,300

was Bart Simpson a balloon

4105

02:57:44,690 --> 02:57:42,060

[Laughter]

4106

02:57:46,490 --> 02:57:44,700

you know oftentimes in space I would see

4107

02:57:49,550 --> 02:57:46,500

things and I was like oh that's really

4108

02:57:52,130 --> 02:57:49,560

not behaving like it should it's not it

4109

02:57:53,929 --> 02:57:52,140

doesn't have a trajectory of a satellite

4110

02:57:57,170 --> 02:57:53,939

or a planet on the back of the star

4111

02:57:59,450 --> 02:57:57,180

field and every single time when I would

4112

02:58:02,870 --> 02:57:59,460

look at it long enough I would realize

4113

02:58:04,849 --> 02:58:02,880

that it was atmospheric lensing it was

4114

02:58:06,650 --> 02:58:04,859

the fact that what what I was looking at

4115

02:58:08,690 --> 02:58:06,660

was actually flying behind the

4116

02:58:10,730 --> 02:58:08,700

atmosphere and because of variations in

4117

02:58:12,110 --> 02:58:10,740

the atmosphere it made the trajectory

4118

02:58:13,969 --> 02:58:12,120

look like it wasn't going in a straight

4119

02:58:15,590 --> 02:58:13,979

line it was going like this and then go

4120

02:58:19,070 --> 02:58:15,600

like that and it would turn in the other

4121

02:58:23,030 --> 02:58:19,080

direction always was always the case

4122

02:58:26,809 --> 02:58:23,040

my brother uh Mark Kelly a uh former

4123

02:58:29,750 --> 02:58:26,819

NASA astronaut and uh also now a U.S

4124

02:58:31,670 --> 02:58:29,760

senator I was with him for dinner last

4125

02:58:33,950 --> 02:58:31,680

night and he shared a story

4126
02:58:35,870 --> 02:58:33,960
with me again that he had shared years

4127
02:58:38,210 --> 02:58:35,880
ago but I had kind of forgotten about it

4128
02:58:41,170 --> 02:58:38,220
and I think it's worth sharing and that

4129
02:58:44,690 --> 02:58:41,180
that is when he was the commander of SDS

4130
02:58:46,190 --> 02:58:44,700
124 I think it was in 2008. they were

4131
02:58:48,349 --> 02:58:46,200
getting ready to close the payload bay

4132
02:58:51,110 --> 02:58:48,359
doors of the Space Shuttle

4133
02:58:53,210 --> 02:58:51,120
and before they do that you got to make

4134
02:58:54,530 --> 02:58:53,220
sure nothing interferes with the doors

4135
02:58:56,450 --> 02:58:54,540
because if the doors don't close

4136
02:58:58,070 --> 02:58:56,460
properly the space shuttle can't

4137
02:58:59,690 --> 02:58:58,080
re-enter the atmosphere it would come

4138
02:59:02,450 --> 02:58:59,700

apart it's part of the structural

4139

02:59:04,730 --> 02:59:02,460

Integrity of the vehicle so they see

4140

02:59:07,670 --> 02:59:04,740

something in the payload Bay and they

4141

02:59:09,830 --> 02:59:07,680

thought it was a tool maybe a bolt they

4142

02:59:11,630 --> 02:59:09,840

couldn't quite figure it out they were

4143

02:59:14,510 --> 02:59:11,640

potentially going to have to go and do a

4144

02:59:16,309 --> 02:59:14,520

spacewalk to retrieve it

4145

02:59:18,050 --> 02:59:16,319

but before they did that my brother

4146

02:59:20,210 --> 02:59:18,060

grabbed the camera they took a picture

4147

02:59:24,710 --> 02:59:20,220

of it and when they blew up the picture

4148

02:59:27,110 --> 02:59:24,720

they realized that this is not a bolt or

4149

02:59:28,849 --> 02:59:27,120

a tool in the payload Bay it was

4150

02:59:31,250 --> 02:59:28,859

actually the International Space Station

4151
02:59:34,010 --> 02:59:31,260
that was 80 miles away

4152
02:59:37,429 --> 02:59:34,020
I mean that's just a really good example

4153
02:59:39,590 --> 02:59:37,439
of how this environment we operate in is

4154
02:59:41,870 --> 02:59:39,600
so so conducive optical illusions

4155
02:59:43,790 --> 02:59:41,880
oftentimes guys fly into the water and

4156
02:59:46,070 --> 02:59:43,800
there are cases where you know Pilots

4157
02:59:48,290 --> 02:59:46,080
have rendezvoused on a buoy because they

4158
02:59:50,269 --> 02:59:48,300
thought that was their wingman it's just

4159
02:59:51,830 --> 02:59:50,279
very very

4160
02:59:54,170 --> 02:59:51,840
um challenging environment to work and

4161
02:59:56,630 --> 02:59:54,180
especially at night and

4162
02:59:59,269 --> 02:59:56,640
in my experience the sensors kind of

4163
03:00:04,190 --> 02:59:59,279

have the same issues as the you know the

4164

03:00:07,910 --> 03:00:05,570

okay

4165

03:00:09,230 --> 03:00:07,920

so per what Scott just said I think we

4166

03:00:11,570 --> 03:00:09,240

need to take it as an action to

4167

03:00:14,389 --> 03:00:11,580

investigate unidentified animated

4168

03:00:17,450 --> 03:00:14,399

phenomena to go after all right Simpson

4169

03:00:21,050 --> 03:00:17,460

I I think what Josh and Scott said is

4170

03:00:23,450 --> 03:00:21,060

very very helpful and shows why we need

4171

03:00:25,550 --> 03:00:23,460

multiple sources of data

4172

03:00:28,070 --> 03:00:25,560

where their radar hits were there other

4173

03:00:30,349 --> 03:00:28,080

sightings unless we can look at this

4174

03:00:33,889 --> 03:00:30,359

from a holistic perspective it's very

4175

03:00:35,690 --> 03:00:33,899

difficult to draw conclusions and

4176
03:00:38,150 --> 03:00:35,700
relative to stigma and I appreciate the

4177
03:00:39,530 --> 03:00:38,160
reports that our colleagues gave I think

4178
03:00:41,090 --> 03:00:39,540
there's plenty of stigma right here in

4179
03:00:43,610 --> 03:00:41,100
this building and I'm sure Dan you

4180
03:00:46,130 --> 03:00:43,620
suffered from it at times

4181
03:00:48,170 --> 03:00:46,140
and I just want to commend administrator

4182
03:00:50,269 --> 03:00:48,180
though who's always be Senator Nelson to

4183
03:00:52,309 --> 03:00:50,279
me for his leadership and candidly

4184
03:00:54,050 --> 03:00:52,319
courage and getting the asset to tackle

4185
03:00:56,929 --> 03:00:54,060
this issue

4186
03:00:58,790 --> 03:00:56,939
and as we look at what Sean had

4187
03:01:01,730 --> 03:00:58,800
articulated that what he wants NASA to

4188
03:01:03,650 --> 03:01:01,740

do as we look at the recommendations for

4189

03:01:06,530 --> 03:01:03,660

reporting and how we need to collate

4190

03:01:08,510 --> 03:01:06,540

that reporting I'm very concerned that

4191

03:01:12,349 --> 03:01:08,520

this could be effectively done on an ad

4192

03:01:16,490 --> 03:01:12,359

hoc basis and I've been a part of far

4193

03:01:19,250 --> 03:01:16,500

too many panels and studies that end up

4194

03:01:21,889 --> 03:01:19,260

sitting on the shelf I don't want this

4195

03:01:23,870 --> 03:01:21,899

to be one of those exercises and we can

4196

03:01:26,809 --> 03:01:23,880

discuss this further but I would call

4197

03:01:29,750 --> 03:01:26,819

for and recommend a permanent office

4198

03:01:32,389 --> 03:01:29,760

within NASA to support this activity

4199

03:01:34,010 --> 03:01:32,399

albeit likely a modest one but to

4200

03:01:37,130 --> 03:01:34,020

collate this information collate that

4201
03:01:40,250 --> 03:01:37,140
data to Archive the information and act

4202
03:01:43,730 --> 03:01:40,260
as the open forward-facing counterpart

4203
03:01:45,410 --> 03:01:43,740
to Sean and aaro I think then we could

4204
03:01:47,929 --> 03:01:45,420
continue and actually accomplish the

4205
03:01:49,969 --> 03:01:47,939
reporting the stigma issues that have

4206
03:01:53,690 --> 03:01:49,979
been raised and we could do so in a

4207
03:01:55,610 --> 03:01:53,700
relatively affordable fashion because

4208
03:02:00,170 --> 03:01:55,620
again I don't want all of our work to

4209
03:02:06,230 --> 03:02:04,250
so now Jen's going to turn to our charge

4210
03:02:12,769 --> 03:02:06,240
and

4211
03:02:15,290 --> 03:02:12,779
convened with a set of questions that we

4212
03:02:17,690 --> 03:02:15,300
were charged to address we've been

4213
03:02:19,670 --> 03:02:17,700

addressing them through the topics we've

4214

03:02:21,710 --> 03:02:19,680

talked about and through things as we've

4215

03:02:23,750 --> 03:02:21,720

been thinking this through but we're

4216

03:02:26,030 --> 03:02:23,760

going to organize the next part of the

4217

03:02:28,429 --> 03:02:26,040

discussion with Jen presenting these

4218

03:02:30,469 --> 03:02:28,439

things and this is also a chance to get

4219

03:02:33,349 --> 03:02:30,479

into some of the discussion phase

4220

03:02:36,590 --> 03:02:33,359

because we can look at each of these

4221

03:02:38,870 --> 03:02:36,600

questions as the topics that we make we

4222

03:02:41,030 --> 03:02:38,880

want to make sure we address as part of

4223

03:02:43,790 --> 03:02:41,040

the report Jen

4224

03:02:46,969 --> 03:02:43,800

uh thanks David and I want to thank the

4225

03:02:48,469 --> 03:02:46,979

panelists all for all of your work all

4226
03:02:51,469 --> 03:02:48,479
of the knowledge that I've gained from

4227
03:02:54,650 --> 03:02:51,479
from each of you through this time I

4228
03:02:57,230 --> 03:02:54,660
took it upon myself in preparing for

4229
03:03:00,290 --> 03:02:57,240
today's meeting to draft a statement

4230
03:03:04,730 --> 03:03:00,300
that answers the eight questions that we

4231
03:03:07,790 --> 03:03:04,740
were provided at the beginning of the

4232
03:03:08,990 --> 03:03:07,800
uh last summer when the the panel was

4233
03:03:10,070 --> 03:03:09,000
was created

4234
03:03:13,010 --> 03:03:10,080
um so I'm going to read the question out

4235
03:03:15,469 --> 03:03:13,020
loud I'm going to read my statement and

4236
03:03:17,389 --> 03:03:15,479
I'm going to pause and let you think and

4237
03:03:19,190 --> 03:03:17,399
reflect and if there's remember this

4238
03:03:20,929 --> 03:03:19,200

isn't all of the details associated with

4239

03:03:23,030 --> 03:03:20,939

each of these answers right this is to

4240

03:03:25,250 --> 03:03:23,040

be a kind of high level make sure we've

4241

03:03:26,870 --> 03:03:25,260

got the major points there to let you

4242

03:03:28,910 --> 03:03:26,880

think and reflect and if there's

4243

03:03:30,410 --> 03:03:28,920

remember this isn't all of the details

4244

03:03:32,630 --> 03:03:30,420

associated with each of these answers

4245

03:03:35,630 --> 03:03:32,640

right this is to be a kind of high level

4246

03:03:38,990 --> 03:03:35,640

mixture we've got the major points there

4247

03:03:40,910 --> 03:03:39,000

um and and this is an initial take for

4248

03:03:44,090 --> 03:03:40,920

for these answers

4249

03:03:46,790 --> 03:03:44,100

so the first question goes what types of

4250

03:03:49,969 --> 03:03:46,800

scientific data currently collected and

4251
03:03:52,190 --> 03:03:49,979
archived by NASA or other civilian

4252
03:03:56,150 --> 03:03:52,200
government entities should be

4253
03:03:58,670 --> 03:03:56,160
synthesized and analyzed prior to

4254
03:04:00,650 --> 03:03:58,680
potentially shed light on the nature and

4255
03:04:03,889 --> 03:04:00,660
origins of UAP

4256
03:04:07,550 --> 03:04:03,899
so the panel reviewed data sources

4257
03:04:12,110 --> 03:04:07,560
analytic tools data architectures from

4258
03:04:16,309 --> 03:04:12,120
NASA NOAA FAA Commerce and others

4259
03:04:18,710 --> 03:04:16,319
the data that we recognize were not

4260
03:04:19,730 --> 03:04:18,720
collected for the purpose of identifying

4261
03:04:22,010 --> 03:04:19,740
UAP

4262
03:04:24,769 --> 03:04:22,020
which leaves bias in the data that was

4263
03:04:26,929 --> 03:04:24,779

collected even though there is an

4264

03:04:29,750 --> 03:04:26,939

immense amount of data available it is

4265

03:04:32,410 --> 03:04:29,760

hard to access and the sensors that were

4266

03:04:38,990 --> 03:04:32,420

used were not well calibrated for

4267

03:04:43,809 --> 03:04:41,570

no questions moving forward question

4268

03:04:47,269 --> 03:04:43,819

number two I kind of feel like Jeopardy

4269

03:04:49,370 --> 03:04:47,279

what what types of scientific data

4270

03:04:52,490 --> 03:04:49,380

currently collected and held by

4271

03:04:54,530 --> 03:04:52,500

non-profits and companies should be

4272

03:04:56,630 --> 03:04:54,540

synthesized and analyzed to potentially

4273

03:04:58,630 --> 03:04:56,640

shed light on the nature and origins of

4274

03:05:01,730 --> 03:04:58,640

UAP

4275

03:05:04,250 --> 03:05:01,740

many organizations exist to track

4276
03:05:06,170 --> 03:05:04,260
sightings of anomalous phenomena in the

4277
03:05:09,830 --> 03:05:06,180
Earth's atmosphere

4278
03:05:11,809 --> 03:05:09,840
both non-profit for-profit and otherwise

4279
03:05:13,309 --> 03:05:11,819
the study panel concluded that much of

4280
03:05:14,990 --> 03:05:13,319
the inputs collected by these

4281
03:05:18,469 --> 03:05:15,000
organizations are not considered

4282
03:05:20,809 --> 03:05:18,479
scientific data in nature and that they

4283
03:05:23,750 --> 03:05:20,819
do not contain unbiased information

4284
03:05:26,929 --> 03:05:23,760
they're not repeatable and they

4285
03:05:29,510 --> 03:05:26,939
typically come with eyewitness accounts

4286
03:05:31,250 --> 03:05:29,520
which we've heard even today that

4287
03:05:33,710 --> 03:05:31,260
there's a

4288
03:05:38,990 --> 03:05:33,720

hesitations with using only eyewitness

4289

03:05:43,790 --> 03:05:41,990

um to the point about commercial or

4290

03:05:47,150 --> 03:05:43,800

companies there are a lot of space

4291

03:05:50,389 --> 03:05:47,160

companies that some lobbied hard to get

4292

03:05:52,250 --> 03:05:50,399

in to present to us they have trolls of

4293

03:05:54,050 --> 03:05:52,260

data but they're collected for a variety

4294

03:05:56,630 --> 03:05:54,060

of different purposes than the purpose

4295

03:05:58,910 --> 03:05:56,640

of UAP and those systems while they are

4296

03:06:02,210 --> 03:05:58,920

well calibrated are only one source of

4297

03:06:08,570 --> 03:06:06,349

um questions comments concerns yes Carla

4298

03:06:09,410 --> 03:06:08,580

I'll bite on that one Jen

4299

03:06:13,010 --> 03:06:09,420

um

4300

03:06:15,769 --> 03:06:13,020

you know I I think your answer is

4301
03:06:18,170 --> 03:06:15,779
correct as to what we've seen but where

4302
03:06:20,269 --> 03:06:18,180
I would go is if we made a

4303
03:06:22,370 --> 03:06:20,279
recommendation to NASA that you know

4304
03:06:26,030 --> 03:06:22,380
we're really asking them to build a

4305
03:06:28,670 --> 03:06:26,040
roadmap and we haven't done a robust

4306
03:06:30,710 --> 03:06:28,680
catalog and we've looked at sources

4307
03:06:33,530 --> 03:06:30,720
mentioned sources that we think might be

4308
03:06:35,690 --> 03:06:33,540
relevant but perhaps a more robust

4309
03:06:37,370 --> 03:06:35,700
effort cataloging would be a good modest

4310
03:06:41,090 --> 03:06:37,380
start yeah

4311
03:06:42,590 --> 03:06:41,100
that's good I I will only in slight

4312
03:06:44,630 --> 03:06:42,600
defense of trying to answer the exact

4313
03:06:46,429 --> 03:06:44,640

question as opposed to the panel rather

4314

03:06:48,650 --> 03:06:46,439

than trying to add recommendations at

4315

03:06:51,170 --> 03:06:48,660

this point but yes Point well taken

4316

03:06:53,150 --> 03:06:51,180

thank you yeah I mean I think one of the

4317

03:06:55,370 --> 03:06:53,160

data sets so we just learned about you

4318

03:06:57,469 --> 03:06:55,380

know heard more about today and thinking

4319

03:07:00,650 --> 03:06:57,479

about so calibrating things is the FAA

4320

03:07:02,510 --> 03:07:00,660

data on a normal you know tracking

4321

03:07:05,929 --> 03:07:02,520

events right and I think this is

4322

03:07:08,690 --> 03:07:05,939

something where if we had you know

4323

03:07:11,030 --> 03:07:08,700

some imaging software people you know

4324

03:07:14,269 --> 03:07:11,040

sell citizen scientists with cell phone

4325

03:07:17,030 --> 03:07:14,279

cameras Identify some event that looks

4326
03:07:20,450 --> 03:07:17,040
interesting one of the places you'd like

4327
03:07:22,370 --> 03:07:20,460
to be able to turn is the FAA data and

4328
03:07:24,410 --> 03:07:22,380
having

4329
03:07:26,830 --> 03:07:24,420
um you know if there is to go back to

4330
03:07:29,929 --> 03:07:26,840
you know having a NASA

4331
03:07:31,070 --> 03:07:29,939
responsibility for data NASA might you

4332
03:07:33,769 --> 03:07:31,080
know

4333
03:07:37,309 --> 03:07:33,779
has a lot of experience in serving as a

4334
03:07:39,349 --> 03:07:37,319
clearing house for data from across the

4335
03:07:40,730 --> 03:07:39,359
government for civilian data right this

4336
03:07:43,070 --> 03:07:40,740
is something we do in lots of different

4337
03:07:45,530 --> 03:07:43,080
areas and I I think there are some

4338
03:07:47,389 --> 03:07:45,540

opportunities with data sets there and I

4339

03:07:49,010 --> 03:07:47,399

think the the radar data is one that

4340

03:07:51,230 --> 03:07:49,020

comes to mind is one we don't want to

4341

03:07:53,570 --> 03:07:51,240

forget about as an available data center

4342

03:07:55,910 --> 03:07:53,580

yeah absolutely

4343

03:07:58,490 --> 03:07:55,920

um question three I think goes more

4344

03:08:00,590 --> 03:07:58,500

towards the recommendations of what

4345

03:08:04,190 --> 03:08:00,600

other types of scientific data should be

4346

03:08:05,630 --> 03:08:04,200

collected by NASA to enhance the

4347

03:08:07,610 --> 03:08:05,640

potential for developing an

4348

03:08:10,130 --> 03:08:07,620

understanding of the nature and origins

4349

03:08:11,269 --> 03:08:10,140

of UAP so we've heard now from two of

4350

03:08:14,570 --> 03:08:11,279

the panelists on some of the information

4351
03:08:16,250 --> 03:08:14,580
that should be collected or the way that

4352
03:08:18,050 --> 03:08:16,260
some of that data should be organized in

4353
03:08:21,530 --> 03:08:18,060
a manner to make it available for people

4354
03:08:24,410 --> 03:08:21,540
to analyze that information

4355
03:08:25,269 --> 03:08:24,420
um and the only other thoughts that I

4356
03:08:29,510 --> 03:08:25,279
had

4357
03:08:31,670 --> 03:08:29,520
here was was really recognizing the

4358
03:08:34,969 --> 03:08:31,680
difference in

4359
03:08:37,670 --> 03:08:34,979
um the sensor thresholds right so we

4360
03:08:39,769 --> 03:08:37,680
can't always tune a sensor all the way

4361
03:08:41,330 --> 03:08:39,779
to the resolution that we might need or

4362
03:08:43,730 --> 03:08:41,340
we might want

4363
03:08:45,469 --> 03:08:43,740

um and and as we collect that data to

4364

03:08:48,889 --> 03:08:45,479

recognize for the scientists that are

4365

03:08:50,750 --> 03:08:48,899

doing those analyzes the bounds of each

4366

03:08:53,510 --> 03:08:50,760

of the systems that they're that they're

4367

03:08:57,710 --> 03:08:55,429

yeah

4368

03:09:00,950 --> 03:08:57,720

you know what strikes me on that one

4369

03:09:03,110 --> 03:09:00,960

when you were reading the the answer the

4370

03:09:03,769 --> 03:09:03,120

proposed answer was

4371

03:09:07,849 --> 03:09:03,779

um

4372

03:09:11,210 --> 03:09:07,859

what may be new maybe something that's

4373

03:09:14,210 --> 03:09:11,220

new to NASA in the sense of like a Time

4374

03:09:16,730 --> 03:09:14,220

series so we can know what's normal so

4375

03:09:19,130 --> 03:09:16,740

we can perhaps identify what's not

4376

03:09:22,010 --> 03:09:19,140

normal or anomalous right

4377

03:09:24,710 --> 03:09:22,020

so I'm not sure to what extent

4378

03:09:26,269 --> 03:09:24,720

um it's like the most unsexy thing to

4379

03:09:28,250 --> 03:09:26,279

sell on the face of the planet right is

4380

03:09:30,650 --> 03:09:28,260

making consistent long-term observations

4381

03:09:32,929 --> 03:09:30,660

but I think that the agency may be set

4382

03:09:35,630 --> 03:09:32,939

up to do just that for multiple reasons

4383

03:09:37,969 --> 03:09:35,640

right yeah persistent yeah data

4384

03:09:38,990 --> 03:09:37,979

collection the agency does that in a lot

4385

03:09:41,389 --> 03:09:39,000

of cases for us through physical

4386

03:09:43,309 --> 03:09:41,399

purposes so the infrastructure of course

4387

03:09:44,150 --> 03:09:43,319

you know pointing up and pointing at a

4388

03:09:46,550 --> 03:09:44,160

different distance but the

4389

03:09:48,769 --> 03:09:46,560

infrastructure for collecting this kind

4390

03:09:52,670 --> 03:09:48,779

of data organizing and keeping it and

4391

03:09:53,750 --> 03:09:52,680

that does exist yeah and there are in

4392

03:09:55,910 --> 03:09:53,760

their defense a lot of satellite

4393

03:09:59,929 --> 03:09:55,920

companies that are doing that persistent

4394

03:10:05,870 --> 03:10:03,469

okay uh question for which scientific

4395

03:10:08,510 --> 03:10:05,880

analysis techniques currently in

4396

03:10:11,389 --> 03:10:08,520

production could be employed to assess

4397

03:10:13,490 --> 03:10:11,399

the nature and origins of UAP which

4398

03:10:16,010 --> 03:10:13,500

types of analysis techniques should be

4399

03:10:20,330 --> 03:10:16,020

developed so this is a two-part with

4400

03:10:22,570 --> 03:10:20,340

what exists today and what should be so

4401
03:10:25,429 --> 03:10:22,580
we're looking also at recommendations

4402
03:10:27,889 --> 03:10:25,439
based on the information provided by the

4403
03:10:30,230 --> 03:10:27,899
presenters to the panel there are very

4404
03:10:31,630 --> 03:10:30,240
few credible analysis text techniques

4405
03:10:33,969 --> 03:10:31,640
available

4406
03:10:37,610 --> 03:10:33,979
that currently exist

4407
03:10:39,950 --> 03:10:37,620
to assess the nature and origins of UAP

4408
03:10:41,750 --> 03:10:39,960
the onset of artificial intelligence and

4409
03:10:44,870 --> 03:10:41,760
automated analysis techniques give

4410
03:10:46,730 --> 03:10:44,880
promise to being able to do that in the

4411
03:10:48,769 --> 03:10:46,740
future

4412
03:10:50,710 --> 03:10:48,779
um I wanted to add something to that

4413
03:10:53,269 --> 03:10:50,720

perhaps which is that really to design

4414

03:10:55,550 --> 03:10:53,279

the analysis you need to know what the

4415

03:10:57,349 --> 03:10:55,560

data looks like right so

4416

03:11:00,230 --> 03:10:57,359

um you know we can't really say what

4417

03:11:01,490 --> 03:11:00,240

kind of analysis should be created on

4418

03:11:03,590 --> 03:11:01,500

the hypothetical data that we're

4419

03:11:06,170 --> 03:11:03,600

recommending should be collected in a in

4420

03:11:08,450 --> 03:11:06,180

a in some you know somewhat specified

4421

03:11:10,849 --> 03:11:08,460

fashion if it's all hypothetical and we

4422

03:11:12,830 --> 03:11:10,859

want to collect all of this data and we

4423

03:11:14,510 --> 03:11:12,840

know what format it's going to be in we

4424

03:11:16,550 --> 03:11:14,520

can design analysis techniques around it

4425

03:11:18,530 --> 03:11:16,560

and at that point it's likely that there

4426

03:11:20,690 --> 03:11:18,540

are analysis techniques that are that

4427

03:11:23,389 --> 03:11:20,700

already exist absolutely lots of anomaly

4428

03:11:25,370 --> 03:11:23,399

detection work we just don't know which

4429

03:11:27,530 --> 03:11:25,380

one will be more suitable because the

4430

03:11:28,550 --> 03:11:27,540

data as it should be doesn't exist yet

4431

03:11:30,050 --> 03:11:28,560

correct

4432

03:11:31,610 --> 03:11:30,060

you said exactly what I was going to say

4433

03:11:33,590 --> 03:11:31,620

yeah and that that's what I was getting

4434

03:11:35,030 --> 03:11:33,600

at with my point not that it was an

4435

03:11:36,769 --> 03:11:35,040

it doesn't exist in in the scientific

4436

03:11:38,269 --> 03:11:36,779

Community just that they're not being

4437

03:11:40,490 --> 03:11:38,279

applied to this problem set right now

4438

03:11:44,030 --> 03:11:40,500

and it's hard to apply them when we

4439

03:11:46,849 --> 03:11:44,040

don't have the the known data of what

4440

03:11:48,469 --> 03:11:46,859

would go into those David yeah I I think

4441

03:11:50,990 --> 03:11:48,479

something we want to stress here is the

4442

03:11:53,030 --> 03:11:51,000

importance of uniform data yes in the

4443

03:11:55,550 --> 03:11:53,040

way it's collected because particularly

4444

03:11:57,830 --> 03:11:55,560

when you're looking for outliers if you

4445

03:12:00,230 --> 03:11:57,840

have data coming from many different

4446

03:12:02,870 --> 03:12:00,240

observing techniques right and just

4447

03:12:05,090 --> 03:12:02,880

having a uniform set of cameras a

4448

03:12:07,130 --> 03:12:05,100

uniform set of detectors so you

4449

03:12:09,050 --> 03:12:07,140

understand and characterize them right

4450

03:12:12,230 --> 03:12:09,060

because this is a a needle in the

4451
03:12:15,110 --> 03:12:12,240
haystack problem and you know every

4452
03:12:18,769 --> 03:12:15,120
camera I mean I'd mentioned in the uh

4453
03:12:20,570 --> 03:12:18,779
opening session ghosting in Optics yes

4454
03:12:22,429 --> 03:12:20,580
now that's going to be different in

4455
03:12:23,809 --> 03:12:22,439
every different detector every day right

4456
03:12:26,090 --> 03:12:23,819
and you

4457
03:12:27,590 --> 03:12:26,100
um before we get to the analysis

4458
03:12:30,830 --> 03:12:27,600
techniques we want to make sure we

4459
03:12:32,750 --> 03:12:30,840
design the data collection so that the

4460
03:12:35,450 --> 03:12:32,760
analysis techniques can effectively be

4461
03:12:39,110 --> 03:12:35,460
used on it right David can take a slight

4462
03:12:44,090 --> 03:12:40,969
it sounds like you're implying that you

4463
03:12:45,650 --> 03:12:44,100

need a single way of collecting the data

4464

03:12:47,510 --> 03:12:45,660

I'd argue it's really you need to

4465

03:12:48,830 --> 03:12:47,520

understand the various ways in which

4466

03:12:51,590 --> 03:12:48,840

you're collecting the data and you're

4467

03:12:52,969 --> 03:12:51,600

able to cross calibrate across those

4468

03:12:54,950 --> 03:12:52,979

different approaches

4469

03:12:59,990 --> 03:12:54,960

uh because I seriously doubt that there

4470

03:13:02,630 --> 03:13:00,000

is a single detector I I think a handful

4471

03:13:04,969 --> 03:13:02,640

of ways so that you're yeah well

4472

03:13:07,429 --> 03:13:04,979

characterized things things need to be

4473

03:13:10,250 --> 03:13:07,439

well characterized to be useful I guess

4474

03:13:11,929 --> 03:13:10,260

is the way I would state it and uh it

4475

03:13:13,730 --> 03:13:11,939

takes time and energy to well

4476

03:13:15,469 --> 03:13:13,740

characterize things so that that's

4477

03:13:18,290 --> 03:13:15,479

that's I think the challenge

4478

03:13:20,389 --> 03:13:18,300

so following up on both your points I

4479

03:13:22,250 --> 03:13:20,399

think it's where we can actually apply

4480

03:13:24,110 --> 03:13:22,260

artificial intelligence so we cannot

4481

03:13:26,570 --> 03:13:24,120

apply Artificial Intelligence on the

4482

03:13:29,650 --> 03:13:26,580

current data but we can apply artificial

4483

03:13:32,030 --> 03:13:29,660

intelligence in a way that we can design

4484

03:13:34,370 --> 03:13:32,040

characteristics for the data that we

4485

03:13:37,670 --> 03:13:34,380

need and how we can collect the data

4486

03:13:40,670 --> 03:13:39,469

is probably more of a frustration than

4487

03:13:42,410 --> 03:13:40,680

anything else so I don't know how

4488

03:13:44,269 --> 03:13:42,420

helpful it'll be but

4489

03:13:46,490 --> 03:13:44,279

I think we're not looking for a needle

4490

03:13:47,990 --> 03:13:46,500

in Haystack we're looking for anomaly in

4491

03:13:51,110 --> 03:13:48,000

Haystack we don't even know that we're

4492

03:13:52,690 --> 03:13:51,120

looking for a needle that it's just a

4493

03:13:54,889 --> 03:13:52,700

discolored piece of hay

4494

03:13:56,630 --> 03:13:54,899

I'm from Montana so I love good hay

4495

03:13:58,910 --> 03:13:56,640

analogy

4496

03:14:00,230 --> 03:13:58,920

I don't know what the phenomenology is

4497

03:14:02,750 --> 03:14:00,240

that we're looking for

4498

03:14:04,490 --> 03:14:02,760

we say anomalous again in this question

4499

03:14:06,530 --> 03:14:04,500

earlier what does that mean anomalous

4500

03:14:08,750 --> 03:14:06,540

acceleration like I think as we try to

4501
03:14:11,150 --> 03:14:08,760
look at the data we're starting from an

4502
03:14:13,010 --> 03:14:11,160
almost impossible position when if we

4503
03:14:15,250 --> 03:14:13,020
don't know what we're looking for is it

4504
03:14:17,269 --> 03:14:15,260
a radiation signature is it something

4505
03:14:19,790 --> 03:14:17,279
electromagnetic is it something like

4506
03:14:21,830 --> 03:14:19,800
that is why this is so challenging and

4507
03:14:23,990 --> 03:14:21,840
frustrating to me that we're talking

4508
03:14:25,550 --> 03:14:24,000
about monitoring something that we don't

4509
03:14:28,429 --> 03:14:25,560
even know what we're supposed to Monitor

4510
03:14:31,330 --> 03:14:28,439
and let me just offer Josh before you

4511
03:14:35,269 --> 03:14:31,340
jump in the the scientific process of

4512
03:14:38,450 --> 03:14:35,279
hypothesis-driven research right of that

4513
03:14:40,969 --> 03:14:38,460

while we don't know all of the possible

4514

03:14:43,849 --> 03:14:40,979

outcomes in the entire world we can ask

4515

03:14:47,210 --> 03:14:43,859

very specific questions and go about it

4516

03:14:49,910 --> 03:14:47,220

in a very scientific process to

4517

03:14:52,010 --> 03:14:49,920

understand so you're right we don't know

4518

03:14:54,769 --> 03:14:52,020

exactly what we're looking for but we

4519

03:14:58,969 --> 03:14:54,779

know hot spots as we've seen from both

4520

03:15:00,530 --> 03:14:58,979

FAA and arrow we do know some of those

4521

03:15:02,929 --> 03:15:00,540

conditions that we might be able looking

4522

03:15:05,510 --> 03:15:02,939

for so if you start with with kind of

4523

03:15:07,610 --> 03:15:05,520

what you know or places to start to go

4524

03:15:10,429 --> 03:15:07,620

and look and you start with the data

4525

03:15:13,429 --> 03:15:10,439

that we have available to us

4526

03:15:15,530 --> 03:15:13,439

we might start being able to untangle

4527

03:15:17,450 --> 03:15:15,540

the chicken and egg problem

4528

03:15:20,389 --> 03:15:17,460

so Jen what is the phenomena that we're

4529

03:15:25,550 --> 03:15:22,809

so we've heard them from Sean

4530

03:15:27,110 --> 03:15:25,560

I would pull up Sean's chart but I can't

4531

03:15:29,030 --> 03:15:27,120

quickly do that

4532

03:15:31,130 --> 03:15:29,040

um of the criteria that he said on the

4533

03:15:34,610 --> 03:15:31,140

trends I use word criteria he said

4534

03:15:36,469 --> 03:15:34,620

trends of six or seven

4535

03:15:41,210 --> 03:15:36,479

um

4536

03:15:44,570 --> 03:15:41,220

uh phenomena I guess of specific size or

4537

03:15:45,830 --> 03:15:44,580

within a specific motion range and it's

4538

03:15:47,570 --> 03:15:45,840

something

4539

03:15:50,090 --> 03:15:47,580

different than what we've seen before

4540

03:15:51,590 --> 03:15:50,100

something we don't recognize

4541

03:15:53,630 --> 03:15:51,600

and so when you go to look for something

4542

03:15:57,170 --> 03:15:53,640

that you don't recognize

4543

03:15:59,210 --> 03:15:57,180

it it can be pretty easy and that we've

4544

03:16:01,269 --> 03:15:59,220

fooled ourselves today and even watching

4545

03:16:03,590 --> 03:16:01,279

some of these videos of what's going on

4546

03:16:06,410 --> 03:16:03,600

but when you're able to corroborate that

4547

03:16:08,090 --> 03:16:06,420

with three or four other sources it

4548

03:16:09,889 --> 03:16:08,100

starts to make sense

4549

03:16:12,590 --> 03:16:09,899

right so something that looks like magic

4550

03:16:14,330 --> 03:16:12,600

to the naked eye or to that camera in

4551
03:16:17,389 --> 03:16:14,340
that sensor

4552
03:16:19,250 --> 03:16:17,399
um isn't once you understand all of the

4553
03:16:20,809 --> 03:16:19,260
effects of what was going on in the

4554
03:16:23,210 --> 03:16:20,819
surrounding environment

4555
03:16:24,410 --> 03:16:23,220
it's a good question can we um because I

4556
03:16:27,710 --> 03:16:24,420
got the same frustration you do right

4557
03:16:29,030 --> 03:16:27,720
it's it's regardless of um uh what

4558
03:16:30,950 --> 03:16:29,040
you're looking for if you don't know

4559
03:16:32,809 --> 03:16:30,960
what it is whether you're using AI or

4560
03:16:34,429 --> 03:16:32,819
match filtering techniques you can't

4561
03:16:35,929 --> 03:16:34,439
find it right you can't find it so I

4562
03:16:38,389 --> 03:16:35,939
guess a question I have is can we use

4563
03:16:39,769 --> 03:16:38,399

social media that kind of thing as a way

4564

03:16:40,849 --> 03:16:39,779

of queuing

4565

03:16:42,230 --> 03:16:40,859

um to know where something's happening

4566

03:16:44,030 --> 03:16:42,240

because we know Google searches can lead

4567

03:16:45,889 --> 03:16:44,040

you to better understand where outbreaks

4568

03:16:47,269 --> 03:16:45,899

happen right disease outbreaks can you

4569

03:16:48,590 --> 03:16:47,279

use similar type of conflation of data

4570

03:16:50,750 --> 03:16:48,600

to start saying well something's going

4571

03:16:52,370 --> 03:16:50,760

on here let's start cueing sensors in

4572

03:16:54,769 --> 03:16:52,380

that area that requires some real-time

4573

03:16:57,290 --> 03:16:54,779

capability but is that something we can

4574

03:17:00,110 --> 03:16:57,300

think about

4575

03:17:01,969 --> 03:17:00,120

can I object to that just a bit uh I you

4576

03:17:05,269 --> 03:17:01,979

can find things that you don't know how

4577

03:17:07,250 --> 03:17:05,279

they look okay there is a lot of the

4578

03:17:09,170 --> 03:17:07,260

algorithms in anomaly detection are

4579

03:17:12,230 --> 03:17:09,180

really based on let's know let's find

4580

03:17:14,389 --> 03:17:12,240

out how what we know looks like so that

4581

03:17:16,370 --> 03:17:14,399

anything that doesn't look like that can

4582

03:17:17,690 --> 03:17:16,380

be identified and spotted and then we

4583

03:17:20,030 --> 03:17:17,700

can think whether or not we understand

4584

03:17:23,330 --> 03:17:20,040

you right and so I think the point about

4585

03:17:25,969 --> 03:17:23,340

the homogeneous detectors really is

4586

03:17:27,469 --> 03:17:25,979

about that we need to have a solid

4587

03:17:29,690 --> 03:17:27,479

understanding of the normal to attack

4588

03:17:32,150 --> 03:17:29,700

the abnormal was really outliers as we

4589

03:17:35,809 --> 03:17:32,160

sometimes perhaps more often call them

4590

03:17:38,150 --> 03:17:35,819

in in science right yeah absolutely

4591

03:17:40,130 --> 03:17:38,160

um I do want to be cautious of time

4592

03:17:42,710 --> 03:17:40,140

we were supposed to end this about 10

4593

03:17:44,090 --> 03:17:42,720

minutes ago right so but this is drifted

4594

03:17:46,670 --> 03:17:44,100

into discussion but I think we're doing

4595

03:17:47,929 --> 03:17:46,680

discussion so do you have any last topic

4596

03:17:49,429 --> 03:17:47,939

you want to hit if not then we'll just

4597

03:17:50,630 --> 03:17:49,439

open up to General discussion I have

4598

03:17:52,670 --> 03:17:50,640

four more questions that we're

4599

03:17:55,450 --> 03:17:52,680

technically supposed to answer all right

4600

03:17:58,070 --> 03:17:55,460

let's do one

4601
03:18:03,710 --> 03:17:58,080
we can do four questions in two minutes

4602
03:18:08,150 --> 03:18:06,349
what basic physical constraints can be

4603
03:18:09,590 --> 03:18:08,160
placed on the nature and origins of UAP

4604
03:18:14,570 --> 03:18:09,600
Mike would you like to take this

4605
03:18:19,010 --> 03:18:14,580
question absolutely okay got it

4606
03:18:21,230 --> 03:18:19,020
um I uh in my my notes to answer this

4607
03:18:23,809 --> 03:18:21,240
knew that Sean had presented some Trends

4608
03:18:25,070 --> 03:18:23,819
so I I used that kind of as the basis

4609
03:18:26,870 --> 03:18:25,080
for

4610
03:18:28,309 --> 03:18:26,880
um what basic physical constraints could

4611
03:18:30,889 --> 03:18:28,319
be available

4612
03:18:32,870 --> 03:18:30,899
um and also the Josh's presentation that

4613
03:18:34,969 --> 03:18:32,880

he just presented of we know some of

4614

03:18:36,889 --> 03:18:34,979

these are still in the realm of

4615

03:18:38,570 --> 03:18:36,899

understanding we just haven't applied

4616

03:18:40,370 --> 03:18:38,580

basic physics to understand what's there

4617

03:18:43,730 --> 03:18:40,380

what we have

4618

03:18:46,250 --> 03:18:43,740

uh question six what civilian airspace

4619

03:18:49,309 --> 03:18:46,260

data related to uaps have been collected

4620

03:18:52,969 --> 03:18:49,319

by government agencies and are available

4621

03:18:54,710 --> 03:18:52,979

for analysis to a inform efforts to

4622

03:18:58,670 --> 03:18:54,720

better understand the nature and origins

4623

03:19:01,309 --> 03:18:58,680

of uaps and B determine the risk of uaps

4624

03:19:02,030 --> 03:19:01,319

to the National airspace

4625

03:19:04,610 --> 03:19:02,040

um

4626

03:19:08,510 --> 03:19:04,620

so

4627

03:19:09,830 --> 03:19:08,520

examples from today to kind of move

4628

03:19:11,150 --> 03:19:09,840

quickly

4629

03:19:14,210 --> 03:19:11,160

um some of this in Mike freeze

4630

03:19:16,790 --> 03:19:14,220

presentation and talking about the the

4631

03:19:18,530 --> 03:19:16,800

error risks right that FAA is always

4632

03:19:19,309 --> 03:19:18,540

looking out for

4633

03:19:21,290 --> 03:19:19,319

um

4634

03:19:24,469 --> 03:19:21,300

we know

4635

03:19:26,210 --> 03:19:24,479

um by altitude and by sensor and

4636

03:19:28,790 --> 03:19:26,220

curvature of the earth and line of sight

4637

03:19:30,889 --> 03:19:28,800

and as you get higher that you can see

4638

03:19:33,170 --> 03:19:30,899

more right so we have a lot of Civilian

4639

03:19:34,330 --> 03:19:33,180

airspace data that can start to

4640

03:19:37,910 --> 03:19:34,340

understand

4641

03:19:39,670 --> 03:19:37,920

the nature and origins of the UAP and

4642

03:19:43,130 --> 03:19:39,680

determining the risk

4643

03:19:45,530 --> 03:19:43,140

is based on how much you know right so

4644

03:19:47,929 --> 03:19:45,540

you think about I I go straight to space

4645

03:19:50,330 --> 03:19:47,939

and I think about satellites and one's

4646

03:19:52,250 --> 03:19:50,340

um tiny piece of space debris can

4647

03:19:54,050 --> 03:19:52,260

destroy an entire satellite because

4648

03:19:57,110 --> 03:19:54,060

they're moving really really fast in in

4649

03:20:00,530 --> 03:19:57,120

the vacuum of space it's not necessarily

4650

03:20:02,150 --> 03:20:00,540

so true in airspace right

4651
03:20:06,469 --> 03:20:02,160
um but something that we don't know

4652
03:20:09,349 --> 03:20:06,479
could have a severe impact on pilots and

4653
03:20:11,389 --> 03:20:09,359
their flight plan and all of that which

4654
03:20:15,050 --> 03:20:11,399
then could really

4655
03:20:16,969 --> 03:20:15,060
uh wreak havoc on all of all of the

4656
03:20:18,650 --> 03:20:16,979
United States airspace and so being able

4657
03:20:20,510 --> 03:20:18,660
to understand and identify what those

4658
03:20:23,750 --> 03:20:20,520
are phenomena are

4659
03:20:25,610 --> 03:20:23,760
um will help de-risk the the air flight

4660
03:20:27,530 --> 03:20:25,620
safety

4661
03:20:31,370 --> 03:20:27,540
the in the National airspace

4662
03:20:32,870 --> 03:20:31,380
um question seven what current reporting

4663
03:20:35,570 --> 03:20:32,880

protocols and air traffic management

4664

03:20:38,030 --> 03:20:35,580

data acquisition systems can be modified

4665

03:20:41,150 --> 03:20:38,040

to acquire additional data on past and

4666

03:20:42,769 --> 03:20:41,160

future uaps we've heard a lot of the

4667

03:20:45,710 --> 03:20:42,779

reporting structures it was talked about

4668

03:20:48,290 --> 03:20:45,720

earlier today those probably can be

4669

03:20:50,150 --> 03:20:48,300

adapted and improved and it's up to us

4670

03:20:53,210 --> 03:20:50,160

in discussion as the panel on what those

4671

03:20:55,790 --> 03:20:53,220

recommendations might be question eight

4672

03:20:58,309 --> 03:20:55,800

and I'll get off stage what potential

4673

03:21:00,889 --> 03:20:58,319

enhancements to the Future air traffic

4674

03:21:03,710 --> 03:21:00,899

management development efforts can be

4675

03:21:06,469 --> 03:21:03,720

recommended to acquire data concerning

4676
03:21:08,210 --> 03:21:06,479
future reported uaps to assist in the

4677
03:21:11,150 --> 03:21:08,220
effort to better understand the nature

4678
03:21:11,809 --> 03:21:11,160
and origins of the uaps

4679
03:21:14,929 --> 03:21:11,819
um

4680
03:21:16,969 --> 03:21:14,939
the potential enhancements

4681
03:21:19,730 --> 03:21:16,979
automatic filtering of the knowns has

4682
03:21:20,450 --> 03:21:19,740
come up as a talking point

4683
03:21:22,210 --> 03:21:20,460
um

4684
03:21:27,590 --> 03:21:22,220
these are

4685
03:21:28,370 --> 03:21:27,600
uh specific really to acquiring data

4686
03:21:31,450 --> 03:21:28,380
um

4687
03:21:35,690 --> 03:21:31,460
the tuning of those sensor platforms

4688
03:21:38,150 --> 03:21:35,700

the multimodal Spectrum collection and

4689

03:21:41,110 --> 03:21:38,160

being able to kind of time stamp or

4690

03:21:44,510 --> 03:21:41,120

geostamp each of those to to collaborate

4691

03:21:46,670 --> 03:21:44,520

the the sightings so I will leave the

4692

03:21:48,650 --> 03:21:46,680

panel with that with time to continue

4693

03:21:52,610 --> 03:21:48,660

discussion

4694

03:21:52,620 --> 03:22:05,030

okay great let me go up to let me uh

4695

03:22:10,250 --> 03:22:07,450

but before I open it up I just wanted to

4696

03:22:12,170 --> 03:22:10,260

restate federica's answer to Mike for

4697

03:22:14,870 --> 03:22:12,180

hey

4698

03:22:15,769 --> 03:22:14,880

if you know the properties of hay very

4699

03:22:17,870 --> 03:22:15,779

well

4700

03:22:19,670 --> 03:22:17,880

and you can you go through your Haystack

4701
03:22:22,309 --> 03:22:19,680
and say

4702
03:22:23,929 --> 03:22:22,319
I don't know what this is but it doesn't

4703
03:22:26,269 --> 03:22:23,939
look like hey

4704
03:22:28,490 --> 03:22:26,279
you don't need to have a match filter

4705
03:22:32,389 --> 03:22:28,500
looking for a needle in a haystack if

4706
03:22:32,399 --> 03:22:36,710
I

4707
03:22:43,429 --> 03:22:40,429
now as a New York City resident

4708
03:22:44,870 --> 03:22:43,439
my impression is we go through hay with

4709
03:22:47,269 --> 03:22:44,880
your you don't want to do it with your

4710
03:22:53,450 --> 03:22:49,969
but I I defer to you

4711
03:22:58,429 --> 03:22:53,460
on a uh yeah

4712
03:23:01,790 --> 03:22:58,439
I think yeah yeah so um I want to

4713
03:23:03,590 --> 03:23:01,800

in the final minutes we have here before

4714

03:23:05,809 --> 03:23:03,600

the public session

4715

03:23:08,269 --> 03:23:05,819

look to the Future

4716

03:23:10,070 --> 03:23:08,279

I think a lot of us have looked at the

4717

03:23:11,690 --> 03:23:10,080

data we have now with a sense of

4718

03:23:15,530 --> 03:23:11,700

dissatisfaction

4719

03:23:17,929 --> 03:23:15,540

and say what data would you want and how

4720

03:23:19,969 --> 03:23:17,939

would you want to collect it

4721

03:23:22,969 --> 03:23:19,979

um and just think about you know we

4722

03:23:25,670 --> 03:23:22,979

don't need to design the detectors but

4723

03:23:28,309 --> 03:23:25,680

think about the characterization that we

4724

03:23:30,110 --> 03:23:28,319

we'd like what wavelengths we'd like and

4725

03:23:33,710 --> 03:23:30,120

you know just to kind of throw that out

4726
03:23:39,370 --> 03:23:33,720
as a one way to think about uh

4727
03:23:45,590 --> 03:23:42,469
so one thing that strikes me in that

4728
03:23:48,349 --> 03:23:45,600
question is that I'm not totally certain

4729
03:23:50,170 --> 03:23:48,359
that we've dedicated our time and effort

4730
03:23:53,030 --> 03:23:50,180
to looking for

4731
03:23:54,830 --> 03:23:53,040
anomalies I think by default there are

4732
03:23:58,670 --> 03:23:54,840
some science communities

4733
03:24:00,530 --> 03:23:58,680
that look for things like um uh the

4734
03:24:02,630 --> 03:24:00,540
Genesis of a hurricane or a harmful

4735
03:24:05,750 --> 03:24:02,640
algal bloom in the ocean or you know

4736
03:24:07,550 --> 03:24:05,760
something in interstellar space but I'm

4737
03:24:10,070 --> 03:24:07,560
not sure we ever focused our

4738
03:24:11,690 --> 03:24:10,080

interdisciplinary effort on that and I

4739

03:24:13,849 --> 03:24:11,700

think the question you ask is a really

4740

03:24:16,250 --> 03:24:13,859

interesting one part of our statement of

4741

03:24:18,410 --> 03:24:16,260

task right but I'm not sure I can answer

4742

03:24:19,670 --> 03:24:18,420

that quite yet that's how I feel about

4743

03:24:23,210 --> 03:24:19,680

that one

4744

03:24:27,290 --> 03:24:24,590

surely right

4745

03:24:28,429 --> 03:24:27,300

um yeah going along with Dr buns Happy's

4746

03:24:30,170 --> 03:24:28,439

point there

4747

03:24:32,809 --> 03:24:30,180

we heard a lot from Arrow about

4748

03:24:35,330 --> 03:24:32,819

specifics about the needle one to four

4749

03:24:38,330 --> 03:24:35,340

meters in size zero to Mach two you can

4750

03:24:41,929 --> 03:24:38,340

then look at NASA's assets right

4751
03:24:44,330 --> 03:24:41,939
and look at its spatial resolution its

4752
03:24:45,889 --> 03:24:44,340
spectral resolution in particular the

4753
03:24:47,630 --> 03:24:45,899
frame rate to get I'm going to get your

4754
03:24:49,309 --> 03:24:47,640
question here

4755
03:24:51,830 --> 03:24:49,319
um Dr spurgle

4756
03:24:53,990 --> 03:24:51,840
you can look at the current NASA assets

4757
03:24:56,990 --> 03:24:54,000
and try to say which ones could find

4758
03:24:58,610 --> 03:24:57,000
that needle the ones that uh Dr

4759
03:25:01,190 --> 03:24:58,620
Kirkpatrick put forward

4760
03:25:03,950 --> 03:25:01,200
that analysis has not been done so one

4761
03:25:06,710 --> 03:25:03,960
of my recommendations would be for NASA

4762
03:25:09,170 --> 03:25:06,720
to convene a group and a task force to

4763
03:25:12,950 --> 03:25:09,180

look at its current assets to calculate

4764

03:25:15,590 --> 03:25:12,960

what current available data current data

4765

03:25:18,590 --> 03:25:15,600

and current facilities could answer

4766

03:25:21,050 --> 03:25:18,600

insight into that now to get to your

4767

03:25:24,950 --> 03:25:21,060

future question looking at this I see

4768

03:25:27,710 --> 03:25:24,960

Walter is um frame rate I see a really

4769

03:25:29,570 --> 03:25:27,720

big issue with frame rate so if you want

4770

03:25:31,969 --> 03:25:29,580

to catch fast moving objects you need to

4771

03:25:34,250 --> 03:25:31,979

take quick images if you want to get to

4772

03:25:36,950 --> 03:25:34,260

these very small sizes and resolution

4773

03:25:38,630 --> 03:25:36,960

depending on altitude where your actual

4774

03:25:39,590 --> 03:25:38,640

you're taking your image from ground or

4775

03:25:42,349 --> 03:25:39,600

space

4776
03:25:45,170 --> 03:25:42,359
NASA will likely have to increase its

4777
03:25:48,110 --> 03:25:45,180
frame rate into its detectors

4778
03:25:50,150 --> 03:25:48,120
I think a short answer to what NASA's

4779
03:25:52,190 --> 03:25:50,160
current assets would be able to see

4780
03:25:54,710 --> 03:25:52,200
would be really big Haystacks that are

4781
03:25:56,050 --> 03:25:54,720
moving very slowly which I think is the

4782
03:25:58,670 --> 03:25:56,060
point that you're making

4783
03:26:00,410 --> 03:25:58,680
but that doesn't mean that that data is

4784
03:26:02,570 --> 03:26:00,420
not useful because if it's able to

4785
03:26:03,710 --> 03:26:02,580
characterize the background extremely

4786
03:26:05,150 --> 03:26:03,720
well

4787
03:26:08,269 --> 03:26:05,160
that

4788
03:26:10,309 --> 03:26:08,279

gives you a better idea of what unusual

4789

03:26:11,929 --> 03:26:10,319

looks like basically anything that you

4790

03:26:15,110 --> 03:26:11,939

do that characterizes the background

4791

03:26:16,729 --> 03:26:15,120

will contribute to an understanding

4792

03:26:18,950 --> 03:26:16,739

so we're going to have to cut this off

4793

03:26:21,349 --> 03:26:18,960

now because we're now going to our our

4794

03:26:26,809 --> 03:26:21,359

public session public comment session so

4795

03:26:26,819 --> 03:26:31,150

foreign

4796

03:26:36,410 --> 03:26:33,830

I am Karen Fox with NASA's office of

4797

03:26:39,469 --> 03:26:36,420

communications and we are segwaying into

4798

03:26:43,010 --> 03:26:39,479

the public q a portion of this meeting

4799

03:26:45,349 --> 03:26:43,020

uh as a reminder this is a facca meeting

4800

03:26:48,110 --> 03:26:45,359

that is a federal advisory committee act

4801
03:26:49,790 --> 03:26:48,120
and so we are under guidance which says

4802
03:26:53,929 --> 03:26:49,800
that these meetings are public and that

4803
03:26:56,269 --> 03:26:53,939
we take public uh questions uh we got

4804
03:26:57,410 --> 03:26:56,279
hundreds and hundreds of questions and I

4805
03:26:59,630 --> 03:26:57,420
just wanted to take a moment to say

4806
03:27:01,490 --> 03:26:59,640
thank you to everybody who who submitted

4807
03:27:03,110 --> 03:27:01,500
them uh we're obviously not going to get

4808
03:27:04,610 --> 03:27:03,120
to all of them today but we are going to

4809
03:27:07,630 --> 03:27:04,620
make attempts to answer some of them

4810
03:27:11,090 --> 03:27:07,640
online you can always check back to

4811
03:27:12,410 --> 03:27:11,100
science.nasa.gov UAP where over time we

4812
03:27:14,750 --> 03:27:12,420
will make it clear where we're putting

4813
03:27:16,070 --> 03:27:14,760

up some more of those answers in the

4814

03:27:20,929 --> 03:27:16,080

meantime we did have to make some

4815

03:27:23,210 --> 03:27:20,939

decisions uh we stuck two questions that

4816

03:27:25,090 --> 03:27:23,220

applied to this independent study and

4817

03:27:27,110 --> 03:27:25,100

uaps there were a lot of questions about

4818

03:27:29,150 --> 03:27:27,120

astrobiology and other subjects that

4819

03:27:31,130 --> 03:27:29,160

we're not going to get to today and also

4820

03:27:33,229 --> 03:27:31,140

in attempt to get to as many of the

4821

03:27:35,269 --> 03:27:33,239

questions as possible since so many of

4822

03:27:37,429 --> 03:27:35,279

them were similar we've we've sort of

4823

03:27:39,170 --> 03:27:37,439

bucketed them and that is how we're

4824

03:27:40,370 --> 03:27:39,180

going to try to address as many as

4825

03:27:42,110 --> 03:27:40,380

possible so I'm going to toss the

4826

03:27:43,849 --> 03:27:42,120

questions to you and we'll and we'll

4827

03:27:45,530 --> 03:27:43,859

look to getting some answers for our for

4828

03:27:50,570 --> 03:27:45,540

our public questions

4829

03:27:53,450 --> 03:27:50,580

all right so first set of questions

4830

03:27:55,490 --> 03:27:53,460

um are specifically about the the data

4831

03:27:58,010 --> 03:27:55,500

being used so

4832

03:28:00,650 --> 03:27:58,020

examples what exactly are you

4833

03:28:02,929 --> 03:28:00,660

incorporating into your report what data

4834

03:28:05,389 --> 03:28:02,939

are we using what are some examples of

4835

03:28:07,490 --> 03:28:05,399

data being used do we have multi-sensor

4836

03:28:09,650 --> 03:28:07,500

data or of objects performing Maneuvers

4837

03:28:12,050 --> 03:28:09,660

that seem truly anomalous do we have

4838

03:28:13,429 --> 03:28:12,060

photos videos what about having the NASA

4839

03:28:15,349 --> 03:28:13,439

historian go through the NASA's

4840

03:28:17,990 --> 03:28:15,359

historical records did you interview

4841

03:28:19,610 --> 03:28:18,000

military or Pilots for this study so

4842

03:28:23,269 --> 03:28:19,620

looking for some information about the

4843

03:28:27,710 --> 03:28:25,250

I can toss to anyone David looks like

4844

03:28:29,269 --> 03:28:27,720

he's jumping in well I think first and

4845

03:28:30,650 --> 03:28:29,279

foremost our goal here is a way to

4846

03:28:32,510 --> 03:28:30,660

create a roadmap

4847

03:28:35,090 --> 03:28:32,520

right so really

4848

03:28:37,130 --> 03:28:35,100

um you know we have been informed by

4849

03:28:39,590 --> 03:28:37,140

some of the events that are reported and

4850

03:28:42,050 --> 03:28:39,600

we've had uh but we've certainly not

4851
03:28:44,269 --> 03:28:42,060
done a complete historical study on our

4852
03:28:47,090 --> 03:28:44,279
in an archive and I think one of the

4853
03:28:48,830 --> 03:28:47,100
things we've wanted to do was learn what

4854
03:28:51,050 --> 03:28:48,840
kinds of events have been reported learn

4855
03:28:52,429 --> 03:28:51,060
about some of the ones have been and

4856
03:28:56,150 --> 03:28:52,439
resolve some of the ones that are

4857
03:28:58,010 --> 03:28:56,160
unresolved so we can best think about

4858
03:29:00,349 --> 03:28:58,020
how in the future

4859
03:29:02,030 --> 03:29:00,359
we can collect data so that we can get

4860
03:29:03,469 --> 03:29:02,040
more robust answers

4861
03:29:06,469 --> 03:29:03,479
so that

4862
03:29:08,510 --> 03:29:06,479
I hope that that addressed that question

4863
03:29:10,250 --> 03:29:08,520

it does

4864

03:29:13,370 --> 03:29:10,260

others have anything else they'd like to

4865

03:29:17,750 --> 03:29:14,929

all right

4866

03:29:20,510 --> 03:29:17,760

said I will keep going

4867

03:29:22,910 --> 03:29:20,520

uh another big question category was

4868

03:29:25,429 --> 03:29:22,920

about transparency and about sharing

4869

03:29:28,550 --> 03:29:25,439

information and so examples in this

4870

03:29:30,349 --> 03:29:28,560

category are what is NASA hiding and

4871

03:29:32,750 --> 03:29:30,359

where are you hiding it

4872

03:29:35,929 --> 03:29:32,760

how much has been shared publicly has

4873

03:29:38,750 --> 03:29:35,939

NASA ever cut the live NASA TV feed away

4874

03:29:41,150 --> 03:29:38,760

from something has NASA released all UAP

4875

03:29:43,790 --> 03:29:41,160

evidence it has ever received what about

4876
03:29:45,410 --> 03:29:43,800
NASA astronauts do they have an NDA or

4877
03:29:48,190 --> 03:29:45,420
clearance that does not allow them to

4878
03:29:55,550 --> 03:29:48,200
speak about UAP sightings

4879
03:30:00,070 --> 03:29:57,950
Dan Evans all right I'll take a stab at

4880
03:30:02,570 --> 03:30:00,080
the last one that one I really want to

4881
03:30:04,729 --> 03:30:02,580
assure the public

4882
03:30:07,370 --> 03:30:04,739
and to double down on the remarks I made

4883
03:30:10,190 --> 03:30:07,380
this morning that this agency is

4884
03:30:14,450 --> 03:30:10,200
absolutely cast iron committed to

4885
03:30:17,150 --> 03:30:14,460
openness and transparency and honesty

4886
03:30:19,550 --> 03:30:17,160
and that commitment also extends to our

4887
03:30:21,710 --> 03:30:19,560
live NASA TV feeds they provide

4888
03:30:22,790 --> 03:30:21,720

real-time footage from our various

4889

03:30:25,610 --> 03:30:22,800

missions

4890

03:30:28,969 --> 03:30:25,620

now to my knowledge NASA has never

4891

03:30:31,670 --> 03:30:28,979

intentionally cut a live feed to hide

4892

03:30:32,809 --> 03:30:31,680

anything and that includes uaps of

4893

03:30:35,210 --> 03:30:32,819

course

4894

03:30:37,130 --> 03:30:35,220

um sometimes there are interruptions to

4895

03:30:40,550 --> 03:30:37,140

our feeds but that is simply because

4896

03:30:42,349 --> 03:30:40,560

space is a complex place there's a vast

4897

03:30:45,229 --> 03:30:42,359

array of natural phenomena human-made

4898

03:30:47,030 --> 03:30:45,239

objects and so forth but again I wanted

4899

03:30:49,790 --> 03:30:47,040

to reassure the public that we're

4900

03:30:52,610 --> 03:30:49,800

absolutely committed to providing the

4901
03:30:54,290 --> 03:30:52,620
public transparency and openness those

4902
03:30:57,590 --> 03:30:54,300
are the Hallmarks of NASA that's why

4903
03:30:59,690 --> 03:30:57,600
we're here today in public on TV because

4904
03:31:02,389 --> 03:30:59,700
we want the public to have the

4905
03:31:05,570 --> 03:31:02,399
opportunity to see the process of this

4906
03:31:07,190 --> 03:31:05,580
committee doing its work in public it's

4907
03:31:09,710 --> 03:31:07,200
only right

4908
03:31:12,170 --> 03:31:09,720
just to follow up on what I what I said

4909
03:31:15,889 --> 03:31:12,180
I I didn't mean to be to joke about it

4910
03:31:19,309 --> 03:31:15,899
but in my 20 years at Nasa no one

4911
03:31:22,490 --> 03:31:19,319
either officially or unofficially

4912
03:31:24,650 --> 03:31:22,500
in my recollection have ever discussed

4913
03:31:27,229 --> 03:31:24,660

or briefed us or had any kind of

4914

03:31:30,889 --> 03:31:27,239

discussions about anything that would be

4915

03:31:32,809 --> 03:31:30,899

considered a UAP or UFO or anything like

4916

03:31:34,370 --> 03:31:32,819

that and I'll ask you to stand for one

4917

03:31:35,750 --> 03:31:34,380

second and state your name I'll ask you

4918

03:31:37,490 --> 03:31:35,760

to stand for one second and state your

4919

03:31:40,190 --> 03:31:37,500

name just so everybody know who was

4920

03:31:43,070 --> 03:31:40,200

speaking it's hard I'm just following up

4921

03:31:46,870 --> 03:31:43,080

on uh on the question about

4922

03:31:50,769 --> 03:31:46,880

if NASA astronauts ever signed an NDA or

4923

03:31:54,410 --> 03:31:50,779

anything of that uh anything like that

4924

03:31:56,510 --> 03:31:54,420

in my experience of being in the

4925

03:31:59,750 --> 03:31:56,520

astronaut office for 20 years there was

4926
03:32:04,929 --> 03:31:59,760
never any formal or informal discussions

4927
03:32:07,870 --> 03:32:04,939
at all about uaps or UFOs or anyone

4928
03:32:10,790 --> 03:32:07,880
reporting anything that would suggest

4929
03:32:12,950 --> 03:32:10,800
something from you know beyond our

4930
03:32:15,830 --> 03:32:12,960
planet

4931
03:32:17,450 --> 03:32:15,840
thank you very much yes please just want

4932
03:32:20,210 --> 03:32:17,460
to make a quick comment about the the

4933
03:32:23,630 --> 03:32:20,220
culture of science uh in relation to

4934
03:32:25,969 --> 03:32:23,640
this question uh scientists by Nature

4935
03:32:28,070 --> 03:32:25,979
are are at least intellectually sort of

4936
03:32:30,469 --> 03:32:28,080
rebellious it's it's it's in our nature

4937
03:32:31,670 --> 03:32:30,479
to question authority you know uh uh

4938
03:32:32,990 --> 03:32:31,680

that's how you're a good scientist you

4939

03:32:37,670 --> 03:32:33,000

don't just take someone's word for it

4940

03:32:39,349 --> 03:32:37,680

you try to uh discover the truth and for

4941

03:32:40,729 --> 03:32:39,359

that reason uh you know this question

4942

03:32:42,170 --> 03:32:40,739

about what are the science overlords

4943

03:32:44,630 --> 03:32:42,180

hiding that's sort of written in a

4944

03:32:47,809 --> 03:32:44,640

facetious way but I I just want to

4945

03:32:49,670 --> 03:32:47,819

emphasize that uh there's no way that

4946

03:32:51,830 --> 03:32:49,680

all that all scientists could be in on

4947

03:32:53,809 --> 03:32:51,840

on on on on trying to hide something

4948

03:32:55,550 --> 03:32:53,819

because it's just not in our nature if

4949

03:32:57,290 --> 03:32:55,560

somebody told me to try to hide

4950

03:33:01,070 --> 03:32:57,300

something as a scientist that would just

4951
03:33:03,769 --> 03:33:01,080
increase my desire to uh to re to belay

4952
03:33:05,630 --> 03:33:03,779
that order and and to release it and I

4953
03:33:08,330 --> 03:33:05,640
think that's true of of our our

4954
03:33:11,330 --> 03:33:08,340
community in general all right thank you

4955
03:33:12,710 --> 03:33:11,340
so much I am going to go on to our third

4956
03:33:15,290 --> 03:33:12,720
set of questions

4957
03:33:17,750 --> 03:33:15,300
um which is has NASA been tracking

4958
03:33:20,990 --> 03:33:17,760
Earth's atmosphere or are we also

4959
03:33:25,870 --> 03:33:21,000
studying bodies of water for for UAP and

4960
03:33:31,969 --> 03:33:28,969
here's the oceanographer

4961
03:33:34,610 --> 03:33:31,979
um uh so you know my understanding is

4962
03:33:36,290 --> 03:33:34,620
this is a completely independent study

4963
03:33:39,349 --> 03:33:36,300

to assess

4964

03:33:42,370 --> 03:33:39,359

you know what assets what data

4965

03:33:46,490 --> 03:33:42,380

um what science What observations

4966

03:33:49,150 --> 03:33:46,500

platforms NASA has to

4967

03:33:54,769 --> 03:33:49,160

potentially help evaluate and understand

4968

03:33:56,630 --> 03:33:54,779

uh UAP right we have um well NASA has an

4969

03:33:59,210 --> 03:33:56,640

earth science Division and many

4970

03:34:01,389 --> 03:33:59,220

scientists at many centers and many

4971

03:34:04,849 --> 03:34:01,399

academics and other partners out there

4972

03:34:06,650 --> 03:34:04,859

that study the Earth as a system we do

4973

03:34:11,090 --> 03:34:06,660

this from the unique vantage point of

4974

03:34:15,170 --> 03:34:11,100

space and the atmosphere is part of that

4975

03:34:17,389 --> 03:34:15,180

um so uh I think Dr Kirkpatrick stated

4976
03:34:20,210 --> 03:34:17,399
this morning that to his knowledge and I

4977
03:34:22,969 --> 03:34:20,220
think to ours there there isn't anything

4978
03:34:24,650 --> 03:34:22,979
that's been reported below the ocean

4979
03:34:27,229 --> 03:34:24,660
surface

4980
03:34:28,670 --> 03:34:27,239
um you know and so I think

4981
03:34:31,550 --> 03:34:28,680
part of what we've been talking about

4982
03:34:33,110 --> 03:34:31,560
all day is you know what assets are out

4983
03:34:34,790 --> 03:34:33,120
there to actually

4984
03:34:35,510 --> 03:34:34,800
begin to

4985
03:34:37,729 --> 03:34:35,520
um

4986
03:34:39,530 --> 03:34:37,739
identify data that could be useful in

4987
03:34:41,750 --> 03:34:39,540
explaining any of these reports if and

4988
03:34:44,269 --> 03:34:41,760

should they come in so I think that's

4989

03:34:47,450 --> 03:34:44,279

probably it unless there's something

4990

03:34:51,830 --> 03:34:49,610

all right then thank you

4991

03:34:55,070 --> 03:34:51,840

moving on to our fourth

4992

03:34:57,250 --> 03:34:55,080

General bucket of questions uh what are

4993

03:35:01,070 --> 03:34:57,260

you doing to solve the stigmatization

4994

03:35:03,290 --> 03:35:01,080

surrounding the study of UAP

4995

03:35:04,790 --> 03:35:03,300

I can take that one

4996

03:35:08,510 --> 03:35:04,800

and say your name if you wouldn't mind

4997

03:35:11,150 --> 03:35:08,520

first Carwin toner FAA

4998

03:35:13,610 --> 03:35:11,160

um I think the fact that NASA has called

4999

03:35:15,769 --> 03:35:13,620

us together here as a panel to look into

5000

03:35:18,710 --> 03:35:15,779

this that NASA is hosting a public

5001

03:35:20,809 --> 03:35:18,720

meeting that we've heard right it

5002

03:35:23,510 --> 03:35:20,819

clearly stated we're here to be

5003

03:35:27,050 --> 03:35:23,520

transparent I think that's the first

5004

03:35:30,530 --> 03:35:27,060

step in trying to really normalize the

5005

03:35:32,269 --> 03:35:30,540

study of uips and I you know we talked a

5006

03:35:34,729 --> 03:35:32,279

little bit earlier

5007

03:35:38,889 --> 03:35:34,739

um about the reporting about how to make

5008

03:35:41,530 --> 03:35:38,899

it credible and we talked also about UAP

5009

03:35:45,110 --> 03:35:41,540

in one of the earlier talks this morning

5010

03:35:48,050 --> 03:35:45,120

of the definition of the a whether it

5011

03:35:50,090 --> 03:35:48,060

was Ariel or anomalous has the

5012

03:35:52,130 --> 03:35:50,100

legislation now is and really the

5013

03:35:54,830 --> 03:35:52,140

distinction Beyond UFOs right when we're

5014

03:35:57,050 --> 03:35:54,840

looking at uaps here we're Beyond just

5015

03:36:00,110 --> 03:35:57,060

airplanes we're we're looking at all

5016

03:36:02,150 --> 03:36:00,120

types of anomalous phenomena

5017

03:36:05,750 --> 03:36:02,160

um and so that's just a more inclusive

5018

03:36:10,010 --> 03:36:07,670

still Michael

5019

03:36:11,630 --> 03:36:10,020

um just wanted to emphasize what uh

5020

03:36:13,070 --> 03:36:11,640

Carlin said which is so accurate I

5021

03:36:15,050 --> 03:36:13,080

really consider it quite amazing that

5022

03:36:17,570 --> 03:36:15,060

we're here having this discussion NASA

5023

03:36:19,910 --> 03:36:17,580

leadership serves great kudos for this

5024

03:36:21,769 --> 03:36:19,920

and Beyond I think a recommendation that

5025

03:36:24,670 --> 03:36:21,779

I'd like to make is that NASA

5026

03:36:27,710 --> 03:36:24,680

participate in symposia in panels

5027

03:36:30,410 --> 03:36:27,720

sponsor research when you have the NASA

5028

03:36:33,530 --> 03:36:30,420

logo on that sponsored research on the

5029

03:36:35,389 --> 03:36:33,540

discussion it really helps normalize and

5030

03:36:37,550 --> 03:36:35,399

push back against the stigma I think

5031

03:36:40,070 --> 03:36:37,560

NASA can leverage his excellent

5032

03:36:42,349 --> 03:36:40,080

reputation both domestically and abroad

5033

03:36:43,610 --> 03:36:42,359

to help push back on that stigma I think

5034

03:36:44,929 --> 03:36:43,620

it's important to do so not just for

5035

03:36:47,389 --> 03:36:44,939

Science and Discovery but for National

5036

03:36:49,130 --> 03:36:47,399

Security that we've all seen what's

5037

03:36:51,590 --> 03:36:49,140

occurred with balloons from rival

5038

03:36:53,450 --> 03:36:51,600

Nations we don't want this stigma to be

5039

03:36:56,090 --> 03:36:53,460

a vulnerability that rival Nations can

5040

03:36:58,849 --> 03:36:56,100

take advantage of

5041

03:37:01,190 --> 03:36:58,859

yes Dan good thanks Karen just a few

5042

03:37:03,229 --> 03:37:01,200

additional points um from you know the

5043

03:37:06,590 --> 03:37:03,239

agency perspective we are of course

5044

03:37:09,170 --> 03:37:06,600

taking a set of actions to effectively

5045

03:37:11,030 --> 03:37:09,180

normalize the study of UAP so that

5046

03:37:13,309 --> 03:37:11,040

involves collaborating across the

5047

03:37:15,349 --> 03:37:13,319

government encouraging an open dialogue

5048

03:37:16,849 --> 03:37:15,359

and promoting rigorous scientific

5049

03:37:19,130 --> 03:37:16,859

inquiry

5050

03:37:21,530 --> 03:37:19,140

um let me turn to each of those interns

5051
03:37:24,229 --> 03:37:21,540
so in terms of promoting a rigorous uh

5052
03:37:27,290 --> 03:37:24,239
scientific inquiry the primary way we're

5053
03:37:29,809 --> 03:37:27,300
doing this is by being truly rigorous

5054
03:37:32,710 --> 03:37:29,819
and employing an evidence-based

5055
03:37:36,410 --> 03:37:32,720
methodology in everything that we do

5056
03:37:39,410 --> 03:37:36,420
that is characteristic of scientific

5057
03:37:41,809 --> 03:37:39,420
research it's no accident that the

5058
03:37:43,729 --> 03:37:41,819
people up on this stage are true experts

5059
03:37:46,969 --> 03:37:43,739
in their reflect as respective Fields

5060
03:37:50,570 --> 03:37:46,979
okay so that is in turn going to help us

5061
03:37:52,490 --> 03:37:50,580
to legitimize UAP studies encouraging

5062
03:37:55,610 --> 03:37:52,500
open dialogue so by holding public

5063
03:37:59,090 --> 03:37:55,620

meetings such as this one and having

5064

03:38:00,950 --> 03:37:59,100

open conversations about findings then

5065

03:38:03,530 --> 03:38:00,960

we're helping to normalize discussions

5066

03:38:06,769 --> 03:38:03,540

again and that that really goes arm and

5067

03:38:08,450 --> 03:38:06,779

arm with our commitment to openness and

5068

03:38:10,490 --> 03:38:08,460

transparency with the public and then

5069

03:38:12,050 --> 03:38:10,500

finally in terms of collaborating across

5070

03:38:14,030 --> 03:38:12,060

the government we're working very

5071

03:38:16,910 --> 03:38:14,040

closely with other government agencies

5072

03:38:18,769 --> 03:38:16,920

not least Sean's office Aero uh to

5073

03:38:21,769 --> 03:38:18,779

broaden the scope and the depth of our

5074

03:38:24,110 --> 03:38:21,779

study and I honestly believe that this

5075

03:38:27,349 --> 03:38:24,120

Collective interagency approach will

5076

03:38:29,150 --> 03:38:27,359

lend credibility to the study of uaps

5077

03:38:30,830 --> 03:38:29,160

and it's going to demonstrate the

5078

03:38:34,670 --> 03:38:30,840

seriousness with which we're approaching

5079

03:38:36,410 --> 03:38:34,680

this issue thanks well that uh segues

5080

03:38:38,990 --> 03:38:36,420

very nicely into what our next set of

5081

03:38:41,690 --> 03:38:39,000

questions are which is uh who we are

5082

03:38:43,849 --> 03:38:41,700

working with so the question is who else

5083

03:38:46,550 --> 03:38:43,859

is NASA currently working with or do we

5084

03:38:56,510 --> 03:38:46,560

want to work with to study UAP and is

5085

03:38:59,929 --> 03:38:58,370

I'll take a stab at it okay

5086

03:39:03,650 --> 03:38:59,939

um as

5087

03:39:07,070 --> 03:39:03,660

the questions tasked to this panel so

5088

03:39:10,490 --> 03:39:07,080

kindly asked us both in what other

5089

03:39:12,349 --> 03:39:10,500

government agencies are collecting data

5090

03:39:13,910 --> 03:39:12,359

what data is available NASA is

5091

03:39:16,670 --> 03:39:13,920

partnering with them

5092

03:39:20,710 --> 03:39:16,680

um in in many ways as well as National

5093

03:39:23,389 --> 03:39:20,720

NASA has a wide commercial Outreach

5094

03:39:24,729 --> 03:39:23,399

and Partnerships with understanding what

5095

03:39:28,729 --> 03:39:24,739

data is available

5096

03:39:30,469 --> 03:39:28,739

as well as NASA's founded on well not

5097

03:39:33,110 --> 03:39:30,479

founded but it the

5098

03:39:35,150 --> 03:39:33,120

core principles of of NASA are with

5099

03:39:37,250 --> 03:39:35,160

International partners and so the

5100

03:39:39,410 --> 03:39:37,260

information that our partners are

5101
03:39:42,410 --> 03:39:39,420
gathering is is typically available to

5102
03:39:44,929 --> 03:39:42,420
NASA as well it's all good yes on all

5103
03:39:47,809 --> 03:39:44,939
accounts and I may just emphasize and

5104
03:39:49,309 --> 03:39:47,819
add that NASA is singular I believe

5105
03:39:51,469 --> 03:39:49,319
among government agencies and it's

5106
03:39:52,910 --> 03:39:51,479
International Outreach again not to keep

5107
03:39:54,950 --> 03:39:52,920
talking about the Artemis Accords but

5108
03:39:56,269 --> 03:39:54,960
you see countries like Saudi Arabia that

5109
03:39:58,370 --> 03:39:56,279
we may not have a great relationship

5110
03:40:00,410 --> 03:39:58,380
with as Government right now we have

5111
03:40:02,510 --> 03:40:00,420
Saudi Arabia and Israel in the Accords

5112
03:40:05,150 --> 03:40:02,520
family so that NASA is unique in its

5113
03:40:07,729 --> 03:40:05,160

scope and ability to reach out I also

5114

03:40:10,610 --> 03:40:07,739

think that we're entering a new era of

5115

03:40:12,769 --> 03:40:10,620

commercial space transportation that is

5116

03:40:14,929 --> 03:40:12,779

going from low earth orbit out to Sis

5117

03:40:16,130 --> 03:40:14,939

lunar's space and that is going to be

5118

03:40:17,929 --> 03:40:16,140

the purview of the Department of

5119

03:40:20,450 --> 03:40:17,939

Commerce which is taking over Space

5120

03:40:23,030 --> 03:40:20,460

Traffic management so I think it's very

5121

03:40:24,769 --> 03:40:23,040

important that NASA work with and

5122

03:40:26,330 --> 03:40:24,779

support Commerce as we go through that

5123

03:40:28,550 --> 03:40:26,340

transition Department of Defense is

5124

03:40:29,929 --> 03:40:28,560

currently responsible for that and I

5125

03:40:32,929 --> 03:40:29,939

think that will help us not only to

5126
03:40:35,210 --> 03:40:32,939
identify potential uaps but to assist in

5127
03:40:37,729 --> 03:40:35,220
preventing contention congestion and

5128
03:40:40,910 --> 03:40:37,739
eventually conflict and I also want to

5129
03:40:42,769 --> 03:40:40,920
note in terms of space debris debris and

5130
03:40:45,469 --> 03:40:42,779
orbit right now I believe represents an

5131
03:40:46,910 --> 03:40:45,479
existential threat to our very society

5132
03:40:49,250 --> 03:40:46,920
that we are getting very close to an

5133
03:40:51,110 --> 03:40:49,260
event that could cause real problems for

5134
03:40:51,830 --> 03:40:51,120
our ability to access satellites and

5135
03:40:53,450 --> 03:40:51,840
that's why I think there's great

5136
03:40:54,830 --> 03:40:53,460
ancillary benefits to the conversation

5137
03:40:58,010 --> 03:40:54,840
we're having today that as we increase

5138
03:40:59,990 --> 03:40:58,020

our capability to monitor orbit for uaps

5139

03:41:02,150 --> 03:41:00,000

that data could also be very relevant as

5140

03:41:04,309 --> 03:41:02,160

we look at nearest objects and other

5141

03:41:06,349 --> 03:41:04,319

threats and again to just end on the

5142

03:41:08,990 --> 03:41:06,359

Earth objects apothses for example an

5143

03:41:11,450 --> 03:41:09,000

asteroid is going to come so close to

5144

03:41:13,670 --> 03:41:11,460

Earth it will be below geosynchronous

5145

03:41:15,410 --> 03:41:13,680

satellites so any effort to begin to

5146

03:41:16,610 --> 03:41:15,420

catalog and do better in terms of

5147

03:41:17,990 --> 03:41:16,620

understanding that environment is going

5148

03:41:19,910 --> 03:41:18,000

to be terrific and I hope NASA works

5149

03:41:22,969 --> 03:41:19,920

with Commerce and international agencies

5150

03:41:24,950 --> 03:41:22,979

on Apophis and other missions

5151

03:41:27,410 --> 03:41:24,960

I think Federica had something to say

5152

03:41:28,610 --> 03:41:27,420

yeah I just wanted to add that um you

5153

03:41:30,830 --> 03:41:28,620

know a lot of the things that we think

5154

03:41:33,349 --> 03:41:30,840

we might recommend in terms of platforms

5155

03:41:35,570 --> 03:41:33,359

to collect data that would be useful to

5156

03:41:37,550 --> 03:41:35,580

study uaps you know we recommend the

5157

03:41:40,130 --> 03:41:37,560

multi-platform and multi-site that would

5158

03:41:42,469 --> 03:41:40,140

also mean likely ground-based as well as

5159

03:41:44,510 --> 03:41:42,479

space-based facilities

5160

03:41:47,690 --> 03:41:44,520

um and this is being done already in

5161

03:41:49,250 --> 03:41:47,700

astrophysics codes Irving the sky from

5162

03:41:51,830 --> 03:41:49,260

the ground and from space with different

5163

03:41:54,349 --> 03:41:51,840

methodologies and different uh different

5164

03:41:56,750 --> 03:41:54,359

instruments to get a more comprehensive

5165

03:41:59,690 --> 03:41:56,760

picture of what's normal and then did

5166

03:42:01,550 --> 03:41:59,700

that what's phenomenal and um about

5167

03:42:03,229 --> 03:42:01,560

every 10 years the scientific the

5168

03:42:05,510 --> 03:42:03,239

astrophysics Community anyways but many

5169

03:42:07,429 --> 03:42:05,520

other branches convene a panel of

5170

03:42:09,410 --> 03:42:07,439

experts to see what things can be done

5171

03:42:11,990 --> 03:42:09,420

to advance

5172

03:42:14,269 --> 03:42:12,000

um the the field in the next decade it's

5173

03:42:16,130 --> 03:42:14,279

called the decada survey for us and one

5174

03:42:18,110 --> 03:42:16,140

of the recommendations this year was

5175

03:42:21,650 --> 03:42:18,120

explicitly for agencies that do

5176
03:42:24,710 --> 03:42:21,660
astrophysics to work together so NSF doe

5177
03:42:26,330 --> 03:42:24,720
and NASA to work together share data

5178
03:42:27,650 --> 03:42:26,340
share facilities and instruments so I

5179
03:42:31,550 --> 03:42:27,660
think this is

5180
03:42:33,590 --> 03:42:31,560
um you know there's a lot of fields will

5181
03:42:35,210 --> 03:42:33,600
benefit from this including the UAP

5182
03:42:36,670 --> 03:42:35,220
studies

5183
03:42:40,130 --> 03:42:36,680
oh

5184
03:42:42,590 --> 03:42:40,140
absolutely Carl and toenar I I'd like to

5185
03:42:44,809 --> 03:42:42,600
put an exclamation point on how well

5186
03:42:47,330 --> 03:42:44,819
NASA is collaborating across the

5187
03:42:49,610 --> 03:42:47,340
government I can I'm from the FAA and I

5188
03:42:52,969 --> 03:42:49,620

can personally attest that you know FAA

5189

03:42:54,710 --> 03:42:52,979

and NASA have a robust uh engagement in

5190

03:42:58,370 --> 03:42:54,720

transferring research

5191

03:42:59,990 --> 03:42:58,380

um into practice in the ATM system I

5192

03:43:02,750 --> 03:43:00,000

think on the commercial space side we

5193

03:43:04,910 --> 03:43:02,760

work well with NASA and and all of our

5194

03:43:07,729 --> 03:43:04,920

agencies are in the whole of government

5195

03:43:11,150 --> 03:43:07,739

approach supporting Arrow specifically

5196

03:43:13,309 --> 03:43:11,160

on the uip topic and and you know it

5197

03:43:15,469 --> 03:43:13,319

really comes down to good government and

5198

03:43:18,229 --> 03:43:15,479

how we deliver because we can each work

5199

03:43:19,610 --> 03:43:18,239

our own mission space but to cover the

5200

03:43:21,229 --> 03:43:19,620

whole Space we need to collaborate

5201
03:43:23,809 --> 03:43:21,239
together

5202
03:43:27,229 --> 03:43:23,819
and Dan do you put an exclamation point

5203
03:43:29,269 --> 03:43:27,239
on Carlin's exclamation point uh

5204
03:43:30,889 --> 03:43:29,279
so I think it's important to say that

5205
03:43:32,929 --> 03:43:30,899
you know we really do have a good

5206
03:43:36,229 --> 03:43:32,939
relationship with the auto main anomaly

5207
03:43:38,630 --> 03:43:36,239
resolution office error Sean's office

5208
03:43:41,750 --> 03:43:38,640
um and it's previous or predecessor

5209
03:43:44,269 --> 03:43:41,760
organization the UAP task force and we

5210
03:43:46,849 --> 03:43:44,279
have really benefited from very fruitful

5211
03:43:49,729 --> 03:43:46,859
collaborations among those various

5212
03:43:51,349 --> 03:43:49,739
entities and quite frankly as as a

5213
03:43:52,929 --> 03:43:51,359

taxpayer one should expect nothing less

5214

03:43:55,250 --> 03:43:52,939

than the government to be working

5215

03:43:57,650 --> 03:43:55,260

effectively across different units

5216

03:43:58,610 --> 03:43:57,660

together it's only right

5217

03:44:01,550 --> 03:43:58,620

um

5218

03:44:04,309 --> 03:44:01,560

that being said it's also important to

5219

03:44:07,550 --> 03:44:04,319

acknowledge what NASA's perspective is

5220

03:44:09,050 --> 03:44:07,560

in this study and to acknowledge that

5221

03:44:10,729 --> 03:44:09,060

you know the the Department of Defense

5222

03:44:13,550 --> 03:44:10,739

the intelligence Community have have

5223

03:44:16,130 --> 03:44:13,560

massively different equities about the

5224

03:44:18,050 --> 03:44:16,140

study of UAP and they have different

5225

03:44:19,790 --> 03:44:18,060

interests ours is a purely scientific

5226

03:44:22,010 --> 03:44:19,800

one so you know we collaborate we

5227

03:44:24,889 --> 03:44:22,020

consult it's a very good relationship

5228

03:44:27,050 --> 03:44:24,899

and I agree wholeheartedly with Carolyn

5229

03:44:29,690 --> 03:44:27,060

that a whole of government approach is

5230

03:44:32,750 --> 03:44:29,700

absolutely the right one to take

5231

03:44:35,870 --> 03:44:32,760

great thank you I will move on to our

5232

03:44:38,690 --> 03:44:35,880

sixth bucket of questions uh which we

5233

03:44:41,570 --> 03:44:38,700

had many on this topic is there evidence

5234

03:44:45,469 --> 03:44:41,580

that UAP were created from non-human

5235

03:44:49,250 --> 03:44:46,969

yes please

5236

03:44:51,590 --> 03:44:49,260

I would take this one

5237

03:44:55,490 --> 03:44:51,600

um first and foremost We Are Scientists

5238

03:44:58,490 --> 03:44:55,500

and we follow the scientific process and

5239

03:45:01,490 --> 03:44:58,500

um I hope that the Gathering here today

5240

03:45:04,670 --> 03:45:01,500

uh showed a little bit of a glimpse on

5241

03:45:06,650 --> 03:45:04,680

how the scientific process works

5242

03:45:10,309 --> 03:45:06,660

um it's not the question that you can

5243

03:45:13,849 --> 03:45:10,319

answer very quickly with yes or no

5244

03:45:16,370 --> 03:45:13,859

um and uh we follow the data right so

5245

03:45:19,370 --> 03:45:16,380

um as scientists we follow the data we

5246

03:45:21,950 --> 03:45:19,380

formulate hypotheses we test theories we

5247

03:45:24,469 --> 03:45:21,960

follow the scientific process the role

5248

03:45:28,309 --> 03:45:24,479

of this panel has been to create a road

5249

03:45:30,530 --> 03:45:28,319

map and a framework for how all

5250

03:45:33,590 --> 03:45:30,540

scientists that are interested in this

5251

03:45:36,010 --> 03:45:33,600

phenomenon uh can further study can

5252

03:45:38,630 --> 03:45:36,020

further collect data can further

5253

03:45:41,450 --> 03:45:38,640

formulate experiments or again

5254

03:45:43,910 --> 03:45:41,460

hypotheses can test different methods

5255

03:45:47,030 --> 03:45:43,920

maybe even innovate on the methodology

5256

03:45:50,090 --> 03:45:47,040

side of things come up with new methods

5257

03:45:51,950 --> 03:45:50,100

for how we can do basically science but

5258

03:45:53,889 --> 03:45:51,960

not just any kind of science but the

5259

03:45:58,450 --> 03:45:53,899

science of Discovery and exploration

5260

03:46:01,610 --> 03:45:58,460

which is basically in the spirit of NASA

5261

03:46:03,710 --> 03:46:01,620

so just like Carl Sagan I was saying

5262

03:46:05,769 --> 03:46:03,720

extraordinary claims require

5263

03:46:08,450 --> 03:46:05,779

extraordinary evidence

5264

03:46:12,410 --> 03:46:08,460

we cannot make that kind of

5265

03:46:14,510 --> 03:46:12,420

extraordinary claims at all for any kind

5266

03:46:17,450 --> 03:46:14,520

of big subject in science whether it's

5267

03:46:20,510 --> 03:46:17,460

uaps whether it's biosignatures whether

5268

03:46:22,550 --> 03:46:20,520

it's techno signatures this question of

5269

03:46:24,229 --> 03:46:22,560

whether we are alone in the universe is

5270

03:46:27,410 --> 03:46:24,239

probably one of the largest questions

5271

03:46:30,170 --> 03:46:27,420

that we've had in our history of Science

5272

03:46:32,809 --> 03:46:30,180

in our history of humanity and it's not

5273

03:46:35,590 --> 03:46:32,819

one that we can take lightly and that's

5274

03:46:37,790 --> 03:46:35,600

why we need so many scientists and

5275

03:46:40,370 --> 03:46:37,800

multi-disciplinary and interdisciplinary

5276

03:46:41,830 --> 03:46:40,380

teams to work together and many

5277

03:46:46,070 --> 03:46:41,840

organizations

5278

03:46:49,309 --> 03:46:46,080

so it's a process it's a roadmap and we

5279

03:46:51,889 --> 03:46:49,319

work collectively on this and we hope

5280

03:46:53,929 --> 03:46:51,899

that within our lifetime we will be able

5281

03:46:56,570 --> 03:46:53,939

to answer this big question of whether

5282

03:46:58,790 --> 03:46:56,580

we are alone or not and also to better

5283

03:47:01,130 --> 03:46:58,800

characterize this phenomenon which is

5284

03:47:03,229 --> 03:47:01,140

uaps

5285

03:47:05,510 --> 03:47:03,239

I want to sort of supplement that

5286

03:47:07,610 --> 03:47:05,520

excellent answer by noting that we have

5287

03:47:10,670 --> 03:47:07,620

not seen the extraordinary evidence

5288

03:47:13,490 --> 03:47:10,680

right that I mean in a sense to give you

5289

03:47:16,910 --> 03:47:13,500

know to make the claim that we see

5290

03:47:20,150 --> 03:47:16,920

something that is evidence of

5291

03:47:21,830 --> 03:47:20,160

you know uh non-human intelligence would

5292

03:47:23,030 --> 03:47:21,840

be or would require extraordinary

5293

03:47:25,550 --> 03:47:23,040

evidence

5294

03:47:28,969 --> 03:47:25,560

and we have not seen that I think that's

5295

03:47:34,490 --> 03:47:32,269

all right then I will move on to our

5296

03:47:36,950 --> 03:47:34,500

seventh set of questions we received

5297

03:47:40,910 --> 03:47:36,960

many questions about the budget that is

5298

03:47:43,309 --> 03:47:40,920

being uh dedicated to this uh how large

5299

03:47:45,290 --> 03:47:43,319

of a budget will NASA allocate how large

5300

03:47:47,450 --> 03:47:45,300

of a budget is NASA allocating and how

5301

03:47:50,210 --> 03:47:47,460

large of a budget will NASA allocate

5302

03:47:52,910 --> 03:47:50,220

towards this the study of UAP it's Dan

5303

03:47:54,650 --> 03:47:52,920

yeah that's a damn question so there are

5304

03:47:57,110 --> 03:47:54,660

two separate questions in there which is

5305

03:47:57,830 --> 03:47:57,120

what is the budget for this group this

5306

03:48:00,950 --> 03:47:57,840

team

5307

03:48:02,990 --> 03:48:00,960

and what is the budget going forward I

5308

03:48:04,729 --> 03:48:03,000

think now the budget for this

5309

03:48:07,429 --> 03:48:04,739

independent study team is is very

5310

03:48:09,229 --> 03:48:07,439

consistent with any other of our

5311

03:48:11,030 --> 03:48:09,239

external review groups that we bring

5312

03:48:12,349 --> 03:48:11,040

into the science Mission director on an

5313

03:48:15,830 --> 03:48:12,359

annual basis so you know we have maybe

5314

03:48:17,090 --> 03:48:15,840

100 200 such groups entirely consistent

5315

03:48:19,070 --> 03:48:17,100

with that

5316

03:48:21,650 --> 03:48:19,080

also important to say going forward now

5317

03:48:24,050 --> 03:48:21,660

that NASA has not established a program

5318

03:48:25,910 --> 03:48:24,060

relative to UAP

5319

03:48:28,250 --> 03:48:25,920

and as a result there's no Associated

5320

03:48:30,590 --> 03:48:28,260

programmatic funding but this is how

5321

03:48:34,790 --> 03:48:30,600

NASA Works Federal budgeting is is a

5322

03:48:37,250 --> 03:48:34,800

complex uh journey of course and the way

5323

03:48:39,229 --> 03:48:37,260

NASA particularly NASA science likes to

5324

03:48:42,170 --> 03:48:39,239

work is we anticipate and weight

5325

03:48:44,690 --> 03:48:42,180

recommendations from independent groups

5326

03:48:46,670 --> 03:48:44,700

such as this one and we need to wait on

5327

03:48:48,769 --> 03:48:46,680

Final recommendations and and then we'll

5328

03:48:51,050 --> 03:48:48,779

make an assessment so too early to say

5329

03:48:53,150 --> 03:48:51,060

but of course that's all couched in the

5330

03:48:54,469 --> 03:48:53,160

fact that Federal budgeting is a very

5331

03:48:57,229 --> 03:48:54,479

complex process and we will always

5332

03:49:03,110 --> 03:49:00,950

all right we're making good time we have

5333

03:49:06,010 --> 03:49:03,120

uh one more question that that

5334

03:49:09,950 --> 03:49:06,020

accomplished many of the ones we got

5335

03:49:12,590 --> 03:49:09,960

which is has NASA encountered any aliens

5336

03:49:14,510 --> 03:49:12,600

or extraterrestrial life what happens if

5337

03:49:18,469 --> 03:49:14,520

the public comes across extraterrestrial

5338

03:49:20,389 --> 03:49:18,479

life what would NASA do if extra

5339

03:49:21,889 --> 03:49:20,399

terrestrial life was discovered what

5340

03:49:23,510 --> 03:49:21,899

would NASA study or do if

5341

03:49:24,590 --> 03:49:23,520

extraterrestrial life was discovered

5342

03:49:26,330 --> 03:49:24,600

now

5343

03:49:28,370 --> 03:49:26,340

I think it's worth making a distinction

5344

03:49:30,469 --> 03:49:28,380

that they're when we talk about

5345

03:49:32,570 --> 03:49:30,479

extraterrestrial life we do have a study

5346

03:49:34,729 --> 03:49:32,580

within NASA of astrobiology which is not

5347

03:49:36,050 --> 03:49:34,739

intelligent life necessarily and so I

5348

03:49:37,190 --> 03:49:36,060

invite you as you answer this question

5349

03:49:39,710 --> 03:49:37,200

to

5350

03:49:41,090 --> 03:49:39,720

who may clear the distinctions as you

5351
03:49:43,330 --> 03:49:41,100
are talking

5352
03:49:47,630 --> 03:49:43,340
um uh in terms of

5353
03:49:48,889 --> 03:49:47,640
uaps as well as any astrobiology work

5354
03:49:51,290 --> 03:49:48,899
that we do

5355
03:49:55,370 --> 03:49:51,300
I would start by saying one of NASA's

5356
03:49:59,990 --> 03:49:55,380
big questions is is there life out there

5357
03:50:02,269 --> 03:50:00,000
right and a lot of what NASA is doing

5358
03:50:05,929 --> 03:50:02,279
in its exploration of the solar system

5359
03:50:07,670 --> 03:50:05,939
and beyond is focused on

5360
03:50:09,530 --> 03:50:07,680
searching for life in any form

5361
03:50:11,870 --> 03:50:09,540
extraterrestrial life

5362
03:50:15,290 --> 03:50:11,880
I think one of the things we have

5363
03:50:16,849 --> 03:50:15,300

learned in the past 20 years is planets

5364

03:50:19,250 --> 03:50:16,859

are common we knew of course about the

5365

03:50:21,650 --> 03:50:19,260

planets in our solar system but we now

5366

03:50:24,290 --> 03:50:21,660

know there are lots of planets out there

5367

03:50:25,969 --> 03:50:24,300

so there are lots of potential

5368

03:50:29,210 --> 03:50:25,979

environments for life

5369

03:50:30,950 --> 03:50:29,220

and I think one of the most fascinating

5370

03:50:33,710 --> 03:50:30,960

questions is

5371

03:50:36,650 --> 03:50:33,720

do any of those planets host life

5372

03:50:39,229 --> 03:50:36,660

and that's uh something that NASA is

5373

03:50:40,250 --> 03:50:39,239

trying to address in a host of different

5374

03:50:44,570 --> 03:50:40,260

ways

5375

03:50:47,450 --> 03:50:44,580

whether it's probes that are landing on

5376
03:50:49,550 --> 03:50:47,460
planets or designing missions that will

5377
03:50:50,990 --> 03:50:49,560
look for signatures of life around other

5378
03:50:53,450 --> 03:50:51,000
planets so

5379
03:50:55,010 --> 03:50:53,460
the search for life is a really

5380
03:50:57,229 --> 03:50:55,020
important theme

5381
03:50:59,570 --> 03:50:57,239
we haven't found life beyond Earth yet

5382
03:51:01,309 --> 03:50:59,580
right I mean let's be clear about this

5383
03:51:02,929 --> 03:51:01,319
we haven't found it yet

5384
03:51:04,849 --> 03:51:02,939
but we're looking

5385
03:51:07,309 --> 03:51:04,859
and we're looking for it in lots of

5386
03:51:10,250 --> 03:51:07,319
different ways and you know

5387
03:51:13,250 --> 03:51:10,260
David was discussing techno signatures

5388
03:51:15,469 --> 03:51:13,260

as one way that we can work both within

5389

03:51:17,330 --> 03:51:15,479

our solar system and beyond and there's

5390

03:51:19,969 --> 03:51:17,340

so there's a lot a lot of different

5391

03:51:21,010 --> 03:51:19,979

elements I think of this potential

5392

03:51:22,849 --> 03:51:21,020

search

5393

03:51:26,030 --> 03:51:22,859

and

5394

03:51:28,130 --> 03:51:26,040

um you know just to go back to

5395

03:51:30,349 --> 03:51:28,140

something sort of those phrase in an

5396

03:51:32,150 --> 03:51:30,359

earlier question you know isn't NASA

5397

03:51:34,849 --> 03:51:32,160

hiding anything about this

5398

03:51:36,950 --> 03:51:34,859

no this is actually what you know

5399

03:51:39,290 --> 03:51:36,960

answering this question is one of the

5400

03:51:41,570 --> 03:51:39,300

things that NASA is an agency is is

5401
03:51:45,110 --> 03:51:41,580
excited about it's what's something that

5402
03:51:48,349 --> 03:51:45,120
lots of scientists working with NASA are

5403
03:51:51,889 --> 03:51:48,359
excited about is is this question of uh

5404
03:51:54,050 --> 03:51:51,899
is there life out there you know and I

5405
03:51:57,110 --> 03:51:54,060
think one of the things that

5406
03:51:58,910 --> 03:51:57,120
makes this question of are we alone such

5407
03:52:01,309 --> 03:51:58,920
a central question

5408
03:52:04,490 --> 03:52:01,319
not just the scientific Community it's a

5409
03:52:06,229 --> 03:52:04,500
central question I think for the public

5410
03:52:08,510 --> 03:52:06,239
um I suspect there are more people

5411
03:52:12,050 --> 03:52:08,520
watching this than the typical episode

5412
03:52:15,229 --> 03:52:12,060
of NASA TV right and this is something

5413
03:52:17,690 --> 03:52:15,239

where we will have me you know media

5414

03:52:19,969 --> 03:52:17,700

coming to the press conference

5415

03:52:22,910 --> 03:52:19,979

because these questions touch on

5416

03:52:25,550 --> 03:52:22,920

something that I think is really a deep

5417

03:52:33,290 --> 03:52:25,560

question for Humanity

5418

03:52:39,050 --> 03:52:36,830

yeah just a kind of echo what David said

5419

03:52:41,570 --> 03:52:39,060

a bit I mean obviously this is something

5420

03:52:43,969 --> 03:52:41,580

uh we think a lot about in astrobiology

5421

03:52:47,630 --> 03:52:43,979

what you know what if we succeed

5422

03:52:50,269 --> 03:52:47,640

um and uh you know we are very driven uh

5423

03:52:52,969 --> 03:52:50,279

to try to find uh real evidence of

5424

03:52:55,610 --> 03:52:52,979

extraterrestrial life and

5425

03:52:57,889 --> 03:52:55,620

um we would be highly driven to share

5426

03:52:59,750 --> 03:52:57,899

that if we found it

5427

03:53:01,610 --> 03:52:59,760

um because everyone wants to show that

5428

03:53:03,250 --> 03:53:01,620

they've been able to succeed in what

5429

03:53:06,349 --> 03:53:03,260

they're trying to do and and you know

5430

03:53:08,750 --> 03:53:06,359

one perhaps illustrative example is to

5431

03:53:10,670 --> 03:53:08,760

think about what happened when we came

5432

03:53:13,790 --> 03:53:10,680

close when NASA thought maybe they had

5433

03:53:15,590 --> 03:53:13,800

discovered extraterrestrial life and and

5434

03:53:19,010 --> 03:53:15,600

um a big event actually in the history

5435

03:53:20,990 --> 03:53:19,020

of astrobiology was in in the 1990s when

5436

03:53:22,790 --> 03:53:21,000

some scientists had thought that they

5437

03:53:25,250 --> 03:53:22,800

had discovered fossils in a meteorite

5438

03:53:26,750 --> 03:53:25,260

that came from Mars

5439

03:53:29,389 --> 03:53:26,760

um and

5440

03:53:30,950 --> 03:53:29,399

what happens is you don't announce it

5441

03:53:32,030 --> 03:53:30,960

immediately you make sure that you try

5442

03:53:33,170 --> 03:53:32,040

to make sure you're right because you

5443

03:53:34,670 --> 03:53:33,180

don't also don't want to have false

5444

03:53:36,110 --> 03:53:34,680

alarms and announce something where and

5445

03:53:38,210 --> 03:53:36,120

then you go oops sorry we were wrong

5446

03:53:40,849 --> 03:53:38,220

that was a mistaken analysis but what

5447

03:53:43,130 --> 03:53:40,859

happened was when the when

5448

03:53:44,450 --> 03:53:43,140

the scientists were sure they were right

5449

03:53:46,309 --> 03:53:44,460

then

5450

03:53:48,050 --> 03:53:46,319

um there was a big

5451
03:53:50,150 --> 03:53:48,060
um in fact presidential press conference

5452
03:53:53,030 --> 03:53:50,160
with President Clinton and NASA and it

5453
03:53:54,889 --> 03:53:53,040
was a big Public Announcement and

5454
03:53:56,750 --> 03:53:54,899
um that's what would happen if we

5455
03:53:58,790 --> 03:53:56,760
discovered something we would try to

5456
03:54:01,429 --> 03:53:58,800
make sure we were right and then we

5457
03:54:02,690 --> 03:54:01,439
would very proudly and loudly let the

5458
03:54:04,309 --> 03:54:02,700
public know about it

5459
03:54:06,650 --> 03:54:04,319
thanks we've just one minute left so

5460
03:54:08,330 --> 03:54:06,660
I'll let you finish up yeah thank you um

5461
03:54:11,750 --> 03:54:08,340
the only thing I wanted to add I

5462
03:54:13,910 --> 03:54:11,760
wouldn't at all liken it to um alien or

5463
03:54:16,429 --> 03:54:13,920

extraterrestrial life but in

5464

03:54:19,010 --> 03:54:16,439

astrobiology and exobiology you know

5465

03:54:22,130 --> 03:54:19,020

there is the exploration of our planet

5466

03:54:24,050 --> 03:54:22,140

as an analog for what might be found

5467

03:54:25,969 --> 03:54:24,060

on other worlds

5468

03:54:28,250 --> 03:54:25,979

um you know and what what is extreme

5469

03:54:30,530 --> 03:54:28,260

cold what is extreme heat

5470

03:54:32,330 --> 03:54:30,540

um a volcano A black smoker at the

5471

03:54:34,309 --> 03:54:32,340

bottom of the ocean what lives there and

5472

03:54:36,410 --> 03:54:34,319

how's that even possible and things we

5473

03:54:38,689 --> 03:54:36,420

still discover throughout our ocean

5474

03:54:40,010 --> 03:54:38,699

might look alien to a lot of people

5475

03:54:42,530 --> 03:54:40,020

right

5476
03:54:44,570 --> 03:54:42,540
um and we keep discovering new species

5477
03:54:47,510 --> 03:54:44,580
of different things whether they be

5478
03:54:50,929 --> 03:54:47,520
microbes or algae or you know

5479
03:54:53,630 --> 03:54:50,939
charismatic Mega fauna whatever they are

5480
03:54:55,849 --> 03:54:53,640
um but there are synergies I know there

5481
03:54:57,590 --> 03:54:55,859
was an initiative years ago at Nasa

5482
03:55:00,830 --> 03:54:57,600
called oceans across the solar system

5483
03:55:02,809 --> 03:55:00,840
and the idea was could our own Earth's

5484
03:55:04,490 --> 03:55:02,819
ocean be used in the life within it as

5485
03:55:06,650 --> 03:55:04,500
an analog for what might be discovered

5486
03:55:08,809 --> 03:55:06,660
elsewhere so I think that's an example

5487
03:55:10,670 --> 03:55:08,819
of a potential Synergy of

5488
03:55:13,729 --> 03:55:10,680

interdisciplinary science research

5489

03:55:15,170 --> 03:55:13,739

observations Etc collection of data and

5490

03:55:16,910 --> 03:55:15,180

information gathering that could be

5491

03:55:18,769 --> 03:55:16,920

useful in the future

5492

03:55:23,850 --> 03:55:18,779

thank you all so much I will hand it

5493

03:55:23,860 --> 03:55:29,689

[Applause]

5494

03:55:34,849 --> 03:55:32,450

so let me also just answer the one other

5495

03:55:37,130 --> 03:55:34,859

piece of that question was what do you

5496

03:55:38,570 --> 03:55:37,140

do if you see something surprising right

5497

03:55:41,210 --> 03:55:38,580

where do you report

5498

03:55:43,309 --> 03:55:41,220

and this is something where just to come

5499

03:55:47,689 --> 03:55:43,319

back to something I mentioned my opening

5500

03:55:49,490 --> 03:55:47,699

remarks the aaro is the our lead Agency

5501
03:55:51,650 --> 03:55:49,500
for uaps

5502
03:55:54,650 --> 03:55:51,660
and while we've talked about origin you

5503
03:55:57,290 --> 03:55:54,660
know life in this context

5504
03:55:59,750 --> 03:55:57,300
most uaps

5505
03:56:01,729 --> 03:55:59,760
I think when women looks at the data in

5506
03:56:03,710 --> 03:56:01,739
more detail are going to turn out to be

5507
03:56:05,929 --> 03:56:03,720
phenomenal we understand we saw this

5508
03:56:10,070 --> 03:56:05,939
with some of the balloons or or

5509
03:56:13,309 --> 03:56:10,080
commercial Jets we saw those examples

5510
03:56:16,670 --> 03:56:13,319
some uaps and we saw this with the

5511
03:56:18,889 --> 03:56:16,680
Chinese balloon that flew over is

5512
03:56:20,389 --> 03:56:18,899
something an issue sometimes of National

5513
03:56:22,429 --> 03:56:20,399

Security

5514

03:56:23,630 --> 03:56:22,439

so we actually do want to encourage

5515

03:56:25,490 --> 03:56:23,640

people

5516

03:56:27,469 --> 03:56:25,500

just from that angle

5517

03:56:29,809 --> 03:56:27,479

to report it

5518

03:56:32,870 --> 03:56:29,819

so you know uh

5519

03:56:34,790 --> 03:56:32,880

since uh to before it will transition to

5520

03:56:37,010 --> 03:56:34,800

summary that's what I answered on that

5521

03:56:38,450 --> 03:56:37,020

question that you know to keep in mind

5522

03:56:42,410 --> 03:56:38,460

that

5523

03:56:45,110 --> 03:56:42,420

um you know the aaros role is to be the

5524

03:56:46,070 --> 03:56:45,120

prime source for understanding those

5525

03:56:49,370 --> 03:56:46,080

things

5526
03:56:51,410 --> 03:56:49,380
and what our charges is to think about

5527
03:56:54,889 --> 03:56:51,420
what's NASA's role

5528
03:56:57,769 --> 03:56:54,899
and I think NASA you know and this is

5529
03:56:59,689 --> 03:56:57,779
something you know we'll con I want to

5530
03:57:02,750 --> 03:56:59,699
now go back to discussion we didn't have

5531
03:57:05,150 --> 03:57:02,760
that much time for it to to come back to

5532
03:57:07,130 --> 03:57:05,160
you know what we each you know what we

5533
03:57:08,570 --> 03:57:07,140
see as NASA's role

5534
03:57:10,309 --> 03:57:08,580
in this

5535
03:57:12,590 --> 03:57:10,319
um I think one world piece we've talked

5536
03:57:16,370 --> 03:57:12,600
about is

5537
03:57:18,950 --> 03:57:16,380
be uh NASA can help remove the stigma

5538
03:57:20,510 --> 03:57:18,960

NASA can draw more of the scientific

5539

03:57:23,750 --> 03:57:20,520

community in

5540

03:57:26,570 --> 03:57:23,760

and I think what NASA could help do is

5541

03:57:29,870 --> 03:57:26,580

provide standards of high data quality

5542

03:57:32,090 --> 03:57:29,880

I think one of the things that many of

5543

03:57:33,889 --> 03:57:32,100

us who've come you know not looked at

5544

03:57:35,150 --> 03:57:33,899

this before I'd certainly put myself in

5545

03:57:39,710 --> 03:57:35,160

this group

5546

03:57:42,530 --> 03:57:39,720

it was struck by the limited nature of

5547

03:57:44,210 --> 03:57:42,540

the data that many events had uh

5548

03:57:46,189 --> 03:57:44,220

insufficient data

5549

03:57:48,889 --> 03:57:46,199

and that in order to get a better

5550

03:57:51,170 --> 03:57:48,899

understanding we will need to have you

5551
03:57:53,150 --> 03:57:51,180
know high quality data data where we

5552
03:57:56,450 --> 03:57:53,160
understand it's provenance

5553
03:57:58,910 --> 03:57:56,460
data from multiple sensors and I think

5554
03:58:02,030 --> 03:57:58,920
one of the things that uh you know even

5555
03:58:04,370 --> 03:58:02,040
from the same sensor as we saw

5556
03:58:06,710 --> 03:58:04,380
you know in Josh's analysis you know

5557
03:58:08,990 --> 03:58:06,720
also an event trace showed us when you

5558
03:58:12,110 --> 03:58:09,000
can observe event over time

5559
03:58:14,030 --> 03:58:12,120
and get velocity information that gives

5560
03:58:15,590 --> 03:58:14,040
you a lot of additional information so

5561
03:58:17,809 --> 03:58:15,600
we're going to want things with high

5562
03:58:20,689 --> 03:58:17,819
frame rate we're going to want things

5563
03:58:23,510 --> 03:58:20,699

from multiple perspectives

5564

03:58:25,070 --> 03:58:23,520

um and uh you know so I I think those

5565

03:58:27,590 --> 03:58:25,080

are all going to be pieces of things

5566

03:58:29,450 --> 03:58:27,600

that we want to think about

5567

03:58:33,050 --> 03:58:29,460

um

5568

03:58:36,010 --> 03:58:33,060

I think this is an opportunity for

5569

03:58:39,110 --> 03:58:36,020

citizen science I think if

5570

03:58:41,269 --> 03:58:39,120

we can come up with recommendations in

5571

03:58:43,070 --> 03:58:41,279

our roadmap that point to ways in which

5572

03:58:46,070 --> 03:58:43,080

we could collect it people can collect

5573

03:58:48,410 --> 03:58:46,080

data I remain a big fan of these things

5574

03:58:50,030 --> 03:58:48,420

they do take over our lives too much but

5575

03:58:53,210 --> 03:58:50,040

they are

5576

03:58:54,650 --> 03:58:53,220

um fabulous data collectors of and I

5577

03:58:57,349 --> 03:58:54,660

don't know there's something like three

5578

03:58:59,170 --> 03:58:57,359

four billion of them that are on the

5579

03:59:02,110 --> 03:58:59,180

planet and

5580

03:59:06,349 --> 03:59:02,120

NASA I think has the

5581

03:59:08,870 --> 03:59:06,359

Prestige and visibility to develop uh an

5582

03:59:12,830 --> 03:59:08,880

app or work with companies to develop

5583

03:59:16,250 --> 03:59:12,840

apps that could collect data in a

5584

03:59:19,790 --> 03:59:16,260

uniform and centralized way

5585

03:59:22,250 --> 03:59:19,800

um that I think will you know most the

5586

03:59:27,170 --> 03:59:22,260

stuff that's collected is going to turn

5587

03:59:28,670 --> 03:59:27,180

out to be commercial planes balloons uh

5588

03:59:29,990 --> 03:59:28,680

when you have multiple cameras you can

5589

03:59:31,849 --> 03:59:30,000

eliminate some of the optical

5590

03:59:33,710 --> 03:59:31,859

limitations of ghosting and those

5591

03:59:37,150 --> 03:59:33,720

effects

5592

03:59:39,830 --> 03:59:37,160

um some of them will almost certainly be

5593

03:59:43,969 --> 03:59:39,840

novel physical phenomena

5594

03:59:45,590 --> 03:59:43,979

right I think it is uh we have learned a

5595

03:59:46,910 --> 03:59:45,600

lot about our planet and how the

5596

03:59:49,010 --> 03:59:46,920

universe works

5597

03:59:51,950 --> 03:59:49,020

there's a lot we don't know

5598

03:59:54,650 --> 03:59:51,960

right I think yeah you know as

5599

03:59:56,150 --> 03:59:54,660

as scientists what is the most exciting

5600

03:59:58,429 --> 03:59:56,160

thing

5601

04:00:02,150 --> 03:59:58,439

is the surprises

5602

04:00:04,250 --> 04:00:02,160

and I think that there are things that

5603

04:00:05,870 --> 04:00:04,260

continue to surprise us about our own

5604

04:00:08,929 --> 04:00:05,880

Planet there's phenomenon in our

5605

04:00:11,570 --> 04:00:08,939

atmosphere in the atmosphere that we

5606

04:00:13,309 --> 04:00:11,580

probably haven't seen yet or perhaps

5607

04:00:17,870 --> 04:00:13,319

we've seen and not

5608

04:00:19,670 --> 04:00:17,880

noticed yet right in this I I think uh a

5609

04:00:21,530 --> 04:00:19,680

long history in science when you look

5610

04:00:25,070 --> 04:00:21,540

back and you realize

5611

04:00:27,469 --> 04:00:25,080

that this in Discovery had a

5612

04:00:30,469 --> 04:00:27,479

pre-discovery so people had seen

5613

04:00:32,170 --> 04:00:30,479

something before and we're missing it

5614

04:00:34,969 --> 04:00:32,180

and

5615

04:00:37,370 --> 04:00:34,979

those pre-discoveries were not of note

5616

04:00:40,550 --> 04:00:37,380

because often because

5617

04:00:42,830 --> 04:00:40,560

we had biases occasions and data quality

5618

04:00:46,189 --> 04:00:42,840

and uh

5619

04:00:50,090 --> 04:00:46,199

you know one of the things I was taught

5620

04:00:52,429 --> 04:00:50,100

is uh when you have a question you don't

5621

04:00:54,170 --> 04:00:52,439

know how to answer you start by getting

5622

04:00:56,809 --> 04:00:54,180

better data

5623

04:00:59,750 --> 04:00:56,819

and uh you know I

5624

04:01:02,450 --> 04:00:59,760

uh were coming you know I get to do the

5625

04:01:06,170 --> 04:01:02,460

summary and as the chair I get to

5626
04:01:07,189 --> 04:01:06,180
you know summarize a conclusion and

5627
04:01:10,370 --> 04:01:07,199
um

5628
04:01:11,450 --> 04:01:10,380
we need better data would be my my

5629
04:01:14,330 --> 04:01:11,460
takeaway

5630
04:01:18,650 --> 04:01:14,340
and we need more uniform data

5631
04:01:21,889 --> 04:01:18,660
and since I'm so proud of my Haystack

5632
04:01:24,050 --> 04:01:21,899
we need to be able to understand what's

5633
04:01:26,689 --> 04:01:24,060
in the haystack and it's

5634
04:01:29,170 --> 04:01:26,699
a lot more complicated than a haystack

5635
04:01:32,630 --> 04:01:29,180
in a sense right as you know it's got

5636
04:01:36,410 --> 04:01:32,640
commercial planes it's got you know

5637
04:01:38,870 --> 04:01:36,420
drones and you know I think uh the

5638
04:01:40,070 --> 04:01:38,880

number of drones out there is large and

5639

04:01:42,110 --> 04:01:40,080

growing

5640

04:01:44,150 --> 04:01:42,120

and will be a continual source of

5641

04:01:44,809 --> 04:01:44,160

confusion

5642

04:01:47,330 --> 04:01:44,819

um

5643

04:01:49,790 --> 04:01:47,340

we were charged to think about air

5644

04:01:51,469 --> 04:01:49,800

safety you know understanding and

5645

04:01:53,510 --> 04:01:51,479

characterizing seeing what's going on

5646

04:01:57,170 --> 04:01:53,520

with drones is also I think going to be

5647

04:02:00,170 --> 04:01:57,180

an important air safety issue

5648

04:02:03,469 --> 04:02:00,180

um so we'll need to uh

5649

04:02:06,110 --> 04:02:03,479

you know to understand the unknown or

5650

04:02:08,469 --> 04:02:06,120

start to study the unknown another

5651
04:02:10,670 --> 04:02:08,479
important piece is always going to be

5652
04:02:12,650 --> 04:02:10,680
characterizing the known

5653
04:02:16,790 --> 04:02:12,660
really well

5654
04:02:19,849 --> 04:02:16,800
and um you know this is the part I think

5655
04:02:20,809 --> 04:02:19,859
of a lot of science that seems dry and

5656
04:02:24,590 --> 04:02:20,819
boring

5657
04:02:28,010 --> 04:02:24,600
but it's calibration and understanding

5658
04:02:31,389 --> 04:02:28,020
the events you expect to see

5659
04:02:34,550 --> 04:02:31,399
um you know in thinking about this area

5660
04:02:37,490 --> 04:02:34,560
uh one of the groups of people that

5661
04:02:39,830 --> 04:02:37,500
people talk to are particle physicists

5662
04:02:41,929 --> 04:02:39,840
doing experiments at CERN

5663
04:02:45,349 --> 04:02:41,939

where they go through the effort of

5664

04:02:46,610 --> 04:02:45,359

finding extremely rare events to find

5665

04:02:49,550 --> 04:02:46,620

new particles

5666

04:02:52,070 --> 04:02:49,560

and in order to do that you need to

5667

04:02:53,990 --> 04:02:52,080

understand the standard predictions well

5668

04:02:55,010 --> 04:02:54,000

so I think another part of the whole

5669

04:02:57,769 --> 04:02:55,020

story

5670

04:02:59,510 --> 04:02:57,779

and I know this is something Aro is

5671

04:03:01,370 --> 04:02:59,520

working hard on in the context of

5672

04:03:04,370 --> 04:03:01,380

military it's like you've got to

5673

04:03:07,570 --> 04:03:04,380

characterize what you the known Things

5674

04:03:11,570 --> 04:03:07,580

Are you know when you've got that

5675

04:03:15,050 --> 04:03:11,580

F-35 flying past a balloon what does it

5676

04:03:18,849 --> 04:03:15,060

see what does it see at Sunset what does

5677

04:03:21,110 --> 04:03:18,859

it see in odd observing angles and that

5678

04:03:24,229 --> 04:03:21,120

characterizing the normal

5679

04:03:26,750 --> 04:03:24,239

is an essential thing to do to

5680

04:03:28,429 --> 04:03:26,760

understand what's out there

5681

04:03:31,969 --> 04:03:28,439

so let me

5682

04:03:34,610 --> 04:03:31,979

conclude the session by thanking the

5683

04:03:35,870 --> 04:03:34,620

panelists it's been a pleasure learning

5684

04:03:39,710 --> 04:03:35,880

from you

5685

04:03:42,229 --> 04:03:39,720

thanking our uh Sean and and our other

5686

04:03:45,110 --> 04:03:42,239

invited speakers and our our that we've

5687

04:03:47,689 --> 04:03:45,120

had we've had for uh some of our data

5688

04:03:49,610 --> 04:03:47,699

collection sessions uh we've learned a

5689

04:03:53,030 --> 04:03:49,620

tremendous amount from you

5690

04:03:54,969 --> 04:03:53,040

and also thank the public for their

5691

04:03:57,830 --> 04:03:54,979

engagement so I think we were all

5692

04:03:59,750 --> 04:03:57,840

impressed by the the number and level

5693

04:04:01,309 --> 04:03:59,760

and sophistication of the questions

5694

04:04:04,309 --> 04:04:01,319

people sent in

5695

04:04:05,809 --> 04:04:04,319

we try to address as many as them that

5696

04:04:09,729 --> 04:04:05,819

we could in the session

5697

04:04:12,349 --> 04:04:09,739

as you've heard NASA through

5698

04:04:13,990 --> 04:04:12,359

science.nasa.gov will provide there'll

5699

04:04:16,729 --> 04:04:14,000

be some additional answers provided

5700

04:04:17,809 --> 04:04:16,739

encourage you to go there

5701
04:04:20,330 --> 04:04:17,819
ah

5702
04:04:24,469 --> 04:04:20,340
actually is a non-nasa employee I'll put

5703
04:04:27,110 --> 04:04:24,479
in a little ad for science.nasa.gov

5704
04:04:29,150 --> 04:04:27,120
NASA does amazing things

5705
04:04:30,590 --> 04:04:29,160
and we're learning amazing things about

5706
04:04:33,769 --> 04:04:30,600
the universe

5707
04:04:34,990 --> 04:04:33,779
and our planet and just encourage you to

5708
04:04:37,309 --> 04:04:35,000
go there

5709
04:04:40,250 --> 04:04:37,319
and uh

5710
04:04:52,890 --> 04:04:40,260
continue to learn and continue to

5711
04:04:52,900 --> 04:04:58,729
[Music]

5712
04:05:15,050 --> 04:05:01,880
we are going

5713
04:05:18,469 --> 04:05:16,969

just real quick two things that really

5714

04:05:20,630 --> 04:05:18,479

annoyed the heck out of me I I don't

5715

04:05:23,090 --> 04:05:20,640

know the names of the folks but the one

5716

04:05:24,110 --> 04:05:23,100

woman said

5717

04:05:27,650 --> 04:05:24,120

foreign

5718

04:05:29,030 --> 04:05:27,660

yeah thanks Xavier unmuted um two things

5719

04:05:30,710 --> 04:05:29,040

that really bothered me the one woman

5720

04:05:33,110 --> 04:05:30,720

who said basically you know life is

5721

04:05:35,330 --> 04:05:33,120

boring you know life is life isn't as

5722

04:05:37,969 --> 04:05:35,340

exciting as you think in other words you

5723

04:05:40,309 --> 04:05:37,979

know suggesting that

5724

04:05:43,490 --> 04:05:40,319

we want this to be non-human technology

5725

04:05:48,229 --> 04:05:43,500

you know we're we're so wanting to have

5726

04:05:51,170 --> 04:05:48,239

our lives it you know be more exciting

5727

04:05:53,269 --> 04:05:51,180

that you know we're turning this into a

5728

04:05:55,610 --> 04:05:53,279

non-human intelligence issue when that's

5729

04:05:56,809 --> 04:05:55,620

really not the case and that was that's

5730

04:05:59,330 --> 04:05:56,819

offensive

5731

04:06:01,969 --> 04:05:59,340

no it's something

5732

04:06:04,250 --> 04:06:01,979

that can it be explained and we listen

5733

04:06:06,290 --> 04:06:04,260

to Witnesses and it certainly appears to

5734

04:06:08,809 --> 04:06:06,300

be non-human and then the other thing

5735

04:06:11,170 --> 04:06:08,819

the other guy said that

5736

04:06:12,830 --> 04:06:11,180

um extraordinary evidence requires

5737

04:06:14,809 --> 04:06:12,840

extraordinary claims require

5738

04:06:16,969 --> 04:06:14,819

extraordinary evidence which I hear

5739

04:06:19,370 --> 04:06:16,979

we've heard that all the time it's so

5740

04:06:20,990 --> 04:06:19,380

annoying it's like no science does not

5741

04:06:22,550 --> 04:06:21,000

work like that and Gary Nolan pointed

5742

04:06:25,070 --> 04:06:22,560

this out too

5743

04:06:27,410 --> 04:06:25,080

you know an extraordinary claim it's

5744

04:06:30,050 --> 04:06:27,420

just a claim let's see the evidence and

5745

04:06:32,150 --> 04:06:30,060

we have a lot of evidence that points in

5746

04:06:35,030 --> 04:06:32,160

the direction that whatever is

5747

04:06:36,469 --> 04:06:35,040

interacting with us is non-human um we

5748

04:06:38,630 --> 04:06:36,479

don't have the proof we don't have the

5749

04:06:40,849 --> 04:06:38,640

public evidence most of it's anecdotal

5750

04:06:43,429 --> 04:06:40,859

publicly and the videos that are put out

5751
04:06:45,530 --> 04:06:43,439
publicly are not great the three videos

5752
04:06:48,050 --> 04:06:45,540
we have are okay

5753
04:06:50,689 --> 04:06:48,060
but supposedly there are amazing videos

5754
04:06:52,849 --> 04:06:50,699
out out there that will prove and the

5755
04:06:55,010 --> 04:06:52,859
government has them classified that will

5756
04:06:56,330 --> 04:06:55,020
prove that we're dealing with something

5757
04:06:58,849 --> 04:06:56,340
anomalous

5758
04:07:02,630 --> 04:06:58,859
with technology that is so far beyond

5759
04:07:03,290 --> 04:07:02,640
what we know we have publicly

5760
04:07:05,269 --> 04:07:03,300
um

5761
04:07:07,510 --> 04:07:05,279
and then the next step would be all

5762
04:07:10,309 --> 04:07:07,520
right is it non-human and that's why

5763
04:07:11,870 --> 04:07:10,319

whistleblowers if they exist as we've

5764

04:07:14,750 --> 04:07:11,880

heard and they have information about

5765

04:07:16,550 --> 04:07:14,760

crash retrievals that is so important to

5766

04:07:18,950 --> 04:07:16,560

take it to the next level who cares

5767

04:07:21,889 --> 04:07:18,960

about lights in the sky if we have craft

5768

04:07:23,269 --> 04:07:21,899

and bodies and we have we have witnesses

5769

04:07:25,490 --> 04:07:23,279

and I don't know if those Witnesses are

5770

04:07:28,010 --> 04:07:25,500

going to be saying that but if we have

5771

04:07:30,410 --> 04:07:28,020

solid evidence that there are pieces of

5772

04:07:32,750 --> 04:07:30,420

craft or full intact craft that we

5773

04:07:34,790 --> 04:07:32,760

cannot understand that's going to just

5774

04:07:37,309 --> 04:07:34,800

Propel this so much further than we are

5775

04:07:39,950 --> 04:07:37,319

now and just obliterate anything that

5776

04:07:41,570 --> 04:07:39,960

will get from sightings now the next

5777

04:07:43,250 --> 04:07:41,580

step would be okay what are they and

5778

04:07:45,229 --> 04:07:43,260

what are they here for that's a totally

5779

04:07:47,389 --> 04:07:45,239

separate issue that's going to be

5780

04:07:50,150 --> 04:07:47,399

really hard to figure out unless there's

5781

04:07:51,889 --> 04:07:50,160

data that's been collected that you know

5782

04:07:54,769 --> 04:07:51,899

they've figured out some things that are

5783

04:07:56,809 --> 04:07:54,779

going on and whether it's ET Ultra

5784

04:07:58,790 --> 04:07:56,819

terrestrial Time Travelers any of that

5785

04:08:01,250 --> 04:07:58,800

stuff we don't know you know and they

5786

04:08:03,050 --> 04:08:01,260

mentioned extraterrestrial again during

5787

04:08:04,910 --> 04:08:03,060

this hearing and I wish they would stop

5788

04:08:06,849 --> 04:08:04,920

that's what was so good about one of the

5789

04:08:09,650 --> 04:08:06,859

public questions where they said

5790

04:08:11,450 --> 04:08:09,660

non-human intelligence you know even

5791

04:08:13,849 --> 04:08:11,460

then though I would say anomalous

5792

04:08:16,070 --> 04:08:13,859

activity anomalous technology we don't

5793

04:08:18,229 --> 04:08:16,080

know it's non-human I mean if it's us

5794

04:08:20,510 --> 04:08:18,239

from the future you know portraying

5795

04:08:22,250 --> 04:08:20,520

itself as non-human it could be that I

5796

04:08:25,729 --> 04:08:22,260

don't know so anomalous for me works

5797

04:08:28,070 --> 04:08:25,739

better in unexplicable unexplainable

5798

04:08:30,050 --> 04:08:28,080

um but the next step that's why

5799

04:08:35,510 --> 04:08:30,060

I hope

5800

04:08:39,349 --> 04:08:35,520

with whistleblowers and the 2023

5801

04:08:41,510 --> 04:08:39,359

timeline which is never in my mind it's

5802

04:08:44,150 --> 04:08:41,520

never a good idea to put a date on

5803

04:08:46,370 --> 04:08:44,160

anything because you never know what's

5804

04:08:49,189 --> 04:08:46,380

going to happen stuff happens stuff

5805

04:08:53,929 --> 04:08:49,199

happens so multiple people said 2023

5806

04:08:56,330 --> 04:08:53,939

Nolan Lou John um Ramirez Ramirez said

5807

04:08:58,309 --> 04:08:56,340

Labor Day Bob McGuire said Thanksgiving

5808

04:08:59,389 --> 04:08:58,319

government officials are going to come

5809

04:09:01,610 --> 04:08:59,399

out and make an announcement about

5810

04:09:03,469 --> 04:09:01,620

non-human intelligence Richard butt

5811

04:09:06,349 --> 04:09:03,479

who's supposedly an Intel person online

5812

04:09:08,150 --> 04:09:06,359

is on his um that's not his real name he

5813

04:09:10,490 --> 04:09:08,160

said by the end of the year so many

5814

04:09:12,889 --> 04:09:10,500

different people are saying things and

5815

04:09:15,889 --> 04:09:12,899

the date I mean stuff can happen that's

5816

04:09:19,670 --> 04:09:15,899

that derails plans so I would not just

5817

04:09:22,550 --> 04:09:19,680

put my hopes on 2023 eventually it will

5818

04:09:24,469 --> 04:09:22,560

get out and hopefully I'll be alive and

5819

04:09:25,910 --> 04:09:24,479

you'll be alive and we'll get to see it

5820

04:09:28,670 --> 04:09:25,920

so

5821

04:09:30,290 --> 04:09:28,680

um I'm not having expectations I refuse

5822

04:09:32,990 --> 04:09:30,300

to have expectations

5823

04:09:35,510 --> 04:09:33,000

for 2023. I was getting a little excited

5824

04:09:37,130 --> 04:09:35,520

about the alleged Washington Post

5825

04:09:38,990 --> 04:09:37,140

article because I heard it from so many

5826

04:09:40,490 --> 04:09:39,000

people but I don't know I don't know

5827

04:09:41,870 --> 04:09:40,500

what's going on with that you know I

5828

04:09:44,750 --> 04:09:41,880

don't know

5829

04:09:47,269 --> 04:09:44,760

I've heard mixed things so make of that

5830

04:09:50,689 --> 04:09:47,279

of what you will yes it's coming no it's

5831

04:09:52,370 --> 04:09:50,699

not it's like I don't know but 100 they

5832

04:09:54,050 --> 04:09:52,380

were working on an article I don't know

5833

04:09:56,090 --> 04:09:54,060

when that started

5834

04:09:57,410 --> 04:09:56,100

but it started to come out the last few

5835

04:09:59,809 --> 04:09:57,420

weeks that they were working on that

5836

04:10:02,630 --> 04:09:59,819

real quick NASA seems to be positioned

5837

04:10:06,110 --> 04:10:02,640

him positioning themselves to be able to

5838

04:10:08,510 --> 04:10:06,120

continue the UAP discussion in a in a

5839

04:10:09,889 --> 04:10:08,520

sorry I'm tired in an official capacity

5840

04:10:12,290 --> 04:10:09,899

whatever happens regarding

5841

04:10:14,269 --> 04:10:12,300

whistleblowers NASA now has a platform

5842

04:10:15,830 --> 04:10:14,279

in which to speak about it yeah and

5843

04:10:18,110 --> 04:10:15,840

they're conservative and a lot a lot of

5844

04:10:19,969 --> 04:10:18,120

them are ignorant about what we know and

5845

04:10:21,710 --> 04:10:19,979

some of them just don't you know some of

5846

04:10:22,729 --> 04:10:21,720

them reject the evidence that we've

5847

04:10:24,349 --> 04:10:22,739

heard

5848

04:10:26,269 --> 04:10:24,359

um they're brand new to this I think

5849

04:10:28,189 --> 04:10:26,279

some of them are scared because if it's

5850

04:10:30,349 --> 04:10:28,199

true or dealing with something non-human

5851

04:10:32,090 --> 04:10:30,359

you know the unknown that's a pretty

5852

04:10:34,070 --> 04:10:32,100

scary thing for people who are brand new

5853

04:10:35,870 --> 04:10:34,080

to this subject

5854

04:10:39,530 --> 04:10:35,880

um but

5855

04:10:41,450 --> 04:10:39,540

if some of these if we do get credible

5856

04:10:44,210 --> 04:10:41,460

evidence from multiple whistleblowers

5857

04:10:47,389 --> 04:10:44,220

that makes it clear that we have craft

5858

04:10:49,130 --> 04:10:47,399

then I'm really curious if we can you

5859

04:10:50,990 --> 04:10:49,140

know touch back and

5860

04:10:52,969 --> 04:10:51,000

go back to these people on this panel

5861

04:10:55,010 --> 04:10:52,979

and other folks and say what is your

5862

04:10:58,010 --> 04:10:55,020

opinion now I'd be really curious to see

5863

04:10:59,809 --> 04:10:58,020

how they handle that kind of information

5864

04:11:02,030 --> 04:10:59,819

so

5865

04:11:03,650 --> 04:11:02,040

Xavier says I don't think that has been

5866

04:11:05,389 --> 04:11:03,660

revealed they just released that it will

5867

04:11:07,250 --> 04:11:05,399

be presented in the upcoming conference

5868

04:11:09,950 --> 04:11:07,260

that's when we will get all the data and

5869

04:11:11,929 --> 04:11:09,960

have it on it and that's in response to

5870

04:11:15,650 --> 04:11:11,939

what you said

5871

04:11:20,510 --> 04:11:18,469

yeah the SCU mile long crash video photo

5872

04:11:22,250 --> 04:11:20,520

reveal at the conference which is coming

5873

04:11:25,309 --> 04:11:22,260

up in a couple of months I was planning

5874

04:11:27,290 --> 04:11:25,319

on driving to the east coast like I did

5875

04:11:30,290 --> 04:11:27,300

I have I don't know if I've ever spoken

5876
04:11:32,269 --> 04:11:30,300
in depth and I might have to stop right

5877
04:11:34,150 --> 04:11:32,279
now because cookie is struggling with

5878
04:11:38,689 --> 04:11:34,160
something let me grab them

5879
04:11:43,010 --> 04:11:40,910
oh

5880
04:11:45,050 --> 04:11:43,020
he has breathing issues like all small

5881
04:11:48,590 --> 04:11:45,060
dogs do

5882
04:11:55,189 --> 04:11:52,250
I went to I drove to the East Coast

5883
04:11:58,010 --> 04:11:55,199
last November

5884
04:12:01,729 --> 04:11:58,020
um to Huntsville Alabama

5885
04:12:03,769 --> 04:12:01,739
I met with Eric Davis for two days we

5886
04:12:05,689 --> 04:12:03,779
had like a dinner and breakfast and then

5887
04:12:08,150 --> 04:12:05,699
I met with Jay Stratton who's the former

5888
04:12:10,250 --> 04:12:08,160

head of the UAP task force and I met

5889

04:12:14,269 --> 04:12:10,260

with his wife too

5890

04:12:18,349 --> 04:12:16,370

and I also met with Michael Vai my

5891

04:12:20,210 --> 04:12:18,359

friend who I've interviewed and went to

5892

04:12:21,349 --> 04:12:20,220

his house hung out with him for a couple

5893

04:12:22,610 --> 04:12:21,359

of days

5894

04:12:23,269 --> 04:12:22,620

so yeah

5895

04:12:24,950 --> 04:12:23,279

um

5896

04:12:26,809 --> 04:12:24,960

had really good conversations but you

5897

04:12:28,849 --> 04:12:26,819

know I can't talk about it because

5898

04:12:30,290 --> 04:12:28,859

the benefit of going in person is you

5899

04:12:32,689 --> 04:12:30,300

can talk about stuff usually you would

5900

04:12:34,670 --> 04:12:32,699

not talk about online

5901

04:12:37,309 --> 04:12:34,680

or on the phone

5902

04:12:38,570 --> 04:12:37,319

don't I don't have any information that

5903

04:12:40,250 --> 04:12:38,580

explains what we're dealing with and

5904

04:12:42,229 --> 04:12:40,260

that's really what we all care about so

5905

04:12:44,269 --> 04:12:42,239

you know I don't have any block I did

5906

04:12:46,969 --> 04:12:44,279

not learn anything Blockbuster as far as

5907

04:12:48,710 --> 04:12:46,979

what it is intense because I don't think

5908

04:12:51,110 --> 04:12:48,720

any of these guys know there may be

5909

04:12:55,550 --> 04:12:51,120

people that know but

5910

04:12:59,269 --> 04:12:58,189

I would say higher up

5911

04:13:01,070 --> 04:12:59,279

um

5912

04:13:02,990 --> 04:13:01,080

like I said

5913

04:13:04,910 --> 04:13:03,000

a few months ago I said there are people

5914

04:13:07,070 --> 04:13:04,920

I heard there are people that do want to

5915

04:13:08,570 --> 04:13:07,080

give access to these programs a crash

5916

04:13:10,550 --> 04:13:08,580

retrieval program

5917

04:13:14,150 --> 04:13:10,560

but the people who have the final say

5918

04:13:17,210 --> 04:13:14,160

are saying no so

5919

04:13:21,290 --> 04:13:17,220

I don't know I don't think anybody in

5920

04:13:23,689 --> 04:13:21,300

congress has had access maybe maybe some

5921

04:13:27,889 --> 04:13:23,699

scientists

5922

04:13:29,809 --> 04:13:27,899

been read into the programs I don't know

5923

04:13:31,490 --> 04:13:29,819

you know I speculate Eric Davis has been

5924

04:13:34,189 --> 04:13:31,500

I don't think so but it could be he

5925

04:13:35,389 --> 04:13:34,199

wouldn't tell me if he had

5926

04:13:36,830 --> 04:13:35,399

um

5927

04:13:38,450 --> 04:13:36,840

one question how can they State the

5928

04:13:40,729 --> 04:13:38,460

absolute fact that they have never cut

5929

04:13:42,650 --> 04:13:40,739

the ISS feed in order to avoid publicly

5930

04:13:44,269 --> 04:13:42,660

filming an anomalous object I mean I've

5931

04:13:46,550 --> 04:13:44,279

seen objects that looked interesting and

5932

04:13:47,950 --> 04:13:46,560

then the feed was cut

5933

04:13:49,729 --> 04:13:47,960

um they don't want to feed into anything

5934

04:13:51,290 --> 04:13:49,739

conspiratorial so they're going to say

5935

04:13:53,450 --> 04:13:51,300

that I mean I don't know they may just

5936

04:13:56,150 --> 04:13:53,460

not know those folks you know NASA isn't

5937

04:13:58,490 --> 04:13:56,160

that panel people say NASA's lying those

5938

04:13:59,870 --> 04:13:58,500

folks are all lying well that's not NASA

5939

04:14:01,189 --> 04:13:59,880

those are individual people and they

5940

04:14:04,250 --> 04:14:01,199

were some really good speakers today

5941

04:14:06,290 --> 04:14:04,260

which I need to go over again

5942

04:14:07,610 --> 04:14:06,300

um the one lady with the nose ring she

5943

04:14:09,410 --> 04:14:07,620

had some really interesting things to

5944

04:14:12,050 --> 04:14:09,420

say that was like my for me that was the

5945

04:14:14,750 --> 04:14:12,060

highlight you know Kirkpatrick was fine

5946

04:14:16,729 --> 04:14:14,760

it's that's he's conservative

5947

04:14:18,170 --> 04:14:16,739

he's going to keep to what's publicly

5948

04:14:20,150 --> 04:14:18,180

available and not discuss anything

5949

04:14:21,469 --> 04:14:20,160

classified of course

5950

04:14:22,729 --> 04:14:21,479

so

5951

04:14:26,150 --> 04:14:22,739

you know

5952

04:14:28,490 --> 04:14:26,160

yeah definitely we have seen the feed

5953

04:14:29,630 --> 04:14:28,500

cut I don't know how many times for me

5954

04:14:31,729 --> 04:14:29,640

but I've definitely seen it cut

5955

04:14:33,530 --> 04:14:31,739

afterwards that I wasn't watching it

5956

04:14:35,630 --> 04:14:33,540

live but I saw videos beforehand or

5957

04:14:37,490 --> 04:14:35,640

afterwards interesting to note that the

5958

04:14:39,110 --> 04:14:37,500

chair mentioned that NASA also had a

5959

04:14:40,429 --> 04:14:39,120

good working relationship with the UAP

5960

04:14:43,370 --> 04:14:40,439

task force

5961

04:14:45,110 --> 04:14:43,380

so presumably Travis Taylor and Stratton

5962

04:14:46,849 --> 04:14:45,120

would would be interesting to know what

5963

04:14:47,809 --> 04:14:46,859

those discussions entailed yeah it would

5964

04:14:50,450 --> 04:14:47,819

be

5965

04:14:52,610 --> 04:14:50,460

um and I think June 6th is the episode

5966

04:14:57,469 --> 04:14:52,620

of

5967

04:14:59,210 --> 04:14:57,479

Travis uh Jay Stratton is going to be on

5968

04:15:01,010 --> 04:14:59,220

which I'm looking forward to that I knew

5969

04:15:02,510 --> 04:15:01,020

about that I knew he was going to be in

5970

04:15:03,889 --> 04:15:02,520

a few episodes when I met with him I

5971

04:15:06,229 --> 04:15:03,899

couldn't talk about it yet

5972

04:15:09,290 --> 04:15:06,239

History Channel had their great reveal

5973

04:15:12,650 --> 04:15:09,300

at the alien con conference in March

5974

04:15:15,229 --> 04:15:12,660

where I went and I transcribed Travis

5975

04:15:16,729 --> 04:15:15,239

Taylor and Jay Stratton with George

5976

04:15:19,429 --> 04:15:16,739

Knapp and it's

5977

04:15:21,469 --> 04:15:19,439

a long transcript and I'll have it out

5978

04:15:22,790 --> 04:15:21,479

in a week I had some issues with it but

5979

04:15:25,189 --> 04:15:22,800

those are

5980

04:15:27,410 --> 04:15:25,199

resolved I just have to add a couple of

5981

04:15:28,910 --> 04:15:27,420

things to it last one the statement

5982

04:15:31,250 --> 04:15:28,920

about cutting the feed was followed up

5983

04:15:33,590 --> 04:15:31,260

that he personally was unaware

5984

04:15:35,210 --> 04:15:33,600

that in in only the last 20 years he

5985

04:15:37,429 --> 04:15:35,220

couldn't speak beyond that time period

5986

04:15:39,590 --> 04:15:37,439

which is interesting and was interesting

5987

04:15:41,870 --> 04:15:39,600

yeah as far as I know that they'll say

5988

04:15:45,290 --> 04:15:41,880

stuff like that as far as I know which

5989

04:15:48,229 --> 04:15:45,300

gets them off the hook so

5990

04:15:50,450 --> 04:15:48,239

yeah it I'm gonna hopefully they put out

5991

04:15:51,950 --> 04:15:50,460

a transcript I'm not transcribing four

5992

04:15:54,050 --> 04:15:51,960

hours of this

5993

04:15:55,849 --> 04:15:54,060

um hopefully maybe I'll do Kirkpatrick

5994

04:15:57,229 --> 04:15:55,859

and that one woman

5995

04:15:58,429 --> 04:15:57,239

um hopefully they have a transcript

5996

04:16:00,830 --> 04:15:58,439

because

5997

04:16:03,290 --> 04:16:00,840

I hope they had a transcriber hired for

5998

04:16:06,290 --> 04:16:03,300

this I mean it's pretty historical you

5999

04:16:08,750 --> 04:16:06,300

know historic for NASA to have a a

6000

04:16:10,370 --> 04:16:08,760

meeting public meeting on UFOs like this

6001
04:16:12,410 --> 04:16:10,380
even though some of it was really

6002
04:16:15,110 --> 04:16:12,420
annoying you know the guy said the go

6003
04:16:19,070 --> 04:16:15,120
fast was going 40 miles per hour Mick

6004
04:16:22,550 --> 04:16:19,080
West the debunker his range was 38 to

6005
04:16:24,650 --> 04:16:22,560
115 I think something in that range

6006
04:16:27,110 --> 04:16:24,660
um Bruce Maccabee said about 400 miles

6007
04:16:29,750 --> 04:16:27,120
per hour Gary Nolan when he was with

6008
04:16:32,269 --> 04:16:29,760
ttsa said 400 miles per hour and those

6009
04:16:34,849 --> 04:16:32,279
may be a little high but 40 miles per

6010
04:16:36,349 --> 04:16:34,859
hour and then why would why would why

6011
04:16:38,210 --> 04:16:36,359
would atip even put that in the

6012
04:16:40,130 --> 04:16:38,220
anomalous category what else about that

6013
04:16:42,110 --> 04:16:40,140

sighting do we have I just think that

6014

04:16:43,550 --> 04:16:42,120

was just why put that out and then the

6015

04:16:45,229 --> 04:16:43,560

Kirkpatrick thing with the three lights

6016

04:16:47,570 --> 04:16:45,239

oh those are planes why do you keep

6017

04:16:49,189 --> 04:16:47,580

doing that to us I mean there's no

6018

04:16:51,349 --> 04:16:49,199

reason that we know that people make

6019

04:16:53,990 --> 04:16:51,359

mistakes we know that the large

6020

04:16:56,030 --> 04:16:54,000

percentage of alleged unidentifieds are

6021

04:16:58,070 --> 04:16:56,040

not identical they're not unidentified I

6022

04:16:59,389 --> 04:16:58,080

mean they turn out to be prosaic you

6023

04:17:02,570 --> 04:16:59,399

know anywhere from five to twenty

6024

04:17:05,450 --> 04:17:02,580

percent depending on what you look at

6025

04:17:08,090 --> 04:17:05,460

nope there were not any aliens

6026
04:17:09,530 --> 04:17:08,100

I.T guy

6027
04:17:11,630 --> 04:17:09,540

but um

6028
04:17:15,349 --> 04:17:11,640

yeah some people took really good

6029
04:17:17,750 --> 04:17:15,359

in-depth notes on Twitter I did not I

6030
04:17:20,750 --> 04:17:17,760

retweeted some stuff but anyway all

6031
04:17:24,469 --> 04:17:20,760

right thanks for being here guys and um

6032
04:17:27,050 --> 04:17:24,479

I'll be back hopefully soon

6033
04:17:28,849 --> 04:17:27,060

I keep talking about doing what I really

6034
04:17:30,769 --> 04:17:28,859

want to do and I'm not sure exactly how

6035
04:17:32,870 --> 04:17:30,779

I'm gonna do it basically

6036
04:17:35,630 --> 04:17:32,880

there's so much good stuff going on that

6037
04:17:38,630 --> 04:17:35,640

doesn't make it out to YouTube

6038
04:17:39,650 --> 04:17:38,640

Elon Musk has talked about how he's

6039

04:17:43,849 --> 04:17:39,660

gonna make

6040

04:17:45,769 --> 04:17:43,859

Twitter revenue revenue sharing

6041

04:17:48,889 --> 04:17:45,779

because I spend all day doing that stuff

6042

04:17:51,110 --> 04:17:48,899

on Twitter and if I could just do stuff

6043

04:17:53,090 --> 04:17:51,120

on Twitter and go live there and do all

6044

04:17:54,650 --> 04:17:53,100

of my what I want to do is just go

6045

04:17:56,570 --> 04:17:54,660

through my tweets for the day or the

6046

04:17:58,670 --> 04:17:56,580

week pick the best ones

6047

04:18:00,349 --> 04:17:58,680

and just play them and then and then

6048

04:18:02,570 --> 04:18:00,359

comment on them because there's so there

6049

04:18:03,469 --> 04:18:02,580

is a lot of stuff going on

6050

04:18:05,510 --> 04:18:03,479

um

6051

04:18:07,370 --> 04:18:05,520

it's not the stuff we want to see it's

6052

04:18:09,710 --> 04:18:07,380

not whistleblowers coming forward but

6053

04:18:11,870 --> 04:18:09,720

this interesting information I mean we

6054

04:18:15,349 --> 04:18:11,880

definitely have lulls

6055

04:18:17,870 --> 04:18:15,359

um but I'm really I shouldn't say that

6056

04:18:20,150 --> 04:18:17,880

I'm I'm hopeful for 2023 but I'm not

6057

04:18:22,309 --> 04:18:20,160

counting on it so yeah thanks again guys

6058

04:18:23,990 --> 04:18:22,319

thanks for the comments and I will see

6059

04:18:25,729 --> 04:18:24,000

you on Twitter hopefully you guys are

6060

04:18:26,630 --> 04:18:25,739

there and if you if you're not on

6061

04:18:31,210 --> 04:18:26,640

Twitter

6062

04:18:34,010 --> 04:18:31,220

because you're afraid because it's

6063

04:18:37,309 --> 04:18:34,020

volatile you can just follow me and

6064

04:18:38,990 --> 04:18:37,319

follow a handful of folks you won't see

6065

04:18:40,370 --> 04:18:39,000

that stuff so you can control what you

6066

04:18:43,370 --> 04:18:40,380

see and if you have people who act up

6067

04:18:47,570 --> 04:18:43,380

just mute them or or block them yes

6068

04:18:51,650 --> 04:18:47,580

cookie will enjoy the walk and