



1  
00:00:03,300 --> 00:00:09,380

[Music]

2  
00:00:15,390 --> 00:00:12,380

we're going to talk about some possible

3  
00:00:18,660 --> 00:00:15,400

atmospheric color changes that happens

4  
00:00:22,679 --> 00:00:18,670

prior to large magnitude and also some

5  
00:00:25,980 --> 00:00:22,689

local earthquakes we have at the

6  
00:00:27,300 --> 00:00:25,990

observatory in Sedona a camera that an

7  
00:00:30,600 --> 00:00:27,310

all-night camera that takes pictures

8  
00:00:33,540 --> 00:00:30,610

once every other month every minute oh

9  
00:00:36,960 --> 00:00:33,550

that's better once every minute all

10  
00:00:40,350 --> 00:00:36,970

night long and we have observed some

11  
00:00:42,330 --> 00:00:40,360

chromatic shifts before large magnitude

12  
00:00:44,790 --> 00:00:42,340

and local earthquakes we've also

13  
00:00:49,130 --> 00:00:44,800

observed what could be infrared flashes

14

00:00:53,310 --> 00:00:49,140

and some suggestion of ultraviolet

15

00:00:56,070 --> 00:00:53,320

flashes and some GPS disturbances the

16

00:00:58,860 --> 00:00:56,080

photograph suggests that anomalies can

17

00:01:02,660 --> 00:00:58,870

be detected over great distances very

18

00:01:05,550 --> 00:01:02,670

surprising and we are questioning both

19

00:01:09,710 --> 00:01:05,560

ultraviolet and infrared transmission

20

00:01:12,210 --> 00:01:09,720

how might they might across great ranges

21

00:01:14,580 --> 00:01:12,220

we're looking at possible mechanisms

22

00:01:16,110 --> 00:01:14,590

which is are very very speculative at

23

00:01:18,660 --> 00:01:16,120

this time we're looking at air

24

00:01:22,100 --> 00:01:18,670

refractive index ionospheric changes and

25

00:01:25,170 --> 00:01:22,110

total electron content we'll end up

26  
00:01:28,440 --> 00:01:25,180  
looking at a possible simple inexpensive

27  
00:01:32,160 --> 00:01:28,450  
inexpensive way to detect the timing but

28  
00:01:35,640 --> 00:01:32,170  
not the location of large earthquakes it

29  
00:01:39,990 --> 00:01:35,650  
started a long time ago since the 1980s

30  
00:01:44,280 --> 00:01:40,000  
I have been residing in the Bay Area and

31  
00:01:45,960 --> 00:01:44,290  
noticing that prior to the California

32  
00:01:48,570 --> 00:01:45,970  
earthquakes which are almost constantly

33  
00:01:50,160 --> 00:01:48,580  
ongoing that you would see atmospheric

34  
00:01:53,039 --> 00:01:50,170  
color changes I don't know how well you

35  
00:01:54,899 --> 00:01:53,049  
can see them in the slide here but the

36  
00:01:57,390 --> 00:01:54,909  
sky would take on kind of a reddish

37  
00:01:59,460 --> 00:01:57,400  
ruddy hue before the earthquakes and I

38  
00:02:01,620 --> 00:01:59,470

have probably taken a couple hundred

39

00:02:05,219 --> 00:02:01,630

photographs of this phenomena this is a

40

00:02:07,320 --> 00:02:05,229

normal sky color and smog is usually

41

00:02:09,740 --> 00:02:07,330

white to yellow so there was something

42

00:02:15,449 --> 00:02:09,750

peculiar about the color changes here

43

00:02:18,330 --> 00:02:15,459

fast forward into the future here

44

00:02:21,930 --> 00:02:18,340

other people have reported optical and

45

00:02:24,540 --> 00:02:21,940

anomalies prior to earthquakes but they

46

00:02:26,820 --> 00:02:24,550

haven't been well-documented so here are

47

00:02:29,820 --> 00:02:26,830

just a couple this is before the

48

00:02:32,970 --> 00:02:29,830

Szechuan earthquake in China you can see

49

00:02:36,300 --> 00:02:32,980

this as a video on YouTube there was a

50

00:02:39,570 --> 00:02:36,310

fire rainbow that was taken by two

51  
00:02:44,820 --> 00:02:39,580  
separate individuals 30 minutes prior to

52  
00:02:47,850 --> 00:02:44,830  
the Szechuan earthquake and here a Kia

53  
00:02:50,670 --> 00:02:47,860  
Aquila Italy these photographs were

54  
00:02:53,340 --> 00:02:50,680  
taken about 10:30 at night so this is

55  
00:02:56,490 --> 00:02:53,350  
not a sunset you'll see the purple color

56  
00:02:58,950 --> 00:02:56,500  
and this sort of rose color and you'll

57  
00:03:03,720 --> 00:02:58,960  
see a lot more of that in my slides that

58  
00:03:08,820 --> 00:03:06,600  
now this is a reason you can't try this

59  
00:03:10,980 --> 00:03:08,830  
at home or at least not very well that

60  
00:03:14,670 --> 00:03:10,990  
humans are basically color blind at

61  
00:03:17,210 --> 00:03:14,680  
night and so our our rods work but our

62  
00:03:21,270 --> 00:03:17,220  
cones that perceive color can't work

63  
00:03:24,410 --> 00:03:21,280

this is a picture of a sky glow that was

64

00:03:27,960 --> 00:03:24,420

very very bright that occurred in Sedona

65

00:03:31,850 --> 00:03:27,970

just prior nine and ten hours to two

66

00:03:36,150 --> 00:03:31,860

large magnitude earthquakes and this

67

00:03:38,670 --> 00:03:36,160

photograph has been changed so that you

68

00:03:40,830 --> 00:03:38,680

can actually see what we saw with their

69

00:03:43,590 --> 00:03:40,840

eyes which was a basically a black and

70

00:03:45,930 --> 00:03:43,600

white sky glow this it was looked like a

71

00:03:47,699 --> 00:03:45,940

big lens overhead it looked like there

72

00:03:49,530 --> 00:03:47,709

was a full moon it was as bright as a

73

00:03:51,780 --> 00:03:49,540

full moon looking through the clouds

74

00:03:54,690 --> 00:03:51,790

except there was no full moon it was

75

00:03:56,699 --> 00:03:54,700

very close to the new moon and the new

76

00:04:00,690 --> 00:03:56,709

moon was just about setting in the

77

00:04:03,960 --> 00:04:00,700

opposite direction this is what the

78

00:04:06,900 --> 00:04:03,970

camera sees the camera can see far more

79

00:04:12,900 --> 00:04:06,910

colors at night than humans can with our

80

00:04:15,840 --> 00:04:12,910

eyes okay basic primer and the colors

81

00:04:19,050 --> 00:04:15,850

that are normal and natural for the

82

00:04:23,430 --> 00:04:19,060

camera to see during quiet seismic

83

00:04:26,670 --> 00:04:23,440

periods the color depends really on the

84

00:04:28,980 --> 00:04:26,680

moon if the moon is up and there are

85

00:04:32,760 --> 00:04:28,990

a few clouds you'll see this basically

86

00:04:33,959 --> 00:04:32,770

gray sky and gray to blue and if the

87

00:04:37,019 --> 00:04:33,969

moon has set you'll see

88

00:04:39,179 --> 00:04:37,029

sort of a ruddy hue and things are

89

00:04:44,459 --> 00:04:39,189

fairly dark the sky is black you can see

90

00:04:47,489 --> 00:04:44,469

stars quite vividly the progression of

91

00:04:50,369 --> 00:04:47,499

the moon you can see here is Twilight up

92

00:04:52,259 --> 00:04:50,379

here and you'll see the gray sky and

93

00:04:55,379 --> 00:04:52,269

then as the moon sets you'll see a very

94

00:04:59,539 --> 00:04:55,389

consistent colors fading into this

95

00:05:02,399 --> 00:04:59,549

basically red and that was during a

96

00:05:04,829 --> 00:05:02,409

seismically quiet period where there had

97

00:05:07,139 --> 00:05:04,839

been no magnitude six earthquakes for

98

00:05:09,719 --> 00:05:07,149

more than a week during the full moon

99

00:05:13,759 --> 00:05:09,729

you'll see a pale blue sky with the

100

00:05:16,499 --> 00:05:13,769

clouds the clouds are basically white

101  
00:05:20,309 --> 00:05:16,509  
this is what we see prior to large

102  
00:05:23,789 --> 00:05:20,319  
earthquakes or local earthquakes this is

103  
00:05:27,989 --> 00:05:23,799  
normal but we will see glowing storm

104  
00:05:31,799 --> 00:05:27,999  
clouds we will see rose colors purple

105  
00:05:33,929 --> 00:05:31,809  
colors and aqua ultramarine colors and

106  
00:05:36,899 --> 00:05:33,939  
these color shifts happen they're very

107  
00:05:40,489 --> 00:05:36,909  
intense and they're very rapid they take

108  
00:05:43,799 --> 00:05:40,499  
place often within less than a minute

109  
00:05:45,989 --> 00:05:43,809  
this is an example of a chromatic shift

110  
00:05:48,119 --> 00:05:45,999  
you can see a Depot ultramarine which is

111  
00:05:50,459 --> 00:05:48,129  
not a normal color and then you'll see

112  
00:05:53,100 --> 00:05:50,469  
it going to a purple hue I hope you can

113  
00:05:55,679 --> 00:05:53,110

see it with this projector and then here

114

00:06:00,199 --> 00:05:55,689

it's fading back to the ultramarine very

115

00:06:04,019 --> 00:06:02,519

all of the photographs that I'm going to

116

00:06:06,659 --> 00:06:04,029

show you happen in the middle of the

117

00:06:09,479 --> 00:06:06,669

night that these are not dawn or sunset

118

00:06:12,749 --> 00:06:09,489

pictures prior to large magnitude

119

00:06:14,789 --> 00:06:12,759

earthquakes we see about seven to eight

120

00:06:17,339 --> 00:06:14,799

days we begin to see these chromatic

121

00:06:20,459 --> 00:06:17,349

shifts and they tend to maximize about

122

00:06:22,529 --> 00:06:20,469

three to four days in advance and the

123

00:06:26,729 --> 00:06:22,539

day of the earthquake oftentimes we will

124

00:06:29,159 --> 00:06:26,739

see the situation change back to normal

125

00:06:31,619 --> 00:06:29,169

although sometimes we do continue to see

126  
00:06:34,169 --> 00:06:31,629  
shifts we're going to look at six

127  
00:06:36,719 --> 00:06:34,179  
earthquakes the three largest

128  
00:06:39,419 --> 00:06:36,729  
earthquakes that have happened during

129  
00:06:42,769 --> 00:06:39,429  
the time that these cameras have been in

130  
00:06:45,149 --> 00:06:42,779  
operation we'll look at the largest and

131  
00:06:46,760 --> 00:06:45,159  
closest earthquake which was Mexicali

132  
00:06:50,330 --> 00:06:46,770  
7.2

133  
00:06:52,969 --> 00:06:50,340  
and to really anomalous earthquakes that

134  
00:06:56,149 --> 00:06:52,979  
occurred just 12 miles from where we are

135  
00:06:57,649 --> 00:06:56,159  
in Sedona and this is significant

136  
00:07:01,040 --> 00:06:57,659  
because earthquakes basically don't

137  
00:07:02,719 --> 00:07:01,050  
happen in Arizona and there is no

138  
00:07:06,950 --> 00:07:02,729

historical record of earthquakes

139

00:07:09,080 --> 00:07:06,960

happening in this exact area before okay

140

00:07:12,890 --> 00:07:09,090

I'm going to cut to the chase here

141

00:07:16,490 --> 00:07:12,900

and show you very rapidly the chromatic

142

00:07:18,260 --> 00:07:16,500

shifts that that precede earthquakes and

143

00:07:21,350 --> 00:07:18,270

not dwell on them but what I would like

144

00:07:23,510 --> 00:07:21,360

you to observe is the variability in the

145

00:07:29,029 --> 00:07:23,520

colors and you've seen the controls and

146

00:07:31,159 --> 00:07:29,039

look at how the colors change starting

147

00:07:33,980 --> 00:07:31,169

seven to eight days maximizing about

148

00:07:36,680 --> 00:07:33,990

four days prior to earthquakes well go

149

00:07:41,330 --> 00:07:36,690

into the time machine now and we will go

150

00:07:44,869 --> 00:07:41,340

and look step backwards from eight days

151  
00:07:46,249 --> 00:07:44,879  
out to the time of the earthquakes first

152  
00:07:49,899 --> 00:07:46,259  
earthquake is an eight point one at

153  
00:07:53,689 --> 00:07:49,909  
Samoa this earthquake occurred about

154  
00:07:58,209 --> 00:07:53,699  
4,500 miles away from the Sedona

155  
00:08:01,070 --> 00:07:58,219  
Observatory here you'll see the normal

156  
00:08:03,200 --> 00:08:01,080  
moon set colors but then all of a sudden

157  
00:08:05,659 --> 00:08:03,210  
you'll see color shifts to gray and then

158  
00:08:07,339 --> 00:08:05,669  
back to to the ready color and so on and

159  
00:08:10,730 --> 00:08:07,349  
so forth and you see this continues

160  
00:08:13,480 --> 00:08:10,740  
through day seven and then at four days

161  
00:08:16,459 --> 00:08:13,490  
you'll see some new colors come in this

162  
00:08:19,459 --> 00:08:16,469  
sort of an aqua color and maybe a little

163  
00:08:21,320 --> 00:08:19,469

bit pink and you can see the variety of

164

00:08:23,360 --> 00:08:21,330

colors that are occurring here's an

165

00:08:25,189 --> 00:08:23,370

example of a chromatic shift that has

166

00:08:27,950 --> 00:08:25,199

happened in just one minute from an

167

00:08:31,700 --> 00:08:27,960

ultramarine - back to a normal gray so

168

00:08:33,680 --> 00:08:31,710

this is an enlargement also quite

169

00:08:36,079 --> 00:08:33,690

significant I was hiking during just

170

00:08:38,029 --> 00:08:36,089

before the two days before this

171

00:08:43,760 --> 00:08:38,039

earthquake and I could not receive

172

00:08:45,560 --> 00:08:43,770

satellites on my GPS receiver okay a

173

00:08:47,600 --> 00:08:45,570

little bit more than a day you see the

174

00:08:49,730 --> 00:08:47,610

colors changed but you will see these

175

00:08:53,540 --> 00:08:49,740

shifts continuing there's a bright moon

176

00:08:57,380 --> 00:08:53,550

up now and after the moon sets you'll

177

00:09:00,440 --> 00:08:57,390

see the shifts between gray and rust

178

00:09:03,740 --> 00:09:00,450

color at 10 hours away you'll you

179

00:09:05,720 --> 00:09:03,750

see continuous shifting the next

180

00:09:08,330 --> 00:09:05,730

earthquake was magnitude eight point

181

00:09:11,810 --> 00:09:08,340

eight at Chile and again this was more

182

00:09:14,930 --> 00:09:11,820

than 4,500 miles away and you'll see

183

00:09:17,210 --> 00:09:14,940

some new colors which are a kind of a

184

00:09:20,720 --> 00:09:17,220

rose color and then feeding back to gray

185

00:09:22,370 --> 00:09:20,730

this is with the the moon is up and then

186

00:09:25,760 --> 00:09:22,380

you'll see some clouds come in that

187

00:09:28,310 --> 00:09:25,770

start glowing yellow a storm came in and

188

00:09:31,780 --> 00:09:28,320

the clouds became very very luminous and

189

00:09:36,200 --> 00:09:31,790

you can see all of the variety of

190

00:09:38,180 --> 00:09:36,210

intensely glowing colors at that point

191

00:09:40,550 --> 00:09:38,190

in time the camera broke down I had a

192

00:09:41,960 --> 00:09:40,560

second camera fortunately in operation

193

00:09:44,570 --> 00:09:41,970

facing in a slightly different direction

194

00:09:46,100 --> 00:09:44,580

and you can see that another cam and

195

00:09:48,350 --> 00:09:46,110

this is not a camera artifact

196

00:09:50,330 --> 00:09:48,360

that this second camera also picked up

197

00:09:51,740 --> 00:09:50,340

all of the color shifts even though it

198

00:09:55,580 --> 00:09:51,750

was in a different direction different

199

00:09:57,440 --> 00:09:55,590

camera for days I saw a color that I had

200

00:09:59,270 --> 00:09:57,450

never seen before before the Chile

201  
00:10:02,180 --> 00:09:59,280  
earthquake which was this very intense

202  
00:10:05,090 --> 00:10:02,190  
pinky purple color and this lasted for a

203  
00:10:09,710 --> 00:10:05,100  
long time usually we just see colors

204  
00:10:13,400 --> 00:10:09,720  
lasting for a few minutes and here's an

205  
00:10:15,470 --> 00:10:13,410  
example you know the pinky purple color

206  
00:10:18,190 --> 00:10:15,480  
and you notice that the rocks here in

207  
00:10:21,440 --> 00:10:18,200  
the foreground seem almost iridescent

208  
00:10:24,220 --> 00:10:21,450  
and then two hours later you can see

209  
00:10:27,020 --> 00:10:24,230  
that things have changed back to normal

210  
00:10:28,700 --> 00:10:27,030  
- two days the moon is up and bright

211  
00:10:33,860 --> 00:10:28,710  
there's some clouds but you can see that

212  
00:10:36,550 --> 00:10:33,870  
the colors continue to shift also two

213  
00:10:40,550 --> 00:10:36,560

days though there's a rose color that

214

00:10:43,430 --> 00:10:40,560

begins one day you can see the cut the

215

00:10:45,950 --> 00:10:43,440

color continued to shift and then things

216

00:10:48,350 --> 00:10:45,960

kind of stabilized out even though this

217

00:10:50,030 --> 00:10:48,360

color is not really a normal color the

218

00:10:52,220 --> 00:10:50,040

normal color is gray but the

219

00:10:54,650 --> 00:10:52,230

fluctuations have basically stopped and

220

00:10:57,260 --> 00:10:54,660

at the exact time of the earthquake it's

221

00:11:04,460 --> 00:10:57,270

a full moon it's overcast and there are

222

00:11:07,730 --> 00:11:04,470

no chromatic shifts occurring then one

223

00:11:11,390 --> 00:11:07,740

difficulty is that we can't really see

224

00:11:14,420 --> 00:11:11,400

this with our eyes because our

225

00:11:16,790 --> 00:11:14,430

receptions even in good lighting

226

00:11:19,340 --> 00:11:16,800

conditions aren't very good in the

227

00:11:23,269 --> 00:11:19,350

ultraviolet and ultra red or infrared

228

00:11:26,510 --> 00:11:23,279

but this color here had a kind of a

229

00:11:30,290 --> 00:11:26,520

reminiscent ring to it to me and so did

230

00:11:33,680 --> 00:11:30,300

this because I had done some previous

231

00:11:35,990 --> 00:11:33,690

tests of the cameras and I'd found that

232

00:11:38,840 --> 00:11:36,000

the cameras can see a little bit more

233

00:11:40,579 --> 00:11:38,850

beyond the optical spectrum they see a

234

00:11:43,670 --> 00:11:40,589

little bit more into the ultraviolet and

235

00:11:45,019 --> 00:11:43,680

a little bit more into the infrared so

236

00:11:47,420 --> 00:11:45,029

the tests that I have done with some

237

00:11:50,300 --> 00:11:47,430

transmission filters this is what the

238

00:11:54,139 --> 00:11:50,310

same scene looks like in the ultraviolet

239

00:11:57,650 --> 00:11:54,149

and in the infrared and these seem to

240

00:12:02,500 --> 00:11:57,660

match somehow at least in a suggestible

241

00:12:06,560 --> 00:12:02,510

sense that perhaps we had some

242

00:12:10,670 --> 00:12:06,570

ultraviolet and infrared components to

243

00:12:14,120 --> 00:12:10,680

the lights that we were seeing here is

244

00:12:16,460 --> 00:12:14,130

an infrared flashlight and again by

245

00:12:18,410 --> 00:12:16,470

comparison so being a nonprofit

246

00:12:20,840 --> 00:12:18,420

organization in order to test the

247

00:12:25,449 --> 00:12:20,850

hypothesis if there was infrared

248

00:12:28,579 --> 00:12:25,459

involved in some of these color shifts

249

00:12:31,430 --> 00:12:28,589

we chose a very quick and dirty cheap

250

00:12:39,380 --> 00:12:31,440

way of detecting infrared which is a

251  
00:12:41,150 --> 00:12:39,390  
motion sensor floodlight and what I did

252  
00:12:42,710 --> 00:12:41,160  
was to set the flood light up in the

253  
00:12:45,530 --> 00:12:42,720  
same direct and the camera was facing

254  
00:12:47,690 --> 00:12:45,540  
and whenever it detected an infrared

255  
00:12:51,110 --> 00:12:47,700  
signal it would illuminate the bushes in

256  
00:12:54,590 --> 00:12:51,120  
the foreground and so this was our cheap

257  
00:12:59,210 --> 00:12:54,600  
test to see if we could detect the

258  
00:13:01,160 --> 00:12:59,220  
infrared so moving right along here to

259  
00:13:02,420 --> 00:13:01,170  
the Japan earthquake there's good news

260  
00:13:05,690 --> 00:13:02,430  
and bad news

261  
00:13:08,120 --> 00:13:05,700  
the bad news is that I had been

262  
00:13:10,940 --> 00:13:08,130  
traveling and I only got back to the

263  
00:13:12,740 --> 00:13:10,950

observatory the day before the Japan

264

00:13:15,829 --> 00:13:12,750

earthquake so I miss collecting all of

265

00:13:18,860 --> 00:13:15,839

the data that would have been you know

266

00:13:21,470 --> 00:13:18,870

classic data unfortunately prior to this

267

00:13:23,840 --> 00:13:21,480

earthquake the good news is I actually

268

00:13:26,780 --> 00:13:23,850

had been negotiating for more than a

269

00:13:27,150 --> 00:13:26,790

month with people at a different

270

00:13:29,999 --> 00:13:27,160

location

271

00:13:32,430 --> 00:13:30,009

to set up another camera there and night

272

00:13:36,059 --> 00:13:32,440

before the earthquake I did set up for

273

00:13:38,129 --> 00:13:36,069

the first time a second camera and so we

274

00:13:42,240 --> 00:13:38,139

have one at rodeo Road and when it

275

00:13:44,069 --> 00:13:42,250

Golden Eagle Observatory and you can see

276

00:13:46,290 --> 00:13:44,079

in the last hours prior to the

277

00:13:48,990 --> 00:13:46,300

earthquake at Japan you can see these

278

00:13:51,150 --> 00:13:49,000

color shifts are ongoing at both

279

00:13:52,889 --> 00:13:51,160

locations

280

00:13:54,720 --> 00:13:52,899

we also got something that I won't go

281

00:13:57,150 --> 00:13:54,730

into very much here but we call them

282

00:13:59,910 --> 00:13:57,160

micro lights the little tiny flashes

283

00:14:04,189 --> 00:13:59,920

these were occurring at the rodeo road

284

00:14:07,740 --> 00:14:04,199

site three hours before the earthquake

285

00:14:09,840 --> 00:14:07,750

the infrared sensor was flashing like

286

00:14:14,220 --> 00:14:09,850

mad you can see here that in seven of

287

00:14:16,889 --> 00:14:14,230

these nine frames the infrared sensor

288

00:14:18,960 --> 00:14:16,899

was illuminated and this was pretty much

289

00:14:21,569 --> 00:14:18,970

consistent for the whole night I think

290

00:14:25,290 --> 00:14:21,579

there were 78 flashes you know in that

291

00:14:32,090 --> 00:14:25,300

time interval there was also the

292

00:14:35,009 --> 00:14:32,100

rose-colored glow at Golden Eagle and

293

00:14:38,490 --> 00:14:35,019

here is an example of a color shift and

294

00:14:41,970 --> 00:14:38,500

here you see a sort of a grayish and

295

00:14:44,129 --> 00:14:41,980

then you see the detector detect a flash

296

00:14:48,269 --> 00:14:44,139

and you can see the the chromatic shift

297

00:14:50,100 --> 00:14:48,279

to a more pink purple color okay I'm

298

00:14:53,040 --> 00:14:50,110

going to skip ahead here these are just

299

00:14:58,170 --> 00:14:53,050

colors before the earthquake another

300

00:15:01,319 --> 00:14:58,180

micro flash this is the nearby Clarkdale

301  
00:15:04,920 --> 00:15:01,329  
you can see purple again and the variety

302  
00:15:07,650 --> 00:15:04,930  
of colors and skip through these the

303  
00:15:09,090 --> 00:15:07,660  
same thing I was taking a field

304  
00:15:11,790 --> 00:15:09,100  
measurements the field

305  
00:15:14,579 --> 00:15:11,800  
doubled right after this Clark Field

306  
00:15:20,939 --> 00:15:14,589  
earthquake and I'll skip over that you

307  
00:15:22,920 --> 00:15:20,949  
can see the colors okay

308  
00:15:26,249 --> 00:15:22,930  
the mechanisms sometimes there's a

309  
00:15:30,590 --> 00:15:26,259  
capacitor like discharge of the infrared

310  
00:15:33,929 --> 00:15:30,600  
flashers but how do we get from

311  
00:15:37,410 --> 00:15:33,939  
transpacific transmissions there are

312  
00:15:40,500 --> 00:15:37,420  
some candidates the Aurora airglow total

313  
00:15:42,720 --> 00:15:40,510

electron content variations

314

00:15:46,230 --> 00:15:42,730

there's been corroboration by recently

315

00:15:49,200 --> 00:15:46,240

published paper by all's enough on the

316

00:15:50,970 --> 00:15:49,210

Japan Earthquake who he has taken

317

00:15:54,329 --> 00:15:50,980

infrared measurements and found them

318

00:15:58,110 --> 00:15:54,339

that correspond very much to our time

319

00:16:01,290 --> 00:15:58,120

sync sequence here's the possible

320

00:16:03,120 --> 00:16:01,300

capacitor here's a map of the total

321

00:16:06,660 --> 00:16:03,130

electron content you can see that the

322

00:16:10,680 --> 00:16:06,670

subsolar area is massive massively large

323

00:16:13,620 --> 00:16:10,690

so reflections or some kind of skipping

324

00:16:16,800 --> 00:16:13,630

phenomena might be possible due to the

325

00:16:18,810 --> 00:16:16,810

electron content here and this is just a

326

00:16:20,340 --> 00:16:18,820

hypothesis this is what it looks like

327

00:16:22,079 --> 00:16:20,350

normally this is what it looked like

328

00:16:24,570 --> 00:16:22,089

before the Japan earthquake I've shifted

329

00:16:28,829 --> 00:16:24,580

Japan is over here and the Pacific Basin

330

00:16:30,870 --> 00:16:28,839

is there so this is one potential area

331

00:16:35,490 --> 00:16:30,880

another is called airglow

332

00:16:39,329 --> 00:16:35,500

which occurs at the boundaries of the

333

00:16:39,990 --> 00:16:39,339

ionosphere oxygen species can color the

334

00:16:43,940 --> 00:16:40,000

air globe

335

00:16:46,790 --> 00:16:43,950

both into the intro into the ultraviolet

336

00:16:51,750 --> 00:16:46,800

monoatomic oxygen can be red and

337

00:16:53,370 --> 00:16:51,760

hydroxyl ion can give a red glow is

338

00:16:56,910 --> 00:16:53,380

there something special about Sedona

339

00:17:02,010 --> 00:16:56,920

well before the Chilean earthquake there

340

00:17:04,949 --> 00:17:02,020

was a purple fog it reported in Hungary

341

00:17:08,579 --> 00:17:04,959

so these are probably not just local the

342

00:17:10,470 --> 00:17:08,589

Aurora we might look to that there were

343

00:17:12,179 --> 00:17:10,480

many purple Aurora that occurred before

344

00:17:15,480 --> 00:17:12,189

some of these large magnitude

345

00:17:20,220 --> 00:17:15,490

earthquakes so the Austin off data shows

346

00:17:24,150 --> 00:17:20,230

that he found 8 days prior to Japan he

347

00:17:28,890 --> 00:17:24,160

got increases in total electron content

348

00:17:32,400 --> 00:17:28,900

and also infrared satellite imaging 8

349

00:17:36,210 --> 00:17:32,410

days prior his maximum anomalous day was

350

00:17:38,490 --> 00:17:36,220

3 to 4 days prior to which corresponds

351  
00:17:41,630 --> 00:17:38,500  
to our observations so there's something

352  
00:17:45,419 --> 00:17:41,640  
about the timing sequence here

353  
00:17:48,630 --> 00:17:45,429  
so we propose to look more closely at

354  
00:17:52,590 --> 00:17:48,640  
the total electron the electron content

355  
00:17:53,730 --> 00:17:52,600  
and for an area to start to

356  
00:17:55,890 --> 00:17:53,740  
investigating we might

357  
00:17:58,110 --> 00:17:55,900  
radar anomalies and all of the

358  
00:17:59,940 --> 00:17:58,120  
reflection problems that they have such

359  
00:18:02,669 --> 00:17:59,950  
as surface ducting and anomalous

360  
00:18:08,910 --> 00:18:02,679  
propagation we might find that there are

361  
00:18:13,919 --> 00:18:08,920  
some IR an e/m reflectivity so what we

362  
00:18:16,049 --> 00:18:13,929  
see is that that sky chromatic shifts

363  
00:18:17,730 --> 00:18:16,059

can be detected remotely seven to eight

364

00:18:20,160 --> 00:18:17,740

days in advance of large earthquakes

365

00:18:22,650 --> 00:18:20,170

digital cameras can detect non optical

366

00:18:23,669 --> 00:18:22,660

colors the white balance of the camera

367

00:18:25,860 --> 00:18:23,679

might play a part

368

00:18:28,799 --> 00:18:25,870

infrared might be a component of the

369

00:18:30,780 --> 00:18:28,809

chromatic changes anomalous infrared

370

00:18:32,490 --> 00:18:30,790

emissions and ionosphere changes before

371

00:18:34,919 --> 00:18:32,500

larger earthquake have been described by

372

00:18:37,620 --> 00:18:34,929

Austin off a tell at similar time

373

00:18:40,080 --> 00:18:37,630

intervals to what we observe inexpensive

374

00:18:42,720 --> 00:18:40,090

motion detectors are able to detect

375

00:18:46,410 --> 00:18:42,730

these IR flashes UV is a possible

376

00:18:48,750 --> 00:18:46,420

optical wavelength that may contribute

377

00:18:51,870 --> 00:18:48,760

we haven't investigated that the

378

00:18:54,660 --> 00:18:51,880

mechanism for IR and UV over great

379

00:18:56,460 --> 00:18:54,670

distances we look to possibly radar

380

00:18:58,440 --> 00:18:56,470

science and to forecast earthquakes

381

00:19:00,770 --> 00:18:58,450

let's look at the atmosphere and not the

382

00:19:11,360 --> 00:19:00,780

ground thank you

383

00:19:16,919 --> 00:19:14,340

you said you had a second camera was it

384

00:19:19,620 --> 00:19:16,929

oriented in the same direction generally

385

00:19:22,549 --> 00:19:19,630

yes if you thought of setting up a

386

00:19:26,190 --> 00:19:22,559

system of maybe three cameras or

387

00:19:28,470 --> 00:19:26,200

possibly if you can afford it for say to

388

00:19:31,440 --> 00:19:28,480

north south east and west and see if

389

00:19:34,169 --> 00:19:31,450

there's any effect in the color and the

390

00:19:36,690 --> 00:19:34,179

intensity of the light compared to where

391

00:19:39,510 --> 00:19:36,700

the locate the location relative

392

00:19:42,000 --> 00:19:39,520

location of the earthquakes yes we'd

393

00:19:43,950 --> 00:19:42,010

love to do that the cameras that are

394

00:19:46,380 --> 00:19:43,960

capable of getting high quality color

395

00:19:49,140 --> 00:19:46,390

cost about two thousand five or six

396

00:19:51,750 --> 00:19:49,150

hundred dollars so we are limited by the

397

00:19:55,919 --> 00:19:51,760

financial resources of how many cameras

398

00:20:00,419 --> 00:19:55,929

we do have two cameras possibly a third

399

00:20:03,600 --> 00:20:00,429

camera but the they're not as good as

400

00:20:05,070 --> 00:20:03,610

the primary camera which is ad700 and we

401  
00:20:07,110 --> 00:20:05,080  
would love to get the funding to do

402  
00:20:09,750 --> 00:20:07,120  
exactly what you recommended these

403  
00:20:12,210 --> 00:20:09,760  
cameras by the way we're facing in the

404  
00:20:15,240 --> 00:20:12,220  
opposite direction of the Pacific Basin

405  
00:20:18,240 --> 00:20:15,250  
they were facing northeast so whatever

406  
00:20:23,340 --> 00:20:18,250  
these changes are they appear to be all

407  
00:20:26,130 --> 00:20:23,350  
over the entire horizon and globe yeah

408  
00:20:28,740 --> 00:20:26,140  
hi Masha um one question I everything

409  
00:20:32,490 --> 00:20:28,750  
was pretty much taken from Sedona other

410  
00:20:34,980 --> 00:20:32,500  
than what you noted and there's why

411  
00:20:36,720 --> 00:20:34,990  
aren't you using the vastly available

412  
00:20:39,779 --> 00:20:36,730  
satellite data because we are measuring

413  
00:20:43,140 --> 00:20:39,789

in every wavelength possible and it

414

00:20:44,970 --> 00:20:43,150

seems that you know maybe even you know

415

00:20:47,909 --> 00:20:44,980

writing a grant to try to do some

416

00:20:50,430 --> 00:20:47,919

modeling and working with climatologist

417

00:20:52,440 --> 00:20:50,440

and and because there's a tremendous

418

00:20:56,159 --> 00:20:52,450

amount of stated satellite data that we

419

00:20:58,350 --> 00:20:56,169

are collecting on this very thing well

420

00:21:00,149 --> 00:20:58,360

that's great I do review a lot of

421

00:21:04,039 --> 00:21:00,159

satellite data but I'd like to talk to

422

00:21:06,930 --> 00:21:04,049

you and find out the availability of

423

00:21:10,649 --> 00:21:06,940

what is available yes definitely thank

424

00:21:12,570 --> 00:21:10,659

you okay is this data hand analyzed and

425

00:21:15,960 --> 00:21:12,580

looked at or is there a computer model

426  
00:21:18,330 --> 00:21:15,970  
for automating the analysis and have you

427  
00:21:20,700 --> 00:21:18,340  
had any false positives

428  
00:21:23,340 --> 00:21:20,710  
right now it has been all hand to

429  
00:21:27,330 --> 00:21:23,350  
analyze this is you know really a

430  
00:21:31,250 --> 00:21:27,340  
prototype initial observation empirical

431  
00:21:34,320 --> 00:21:31,260  
data and I am looking into being able to

432  
00:21:36,690 --> 00:21:34,330  
get quantitative and qualitative data in

433  
00:21:41,580 --> 00:21:36,700  
order to analyze it because there were

434  
00:21:43,950 --> 00:21:41,590  
since we've been looking at the infrared

435  
00:21:46,680 --> 00:21:43,960  
flashes there are about a hundred and

436  
00:21:48,649 --> 00:21:46,690  
eighty thousand pictures and more than a

437  
00:21:50,879 --> 00:21:48,659  
million pictures to look at

438  
00:21:53,310 --> 00:21:50,889

high-resolution pictures since we've

439

00:21:56,549 --> 00:21:53,320

started taking these so I'm desperately

440

00:21:58,139 --> 00:21:56,559

looking to computerize thank you if you

441

00:22:02,310 --> 00:21:58,149

have any suggestions I'd like to hear

442

00:22:04,860 --> 00:22:02,320

that many of the phenomena you described

443

00:22:06,600 --> 00:22:04,870

are similar to what HAARP is supposedly

444

00:22:08,669 --> 00:22:06,610

doing to the ionosphere heating the

445

00:22:10,710 --> 00:22:08,679

ionosphere which would affect the

446

00:22:13,590 --> 00:22:10,720

infrared have you correlated any of this

447

00:22:16,560 --> 00:22:13,600

with the activity of the HAARP station

448

00:22:20,549 --> 00:22:16,570

there are some groups that track when

449

00:22:23,340 --> 00:22:20,559

it's on when it's off etc no I haven't

450

00:22:24,330 --> 00:22:23,350

and I wasn't aware that there was you

451

00:22:28,139 --> 00:22:24,340

know I know that HAARP

452

00:22:31,409 --> 00:22:28,149

takes a lot of data observational but

453

00:22:32,879 --> 00:22:31,419

I'm not aware of the websites that tell

454

00:22:34,799 --> 00:22:32,889

when it's transmitting I guess I'd like

455

00:22:38,840 --> 00:22:34,809

to know that but no I haven't done

456

00:22:41,789 --> 00:22:38,850

anything like that Sedona is noted for

457

00:22:44,730 --> 00:22:41,799

anomalous activities I believe I wonder

458

00:22:48,470 --> 00:22:44,740

if any of other remote sites that you

459

00:22:52,620 --> 00:22:48,480

mentioned are also noted for anomalies

460

00:22:58,490 --> 00:22:52,630

and also do you have access to any

461

00:23:01,049 --> 00:22:58,500

magnetometer at the observatory we run

462

00:23:04,019 --> 00:23:01,059

magnetometers 24/7 we have two

463

00:23:07,470 --> 00:23:04,029

magnetometers very sensitive down to one

464

00:23:09,779 --> 00:23:07,480

gamma and I have not yet had the

465

00:23:14,759 --> 00:23:09,789

opportunity the time to try and

466

00:23:16,860 --> 00:23:14,769

correlate it with these flashes so and

467

00:23:22,470 --> 00:23:16,870

as far as the normally that's that's why

468

00:23:22,480 --> 00:23:41,049

I didn't do it

469

00:23:52,460 --> 00:23:43,910

we're gonna have two quick questions and

470

00:23:54,730 --> 00:23:52,470

then that's a wrap on this Marsha Marsha

471

00:23:56,510 --> 00:23:54,740

a few months ago I was at the New York

472

00:23:59,780 --> 00:23:56,520

Metropolitan Museum and they had a

473

00:24:01,460 --> 00:23:59,790

screen up there that shows earthquakes

474

00:24:05,270 --> 00:24:01,470

happening around the world over the last

475

00:24:07,700 --> 00:24:05,280

month and there were probably 50 or 60

476

00:24:09,799 --> 00:24:07,710

of them shown including some magnitude 6

477

00:24:12,140 --> 00:24:09,809

and I'm just wondering how are you

478

00:24:14,330 --> 00:24:12,150

considering that you are separating out

479

00:24:16,100 --> 00:24:14,340

the actual earthquakes that you're

480

00:24:24,260 --> 00:24:16,110

looking at versus the earthquakes that

481

00:24:27,230 --> 00:24:24,270

are occurring all over the world it's

482

00:24:29,620 --> 00:24:27,240

hello ok it's a rare day that there is

483

00:24:32,690 --> 00:24:29,630

not a magnitude 5 earthquake somewhere

484

00:24:34,640 --> 00:24:32,700

on the planet and a magnitude 6

485

00:24:37,610 --> 00:24:34,650

earthquake happens about every 3 days

486

00:24:39,890 --> 00:24:37,620

somewhere so we really have to be very

487

00:24:42,770 --> 00:24:39,900

careful with the magnitude selection and

488

00:24:44,750 --> 00:24:42,780

that's why I showed you by not selecting

489

00:24:46,310 --> 00:24:44,760

earthquakes using the three largest that

490

00:24:49,100 --> 00:24:46,320

have happened since the system has been

491

00:24:51,520 --> 00:24:49,110

in operation and then also the largest

492

00:24:55,850 --> 00:24:51,530

and closest and also the most anomalous

493

00:24:58,520 --> 00:24:55,860

close earthquake they do other

494

00:25:00,410 --> 00:24:58,530

earthquakes do cause some noise in the

495

00:25:03,020 --> 00:25:00,420

system and this is where we need to do

496

00:25:05,750 --> 00:25:03,030

some statistical Monte Carlo or

497

00:25:08,690 --> 00:25:05,760

superposed epic analysis and this is the

498

00:25:11,630 --> 00:25:08,700

next step but basically I would say that

499

00:25:13,250 --> 00:25:11,640

we see the anomalies in magnitudes 7 and

500

00:25:18,080 --> 00:25:13,260

above earthquakes unless they're almost

501  
00:25:20,750 --> 00:25:18,090  
right under our feet last question

502  
00:25:22,430 --> 00:25:20,760  
thank you for that talk did you're

503  
00:25:24,650 --> 00:25:22,440  
probably aware that the silicon sensors

504  
00:25:27,680 --> 00:25:24,660  
that are used in digital cameras have a

505  
00:25:31,700 --> 00:25:27,690  
basic response from 380 nanometers out

506  
00:25:34,220 --> 00:25:31,710  
to 1,100 in the eye is at 555 so the

507  
00:25:36,350 --> 00:25:34,230  
sensor itself and they put filters in

508  
00:25:37,760 --> 00:25:36,360  
front so to get the human eye response

509  
00:25:39,320 --> 00:25:37,770  
which if you want to look in the

510  
00:25:40,669 --> 00:25:39,330  
infrared it's just what you don't want

511  
00:25:42,680 --> 00:25:40,679  
so I wonder if you had thought about

512  
00:25:45,530 --> 00:25:42,690  
talking to a manufacturer to take off

513  
00:25:47,990 --> 00:25:45,540

that filter that they put on the front

514

00:25:50,660 --> 00:25:48,000

of the sensor then you'd automatically

515

00:25:53,420 --> 00:25:50,670

have a very wide-ranging infrared

516

00:26:01,160 --> 00:25:55,940

yes that's a very good idea and I have

517

00:26:03,740 --> 00:26:01,170

done that the graph that you that you

518

00:26:05,840 --> 00:26:03,750

saw shows the series of filters that are

519

00:26:10,670 --> 00:26:05,850

in place in most cameras and also the

520

00:26:14,600 --> 00:26:10,680

hot mirror which takes out the wings of

521

00:26:19,220 --> 00:26:14,610

the spectrum and I think it's Sony it

522

00:26:21,590 --> 00:26:19,230

might be Sony or there is a manufacturer

523

00:26:23,540 --> 00:26:21,600

that makes a camera without the hot

524

00:26:26,930 --> 00:26:23,550

mirror again it's very expensive and

525

00:26:29,690 --> 00:26:26,940

we're limited by our you know funding

526

00:26:31,100 --> 00:26:29,700

capacity but yes I in fact I've been

527

00:26:35,770 --> 00:26:31,110

celebrating over getting one of those