



31.56° N, 111.45° W
210° @ 25 mph

Data | Wind @ Surface
Date | 2021-10-11 15:00 Local ±UTC
Source | GFS / NCEP / US National Weather Service
Scale | 
Control | Now  << < > >> Grid  HD 
Mode | Air Ocean Chem Particulates Space Bio
Animate | Wind Currents Waves
Height | Sfc 1000 850 700 500 250 70 10 hPa
Overlay | Wind Temp RH WPD 3HPA CAPE TPW
TCW MSLP MI UVI None
Projection | A CE E P S WB W3
about     switch to classic 

earth

1
00:00:05,590 --> 00:00:02,470
hello uh today i'm going to talk about

2
00:00:07,990 --> 00:00:05,600
how to find historical weather data for

3
00:00:09,110 --> 00:00:08,000
uh positions above the surface of the

4
00:00:10,790 --> 00:00:09,120
earth

5
00:00:13,270 --> 00:00:10,800
why might you need to do this well

6
00:00:15,030 --> 00:00:13,280
there's two reasons i personally have

7
00:00:16,950 --> 00:00:15,040
needed to do this in the past the first

8
00:00:17,830 --> 00:00:16,960
one has to do with contrails people

9
00:00:19,510 --> 00:00:17,840
often

10
00:00:23,029 --> 00:00:19,520
in the conspiracy world think that

11
00:00:24,710 --> 00:00:23,039
contrails are these chemtrails and they

12
00:00:27,670 --> 00:00:24,720
say that they're forming at an altitude

13
00:00:29,509 --> 00:00:27,680

that's too low for contrails to form so

14

00:00:32,150 --> 00:00:29,519

i used to have to look up the weather

15

00:00:34,630 --> 00:00:32,160

data at a certain altitude to see if a

16

00:00:36,709 --> 00:00:34,640

contrail could form at that altitude but

17

00:00:39,110 --> 00:00:36,719

what i'm really interested in today is

18

00:00:41,510 --> 00:00:39,120

the wind the wind speed and the wind

19

00:00:43,750 --> 00:00:41,520

direction at a certain altitude

20

00:00:46,229 --> 00:00:43,760

historically at a certain time date

21

00:00:47,910 --> 00:00:46,239

location and altitude

22

00:00:50,310 --> 00:00:47,920

and the reason i'm interested in this of

23

00:00:51,670 --> 00:00:50,320

course is because of ufos

24

00:00:54,389 --> 00:00:51,680

now

25

00:00:57,189 --> 00:00:54,399

a lot of ufo sightings are balloons and

26

00:00:59,029 --> 00:00:57,199

a lot of ufo sightings are suspected to

27

00:01:00,869 --> 00:00:59,039

be balloons or someone says they might

28

00:01:02,709 --> 00:01:00,879

be a balloon or a claim that is a

29

00:01:04,789 --> 00:01:02,719

balloon or they might claim that it

30

00:01:06,469 --> 00:01:04,799

isn't a balloon and one of the reasons

31

00:01:07,590 --> 00:01:06,479

that people say something can't be a

32

00:01:08,870 --> 00:01:07,600

balloon

33

00:01:10,469 --> 00:01:08,880

is that they think that the wind is

34

00:01:12,870 --> 00:01:10,479

blowing in the wrong direction and they

35

00:01:16,390 --> 00:01:12,880

will lock up some historical source of

36

00:01:18,070 --> 00:01:16,400

wind data and they will uh they will get

37

00:01:19,350 --> 00:01:18,080

it wrong and they will often say that

38

00:01:20,550 --> 00:01:19,360

the wind's going this direction when

39

00:01:23,749 --> 00:01:20,560

it's actually going in a different

40

00:01:27,749 --> 00:01:23,759

direction a specific example here is

41

00:01:32,069 --> 00:01:27,759

this rubber duck uh ufo the rubber duck

42

00:01:33,910 --> 00:01:32,079

ufo is possibly a drone or it's possibly

43

00:01:36,469 --> 00:01:33,920

a bunch of balloons that are just like

44

00:01:38,390 --> 00:01:36,479

flying over in a certain direction just

45

00:01:39,429 --> 00:01:38,400

being carried by the wind

46

00:01:41,990 --> 00:01:39,439

now

47

00:01:45,030 --> 00:01:42,000

we did a bit of analysis on this this

48

00:01:46,870 --> 00:01:45,040

earlier the the rubber duck ufo and

49

00:01:48,149 --> 00:01:46,880

we've got like a whole bunch of

50

00:01:50,230 --> 00:01:48,159

locations

51
00:01:52,310 --> 00:01:50,240
uh of where the plane was the plane that

52
00:01:54,630 --> 00:01:52,320
was taking the video and we tracked down

53
00:01:56,950 --> 00:01:54,640
the plane it's called irons 12

54
00:01:58,950 --> 00:01:56,960
and these are the positions that we have

55
00:02:01,270 --> 00:01:58,960
data for they're just rough

56
00:02:03,510 --> 00:02:01,280
data locations but it tells us kind of

57
00:02:05,190 --> 00:02:03,520
that you know here's one two three and

58
00:02:06,149 --> 00:02:05,200
it's roughly going

59
00:02:20,949 --> 00:02:06,159
in

60
00:02:22,790 --> 00:02:20,959
same way that this plane appears to be

61
00:02:23,750 --> 00:02:22,800
going very rough data but this is what

62
00:02:25,990 --> 00:02:23,760
we've got

63
00:02:27,990 --> 00:02:26,000

now we also have for this plane an

64

00:02:29,830 --> 00:02:28,000

altitude because we have some more

65

00:02:32,630 --> 00:02:29,840

detailed with some limited more detailed

66

00:02:34,309 --> 00:02:32,640

data and we can see where the flight

67

00:02:37,589 --> 00:02:34,319

path of the plane

68

00:02:38,710 --> 00:02:37,599

and the ground track of the camera

69

00:02:40,550 --> 00:02:38,720

um

70

00:02:42,390 --> 00:02:40,560

there are the lines of sight here will

71

00:02:44,550 --> 00:02:42,400

intersect around here

72

00:02:46,949 --> 00:02:44,560

and it's probable that where they

73

00:02:48,630 --> 00:02:46,959

intersect is where you had where the

74

00:02:50,470 --> 00:02:48,640

actual balloon is if it is backed up

75

00:02:52,030 --> 00:02:50,480

balloon so it's probably at around this

76

00:02:55,910 --> 00:02:52,040

altitude

77

00:02:57,270 --> 00:02:55,920

2524 meters say 2500 meters above sea

78

00:03:00,070 --> 00:02:57,280

level

79

00:03:01,350 --> 00:03:00,080

so what we need to do is try to find the

80

00:03:03,910 --> 00:03:01,360

historical

81

00:03:05,830 --> 00:03:03,920

wind direction for that particular

82

00:03:07,670 --> 00:03:05,840

location the first thing that people

83

00:03:11,190 --> 00:03:07,680

will do is look up a historical weather

84

00:03:13,030 --> 00:03:11,200

site like uh whether underground has

85

00:03:15,990 --> 00:03:13,040

history from going quite a long way back

86

00:03:19,910 --> 00:03:16,000

you can put in a location

87

00:03:21,430 --> 00:03:19,920

and you can put in the the the date and

88

00:03:23,030 --> 00:03:21,440

you can get a little graph showing you

89

00:03:24,869 --> 00:03:23,040

what the wind speed was

90

00:03:27,270 --> 00:03:24,879

and the wind speed here

91

00:03:30,149 --> 00:03:27,280

we can see was pretty low

92

00:03:32,470 --> 00:03:30,159

uh at night and early morning and then

93

00:03:33,670 --> 00:03:32,480

it ramped up to around 15 and it's

94

00:03:36,390 --> 00:03:33,680

actually going you know in the right

95

00:03:37,990 --> 00:03:36,400

direction at that time but that's 9 a.m

96

00:03:40,710 --> 00:03:38,000

and if we look at

97

00:03:42,869 --> 00:03:40,720

uh the time here it says 9 a.m

98

00:03:44,149 --> 00:03:42,879

but it's actually zulu time and this is

99

00:03:46,390 --> 00:03:44,159

another important thing that people

100

00:03:49,030 --> 00:03:46,400

often get wrong is they don't actually

101
00:03:50,309 --> 00:03:49,040
use the correct time they use the wrong

102
00:03:52,070 --> 00:03:50,319
time zone they want to account for

103
00:03:54,149 --> 00:03:52,080
daylight savings time or they'll just

104
00:03:56,309 --> 00:03:54,159
use the day

105
00:03:58,309 --> 00:03:56,319
and because the wind speed and direction

106
00:03:59,830 --> 00:03:58,319
varies so much throughout the day that's

107
00:04:01,270 --> 00:03:59,840
going to lead you to the wrong results

108
00:04:05,750 --> 00:04:01,280
so here we have

109
00:04:09,429 --> 00:04:05,760
zero nine zero zero z z is for zulu zulu

110
00:04:11,429 --> 00:04:09,439
time is um greenwich mean time also

111
00:04:13,270 --> 00:04:11,439
known as utc

112
00:04:15,350 --> 00:04:13,280
and so you need to convert

113
00:04:18,150 --> 00:04:15,360

that to local time or

114

00:04:20,069 --> 00:04:18,160

always just use gmt utc or zulo time

115

00:04:22,230 --> 00:04:20,079

they're all the same thing

116

00:04:23,670 --> 00:04:22,240

so if we convert that to mountain time

117

00:04:25,350 --> 00:04:23,680

which we have here let's see is this

118

00:04:27,670 --> 00:04:25,360

mounting time

119

00:04:30,629 --> 00:04:27,680

i think this might be my local time but

120

00:04:33,270 --> 00:04:30,639

it's about the same time pacific so it's

121

00:04:35,110 --> 00:04:33,280

about uh seven or eight hours earlier

122

00:04:37,990 --> 00:04:35,120

than that so it will be down here so the

123

00:04:40,629 --> 00:04:38,000

surface winds in tucson which is near to

124

00:04:42,390 --> 00:04:40,639

our site are very low they're also going

125

00:04:44,790 --> 00:04:42,400

roughly in the right direction

126
00:04:46,390 --> 00:04:44,800
so that kind of works but then the ruins

127
00:04:48,150 --> 00:04:46,400
really aren't very fast enough but the

128
00:04:49,749 --> 00:04:48,160
problem of course here is we're just

129
00:04:51,270 --> 00:04:49,759
looking at surface wind so you don't

130
00:04:53,909 --> 00:04:51,280
want to look at surface winds you want

131
00:04:55,030 --> 00:04:53,919
to look at the winds aloft and you can

132
00:04:58,230 --> 00:04:55,040
get a very

133
00:05:01,029 --> 00:04:58,240
good idea of how much the winds aloft

134
00:05:03,749 --> 00:05:01,039
the winds at different altitudes vary

135
00:05:05,790 --> 00:05:03,759
from the winds at ground level by using

136
00:05:07,430 --> 00:05:05,800
this site

137
00:05:10,790 --> 00:05:07,440
earth.nullschool.net

138
00:05:13,510 --> 00:05:10,800

and this shows the wind it's basically

139

00:05:15,029 --> 00:05:13,520

got these green lines that show you uh

140

00:05:16,790 --> 00:05:15,039

which way the wind is blowing and kind

141

00:05:18,629 --> 00:05:16,800

of how fast the wind is blowing and you

142

00:05:21,110 --> 00:05:18,639

can see this is today's weather it's

143

00:05:23,189 --> 00:05:21,120

very windy and what we want is a spot

144

00:05:26,469 --> 00:05:23,199

somewhere around here somewhere on the

145

00:05:28,710 --> 00:05:26,479

border just uh 50 miles south of tucson

146

00:05:30,310 --> 00:05:28,720

which is where the ufo is

147

00:05:33,189 --> 00:05:30,320

and we can get a lot of information here

148

00:05:35,990 --> 00:05:33,199

i've clicked on this this location here

149

00:05:38,790 --> 00:05:36,000

and what we can do is we can actually

150

00:05:42,150 --> 00:05:38,800

uh edit the url to get it exactly the

151
00:05:44,870 --> 00:05:42,160
same as the ufo location so i'm gonna go

152
00:05:47,749 --> 00:05:44,880
uh minus one one one

153
00:05:51,110 --> 00:05:47,759
point four five and thirty one point

154
00:05:53,430 --> 00:05:52,469
and you see you already have that in

155
00:05:55,670 --> 00:05:53,440
earlier

156
00:05:57,510 --> 00:05:55,680
and that will just move this little dot

157
00:05:59,110 --> 00:05:57,520
here to that correct location so this is

158
00:06:00,870 --> 00:05:59,120
the wind right now

159
00:06:03,909 --> 00:06:00,880
it's 40 kilometers per hour you can

160
00:06:05,270 --> 00:06:03,919
change that to miles per hour which is

161
00:06:07,749 --> 00:06:05,280
uh much more

162
00:06:10,469 --> 00:06:07,759
friendly unit for us americans

163
00:06:11,270 --> 00:06:10,479

i am more or less american now

164

00:06:13,590 --> 00:06:11,280

then

165

00:06:15,909 --> 00:06:13,600

open up this box here

166

00:06:18,710 --> 00:06:15,919

we can uh we by default it's showing you

167

00:06:20,710 --> 00:06:18,720

the surface winds and the surface winds

168

00:06:21,830 --> 00:06:20,720

you know of most interest to most people

169

00:06:23,830 --> 00:06:21,840

but if you're flying or if you're

170

00:06:25,670 --> 00:06:23,840

interested in ufos there might be

171

00:06:27,590 --> 00:06:25,680

balloons you want to have the winds at

172

00:06:29,830 --> 00:06:27,600

altitude these

173

00:06:31,670 --> 00:06:29,840

numbers here represent air pressure it

174

00:06:33,990 --> 00:06:31,680

decreases as you get higher so you can

175

00:06:35,830 --> 00:06:34,000

pick a air pressure and it relates

176

00:06:37,990 --> 00:06:35,840

roughly to a certain altitude so if we

177

00:06:39,590 --> 00:06:38,000

go to 850

178

00:06:43,590 --> 00:06:39,600

that relates to

179

00:06:45,749 --> 00:06:43,600

about 1450 meters go to 700

180

00:06:48,230 --> 00:06:45,759

hectopascals on millibars

181

00:06:50,390 --> 00:06:48,240

that's about 3000 meters and we can see

182

00:06:51,749 --> 00:06:50,400

the difference between here between

183

00:06:54,309 --> 00:06:51,759

the uh

184

00:06:56,950 --> 00:06:54,319

the 3000 meter winds there's this big

185

00:06:59,830 --> 00:06:56,960

swirl around here and the surface winds

186

00:07:02,469 --> 00:06:59,840

uh which are kind of more irregular now

187

00:07:03,909 --> 00:07:02,479

you'll have to see you know vastly

188

00:07:06,150 --> 00:07:03,919

big differences because we're on a very

189

00:07:07,830 --> 00:07:06,160

windy day today the the winds are

190

00:07:10,070 --> 00:07:07,840

actually fairly similar in the lower

191

00:07:11,670 --> 00:07:10,080

altitudes so we want to go back in time

192

00:07:13,350 --> 00:07:11,680

let's go back to

193

00:07:16,550 --> 00:07:13,360

the dating question

194

00:07:20,790 --> 00:07:16,560

and we go here and it was 2019

195

00:07:23,270 --> 00:07:20,800

it was november the 23rd

196

00:07:25,510 --> 00:07:23,280

and we get a few choices for time uh

197

00:07:27,430 --> 00:07:25,520

down here it's local time we want to

198

00:07:28,790 --> 00:07:27,440

switch that to utc remember that is the

199

00:07:31,029 --> 00:07:28,800

zulu time

200

00:07:34,230 --> 00:07:31,039

and that's at nine o'clock at night at

201
00:07:37,029 --> 00:07:34,240
the moment so we zip that back to

202
00:07:39,189 --> 00:07:37,039
nine o'clock in the morning utc which is

203
00:07:40,390 --> 00:07:39,199
really the middle of the night in uh in

204
00:07:42,230 --> 00:07:40,400
arizona

205
00:07:44,790 --> 00:07:42,240
and now we can see how we're looking at

206
00:07:47,749 --> 00:07:44,800
the surface winds here and they're just

207
00:07:51,670 --> 00:07:47,759
kind of you know meandering around

208
00:07:53,189 --> 00:07:51,680
uh on that day 2019 november the 23rd at

209
00:07:55,270 --> 00:07:53,199
nine and let's see what the difference

210
00:07:57,510 --> 00:07:55,280
is at different altitudes so go to 850

211
00:07:58,710 --> 00:07:57,520
remember this is 1450

212
00:08:00,230 --> 00:07:58,720
meters

213
00:08:02,950 --> 00:08:00,240

and you can see that before they were

214

00:08:04,469 --> 00:08:02,960

going down at a kind of 45 degrees going

215

00:08:07,110 --> 00:08:04,479

towards the southwest and now they were

216

00:08:09,510 --> 00:08:07,120

going west slightly northwest and go to

217

00:08:11,589 --> 00:08:09,520

700 this is just another 1500 meters

218

00:08:13,350 --> 00:08:11,599

higher

219

00:08:15,350 --> 00:08:13,360

the wind is going in completely of the

220

00:08:16,469 --> 00:08:15,360

opposite direction which is something

221

00:08:18,390 --> 00:08:16,479

that happens

222

00:08:21,350 --> 00:08:18,400

sometimes you can get a

223

00:08:23,749 --> 00:08:21,360

a fairly small

224

00:08:26,790 --> 00:08:23,759

changing altitude can create a very

225

00:08:28,950 --> 00:08:26,800

large difference in the wind direction

226

00:08:32,070 --> 00:08:28,960

now the wind direction we actually want

227

00:08:36,310 --> 00:08:32,080

here is in between these two it's in

228

00:08:38,870 --> 00:08:36,320

between 850 and 700 so can we kind of

229

00:08:41,190 --> 00:08:38,880

take those two values and interpolate

230

00:08:42,630 --> 00:08:41,200

and say it's halfway between this

231

00:08:44,310 --> 00:08:42,640

direction and that direction well that's

232

00:08:46,070 --> 00:08:44,320

kind of nothing but so really it could

233

00:08:47,269 --> 00:08:46,080

be you know in pretty much in any

234

00:08:49,590 --> 00:08:47,279

direction

235

00:08:52,310 --> 00:08:49,600

uh let's go a little bit higher

236

00:08:55,829 --> 00:08:52,320

still and we see it's just a very strong

237

00:08:56,949 --> 00:08:55,839

wind blowing towards the east from the

238

00:08:58,790 --> 00:08:56,959

west

239

00:09:00,790 --> 00:08:58,800

this is another area of confusion is

240

00:09:02,389 --> 00:09:00,800

that often

241

00:09:03,910 --> 00:09:02,399

winds are given

242

00:09:06,470 --> 00:09:03,920

in terms of the direction they are

243

00:09:07,269 --> 00:09:06,480

blowing from and people think that they

244

00:09:09,269 --> 00:09:07,279

are

245

00:09:12,070 --> 00:09:09,279

the direction is the wind the wave

246

00:09:13,750 --> 00:09:12,080

blowing too so someone says a north wind

247

00:09:15,509 --> 00:09:13,760

that isn't a wind blowing towards the

248

00:09:17,509 --> 00:09:15,519

north it's a wind blowing from the north

249

00:09:20,150 --> 00:09:17,519

you can think of it uh intuitively a

250

00:09:21,910 --> 00:09:20,160

north wind is a cold wind because it's

251
00:09:23,430 --> 00:09:21,920
coming from the wind the southerly wind

252
00:09:26,389 --> 00:09:23,440
is a warm wind

253
00:09:28,150 --> 00:09:26,399
so if you think of a wind at the west is

254
00:09:29,990 --> 00:09:28,160
blowing towards the west but a wind from

255
00:09:31,990 --> 00:09:30,000
the west from the west so a westerly

256
00:09:33,590 --> 00:09:32,000
wind comes from the west

257
00:09:35,269 --> 00:09:33,600
can be confusing you've got to make sure

258
00:09:36,710 --> 00:09:35,279
you got it right

259
00:09:37,990 --> 00:09:36,720
um

260
00:09:39,829 --> 00:09:38,000
okay

261
00:09:41,750 --> 00:09:39,839
so you can see that the headings on the

262
00:09:44,710 --> 00:09:41,760
winds here tell you where it's coming

263
00:09:47,030 --> 00:09:44,720

from if we look here it says 85 degrees

264

00:09:49,590 --> 00:09:47,040

which is 90 degrees over towards the

265

00:09:52,550 --> 00:09:49,600

east so it's coming from the east and

266

00:09:54,710 --> 00:09:52,560

this you know can confuse people

267

00:09:58,150 --> 00:09:54,720

so uh

268

00:10:00,550 --> 00:09:58,160

another another thing that people do

269

00:10:02,550 --> 00:10:00,560

which can be a mistake is use

270

00:10:03,509 --> 00:10:02,560

atmospheric soundings

271

00:10:04,389 --> 00:10:03,519

now

272

00:10:05,990 --> 00:10:04,399

the way

273

00:10:07,430 --> 00:10:06,000

this particular

274

00:10:09,910 --> 00:10:07,440

site works

275

00:10:12,710 --> 00:10:09,920

is that it's using what's called a zero

276

00:10:15,110 --> 00:10:12,720

hour weather forecast

277

00:10:16,310 --> 00:10:15,120

it's taking all the data from all the

278

00:10:17,269 --> 00:10:16,320

different sensors we have around the

279

00:10:19,509 --> 00:10:17,279

world

280

00:10:21,670 --> 00:10:19,519

all the the weather balloon soundings

281

00:10:23,829 --> 00:10:21,680

and all the uh the

282

00:10:26,310 --> 00:10:23,839

ground stations and all the

283

00:10:27,990 --> 00:10:26,320

uh satellite data and that's all being

284

00:10:29,269 --> 00:10:28,000

pumped into a model there's various

285

00:10:32,230 --> 00:10:29,279

different models

286

00:10:33,829 --> 00:10:32,240

uh computer models and the model will

287

00:10:36,310 --> 00:10:33,839

forecast the weather now the main

288

00:10:37,750 --> 00:10:36,320

purpose of forecasting the weather is to

289

00:10:39,269 --> 00:10:37,760

predict what it's going to be like a few

290

00:10:41,430 --> 00:10:39,279

days in the future

291

00:10:42,790 --> 00:10:41,440

but it also allows you to tell to figure

292

00:10:45,190 --> 00:10:42,800

out what the weather will be like

293

00:10:46,550 --> 00:10:45,200

between two weather stations

294

00:10:48,150 --> 00:10:46,560

because it gives you if you take the

295

00:10:50,069 --> 00:10:48,160

zero hour forecast which is essentially

296

00:10:52,069 --> 00:10:50,079

the forecast for what it is right now

297

00:10:54,470 --> 00:10:52,079

with the most up-to-date data

298

00:10:56,630 --> 00:10:54,480

then uh you can pick a spot in between

299

00:10:58,790 --> 00:10:56,640

two weather stations and you can

300

00:11:00,710 --> 00:10:58,800

calculate in a much more exact way than

301
00:11:02,870 --> 00:11:00,720
simply averaging the two

302
00:11:04,870 --> 00:11:02,880
what the weather is going to be like

303
00:11:07,110 --> 00:11:04,880
at that position but a lot of people

304
00:11:08,470 --> 00:11:07,120
would just take a single sounding

305
00:11:12,310 --> 00:11:08,480
they'll take one weather station now

306
00:11:16,550 --> 00:11:13,670
whether

307
00:11:18,069 --> 00:11:16,560
at altitude is mostly derived from

308
00:11:19,910 --> 00:11:18,079
weather balloons and a weather balloon

309
00:11:21,269 --> 00:11:19,920
is just a big balloon that is sent up

310
00:11:22,470 --> 00:11:21,279
into the sky

311
00:11:27,430 --> 00:11:22,480
and

312
00:11:28,389 --> 00:11:27,440
measures

313
00:11:35,509 --> 00:11:28,399

the

314

00:11:37,269 --> 00:11:35,519

at various altitudes as it rises up

315

00:11:39,269 --> 00:11:37,279

through the sky and radios it back down

316

00:11:40,230 --> 00:11:39,279

to the ground and they do this twice a

317

00:11:42,230 --> 00:11:40,240

day

318

00:11:45,030 --> 00:11:42,240

from a number of stations across the

319

00:11:47,350 --> 00:11:45,040

united states and there's various sites

320

00:11:49,910 --> 00:11:47,360

that you can use to look up uh what

321

00:11:52,150 --> 00:11:49,920

these these what the actual results are

322

00:11:53,509 --> 00:11:52,160

uh there's there's one

323

00:11:56,310 --> 00:11:53,519

uh

324

00:11:57,990 --> 00:11:56,320

in tucson there's one just about here a

325

00:11:59,670 --> 00:11:58,000

little bit about 60 miles or so to the

326

00:12:02,629 --> 00:11:59,680

north of this site and that's the

327

00:12:04,389 --> 00:12:02,639

closest one to this size and it actually

328

00:12:05,509 --> 00:12:04,399

it looks like

329

00:12:06,790 --> 00:12:05,519

looks like this this is a weather

330

00:12:08,790 --> 00:12:06,800

balloon this is the weather balloon on

331

00:12:11,350 --> 00:12:08,800

the roof of the national weather service

332

00:12:14,470 --> 00:12:11,360

in tucson and it's about to be released

333

00:12:15,750 --> 00:12:14,480

this is a radio sound which is a the

334

00:12:17,910 --> 00:12:15,760

instruments and a little radio

335

00:12:19,590 --> 00:12:17,920

transceiver which will send the data

336

00:12:23,269 --> 00:12:19,600

back down to the ground

337

00:12:25,990 --> 00:12:23,279

and they just simply let the balloon go

338

00:12:27,269 --> 00:12:26,000

and it rises up into the air

339

00:12:29,430 --> 00:12:27,279

flies off

340

00:12:31,670 --> 00:12:29,440

and this little thing underneath it

341

00:12:34,629 --> 00:12:31,680

radiates back the the data

342

00:12:36,710 --> 00:12:34,639

so you get this nice vertical

343

00:12:38,629 --> 00:12:36,720

trace through the air and you can figure

344

00:12:40,790 --> 00:12:38,639

out what the weather is like in that

345

00:12:42,790 --> 00:12:40,800

particular location and then you feed

346

00:12:44,230 --> 00:12:42,800

all that data into these computer models

347

00:12:46,389 --> 00:12:44,240

and it figures out what the data what

348

00:12:48,389 --> 00:12:46,399

the weather is like in other locations

349

00:12:50,310 --> 00:12:48,399

but if you just take this data the data

350

00:12:52,230 --> 00:12:50,320

from this one balloon you're just going

351
00:12:54,230 --> 00:12:52,240
to get the weather at that one location

352
00:12:56,949 --> 00:12:54,240
which might not be the same as the

353
00:12:59,430 --> 00:12:56,959
weather 50 60 miles south in the ufo

354
00:13:01,110 --> 00:12:59,440
location so what people will do

355
00:13:03,590 --> 00:13:01,120
is they will go to a site like this the

356
00:13:06,389 --> 00:13:03,600
university of wyoming

357
00:13:08,069 --> 00:13:06,399
department of atmospheric science has a

358
00:13:11,110 --> 00:13:08,079
page where you can excuse me where you

359
00:13:13,030 --> 00:13:11,120
can pick these these weather stations

360
00:13:14,710 --> 00:13:13,040
and you can stick in the date you can

361
00:13:17,350 --> 00:13:14,720
then click on the weather station so i'm

362
00:13:19,590 --> 00:13:17,360
going to click on tucson down here

363
00:13:21,269 --> 00:13:19,600

and now before i do that notice this is

364

00:13:23,190 --> 00:13:21,279

the continental united states here and

365

00:13:24,790 --> 00:13:23,200

there really aren't very many what is

366

00:13:25,750 --> 00:13:24,800

that there's probably like about 40 or

367

00:13:27,269 --> 00:13:25,760

so

368

00:13:29,190 --> 00:13:27,279

weather stations and they're very widely

369

00:13:31,190 --> 00:13:29,200

spaced there's only two in all of

370

00:13:33,509 --> 00:13:31,200

arizona and there's only i think three

371

00:13:35,509 --> 00:13:33,519

in in all of california

372

00:13:38,310 --> 00:13:35,519

so if you're trying to find the weather

373

00:13:40,069 --> 00:13:38,320

for what particular location based on

374

00:13:41,430 --> 00:13:40,079

on the sounding

375

00:13:43,350 --> 00:13:41,440

it's not going to be that close because

376

00:13:44,550 --> 00:13:43,360

if you go back to

377

00:13:47,829 --> 00:13:44,560

to the earth

378

00:13:49,590 --> 00:13:47,839

site and look at just the variation i

379

00:13:52,069 --> 00:13:49,600

say within a location like this this is

380

00:13:54,389 --> 00:13:52,079

one site is blowing one way and just a

381

00:13:55,990 --> 00:13:54,399

bit further over here very close to the

382

00:13:57,430 --> 00:13:56,000

same weather station it's blowing in

383

00:13:59,350 --> 00:13:57,440

completely the other direction and the

384

00:14:01,269 --> 00:13:59,360

weather station itself will have a third

385

00:14:02,550 --> 00:14:01,279

wind speed so

386

00:14:05,350 --> 00:14:02,560

if you're using

387

00:14:07,829 --> 00:14:05,360

the data from a sounding

388

00:14:10,150 --> 00:14:07,839

it may well be completely wrong

389

00:14:11,750 --> 00:14:10,160

it could be 180 degrees away from what

390

00:14:13,590 --> 00:14:11,760

you're doing and a different uh

391

00:14:15,910 --> 00:14:13,600

different set of

392

00:14:17,430 --> 00:14:15,920

numbers entirely but going back to this

393

00:14:20,389 --> 00:14:17,440

we can actually look at it it's pretty

394

00:14:23,670 --> 00:14:20,399

interesting let's click on tucson

395

00:14:25,030 --> 00:14:23,680

and tucson is going to give us uh this

396

00:14:26,470 --> 00:14:25,040

long list

397

00:14:30,230 --> 00:14:26,480

of data

398

00:14:31,350 --> 00:14:30,240

now it gives it based on on the uh the

399

00:14:33,269 --> 00:14:31,360

pressure

400

00:14:34,230 --> 00:14:33,279

like we were seeing earlier that you can

401

00:14:37,750 --> 00:14:34,240

pick the different pressures now

402

00:14:40,949 --> 00:14:37,760

remember we had uh was it 850

403

00:14:42,629 --> 00:14:40,959

and we had 700 so you can see you've got

404

00:14:44,230 --> 00:14:42,639

much higher resolution you've got a much

405

00:14:45,750 --> 00:14:44,240

wider range of different things you can

406

00:14:47,910 --> 00:14:45,760

pick from here which is great if you

407

00:14:49,670 --> 00:14:47,920

happen to

408

00:14:51,910 --> 00:14:49,680

live just directly underneath you know

409

00:14:54,230 --> 00:14:51,920

if your ufo was spotted in downtown

410

00:14:56,710 --> 00:14:54,240

tucson this would be wonderful but the

411

00:14:57,910 --> 00:14:56,720

ufo was spotted 50 miles away

412

00:15:01,030 --> 00:14:57,920

but we can kind of use this to kind of

413

00:15:04,150 --> 00:15:01,040

validate uh what what we uh we we saw

414

00:15:08,069 --> 00:15:04,160

earlier and so 750

415

00:15:09,990 --> 00:15:08,079

is uh 700 was one of the the numbers now

416

00:15:12,150 --> 00:15:10,000

here it looks you know we've only got

417

00:15:14,230 --> 00:15:12,160

two degree it took two knots very slow

418

00:15:17,670 --> 00:15:14,240

wind speed right here

419

00:15:19,269 --> 00:15:17,680

and uh the direction is at 255 so this

420

00:15:20,710 --> 00:15:19,279

is coming from the west which is what we

421

00:15:22,949 --> 00:15:20,720

actually saw

422

00:15:24,069 --> 00:15:22,959

in the the earth site if we go here

423

00:15:25,509 --> 00:15:24,079

you'll see it

424

00:15:28,550 --> 00:15:25,519

700

425

00:15:30,310 --> 00:15:28,560

we have a very low wind speed right here

426
00:15:32,150 --> 00:15:30,320
coming from the west and that matches

427
00:15:34,629 --> 00:15:32,160
what we see here

428
00:15:39,590 --> 00:15:34,639
so if you go to 850 we have a wind speed

429
00:15:41,590 --> 00:15:39,600
of seven knots coming from 90. now 90 is

430
00:15:44,069 --> 00:15:41,600
90 degrees is

431
00:15:45,910 --> 00:15:44,079
coming from the

432
00:15:47,749 --> 00:15:45,920
east blowing towards the west which is

433
00:15:51,030 --> 00:15:47,759
more or less what we want

434
00:15:54,629 --> 00:15:51,040
and as we go a little higher

435
00:15:57,110 --> 00:15:54,639
it kind of swings down a bit lower a bit

436
00:16:00,069 --> 00:15:57,120
down towards the southwest so as we're

437
00:16:02,790 --> 00:16:00,079
getting around is actually

438
00:16:03,910 --> 00:16:02,800

in the the altitude we want 2400 it's

439

00:16:07,269 --> 00:16:03,920

more or less

440

00:16:10,310 --> 00:16:07,279

going towards the northwest

441

00:16:13,990 --> 00:16:10,320

which is useful information

442

00:16:16,389 --> 00:16:14,000

if we if we take that and uh apply it to

443

00:16:18,470 --> 00:16:16,399

these two things here and think that it

444

00:16:20,710 --> 00:16:18,480

moves the same way as it does in tucson

445

00:16:23,269 --> 00:16:20,720

then that very much implies that now we

446

00:16:26,710 --> 00:16:23,279

do have a wind direction of about 10

447

00:16:29,269 --> 00:16:26,720

knots moving towards the northwest

448

00:16:31,829 --> 00:16:29,279

from the southeast so that does actually

449

00:16:34,470 --> 00:16:31,839

work for the the balloon hypothesis if

450

00:16:37,110 --> 00:16:34,480

where the balloons moving at about 10

451
00:16:39,990 --> 00:16:37,120
knots but it's like i said it's kind of

452
00:16:41,990 --> 00:16:40,000
difficult to actually take this sounding

453
00:16:43,749 --> 00:16:42,000
and apply it to something that's 40

454
00:16:46,389 --> 00:16:43,759
miles away now we're kind of lucky 50

455
00:16:48,710 --> 00:16:46,399
miles away we're kind of lucky here in

456
00:16:50,470 --> 00:16:48,720
that it's fairly close so it's more

457
00:16:52,150 --> 00:16:50,480
likely to be accurate but we saw by

458
00:16:54,550 --> 00:16:52,160
looking at the map that it doesn't take

459
00:16:56,710 --> 00:16:54,560
very much for things to go off but based

460
00:16:59,749 --> 00:16:56,720
on everything we know

461
00:17:03,189 --> 00:16:59,759
uh based on this sounding and based on

462
00:17:05,350 --> 00:17:03,199
the looking at the actual uh

463
00:17:07,750 --> 00:17:05,360

chart the actual map of the the wind

464

00:17:10,870 --> 00:17:07,760

flow it seems fairly plausible that the

465

00:17:12,870 --> 00:17:10,880

wind was in fact blowing towards uh the

466

00:17:15,029 --> 00:17:12,880

northwest from the southeast the south

467

00:17:17,510 --> 00:17:15,039

easterly wind so the bottom line is it's

468

00:17:20,870 --> 00:17:17,520

uh it's quite difficult to get a wind at

469

00:17:24,789 --> 00:17:20,880

a specific altitude at a specific time

470

00:17:27,029 --> 00:17:24,799

and at a specific location the soundings

471

00:17:28,950 --> 00:17:27,039

that we were looking at earlier uh

472

00:17:31,510 --> 00:17:28,960

they're at 12 zulu which is three hours

473

00:17:33,029 --> 00:17:31,520

later than the actual sighting which is

474

00:17:34,710 --> 00:17:33,039

at nine to zulu

475

00:17:36,950 --> 00:17:34,720

so even though this all seems to more or

476

00:17:38,789 --> 00:17:36,960

less match three hours earlier it could

477

00:17:40,470 --> 00:17:38,799

have been uh somewhat different you know

478

00:17:42,549 --> 00:17:40,480

if we move over here we'd actually move

479

00:17:44,070 --> 00:17:42,559

this to 12 zulu

480

00:17:45,990 --> 00:17:44,080

we can see it doesn't actually change

481

00:17:48,310 --> 00:17:46,000

that much which is good so we can use

482

00:17:49,830 --> 00:17:48,320

this chart to kind of verify our

483

00:17:51,750 --> 00:17:49,840

assumptions about

484

00:17:53,669 --> 00:17:51,760

uh the soundings

485

00:17:56,630 --> 00:17:53,679

but we can't tell for sure we can't be

486

00:17:58,710 --> 00:17:56,640

100 certain that the wind is in fact

487

00:18:00,390 --> 00:17:58,720

going in the right direction we can say

488

00:18:03,190 --> 00:18:00,400

it's certainly possible

489

00:18:04,710 --> 00:18:03,200

and it certainly appears that it's going

490

00:18:07,110 --> 00:18:04,720

in that direction

491

00:18:08,630 --> 00:18:07,120

but uh if someone tells you for sure

492

00:18:12,070 --> 00:18:08,640

that there's no way it can be a balloon

493

00:18:14,230 --> 00:18:12,080

or for sure it is moving at wind speed

494

00:18:16,710 --> 00:18:14,240

then you know they they're they're wrong

495

00:18:19,029 --> 00:18:16,720

because you can't tell for sure the vast

496

00:18:21,990 --> 00:18:19,039

majority of the times

497

00:18:25,110 --> 00:18:22,000

i'd give this particular one maybe a 90

498

00:18:27,510 --> 00:18:25,120

probability of it being um blowing

499

00:18:29,110 --> 00:18:27,520

towards the northwest being from the