



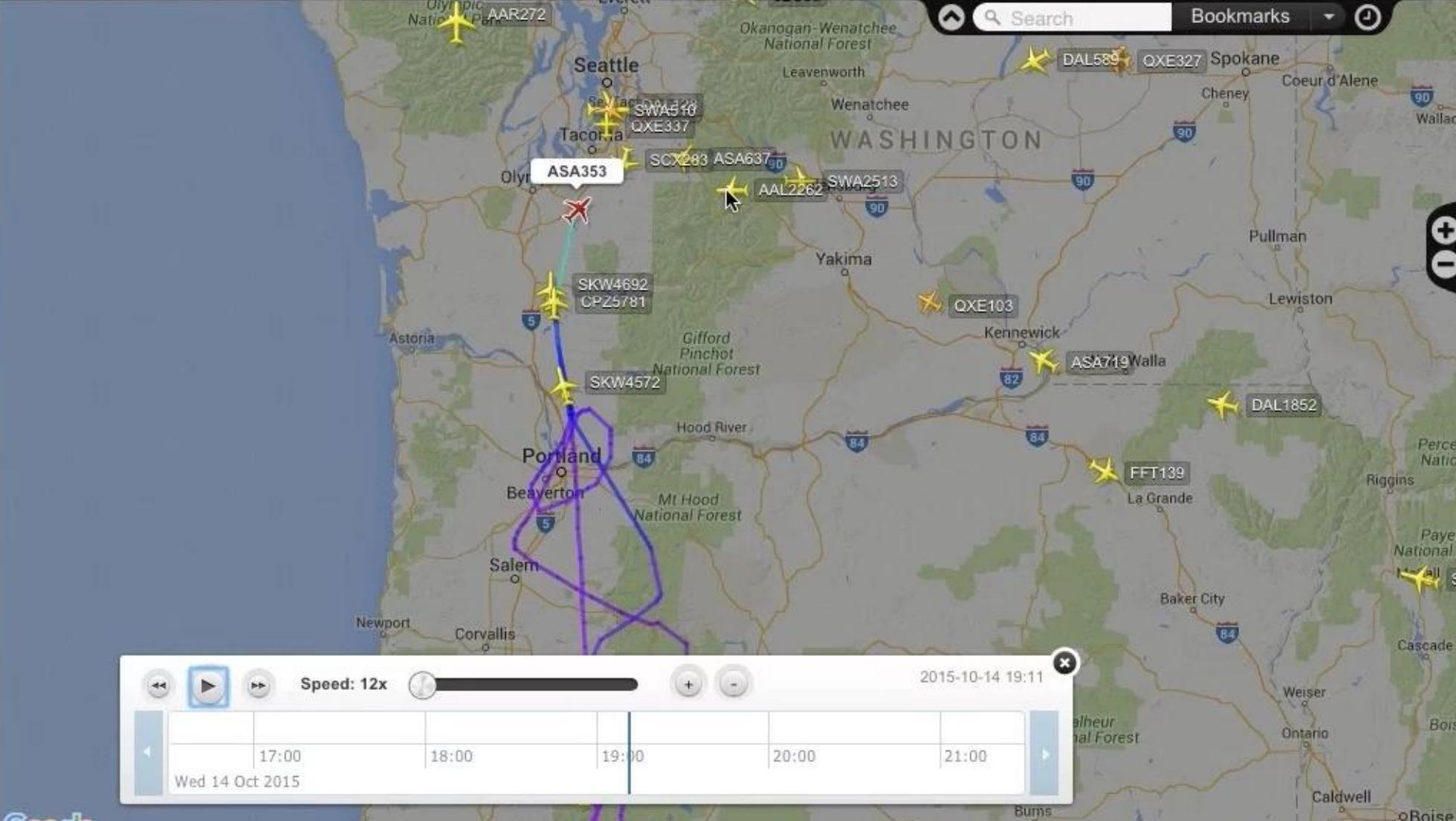
AS353 / ASA353
 Alaska Airlines

OAK → SEA
 Oakland → Seattle

STD 8:40 AM PST | STA 10:35 AM PST
 ATD 9:52 AM PST | ETA 11:42 AM PST

3D | [Share icon]

Aircraft	(B738)
Boeing 737-890	
Registration	(A6504B)
N506AS	
Altitude	Vertical Speed
10,100 ft	-1408 fpm
Speed	Track
307 kt	43°
Latitude	Longitude
46.9042	-122.573
Radar	Squawk
T-KGRF3	1752



Speed: 12x | 2015-10-14 19:11

Wed 14 Oct 2015 | 17:00 | 18:00 | 19:00 | 20:00 | 21:00

1
00:00:05,390 --> 00:00:02,720
this is my quest of Medibank net org and

2
00:00:07,909 --> 00:00:05,400
control science comm as they run

3
00:00:09,560 --> 00:00:07,919
websites that have a focus on contrails

4
00:00:13,430 --> 00:00:09,570
I often get people sending me

5
00:00:15,829 --> 00:00:13,440
photographs of strange-looking contrails

6
00:00:17,750 --> 00:00:15,839
and asking me if they can if I can

7
00:00:20,929 --> 00:00:17,760
identify them for them this is a good

8
00:00:23,599 --> 00:00:20,939
example this is one from a Danny Vaughn

9
00:00:25,519 --> 00:00:23,609
on Twitter and he says all right my

10
00:00:29,660 --> 00:00:25,529
quest use your connections and track it

11
00:00:31,550 --> 00:00:29,670
October 14th Portland noonish and we've

12
00:00:34,010 --> 00:00:31,560
got these pretty interesting Tron

13
00:00:35,450 --> 00:00:34,020

contrails here they're curved and shave

14

00:00:37,639 --> 00:00:35,460

this one looks like it's almost like

15

00:00:39,260 --> 00:00:37,649

it's at a circle and there's one off in

16

00:00:42,110 --> 00:00:39,270

a distance which also has this strange

17

00:00:44,600 --> 00:00:42,120

kind of curve and possibly possibly a

18

00:00:48,229 --> 00:00:44,610

bend there that might just be a cloud so

19

00:00:49,910 --> 00:00:48,239

how do we go about tracking down what

20

00:00:53,420 --> 00:00:49,920

planes might have created these

21

00:00:57,279 --> 00:00:53,430

contrails but suppose what do we know we

22

00:00:59,959 --> 00:00:57,289

know it was taken in Portland Oregon and

23

00:01:03,670 --> 00:00:59,969

we know it was knocked over the 14th and

24

00:01:08,300 --> 00:01:03,680

about 12:00 noon so what I use is a

25

00:01:10,910 --> 00:01:08,310

website called flightradar24 comm which

26

00:01:13,580 --> 00:01:10,920

is basically a tracking site which

27

00:01:18,020 --> 00:01:13,590

tracks the positions of all the planes

28

00:01:23,289 --> 00:01:18,030

in the sky they use a technology called

29

00:01:27,320 --> 00:01:23,299

a DSP which is just a flight tracking

30

00:01:29,899 --> 00:01:27,330

flight tracking software service ok so

31

00:01:31,490 --> 00:01:29,909

we get to flightradar24 comm by default

32

00:01:33,319 --> 00:01:31,500

it's gonna start in Sweden because it's

33

00:01:36,530 --> 00:01:33,329

a Swedish company so we go over to the

34

00:01:39,830 --> 00:01:36,540

bookmarks tab over here and set it to

35

00:01:42,310 --> 00:01:39,840

North America and we're interested in

36

00:01:45,260 --> 00:01:42,320

Portland Oregon so we go over here to

37

00:01:47,719 --> 00:01:45,270

Oregon we zoom in and there's Portland

38

00:01:49,130 --> 00:01:47,729

now one thing you may have noticed

39

00:01:50,630 --> 00:01:49,140

straight away is there's an awful lot of

40

00:01:54,440 --> 00:01:50,640

planes these are actually the planes

41

00:01:56,240 --> 00:01:54,450

that are in the sky right now which is

42

00:01:57,620 --> 00:01:56,250

quite an incredible amount of air

43

00:02:00,170 --> 00:01:57,630

traffic when you really think about it

44

00:02:03,289 --> 00:02:00,180

and if we look over here you see

45

00:02:04,580 --> 00:02:03,299

Portland as less than some areas but

46

00:02:09,050 --> 00:02:04,590

still there's quite a lot of planes in

47

00:02:11,300 --> 00:02:09,060

this general area what we're interested

48

00:02:13,670 --> 00:02:11,310

in is planes that are making contrails

49

00:02:15,259 --> 00:02:13,680

so what we can do is filter

50

00:02:17,390 --> 00:02:15,269

planes out that are too low to make

51
00:02:20,860 --> 00:02:17,400
contrails so I'm going to go over to

52
00:02:24,920 --> 00:02:20,870
this gear wheel here go to filters

53
00:02:28,720 --> 00:02:24,930
enable filtering and do an altitude

54
00:02:32,209 --> 00:02:28,730
filter and I'm gonna set it to between

55
00:02:35,119 --> 00:02:32,219
20,000 feet and above and you click the

56
00:02:37,580 --> 00:02:35,129
plus sign here to add to the filter so

57
00:02:39,649 --> 00:02:37,590
now it's only going to show the planes

58
00:02:41,209 --> 00:02:39,659
that are high enough to make contrails

59
00:02:43,250 --> 00:02:41,219
and you'll see you've got that guess

60
00:02:45,860 --> 00:02:43,260
we'd have a lot of the clutter around

61
00:02:47,569 --> 00:02:45,870
around Portland if we click on an

62
00:02:51,220 --> 00:02:47,579
individual plane like here's one plane

63
00:02:53,659 --> 00:02:51,230

right now over Portland Delta Airlines

64

00:02:56,119 --> 00:02:53,669

984 you can see it's a flight from Las

65

00:02:59,330 --> 00:02:56,129

Vegas to Seattle and it's flying over

66

00:03:01,789 --> 00:02:59,340

Portland at 31,000 feet nearly today

67

00:03:04,940 --> 00:03:01,799

2,000 feet so that's a plane that's high

68

00:03:07,159 --> 00:03:04,950

enough to leave a contra one thing

69

00:03:08,809 --> 00:03:07,169

that's of interest is that any plane

70

00:03:12,020 --> 00:03:08,819

that's actually heading towards Portland

71

00:03:14,059 --> 00:03:12,030

will generally be too low if we turn the

72

00:03:16,780 --> 00:03:14,069

filters off again you'll see all these

73

00:03:18,740 --> 00:03:16,790

other planes that are going to Portland

74

00:03:20,030 --> 00:03:18,750

see is this we're going to pull them out

75

00:03:24,710 --> 00:03:20,040

it's going to Seattle - that's a

76

00:03:26,149 --> 00:03:24,720

low-flying plane that his plane going to

77

00:03:28,839 --> 00:03:26,159

Portland and we see it's actually at

78

00:03:31,369 --> 00:03:28,849

18,000 feet which is and it's descending

79

00:03:33,469 --> 00:03:31,379

fairly rapidly and that's going to low

80

00:03:34,969 --> 00:03:33,479

to make a contrail so if we just filter

81

00:03:36,289 --> 00:03:34,979

the planes are flying over Portland

82

00:03:38,390 --> 00:03:36,299

that'll be the ones that are actually

83

00:03:41,420 --> 00:03:38,400

making the contrails you can see from

84

00:03:46,099 --> 00:03:41,430

Portland now I'm going back to the tweet

85

00:03:48,830 --> 00:03:46,109

it was October 14th and noonish now what

86

00:03:53,119 --> 00:03:48,840

we can do in flightradar24 is replay the

87

00:03:55,909 --> 00:03:53,129

flight activity if you have an account

88

00:03:57,499 --> 00:03:55,919

you can go back as far as in month if

89

00:03:59,179 --> 00:03:57,509

you don't have an account the free

90

00:04:02,679 --> 00:03:59,189

service will let you do it for I think

91

00:04:05,689 --> 00:04:02,689

it's about a week so you can still do

92

00:04:08,149 --> 00:04:05,699

trails that you've seen that day or in

93

00:04:10,429 --> 00:04:08,159

the last week or so but since I've

94

00:04:14,149 --> 00:04:10,439

signed up for an account I can go back

95

00:04:19,430 --> 00:04:14,159

to we just check what was it 10 14 yes

96

00:04:24,260 --> 00:04:19,440

October the 14th and the time now the

97

00:04:25,980 --> 00:04:24,270

time is in UTC time UTC is a universal

98

00:04:29,610 --> 00:04:25,990

time zone

99

00:04:32,460 --> 00:04:29,620

and since this was a couple of weeks ago

100

00:04:33,900 --> 00:04:32,470

it was in Pacific Daylight Time and the

101
00:04:38,909 --> 00:04:33,910
difference between Pacific Daylight Time

102
00:04:40,770 --> 00:04:38,919
and UTC is seven hours there seven hours

103
00:04:43,200 --> 00:04:40,780
ahead of us it's basically similar to a

104
00:04:44,339 --> 00:04:43,210
Greenwich Mean Time the same as

105
00:04:52,140 --> 00:04:44,349
Greenwich Mean Time

106
00:04:54,240 --> 00:04:52,150
so noonish would be 12 plus 7 is 1900

107
00:05:01,290 --> 00:04:54,250
hours or 7 o'clock in the afternoon

108
00:05:02,879 --> 00:05:01,300
UTC so we can start playback all right

109
00:05:05,909 --> 00:05:02,889
so what I'm going to do is just pause it

110
00:05:09,240 --> 00:05:05,919
straight away and have a look at what

111
00:05:12,839 --> 00:05:09,250
lights we see over Portland at about

112
00:05:16,020 --> 00:05:12,849
noon ish here's one AAS a witch in

113
00:05:18,270 --> 00:05:16,030

Alaska Alaska Airlines and you see us

114

00:05:19,290 --> 00:05:18,280

made a little kink in there probably not

115

00:05:22,230 --> 00:05:19,300

the type of thing we're actually looking

116

00:05:23,580 --> 00:05:22,240

at Southwest Airlines oh there's an

117

00:05:27,059 --> 00:05:23,590

interesting one this is Southwest

118

00:05:30,420 --> 00:05:27,069

Airlines flight from Oakland to Seattle

119

00:05:32,159 --> 00:05:30,430

is flying in a loop over Portland so

120

00:05:34,620 --> 00:05:32,169

that seemed like a very good candidate

121

00:05:37,020 --> 00:05:34,630

for a plane which we're believing this

122

00:05:42,560 --> 00:05:37,030

type of contrail so what else do we have

123

00:05:49,230 --> 00:05:46,709

which is flying from that's flying to

124

00:05:53,580 --> 00:05:49,240

Portland for some reason it's at 24,000

125

00:05:56,189 --> 00:05:53,590

feet but here we've got a plane flying

126
00:05:57,390 --> 00:05:56,199
in a loop oh for Portland why would he

127
00:06:00,029 --> 00:05:57,400
be doing such a thing

128
00:06:06,270 --> 00:06:00,039
why would he be flying in a loop if it's

129
00:06:09,659 --> 00:06:06,280
going to Seattle the reason that planes

130
00:06:11,129 --> 00:06:09,669
fly in loops although technically as a

131
00:06:14,730 --> 00:06:11,139
circuit a loop would be flying

132
00:06:16,649 --> 00:06:14,740
head-over-heels is that there's a lot of

133
00:06:20,520 --> 00:06:16,659
traffic going to Seattle these planes

134
00:06:22,980 --> 00:06:20,530
here are all going to Seattle and it's a

135
00:06:25,830 --> 00:06:22,990
very busy Airport and they have to

136
00:06:28,529 --> 00:06:25,840
schedule the arrivals in a very strict

137
00:06:31,800 --> 00:06:28,539
order they have to arrive you're pretty

138
00:06:33,330 --> 00:06:31,810

much on a you know 1 minute window so

139

00:06:35,219 --> 00:06:33,340

you can't just have planes just flying

140

00:06:37,620 --> 00:06:35,229

directly in their landing air traffic

141

00:06:38,719 --> 00:06:37,630

control in Seattle is going to tell the

142

00:06:40,790 --> 00:06:38,729

plane to

143

00:06:43,070 --> 00:06:40,800

you arrived a little bit later or a

144

00:06:44,179 --> 00:06:43,080

little bit earlier than before and

145

00:06:45,619 --> 00:06:44,189

normally what they do is they will tell

146

00:06:48,860 --> 00:06:45,629

the plane to just take a slight

147

00:06:50,989 --> 00:06:48,870

deviation from their direct route in and

148

00:06:54,100 --> 00:06:50,999

they'll fly in a little circuit like

149

00:06:56,209 --> 00:06:54,110

this or sometimes they will fly in a

150

00:06:57,950 --> 00:06:56,219

they'll just fly off to the side and

151
00:06:59,510 --> 00:06:57,960
then back onto the track again it's just

152
00:07:01,579 --> 00:06:59,520
basically a way of slowing down the

153
00:07:05,299 --> 00:07:01,589
planes arrival so it can arrive at a

154
00:07:09,140 --> 00:07:05,309
particular particular time now one thing

155
00:07:12,350 --> 00:07:09,150
we can do in the filters is we can

156
00:07:14,269 --> 00:07:12,360
filter by the airport that the plane is

157
00:07:18,499 --> 00:07:14,279
going to so I'm going to do

158
00:07:19,760 --> 00:07:18,509
Seattle here SCA and do in so we just

159
00:07:23,059 --> 00:07:19,770
have the planes that are going into

160
00:07:25,820 --> 00:07:23,069
Seattle now I'll turn off the altitude

161
00:07:29,149 --> 00:07:25,830
filter so we can see all of the flights

162
00:07:31,909 --> 00:07:29,159
and let me just turn this back on get

163
00:07:34,570 --> 00:07:31,919

rid of the filters here so these are all

164

00:07:37,730 --> 00:07:34,580

the flights that are going into Seattle

165

00:07:39,920 --> 00:07:37,740

at that time and assume right out so we

166

00:07:41,809 --> 00:07:39,930

can get a countrywide view just get some

167

00:07:44,239 --> 00:07:41,819

perspective as to just how many planes

168

00:07:46,760 --> 00:07:44,249

are heading for Seattle at that

169

00:07:49,579 --> 00:07:46,770

particular time noonish on the 14th of

170

00:07:51,829 --> 00:07:49,589

October let's just pause it here so here

171

00:07:54,739 --> 00:07:51,839

there's a lot of planar so there's over

172

00:08:00,139 --> 00:07:54,749

50 planes visible right here and if we

173

00:08:02,959 --> 00:08:00,149

zoom in to Seattle here's the one plane

174

00:08:05,649 --> 00:08:02,969

that's doing the loop may have made one

175

00:08:07,639 --> 00:08:05,659

of those curved contrails

176
00:08:11,029 --> 00:08:07,649
let's have a look at some of these other

177
00:08:14,089 --> 00:08:11,039
planes over here notice Blaine here did

178
00:08:15,649 --> 00:08:14,099
a quite a major deviation from here to

179
00:08:17,779 --> 00:08:15,659
here and then it's going back in again

180
00:08:21,439 --> 00:08:17,789
so maybe a similar type of thing instead

181
00:08:23,360 --> 00:08:21,449
of doing a circuit it just went over

182
00:08:26,119 --> 00:08:23,370
here and then went over here which again

183
00:08:28,159 --> 00:08:26,129
changes the the order in which it

184
00:08:29,659 --> 00:08:28,169
arrives and you see if you look at the

185
00:08:33,079 --> 00:08:29,669
actual planes coming in they're very

186
00:08:36,949 --> 00:08:33,089
very close to each other here's Alaska 3

187
00:08:41,240 --> 00:08:36,959
1 1 and here's that's the Southwest

188
00:08:43,309 --> 00:08:41,250

Airlines flight coming in and here's

189

00:08:46,579 --> 00:08:43,319

another flight and you see there there's

190

00:08:48,110 --> 00:08:46,589

not very much room for error here that's

191

00:08:50,929 --> 00:08:48,120

a very interesting one you can see that

192

00:08:52,400 --> 00:08:50,939

they did a lot of deviations of its

193

00:08:54,199 --> 00:08:52,410

flight here as it came in didn't

194

00:08:58,670 --> 00:08:54,209

to fly straight in is doing a lot of

195

00:09:01,879 --> 00:08:58,680

moving around looking to get in at the

196

00:09:07,369 --> 00:09:01,889

right time so I hope that shows you how

197

00:09:09,470 --> 00:09:07,379

you can track down particular planes one

198

00:09:11,090 --> 00:09:09,480

thing you might want to do if you don't

199

00:09:14,179 --> 00:09:11,100

know the exact time is just simply let

200

00:09:15,559 --> 00:09:14,189

the simulation let the the recording

201
00:09:18,379 --> 00:09:15,569
play for a while and you'll see all

202
00:09:21,350 --> 00:09:18,389
these other planes coming in this is

203
00:09:23,569 --> 00:09:21,360
filtering for Seattle at the moment and

204
00:09:25,400 --> 00:09:23,579
here's another another fly and you see

205
00:09:27,139 --> 00:09:25,410
again doll flying directly in it's

206
00:09:32,300 --> 00:09:27,149
making these these adjustments so that

207
00:09:35,269 --> 00:09:32,310
it arrives on time so you'll see a lot

208
00:09:38,420 --> 00:09:35,279
of a lot of this type of thing if you if

209
00:09:44,110 --> 00:09:38,430
we change things so that we see all the

210
00:09:48,170 --> 00:09:44,120
tracks at once you know meta tracks

211
00:09:54,800 --> 00:09:48,180
pause it now let's go in and just look

212
00:09:58,460 --> 00:09:54,810
at all the tracks you can see there's

213
00:10:04,280 --> 00:09:58,470

quite a variety in the incoming planes

214

00:10:08,540 --> 00:10:04,290

tracks they don't fly in what you might

215

00:10:11,650 --> 00:10:08,550

expect a straight line as they are

216

00:10:13,689 --> 00:10:11,660

arriving they have all these adjustments