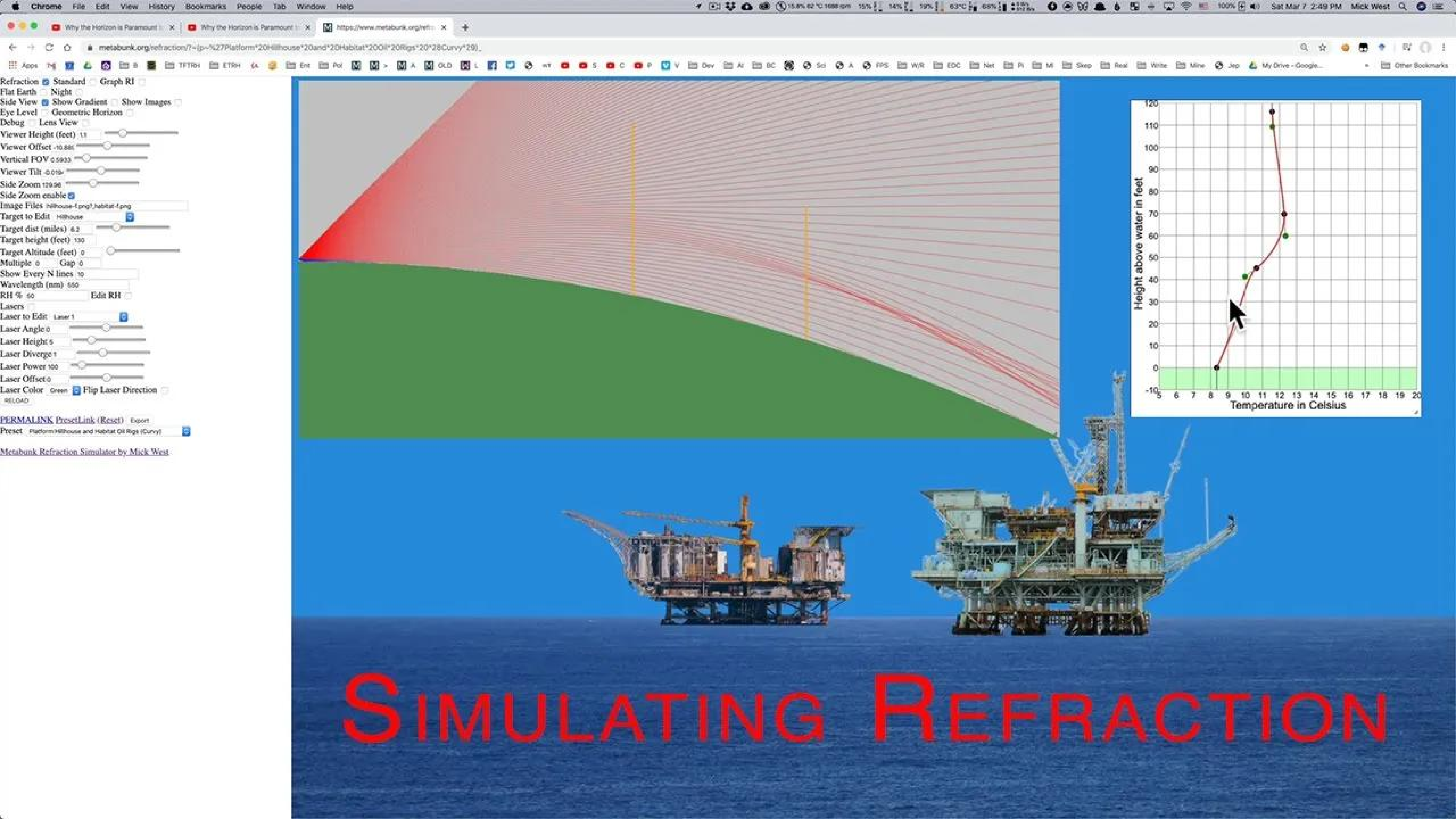

metabunk.org/refraction/?={p=%27Platform%20Hillhouse%20and%20Habitat%20Oil%20Rigs%20%28Curvy%29}
Refraction Standard Graph RI
Flat Earth Night
Side View Show Gradient Show Images
Eye Level Geometric Horizon
Debug Lens View
Viewer Height (feet)
Viewer Offset
Vertical FOV
Viewer Tilt
Side Zoom
Side Zoom enable
Image Files
Target to Edit
Target dist (miles)
Target height (feet)
Target Altitude (feet)
Multiple Gap
Show Every N lines
Wavelength (nm)
RH % Edit RH
Lasers
Laser to Edit
Laser Angle
Laser Height
Laser Diverge
Laser Power
Laser Offset
Laser Color Flip Laser Direction
RELOAD
PERMALINK PresetLink (Reset) Export
Preset Platform Hillhouse and Habitat Oil Rigs (Curvy)
Metabunk Refraction Simulator by Mick West
Height above water in feet
Temperature in Celsius
SIMULATING REFRACTION

1
00:00:04,070 --> 00:00:01,550
hey this is my quest that made a bunker

2
00:00:06,559 --> 00:00:04,080
dog so off the coast of Santa Barbara

3
00:00:07,820 --> 00:00:06,569
there's a bunch of oil rigs and there's

4
00:00:09,890 --> 00:00:07,830
a few in particular that are really

5
00:00:12,589 --> 00:00:09,900
interesting from a flat earth

6
00:00:15,620 --> 00:00:12,599
investigation perspective there's this

7
00:00:18,680 --> 00:00:15,630
line of Oryx right here one two three

8
00:00:20,210 --> 00:00:18,690
four four oil rigs in a row and behind

9
00:00:22,640 --> 00:00:20,220
those four Oryx there's another one here

10
00:00:24,830 --> 00:00:22,650
called platform habitat these are called

11
00:00:27,800 --> 00:00:24,840
platform Hill House some platforms a B

12
00:00:30,620 --> 00:00:27,810
and platform C so if you stand on the

13
00:00:32,299 --> 00:00:30,630

coast over here and you look just at the

14
00:00:35,720 --> 00:00:32,309
right angle from the right position you

15
00:00:37,490 --> 00:00:35,730
will see one oil rig or platform with

16
00:00:38,810 --> 00:00:37,500
another one Darley behind it and then

17
00:00:41,569 --> 00:00:38,820
from over here you see the same thing

18
00:00:43,130 --> 00:00:41,579
with just a different oil platform but a

19
00:00:45,170 --> 00:00:43,140
similar type of thing this one's very

20
00:00:47,750 --> 00:00:45,180
very far away these are a bit closer so

21
00:00:49,790 --> 00:00:47,760
this one you love is you'll see more of

22
00:00:52,700 --> 00:00:49,800
it and this is in fact what you what you

23
00:00:54,229 --> 00:00:52,710
see on a clear day here's an example

24
00:00:55,970 --> 00:00:54,239
from a video and you can see this

25
00:00:58,910 --> 00:00:55,980
distant oil rig which is platform

26
00:01:01,340 --> 00:00:58,920
habitat which is this one over here the

27
00:01:03,920 --> 00:01:01,350
one in the distance is beyond the

28
00:01:05,600 --> 00:01:03,930
horizon and it's sunk down and this one

29
00:01:07,730 --> 00:01:05,610
is a bit closer so it's pretty much all

30
00:01:10,130 --> 00:01:07,740
above the horizon still a little bit

31
00:01:12,289 --> 00:01:10,140
behind the horizon I think but on some

32
00:01:15,440 --> 00:01:12,299
days you get this same view this exact

33
00:01:20,030 --> 00:01:15,450
same view but I you see a very different

34
00:01:22,310 --> 00:01:20,040
picture you see the distant oil rig is

35
00:01:25,280 --> 00:01:22,320
actually kind of raised up you have to

36
00:01:26,300 --> 00:01:25,290
see more of it and I believe you can

37
00:01:27,910 --> 00:01:26,310
actually see a little bit more of this

38
00:01:32,330 --> 00:01:27,920

one as well yeah you can see this little

39
00:01:36,410 --> 00:01:32,340
platform here is is higher up on this

40
00:01:38,569 --> 00:01:36,420
one than it is on this one and how can

41
00:01:41,090 --> 00:01:38,579
this be well yeah obviously the answer

42
00:01:43,850 --> 00:01:41,100
is its refraction the refraction is

43
00:01:46,280 --> 00:01:43,860
raising up this image of this this

44
00:01:47,719 --> 00:01:46,290
distant oil rig and when there's less

45
00:01:49,370 --> 00:01:47,729
refraction as you can see because the

46
00:01:51,590 --> 00:01:49,380
lines are straight here there's no

47
00:01:55,760 --> 00:01:51,600
wobbly lines and whatnot and it's not

48
00:01:58,730 --> 00:01:55,770
stretched you you get more of the what

49
00:02:00,380 --> 00:01:58,740
you'd expect the oil rig behind the

50
00:02:02,090 --> 00:02:00,390
horizon hidden by the horizon by the

51
00:02:04,459 --> 00:02:02,100
curve of the earth but people who

52
00:02:06,170 --> 00:02:04,469
believe the earth is flat they think

53
00:02:10,940 --> 00:02:06,180
that well if refraction can make

54
00:02:12,740 --> 00:02:10,950
something be rising up from behind the

55
00:02:13,850 --> 00:02:12,750
horizon why can't refraction also hide

56
00:02:18,140 --> 00:02:13,860
something why

57
00:02:20,690 --> 00:02:18,150
the apparent curve of the earth b-being

58
00:02:21,350 --> 00:02:20,700
illusion created by refraction so if the

59
00:02:23,390 --> 00:02:21,360
earth was flat

60
00:02:26,000 --> 00:02:23,400
perhaps refraction is making the earth

61
00:02:28,040 --> 00:02:26,010
look round course that isn't true but

62
00:02:32,240 --> 00:02:28,050
you know how do you answer this this

63
00:02:35,960 --> 00:02:32,250

this question so what I did was I added

64
00:02:37,880 --> 00:02:35,970
this setup is set up here and the

65
00:02:40,130 --> 00:02:37,890
another one from a different viewpoint

66
00:02:42,170 --> 00:02:40,140
this one here which similar kind of

67
00:02:45,800 --> 00:02:42,180
issues this this one here this distance

68
00:02:47,480 --> 00:02:45,810
or it should be below the horizon and I

69
00:02:49,040 --> 00:02:47,490
put them into my refraction simulator

70
00:02:50,960 --> 00:02:49,050
now the refraction simulator is

71
00:02:53,120 --> 00:02:50,970
something that I wrote like I don't know

72
00:02:56,150 --> 00:02:53,130
about a year ago or so and what it does

73
00:02:57,620 --> 00:02:56,160
is it's a bunch of code and it's got

74
00:02:59,600 --> 00:02:57,630
these ray tracing functions and it

75
00:03:01,940 --> 00:02:59,610
traces the light through the air and you

76
00:03:04,880 --> 00:03:01,950
have a temperature profile and you can

77
00:03:06,470 --> 00:03:04,890
tell you know how well what the

78
00:03:08,600 --> 00:03:06,480
refractive index is at various points in

79
00:03:11,390 --> 00:03:08,610
the air based on the the temperature and

80
00:03:14,240 --> 00:03:11,400
the pressure and the humidity and see

81
00:03:17,510 --> 00:03:14,250
here it is so by default it's going to

82
00:03:20,180 --> 00:03:17,520
open up the cleared a version of this

83
00:03:22,009 --> 00:03:20,190
viewpoint so we've got this closed the

84
00:03:24,259 --> 00:03:22,019
platform when this one further away and

85
00:03:27,380 --> 00:03:24,269
you can see we have the the same thing

86
00:03:28,759 --> 00:03:27,390
going on right here there is to say very

87
00:03:32,420 --> 00:03:28,769
much the same you can see it's more or

88
00:03:34,940 --> 00:03:32,430

less the same image if you you know

89
00:03:37,130 --> 00:03:34,950
changed the default you can actually

90
00:03:38,690 --> 00:03:37,140
find this down here in these presets and

91
00:03:41,420 --> 00:03:38,700
there's a bunch and they also with

92
00:03:43,610 --> 00:03:41,430
platform platform see platform Hill

93
00:03:46,009 --> 00:03:43,620
house and habitat oil rigs clear day is

94
00:03:47,800 --> 00:03:46,019
this default and Kirby is the other one

95
00:03:51,560 --> 00:03:47,810
let's stay with this one here clear day

96
00:03:55,580 --> 00:03:51,570
now this is showing what more or less

97
00:03:57,680 --> 00:03:55,590
what things would look like in what's

98
00:03:59,330 --> 00:03:57,690
called standard refraction conditions

99
00:04:01,150 --> 00:03:59,340
which is just basically when the

100
00:04:04,040 --> 00:04:01,160
atmosphere isn't doing anything special

101
00:04:05,390 --> 00:04:04,050
there's no real particularly interesting

102
00:04:07,580 --> 00:04:05,400
temperature gradient just get smoothly

103
00:04:09,770 --> 00:04:07,590
cooler as you get a get higher and the

104
00:04:11,930 --> 00:04:09,780
water is a very similar temperature to

105
00:04:13,640 --> 00:04:11,940
the air which doesn't actually happen

106
00:04:15,199 --> 00:04:13,650
that often over the ocean because the

107
00:04:17,240 --> 00:04:15,209
ocean is usually quite a different

108
00:04:19,159 --> 00:04:17,250
temperature to the air but in this

109
00:04:22,870 --> 00:04:19,169
instance the water is about the same

110
00:04:25,610 --> 00:04:22,880
temperature as the air now this here

111
00:04:27,500 --> 00:04:25,620
this little graph here is showing the

112
00:04:29,720 --> 00:04:27,510
vertical temperature gradient

113
00:04:32,570 --> 00:04:29,730

along the bottom we got the temperature

114
00:04:35,090 --> 00:04:32,580
in Celsius and on the Left we have the

115
00:04:36,860 --> 00:04:35,100
height in feet which is a bit hot I know

116
00:04:38,450 --> 00:04:36,870
we have feet in Celsius but you know

117
00:04:40,400 --> 00:04:38,460
what the heck and what you can do here

118
00:04:42,470 --> 00:04:40,410
is you can actually drag these little

119
00:04:43,760 --> 00:04:42,480
controls here and you can move this

120
00:04:46,010 --> 00:04:43,770
curve around you can see it doesn't

121
00:04:49,520 --> 00:04:46,020
really take very very much at all to

122
00:04:51,650 --> 00:04:49,530
have some quite dramatic effects with

123
00:04:53,300 --> 00:04:51,660
the curve pretty much straight like that

124
00:04:55,520 --> 00:04:53,310
that's you know standard refraction but

125
00:04:57,530 --> 00:04:55,530
slightly less than standard and you know

126
00:04:59,720 --> 00:04:57,540
a little bit warmer water and cool the

127
00:05:02,390 --> 00:04:59,730
air you can get some quite dramatic

128
00:05:03,620 --> 00:05:02,400
effects like this but in a standard

129
00:05:05,290 --> 00:05:03,630
refraction which you can also get to by

130
00:05:09,440 --> 00:05:05,300
just clicking on this little button here

131
00:05:11,840 --> 00:05:09,450
shows pretty much what we see in this

132
00:05:14,660 --> 00:05:11,850
image so how do we get what we see in

133
00:05:17,030 --> 00:05:14,670
the other images now this one here has

134
00:05:19,790 --> 00:05:17,040
got this kind of wobbly line here and

135
00:05:21,500 --> 00:05:19,800
you know these these wobbly lines you

136
00:05:23,930 --> 00:05:21,510
can you can duplicate reasonably easily

137
00:05:26,600 --> 00:05:23,940
but they're a little fiddly to do so I

138
00:05:29,000 --> 00:05:26,610

made a preset which has it and it's the

139
00:05:33,620 --> 00:05:29,010
platform Hill house and habitat oil rigs

140
00:05:36,320 --> 00:05:33,630
curvy preset and there it is it is the

141
00:05:39,320 --> 00:05:36,330
pretty much the same images that one not

142
00:05:40,850 --> 00:05:39,330
quite the same graphics but it is more

143
00:05:44,330 --> 00:05:40,860
or less the same and you see this is the

144
00:05:46,700 --> 00:05:44,340
temperature profile it's getting warmer

145
00:05:48,770 --> 00:05:46,710
as you get higher up and then there's

146
00:05:50,810 --> 00:05:48,780
this dramatic warming here and then it

147
00:05:54,860 --> 00:05:50,820
gets more or less back to normal after

148
00:05:56,270 --> 00:05:54,870
that this is a bit of a unusual

149
00:05:59,660 --> 00:05:56,280
situation

150
00:06:01,130 --> 00:05:59,670
of course it's it normally gets colder

151
00:06:06,050 --> 00:06:01,140
as you get higher up so this is what's

152
00:06:07,760 --> 00:06:06,060
called a temperature inversion so I

153
00:06:11,020 --> 00:06:07,770
managed to duplicate that and you can

154
00:06:14,090 --> 00:06:11,030
play around with this and you can see

155
00:06:15,470 --> 00:06:14,100
again small variations in the

156
00:06:16,970 --> 00:06:15,480
temperatures can have quite dramatic

157
00:06:20,330 --> 00:06:16,980
effects and this is something you will

158
00:06:23,270 --> 00:06:20,340
see if you look at time lapses of this

159
00:06:25,850 --> 00:06:23,280
type of situation you will see over the

160
00:06:28,490 --> 00:06:25,860
course of just a few minutes the this is

161
00:06:30,410 --> 00:06:28,500
quite dramatic variations in the the

162
00:06:33,080 --> 00:06:30,420
refraction you don't normally get this

163
00:06:34,970 --> 00:06:33,090

light with this one look but I think

164
00:06:37,850 --> 00:06:34,980
it's the key point here is that we can

165
00:06:40,790 --> 00:06:37,860
actually see the bottom of this oil rig

166
00:06:41,420 --> 00:06:40,800
and really this or it should be beyond

167
00:06:43,400 --> 00:06:41,430
the horizon

168
00:06:45,350 --> 00:06:43,410
if all things are being equal if we turn

169
00:06:48,230 --> 00:06:45,360
off refraction if I go over here and

170
00:06:50,300 --> 00:06:48,240
just make it so lines are just straight

171
00:06:53,200 --> 00:06:50,310
then this is what you would actually

172
00:06:56,030 --> 00:06:53,210
expect to see from a viewer height of

173
00:06:59,060 --> 00:06:56,040
1.1 feet that's very low down very

174
00:07:00,260 --> 00:06:59,070
nearly closer to the water and just get

175
00:07:01,270 --> 00:07:00,270
into a little bit more about what's

176
00:07:04,490 --> 00:07:01,280
going on here

177
00:07:06,530 --> 00:07:04,500
this view over here is essentially a

178
00:07:09,980 --> 00:07:06,540
side view it's highly highly compressed

179
00:07:12,740 --> 00:07:09,990
and it's showing you all the lines of

180
00:07:16,400 --> 00:07:12,750
sight so when you see a yellow line in

181
00:07:18,050 --> 00:07:16,410
the image down below the yellow line up

182
00:07:19,730 --> 00:07:18,060
here corresponds to that the line of

183
00:07:21,440 --> 00:07:19,740
sight now this is set up without

184
00:07:22,880 --> 00:07:21,450
refraction so all these lines of

185
00:07:25,150 --> 00:07:22,890
straight lines of sight are perfectly

186
00:07:27,950 --> 00:07:25,160
straight now if we turn refraction on

187
00:07:30,410 --> 00:07:27,960
you can see the difference is that the

188
00:07:32,720 --> 00:07:30,420

lines become bent and they actually

189
00:07:34,790 --> 00:07:32,730
become a very bent in in some situations

190
00:07:36,440 --> 00:07:34,800
like like over here which is where we're

191
00:07:37,670 --> 00:07:36,450
getting these this would weird curves

192
00:07:39,830 --> 00:07:37,680
over here because there's so much

193
00:07:41,390 --> 00:07:39,840
bending of the light I can turn off this

194
00:07:43,280 --> 00:07:41,400
gradient here so you can see a little

195
00:07:44,930 --> 00:07:43,290
bit better what's going on all this

196
00:07:47,570 --> 00:07:44,940
stuff is squished together here which

197
00:07:49,370 --> 00:07:47,580
stretches it out when it comes over here

198
00:07:53,030 --> 00:07:49,380
so you know we've kind of successfully

199
00:07:55,580 --> 00:07:53,040
duplicated this situation in my

200
00:07:56,990 --> 00:07:55,590
refraction simulator and it's not too

201
00:07:59,060 --> 00:07:57,000
complicated a curve and it's not

202
00:08:01,850 --> 00:07:59,070
entirely unexpected that you get these

203
00:08:03,470 --> 00:08:01,860
temperature inversions what about the

204
00:08:10,880 --> 00:08:03,480
other picture let's see we've got this

205
00:08:15,110 --> 00:08:10,890
one over here and this is I think

206
00:08:17,630 --> 00:08:15,120
platform a and I can go over to the

207
00:08:21,850 --> 00:08:17,640
presets and I can get a plus a platform

208
00:08:24,350 --> 00:08:21,860
C platform C and habitat oil rig this is

209
00:08:25,820 --> 00:08:24,360
duplicating that and it's actually a lot

210
00:08:28,520 --> 00:08:25,830
simpler than the other one actually it's

211
00:08:31,850 --> 00:08:28,530
actually a very normal situation there's

212
00:08:33,640 --> 00:08:31,860
no real temperature inversion of well

213
00:08:35,330 --> 00:08:33,650

there is but that not alike

214
00:08:36,830 --> 00:08:35,340
discontinuity in the way that you get

215
00:08:41,570 --> 00:08:36,840
with the other one all we have here we

216
00:08:44,930 --> 00:08:41,580
have the water down here is colder than

217
00:08:47,060 --> 00:08:44,940
the the air above it so it cools down

218
00:08:49,700 --> 00:08:47,070
the air directly above it which has the

219
00:08:53,110 --> 00:08:49,710
effect of curving things down and you

220
00:08:55,510 --> 00:08:53,120
can see you can see the curves here

221
00:08:56,860 --> 00:08:55,520
it's just fairly gentle Isley's just

222
00:08:59,440 --> 00:08:56,870
kind of curving it down there's no

223
00:09:00,760 --> 00:08:59,450
mirages or inversions or not not very

224
00:09:03,940 --> 00:09:00,770
much stretching or anything like that

225
00:09:06,640 --> 00:09:03,950
because it's a fairly smooth curve and

226
00:09:08,560 --> 00:09:06,650
you can move this around again and make

227
00:09:11,440 --> 00:09:08,570
it even smoother and you can see you

228
00:09:13,540 --> 00:09:11,450
know we still get similar effects with

229
00:09:16,000 --> 00:09:13,550
the light curving down or we can we can

230
00:09:18,130 --> 00:09:16,010
move it a bit more to bend the light

231
00:09:19,480 --> 00:09:18,140
down even more it's very the gradient at

232
00:09:21,880 --> 00:09:19,490
the bottom that has the greatest effects

233
00:09:24,490 --> 00:09:21,890
like here you can see I made it smoothly

234
00:09:28,000 --> 00:09:24,500
bend the light all the way around the

235
00:09:29,710 --> 00:09:28,010
curve for this part of the globe and we

236
00:09:31,480 --> 00:09:29,720
can see this oil rig and this is

237
00:09:33,519 --> 00:09:31,490
something that happens and it's not not

238
00:09:35,590 --> 00:09:33,529

particularly not particularly large

239
00:09:38,019 --> 00:09:35,600
amount of temperature variation it's

240
00:09:40,710 --> 00:09:38,029
only what is this low for less than one

241
00:09:43,630 --> 00:09:40,720
degree I think less than one degree of

242
00:09:45,400 --> 00:09:43,640
cooler water and it can be quite a lot

243
00:09:46,870 --> 00:09:45,410
quite a lot more which gives you this

244
00:09:47,350 --> 00:09:46,880
big big stretches and if it's more

245
00:09:48,940 --> 00:09:47,360
dramatic

246
00:09:51,100 --> 00:09:48,950
very cool other wasn't bottom you'll get

247
00:09:52,930 --> 00:09:51,110
these there's compression at the bottom

248
00:09:54,400 --> 00:09:52,940
and then you can maybe it's a bit less

249
00:09:56,800 --> 00:09:54,410
steeper and you'll have this stretching

250
00:09:58,090 --> 00:09:56,810
because if you have warm water like you

251
00:10:01,960 --> 00:09:58,100
know all bets are off and you get this

252
00:10:03,579 --> 00:10:01,970
these weird inversions and mirroring and

253
00:10:05,290 --> 00:10:03,589
things like that but yeah we don't have

254
00:10:08,500 --> 00:10:05,300
that here we've got this just this

255
00:10:10,210 --> 00:10:08,510
fairly ordinary normal slightly more

256
00:10:14,530 --> 00:10:10,220
visible platform than you would expect

257
00:10:18,130 --> 00:10:14,540
to see so the question is if we can do

258
00:10:20,590 --> 00:10:18,140
this on a global model can we do the

259
00:10:22,840 --> 00:10:20,600
same thing with the opposite refraction

260
00:10:28,180 --> 00:10:22,850
on a flat earth model can we make a flat

261
00:10:31,930 --> 00:10:28,190
earth look round let's start out by

262
00:10:33,970 --> 00:10:31,940
turning off refraction and then turn on

263
00:10:36,220 --> 00:10:33,980

the flat earth model you can see

264
00:10:39,250 --> 00:10:36,230
everything's flattened out here this is

265
00:10:41,530 --> 00:10:39,260
what you see from 8 feet high on the

266
00:10:44,620 --> 00:10:41,540
flat earth model with no refraction now

267
00:10:46,860 --> 00:10:44,630
because the ground is flat obviously you

268
00:10:49,840 --> 00:10:46,870
can see you can see all the way to the

269
00:10:52,840 --> 00:10:49,850
infinitely far away horizon and so you

270
00:10:55,780 --> 00:10:52,850
can see the entirety of blow both oil

271
00:10:59,019 --> 00:10:55,790
platforms there what we want to do is

272
00:11:01,870 --> 00:10:59,029
see how do we get a situation that

273
00:11:03,400 --> 00:11:01,880
explains planes 1 the earth actually

274
00:11:05,470 --> 00:11:03,410
looks like it's round which it actually

275
00:11:06,820 --> 00:11:05,480
is but from a flat earth perspective

276
00:11:08,530 --> 00:11:06,830
they think it's flat and it's just

277
00:11:10,720 --> 00:11:08,540
to be round so could we actually

278
00:11:12,850 --> 00:11:10,730
simulate this starting with the flat

279
00:11:14,110 --> 00:11:12,860
earth and then adding refraction well

280
00:11:15,730 --> 00:11:14,120
let's give it a go so this one here

281
00:11:17,620 --> 00:11:15,740
wants to be kind of cut in half and this

282
00:11:20,380 --> 00:11:17,630
one here wants to be more or less you

283
00:11:23,110 --> 00:11:20,390
know all the way there and we actually

284
00:11:28,259 --> 00:11:23,120
want to be on the other one which would

285
00:11:31,960 --> 00:11:28,269
be de pelea de la from Hill House no

286
00:11:33,639 --> 00:11:31,970
refraction but a flat earth all right so

287
00:11:37,150 --> 00:11:33,649
we're starting with a flat earth what do

288
00:11:39,819 --> 00:11:37,160

we have to do to make it disappear

289
00:11:43,420 --> 00:11:39,829
behind the horizon well what we actually

290
00:11:45,790 --> 00:11:43,430
have to do is make the water a lot

291
00:11:52,210 --> 00:11:45,800
warmer than the air and we have to make

292
00:11:57,430 --> 00:11:52,220
the air decrease there we go decrease in

293
00:11:59,829 --> 00:11:57,440
temperature very rapidly and a cure so

294
00:12:02,819 --> 00:11:59,839
we can kind of simulators we can

295
00:12:06,280 --> 00:12:02,829
actually kind of simulate a flat earth

296
00:12:08,350 --> 00:12:06,290
we can simulate a flat earth looking

297
00:12:12,130 --> 00:12:08,360
like a round earth with refraction and

298
00:12:15,160 --> 00:12:12,140
you can see that image here I mean it

299
00:12:16,870 --> 00:12:15,170
looks like what we got here except of

300
00:12:21,040 --> 00:12:16,880
course for the fact that we can see the

301
00:12:23,800 --> 00:12:21,050
ocean behind these these oil rigs which

302
00:12:26,680 --> 00:12:23,810
is not what you actually see here you

303
00:12:32,319 --> 00:12:26,690
actually see a horizon cutting this off

304
00:12:35,050 --> 00:12:32,329
so what's going on there so we can do it

305
00:12:37,949 --> 00:12:35,060
to a limited extent but the problem here

306
00:12:41,920 --> 00:12:37,959
is that it requires you to have this

307
00:12:45,850 --> 00:12:41,930
ridiculous temperature gradient cooling

308
00:12:50,699 --> 00:12:45,860
down which decreases in temperature by

309
00:12:54,100 --> 00:12:50,709
let's say about one degree every 20 feet

310
00:12:56,319 --> 00:12:54,110
that's just 20 feet above the water is

311
00:12:59,139 --> 00:12:56,329
cooling down by one degree and we know

312
00:13:01,210 --> 00:12:59,149
this this doesn't happen because you can

313
00:13:02,949 --> 00:13:01,220

walk up a hill for example as a hundred

314
00:13:05,650 --> 00:13:02,959
feet high and it's pretty much the same

315
00:13:08,590 --> 00:13:05,660
temperature as it was 100 feet lowered

316
00:13:12,579 --> 00:13:08,600
down it doesn't decrease by what is this

317
00:13:14,949 --> 00:13:12,589
5 degrees in 100 feet and you notice it

318
00:13:16,780 --> 00:13:14,959
doesn't do that in in the ocean I'm sure

319
00:13:19,389 --> 00:13:16,790
the guys on if this this all rigs about

320
00:13:21,109 --> 00:13:19,399
100 feet high and the temperature at the

321
00:13:22,759 --> 00:13:21,119
top of this oil rig is

322
00:13:25,069 --> 00:13:22,769
five degrees colder than the temperature

323
00:13:27,049 --> 00:13:25,079
at the bottom of this oil rig so even

324
00:13:28,759 --> 00:13:27,059
though we can kind of simulate this

325
00:13:30,739 --> 00:13:28,769
except for the horizon being behind

326
00:13:32,590 --> 00:13:30,749
everything we can't actually do it

327
00:13:34,669 --> 00:13:32,600
because it will require an impossible

328
00:13:42,169 --> 00:13:34,679
negative temperature gradient

329
00:13:43,970 --> 00:13:42,179
whereas our setups with the the

330
00:13:46,699 --> 00:13:43,980
refraction don't require a particularly

331
00:13:49,639 --> 00:13:46,709
bad one especially the ones that are

332
00:13:53,319 --> 00:13:49,649
just like this this one here just a very

333
00:13:56,889 --> 00:13:53,329
very normal situation yeah you might ask

334
00:14:00,049 --> 00:13:56,899
why can't we actually have this

335
00:14:02,239 --> 00:14:00,059
temperature gradient decreasing it's not

336
00:14:04,970 --> 00:14:02,249
just simply that it doesn't happen it's

337
00:14:06,710 --> 00:14:04,980
the if air is colder it's going to be a

338
00:14:08,960 --> 00:14:06,720

lot more dense and so it's going to sink

339
00:14:10,999 --> 00:14:08,970
so if you've got air one hundred feet

340
00:14:14,059 --> 00:14:11,009
above you that's five degrees colder

341
00:14:16,009 --> 00:14:14,069
than the air at the bottom that air is

342
00:14:17,479 --> 00:14:16,019
going to be necessarily going to be a

343
00:14:19,609 --> 00:14:17,489
lot more dense essentially it's the same

344
00:14:21,769 --> 00:14:19,619
thing as having the air at the bottom

345
00:14:23,479 --> 00:14:21,779
being five degrees hotter than the air

346
00:14:25,069 --> 00:14:23,489
above it you've got some very hot air

347
00:14:27,079 --> 00:14:25,079
this is equivalent to essentially a hot

348
00:14:29,449 --> 00:14:27,089
air balloon so you wouldn't have a

349
00:14:33,769 --> 00:14:29,459
stable environment and something that

350
00:14:36,229 --> 00:14:33,779
characterizes the situations like this

351
00:14:38,809 --> 00:14:36,239
when you do have this very very clear

352
00:14:41,720 --> 00:14:38,819
globe horizon is that they are very very

353
00:14:43,939 --> 00:14:41,730
stable yeah and not only would it be

354
00:14:45,619 --> 00:14:43,949
literally impossible for you to have a

355
00:14:46,729 --> 00:14:45,629
negative temperature gradient like this

356
00:14:48,530 --> 00:14:46,739
see we'll put the air we'll just be

357
00:14:50,359 --> 00:14:48,540
basically boiling because it would be

358
00:14:52,249 --> 00:14:50,369
yeah essentially the bottom would be

359
00:14:54,470 --> 00:14:52,259
like a hot air balloon constantly rising

360
00:14:57,859 --> 00:14:54,480
up it would be literally impossible and

361
00:14:58,879 --> 00:14:57,869
it would just look like chaotic nos so

362
00:15:00,499 --> 00:14:58,889
yeah

363
00:15:01,909 --> 00:15:00,509

the problem with all of this is that

364
00:15:03,679 --> 00:15:01,919
it's kind of complicated and it's

365
00:15:06,710 --> 00:15:03,689
difficult for people to understand

366
00:15:09,439 --> 00:15:06,720
what's going on and what I'd like what I

367
00:15:13,429 --> 00:15:09,449
suggest people do is have a look at this

368
00:15:16,009 --> 00:15:13,439
refraction simulator and see what it

369
00:15:17,720 --> 00:15:16,019
actually takes to do certain situations

370
00:15:20,210 --> 00:15:17,730
you know what what actually happens with

371
00:15:23,449 --> 00:15:20,220
things like you know water that is one

372
00:15:25,400 --> 00:15:23,459
degree colder than the air is fourteen

373
00:15:26,600 --> 00:15:25,410
to fifteen here degrees degrees Celsius

374
00:15:29,029 --> 00:15:26,610
or even less than that it could be one

375
00:15:31,069 --> 00:15:29,039
degrees Fahrenheit yeah and what just

376
00:15:32,749 --> 00:15:31,079
like small variations like moving these

377
00:15:33,519 --> 00:15:32,759
control points around let's see how much

378
00:15:35,350 --> 00:15:33,529
if

379
00:15:37,689 --> 00:15:35,360
they have then look at other things as

380
00:15:39,160 --> 00:15:37,699
well like what is the where's the

381
00:15:41,710 --> 00:15:39,170
expected horizon like the geometric

382
00:15:43,480 --> 00:15:41,720
horizon on the earth is actually gonna

383
00:15:45,730 --> 00:15:43,490
be down here if you look at a straight

384
00:15:48,129 --> 00:15:45,740
line down here it would actually be

385
00:15:51,759 --> 00:15:48,139
lower so you can see the horizon has

386
00:15:54,069 --> 00:15:51,769
been risen up as well as as these oil

387
00:15:55,749 --> 00:15:54,079
rigs so you can play around with that so

388
00:15:57,549 --> 00:15:55,759

go to meadow Bunga org slash refraction

389
00:16:01,540 --> 00:15:57,559
you can check out this different

390
00:16:03,639 --> 00:16:01,550
platform presets there's also a whole

391
00:16:05,920 --> 00:16:03,649
bunch of other different presets you can

392
00:16:07,420 --> 00:16:05,930
do for different situations you can play

393
00:16:09,280 --> 00:16:07,430
around with those and you can try to see

394
00:16:12,660 --> 00:16:09,290
if you can make the Flat Earth look

395
00:16:14,920 --> 00:16:12,670
round with refraction if you want and

396
00:16:18,340 --> 00:16:14,930
and what I'd really encourage people to

397
00:16:20,470 --> 00:16:18,350
do is to don't rely on things that are

398
00:16:21,730 --> 00:16:20,480
so close to the horizon these these oil

399
00:16:25,600 --> 00:16:21,740
rigs they're only like a you know a

400
00:16:26,949 --> 00:16:25,610
hundred feet high or so and because the

401
00:16:28,389 --> 00:16:26,959
circulars to the horizon you get all

402
00:16:30,400 --> 00:16:28,399
these weird effects but just you know

403
00:16:32,290 --> 00:16:30,410
like a few hundred feet above it like up

404
00:16:34,059 --> 00:16:32,300
here you're not getting these effects

405
00:16:35,860 --> 00:16:34,069
you'd be far better off using something

406
00:16:38,439 --> 00:16:35,870
that's a lot bigger than an oil rig and

407
00:16:40,540 --> 00:16:38,449
don't be so close to the ocean get a bit

408
00:16:42,970 --> 00:16:40,550
higher so you can actually rise above

409
00:16:44,650 --> 00:16:42,980
these these effects of refraction and

410
00:16:49,030 --> 00:16:44,660
you can see more clearly what's going on

411
00:16:51,579 --> 00:16:49,040
have a look at for example the a distant

412
00:16:54,809 --> 00:16:51,589
island like Catalina Island is is ideal

413
00:16:56,949 --> 00:16:54,819

you can see here's Catalina Island and

414
00:16:58,179 --> 00:16:56,959
there should actually be some of the

415
00:17:01,900 --> 00:16:58,189
island in the middle there but because

416
00:17:04,149 --> 00:17:01,910
we are on a curved earth we can't we

417
00:17:06,460 --> 00:17:04,159
can't see it if I change it to be a flat

418
00:17:08,049 --> 00:17:06,470
earth you would be able to see all of

419
00:17:09,939 --> 00:17:08,059
this and you will be able to see the

420
00:17:13,539 --> 00:17:09,949
ocean behind it but you can't all you

421
00:17:14,679 --> 00:17:13,549
can see is that and that's with

422
00:17:17,889 --> 00:17:14,689
refraction but it's pretty much standard

423
00:17:20,529 --> 00:17:17,899
refraction just if we go to actual

424
00:17:22,899 --> 00:17:20,539
standard refraction it's that if there's

425
00:17:24,130 --> 00:17:22,909
no refraction it would be that it's just

426
00:17:26,500 --> 00:17:24,140
you know Waikiki

427
00:17:27,909 --> 00:17:26,510
okay just see if you can still see it or

428
00:17:31,919 --> 00:17:27,919
if it's flat earth you would see that

429
00:17:34,450 --> 00:17:31,929
and what we actually see is this and

430
00:17:39,789 --> 00:17:34,460
refraction doesn't really affect very

431
00:17:41,500 --> 00:17:39,799
much down low so it actually looks out

432
00:17:43,029 --> 00:17:41,510
very well for for testing purposes you

433
00:17:44,680 --> 00:17:43,039
can do this and you can see the stuff

434
00:17:46,210 --> 00:17:44,690
around the horizon moves but the tops of

435
00:17:47,510 --> 00:17:46,220
the mountains stay more or less in the

436
00:17:49,970 --> 00:17:47,520
same place and the bottom

437
00:17:52,280 --> 00:17:49,980
the mountains are still hidden so much

438
00:17:55,070 --> 00:17:52,290

better that use things like islands and

439
00:17:58,070 --> 00:17:55,080
mountains especially than it is to use

440
00:18:00,290 --> 00:17:58,080
buildings and oil rakes which are only a

441
00:18:02,720 --> 00:18:00,300
few hundred feet high so give that a go

442
00:18:05,840 --> 00:18:02,730
all right many questions drop me a line