1
00:00:06,000 --> 00:01:27,429
so

2
00:01:31,429 --> 00:01:29,510
good afternoon everyone this is the

3
00:01:33,749 --> 00:01:31,439
pre-launch news conference for the

4
00:01:34,710 --> 00:01:33,759
landsat data continuity mission to be

5
00:01:36,789 --> 00:01:34,720
launched

6
00:01:37,990 --> 00:01:36,799
on a united launch alliance atlas 5

7
00:01:40,630 --> 00:01:38,000
rocket

8
00:01:41,910 --> 00:01:40,640
and here to talk about the spacecraft

9
00:01:44,630 --> 00:01:41,920
the mission

10
00:01:47,749 --> 00:01:44,640
and the launch coming up

11
00:01:52,149 --> 00:01:47,759
is david jarrett the ldcm program

12
00:01:58,630 --> 00:01:54,789
omar baez the nasa launch director from

13
00:02:02,709 --> 00:02:00,789

vernon thorpe the program manager for

14
00:02:05,910 --> 00:02:02,719
nasa missions from the united launch

15
00:02:13,030 --> 00:02:08,949
ken schwer the ldcm project manager from

16
00:02:17,589 --> 00:02:15,270
and first lieutenant jennifer kelly the

17
00:02:19,910 --> 00:02:17,599
launch weather officer from the 30th

18
00:02:21,589 --> 00:02:19,920
operation support squadron at vandenberg

19
00:02:23,589 --> 00:02:21,599
air force base

20
00:02:25,110 --> 00:02:23,599
and we'll begin with opening remarks

21
00:02:27,589 --> 00:02:25,120
from david jarrett

22
00:02:29,670 --> 00:02:27,599
dave thanks george it's a great day to

23
00:02:32,309 --> 00:02:29,680
be here at the vandenberg air force base

24
00:02:34,390 --> 00:02:32,319
the entire ldcm team is really excited

25
00:02:37,030 --> 00:02:34,400
to be launching our new observatory in

26
00:02:38,630 --> 00:02:37,040
just a few days a lot of people from all

27
00:02:40,949 --> 00:02:38,640
over the country have done an awesome

28
00:02:42,150 --> 00:02:40,959
job in getting our spacecraft ready to

29
00:02:43,990 --> 00:02:42,160
fly

30
00:02:46,229 --> 00:02:44,000
on behalf of nasa's earth science

31
00:02:47,990 --> 00:02:46,239
division i would like to thank you all

32
00:02:49,350 --> 00:02:48,000
for joining us here today to share in

33
00:02:51,830 --> 00:02:49,360
that excitement

34
00:02:54,869 --> 00:02:51,840
the landsat data continuity mission

35
00:02:56,949 --> 00:02:54,879
is a collaboration between nasa and the

36
00:02:58,790 --> 00:02:56,959
u.s geological survey

37
00:03:00,869 --> 00:02:58,800
this partnership has been going strong

38
00:03:03,509 --> 00:03:00,879

now for over 40 years

39
00:03:05,910 --> 00:03:03,519
and ldcm is the next in a long line of

40
00:03:09,589 --> 00:03:05,920
landsat satellites as shown in this

41
00:03:12,070 --> 00:03:09,599
timeline please show the timeline

42
00:03:15,110 --> 00:03:12,080
it's begun in 1972 with the launch of

43
00:03:16,949 --> 00:03:15,120
landsat 1 the landsat program has been

44
00:03:20,070 --> 00:03:16,959
providing under uninterrupted

45
00:03:22,070 --> 00:03:20,080
observations ever since

46
00:03:24,149 --> 00:03:22,080
with its evolutionary new instruments

47
00:03:26,390 --> 00:03:24,159
the operational land imager and the

48
00:03:29,270 --> 00:03:26,400
thermal infrared sensor

49
00:03:32,390 --> 00:03:29,280
ldcm will be the best landsat spacecraft

50
00:03:34,869 --> 00:03:32,400
yet in terms of improved capabilities

51
00:03:37,509 --> 00:03:34,879
and the amount of data returned compared

52
00:03:40,789 --> 00:03:37,519
with previous landsat missions

53
00:03:43,110 --> 00:03:40,799
after launch ldcm will join 16 other

54
00:03:48,309 --> 00:03:43,120
nasa research satellites in our earth

55
00:03:54,470 --> 00:03:51,670
ldcm together with terra aqua

56
00:03:56,869 --> 00:03:54,480
other missions will contribute to

57
00:03:59,030 --> 00:03:56,879
monitoring understanding and managing

58
00:04:02,070 --> 00:03:59,040
the land resources needed to sustain

59
00:04:04,550 --> 00:04:02,080
life such as food water

60
00:04:06,470 --> 00:04:04,560
and forests and will help us study and

61
00:04:07,589 --> 00:04:06,480
understand the effects of both natural

62
00:04:09,910 --> 00:04:07,599
forces

63
00:04:12,149 --> 00:04:09,920

as well as the impact of a population of

64
00:04:15,110 --> 00:04:12,159
seven billion people on these critical

65
00:04:17,430 --> 00:04:15,120
resources

66
00:04:19,430 --> 00:04:17,440
the nasa earth science program aims to

67
00:04:20,629 --> 00:04:19,440
understand the earth as a complex

68
00:04:21,830 --> 00:04:20,639
integrated

69
00:04:24,070 --> 00:04:21,840
system

70
00:04:25,749 --> 00:04:24,080
ldcm uniquely provides accurate

71
00:04:27,030 --> 00:04:25,759
measurements of the land and coastal

72
00:04:28,870 --> 00:04:27,040
ocean areas

73
00:04:30,629 --> 00:04:28,880
that are not provided by other nasa

74
00:04:33,030 --> 00:04:30,639
research satellites

75
00:04:35,270 --> 00:04:33,040
when coupled with the broad array

76
00:04:37,909 --> 00:04:35,280
of other nasa satellite measurements of

77
00:04:39,830 --> 00:04:37,919
atmospheric and oceanic properties

78
00:04:41,749 --> 00:04:39,840
the landsat data will allow us to

79
00:04:44,070 --> 00:04:41,759
understand why

80
00:04:46,469 --> 00:04:44,080
many natural land changes

81
00:04:48,870 --> 00:04:46,479
change processes are occurring and what

82
00:04:51,510 --> 00:04:48,880
those changes and processes mean

83
00:04:53,070 --> 00:04:51,520
for life and land on land and in coastal

84
00:04:55,749 --> 00:04:53,080
areas

85
00:04:56,790 --> 00:04:55,759
ldhcm's land cover observations are

86
00:04:58,870 --> 00:04:56,800
critical

87
00:05:01,350 --> 00:04:58,880
in maintaining our ability to monitor

88
00:05:02,629 --> 00:05:01,360

and understand global change

89
00:05:04,310 --> 00:05:02,639
around the world

90
00:05:06,070 --> 00:05:04,320
landsat measurements are considered to

91
00:05:08,310 --> 00:05:06,080
be the gold standard

92
00:05:10,469 --> 00:05:08,320
for earth surface observations because

93
00:05:12,550 --> 00:05:10,479
of the stringent calibrations that we

94
00:05:15,430 --> 00:05:12,560
put our instruments through to maintain

95
00:05:17,909 --> 00:05:15,440
their accuracy while on orbit

96
00:05:20,070 --> 00:05:17,919
with the launch on monday ldcm will be

97
00:05:22,629 --> 00:05:20,080
the lane will continue the landsat

98
00:05:25,029 --> 00:05:22,639
legacy well into the future

99
00:05:28,070 --> 00:05:25,039
go ldcm

100
00:05:30,550 --> 00:05:28,080
thank you dave and now to omar baez the

101
00:05:31,270 --> 00:05:30,560
nasa launch director from kennedy for

102
00:05:34,070 --> 00:05:31,280
our

103
00:05:35,510 --> 00:05:34,080
launch coming up omar thank you george

104
00:05:37,350 --> 00:05:35,520
good afternoon everyone and thank you

105
00:05:40,390 --> 00:05:37,360
for attending today's brief

106
00:05:42,950 --> 00:05:40,400
i am again fortunate to be representing

107
00:05:44,710 --> 00:05:42,960
uh scores of men and women from nasa's

108
00:05:46,870 --> 00:05:44,720
launch services program

109
00:05:49,670 --> 00:05:46,880
the goddard space flight center

110
00:05:52,469 --> 00:05:49,680
and our partners united launch alliance

111
00:05:54,950 --> 00:05:52,479
and orbital science corporation these

112
00:05:56,629 --> 00:05:54,960
folks have been dedicated to analyzing

113
00:05:58,629 --> 00:05:56,639

and fabricating and assembling and

114
00:05:59,990 --> 00:05:58,639
preparing and testing the atlas in the

115
00:06:02,790 --> 00:06:00,000
landsat

116
00:06:04,870 --> 00:06:02,800
data continuity mission i set for launch

117
00:06:09,110 --> 00:06:04,880
this monday morning at 1002 in the

118
00:06:13,670 --> 00:06:11,590
we're utilizing the atlas 5.

119
00:06:16,790 --> 00:06:13,680
it's a two-stage mission

120
00:06:19,189 --> 00:06:16,800
utilizing a single-engine centaur

121
00:06:23,590 --> 00:06:19,199
this will be nasa's first flight of the

122
00:06:25,670 --> 00:06:23,600
atlas 5 from space launch complex 3.

123
00:06:27,510 --> 00:06:25,680
could we roll the short video we have on

124
00:06:33,590 --> 00:06:27,520
the

125
00:06:37,670 --> 00:06:33,600
at space launch complex 3.

126
00:06:40,150 --> 00:06:37,680
and this is the erection sequence

127
00:06:42,150 --> 00:06:40,160
a little bit different than the uh east

128
00:06:44,469 --> 00:06:42,160
coast where uh

129
00:06:47,510 --> 00:06:44,479
this is the place where it's going to

130
00:06:50,790 --> 00:06:47,520
launch from versus a vif and a later

131
00:06:52,390 --> 00:06:50,800
movement which is uh quite different

132
00:06:55,110 --> 00:06:52,400
this occurred in the

133
00:07:00,870 --> 00:06:57,589
this is the centaur going up and that is

134
00:07:02,390 --> 00:07:00,880
uh powered by an rl10

135
00:07:05,830 --> 00:07:02,400
brat bretton whitney engine

136
00:07:09,110 --> 00:07:05,840
that stage utilizes hydrogen and oxygen

137
00:07:11,589 --> 00:07:09,120
and it uh generates 21 900 pounds of

138
00:07:13,029 --> 00:07:11,599

thrust there is ldcm

139
00:07:15,189 --> 00:07:13,039
and the uh

140
00:07:16,710 --> 00:07:15,199
encapsulated into fairing

141
00:07:20,710 --> 00:07:16,720
this was

142
00:07:23,430 --> 00:07:20,720
this occurred on the 25th of january

143
00:07:26,469 --> 00:07:23,440
keep in mind in parallel we were

144
00:07:28,710 --> 00:07:26,479
working the tdrs-k mission on the east

145
00:07:30,390 --> 00:07:28,720
coast while this work was going on we

146
00:07:34,390 --> 00:07:30,400
were in the short strokes of

147
00:07:39,589 --> 00:07:36,710
this is the ldcm mission

148
00:07:43,110 --> 00:07:39,599
or satellite in the encapsulated fairing

149
00:07:44,710 --> 00:07:43,120
being lowered onto the centaur

150
00:07:46,550 --> 00:07:44,720
um as i said

151
00:07:48,550 --> 00:07:46,560
we were working the tdrs-k mission which

152
00:07:50,790 --> 00:07:48,560
we successfully

153
00:07:54,550 --> 00:07:50,800
launched on wednesday

154
00:07:57,270 --> 00:07:54,560
the team transitioned from the

155
00:07:59,670 --> 00:07:57,280
east coast to the west coast

156
00:08:01,270 --> 00:07:59,680
we completed the flight readiness review

157
00:08:03,510 --> 00:08:01,280
on wednesday

158
00:08:04,550 --> 00:08:03,520
yesterday we held our mission dress

159
00:08:07,270 --> 00:08:04,560
rehearsal

160
00:08:10,710 --> 00:08:07,280
and this morning we held our

161
00:08:13,189 --> 00:08:10,720
nasa launch readiness review

162
00:08:14,790 --> 00:08:13,199
we are going to have a short reconvene

163
00:08:16,550 --> 00:08:14,800

tomorrow morning to close out the

164
00:08:17,670 --> 00:08:16,560
results of a couple of engineering

165
00:08:21,350 --> 00:08:17,680
reviews

166
00:08:25,430 --> 00:08:23,430
we've got to do some ordnance

167
00:08:27,110 --> 00:08:25,440
connections and unfortunately today the

168
00:08:29,189 --> 00:08:27,120
weather is not cooperating with us with

169
00:08:32,149 --> 00:08:29,199
the threat of lightning lightning and

170
00:08:33,990 --> 00:08:32,159
ordnance is not a thing that combines

171
00:08:35,990 --> 00:08:34,000
real well

172
00:08:39,110 --> 00:08:36,000
and so we're trying to wait out the

173
00:08:44,389 --> 00:08:42,149
the team uh times out early this evening

174
00:08:46,389 --> 00:08:44,399
so uh we've got to be able to get that

175
00:08:48,470 --> 00:08:46,399
work done if we don't

176
00:08:50,710 --> 00:08:48,480
uh then we'll have to reassess the

177
00:08:53,190 --> 00:08:50,720
schedule and it's too early to tell we

178
00:08:56,790 --> 00:08:53,200
just gotta rely on mother nature and and

179
00:09:00,310 --> 00:08:58,870
but if all goes well

180
00:09:03,509 --> 00:09:00,320
um

181
00:09:06,389 --> 00:09:03,519
on monday we start the count at t minus

182
00:09:09,269 --> 00:09:06,399
seven hours which will occur at 2 22 in

183
00:09:11,190 --> 00:09:09,279
the morning very early

184
00:09:16,150 --> 00:09:11,200
power up the centaur at 2 47 in the

185
00:09:18,310 --> 00:09:16,160
morning and start the mst roll at 5 22.

186
00:09:20,829 --> 00:09:18,320
the management team will be in place at

187
00:09:24,870 --> 00:09:20,839
5 30 in the morning for call the

188
00:09:27,590 --> 00:09:24,880

stations at 7 22 we get into our first

189
00:09:29,430 --> 00:09:27,600
hold at t-minus 2 hours for

190
00:09:31,110 --> 00:09:29,440
a 30-minute hold

191
00:09:32,949 --> 00:09:31,120
at the conclusion of which we will pull

192
00:09:34,710 --> 00:09:32,959
the team for concurrence to proceed into

193
00:09:36,630 --> 00:09:34,720
cryogenic tanking

194
00:09:39,269 --> 00:09:36,640
and tanking should start uh shortly

195
00:09:41,269 --> 00:09:39,279
thereafter at 807 in the morning

196
00:09:44,550 --> 00:09:41,279
we will then enter a uh

197
00:09:46,550 --> 00:09:44,560
10-minute hold at t-minus four minutes

198
00:09:49,110 --> 00:09:46,560
and the spacecraft will transition to

199
00:09:51,190 --> 00:09:49,120
internal power by that time i will give

200
00:09:52,949 --> 00:09:51,200
concurrence

201
00:09:55,829 --> 00:09:52,959
for the team to enter terminal count and

202
00:09:57,269 --> 00:09:55,839
release to hold at four minutes

203
00:09:59,590 --> 00:09:57,279
um

204
00:10:01,190 --> 00:09:59,600
and the expected t-zero as i said was 10

205
00:10:02,790 --> 00:10:01,200
02 in the morning and hopefully we can

206
00:10:04,470 --> 00:10:02,800
get there and with that i'll turn it

207
00:10:07,190 --> 00:10:04,480
back to you george all right thank you

208
00:10:09,350 --> 00:10:07,200
omar and now to vernon thorpe the

209
00:10:11,190 --> 00:10:09,360
program manager for nasa missions from

210
00:10:14,710 --> 00:10:11,200
united launch alliance who will talk

211
00:10:16,389 --> 00:10:14,720
about the atlas 5 and the flight vern

212
00:10:18,230 --> 00:10:16,399
hey thank you george

213
00:10:20,630 --> 00:10:18,240

we are privileged and happy to be here

214
00:10:23,030 --> 00:10:20,640
today just three days from the launch of

215
00:10:25,190 --> 00:10:23,040
the ldcm satellite and only nine days

216
00:10:26,710 --> 00:10:25,200
from our last launch the tdrs-k mission

217
00:10:28,870 --> 00:10:26,720
for nasa

218
00:10:30,870 --> 00:10:28,880
we started integrating ldcm onto atlas

219
00:10:33,030 --> 00:10:30,880
about four years ago and we began

220
00:10:35,910 --> 00:10:33,040
building the vehicle in decatur alabama

221
00:10:37,990 --> 00:10:35,920
nearly two years ago during that time

222
00:10:39,990 --> 00:10:38,000
and continuing through processing of the

223
00:10:41,750 --> 00:10:40,000
satellite and the launch vehicle here at

224
00:10:44,389 --> 00:10:41,760
vandenberg we've worked closely with

225
00:10:46,710 --> 00:10:44,399
nasa and our other mission partners to

226
00:10:48,790 --> 00:10:46,720
get us to this day and on monday we hope

227
00:10:51,030 --> 00:10:48,800
to a successful launch

228
00:10:53,030 --> 00:10:51,040
the ability to successfully execute this

229
00:10:55,190 --> 00:10:53,040
launch rate uh launches back to back

230
00:10:57,350 --> 00:10:55,200
less than two weeks apart and it placed

231
00:10:58,949 --> 00:10:57,360
two critical missions into orbit in less

232
00:11:00,790 --> 00:10:58,959
than two weeks as a testament to our

233
00:11:02,230 --> 00:11:00,800
dedicated skilled and experienced

234
00:11:03,350 --> 00:11:02,240
workforce

235
00:11:05,190 --> 00:11:03,360
it's also a testament to the

236
00:11:06,870 --> 00:11:05,200
effectiveness of our partnership with

237
00:11:08,630 --> 00:11:06,880
our nasa customer

238
00:11:10,949 --> 00:11:08,640

that partnership has allowed us to work

239
00:11:12,790 --> 00:11:10,959
closely with nasa to conduct a detailed

240
00:11:15,509 --> 00:11:12,800
review of all the telemetry data that

241
00:11:17,670 --> 00:11:15,519
came from our atlas launch last week

242
00:11:19,910 --> 00:11:17,680
and this preparation is just part of our

243
00:11:21,910 --> 00:11:19,920
disciplined and rigorous process to

244
00:11:23,670 --> 00:11:21,920
ensure continued mission success one

245
00:11:25,670 --> 00:11:23,680
launch at a time

246
00:11:28,710 --> 00:11:25,680
the result will be the tdrs-k launched

247
00:11:31,269 --> 00:11:28,720
on january 30th and ldcm will get into

248
00:11:33,030 --> 00:11:31,279
orbit and be able to provide important

249
00:11:34,710 --> 00:11:33,040
services and data that will benefit the

250
00:11:37,110 --> 00:11:34,720
entire world

251
00:11:38,710 --> 00:11:37,120
this will be ula's second launch of

252
00:11:42,150 --> 00:11:38,720
2013.

253
00:11:43,590 --> 00:11:42,160
it will be the 36th atlas v mission that

254
00:11:45,350 --> 00:11:43,600
we've flown since the beginning of the

255
00:11:49,030 --> 00:11:45,360
elv program

256
00:11:50,790 --> 00:11:49,040
and it will be ula's 68th launch in just

257
00:11:52,870 --> 00:11:50,800
over six years

258
00:11:55,190 --> 00:11:52,880
this will also be our first atlas launch

259
00:11:57,030 --> 00:11:55,200
for nasa from vandenberg since december

260
00:11:58,389 --> 00:11:57,040
of 1999.

261
00:12:05,430 --> 00:11:58,399
we were out here then i think we were

262
00:12:10,389 --> 00:12:07,910
99. since that time we've launched a lot

263
00:12:12,069 --> 00:12:10,399

of delta 2s from vandenberg and we've

264
00:12:15,030 --> 00:12:12,079
launched atlases for other customers but

265
00:12:17,590 --> 00:12:15,040
this will be the first nasa atlas since

266
00:12:20,949 --> 00:12:17,600
that eos launch in 99

267
00:12:23,670 --> 00:12:20,959
ldcm will launch aboard an atlas 5 401

268
00:12:25,430 --> 00:12:23,680
configuration that's probably our most

269
00:12:27,509 --> 00:12:25,440
basic launch vehicle configuration for

270
00:12:30,150 --> 00:12:27,519
atlas with the four meter fairing we've

271
00:12:32,550 --> 00:12:30,160
got a booster powered by the rd amorous

272
00:12:35,350 --> 00:12:32,560
rd180 engine the pratt whitney

273
00:12:37,350 --> 00:12:35,360
rocketdyne rl10a-4 engine on the upper

274
00:12:39,030 --> 00:12:37,360
stage the centaur stage

275
00:12:41,590 --> 00:12:39,040
and this mission does not require the

276
00:12:43,670 --> 00:12:41,600
use of any solid rocket boosters

277
00:12:46,629 --> 00:12:43,680
i have video i'd like to show this is

278
00:12:48,389 --> 00:12:46,639
the launch sequence that we'll see on

279
00:12:50,790 --> 00:12:48,399
monday morning it'll give you a preview

280
00:12:52,470 --> 00:12:50,800
of what you can expect

281
00:12:54,550 --> 00:12:52,480
so here's the mst rolling back in

282
00:12:56,389 --> 00:12:54,560
preparation for launch

283
00:12:58,389 --> 00:12:56,399
when we light those booster engines

284
00:12:59,910 --> 00:12:58,399
they'll be generating about 900 000

285
00:13:02,310 --> 00:12:59,920
pounds of thrust to get the vehicle off

286
00:13:04,389 --> 00:13:02,320
the ground and since since this vehicle

287
00:13:06,150 --> 00:13:04,399
does not have any srbs

288
00:13:07,590 --> 00:13:06,160

the first major event that you'll see

289
00:13:09,350 --> 00:13:07,600
during flight

290
00:13:10,870 --> 00:13:09,360
will happen about four minutes after

291
00:13:12,230 --> 00:13:10,880
liftoff

292
00:13:14,310 --> 00:13:12,240
uh

293
00:13:17,110 --> 00:13:14,320
four minutes in we will have used up all

294
00:13:18,389 --> 00:13:17,120
the propellants in that booster stage

295
00:13:20,550 --> 00:13:18,399
and we will

296
00:13:22,069 --> 00:13:20,560
give the command to shut down the

297
00:13:23,509 --> 00:13:22,079
booster engine what we call booster

298
00:13:26,150 --> 00:13:23,519
engine cutoff you'll see that coming up

299
00:13:28,069 --> 00:13:26,160
here in a moment

300
00:13:30,150 --> 00:13:28,079
after we shut down that booster engine

301
00:13:31,670 --> 00:13:30,160
about six seconds later

302
00:13:35,750 --> 00:13:31,680
we'll give the command to separate from

303
00:13:38,790 --> 00:13:35,760
the centaur upper state upper stage

304
00:13:41,269 --> 00:13:38,800
we will then begin preparing the centaur

305
00:13:43,030 --> 00:13:41,279
engine for the first of several burns

306
00:13:44,550 --> 00:13:43,040
that first burn will last approximately

307
00:13:46,310 --> 00:13:44,560
11 minutes

308
00:13:48,629 --> 00:13:46,320
after it lights we'll jettison the

309
00:13:51,509 --> 00:13:48,639
payload fairing about

310
00:13:53,829 --> 00:13:51,519
eight seconds after start of the engine

311
00:13:56,150 --> 00:13:53,839
and that first 11 minute burn will place

312
00:13:58,230 --> 00:13:56,160
uh centaur with the ldcm satellite into

313
00:14:00,870 --> 00:13:58,240

a slightly elliptical orbit

314
00:14:03,590 --> 00:14:00,880
about a 90 nautical mile by 370 nautical

315
00:14:05,670 --> 00:14:03,600
mile altitude we'll then have a coast

316
00:14:07,509 --> 00:14:05,680
phase of 55 minutes to get into position

317
00:14:08,949 --> 00:14:07,519
for the second burn second burn will be

318
00:14:10,710 --> 00:14:08,959
a little bit less than two minutes and

319
00:14:13,430 --> 00:14:10,720
that will raise the orbit to

320
00:14:15,750 --> 00:14:13,440
approximately a 360

321
00:14:17,910 --> 00:14:15,760
nautical mile circular orbit

322
00:14:20,069 --> 00:14:17,920
we will then separate from the

323
00:14:22,069 --> 00:14:20,079
spacecraft a few minutes later

324
00:14:23,750 --> 00:14:22,079
and begin the usual series of maneuvers

325
00:14:26,069 --> 00:14:23,760
to back away from the spacecraft and

326
00:14:27,590 --> 00:14:26,079
ensure no re-contact or contamination

327
00:14:31,590 --> 00:14:27,600
and then one thing that's a little bit

328
00:14:34,150 --> 00:14:31,600
unusual about this mission is we will

329
00:14:36,310 --> 00:14:34,160
conduct a third burn of centaur

330
00:14:38,710 --> 00:14:36,320
and that will actually place the centaur

331
00:14:40,310 --> 00:14:38,720
into an earth escape orbit we always try

332
00:14:41,829 --> 00:14:40,320
to put the centaur into some sort of a

333
00:14:45,189 --> 00:14:41,839
disposal orbit so it won't interfere

334
00:14:47,189 --> 00:14:45,199
with anything in the future

335
00:14:48,629 --> 00:14:47,199
ldcm incorporates sensing and data

336
00:14:50,230 --> 00:14:48,639
capture improvements that will benefit

337
00:14:52,389 --> 00:14:50,240
many nations and we're proud of the role

338
00:14:54,710 --> 00:14:52,399

that ula will play in helping to

339
00:14:56,550 --> 00:14:54,720
continue landsat's important legacy of

340
00:14:58,790 --> 00:14:56,560
earth observation

341
00:15:00,069 --> 00:14:58,800
ula is proud to serve a critical role in

342
00:15:02,310 --> 00:15:00,079
delivering government and commercial

343
00:15:04,389 --> 00:15:02,320
payloads to orbit and we are focused on

344
00:15:06,230 --> 00:15:04,399
perfect product delivery for this and

345
00:15:08,069 --> 00:15:06,240
every mission we launched for nasa and

346
00:15:09,750 --> 00:15:08,079
all of our other customers

347
00:15:11,269 --> 00:15:09,760
and once again i'd like to say thank you

348
00:15:13,030 --> 00:15:11,279
to all of our mission partners all the

349
00:15:13,910 --> 00:15:13,040
people who have helped us get to this

350
00:15:16,069 --> 00:15:13,920
point

351
00:15:18,310 --> 00:15:16,079
and the entire ula team looks forward to

352
00:15:20,389 --> 00:15:18,320
a successful launch on monday back to

353
00:15:23,670 --> 00:15:20,399
you george thank you vern

354
00:15:26,310 --> 00:15:23,680
and now to ken schwer the ldcm project

355
00:15:27,670 --> 00:15:26,320
manager from goddard space flight center

356
00:15:29,910 --> 00:15:27,680
thank you george

357
00:15:31,350 --> 00:15:29,920
sixteen thousand seven hundred sixty

358
00:15:33,430 --> 00:15:31,360
miles an hour

359
00:15:36,150 --> 00:15:33,440
that's how fast the landsat satellite is

360
00:15:39,350 --> 00:15:36,160
begun going to be going in three days

361
00:15:40,550 --> 00:15:39,360
once on station 300 438 miles above our

362
00:15:43,110 --> 00:15:40,560
homes

363
00:15:45,350 --> 00:15:43,120

the ldcm satellite will orbit our planet

364
00:15:47,269 --> 00:15:45,360
every 99 minutes

365
00:15:49,749 --> 00:15:47,279
ldcm's imagery

366
00:15:52,069 --> 00:15:49,759
resolution or pixel size is about the

367
00:15:55,030 --> 00:15:52,079
size of a baseball infield

368
00:15:56,629 --> 00:15:55,040
and the imaging track on earth is a 115

369
00:15:58,710 --> 00:15:56,639
mile swath

370
00:16:03,430 --> 00:15:58,720
which leads to the ldcm satellite

371
00:16:05,430 --> 00:16:03,440
observing the entire earth every 16 days

372
00:16:07,350 --> 00:16:05,440
once the ldcm satellite separates from

373
00:16:09,670 --> 00:16:07,360
the launch vehicle the satellite goes

374
00:16:11,350 --> 00:16:09,680
through an automated sequence where the

375
00:16:14,389 --> 00:16:11,360
control system will maneuver the

376
00:16:17,110 --> 00:16:14,399
satellite for solar array deployment

377
00:16:19,269 --> 00:16:17,120
the next the satellite communications

378
00:16:21,509 --> 00:16:19,279
will be configured for ground contact

379
00:16:23,030 --> 00:16:21,519
this allows the mission operations team

380
00:16:25,590 --> 00:16:23,040
to verify the state of the health of the

381
00:16:27,189 --> 00:16:25,600
satellite this all happens in just about

382
00:16:28,629 --> 00:16:27,199
20 minutes after separating from the

383
00:16:31,350 --> 00:16:28,639
launch vehicle

384
00:16:33,590 --> 00:16:31,360
the ldcm spacecraft was built by orbital

385
00:16:35,430 --> 00:16:33,600
sciences in gilbert arizona where both

386
00:16:37,030 --> 00:16:35,440
the oli and tears instruments were

387
00:16:38,550 --> 00:16:37,040
delivered and integrated to the

388
00:16:40,629 --> 00:16:38,560

spacecraft

389
00:16:42,230 --> 00:16:40,639
the operational land imager oli was

390
00:16:43,430 --> 00:16:42,240
built by ball aerospace in boulder

391
00:16:45,749 --> 00:16:43,440
colorado

392
00:16:47,670 --> 00:16:45,759
and the thermal infrared sensor tiers

393
00:16:50,629 --> 00:16:47,680
was built by nasa's goddard space flight

394
00:16:52,230 --> 00:16:50,639
center in greenbelt maryland the ldcm

395
00:16:53,749 --> 00:16:52,240
satellite was shipped from phoenix

396
00:16:57,430 --> 00:16:53,759
arizona

397
00:16:58,949 --> 00:16:57,440
vandenberg air force base california on

398
00:17:00,629 --> 00:16:58,959
december 19th

399
00:17:02,150 --> 00:17:00,639
since then we've been preparing the

400
00:17:06,390 --> 00:17:02,160
satellite for launch

401
00:17:08,949 --> 00:17:07,669
here you can see our thermally

402
00:17:11,270 --> 00:17:08,959
controlled

403
00:17:13,510 --> 00:17:11,280
transporter sitting inside the astrotech

404
00:17:15,189 --> 00:17:13,520
processing facility at vandenberg

405
00:17:17,029 --> 00:17:15,199
lifting the lid pulling out the

406
00:17:19,590 --> 00:17:17,039
strongback and the spacecraft which is

407
00:17:21,829 --> 00:17:19,600
bag for contamination purposes

408
00:17:23,829 --> 00:17:21,839
then we place it on the stand so we can

409
00:17:26,150 --> 00:17:23,839
do all our post shipment operations and

410
00:17:30,789 --> 00:17:26,160
make sure everything is fired properly

411
00:17:34,470 --> 00:17:32,470
one of the very critical aspects when we

412
00:17:37,590 --> 00:17:34,480
get on orbit right away is to deploy our

413
00:17:40,070 --> 00:17:37,600

solar ray so this is one last time that

414
00:17:42,070 --> 00:17:40,080
we do we call release

415
00:17:44,150 --> 00:17:42,080
first motion and release of the solar

416
00:17:45,510 --> 00:17:44,160
array you can see it popping out there

417
00:17:47,590 --> 00:17:45,520
we don't walk it all the way out we just

418
00:17:49,909 --> 00:17:47,600
want to make sure that that mechanism

419
00:17:53,669 --> 00:17:49,919
operated we then fold it back in and

420
00:17:57,270 --> 00:17:55,510
after the spacecraft is fueled and all

421
00:17:58,470 --> 00:17:57,280
the testing is done

422
00:18:01,430 --> 00:17:58,480
we actually

423
00:18:03,029 --> 00:18:01,440
mount it to the payload attach fitting

424
00:18:05,270 --> 00:18:03,039
which is actually the fitting that will

425
00:18:07,029 --> 00:18:05,280
install to the atlas v launch vehicle

426
00:18:09,590 --> 00:18:07,039
here you can see the atlas 5 fairings

427
00:18:11,990 --> 00:18:09,600
being brought into the clean room

428
00:18:14,710 --> 00:18:12,000
the two halves will then be prepared

429
00:18:16,070 --> 00:18:14,720
to encapsulate the satellite

430
00:18:18,789 --> 00:18:16,080
here you can see this is kind of a

431
00:18:20,470 --> 00:18:18,799
bittersweet moment this is the last time

432
00:18:21,590 --> 00:18:20,480
we ever get to see our satellite that

433
00:18:23,909 --> 00:18:21,600
we've been

434
00:18:26,310 --> 00:18:23,919
working on for years

435
00:18:28,950 --> 00:18:26,320
after the encapsulation the team goes

436
00:18:31,590 --> 00:18:28,960
through the whole process to to prepare

437
00:18:32,950 --> 00:18:31,600
environmental systems inside purging the

438
00:18:36,549 --> 00:18:32,960

instruments this is all to make sure

439
00:18:39,430 --> 00:18:36,559
that our satellite stays clean

440
00:18:42,710 --> 00:18:39,440
all in preparation to be uh transported

441
00:18:44,070 --> 00:18:42,720
out to the pad

442
00:18:48,310 --> 00:18:44,080
you can see here it happened the wee

443
00:18:52,630 --> 00:18:49,990
the nasa goddard space flight center

444
00:18:54,710 --> 00:18:52,640
role for ldcm is to manage the entire

445
00:18:56,789 --> 00:18:54,720
mission for nasa nasa's earth science

446
00:18:59,190 --> 00:18:56,799
division which includes acquiring the

447
00:19:01,430 --> 00:18:59,200
spacecraft the instruments the launch

448
00:19:05,590 --> 00:19:01,440
vehicle overall mission systems

449
00:19:07,669 --> 00:19:05,600
engineering and early orbit operations

450
00:19:10,470 --> 00:19:07,679
the u.s department of interior through

451
00:19:12,710 --> 00:19:10,480
the u.s geological survey usgs

452
00:19:14,710 --> 00:19:12,720
is responsible for the ground system

453
00:19:16,950 --> 00:19:14,720
mission operations and the data

454
00:19:19,190 --> 00:19:16,960
processing and archive system

455
00:19:21,669 --> 00:19:19,200
after launch in about three months of

456
00:19:23,510 --> 00:19:21,679
nasa checkout usgs takes over

457
00:19:24,710 --> 00:19:23,520
operational control of the satellite in

458
00:19:27,590 --> 00:19:24,720
the mission

459
00:19:29,590 --> 00:19:27,600
at which time ldcm will be renamed

460
00:19:32,150 --> 00:19:29,600
landsat 8. can you roll the next video

461
00:19:35,430 --> 00:19:33,909
the ldcm satellite will be controlled

462
00:19:37,270 --> 00:19:35,440
from the nasa goddard space flight

463
00:19:38,630 --> 00:19:37,280

center in greenbelt maryland

464
00:19:41,669 --> 00:19:38,640
the satellite

465
00:19:43,430 --> 00:19:41,679
will send down about 400 images a day to

466
00:19:44,710 --> 00:19:43,440
ground stations in sioux falls south

467
00:19:48,390 --> 00:19:44,720
dakota

468
00:19:51,510 --> 00:19:48,400
fairbanks alaska and svalbard norway

469
00:19:52,870 --> 00:19:51,520
back in 2008 usgs made the landsat data

470
00:19:55,110 --> 00:19:52,880
records

471
00:19:57,270 --> 00:19:55,120
free to the public

472
00:19:59,990 --> 00:19:57,280
which resulted in yearly downloads going

473
00:20:02,470 --> 00:20:00,000
from thousands to millions

474
00:20:05,190 --> 00:20:02,480
this has spawned an explosion in the

475
00:20:06,710 --> 00:20:05,200
necessary and exciting local to global

476
00:20:09,830 --> 00:20:06,720
research

477
00:20:11,590 --> 00:20:09,840
landsat will send down more than 700

478
00:20:14,230 --> 00:20:11,600
additional images

479
00:20:16,470 --> 00:20:14,240
to go into usgs's three and a half

480
00:20:19,110 --> 00:20:16,480
million image archive

481
00:20:21,909 --> 00:20:19,120
just this past july the landsat program

482
00:20:23,830 --> 00:20:21,919
celebrated its 40th anniversary of

483
00:20:27,270 --> 00:20:23,840
continuous coverage

484
00:20:30,070 --> 00:20:27,280
my team is so excited to play a vital

485
00:20:32,870 --> 00:20:30,080
role in continuing this

486
00:20:34,630 --> 00:20:32,880
data record and nasa and usgs

487
00:20:38,310 --> 00:20:34,640
partnership

488
00:20:40,710 --> 00:20:38,320

ldcm will continue to describe

489
00:20:43,990 --> 00:20:40,720
the human impact on earth

490
00:20:46,789 --> 00:20:44,000
and the impact of earth on humanity

491
00:20:49,590 --> 00:20:46,799
which is vital for accommodating 7

492
00:20:52,149 --> 00:20:49,600
billion people on our planet

493
00:20:53,990 --> 00:20:52,159
i encourage all of you to stay tuned

494
00:20:55,270 --> 00:20:54,000
for the ldcm science briefing

495
00:20:56,789 --> 00:20:55,280
immediately following this press

496
00:20:59,350 --> 00:20:56,799
conference

497
00:21:01,750 --> 00:20:59,360
over the past year my ldcm team

498
00:21:04,230 --> 00:21:01,760
has rose to several challenges and

499
00:21:05,909 --> 00:21:04,240
stayed within cost schedule and

500
00:21:08,310 --> 00:21:05,919
technical excellence

501
00:21:11,270 --> 00:21:08,320
i am so proud of my team

502
00:21:13,990 --> 00:21:11,280
and ldcm is ready for launch

503
00:21:15,510 --> 00:21:14,000
back to you george thank you ken

504
00:21:16,390 --> 00:21:15,520
and now we'll look at monday's weather

505
00:21:18,310 --> 00:21:16,400
forecast

506
00:21:20,549 --> 00:21:18,320
with first lieutenant jennifer kelly

507
00:21:22,310 --> 00:21:20,559
launch weather officer from the 30th

508
00:21:24,549 --> 00:21:22,320
operation support squadron here at

509
00:21:27,029 --> 00:21:24,559
vandenberg lieutenant kelly

510
00:21:28,789 --> 00:21:27,039
thank you sir good afternoon

511
00:21:30,549 --> 00:21:28,799
february is the most atmospherically

512
00:21:32,310 --> 00:21:30,559
dynamic month for the central california

513
00:21:34,470 --> 00:21:32,320

coast marked by an alternating pattern

514
00:21:36,310 --> 00:21:34,480
of high and low pressure systems moving

515
00:21:38,230 --> 00:21:36,320
through the area currently we have a low

516
00:21:40,549 --> 00:21:38,240
pressure sister system moving through

517
00:21:41,990 --> 00:21:40,559
vandenberg air force base producing rain

518
00:21:44,149 --> 00:21:42,000
strong winds and possible lightning

519
00:21:45,909 --> 00:21:44,159
strikes the clouds associated with this

520
00:21:48,149 --> 00:21:45,919
low pressure system will depart tomorrow

521
00:21:49,830 --> 00:21:48,159
as high pressure builds in behind it

522
00:21:51,750 --> 00:21:49,840
this will provide improving conditions

523
00:21:53,590 --> 00:21:51,760
clearing side skies and an end to

524
00:21:56,789 --> 00:21:53,600
precipitation

525
00:21:58,710 --> 00:21:56,799
looking at the satellite image

526
00:22:00,789 --> 00:21:58,720
you can see from our ir image you can

527
00:22:03,830 --> 00:22:00,799
see the cloud cover associated with that

528
00:22:05,909 --> 00:22:03,840
low system over southern california

529
00:22:07,510 --> 00:22:05,919
upstream or to the northwest you can see

530
00:22:09,190 --> 00:22:07,520
the clearing associated with that high

531
00:22:11,190 --> 00:22:09,200
pressure system

532
00:22:13,270 --> 00:22:11,200
by monday high pressure will be well

533
00:22:14,710 --> 00:22:13,280
established with only thin cirrus clouds

534
00:22:16,470 --> 00:22:14,720
remaining overhead

535
00:22:17,990 --> 00:22:16,480
a thermal trough will provide a slight

536
00:22:19,510 --> 00:22:18,000
offshore flow early in the morning

537
00:22:20,630 --> 00:22:19,520
preventing the development of the marine

538
00:22:21,750 --> 00:22:20,640

layer

539
00:22:23,110 --> 00:22:21,760
models are agreeing that weather

540
00:22:24,230 --> 00:22:23,120
conditions for the launch will be

541
00:22:26,149 --> 00:22:24,240
favorable

542
00:22:30,149 --> 00:22:26,159
the forecast for the launch window of

543
00:22:32,470 --> 00:22:30,159
102 to 1050 local on february 11th will

544
00:22:35,190 --> 00:22:32,480
be serious clouds of 1 8 coverage from

545
00:22:37,669 --> 00:22:35,200
20 000 to 22 000 feet unlimited

546
00:22:38,870 --> 00:22:37,679
visibility winds out of the east at 8 to

547
00:22:40,870 --> 00:22:38,880
12 knots

548
00:22:42,710 --> 00:22:40,880
and temperatures in the mid to low 50s

549
00:22:45,669 --> 00:22:42,720
providing an overall probability of

550
00:22:48,149 --> 00:22:45,679
violation at t 0 for zero percent

551
00:22:50,310 --> 00:22:48,159
and finally the 24 hour scrub forecast

552
00:22:51,669 --> 00:22:50,320
for february 12 will see little change

553
00:22:53,750 --> 00:22:51,679
to conditions as the high pressure

554
00:22:55,990 --> 00:22:53,760
remains the dominant feature

555
00:22:59,110 --> 00:22:56,000
serious clouds of 1 8 coverage from 20

556
00:23:01,029 --> 00:22:59,120
to 22 000 feet unlimited visibility

557
00:23:03,590 --> 00:23:01,039
winds remain out of the east at 8 to 12

558
00:23:05,190 --> 00:23:03,600
knots and temperatures in the low 50s

559
00:23:08,789 --> 00:23:05,200
providing an overall probability of

560
00:23:11,110 --> 00:23:08,799
violation at t 0 of 0 percent thank you

561
00:23:13,590 --> 00:23:11,120
george thank you lieutenant kelly

562
00:23:16,070 --> 00:23:13,600
and we're ready now to take questions

563
00:23:18,950 --> 00:23:16,080

we'll take questions here in the room

564
00:23:21,669 --> 00:23:18,960
and then we'll also take questions on

565
00:23:23,909 --> 00:23:21,679
twitter twitter hashtag asknasa but

566
00:23:25,510 --> 00:23:23,919
let's begin here in the room please uh

567
00:23:27,750 --> 00:23:25,520
give your name an affiliation when the

568
00:23:30,870 --> 00:23:27,760
microphone comes to you and we'll start

569
00:23:32,029 --> 00:23:30,880
here with justin ray

570
00:23:33,909 --> 00:23:32,039
thanks uh justin wright with

571
00:23:34,870 --> 00:23:33,919
spaceflightnow.com for omar i wonder if

572
00:23:36,870 --> 00:23:34,880
you could talk a little bit about the

573
00:23:40,310 --> 00:23:36,880
two engineering

574
00:23:42,149 --> 00:23:40,320
topics that remain open and if those are

575
00:23:43,269 --> 00:23:42,159
potential showstoppers for launching on

576
00:23:44,470 --> 00:23:43,279
monday

577
00:23:46,070 --> 00:23:44,480
i don't believe that they're show

578
00:23:47,590 --> 00:23:46,080
stoppers one of them

579
00:23:49,590 --> 00:23:47,600
deals with

580
00:23:52,950 --> 00:23:49,600
some bench testing that occurred on the

581
00:23:54,149 --> 00:23:52,960
fdinu a test or a unit that was being

582
00:23:58,149 --> 00:23:54,159
tested

583
00:24:01,430 --> 00:23:58,159
uh the other item is a revisit of the

584
00:24:02,310 --> 00:24:01,440
rl10 anomaly that occurred on the gps

585
00:24:05,110 --> 00:24:02,320
mission

586
00:24:06,950 --> 00:24:05,120
last fall and it's an update on the

587
00:24:10,870 --> 00:24:06,960
ongoing investigation that's going on

588
00:24:14,789 --> 00:24:12,789

hi nora wallace the santa barbara news

589
00:24:16,789 --> 00:24:14,799
press can someone address the overall

590
00:24:19,909 --> 00:24:16,799
cost of the mission

591
00:24:22,269 --> 00:24:19,919
uh yes the overall overall cost for uh

592
00:24:24,710 --> 00:24:22,279
nasa's contribution to the mission is

593
00:24:27,350 --> 00:24:24,720
855 million dollars

594
00:24:29,269 --> 00:24:27,360
that was from the beginning of uh

595
00:24:33,350 --> 00:24:29,279
the formulation of the mission all the

596
00:24:35,190 --> 00:24:33,360
way through hand over to usgs

597
00:24:37,990 --> 00:24:35,200
janine scully santa maria times the long

598
00:24:40,149 --> 00:24:38,000
poke record so when is the next meet up

599
00:24:42,470 --> 00:24:40,159
in terms of when you're going to

600
00:24:44,549 --> 00:24:42,480
reconvene and assess if you can

601
00:24:46,710 --> 00:24:44,559
keep moving forward is it tonight i

602
00:24:48,470 --> 00:24:46,720
think i got a little lost okay so so

603
00:24:50,870 --> 00:24:48,480
what we're trying to do is do our final

604
00:24:53,029 --> 00:24:50,880
ordnance connects and we can't do that

605
00:24:53,990 --> 00:24:53,039
while we're in a lightning

606
00:24:57,269 --> 00:24:54,000
watch

607
00:24:59,909 --> 00:24:57,279
so if we get that release

608
00:25:01,590 --> 00:24:59,919
by around four o'clock this afternoon

609
00:25:03,590 --> 00:25:01,600
we've got about three hours of work we

610
00:25:06,149 --> 00:25:03,600
have to complete

611
00:25:08,630 --> 00:25:06,159
any later in that and our team that

612
00:25:10,470 --> 00:25:08,640
specializes in doing that times out and

613
00:25:12,630 --> 00:25:10,480

would we'd have to

614
00:25:15,350 --> 00:25:12,640
reschedule that event for tomorrow

615
00:25:16,870 --> 00:25:15,360
hoping that the weather cleans up we do

616
00:25:19,590 --> 00:25:16,880
have a uh

617
00:25:22,950 --> 00:25:19,600
lr reconvene tomorrow at 9 00 a.m

618
00:25:24,149 --> 00:25:22,960
and that will assess the the items that

619
00:25:25,190 --> 00:25:24,159
i mentioned

620
00:25:27,590 --> 00:25:25,200
and

621
00:25:30,470 --> 00:25:27,600
it will also um

622
00:25:32,310 --> 00:25:30,480
if if in case we don't get the ordinance

623
00:25:34,789 --> 00:25:32,320
connected tonight we might have to

624
00:25:38,230 --> 00:25:34,799
reassess whether monday is a viable date

625
00:25:42,390 --> 00:25:39,830
any further questions here in the room

626
00:25:43,909 --> 00:25:42,400
we have one down from nora again

627
00:25:44,789 --> 00:25:43,919
uh justin again i was wondering if you

628
00:25:46,310 --> 00:25:44,799
could talk a little bit about the

629
00:25:47,909 --> 00:25:46,320
weekend schedule what other work would

630
00:25:49,909 --> 00:25:47,919
be going on at the pad and if you had to

631
00:25:51,750 --> 00:25:49,919
delay ordinance into the weekend what

632
00:25:54,310 --> 00:25:51,760
does that mean to finish up our our

633
00:25:57,029 --> 00:25:54,320
final closeouts justin uh

634
00:25:59,269 --> 00:25:57,039
you know lift all the deck plates and so

635
00:26:01,350 --> 00:25:59,279
forth reposition all the stuff that

636
00:26:03,750 --> 00:26:01,360
might be affected by blast and and that

637
00:26:06,710 --> 00:26:03,760
takes uh

638
00:26:10,390 --> 00:26:06,720

about a shift's work um during daylight

639
00:26:15,190 --> 00:26:12,789
any additional questions

640
00:26:16,390 --> 00:26:15,200
maybe for ken um we've seen the

641
00:26:18,789 --> 00:26:16,400
information about the number of

642
00:26:21,350 --> 00:26:18,799
downloads uh by the public spiking in

643
00:26:23,590 --> 00:26:21,360
the last few years on this imagery can

644
00:26:25,830 --> 00:26:23,600
you explain what your views are on the

645
00:26:27,590 --> 00:26:25,840
the fascination with this information by

646
00:26:29,269 --> 00:26:27,600
the public we understand why you're

647
00:26:30,789 --> 00:26:29,279
interested in why the science guys are

648
00:26:32,230 --> 00:26:30,799
interested but

649
00:26:33,830 --> 00:26:32,240
well that's probably a good two-part

650
00:26:35,590 --> 00:26:33,840
question i'll address that but for the

651
00:26:37,029 --> 00:26:35,600
science briefing uh

652
00:26:39,430 --> 00:26:37,039
they can go in a lot to the science

653
00:26:42,230 --> 00:26:39,440
aspect from the engineering side if you

654
00:26:45,590 --> 00:26:42,240
go to the usgs website and just start

655
00:26:47,590 --> 00:26:45,600
exploring all the different images

656
00:26:50,149 --> 00:26:47,600
throughout the world you know whether

657
00:26:53,750 --> 00:26:50,159
it's associated with cities growing or

658
00:26:55,430 --> 00:26:53,760
are changes in in water concentration

659
00:26:57,590 --> 00:26:55,440
and what the scientists and everyone do

660
00:26:59,510 --> 00:26:57,600
with that to help manage and let people

661
00:27:01,350 --> 00:26:59,520
know it's just i mean

662
00:27:03,590 --> 00:27:01,360
i get on that website and look at these

663
00:27:07,350 --> 00:27:03,600

images and it's just fascinating to

664
00:27:10,070 --> 00:27:07,360
think that all of this now is free to

665
00:27:11,830 --> 00:27:10,080
everyone so we now we have so many

666
00:27:14,070 --> 00:27:11,840
people throughout the world doing

667
00:27:15,830 --> 00:27:14,080
research and investigations where it

668
00:27:17,990 --> 00:27:15,840
used to cost a good chunk of money just

669
00:27:19,909 --> 00:27:18,000
to get the data so now the researchers

670
00:27:21,350 --> 00:27:19,919
can spend all of that on their systems

671
00:27:23,750 --> 00:27:21,360
and everything to do that instead of

672
00:27:25,510 --> 00:27:23,760
acquiring the data i mean it's just

673
00:27:27,350 --> 00:27:25,520
it's fascinating and to think that

674
00:27:29,590 --> 00:27:27,360
there's a 40-year data record and we get

675
00:27:32,630 --> 00:27:29,600
to continue that it's what really really

676
00:27:34,310 --> 00:27:32,640
makes landsat to me such a special

677
00:27:37,990 --> 00:27:34,320
mission out of all the missions i've

678
00:27:43,350 --> 00:27:39,909
what is the future for landsat is there

679
00:27:46,230 --> 00:27:43,360
a landsat 9 on the books or

680
00:27:48,630 --> 00:27:46,240
right now nasa and the usgs are in

681
00:27:51,190 --> 00:27:48,640
discussions with the administration as

682
00:27:53,510 --> 00:27:51,200
well as our other stakeholders trying to

683
00:27:57,669 --> 00:27:53,520
determine exactly uh what path we're

684
00:28:01,190 --> 00:27:59,510
all right i think we have some twitter

685
00:28:08,630 --> 00:28:01,200
questions

686
00:28:12,630 --> 00:28:10,630
okay thank you george uh first question

687
00:28:15,430 --> 00:28:12,640
is at launch is the initial what is the

688
00:28:17,590 --> 00:28:15,440

initial heading of the ldcm satellite is

689
00:28:19,750 --> 00:28:17,600
it going towards the north or the south

690
00:28:21,430 --> 00:28:19,760
as it leaves vandenberg

691
00:28:23,269 --> 00:28:21,440
sure i can take

692
00:28:25,350 --> 00:28:23,279
do you want to go sure sure when we

693
00:28:27,190 --> 00:28:25,360
first launch we are going to be heading

694
00:28:29,590 --> 00:28:27,200
just west of south i think on the

695
00:28:33,510 --> 00:28:29,600
compass we'll be heading about 186

696
00:28:35,430 --> 00:28:33,520
degrees so this is a southern launch

697
00:28:38,710 --> 00:28:35,440
okay thank you the next question is will

698
00:28:41,510 --> 00:28:38,720
there be an underfly of ldcm with

699
00:28:42,950 --> 00:28:41,520
landsat 7 to cross calibrate the data

700
00:28:45,750 --> 00:28:42,960
between the missions

701
00:28:47,669 --> 00:28:45,760
yes we have that planned in our first 90

702
00:28:49,830 --> 00:28:47,679
days at checkout of course the first

703
00:28:51,350 --> 00:28:49,840
week we check out the spacecrafts

704
00:28:53,669 --> 00:28:51,360
the following couple weeks we check out

705
00:28:56,230 --> 00:28:53,679
the instruments we get them prepared for

706
00:28:58,310 --> 00:28:56,240
that and about day 38 is our first

707
00:29:01,430 --> 00:28:58,320
opportunity where we have the underfly

708
00:29:03,269 --> 00:29:01,440
with landsat 7 which is you know my

709
00:29:05,350 --> 00:29:03,279
project scientist says it is the best

710
00:29:07,510 --> 00:29:05,360
way to validate these sensors from

711
00:29:10,389 --> 00:29:07,520
previous missions so that isn't our plan

712
00:29:13,590 --> 00:29:12,230
all right that's all the questions we

713
00:29:16,470 --> 00:29:13,600

have on twitter

714
00:29:18,070 --> 00:29:16,480
follow up nora

715
00:29:20,070 --> 00:29:18,080
kind of a two-part question

716
00:29:23,430 --> 00:29:20,080
uh if the discussions are ongoing about

717
00:29:25,590 --> 00:29:23,440
landsat 9 what's your argument uh to the

718
00:29:26,950 --> 00:29:25,600
the people above you in terms of keeping

719
00:29:29,830 --> 00:29:26,960
the program

720
00:29:32,870 --> 00:29:29,840
um because of the the legacy of the data

721
00:29:34,230 --> 00:29:32,880
record and the the enormous use of it

722
00:29:36,470 --> 00:29:34,240
lately

723
00:29:38,310 --> 00:29:36,480
since the data went free

724
00:29:40,389 --> 00:29:38,320
uh worldwide we've had a lot more

725
00:29:42,230 --> 00:29:40,399
interest in using that data

726
00:29:44,950 --> 00:29:42,240
and it's very important to keep this

727
00:29:46,310 --> 00:29:44,960
this record going so that

728
00:29:48,389 --> 00:29:46,320
both

729
00:29:50,149 --> 00:29:48,399
the scientists can study land changes

730
00:29:51,750 --> 00:29:50,159
over time but there's also a lot of

731
00:29:53,830 --> 00:29:51,760
other applications

732
00:29:56,230 --> 00:29:53,840
being used and they'll go into those

733
00:29:58,710 --> 00:29:56,240
later this afternoon

734
00:30:00,950 --> 00:29:58,720
but we use it for forest management and

735
00:30:02,710 --> 00:30:00,960
water management and things like that

736
00:30:05,350 --> 00:30:02,720
not only in this country but around the

737
00:30:09,510 --> 00:30:06,950
so one more sorry

738
00:30:11,510 --> 00:30:09,520

so i i forgot who spoke about the

739
00:30:13,029 --> 00:30:11,520
the pixel imagery being about the size

740
00:30:14,310 --> 00:30:13,039
of a baseball field how does that

741
00:30:17,110 --> 00:30:14,320
compare to

742
00:30:20,070 --> 00:30:17,120
uh previous previous landsat missions in

743
00:30:22,950 --> 00:30:20,080
terms of advancement

744
00:30:24,630 --> 00:30:22,960
um i believe that's it's the same

745
00:30:25,350 --> 00:30:24,640
we continue that's the same and that is

746
00:30:27,190 --> 00:30:25,360
the

747
00:30:29,830 --> 00:30:27,200
appropriate swath that we want to be

748
00:30:31,990 --> 00:30:29,840
able to view basically lands change

749
00:30:35,590 --> 00:30:32,000
human impacts of the earth and allows us

750
00:30:38,950 --> 00:30:37,350
steve we've got some additional more

751
00:30:43,830 --> 00:30:38,960
questions that come in uh how will the

752
00:30:45,909 --> 00:30:43,840
ldcm orbit compared to that of landsat 7

753
00:30:47,510 --> 00:30:45,919
we're actually we're in the same orbits

754
00:30:50,389 --> 00:30:47,520
and we're actually going to follow eight

755
00:30:52,789 --> 00:30:50,399
days behind landsat 7.

756
00:30:54,470 --> 00:30:52,799
and that's to continue the data record

757
00:30:56,310 --> 00:30:54,480
and also have

758
00:30:58,549 --> 00:30:56,320
would be every eight days we have

759
00:31:00,710 --> 00:30:58,559
landsat imagery on the surface of the

760
00:31:02,470 --> 00:31:00,720
entire earth

761
00:31:05,430 --> 00:31:02,480
and the other question follow on from

762
00:31:09,909 --> 00:31:05,440
this person is will landsat 7 be

763
00:31:13,750 --> 00:31:12,070

well landsat 7 will be decommissioned

764
00:31:16,310 --> 00:31:13,760
when it's through

765
00:31:18,389 --> 00:31:16,320
but it's doing a great job

766
00:31:21,110 --> 00:31:18,399
landsat 5 has just finished what you're

767
00:31:22,950 --> 00:31:21,120
probably aware of 28 years on orbit

768
00:31:24,230 --> 00:31:22,960
which is just an incredible i think it

769
00:31:25,430 --> 00:31:24,240
may have set

770
00:31:26,950 --> 00:31:25,440
might be in the guinness book of world

771
00:31:28,549 --> 00:31:26,960
records is that right

772
00:31:30,070 --> 00:31:28,559
are we trying to

773
00:31:32,230 --> 00:31:30,080
but anyway uh

774
00:31:36,549 --> 00:31:32,240
yeah that we're we're bringing that that

775
00:31:36,559 --> 00:31:39,909
any additional questions

776
00:31:43,509 --> 00:31:41,909
all right in that event our next

777
00:31:45,669 --> 00:31:43,519
briefing which is going to be following