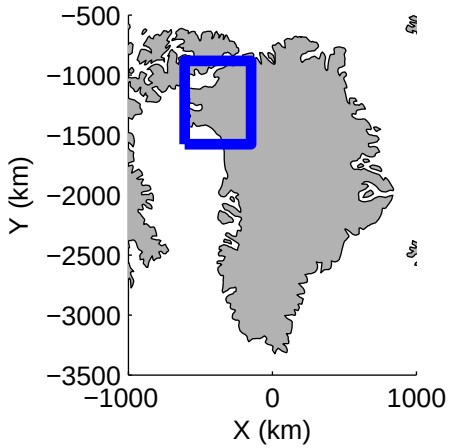
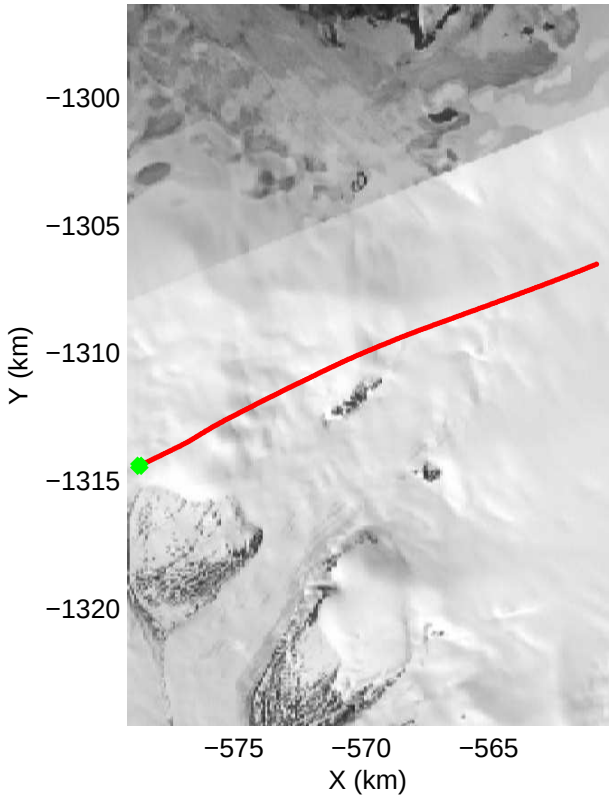
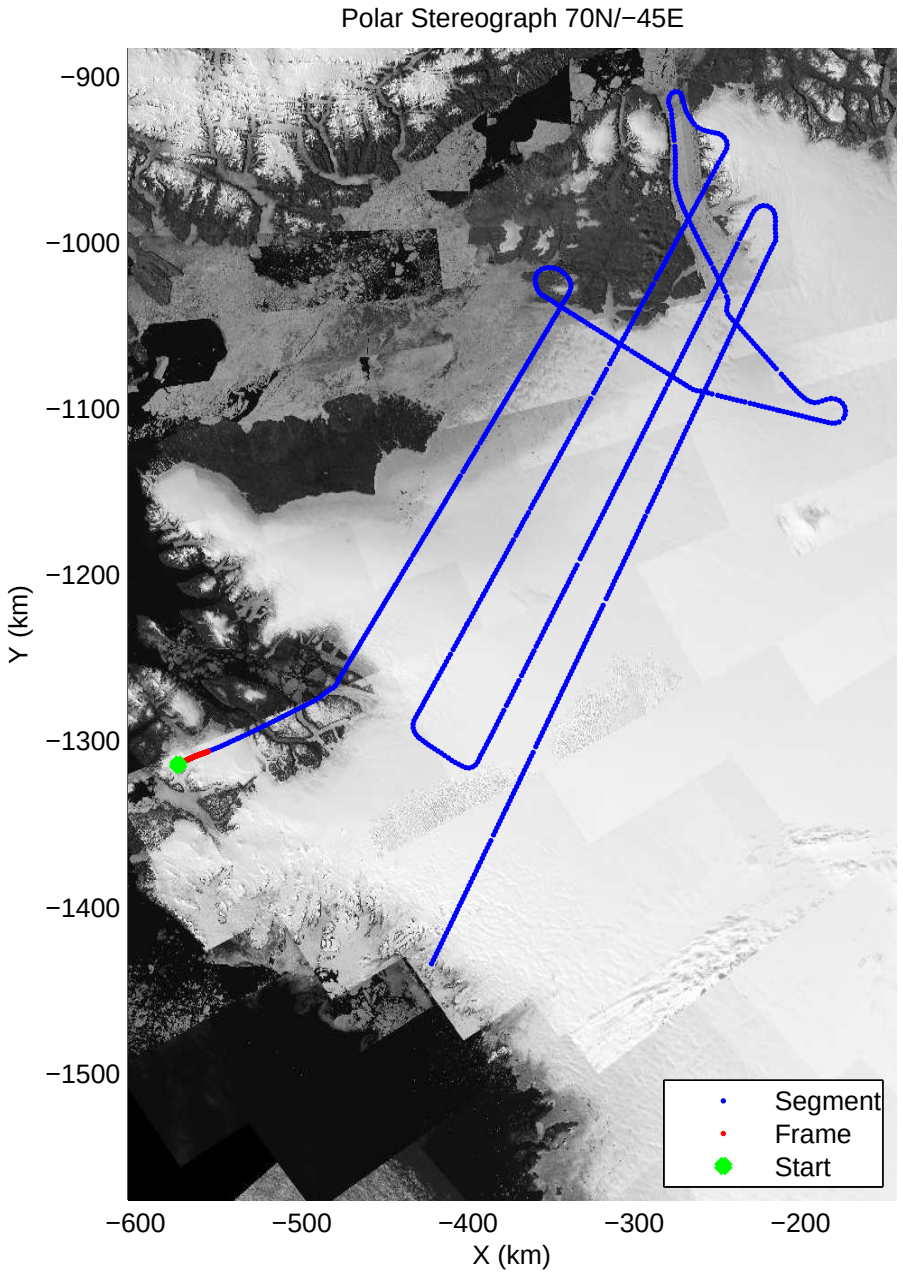
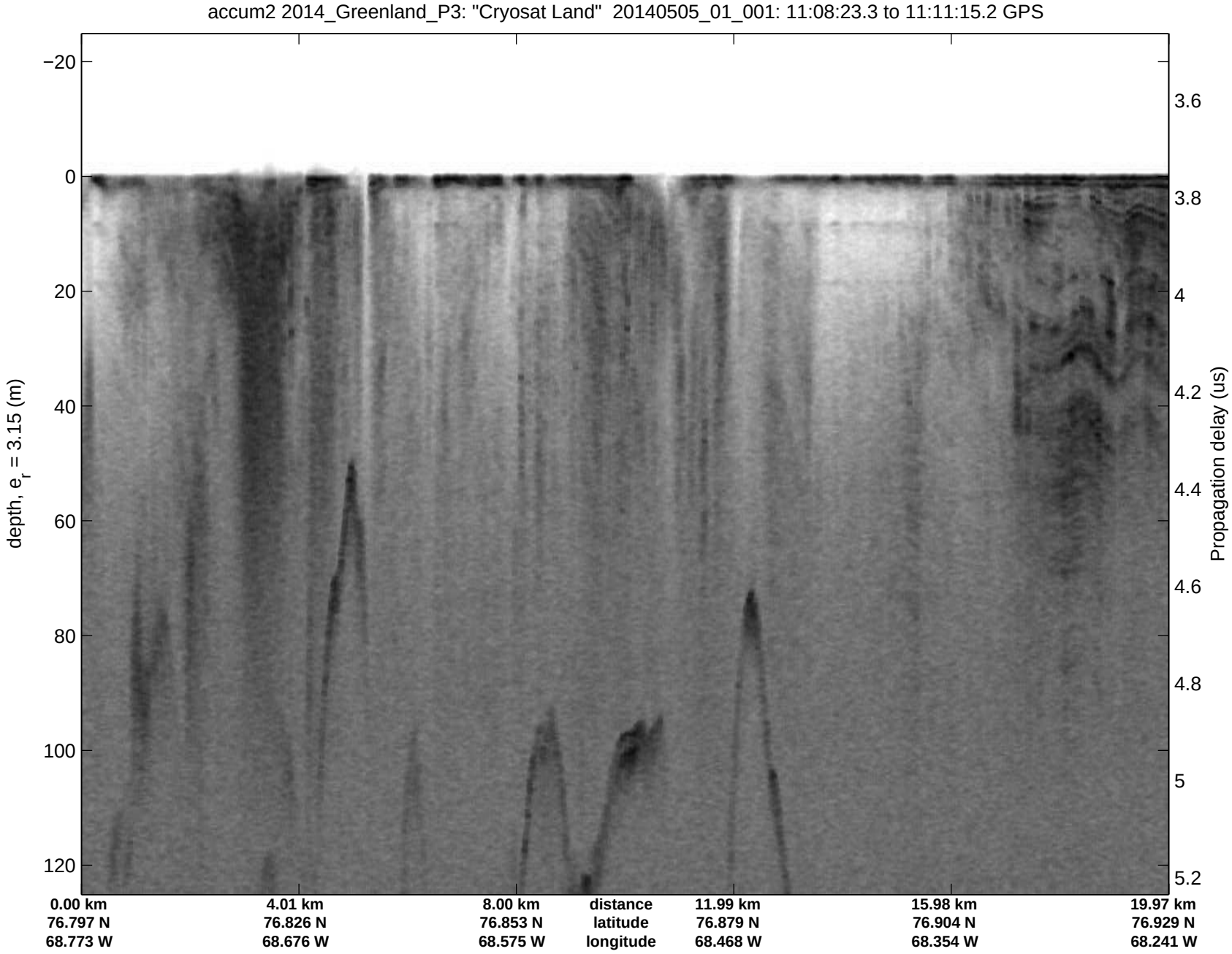
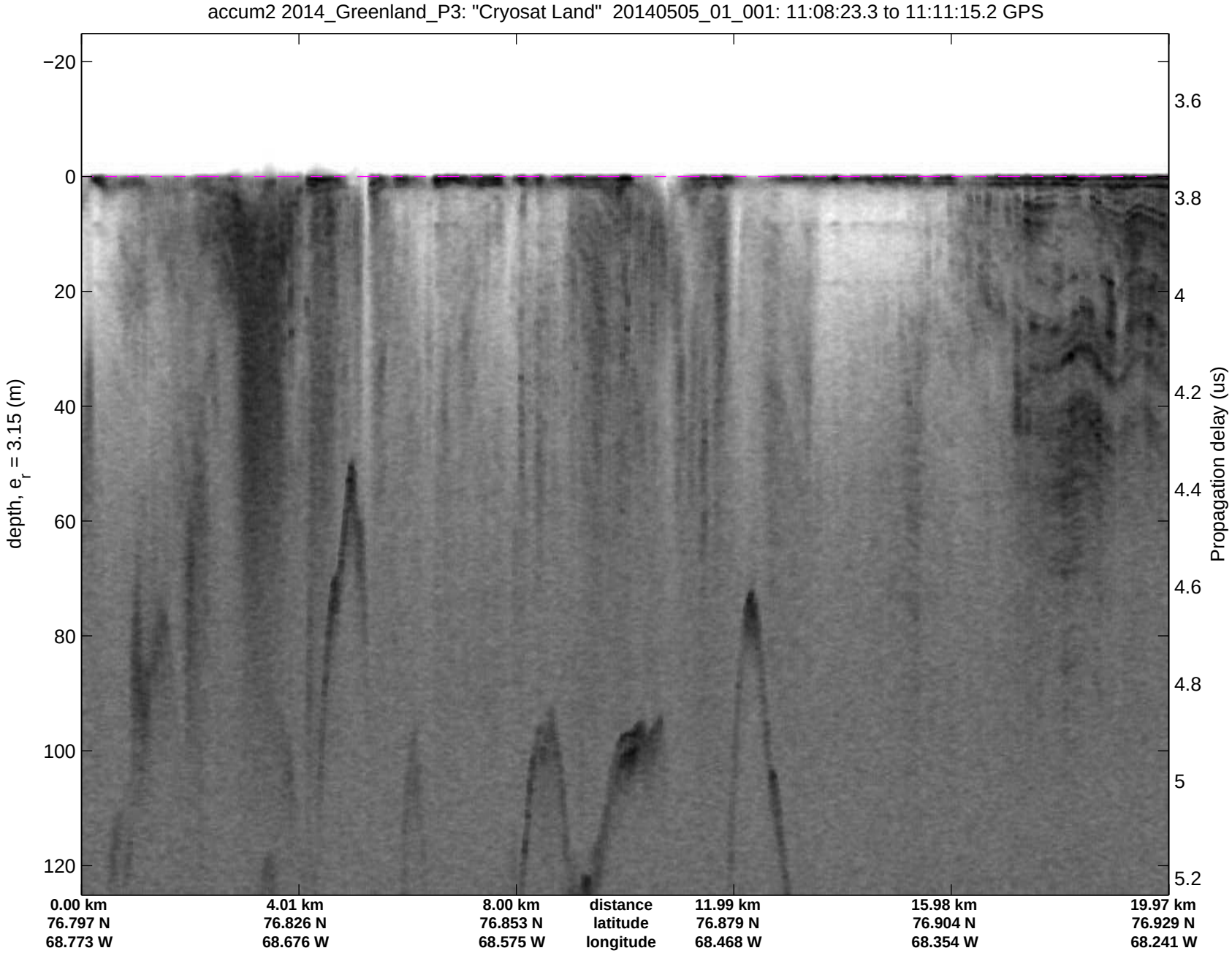
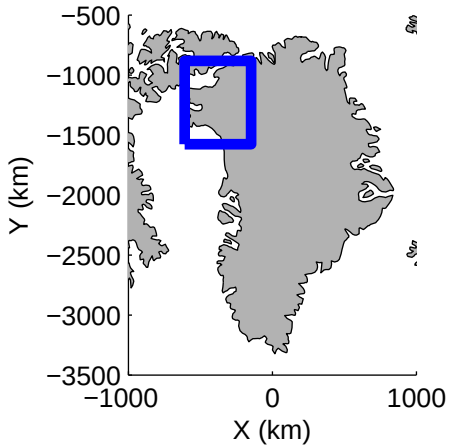

−500
−1000
−1500
−2000
−2500
−3000
−3500
Y (km)
−1000
0
1000
X (km)

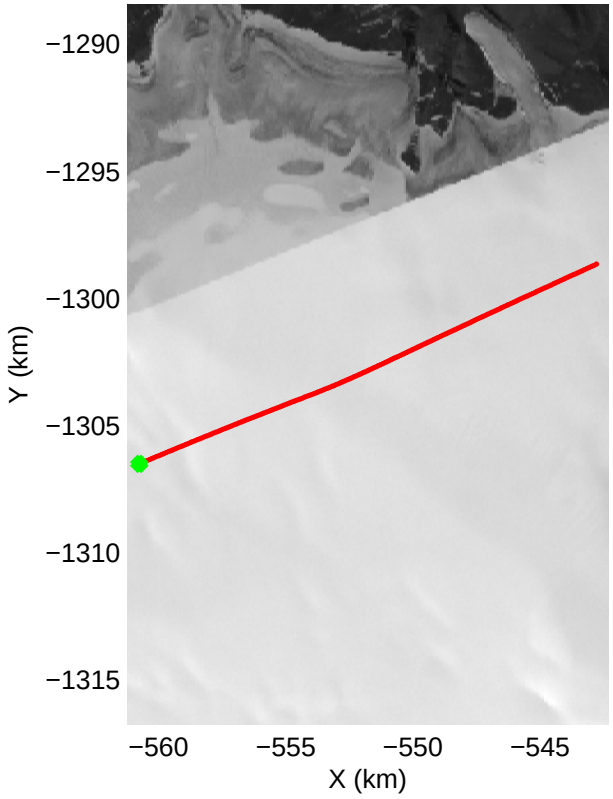

−1300
−1305
−1310
−1315
−1320
Y (km)
−575
−570
−565
X (km)

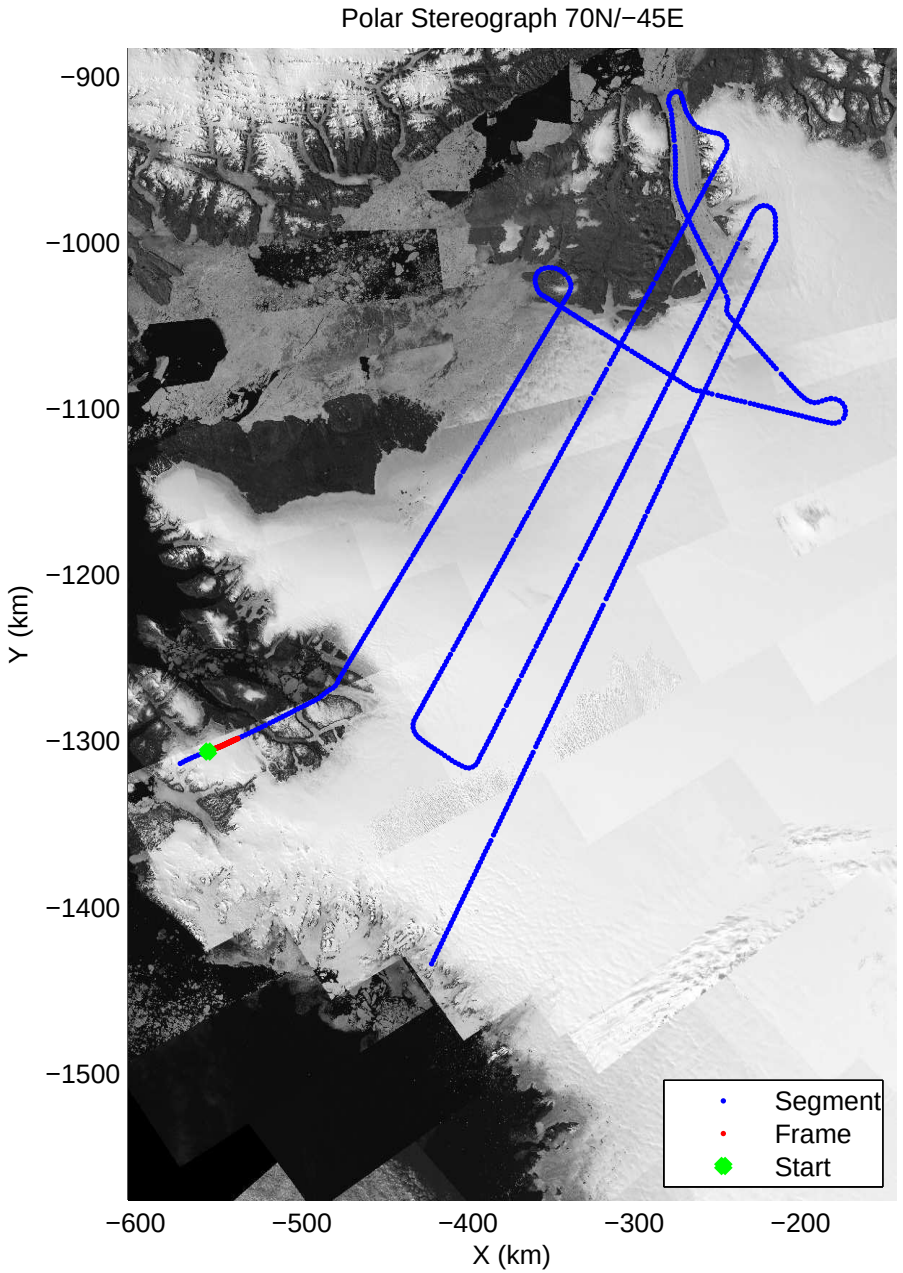

Polar Stereograph 70N/−45E
−900
−1000
−1100
−1200
−1300
−1400
−1500
Y (km)
−600
−500
−400
−300
−200
X (km)
Segment
Frame
Start

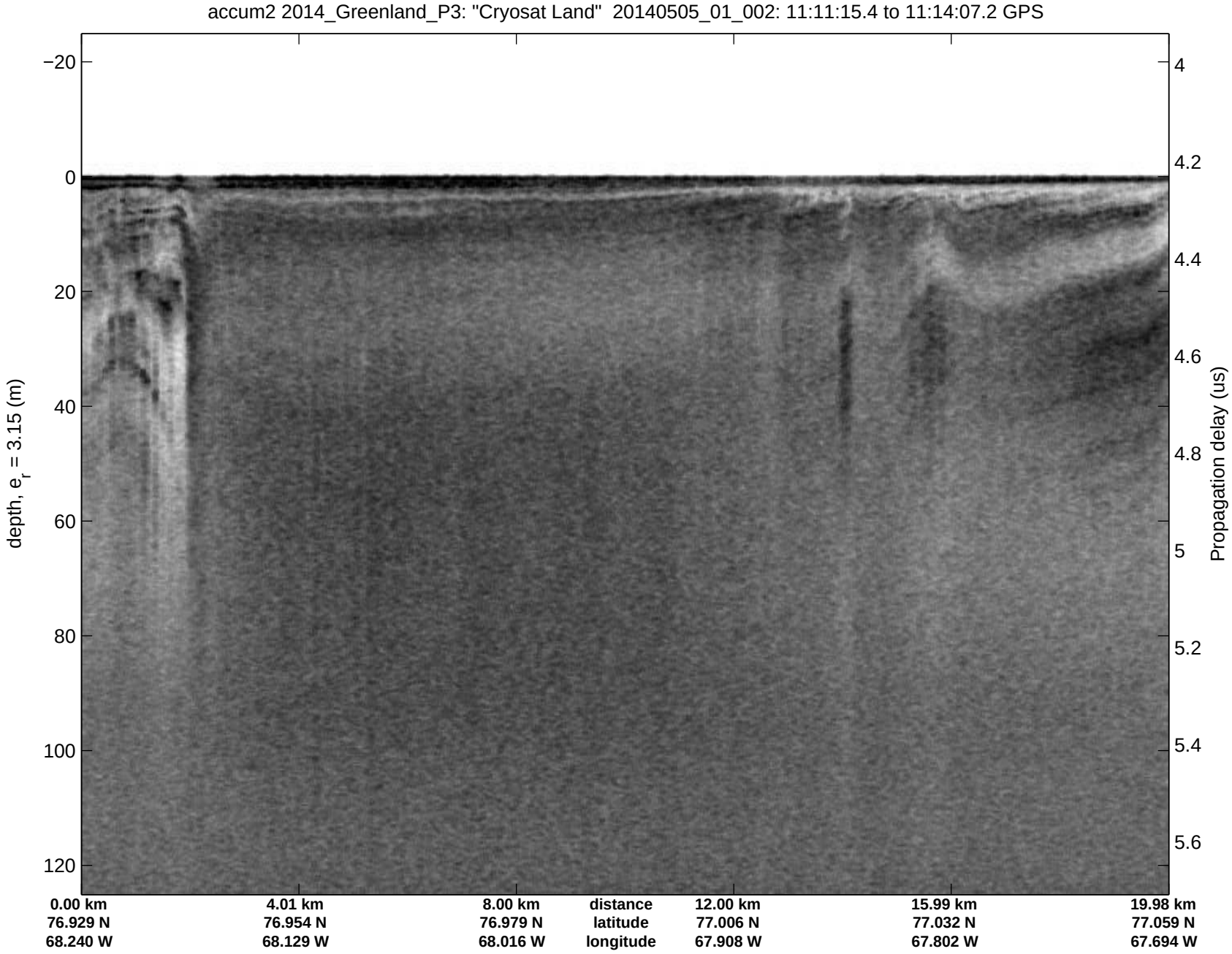

accum2 2014_Greenland_P3: "Cryosat Land" 20140505_01_001: 11:08:23.3 to 11:11:15.2 GPS
depth, e_r = 3.15 (m)
−20
0
20
40
60
80
100
120
Propagation delay (us)
3.6
3.8
4
4.2
4.4
4.6
4.8
5
5.2
0.00 km
76.797 N
68.773 W
4.01 km
76.826 N
68.676 W
8.00 km
76.853 N
68.575 W
distance
latitude
longitude
11.99 km
76.879 N
68.468 W
15.98 km
76.904 N
68.354 W
19.97 km
76.929 N
68.241 W

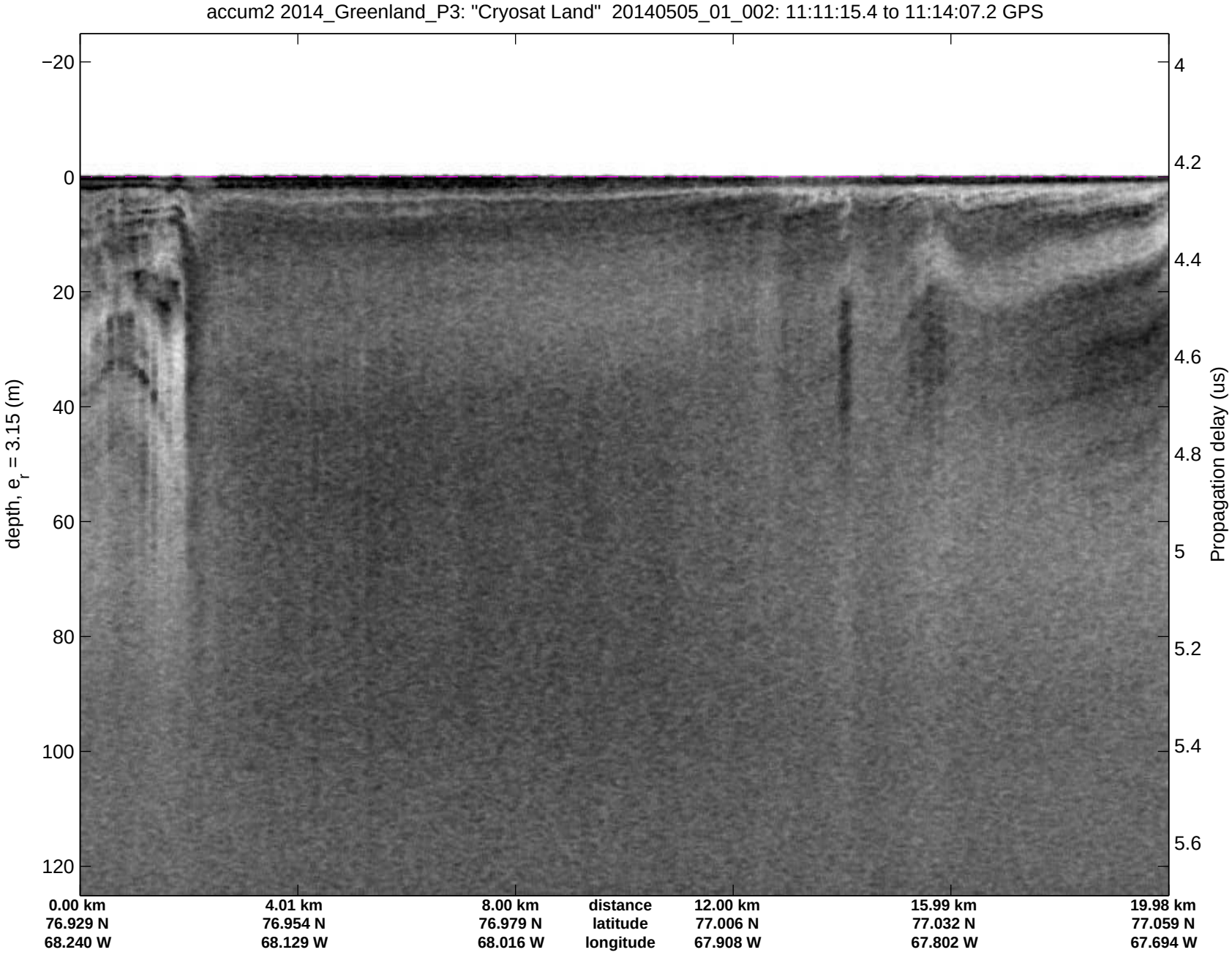

accum2 2014_Greenland_P3: "Cryosat Land" 20140505_01_001: 11:08:23.3 to 11:11:15.2 GPS
depth, e_r = 3.15 (m)
−20
0
20
40
60
80
100
120
Propagation delay (us)
3.6
3.8
4
4.2
4.4
4.6
4.8
5
5.2
0.00 km
76.797 N
68.773 W
4.01 km
76.826 N
68.676 W
8.00 km
76.853 N
68.575 W
distance
latitude
longitude
11.99 km
76.879 N
68.468 W
15.98 km
76.904 N
68.354 W
19.97 km
76.929 N
68.241 W

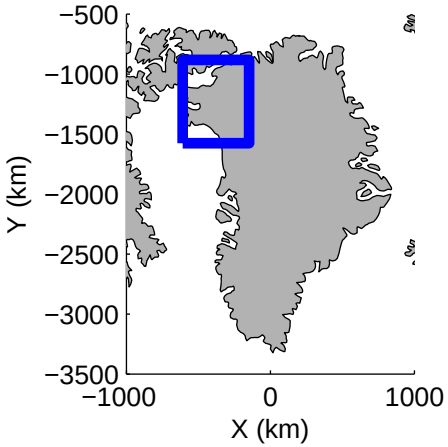

−500
−1000
−1500
−2000
−2500
−3000
−3500
Y (km)
−1000
0
1000
X (km)

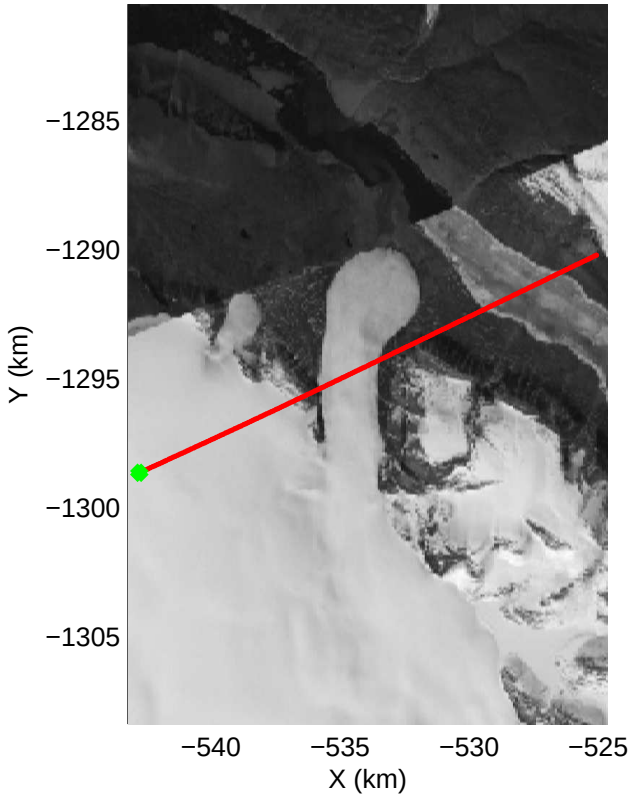

−1290
−1295
−1300
−1305
−1310
−1315
Y (km)
−560
−555
−550
−545
X (km)

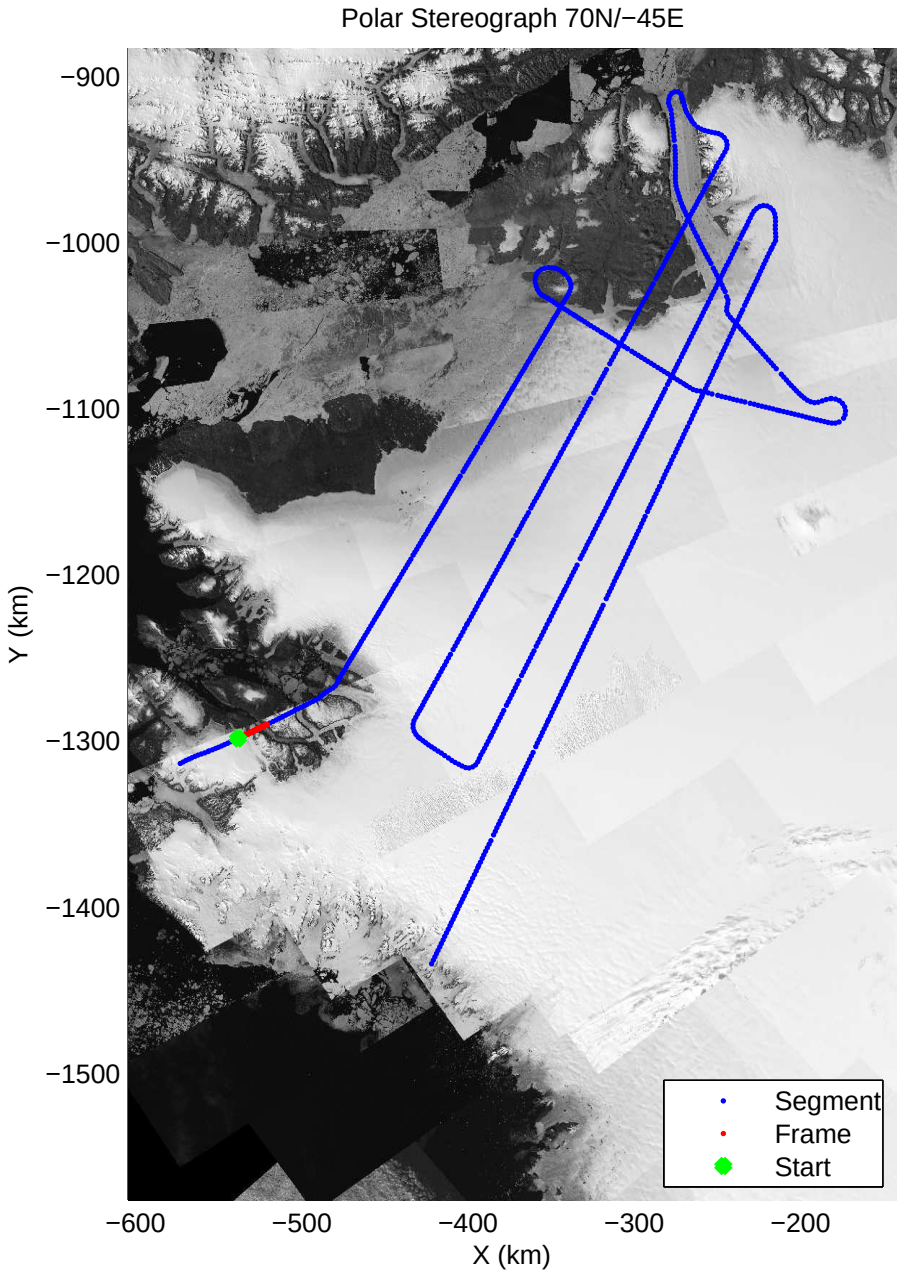

Polar Stereograph 70N/−45E
−900
−1000
−1100
−1200
−1300
−1400
−1500
Y (km)
−600
−500
−400
−300
−200
X (km)
Segment
Frame
Start

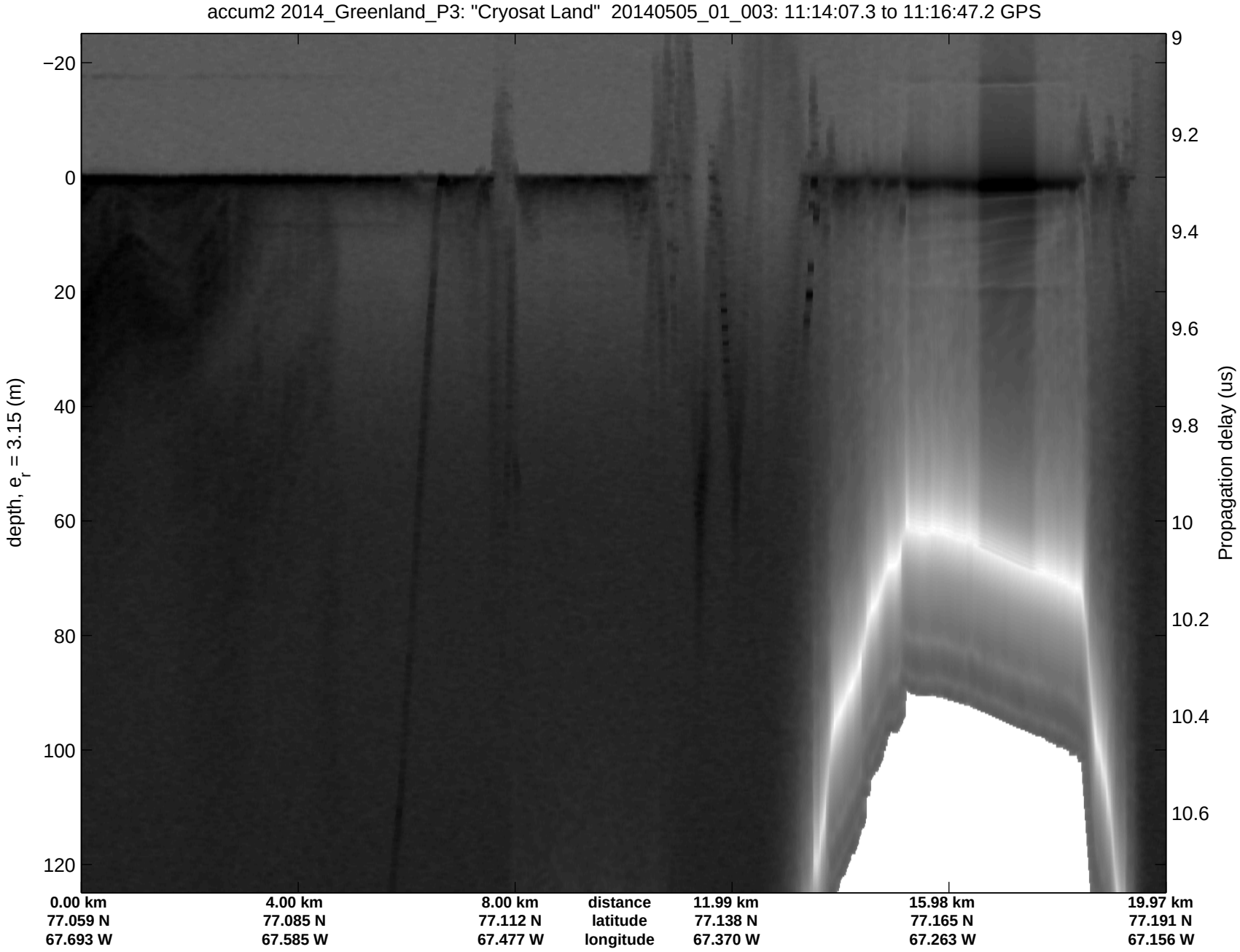

accum2 2014_Greenland_P3: "Cryosat Land" 20140505_01_002: 11:11:15.4 to 11:14:07.2 GPS
depth, e_r = 3.15 (m)
−20
0
20
40
60
80
100
120
Propagation delay (us)
4
4.2
4.4
4.6
4.8
5
5.2
5.4
5.6
0.00 km
76.929 N
68.240 W
4.01 km
76.954 N
68.129 W
8.00 km
76.979 N
68.016 W
distance
latitude
longitude
12.00 km
77.006 N
67.908 W
15.99 km
77.032 N
67.802 W
19.98 km
77.059 N
67.694 W

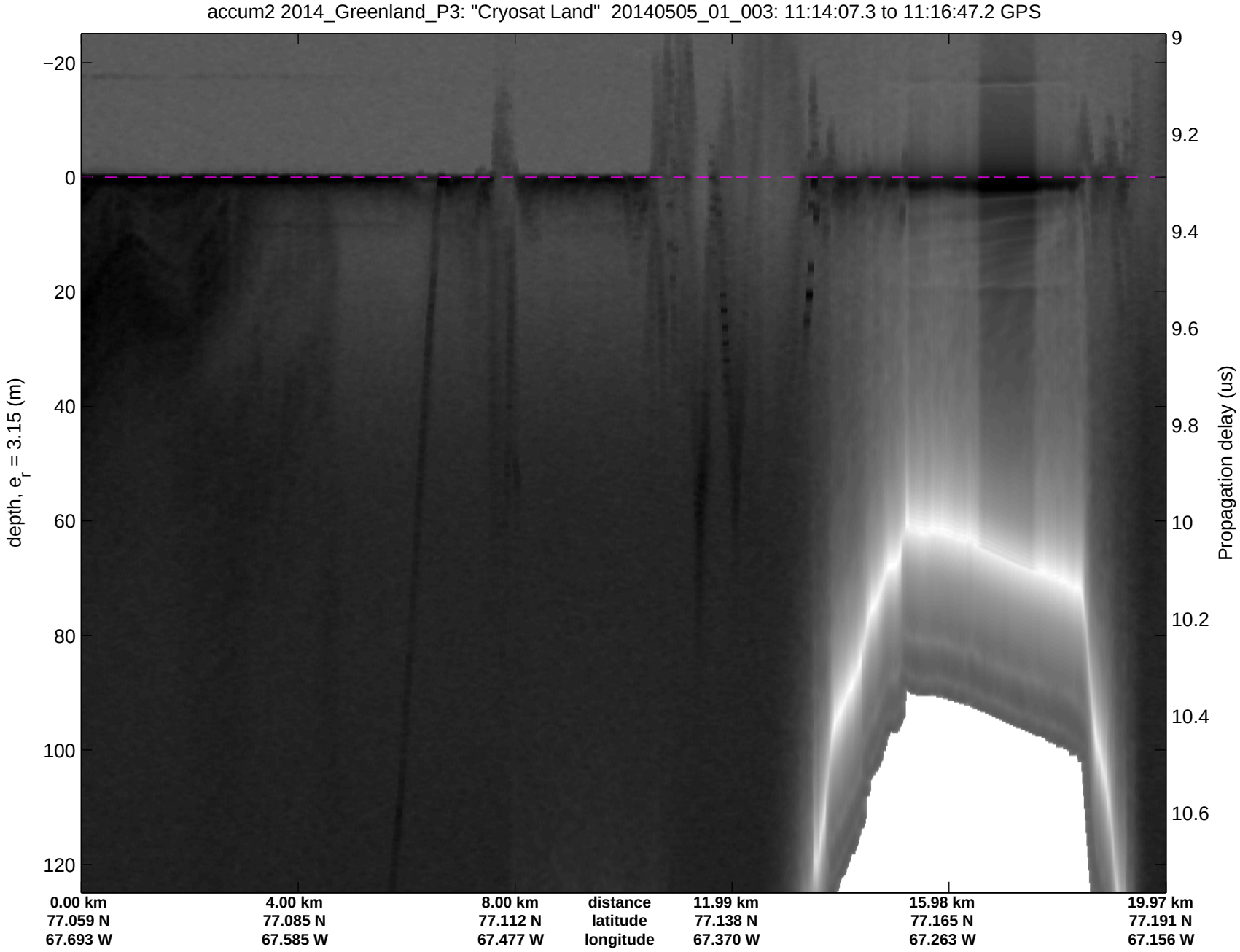

accum2 2014_Greenland_P3: "Cryosat Land" 20140505_01_002: 11:11:15.4 to 11:14:07.2 GPS
depth, e_r = 3.15 (m)
−20
0
20
40
60
80
100
120
Propagation delay (us)
4
4.2
4.4
4.6
4.8
5
5.2
5.4
5.6
0.00 km
76.929 N
68.240 W
4.01 km
76.954 N
68.129 W
8.00 km
76.979 N
68.016 W
distance
latitude
longitude
12.00 km
77.006 N
67.908 W
15.99 km
77.032 N
67.802 W
19.98 km
77.059 N
67.694 W

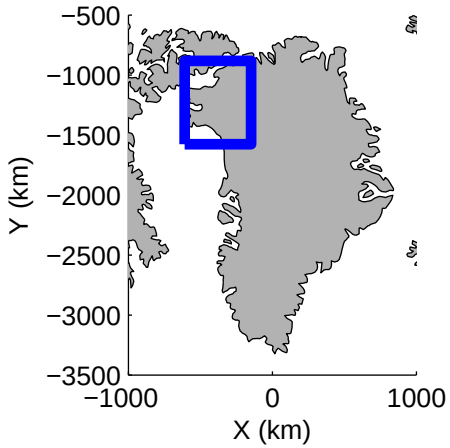

−500
−1000
−1500
−2000
−2500
−3000
−3500
Y (km)
−1000
0
1000
X (km)

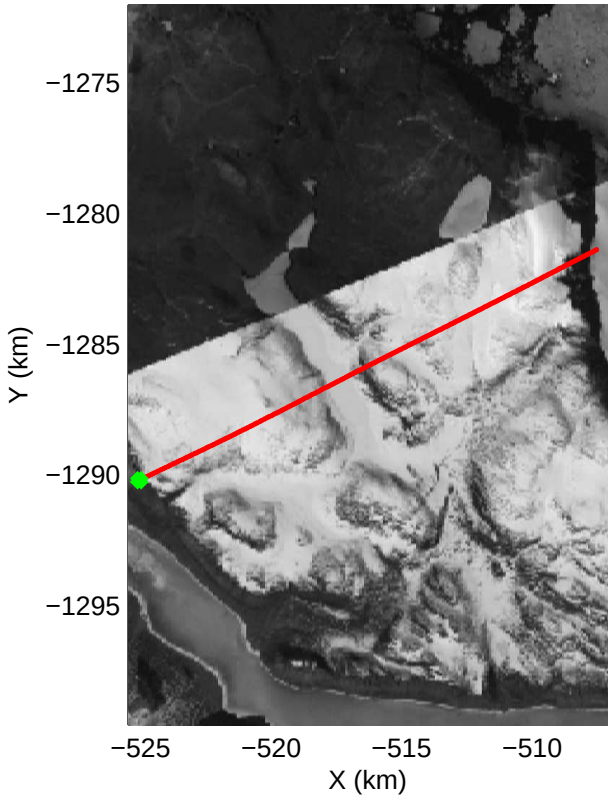

−1285
−1290
−1295
−1300
−1305
Y (km)
−540
−535
−530
−525
X (km)

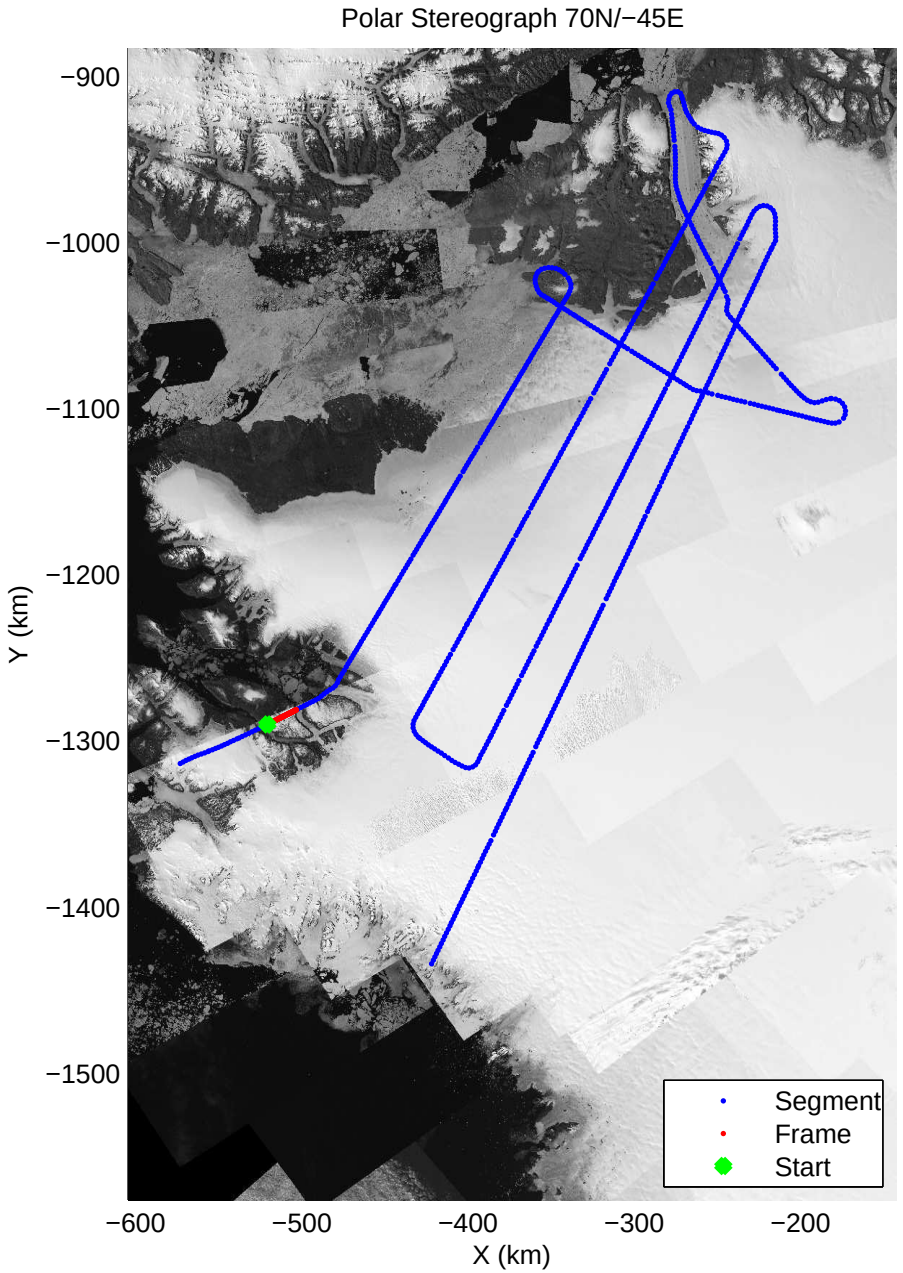

Polar Stereograph 70N/−45E
−900
−1000
−1100
−1200
−1300
−1400
−1500
Y (km)
−600
−500
−400
−300
−200
X (km)
Segment
Frame
Start

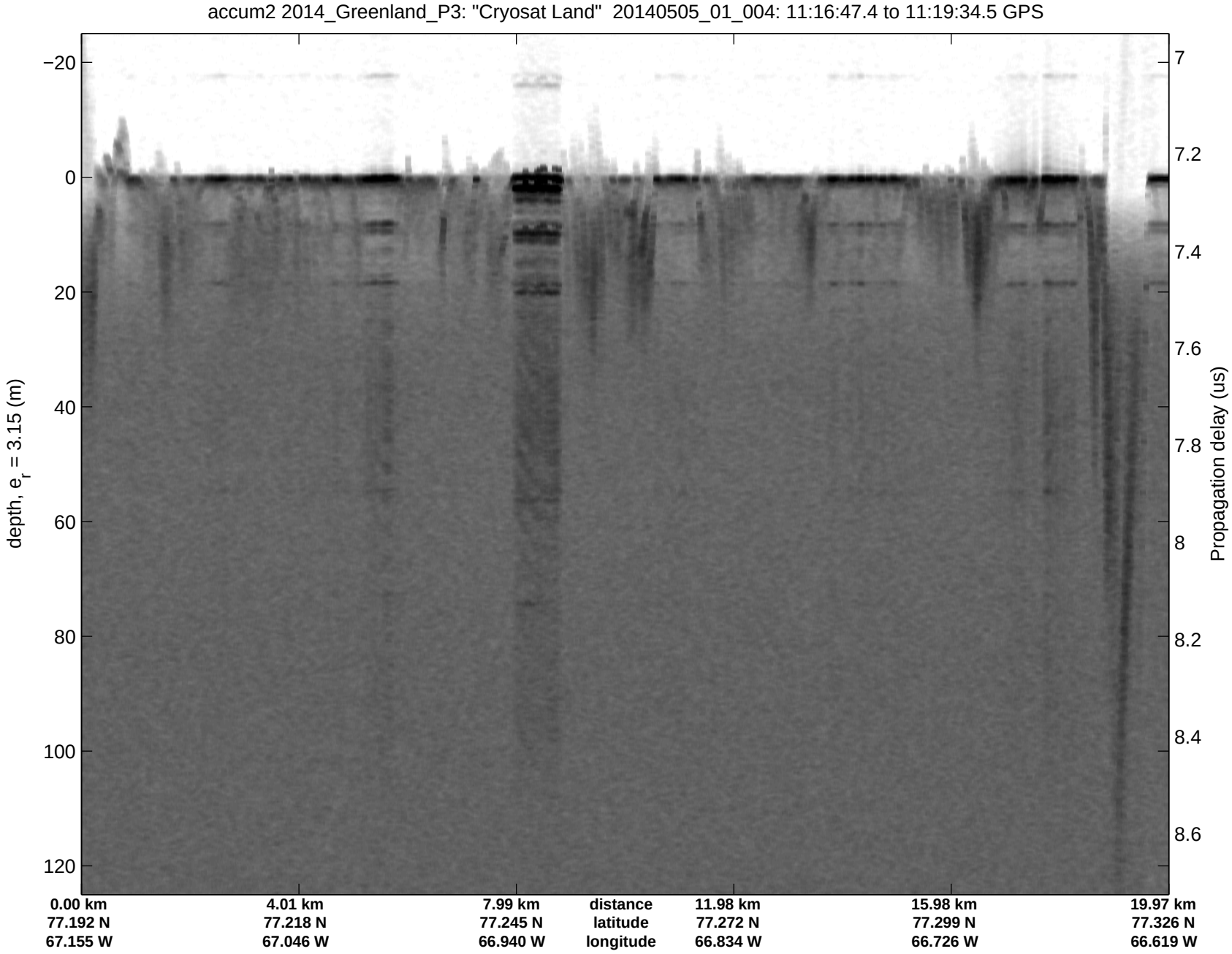

accum2 2014_Greenland_P3: "Cryosat Land" 20140505_01_003: 11:14:07.3 to 11:16:47.2 GPS
depth, e_r = 3.15 (m)
−20
0
20
40
60
80
100
120
Propagation delay (us)
9
9.2
9.4
9.6
9.8
10
10.2
10.4
10.6
0.00 km
77.059 N
67.693 W
4.00 km
77.085 N
67.585 W
8.00 km
77.112 N
67.477 W
distance
latitude
longitude
11.99 km
77.138 N
67.370 W
15.98 km
77.165 N
67.263 W
19.97 km
77.191 N
67.156 W

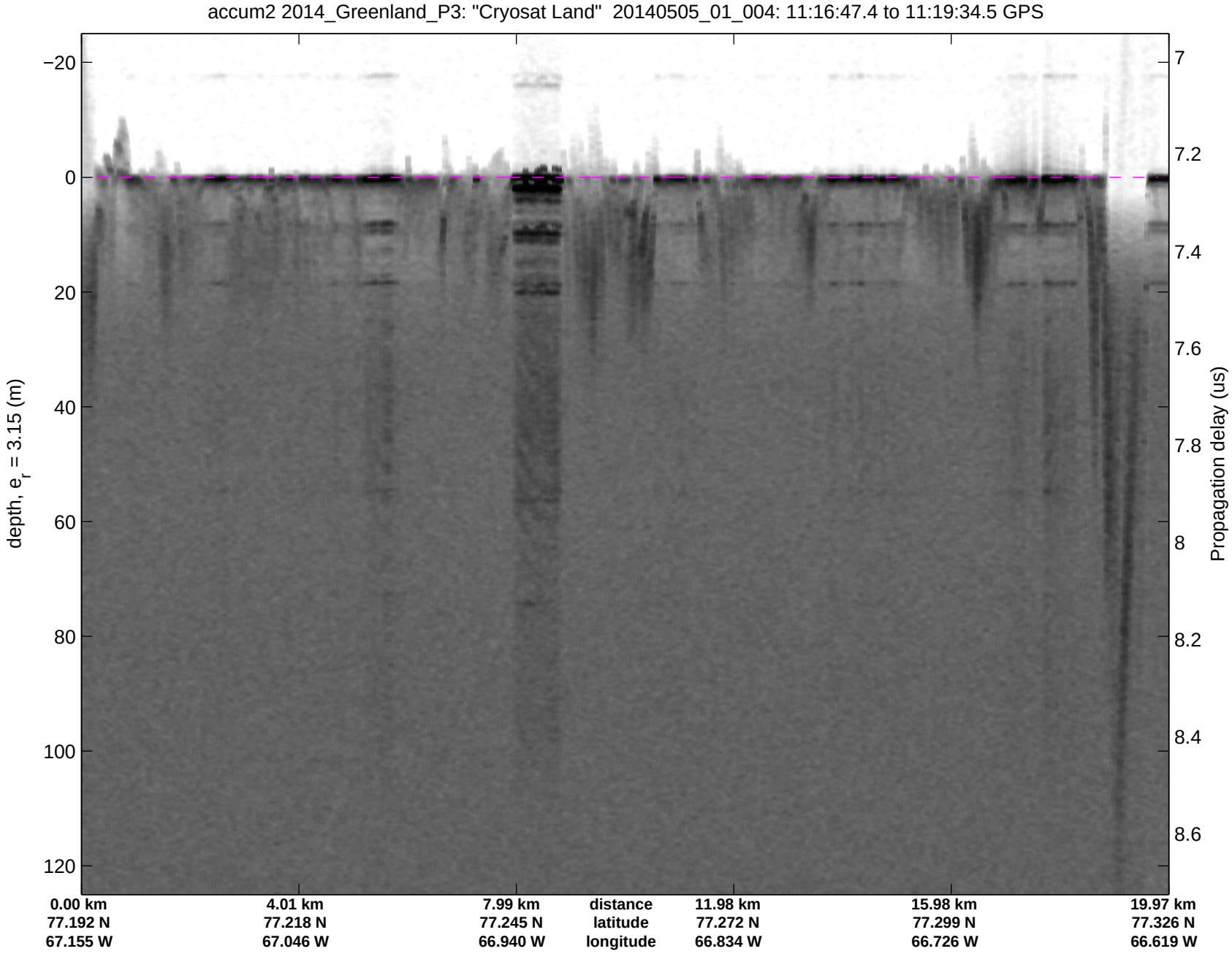

accum2 2014_Greenland_P3: "Cryosat Land" 20140505_01_003: 11:14:07.3 to 11:16:47.2 GPS
depth, e_r = 3.15 (m)
−20
0
20
40
60
80
100
120
Propagation delay (us)
9
9.2
9.4
9.6
9.8
10
10.2
10.4
10.6
0.00 km
77.059 N
67.693 W
4.00 km
77.085 N
67.585 W
8.00 km
77.112 N
67.477 W
distance
latitude
longitude
11.99 km
77.138 N
67.370 W
15.98 km
77.165 N
67.263 W
19.97 km
77.191 N
67.156 W

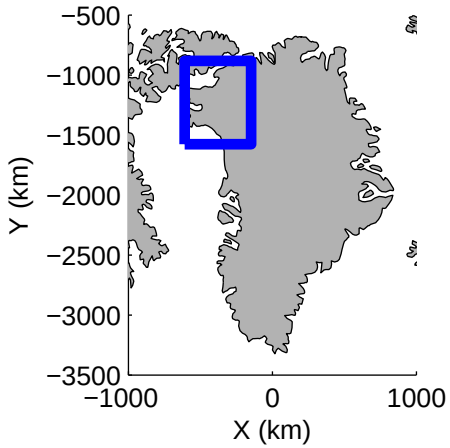

−500
−1000
−1500
−2000
−2500
−3000
−3500
Y (km)
−1000
0
1000
X (km)

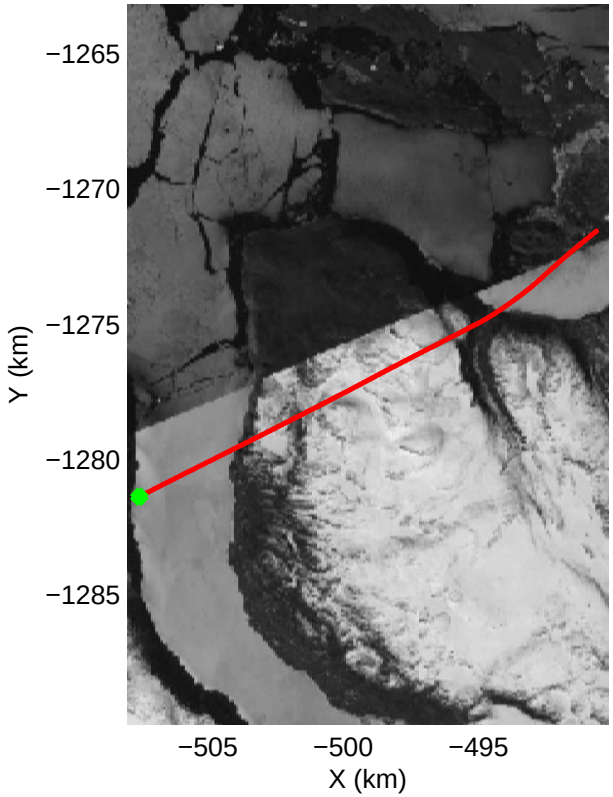

−1275
−1280
−1285
−1290
−1295
Y (km)
−525
−520
−515
−510
X (km)

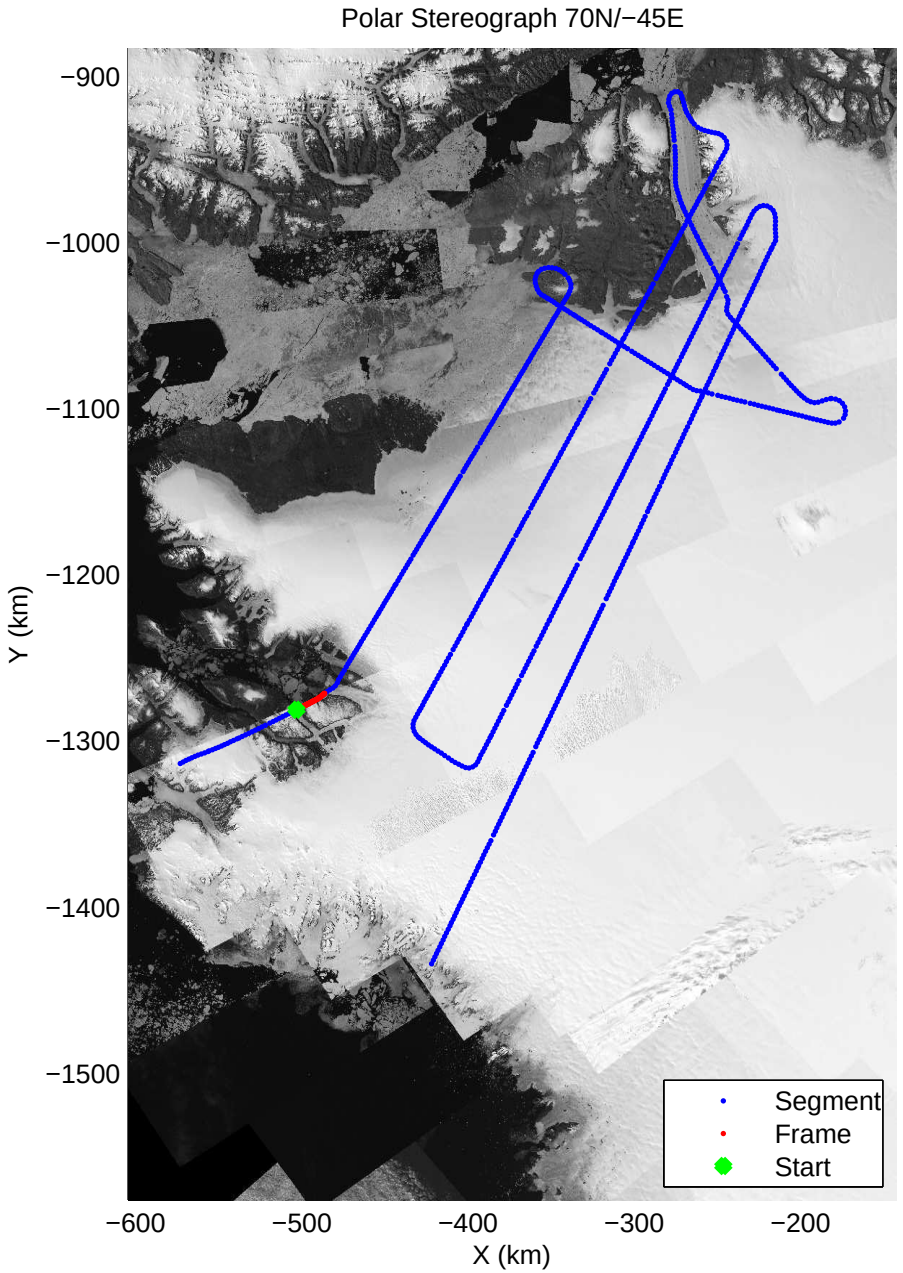

Polar Stereograph 70N/−45E
−900
−1000
−1100
−1200
−1300
−1400
−1500
Y (km)
−600
−500
−400
−300
−200
X (km)
Segment
Frame
Start

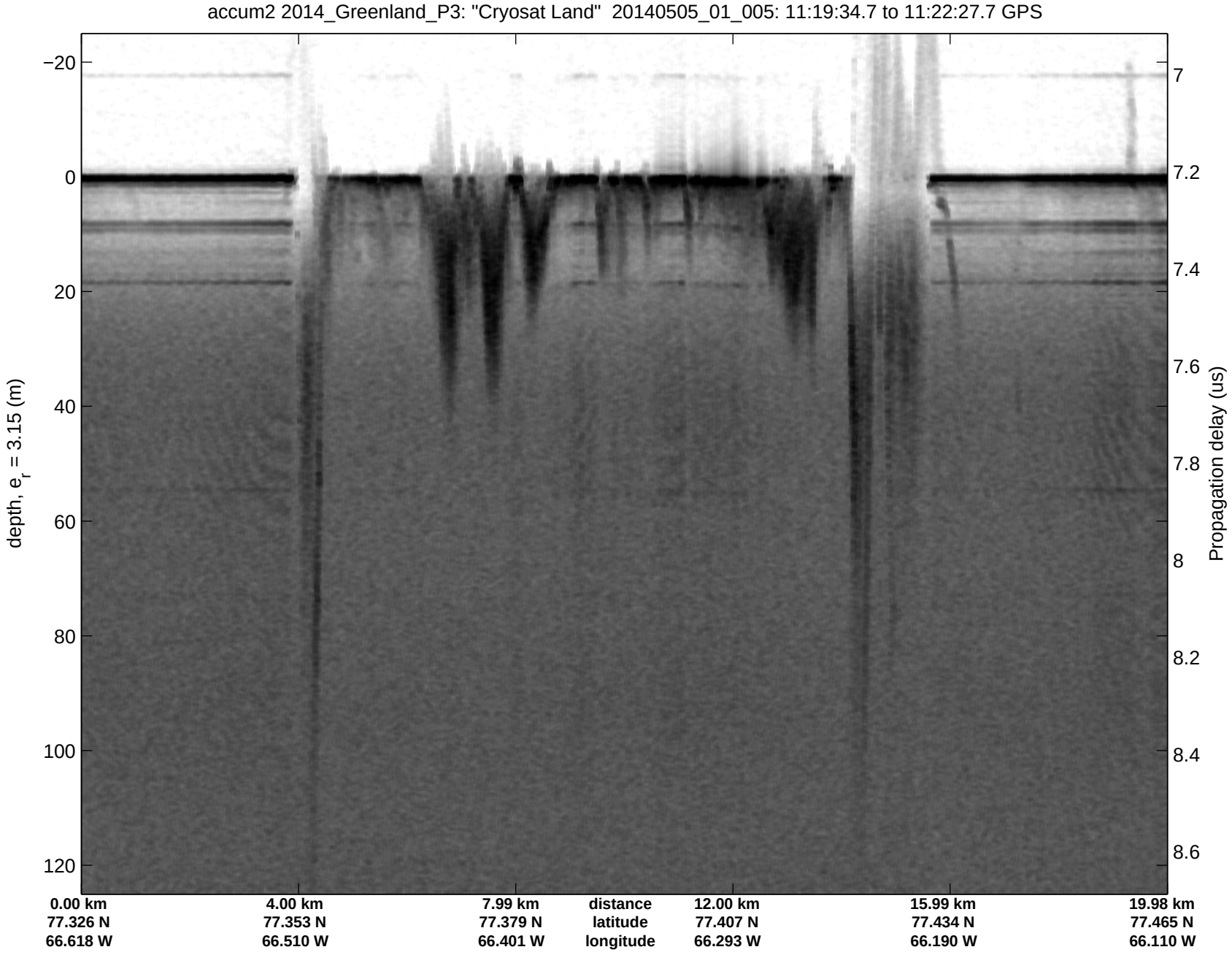

accum2 2014_Greenland_P3: "Cryosat Land" 20140505_01_004: 11:16:47.4 to 11:19:34.5 GPS
depth, e_r = 3.15 (m)
−20
0
20
40
60
80
100
120
Propagation delay (us)
7
7.2
7.4
7.6
7.8
8
8.2
8.4
8.6
0.00 km
77.192 N
67.155 W
4.01 km
77.218 N
67.046 W
7.99 km
77.245 N
66.940 W
distance
latitude
longitude
11.98 km
77.272 N
66.834 W
15.98 km
77.299 N
66.726 W
19.97 km
77.326 N
66.619 W

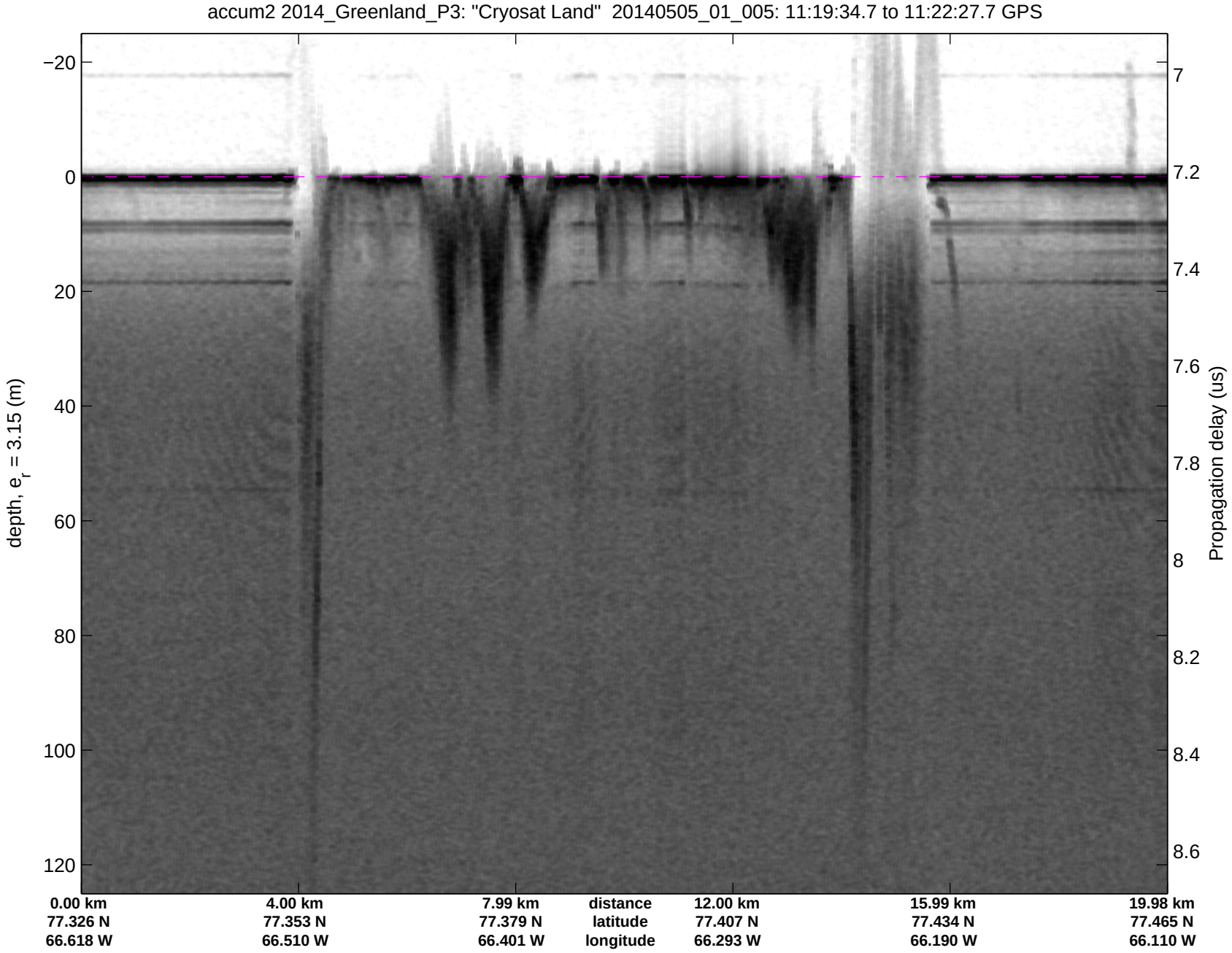

accum2 2014_Greenland_P3: "Cryosat Land" 20140505_01_004: 11:16:47.4 to 11:19:34.5 GPS
depth, e_r = 3.15 (m)
−20
0
20
40
60
80
100
120
Propagation delay (us)
7
7.2
7.4
7.6
7.8
8
8.2
8.4
8.6
0.00 km
77.192 N
67.155 W
4.01 km
77.218 N
67.046 W
7.99 km
77.245 N
66.940 W
distance
latitude
longitude
11.98 km
77.272 N
66.834 W
15.98 km
77.299 N
66.726 W
19.97 km
77.326 N
66.619 W

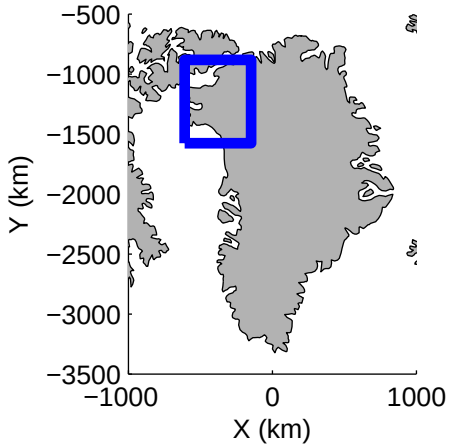

−500
−1000
−1500
−2000
−2500
−3000
−3500
Y (km)
−1000
0
1000
X (km)

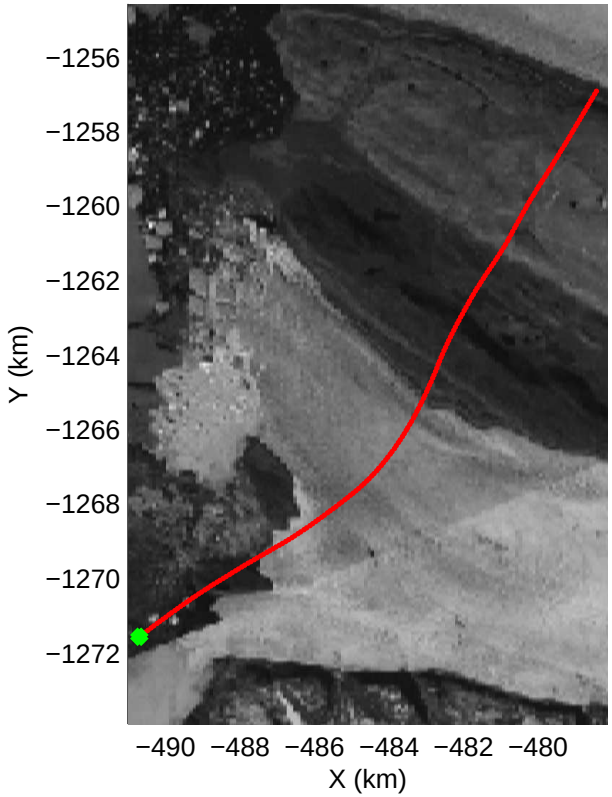

−1265
−1270
−1275
−1280
−1285
Y (km)
−505
−500
−495
X (km)

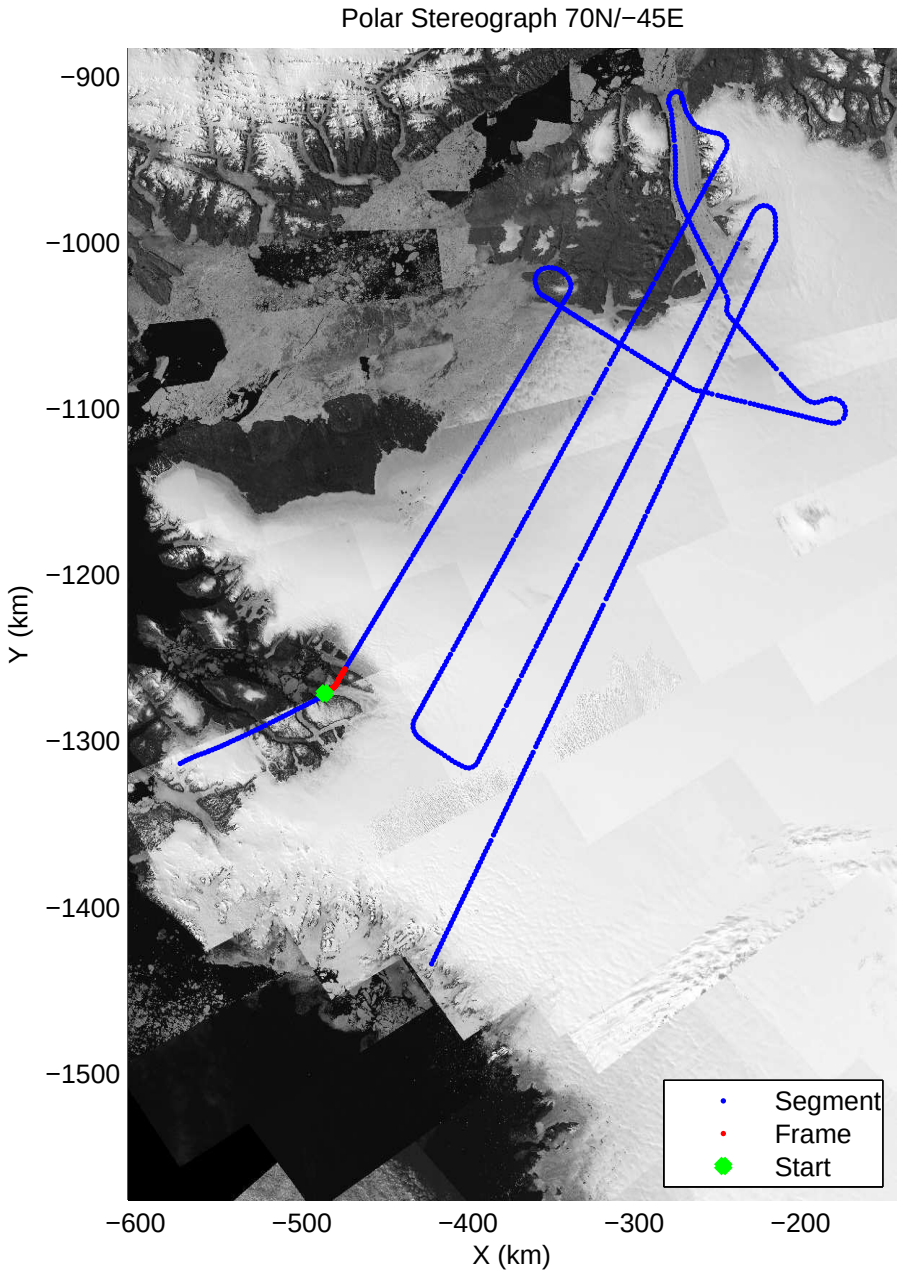

Polar Stereograph 70N/−45E
−900
−1000
−1100
−1200
−1300
−1400
−1500
Y (km)
−600
−500
−400
−300
−200
X (km)
Segment
Frame
Start

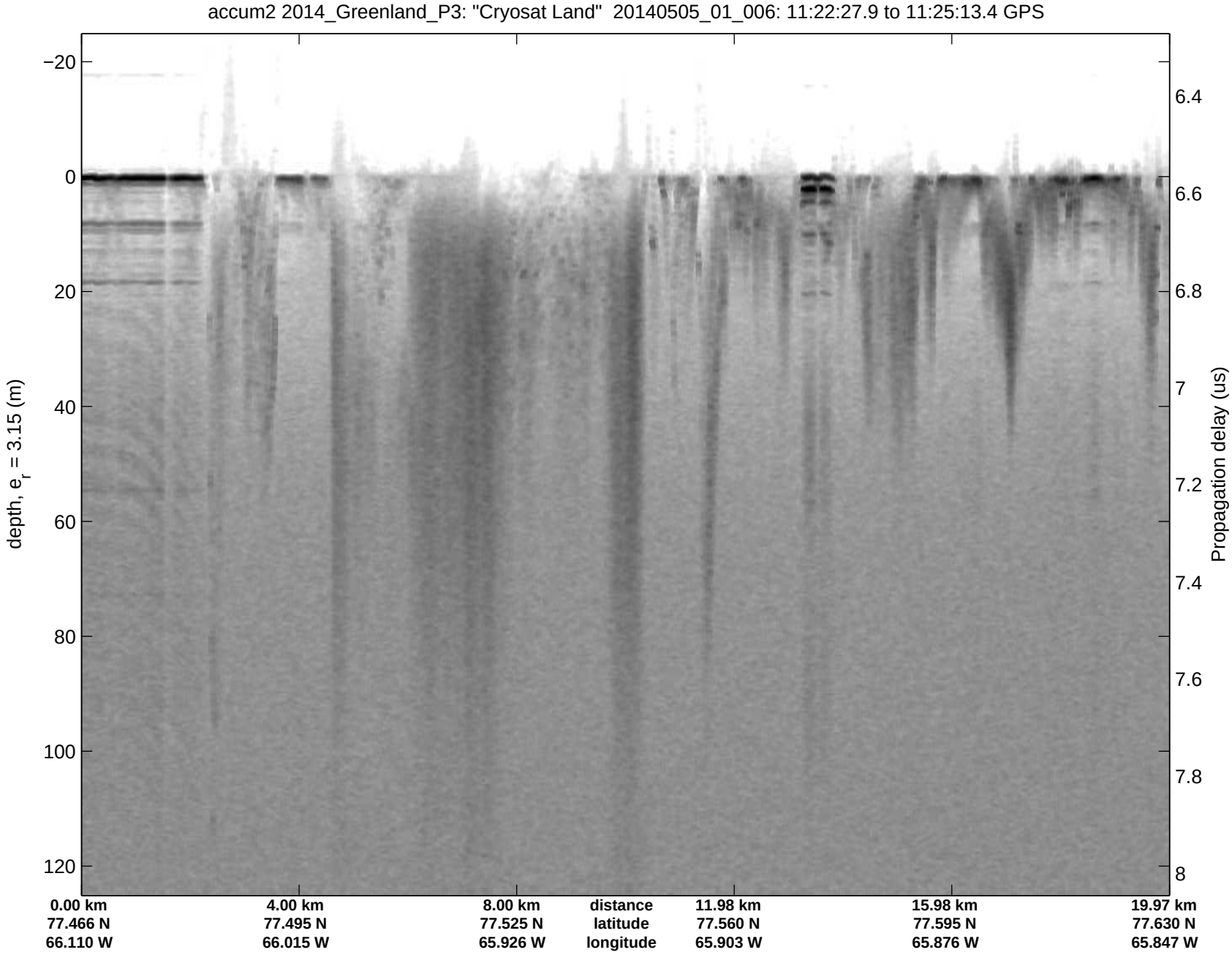

accum2 2014_Greenland_P3: "Cryosat Land" 20140505_01_005: 11:19:34.7 to 11:22:27.7 GPS
depth, e_r = 3.15 (m)
−20
0
20
40
60
80
100
120
Propagation delay (us)
7
7.2
7.4
7.6
7.8
8
8.2
8.4
8.6
0.00 km
77.326 N
66.618 W
4.00 km
77.353 N
66.510 W
7.99 km
77.379 N
66.401 W
distance
latitude
longitude
12.00 km
77.407 N
66.293 W
15.99 km
77.434 N
66.190 W
19.98 km
77.465 N
66.110 W

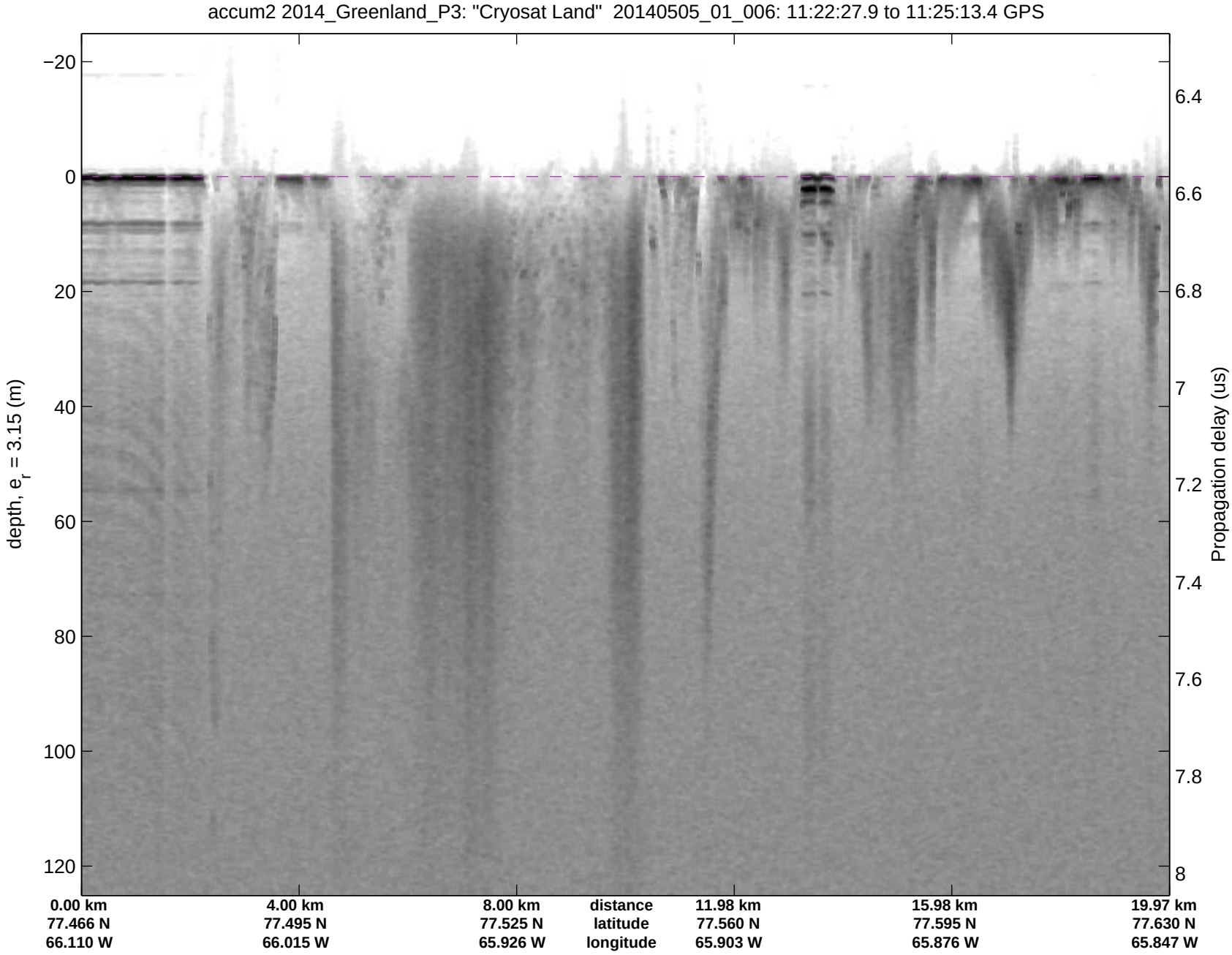

accum2 2014_Greenland_P3: "Cryosat Land" 20140505_01_005: 11:19:34.7 to 11:22:27.7 GPS
depth, e_r = 3.15 (m)
−20
0
20
40
60
80
100
120
Propagation delay (us)
7
7.2
7.4
7.6
7.8
8
8.2
8.4
8.6
0.00 km
77.326 N
66.618 W
4.00 km
77.353 N
66.510 W
7.99 km
77.379 N
66.401 W
distance
latitude
longitude
12.00 km
77.407 N
66.293 W
15.99 km
77.434 N
66.190 W
19.98 km
77.465 N
66.110 W

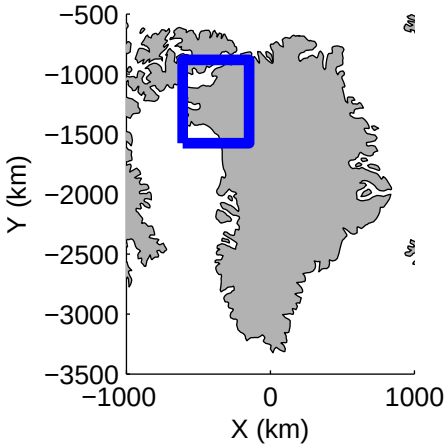

−500
−1000
−1500
−2000
−2500
−3000
−3500
Y (km)
−1000
0
1000
X (km)

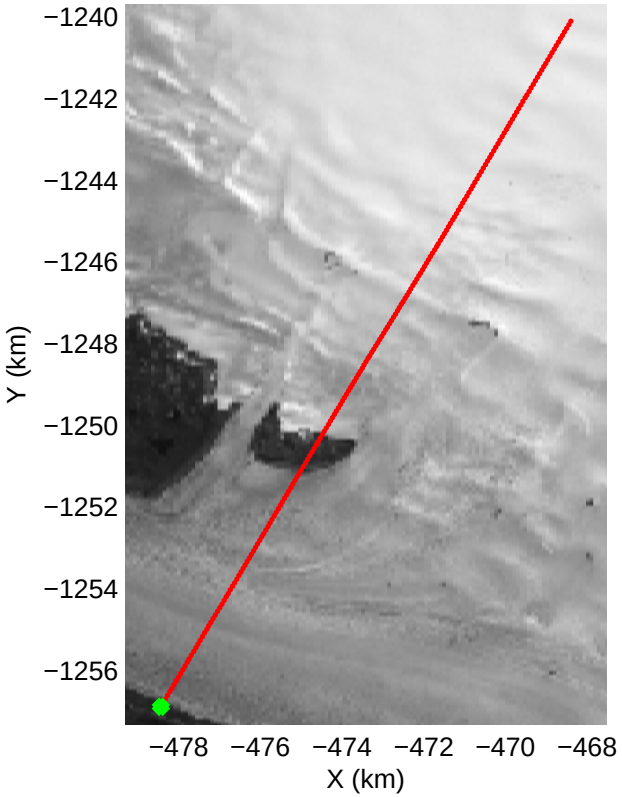

−1256
−1258
−1260
−1262
−1264
−1266
−1268
−1270
−1272
Y (km)
−490
−488
−486
−484
−482
−480
X (km)

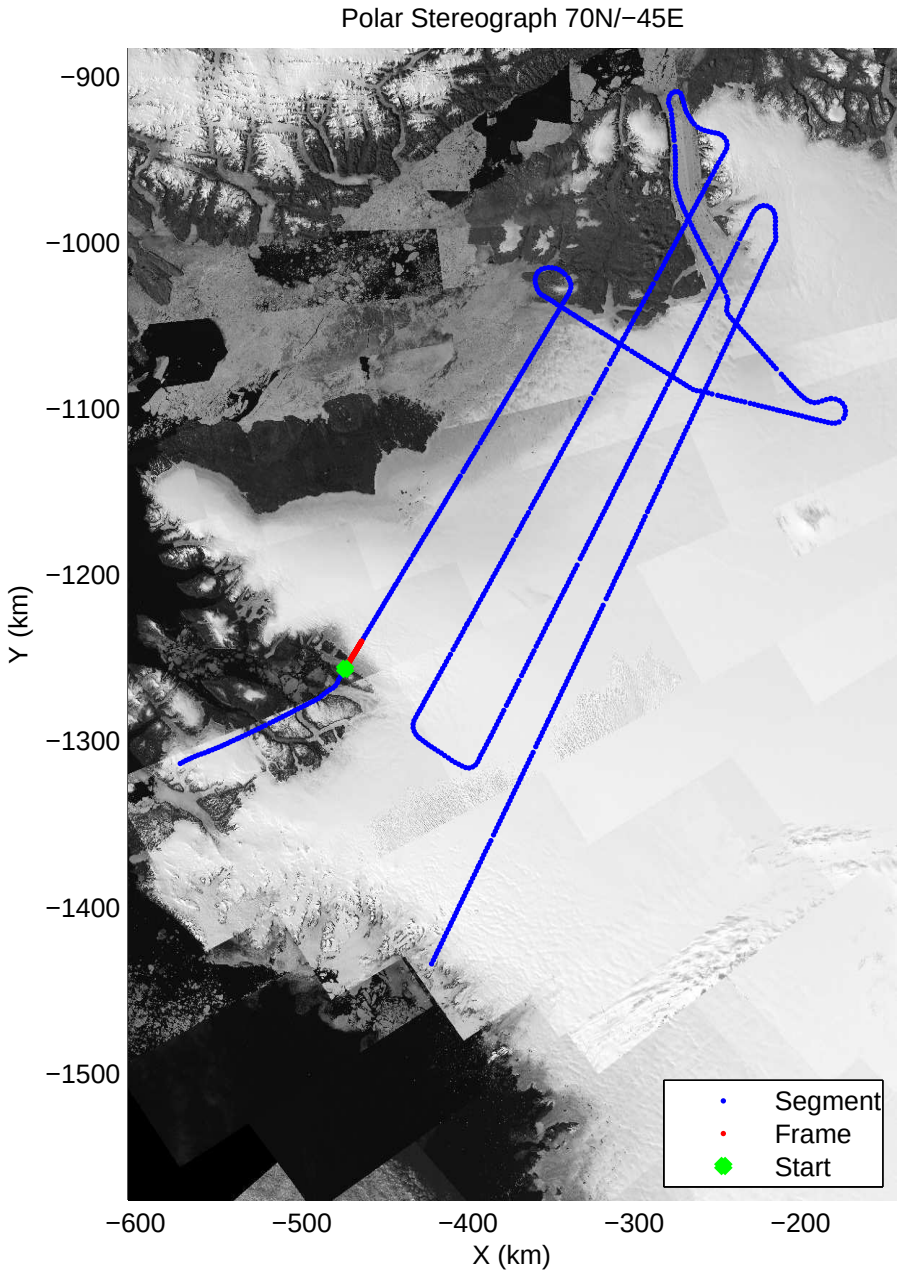

Polar Stereograph 70N/−45E
−900
−1000
−1100
−1200
−1300
−1400
−1500
Y (km)
−600
−500
−400
−300
−200
X (km)
Segment
Frame
Start

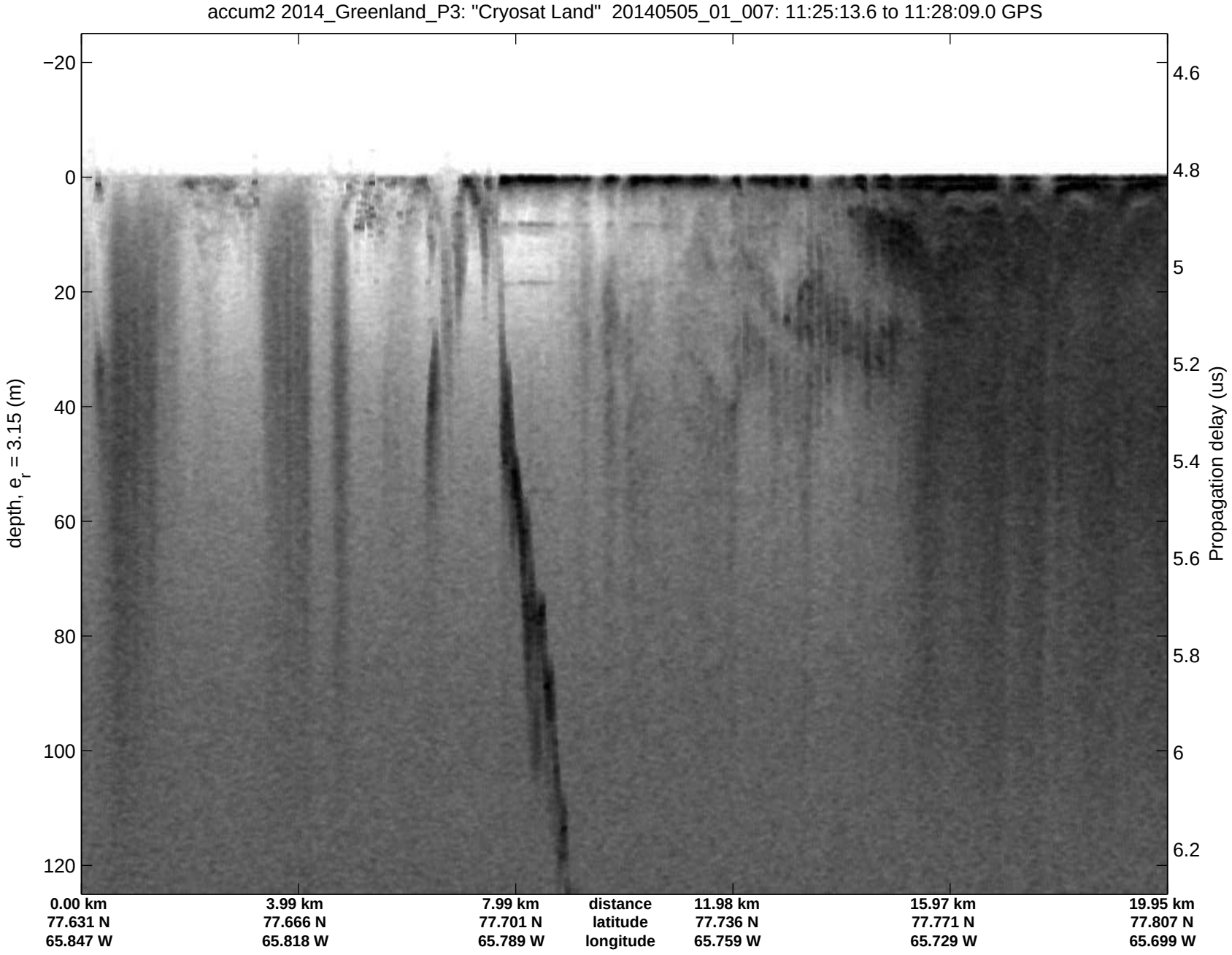

accum2 2014_Greenland_P3: "Cryosat Land" 20140505_01_006: 11:22:27.9 to 11:25:13.4 GPS
depth, e_r = 3.15 (m)
−20
0
20
40
60
80
100
120
Propagation delay (us)
6.4
6.6
6.8
7
7.2
7.4
7.6
7.8
8
0.00 km
77.466 N
66.110 W
4.00 km
77.495 N
66.015 W
8.00 km
77.525 N
65.926 W
distance
latitude
longitude
11.98 km
77.560 N
65.903 W
15.98 km
77.595 N
65.876 W
19.97 km
77.630 N
65.847 W

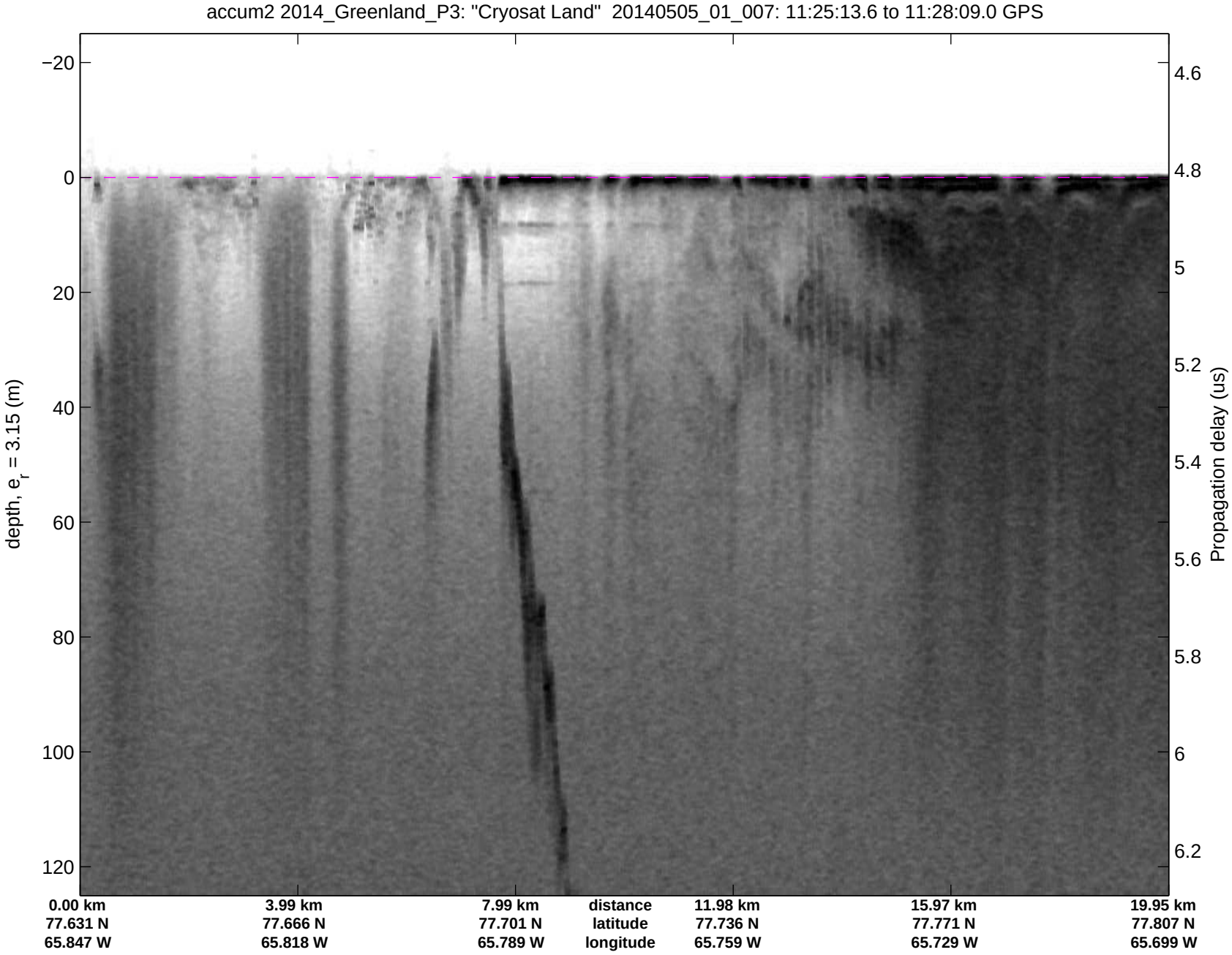

accum2 2014_Greenland_P3: "Cryosat Land" 20140505_01_006: 11:22:27.9 to 11:25:13.4 GPS
depth, e_r = 3.15 (m)
−20
0
20
40
60
80
100
120
Propagation delay (us)
6.4
6.6
6.8
7
7.2
7.4
7.6
7.8
8
0.00 km
77.466 N
66.110 W
4.00 km
77.495 N
66.015 W
8.00 km
77.525 N
65.926 W
distance
latitude
longitude
11.98 km
77.560 N
65.903 W
15.98 km
77.595 N
65.876 W
19.97 km
77.630 N
65.847 W

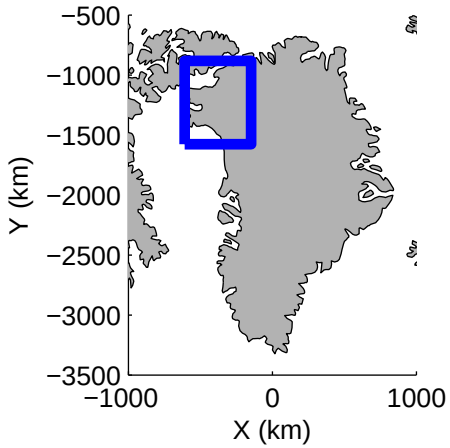

−500
−1000
−1500
−2000
−2500
−3000
−3500
Y (km)
−1000
0
1000
X (km)

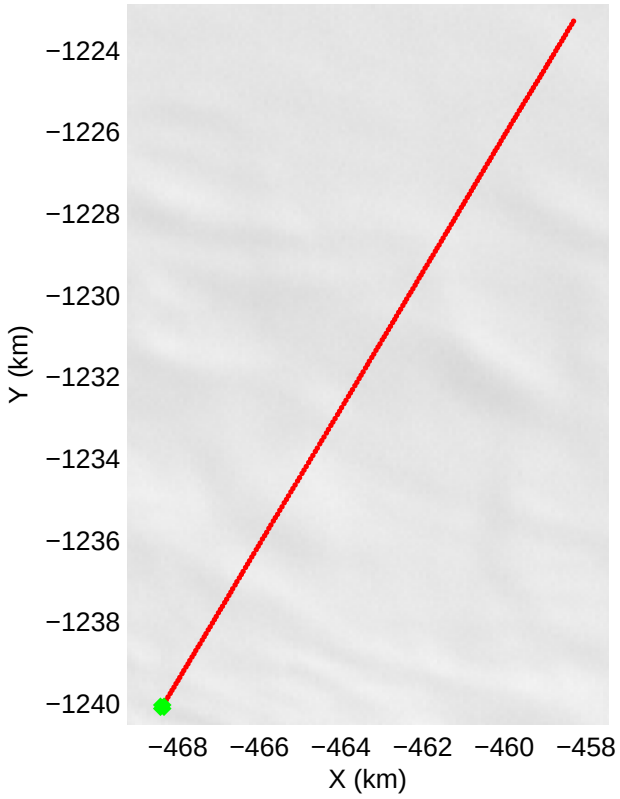

−1240
−1242
−1244
−1246
−1248
−1250
−1252
−1254
−1256
Y (km)
−478
−476
−474
−472
−470
−468
X (km)

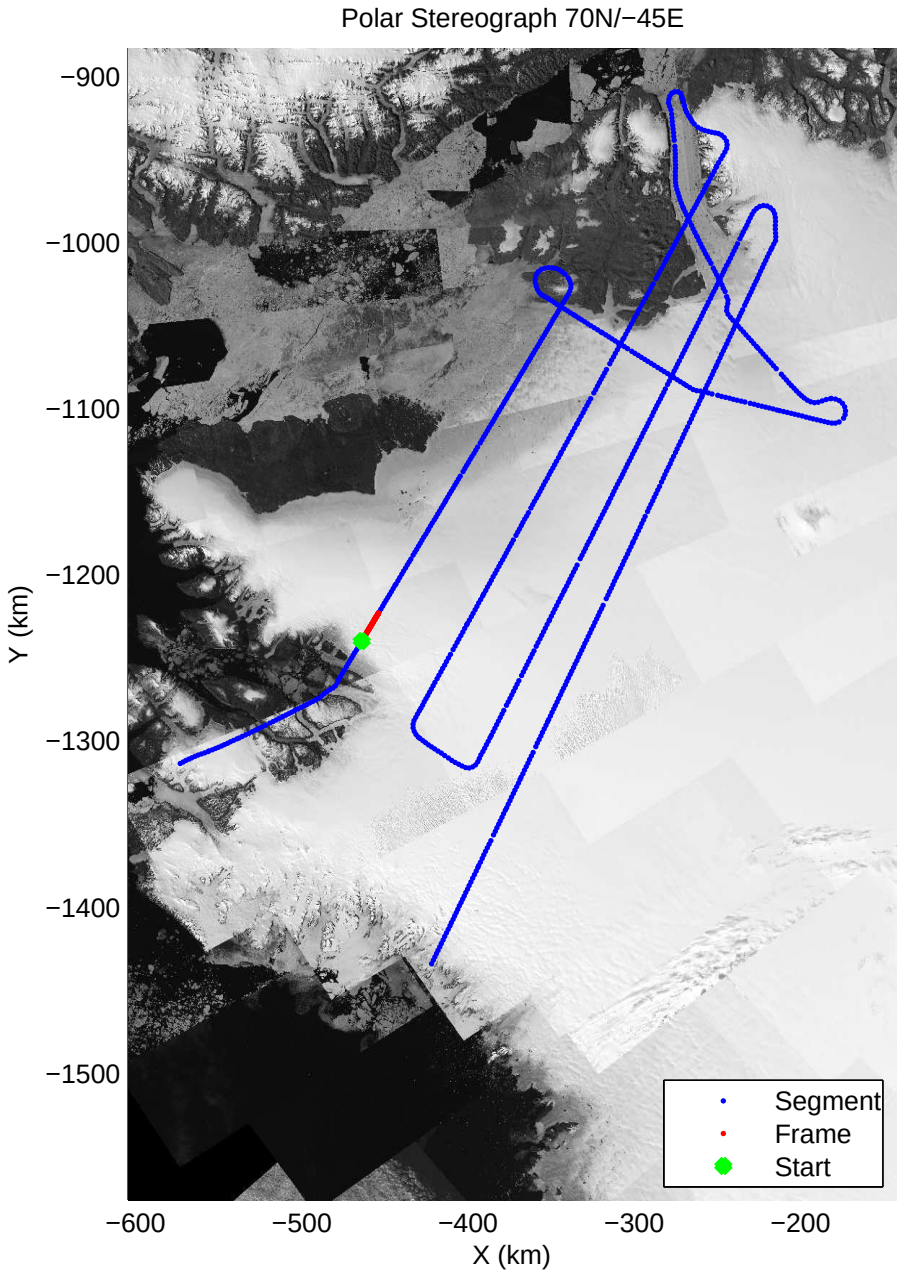

Polar Stereograph 70N/−45E
−900
−1000
−1100
−1200
−1300
−1400
−1500
Y (km)
−600
−500
−400
−300
−200
X (km)
Segment
Frame
Start

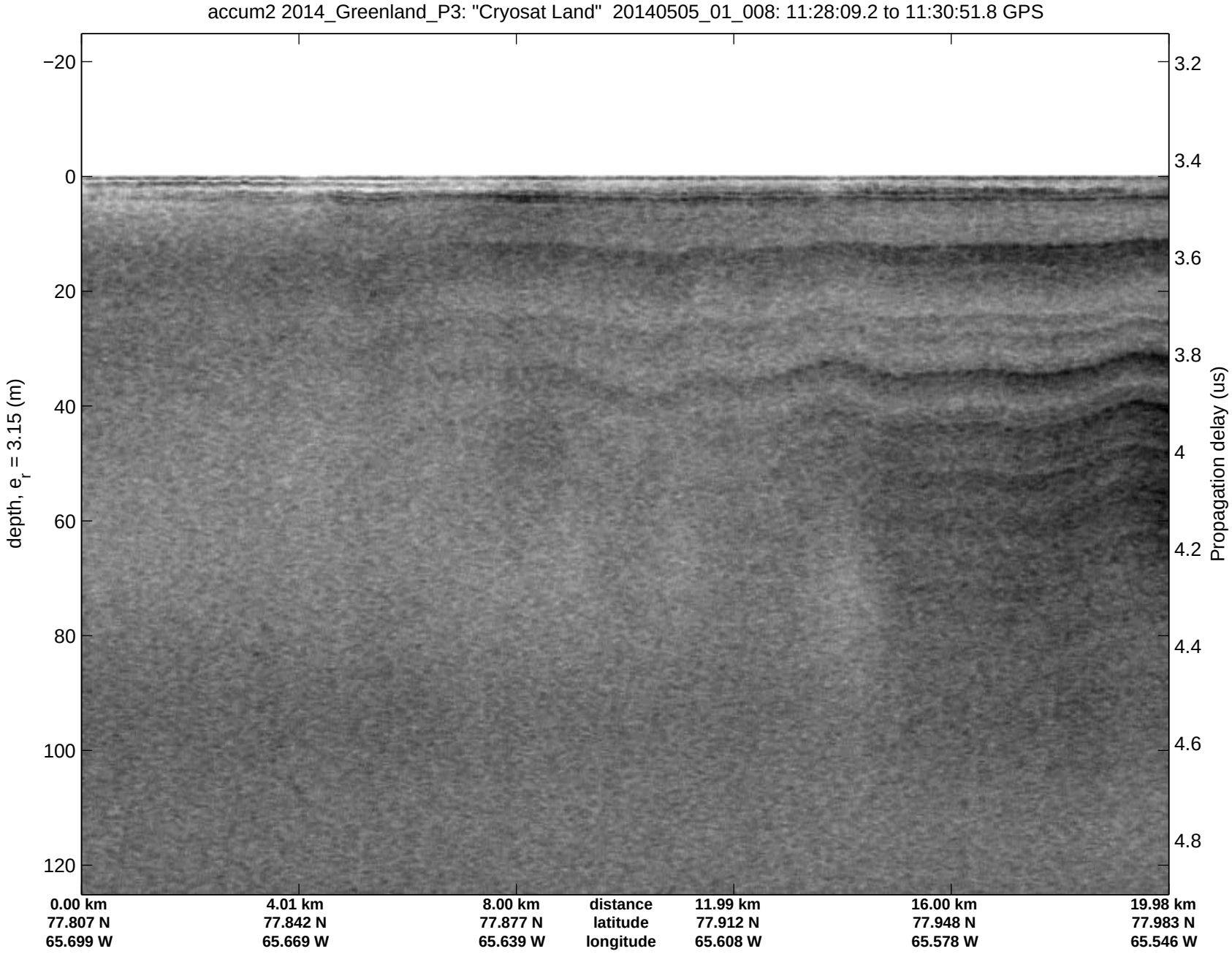

accum2 2014_Greenland_P3: "Cryosat Land" 20140505_01_007: 11:25:13.6 to 11:28:09.0 GPS
depth, e_r = 3.15 (m)
−20
0
20
40
60
80
100
120
Propagation delay (us)
4.6
4.8
5
5.2
5.4
5.6
5.8
6
6.2
0.00 km
77.631 N
65.847 W
3.99 km
77.666 N
65.818 W
7.99 km
77.701 N
65.789 W
distance
latitude
longitude
11.98 km
77.736 N
65.759 W
15.97 km
77.771 N
65.729 W
19.95 km
77.807 N
65.699 W

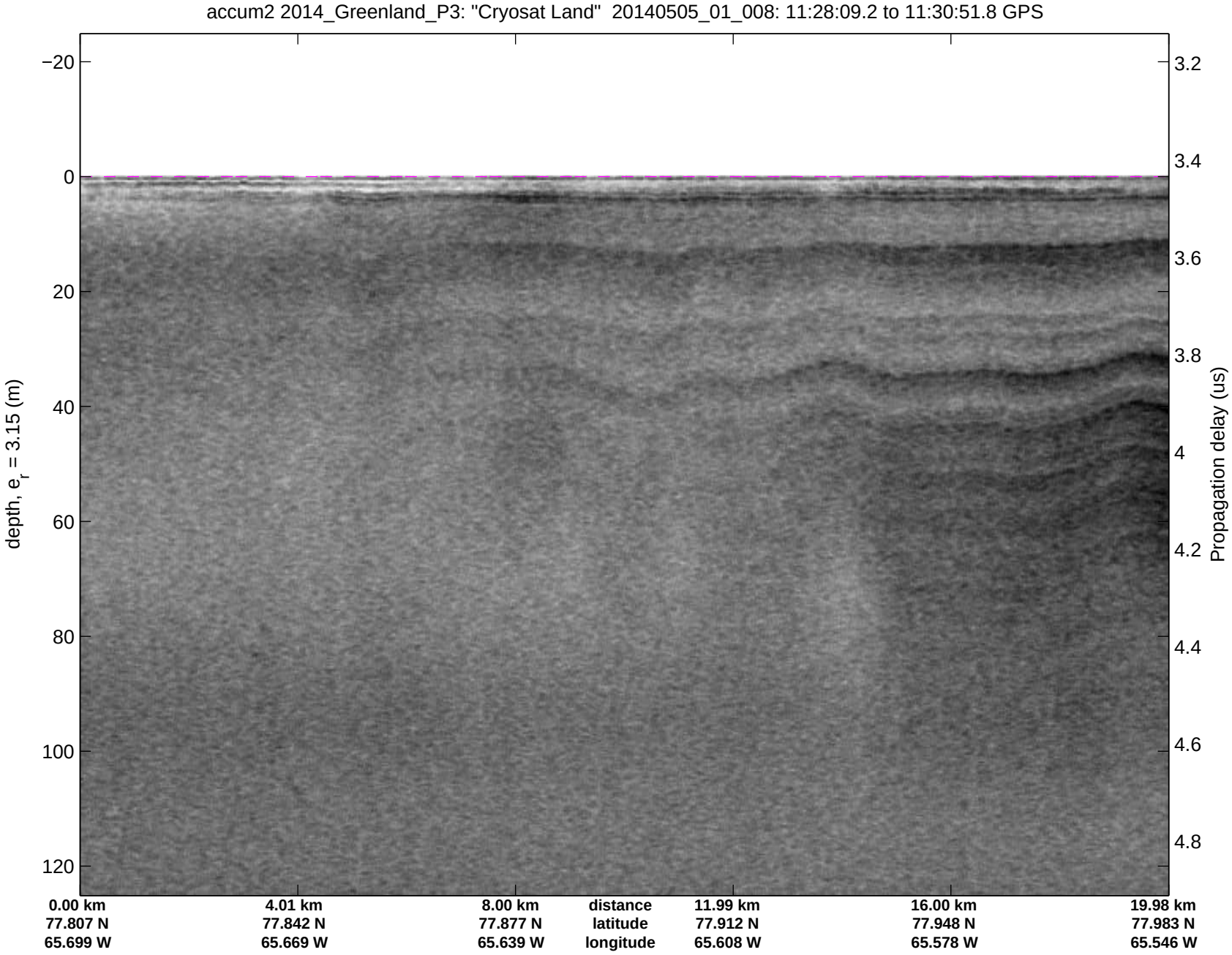

accum2 2014_Greenland_P3: "Cryosat Land" 20140505_01_007: 11:25:13.6 to 11:28:09.0 GPS
depth, e_r = 3.15 (m)
−20
0
20
40
60
80
100
120
Propagation delay (us)
4.6
4.8
5
5.2
5.4
5.6
5.8
6
6.2
0.00 km
77.631 N
65.847 W
3.99 km
77.666 N
65.818 W
7.99 km
77.701 N
65.789 W
distance
latitude
longitude
11.98 km
77.736 N
65.759 W
15.97 km
77.771 N
65.729 W
19.95 km
77.807 N
65.699 W

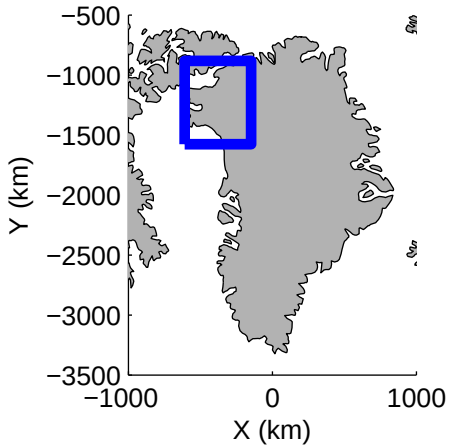

−500
−1000
−1500
−2000
−2500
−3000
−3500
Y (km)
−1000
0
1000
X (km)

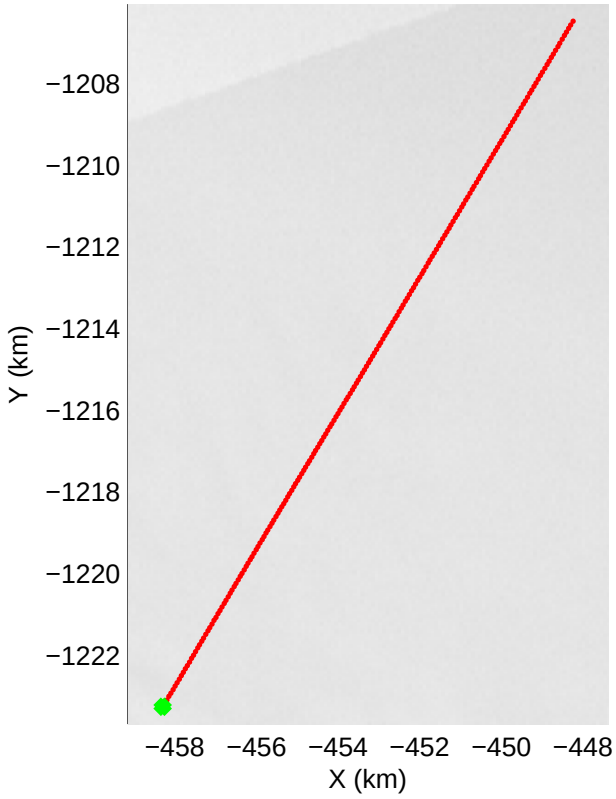

−1224
−1226
−1228
−1230
−1232
−1234
−1236
−1238
−1240
Y (km)
−468
−466
−464
−462
−460
−458
X (km)

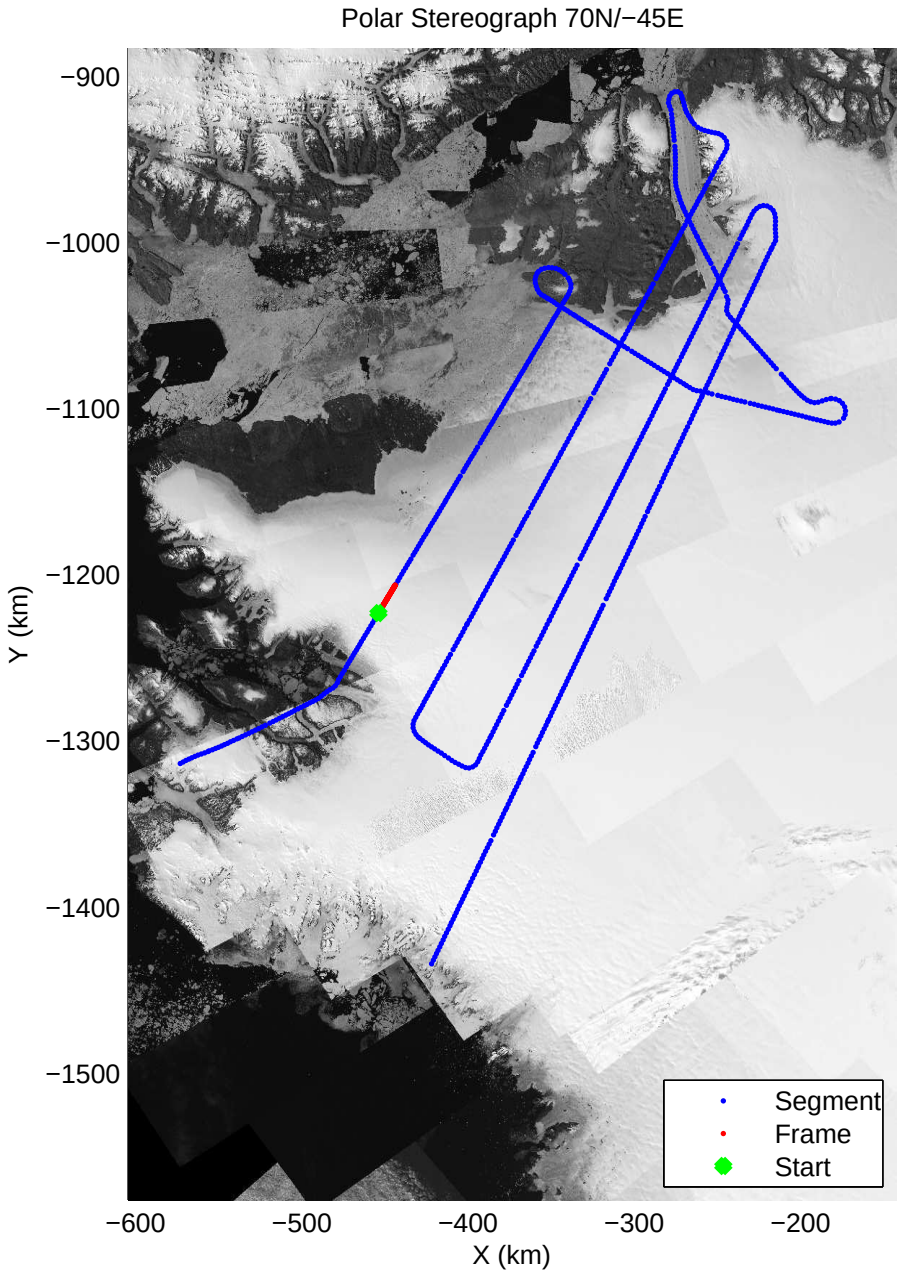

Polar Stereograph 70N/−45E
−900
−1000
−1100
−1200
−1300
−1400
−1500
Y (km)
−600
−500
−400
−300
−200
X (km)
Segment
Frame
Start

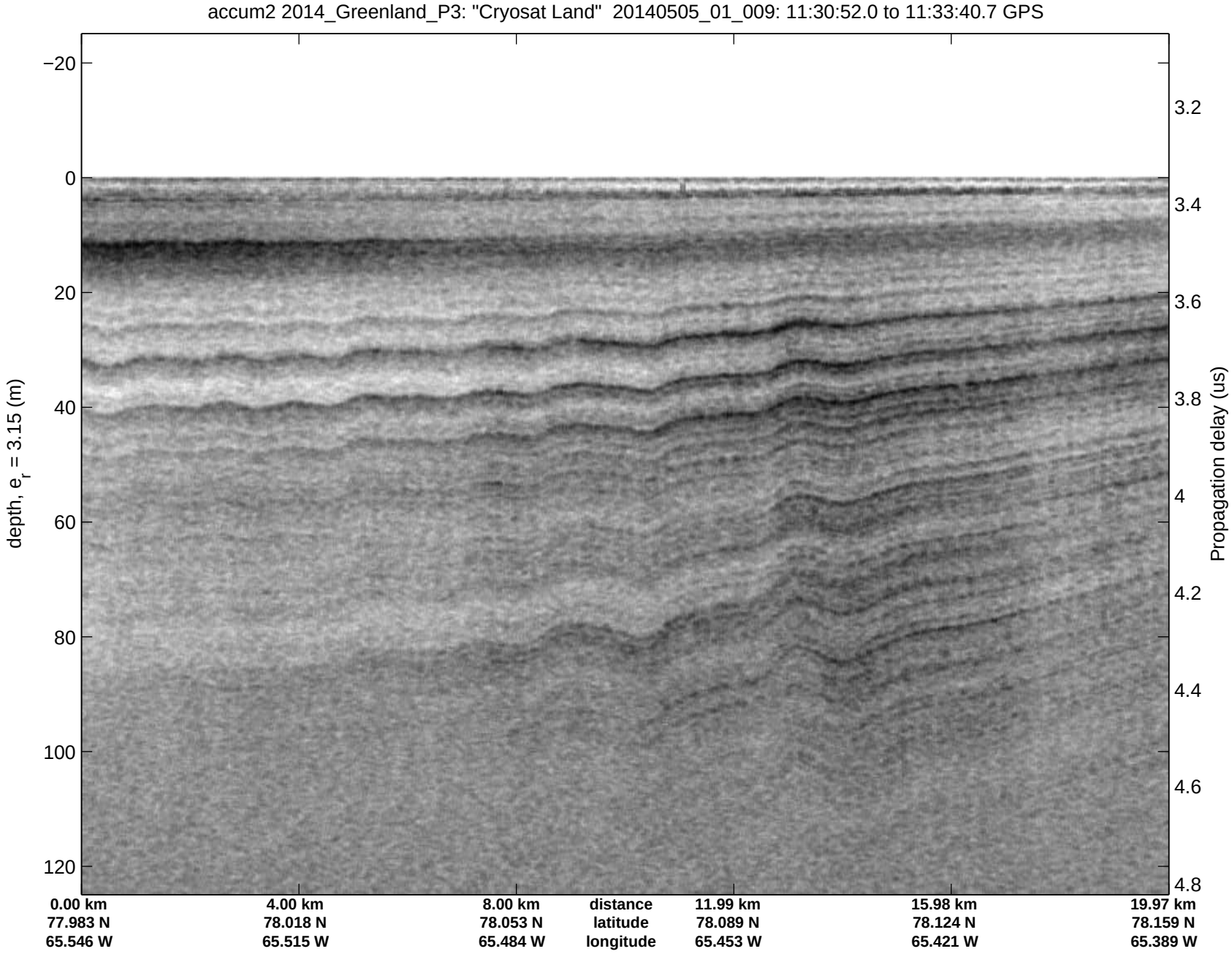

accum2 2014_Greenland_P3: "Cryosat Land" 20140505_01_008: 11:28:09.2 to 11:30:51.8 GPS
depth, e_r = 3.15 (m)
−20
0
20
40
60
80
100
120
Propagation delay (us)
3.2
3.4
3.6
3.8
4
4.2
4.4
4.6
4.8
0.00 km
77.807 N
65.699 W
4.01 km
77.842 N
65.669 W
8.00 km
77.877 N
65.639 W
distance
latitude
longitude
11.99 km
77.912 N
65.608 W
16.00 km
77.948 N
65.578 W
19.98 km
77.983 N
65.546 W

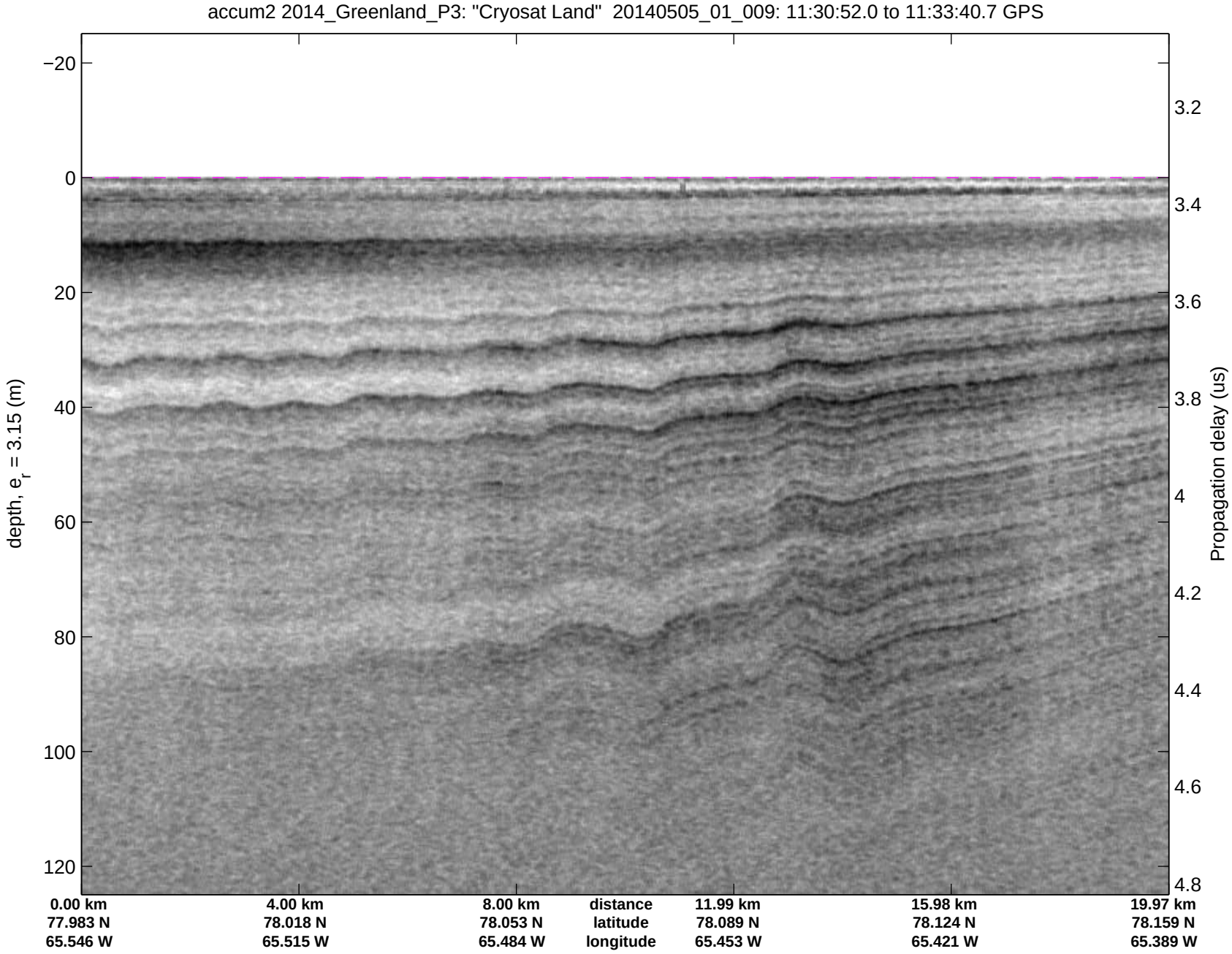

accum2 2014_Greenland_P3: "Cryosat Land" 20140505_01_008: 11:28:09.2 to 11:30:51.8 GPS
depth, e_r = 3.15 (m)
−20
0
20
40
60
80
100
120
Propagation delay (us)
3.2
3.4
3.6
3.8
4
4.2
4.4
4.6
4.8
0.00 km
77.807 N
65.699 W
4.01 km
77.842 N
65.669 W
8.00 km
77.877 N
65.639 W
distance
latitude
longitude
11.99 km
77.912 N
65.608 W
16.00 km
77.948 N
65.578 W
19.98 km
77.983 N
65.546 W

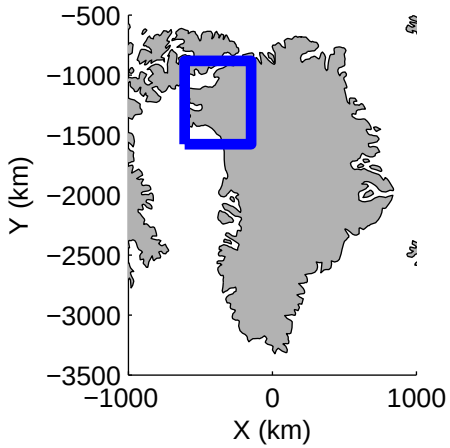

−500
−1000
−1500
−2000
−2500
−3000
−3500
Y (km)
−1000
0
1000
X (km)

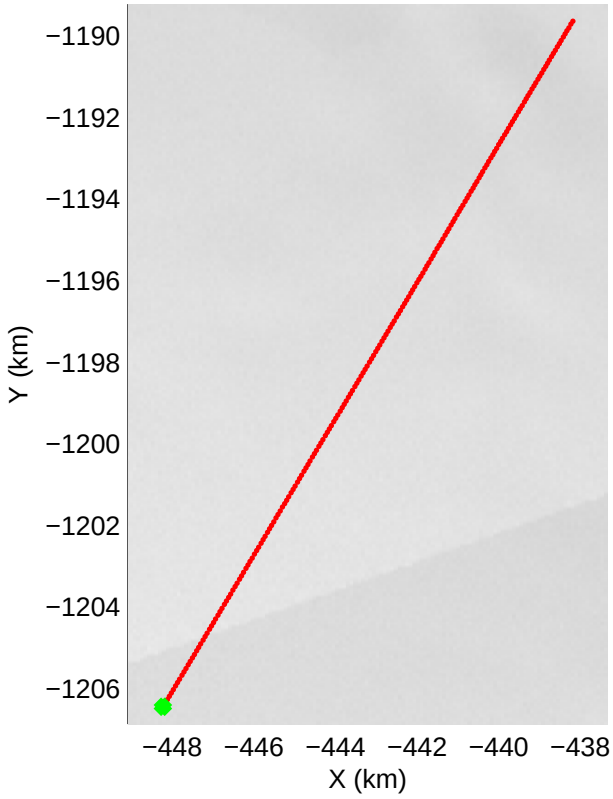

−1208
−1210
−1212
−1214
−1216
−1218
−1220
−1222
Y (km)
−458
−456
−454
−452
−450
−448
X (km)

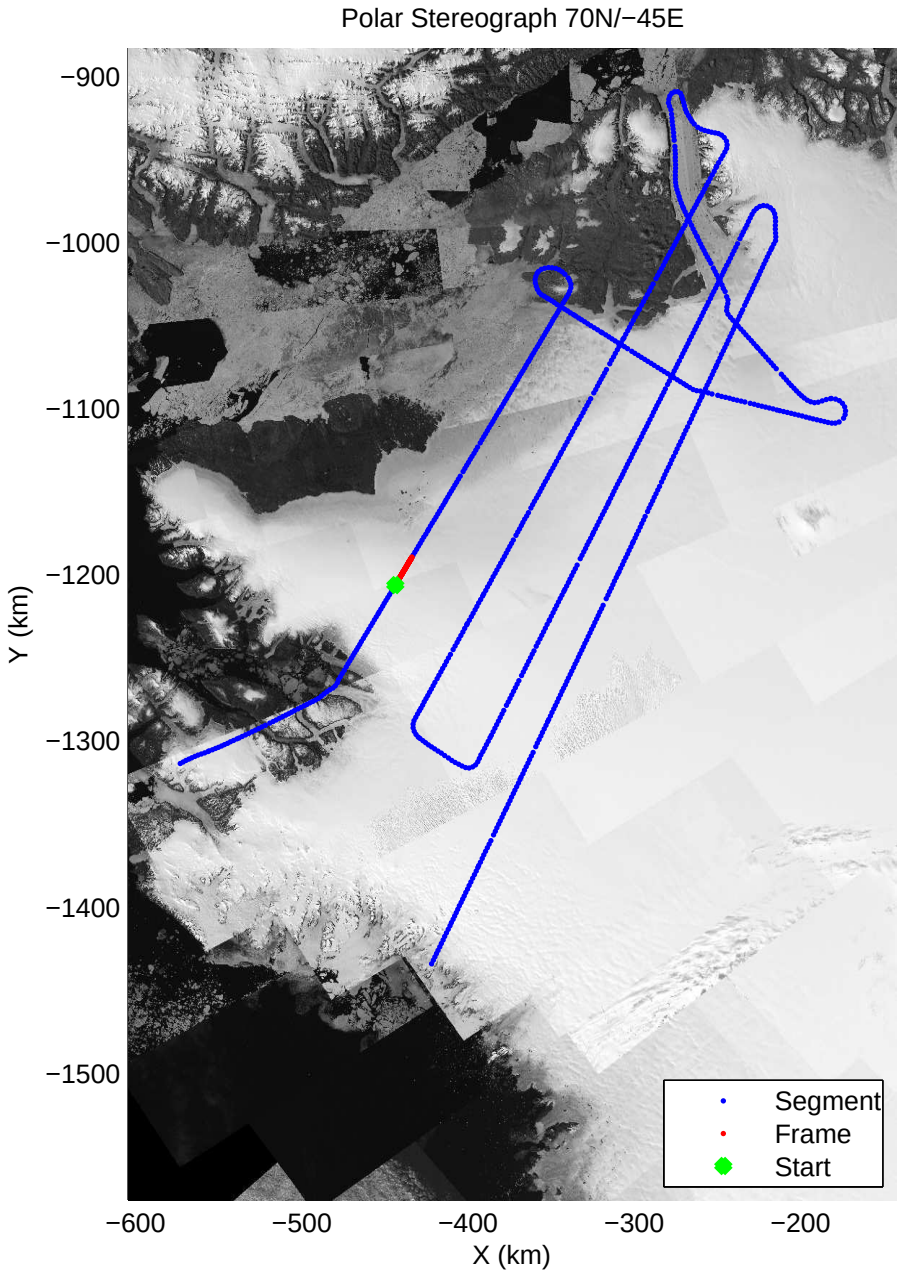

Polar Stereograph 70N/−45E
−900
−1000
−1100
−1200
−1300
−1400
−1500
Y (km)
−600
−500
−400
−300
−200
X (km)
Segment
Frame
Start

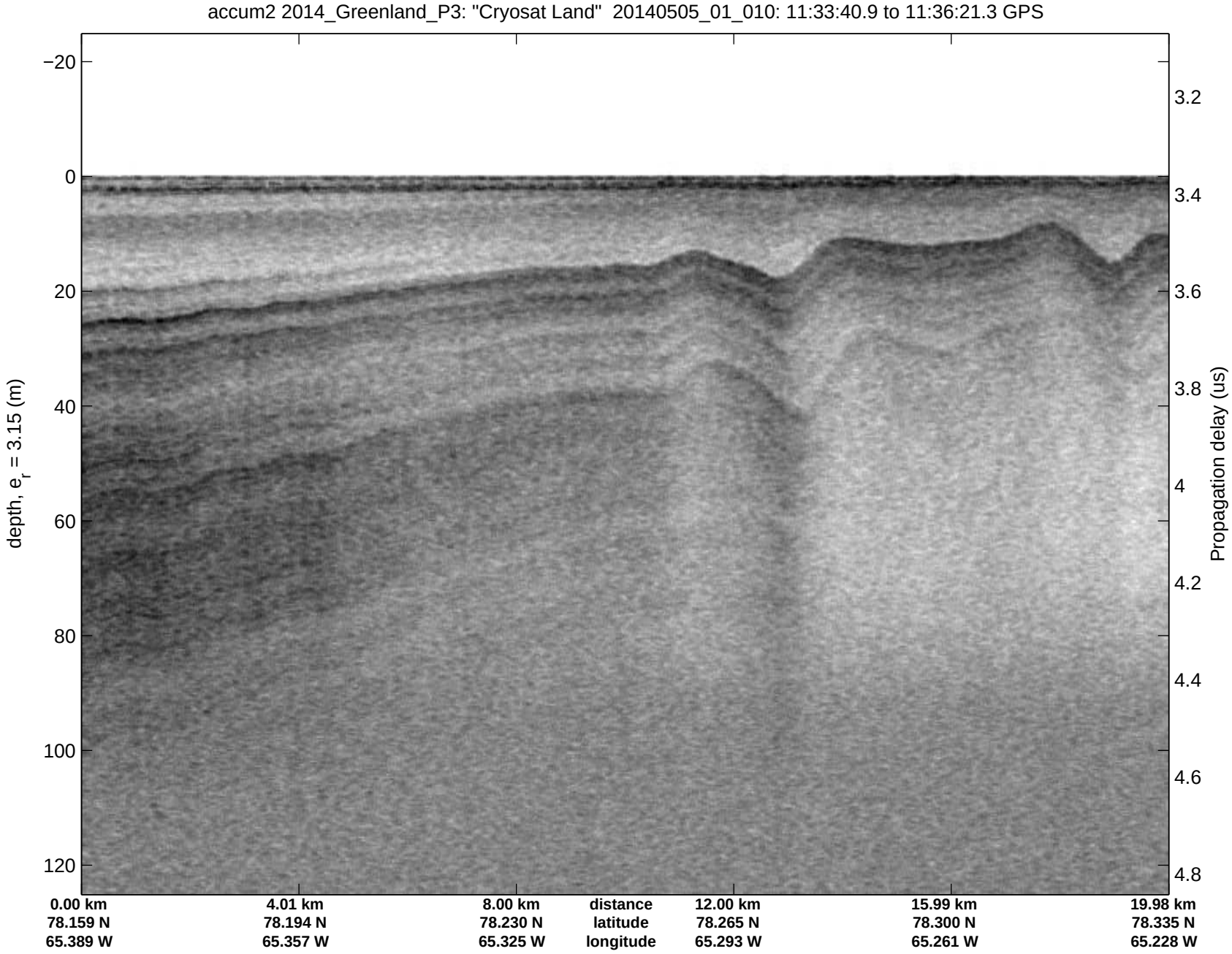

accum2 2014_Greenland_P3: "Cryosat Land" 20140505_01_009: 11:30:52.0 to 11:33:40.7 GPS
depth, e_r = 3.15 (m)
−20
0
20
40
60
80
100
120
Propagation delay (us)
3.2
3.4
3.6
3.8
4
4.2
4.4
4.6
4.8
0.00 km
77.983 N
65.546 W
4.00 km
78.018 N
65.515 W
8.00 km
78.053 N
65.484 W
distance
latitude
longitude
11.99 km
78.089 N
65.453 W
15.98 km
78.124 N
65.421 W
19.97 km
78.159 N
65.389 W

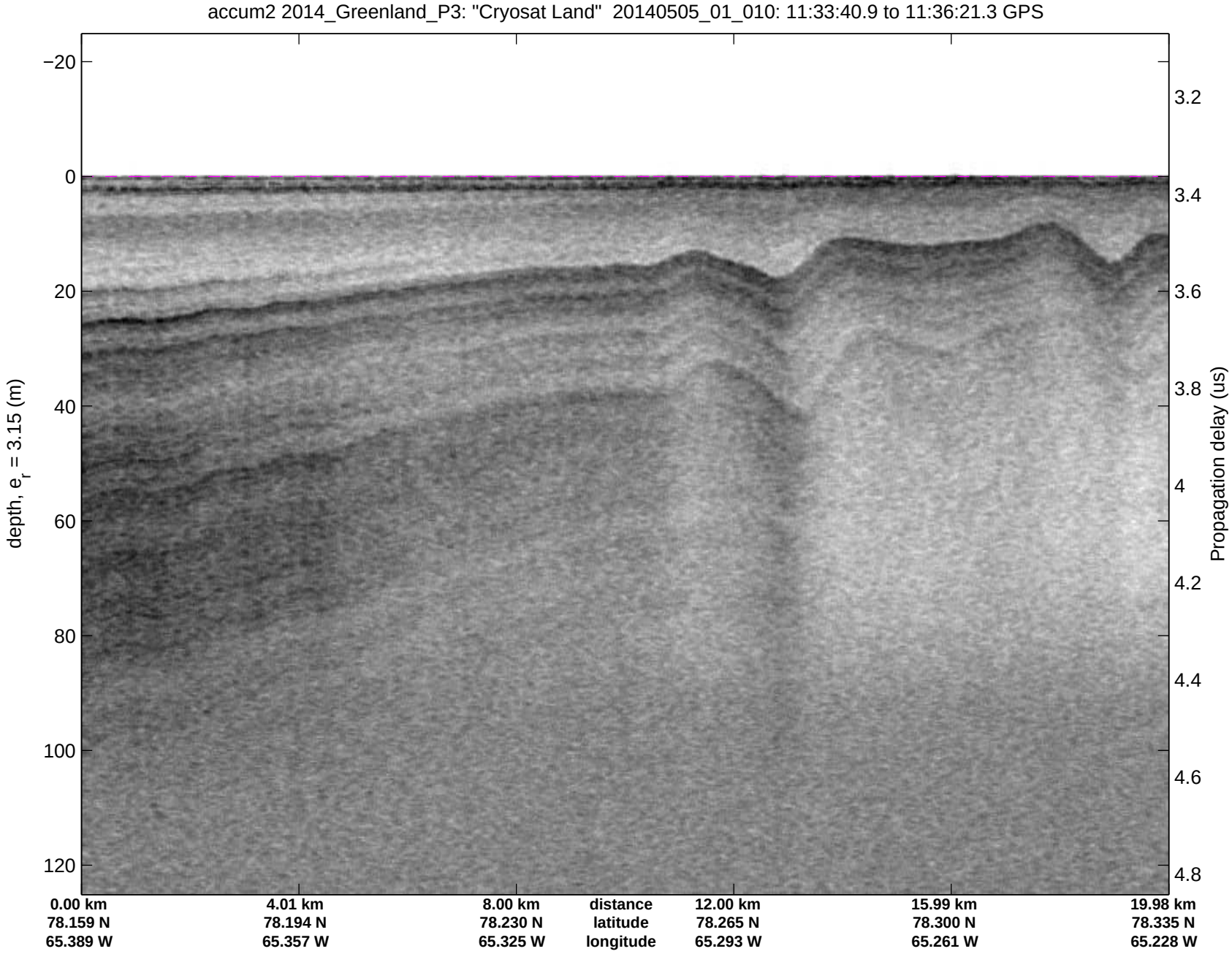

accum2 2014_Greenland_P3: "Cryosat Land" 20140505_01_009: 11:30:52.0 to 11:33:40.7 GPS
depth, e_r = 3.15 (m)
−20
0
20
40
60
80
100
120
Propagation delay (us)
3.2
3.4
3.6
3.8
4
4.2
4.4
4.6
4.8
0.00 km
77.983 N
65.546 W
4.00 km
78.018 N
65.515 W
8.00 km
78.053 N
65.484 W
distance
latitude
longitude
11.99 km
78.089 N
65.453 W
15.98 km
78.124 N
65.421 W
19.97 km
78.159 N
65.389 W

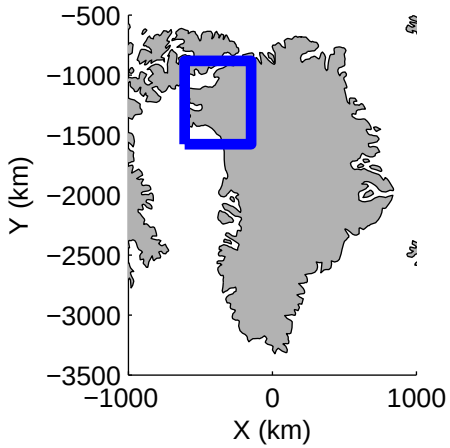

−500
−1000
−1500
−2000
−2500
−3000
−3500
Y (km)
−1000
0
1000
X (km)

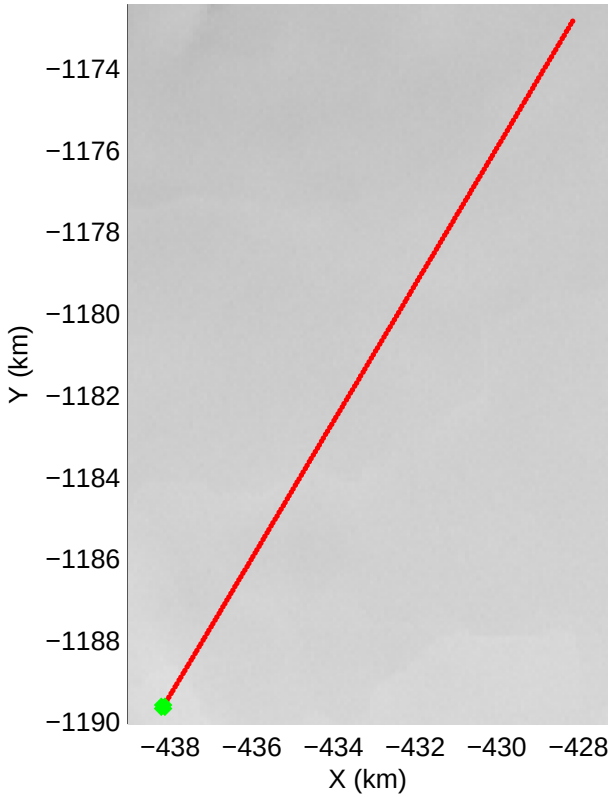

−1190
−1192
−1194
−1196
−1198
−1200
−1202
−1204
−1206
Y (km)
−448
−446
−444
−442
−440
−438
X (km)

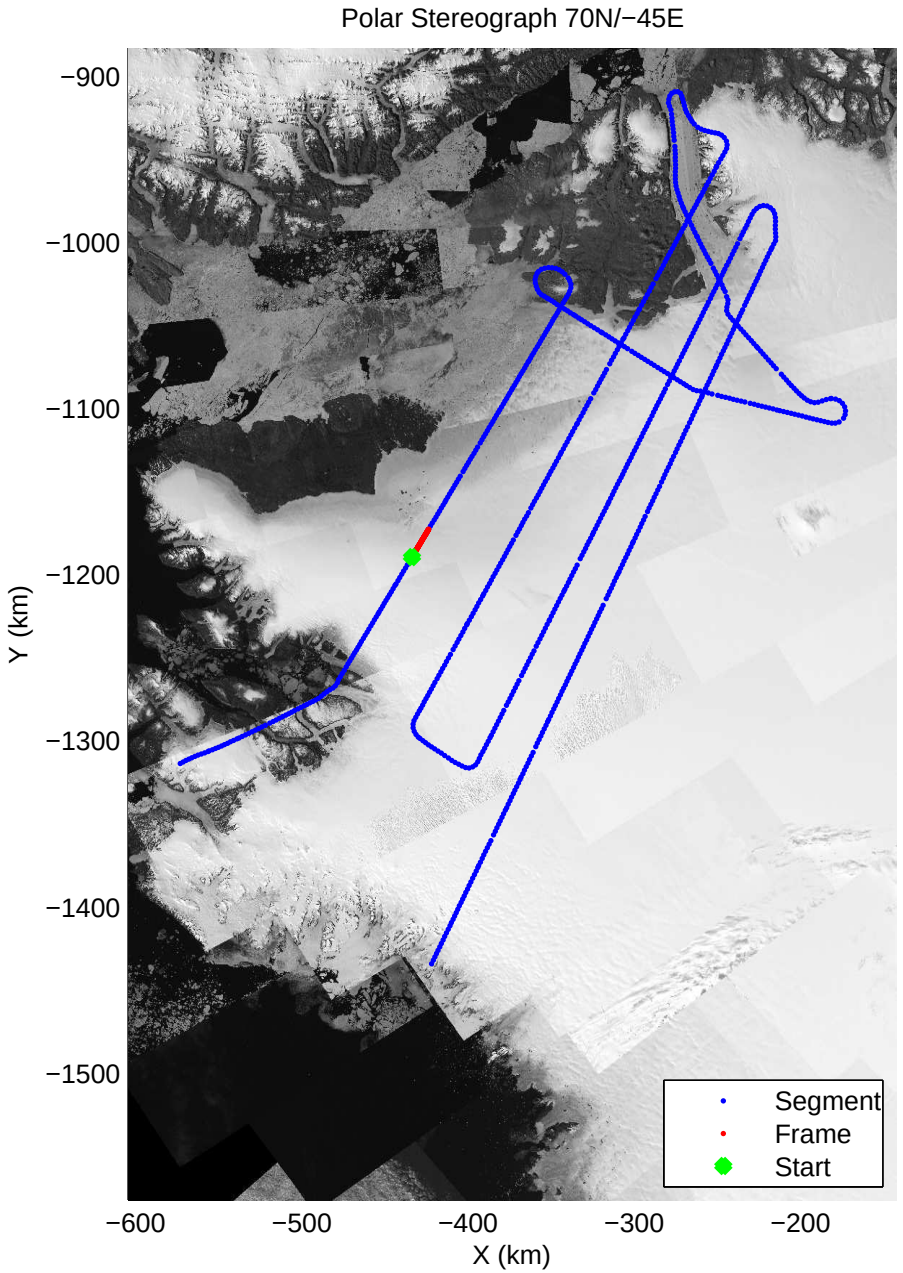

Polar Stereograph 70N/−45E
−900
−1000
−1100
−1200
−1300
−1400
−1500
Y (km)
−600
−500
−400
−300
−200
X (km)
Segment
Frame
Start

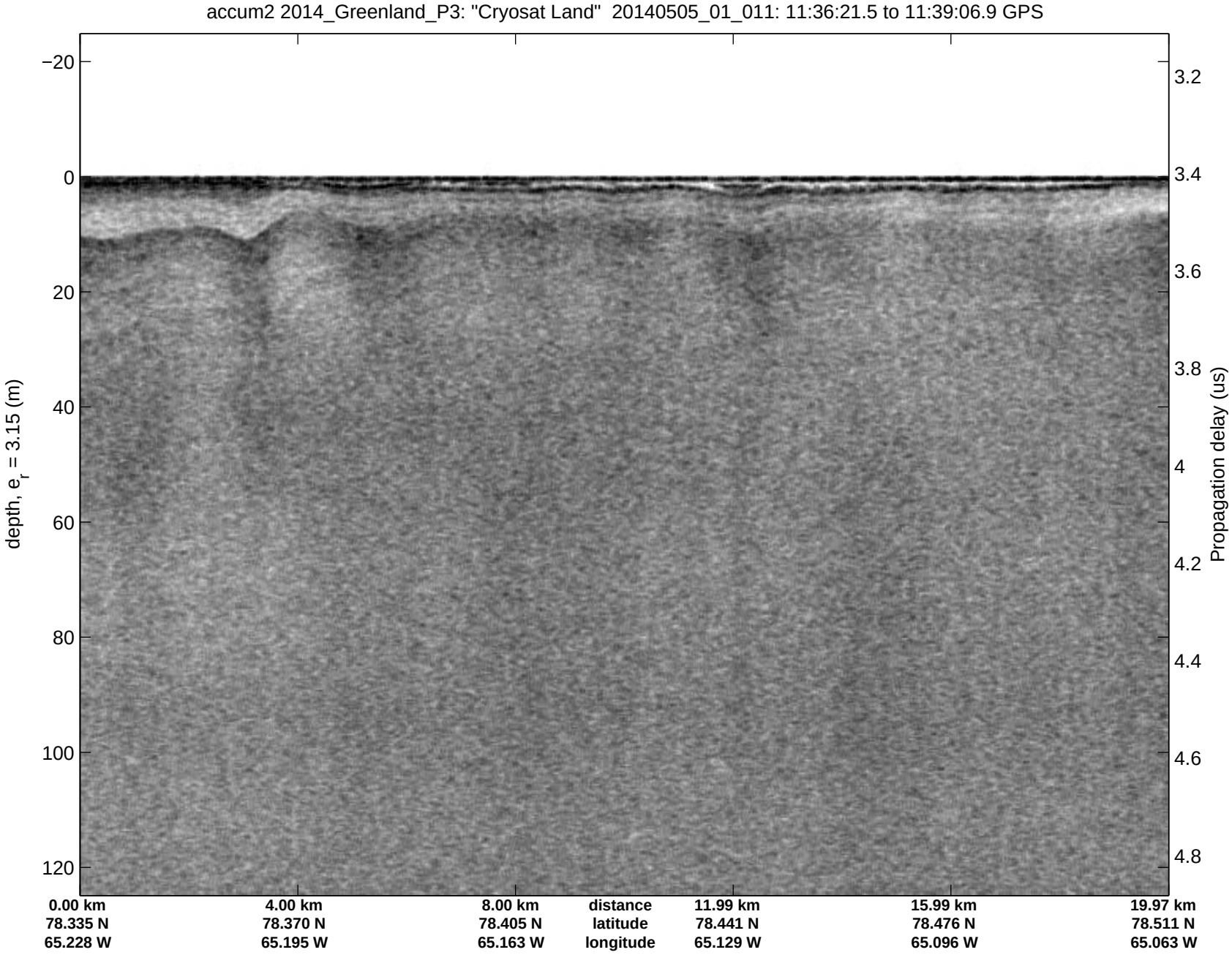

accum2 2014_Greenland_P3: "Cryosat Land" 20140505_01_010: 11:33:40.9 to 11:36:21.3 GPS
depth, e_r = 3.15 (m)
−20
0
20
40
60
80
100
120
Propagation delay (us)
3.2
3.4
3.6
3.8
4
4.2
4.4
4.6
4.8
0.00 km
78.159 N
65.389 W
4.01 km
78.194 N
65.357 W
8.00 km
78.230 N
65.325 W
distance
latitude
longitude
12.00 km
78.265 N
65.293 W
15.99 km
78.300 N
65.261 W
19.98 km
78.335 N
65.228 W

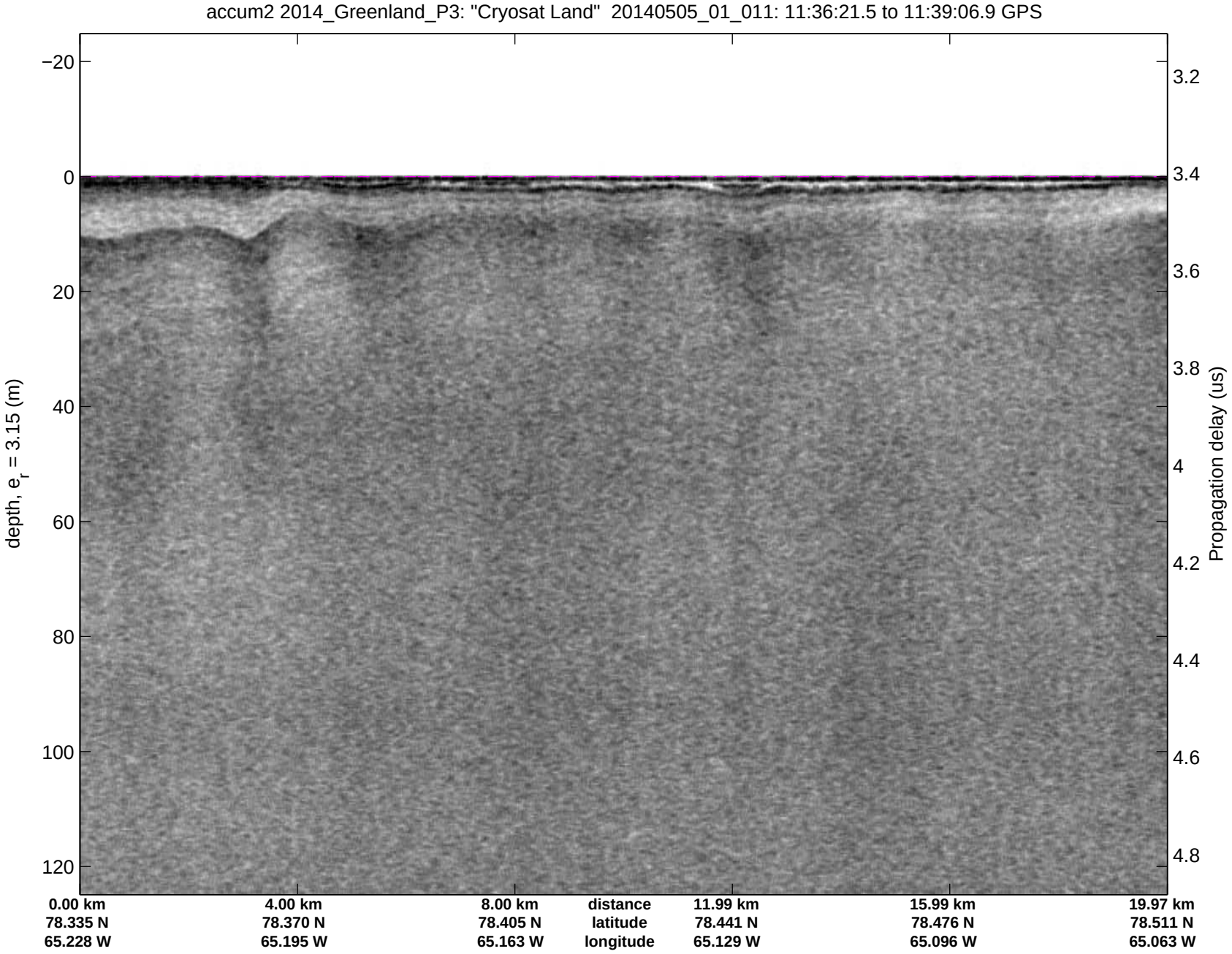

accum2 2014_Greenland_P3: "Cryosat Land" 20140505_01_010: 11:33:40.9 to 11:36:21.3 GPS
depth, e_r = 3.15 (m)
−20
0
20
40
60
80
100
120
Propagation delay (us)
3.2
3.4
3.6
3.8
4
4.2
4.4
4.6
4.8
0.00 km
78.159 N
65.389 W
4.01 km
78.194 N
65.357 W
8.00 km
78.230 N
65.325 W
distance
latitude
longitude
12.00 km
78.265 N
65.293 W
15.99 km
78.300 N
65.261 W
19.98 km
78.335 N
65.228 W

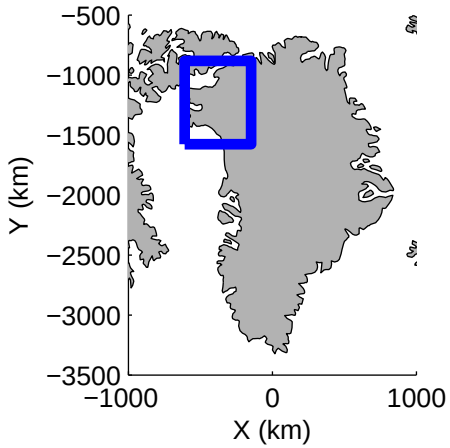

−500
−1000
−1500
−2000
−2500
−3000
−3500
Y (km)
−1000
0
1000
X (km)

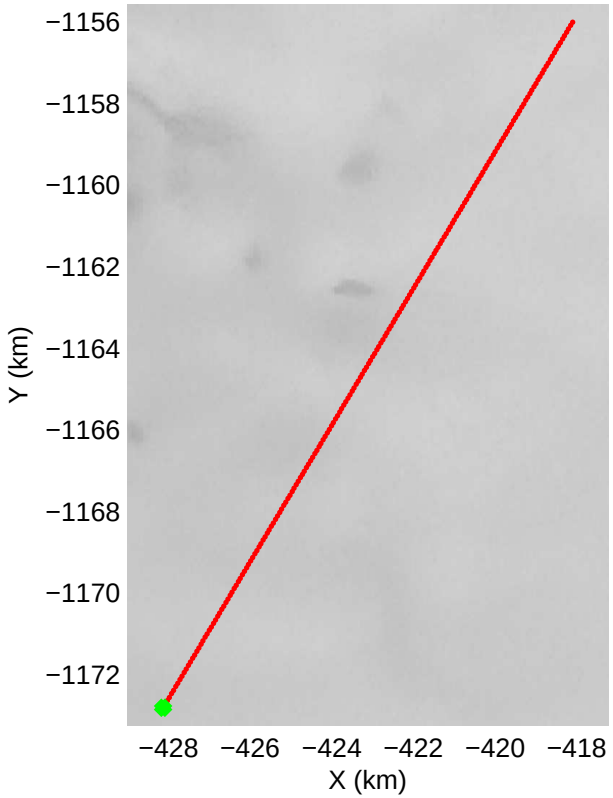

−1174
−1176
−1178
−1180
−1182
−1184
−1186
−1188
−1190
Y (km)
−438
−436
−434
−432
−430
−428
X (km)

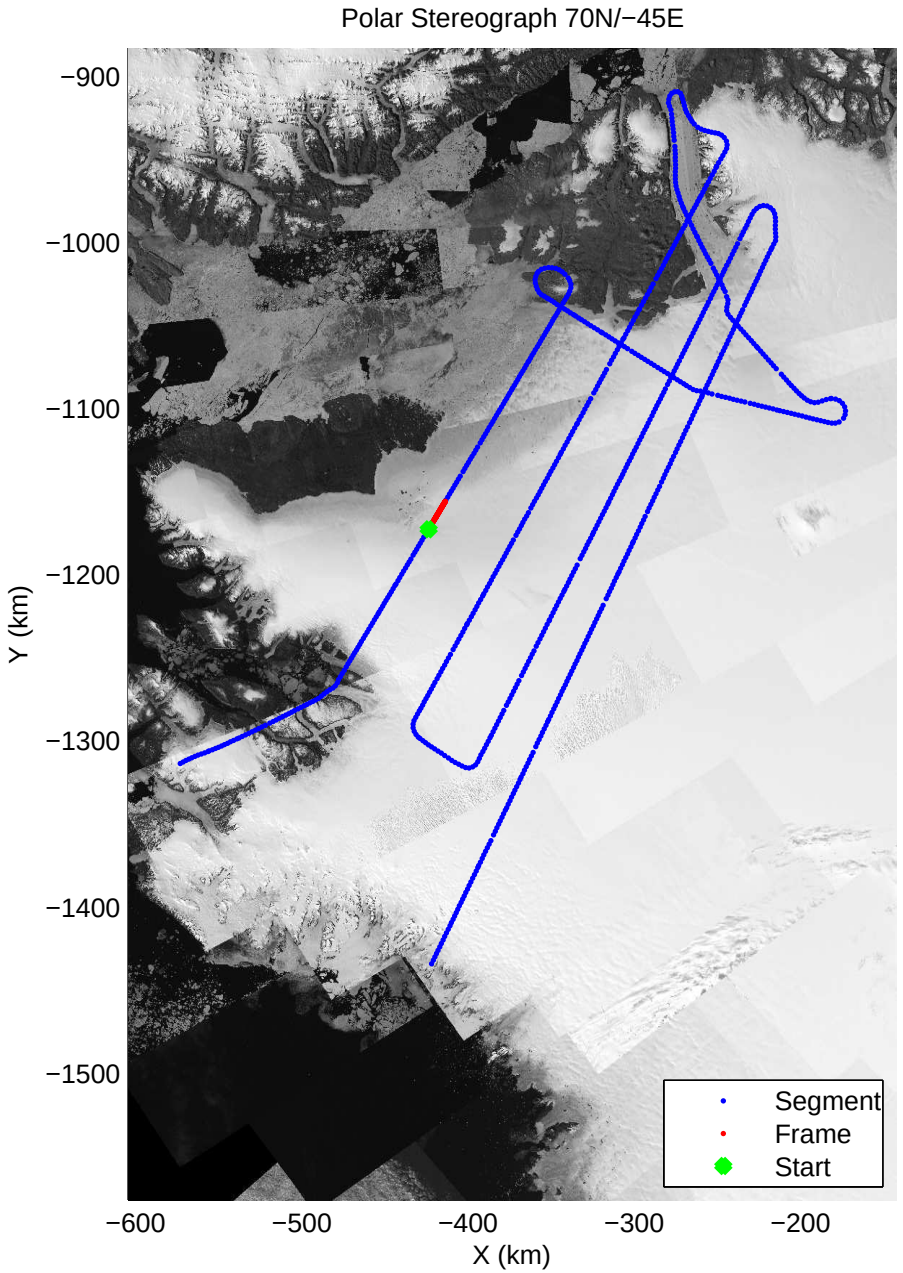

Polar Stereograph 70N/−45E
−900
−1000
−1100
−1200
−1300
−1400
−1500
Y (km)
−600
−500
−400
−300
−200
X (km)
Segment
Frame
Start

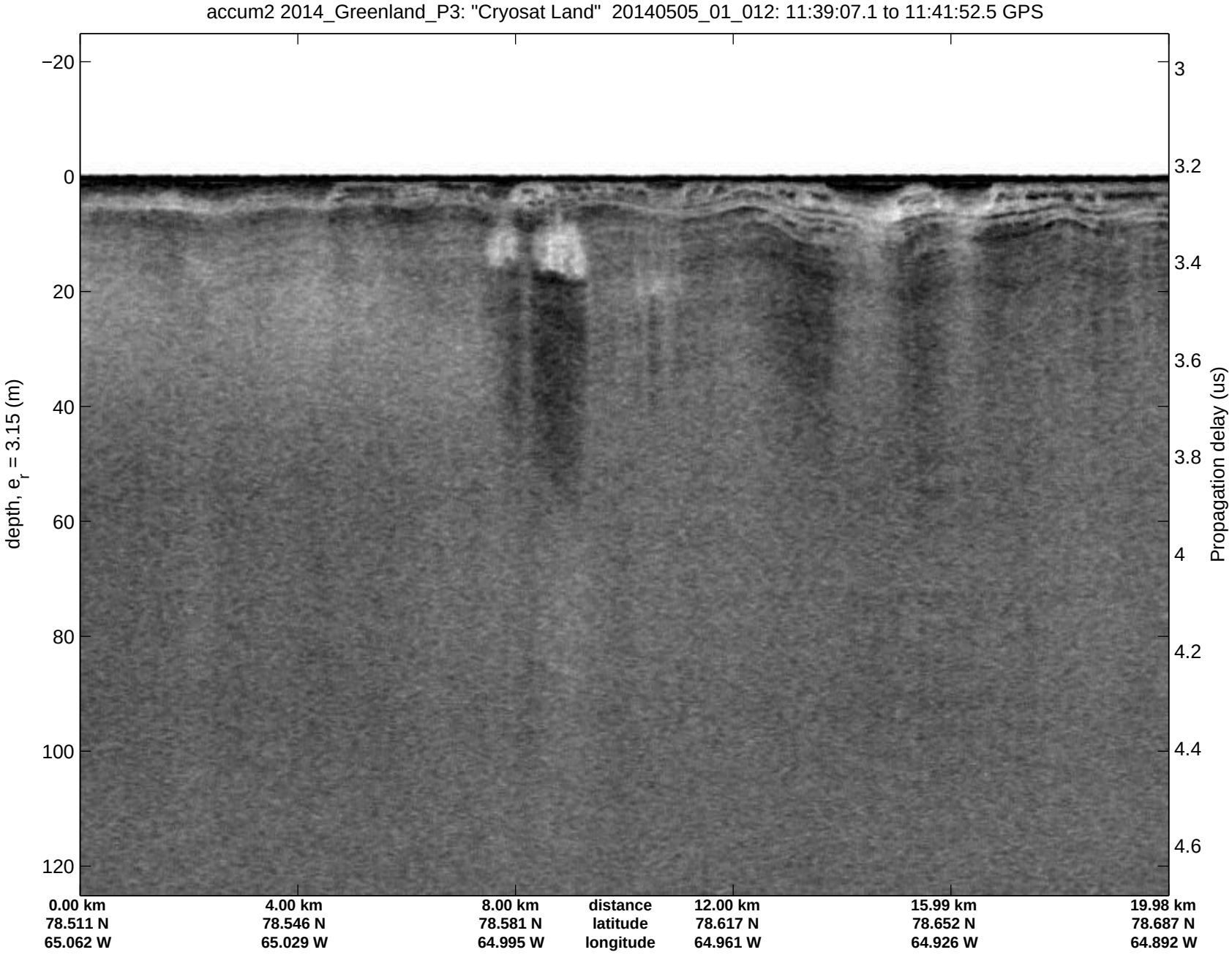

accum2 2014_Greenland_P3: "Cryosat Land" 20140505_01_011: 11:36:21.5 to 11:39:06.9 GPS
depth, e_r = 3.15 (m)
−20
0
20
40
60
80
100
120
Propagation delay (us)
3.2
3.4
3.6
3.8
4
4.2
4.4
4.6
4.8
0.00 km
78.335 N
65.228 W
4.00 km
78.370 N
65.195 W
8.00 km
78.405 N
65.163 W
distance
latitude
longitude
11.99 km
78.441 N
65.129 W
15.99 km
78.476 N
65.096 W
19.97 km
78.511 N
65.063 W

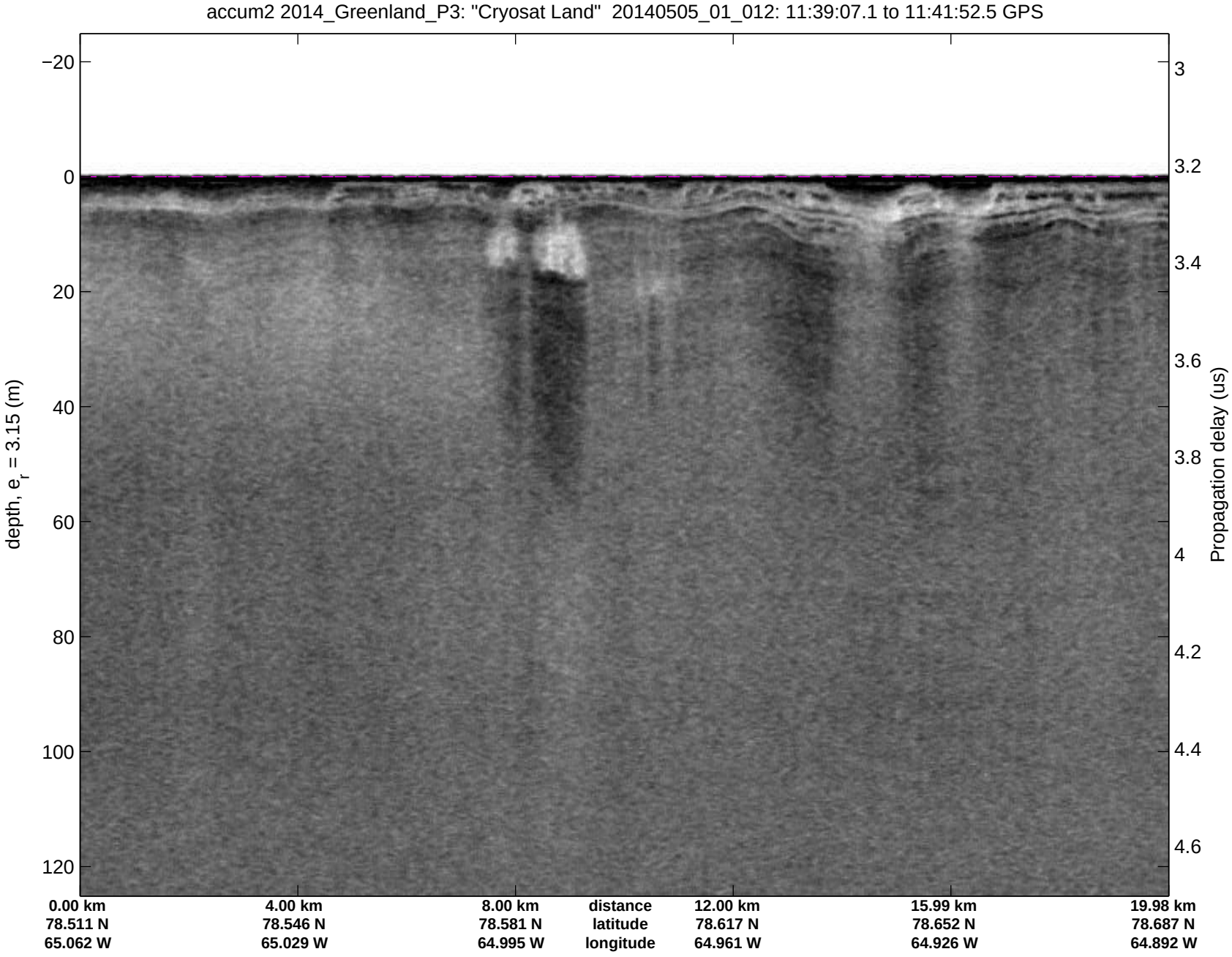

accum2 2014_Greenland_P3: "Cryosat Land" 20140505_01_011: 11:36:21.5 to 11:39:06.9 GPS
depth, e_r = 3.15 (m)
−20
0
20
40
60
80
100
120
Propagation delay (us)
3.2
3.4
3.6
3.8
4
4.2
4.4
4.6
4.8
0.00 km
78.335 N
65.228 W
4.00 km
78.370 N
65.195 W
8.00 km
78.405 N
65.163 W
distance
latitude
longitude
11.99 km
78.441 N
65.129 W
15.99 km
78.476 N
65.096 W
19.97 km
78.511 N
65.063 W

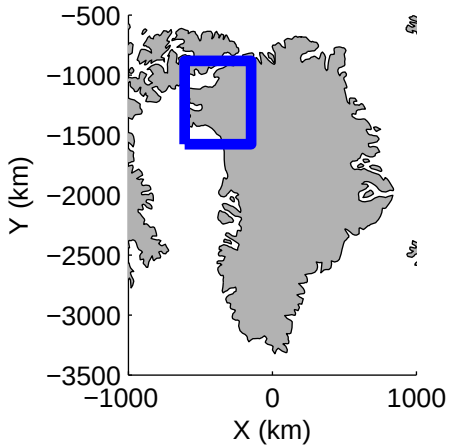

−500
−1000
−1500
−2000
−2500
−3000
−3500
Y (km)
−1000
0
1000
X (km)

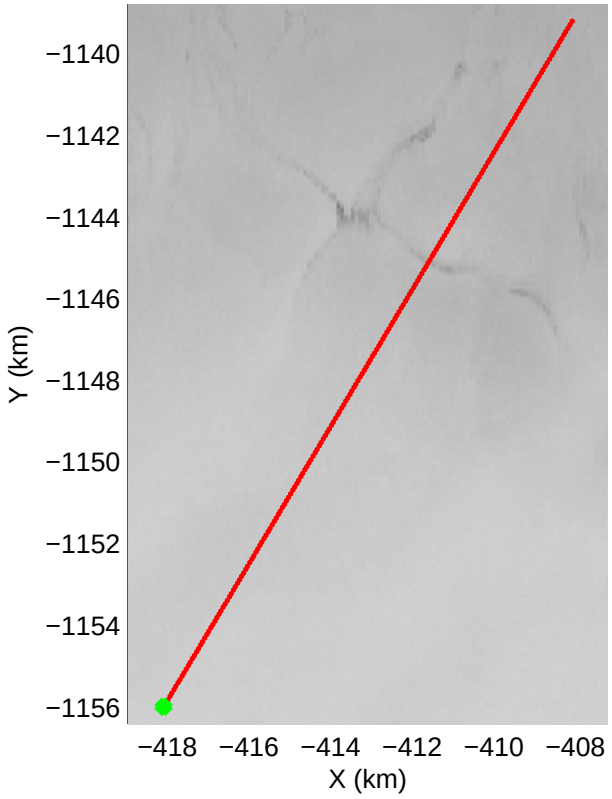

−1156
−1158
−1160
−1162
−1164
−1166
−1168
−1170
−1172
Y (km)
−428
−426
−424
−422
−420
−418
X (km)

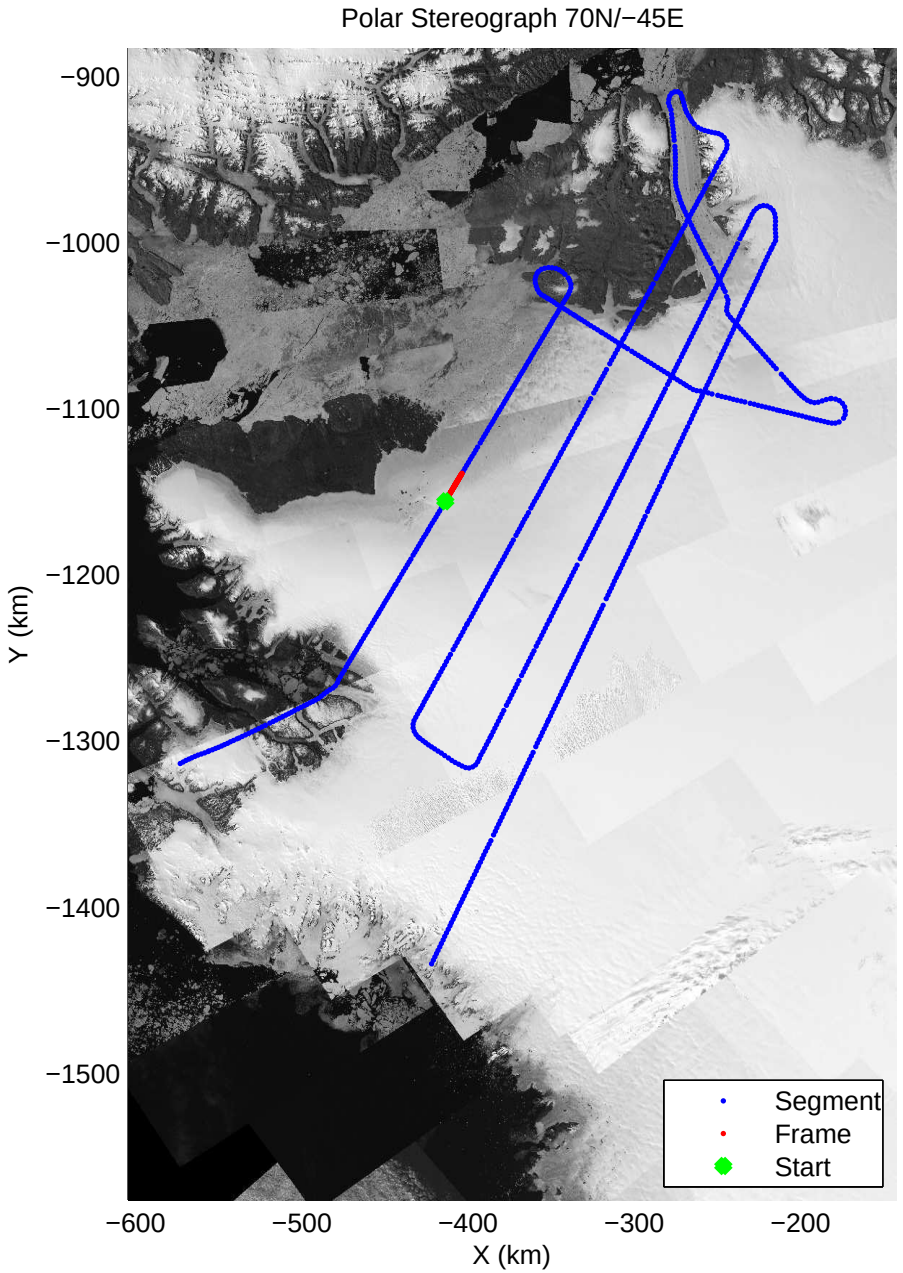

Polar Stereograph 70N/−45E
−900
−1000
−1100
−1200
−1300
−1400
−1500
Y (km)
−600
−500
−400
−300
−200
X (km)
Segment
Frame
Start

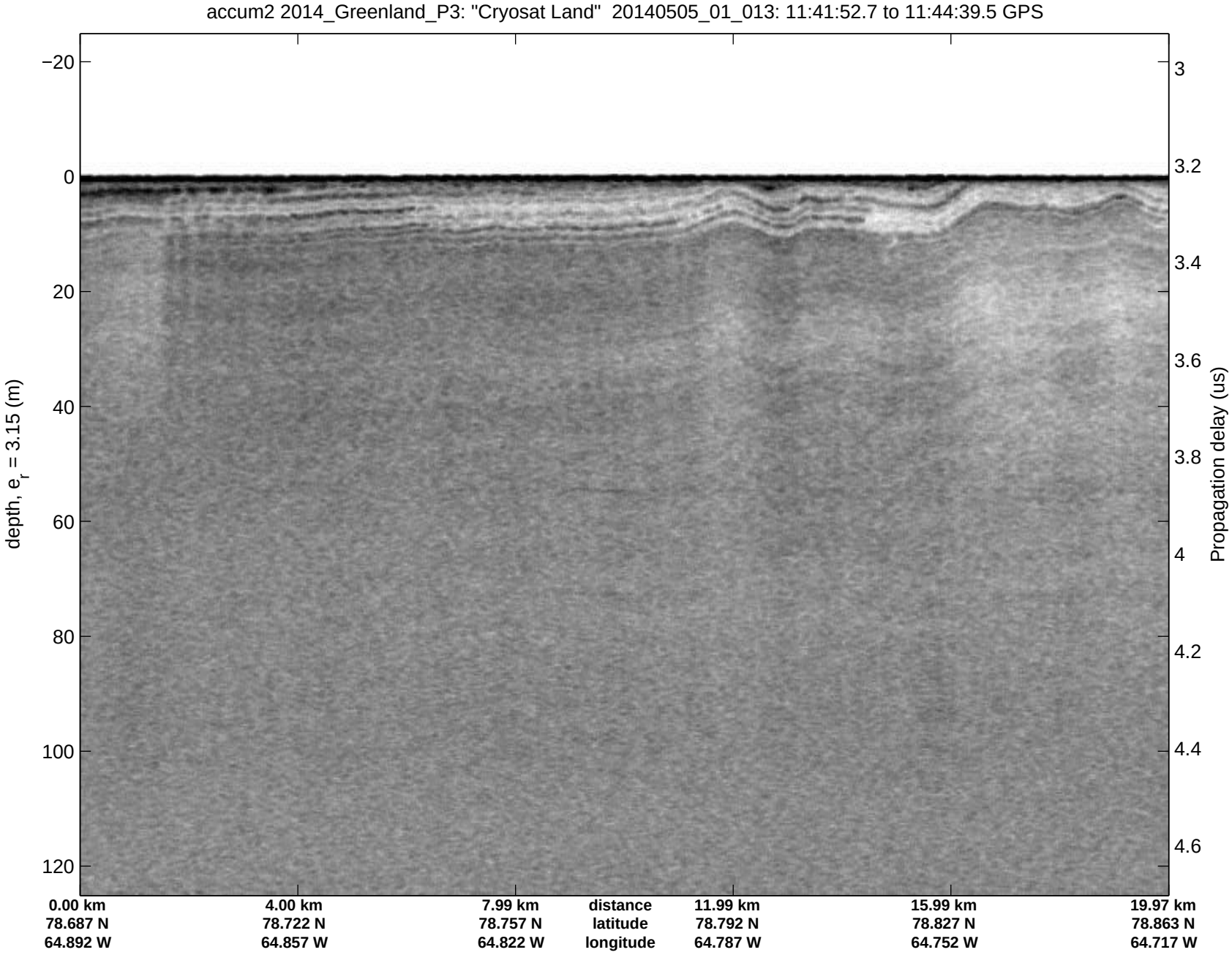

accum2 2014_Greenland_P3: "Cryosat Land" 20140505_01_012: 11:39:07.1 to 11:41:52.5 GPS
depth, e_r = 3.15 (m)
−20
0
20
40
60
80
100
120
3
3.2
3.4
3.6
3.8
4
4.2
4.4
4.6
Propagation delay (us)
0.00 km
78.511 N
65.062 W
4.00 km
78.546 N
65.029 W
8.00 km
78.581 N
64.995 W
distance
latitude
longitude
12.00 km
78.617 N
64.961 W
15.99 km
78.652 N
64.926 W
19.98 km
78.687 N
64.892 W

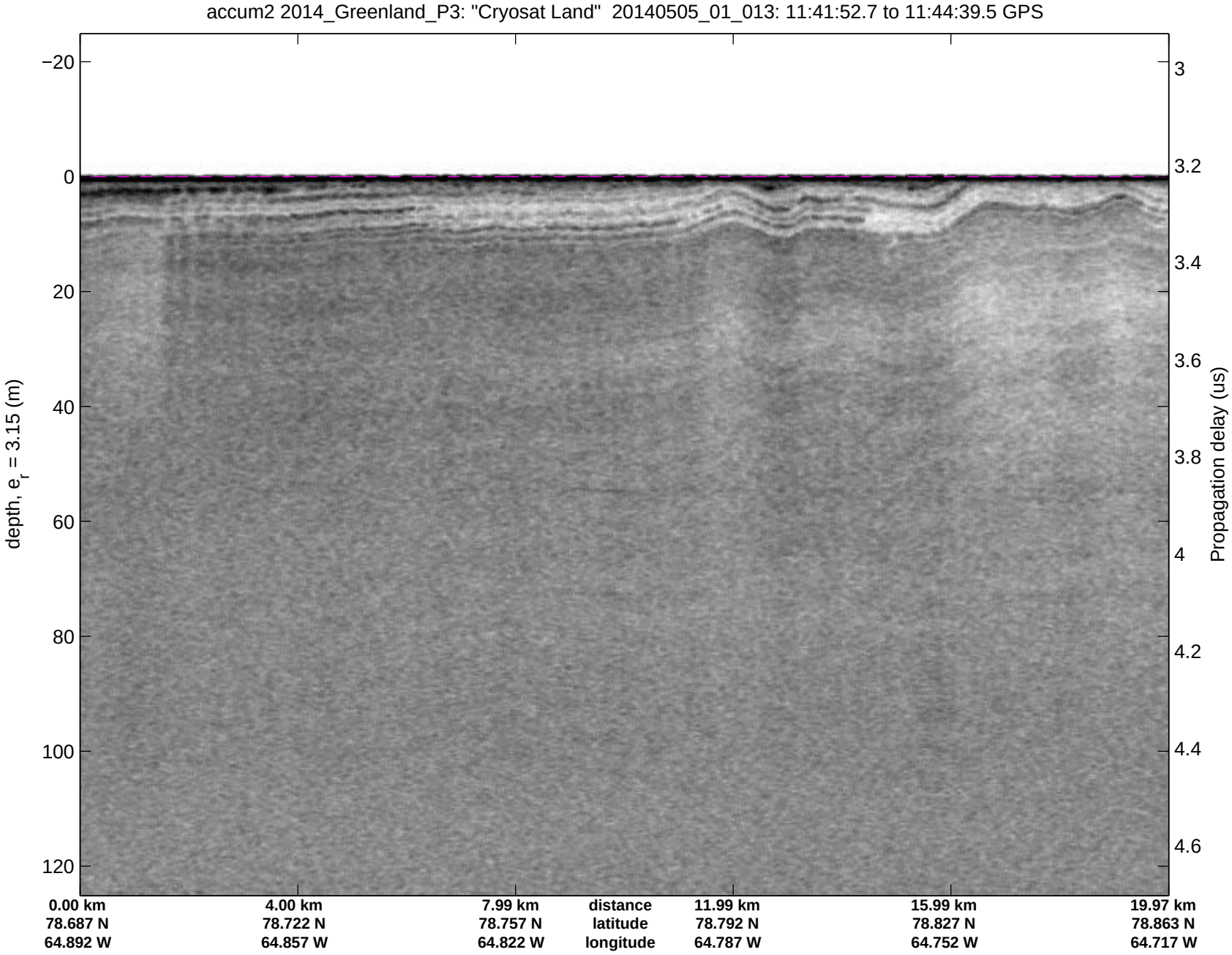

accum2 2014_Greenland_P3: "Cryosat Land" 20140505_01_012: 11:39:07.1 to 11:41:52.5 GPS
depth, e_r = 3.15 (m)
−20
0
20
40
60
80
100
120
3
3.2
3.4
3.6
3.8
4
4.2
4.4
4.6
Propagation delay (us)
0.00 km
78.511 N
65.062 W
4.00 km
78.546 N
65.029 W
8.00 km
78.581 N
64.995 W
distance
latitude
longitude
12.00 km
78.617 N
64.961 W
15.99 km
78.652 N
64.926 W
19.98 km
78.687 N
64.892 W

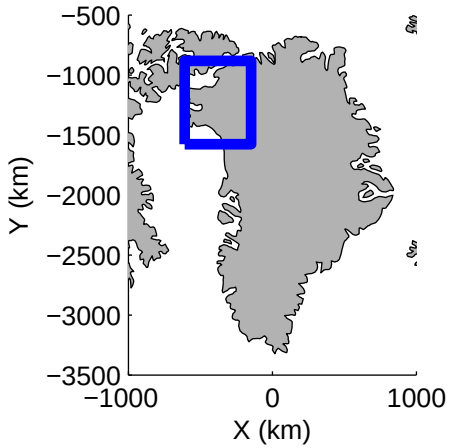

−500
−1000
−1500
−2000
−2500
−3000
−3500
Y (km)
−1000
0
1000
X (km)

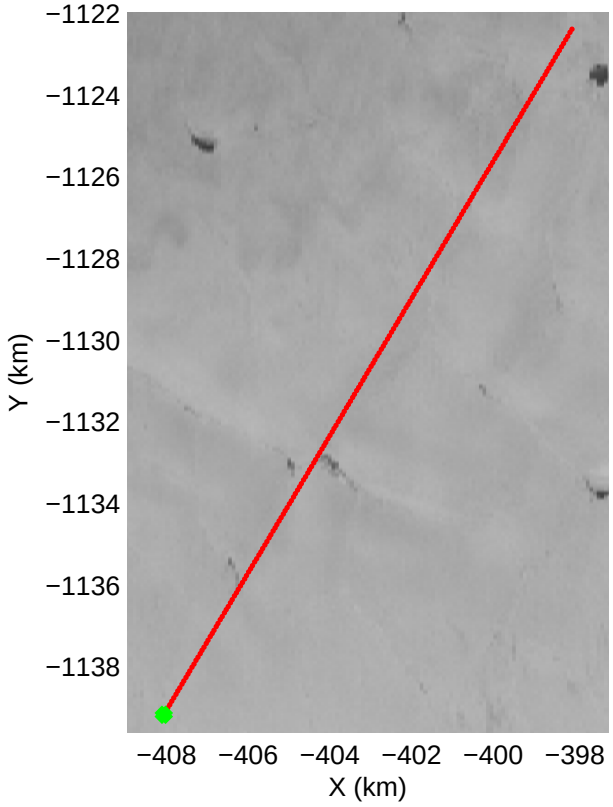

−1140
−1142
−1144
−1146
−1148
−1150
−1152
−1154
−1156
Y (km)
−418
−416
−414
−412
−410
−408
X (km)

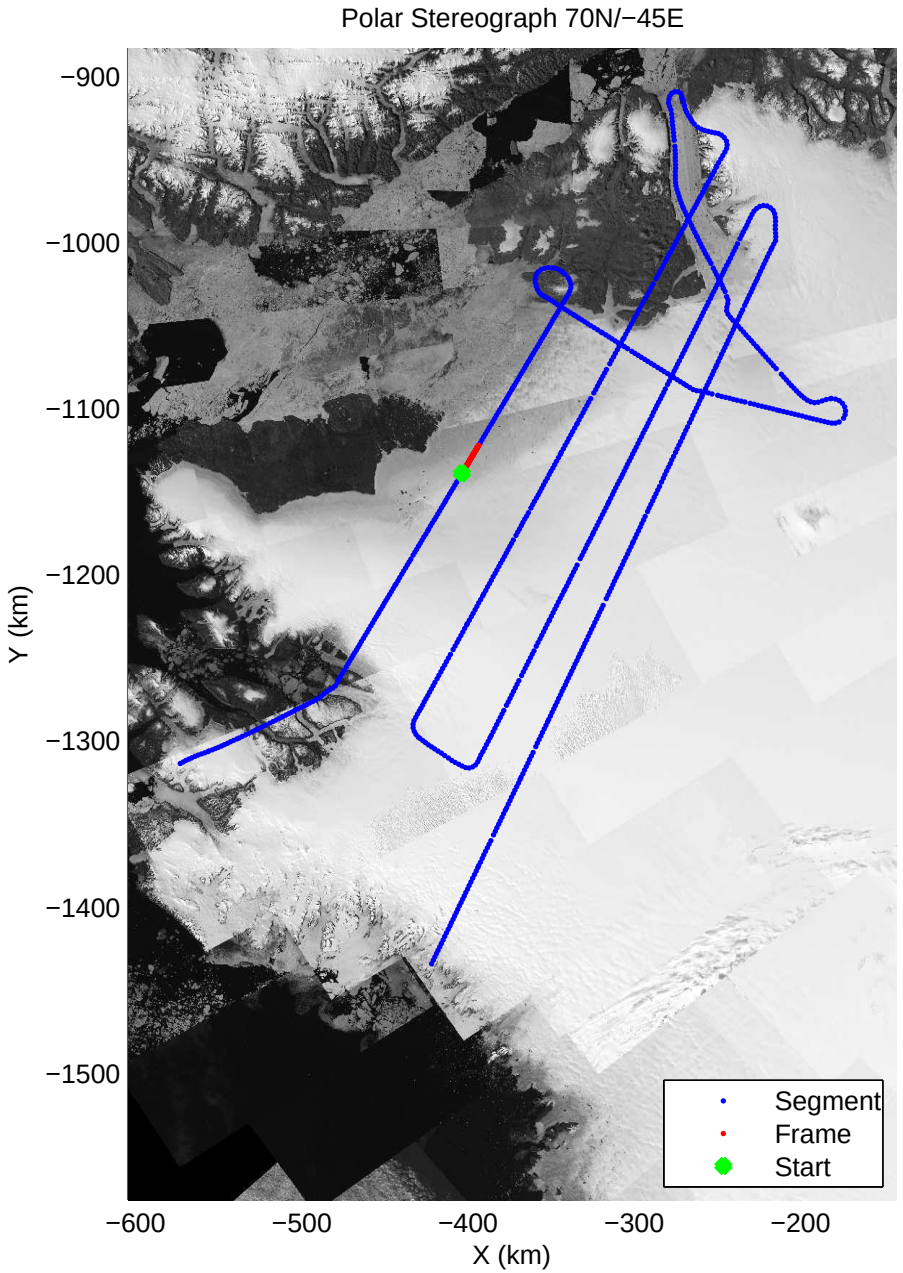

Polar Stereograph 70N/−45E
−900
−1000
−1100
−1200
−1300
−1400
−1500
Y (km)
−600
−500
−400
−300
−200
X (km)
Segment
Frame
Start

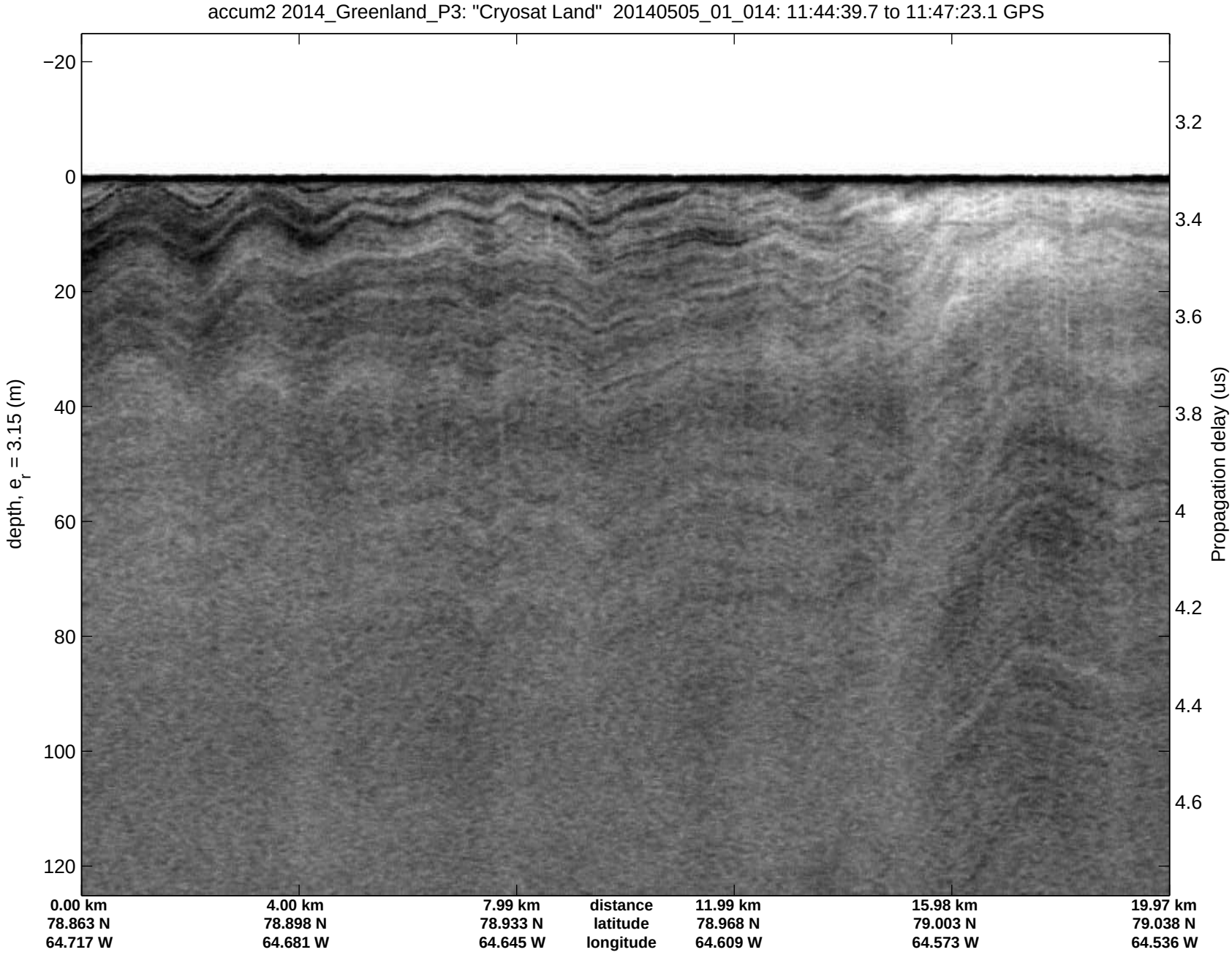

accum2 2014_Greenland_P3: "Cryosat Land" 20140505_01_013: 11:41:52.7 to 11:44:39.5 GPS
depth, e_r = 3.15 (m)
−20
0
20
40
60
80
100
120
Propagation delay (us)
3
3.2
3.4
3.6
3.8
4
4.2
4.4
4.6
0.00 km
78.687 N
64.892 W
4.00 km
78.722 N
64.857 W
7.99 km
78.757 N
64.822 W
distance
latitude
longitude
11.99 km
78.792 N
64.787 W
15.99 km
78.827 N
64.752 W
19.97 km
78.863 N
64.717 W

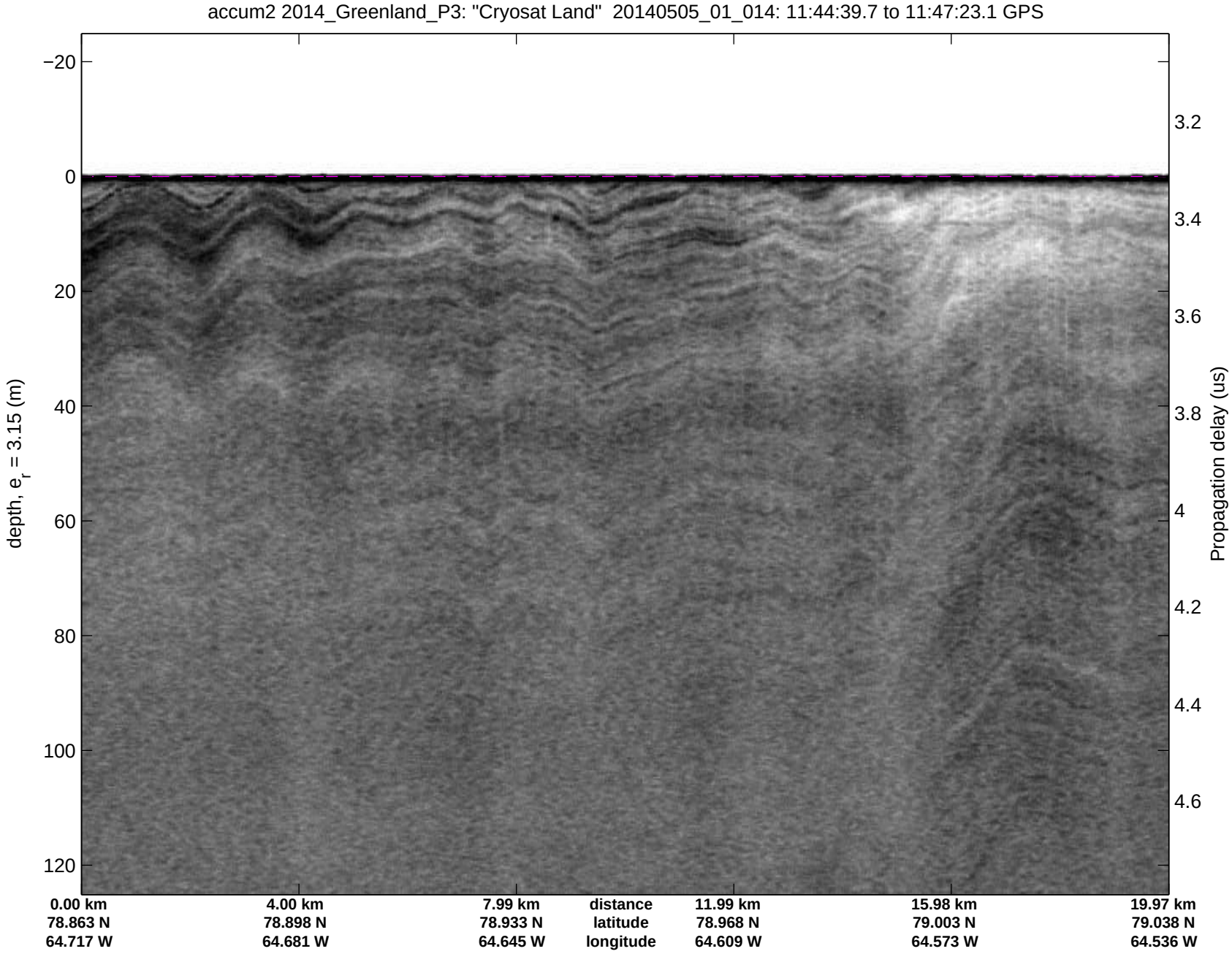

accum2 2014_Greenland_P3: "Cryosat Land" 20140505_01_013: 11:41:52.7 to 11:44:39.5 GPS
depth, e_r = 3.15 (m)
−20
0
20
40
60
80
100
120
Propagation delay (us)
3
3.2
3.4
3.6
3.8
4
4.2
4.4
4.6
0.00 km
78.687 N
64.892 W
4.00 km
78.722 N
64.857 W
7.99 km
78.757 N
64.822 W
distance
latitude
longitude
11.99 km
78.792 N
64.787 W
15.99 km
78.827 N
64.752 W
19.97 km
78.863 N
64.717 W

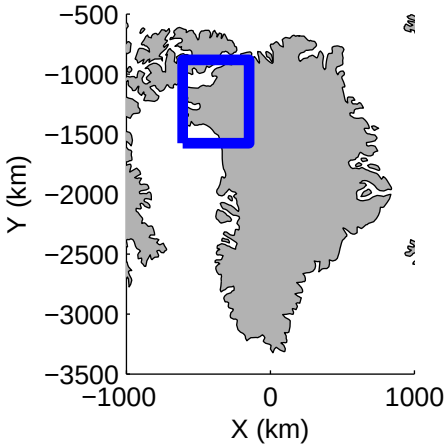

−500
−1000
−1500
−2000
−2500
−3000
−3500
Y (km)
−1000
0
1000
X (km)

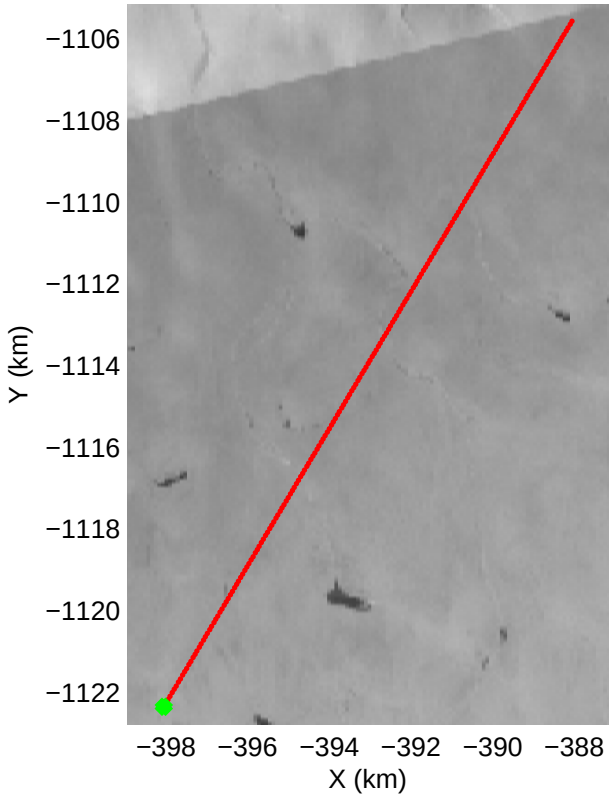

−1122
−1124
−1126
−1128
−1130
−1132
−1134
−1136
−1138
Y (km)
−408
−406
−404
−402
−400
−398
X (km)

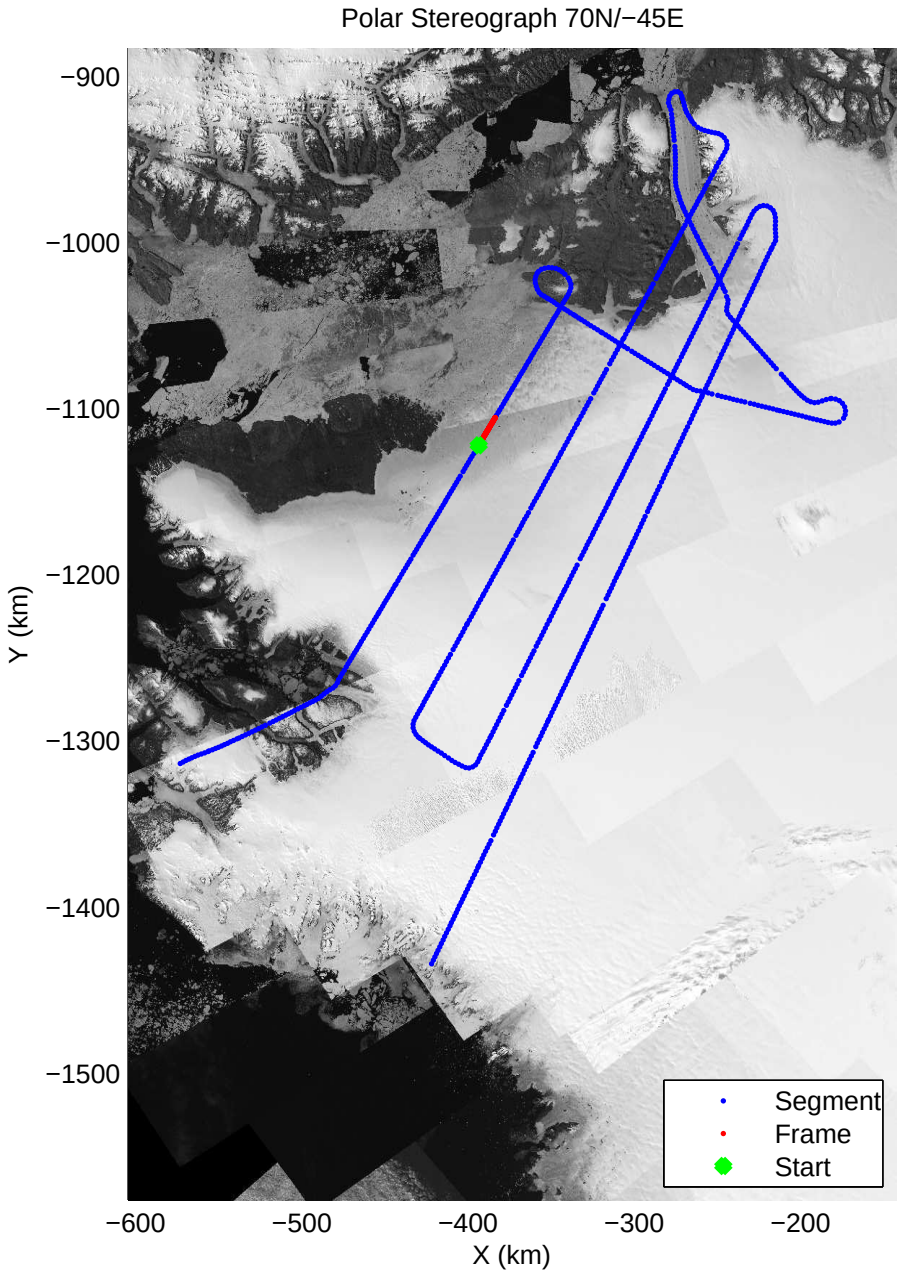

Polar Stereograph 70N/−45E
−900
−1000
−1100
−1200
−1300
−1400
−1500
Y (km)
−600
−500
−400
−300
−200
X (km)
Segment
Frame
Start

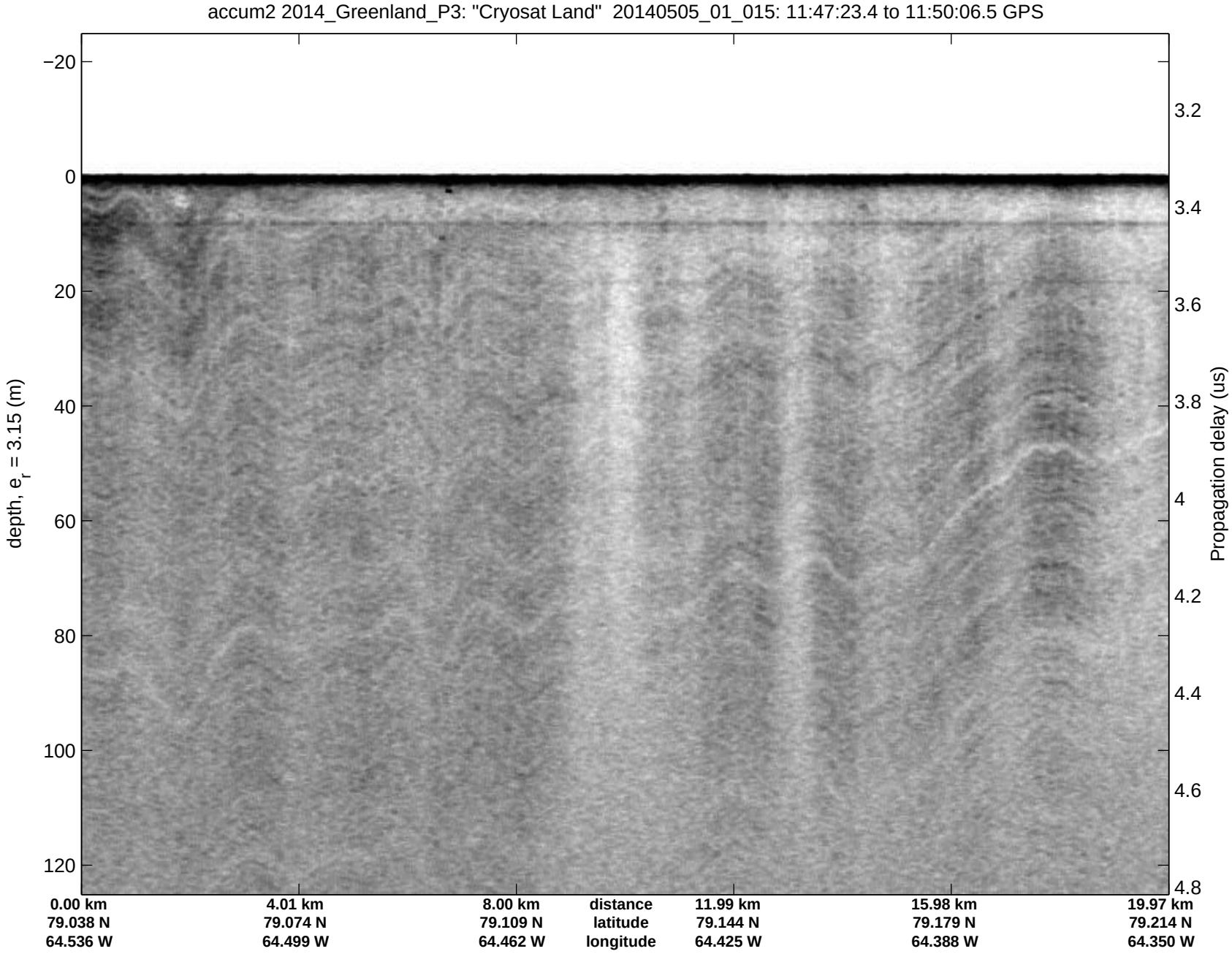

accum2 2014_Greenland_P3: "Cryosat Land" 20140505_01_014: 11:44:39.7 to 11:47:23.1 GPS
−20
0
20
40
60
80
100
120
depth, e_r = 3.15 (m)
3.2
3.4
3.6
3.8
4
4.2
4.4
4.6
Propagation delay (us)
0.00 km
78.863 N
64.717 W
4.00 km
78.898 N
64.681 W
7.99 km
78.933 N
64.645 W
distance
latitude
longitude
11.99 km
78.968 N
64.609 W
15.98 km
79.003 N
64.573 W
19.97 km
79.038 N
64.536 W

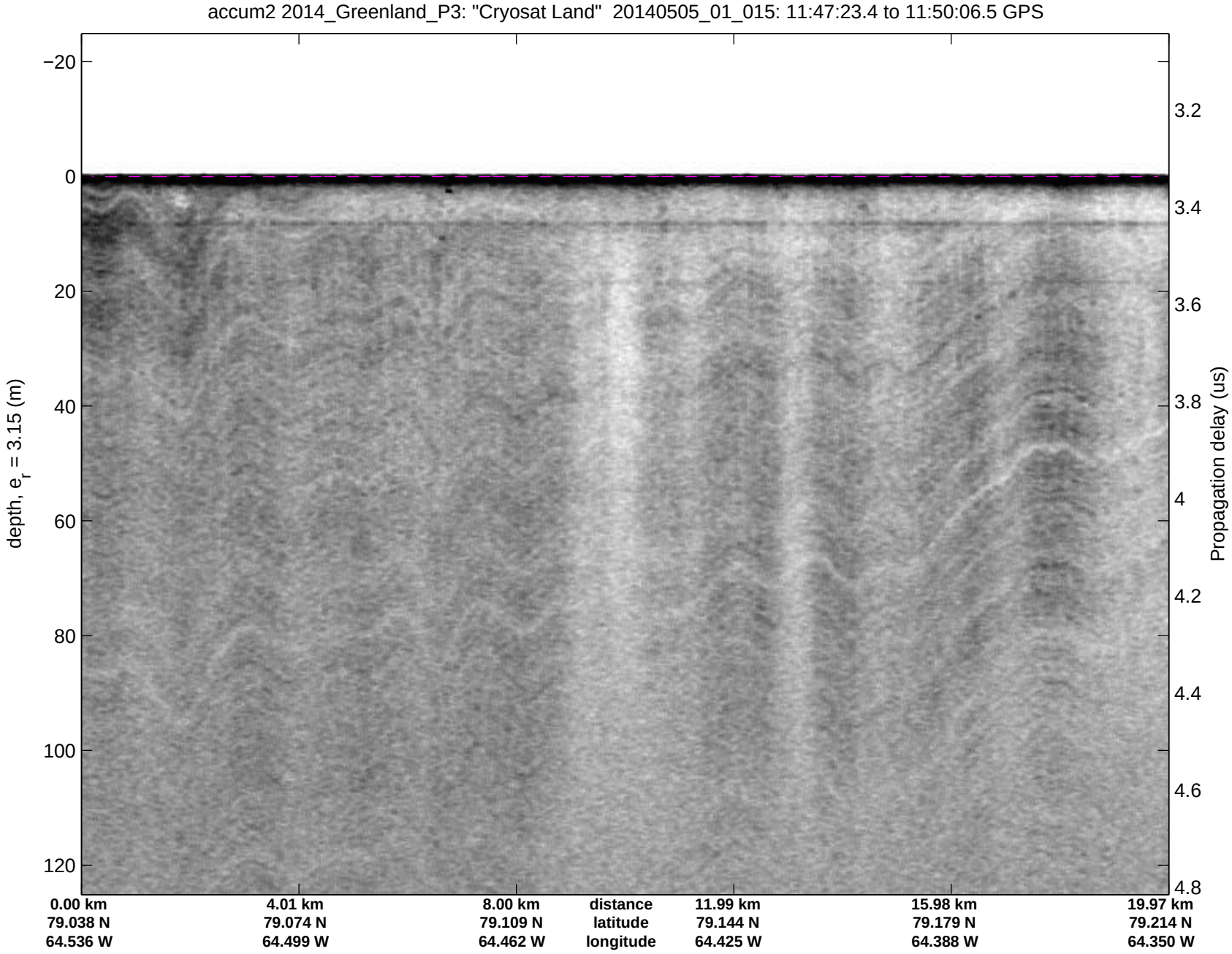

accum2 2014_Greenland_P3: "Cryosat Land" 20140505_01_014: 11:44:39.7 to 11:47:23.1 GPS
−20
0
20
40
60
80
100
120
depth, e_r = 3.15 (m)
3.2
3.4
3.6
3.8
4
4.2
4.4
4.6
Propagation delay (us)
0.00 km
78.863 N
64.717 W
4.00 km
78.898 N
64.681 W
7.99 km
78.933 N
64.645 W
distance
latitude
longitude
11.99 km
78.968 N
64.609 W
15.98 km
79.003 N
64.573 W
19.97 km
79.038 N
64.536 W

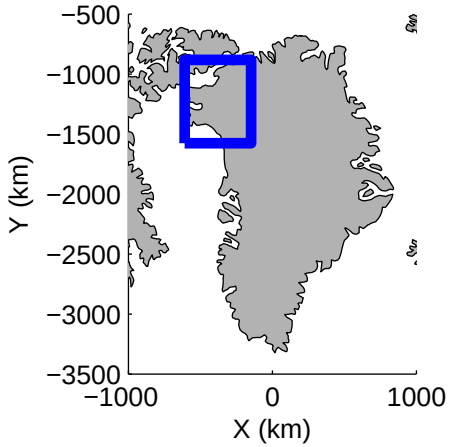

−500
−1000
−1500
−2000
−2500
−3000
−3500
Y (km)
−1000
0
1000
X (km)

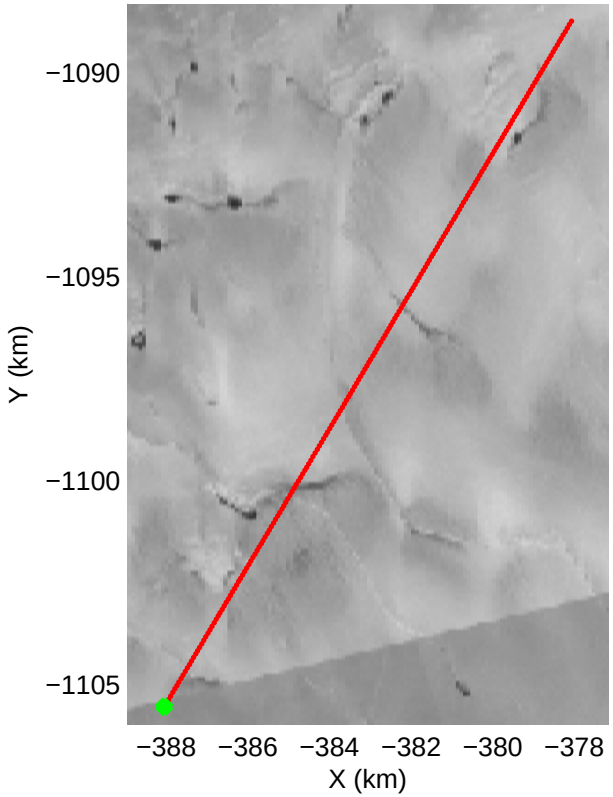

−1106
−1108
−1110
−1112
−1114
−1116
−1118
−1120
−1122
Y (km)
−398
−396
−394
−392
−390
−388
X (km)

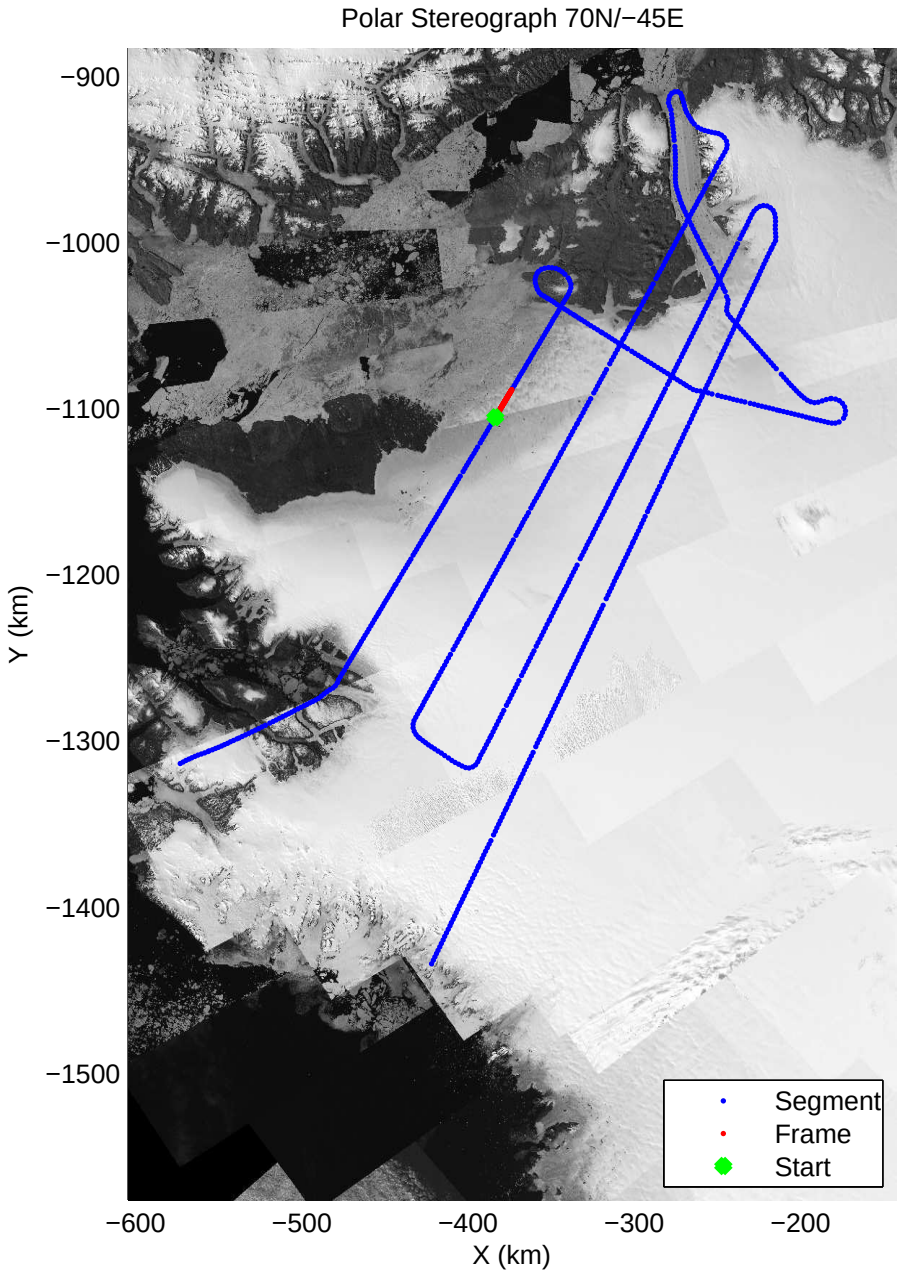

Polar Stereograph 70N/−45E
−900
−1000
−1100
−1200
−1300
−1400
−1500
Y (km)
−600
−500
−400
−300
−200
X (km)
Segment
Frame
Start

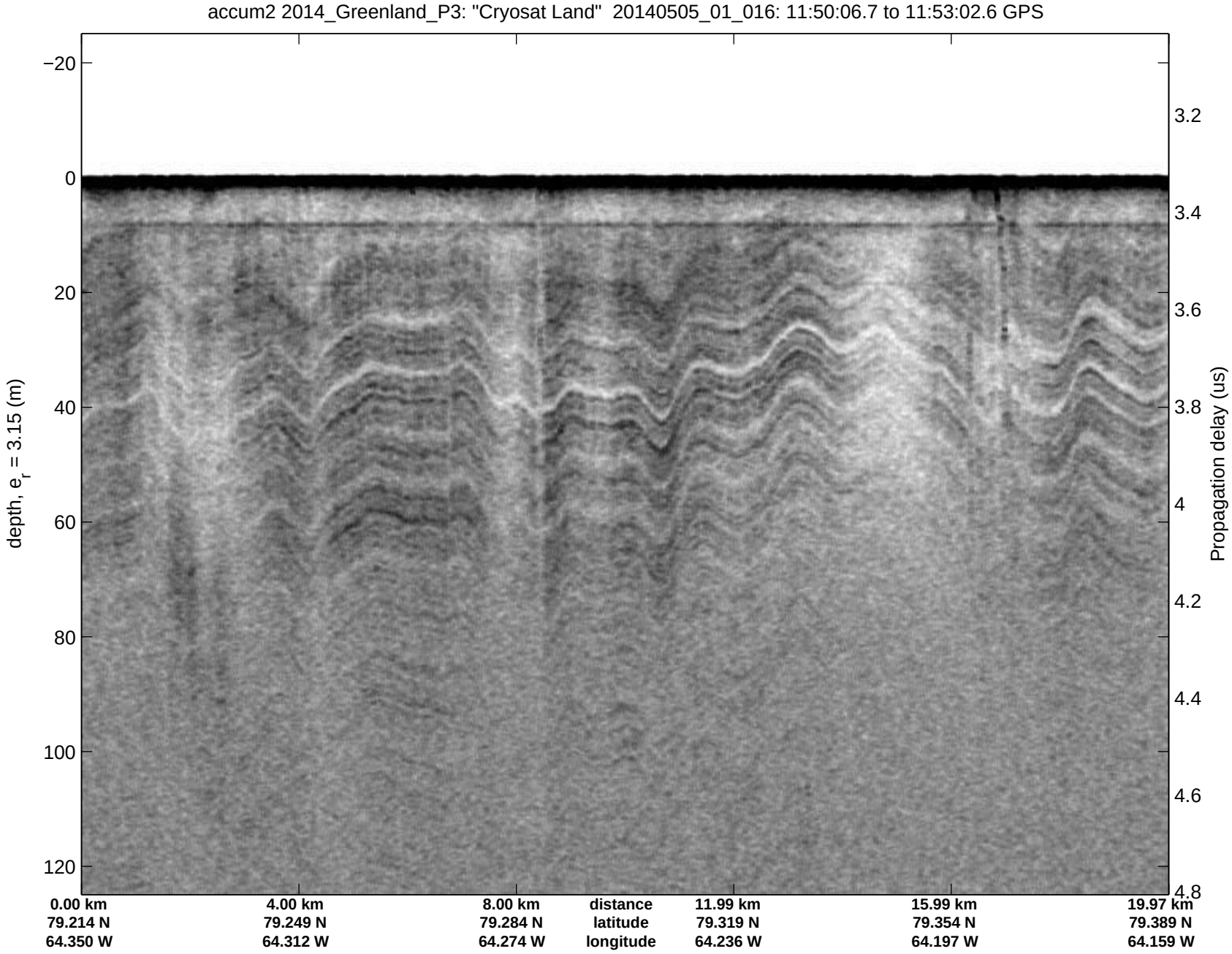

accum2 2014_Greenland_P3: "Cryosat Land" 20140505_01_015: 11:47:23.4 to 11:50:06.5 GPS
depth, e_r = 3.15 (m)
−20
0
20
40
60
80
100
120
Propagation delay (us)
3.2
3.4
3.6
3.8
4
4.2
4.4
4.6
4.8
0.00 km
79.038 N
64.536 W
4.01 km
79.074 N
64.499 W
8.00 km
79.109 N
64.462 W
distance
latitude
longitude
11.99 km
79.144 N
64.425 W
15.98 km
79.179 N
64.388 W
19.97 km
79.214 N
64.350 W

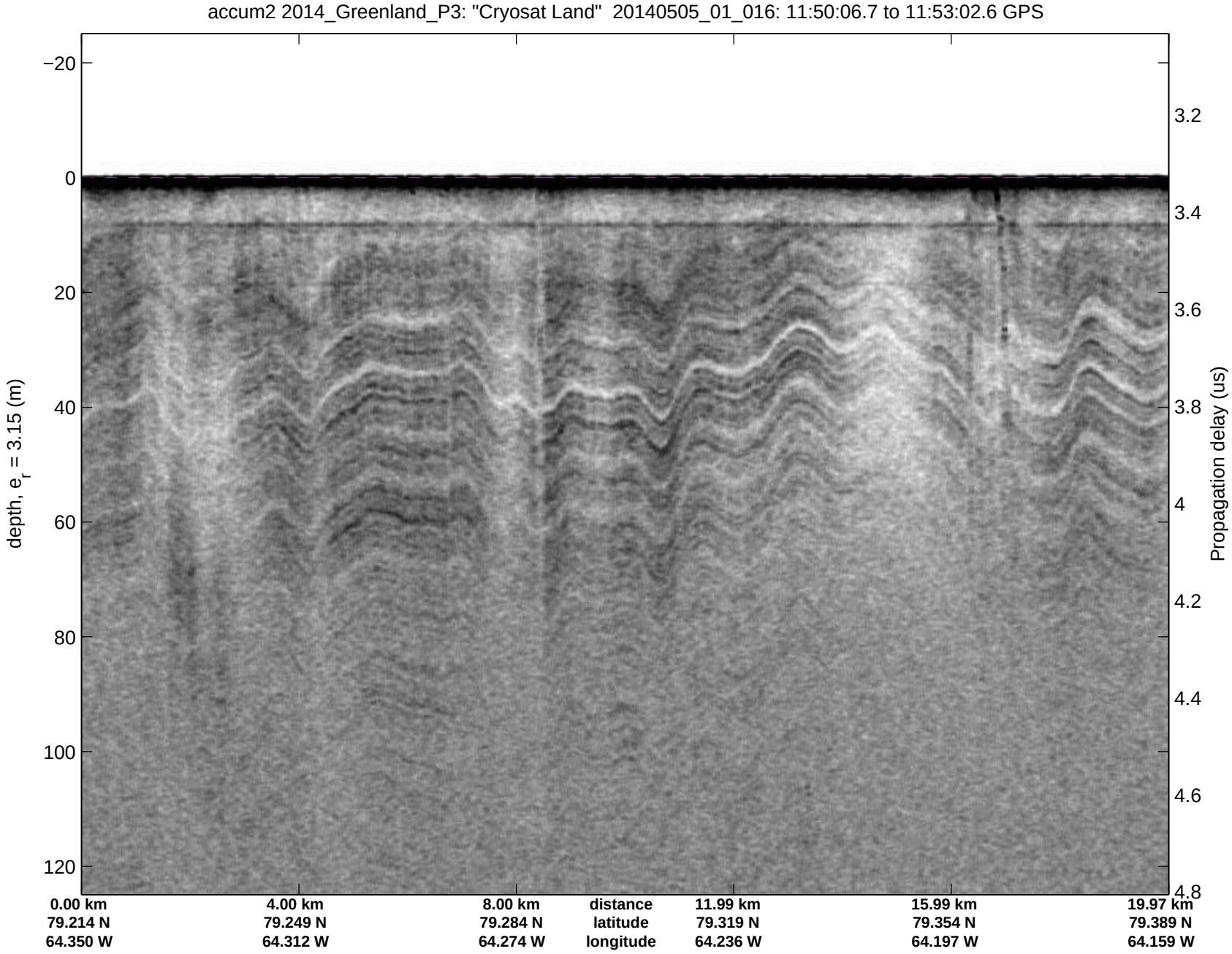

accum2 2014_Greenland_P3: "Cryosat Land" 20140505_01_015: 11:47:23.4 to 11:50:06.5 GPS
depth, e_r = 3.15 (m)
−20
0
20
40
60
80
100
120
Propagation delay (us)
3.2
3.4
3.6
3.8
4
4.2
4.4
4.6
4.8
0.00 km
79.038 N
64.536 W
4.01 km
79.074 N
64.499 W
8.00 km
79.109 N
64.462 W
distance
latitude
longitude
11.99 km
79.144 N
64.425 W
15.98 km
79.179 N
64.388 W
19.97 km
79.214 N
64.350 W

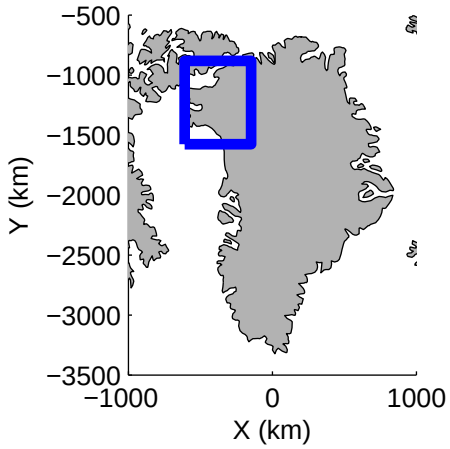

−500
−1000
−1500
−2000
−2500
−3000
−3500
Y (km)
−1000
0
1000
X (km)

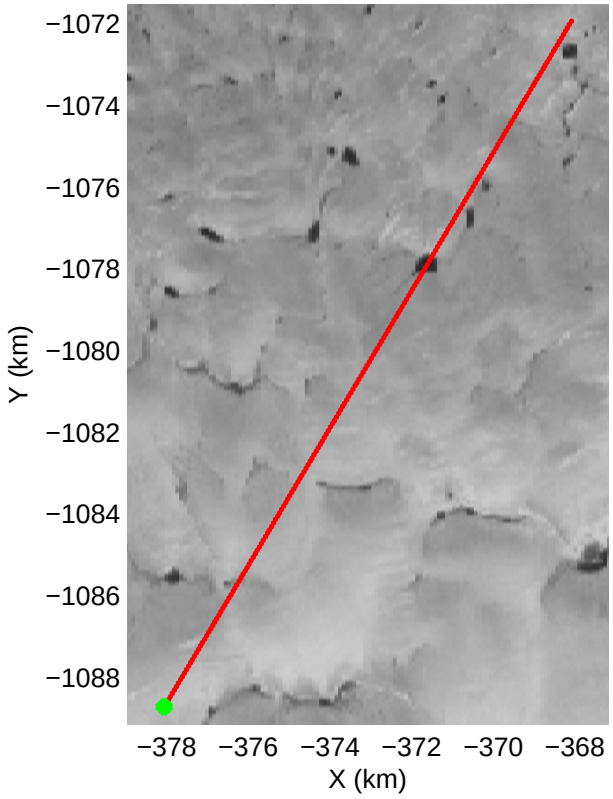

−1090
−1095
−1100
−1105
Y (km)
−388
−386
−384
−382
−380
−378
X (km)

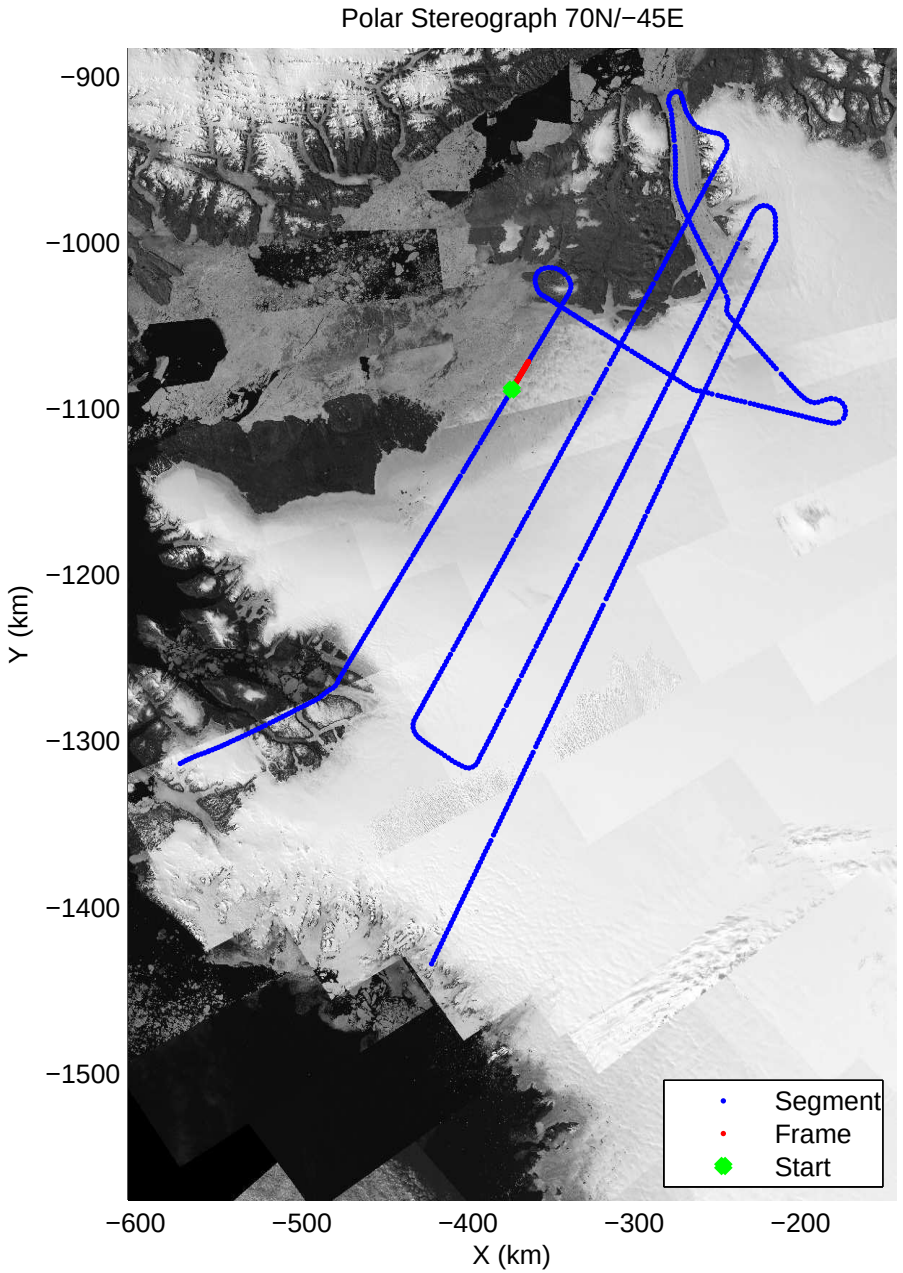

Polar Stereograph 70N/−45E
−900
−1000
−1100
−1200
−1300
−1400
−1500
Y (km)
−600
−500
−400
−300
−200
X (km)
Segment
Frame
Start

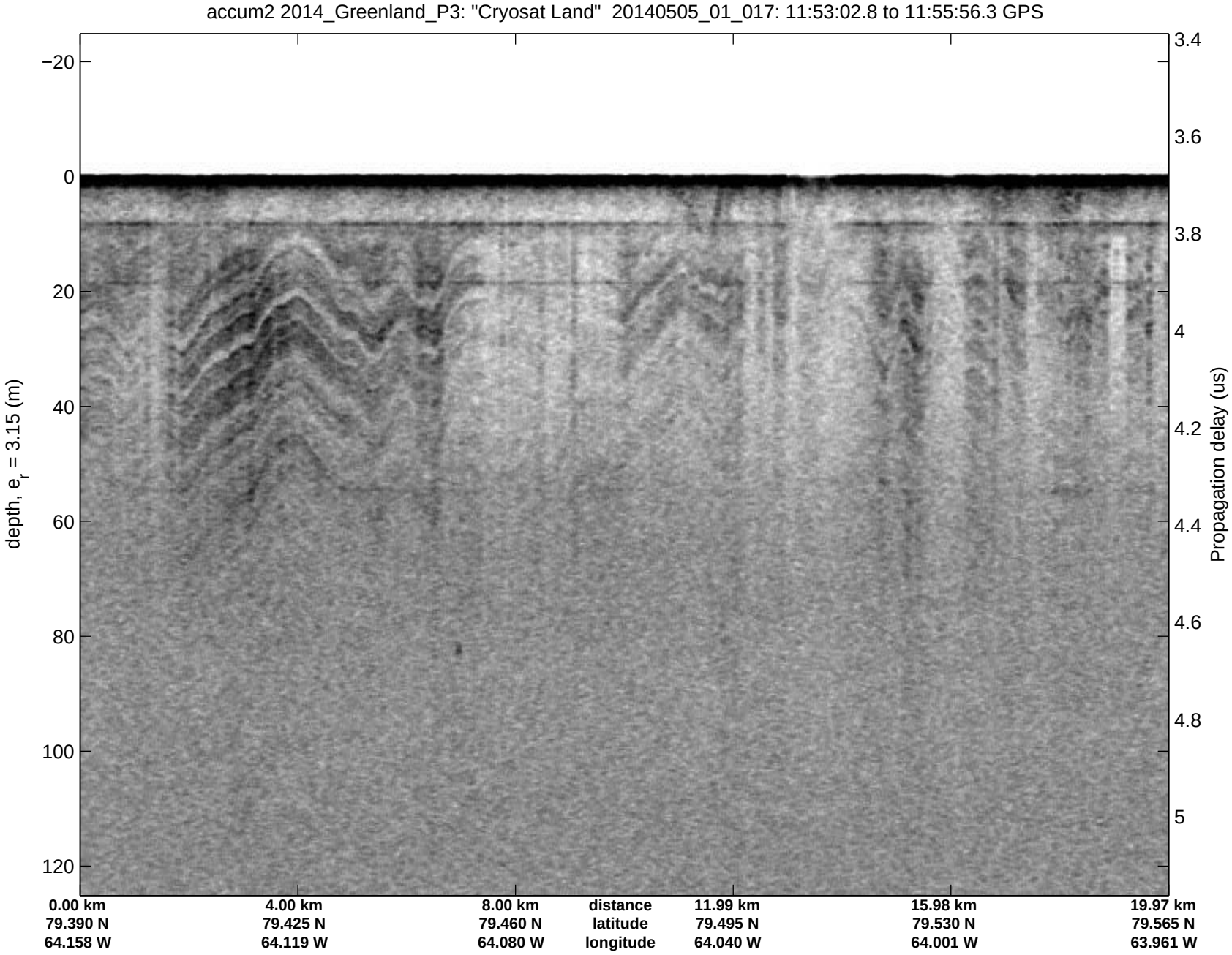

accum2 2014_Greenland_P3: "Cryosat Land" 20140505_01_016: 11:50:06.7 to 11:53:02.6 GPS
depth, e_r = 3.15 (m)
−20
0
20
40
60
80
100
120
Propagation delay (us)
3.2
3.4
3.6
3.8
4
4.2
4.4
4.6
4.8
0.00 km
79.214 N
64.350 W
4.00 km
79.249 N
64.312 W
8.00 km
79.284 N
64.274 W
distance
latitude
longitude
11.99 km
79.319 N
64.236 W
15.99 km
79.354 N
64.197 W
19.97 km
79.389 N
64.159 W

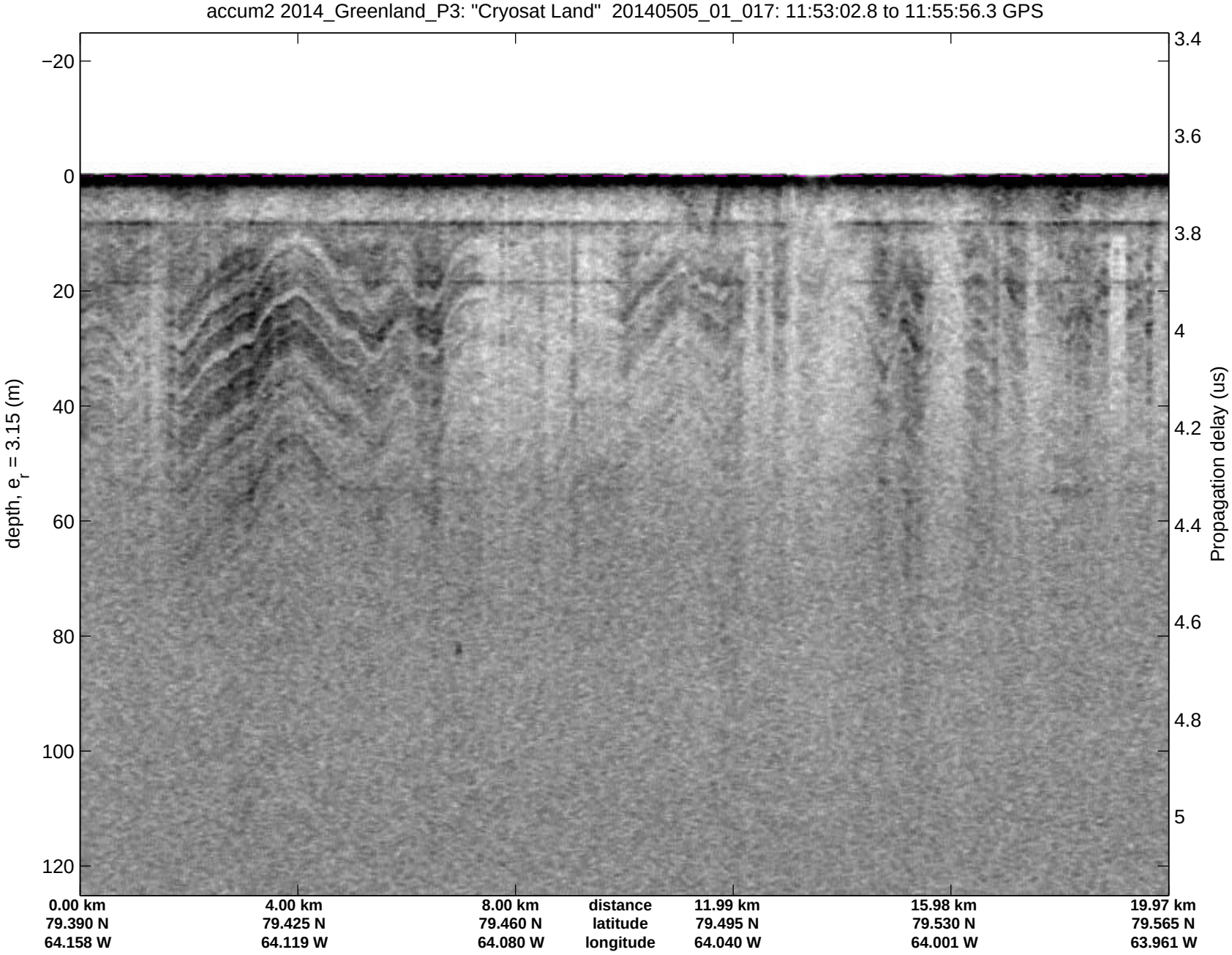

accum2 2014_Greenland_P3: "Cryosat Land" 20140505_01_016: 11:50:06.7 to 11:53:02.6 GPS
depth, e_r = 3.15 (m)
−20
0
20
40
60
80
100
120
Propagation delay (us)
3.2
3.4
3.6
3.8
4
4.2
4.4
4.6
4.8
0.00 km
79.214 N
64.350 W
4.00 km
79.249 N
64.312 W
8.00 km
79.284 N
64.274 W
distance
latitude
longitude
11.99 km
79.319 N
64.236 W
15.99 km
79.354 N
64.197 W
19.97 km
79.389 N
64.159 W

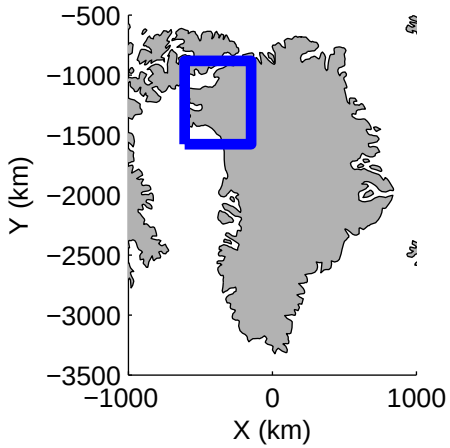

−500
−1000
−1500
−2000
−2500
−3000
−3500
Y (km)
−1000
0
1000
X (km)

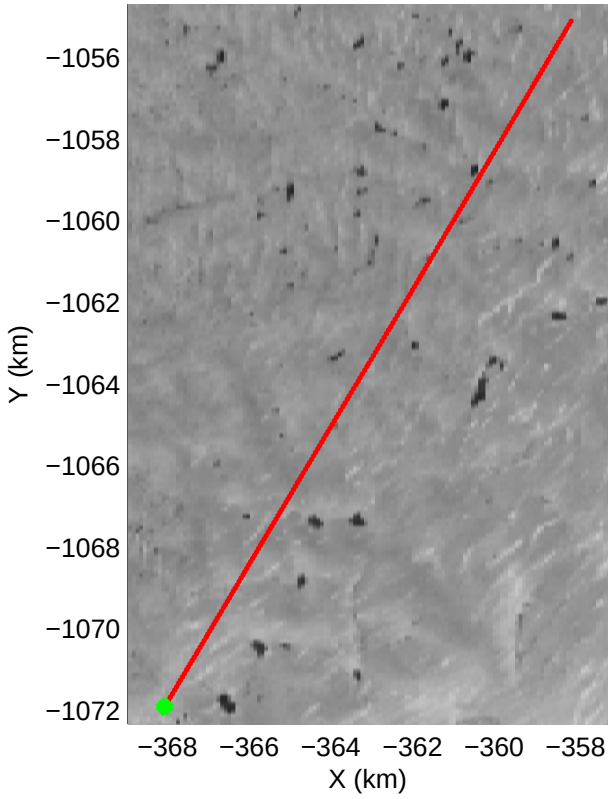

−1072
−1074
−1076
−1078
−1080
−1082
−1084
−1086
−1088
Y (km)
−378
−376
−374
−372
−370
−368
X (km)

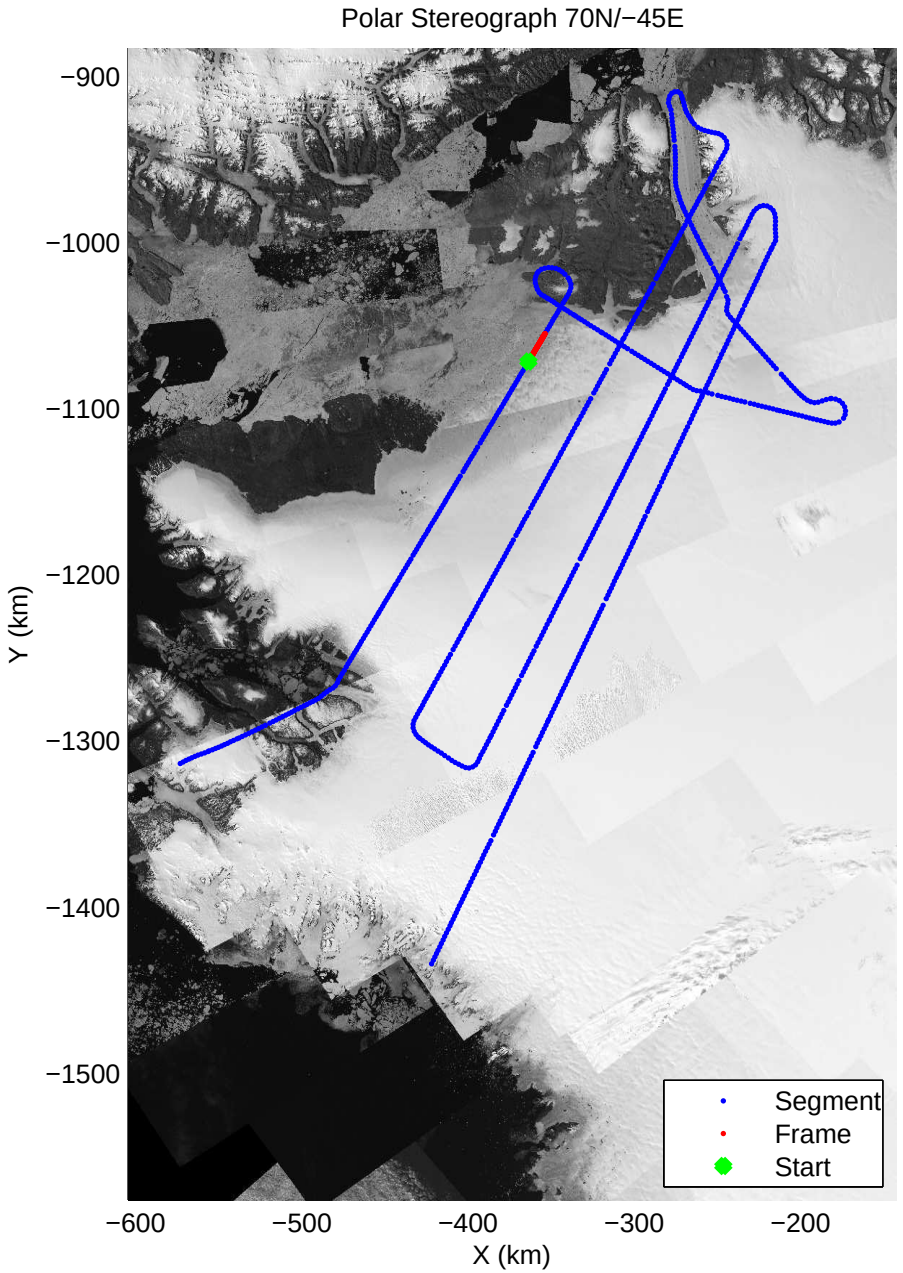

Polar Stereograph 70N/−45E
−900
−1000
−1100
−1200
−1300
−1400
−1500
Y (km)
−600
−500
−400
−300
−200
X (km)
Segment
Frame
Start

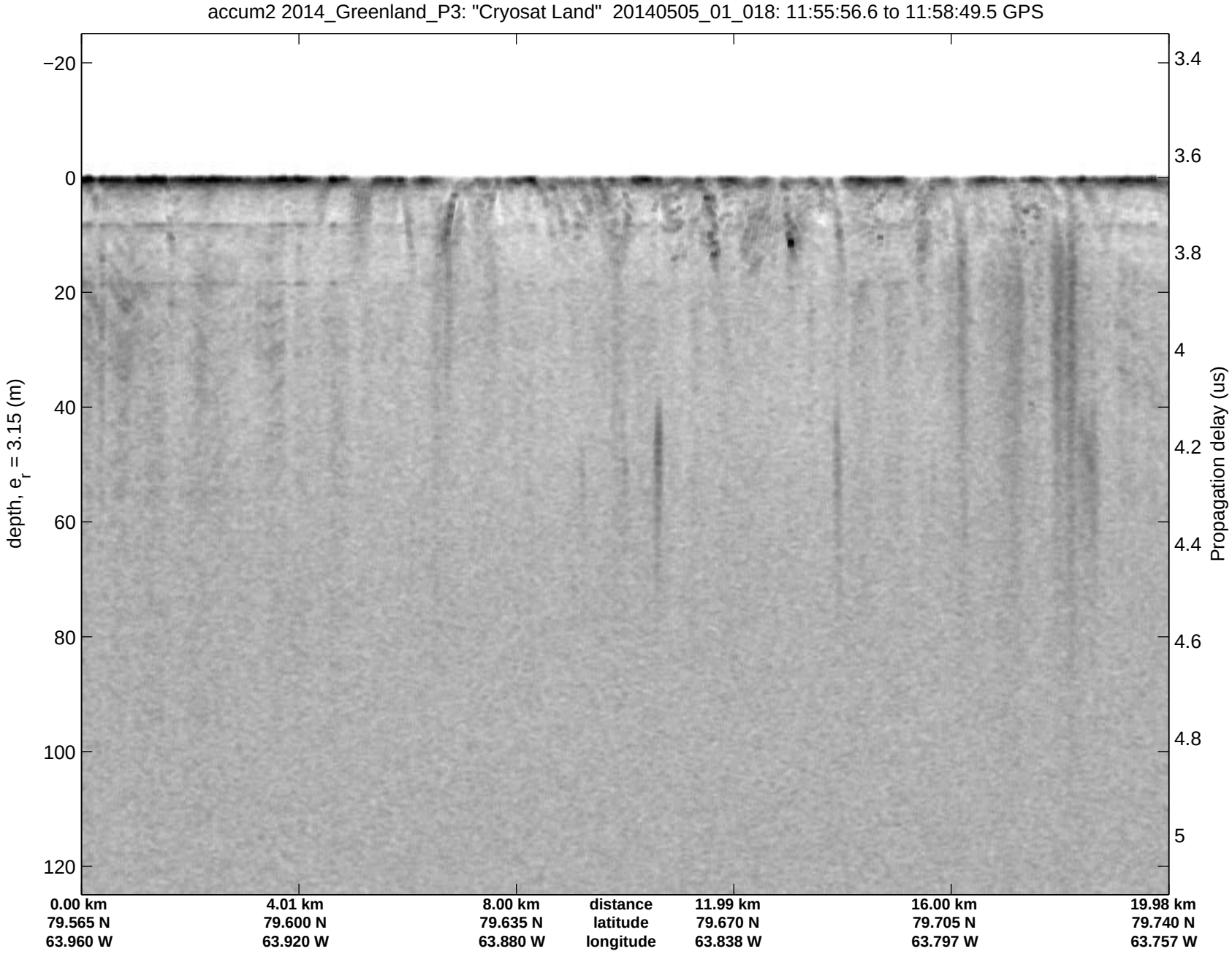

accum2 2014_Greenland_P3: "Cryosat Land" 20140505_01_017: 11:53:02.8 to 11:55:56.3 GPS
depth, e_r = 3.15 (m)
−20
0
20
40
60
80
100
120
Propagation delay (us)
3.4
3.6
3.8
4
4.2
4.4
4.6
4.8
5
0.00 km
79.390 N
64.158 W
4.00 km
79.425 N
64.119 W
8.00 km
79.460 N
64.080 W
distance
latitude
longitude
11.99 km
79.495 N
64.040 W
15.98 km
79.530 N
64.001 W
19.97 km
79.565 N
63.961 W

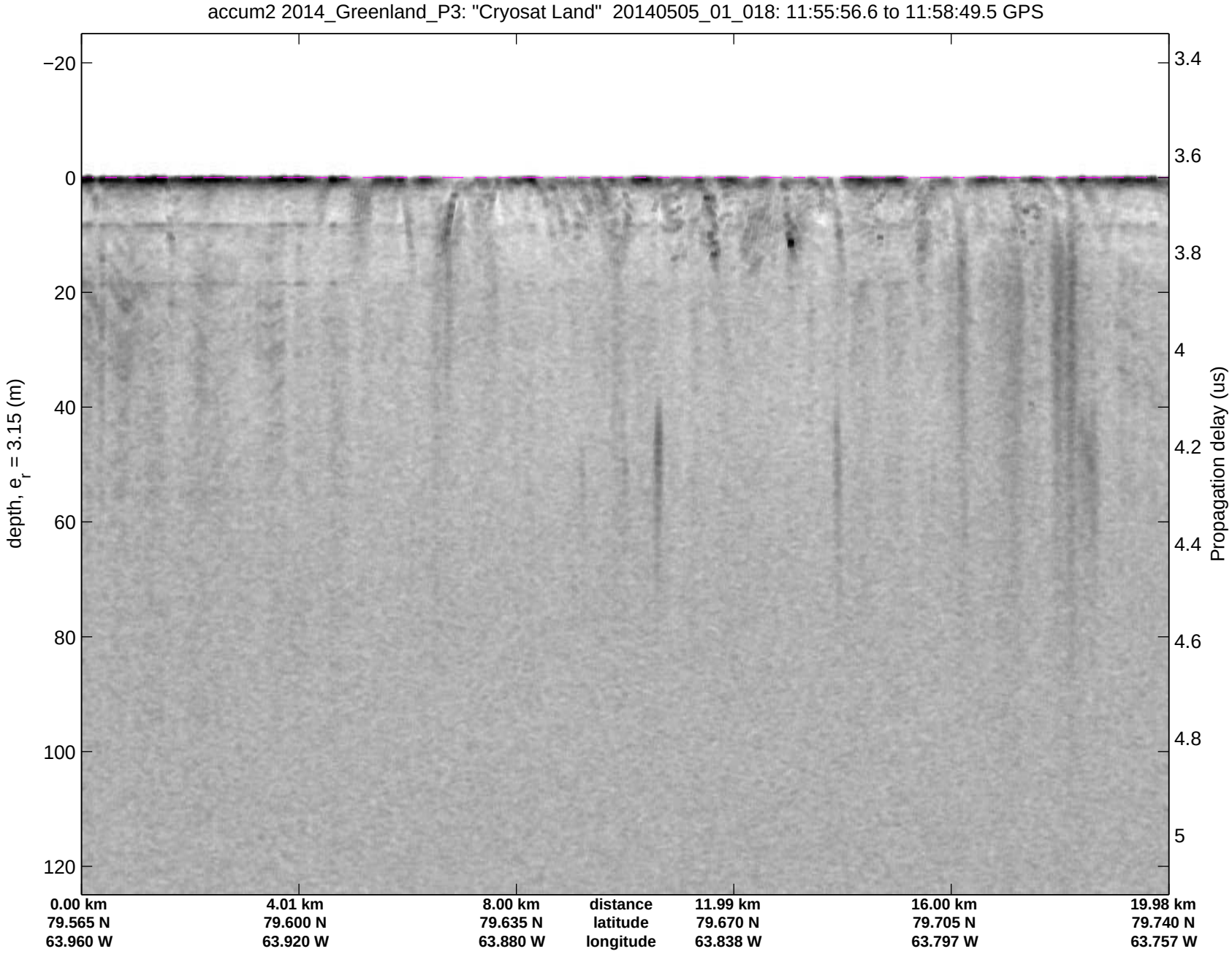

accum2 2014_Greenland_P3: "Cryosat Land" 20140505_01_017: 11:53:02.8 to 11:55:56.3 GPS
depth, e_r = 3.15 (m)
−20
0
20
40
60
80
100
120
Propagation delay (us)
3.4
3.6
3.8
4
4.2
4.4
4.6
4.8
5
0.00 km
79.390 N
64.158 W
4.00 km
79.425 N
64.119 W
8.00 km
79.460 N
64.080 W
distance
latitude
longitude
11.99 km
79.495 N
64.040 W
15.98 km
79.530 N
64.001 W
19.97 km
79.565 N
63.961 W

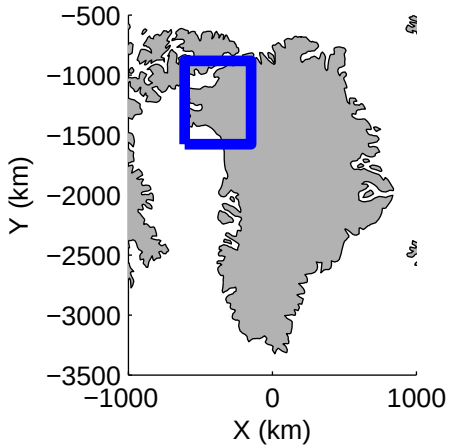

−500
−1000
−1500
−2000
−2500
−3000
−3500
Y (km)
−1000
0
1000
X (km)

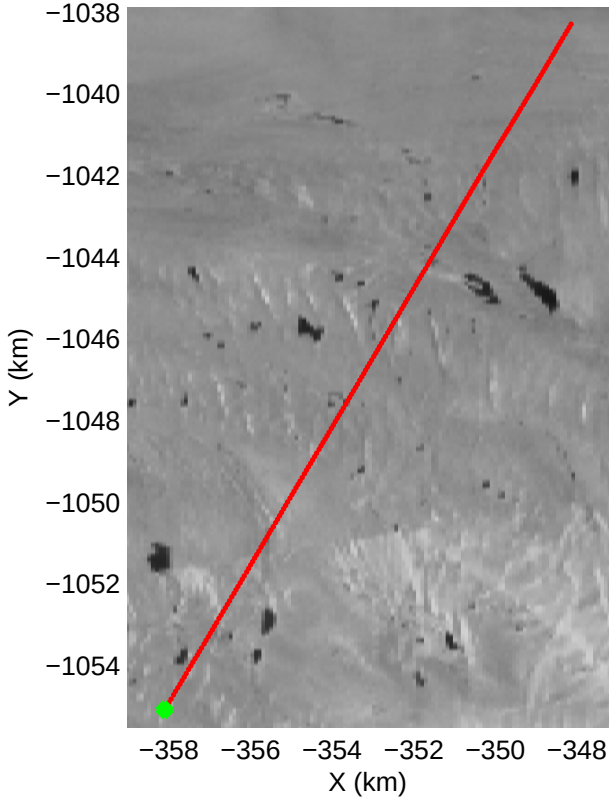

−1056
−1058
−1060
−1062
−1064
−1066
−1068
−1070
−1072
Y (km)
−368
−366
−364
−362
−360
−358
X (km)

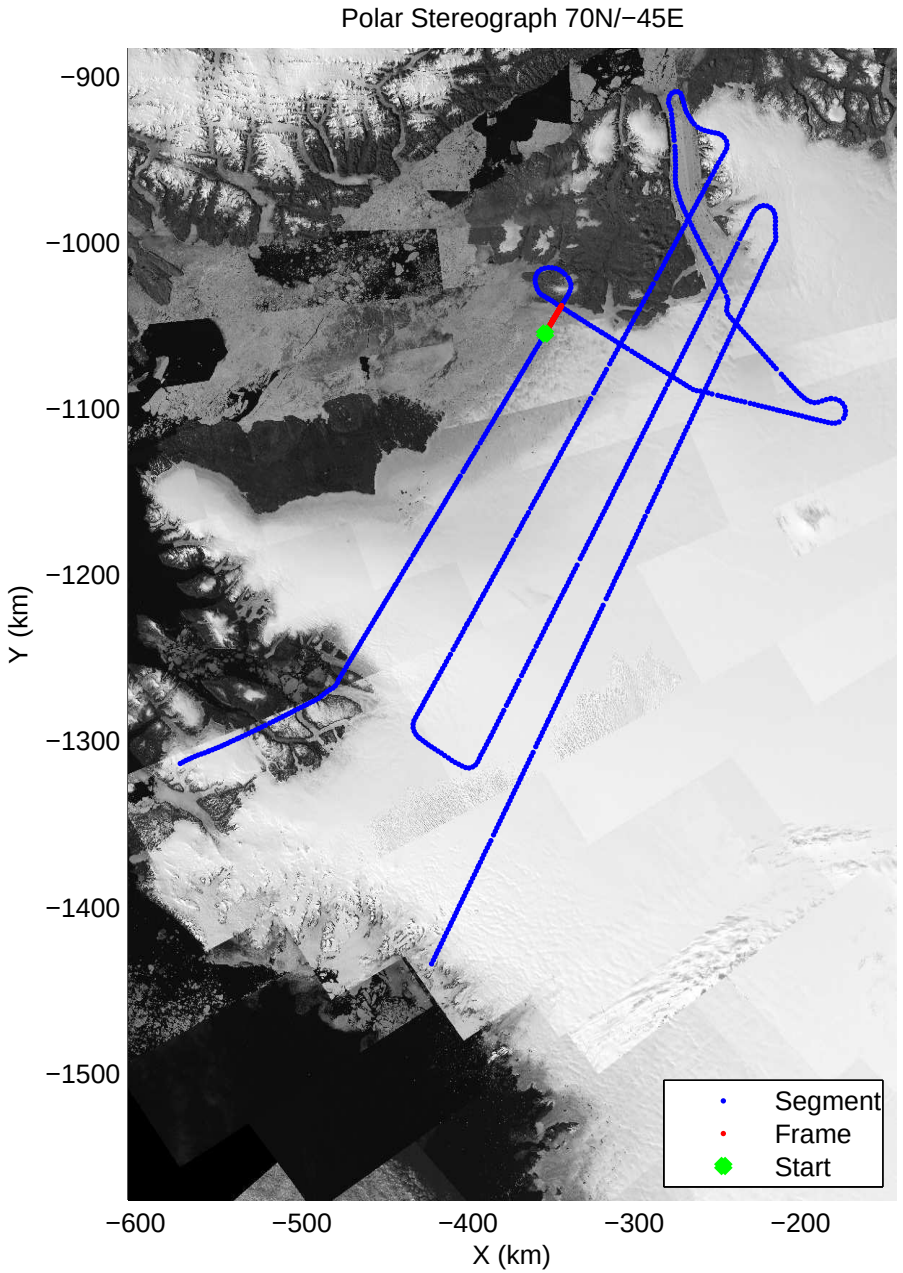

Polar Stereograph 70N/−45E
−900
−1000
−1100
−1200
−1300
−1400
−1500
Y (km)
−600
−500
−400
−300
−200
X (km)
Segment
Frame
Start

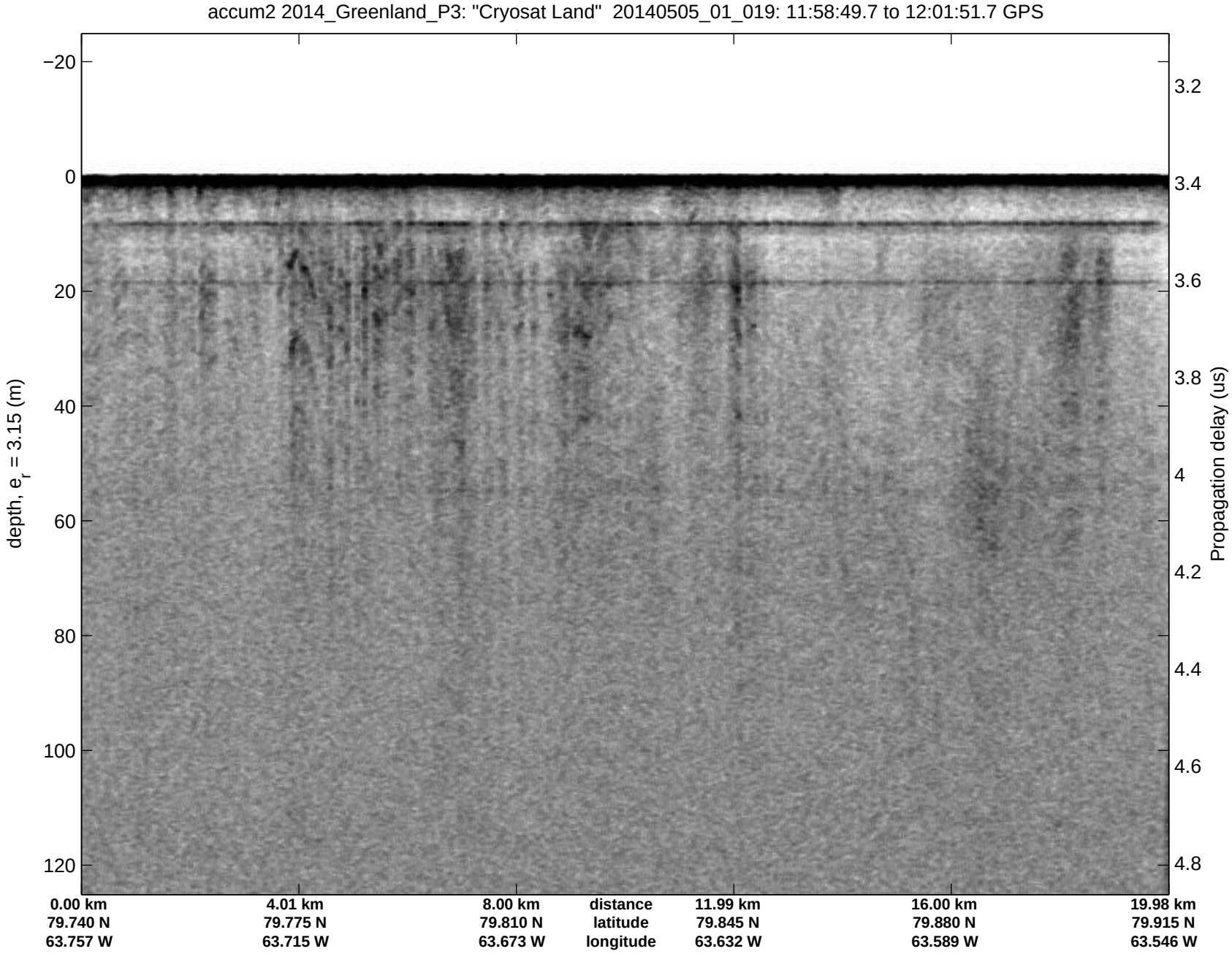

accum2 2014_Greenland_P3: "Cryosat Land" 20140505_01_018: 11:55:56.6 to 11:58:49.5 GPS
depth, e_r = 3.15 (m)
−20
0
20
40
60
80
100
120
Propagation delay (us)
3.4
3.6
3.8
4
4.2
4.4
4.6
4.8
5
0.00 km
79.565 N
63.960 W
4.01 km
79.600 N
63.920 W
8.00 km
79.635 N
63.880 W
distance
latitude
longitude
11.99 km
79.670 N
63.838 W
16.00 km
79.705 N
63.797 W
19.98 km
79.740 N
63.757 W

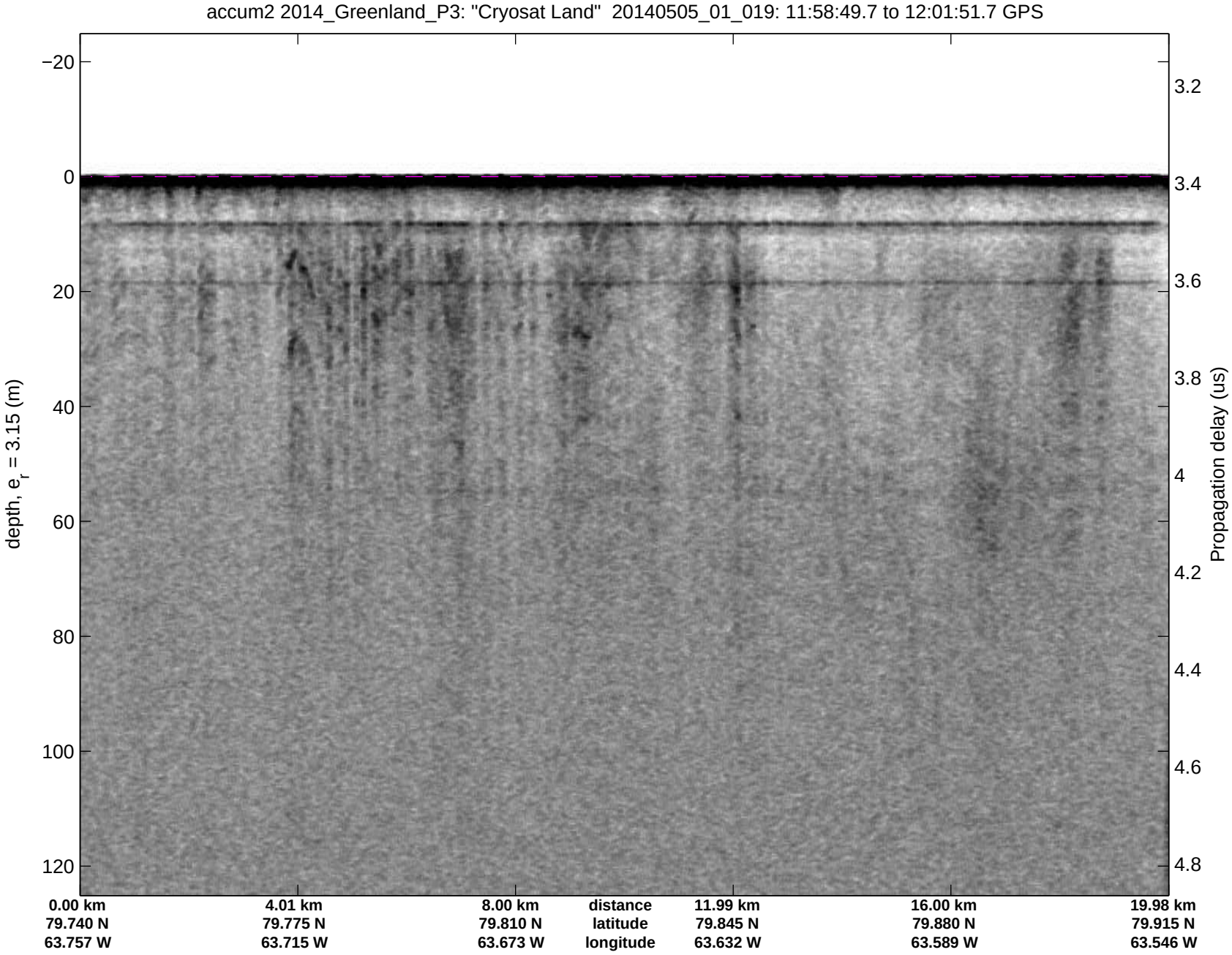

accum2 2014_Greenland_P3: "Cryosat Land" 20140505_01_018: 11:55:56.6 to 11:58:49.5 GPS
depth, e_r = 3.15 (m)
−20
0
20
40
60
80
100
120
Propagation delay (us)
3.4
3.6
3.8
4
4.2
4.4
4.6
4.8
5
0.00 km
79.565 N
63.960 W
4.01 km
79.600 N
63.920 W
8.00 km
79.635 N
63.880 W
distance
latitude
longitude
11.99 km
79.670 N
63.838 W
16.00 km
79.705 N
63.797 W
19.98 km
79.740 N
63.757 W

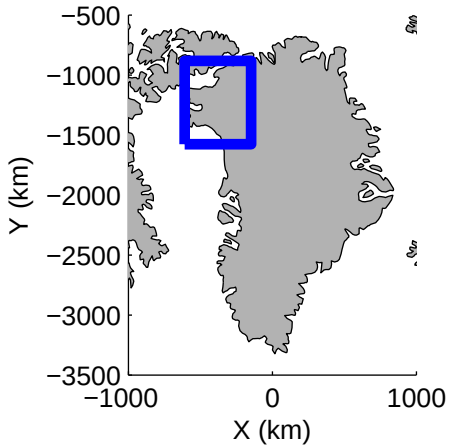

−500
−1000
−1500
−2000
−2500
−3000
−3500
Y (km)
−1000
0
1000
X (km)

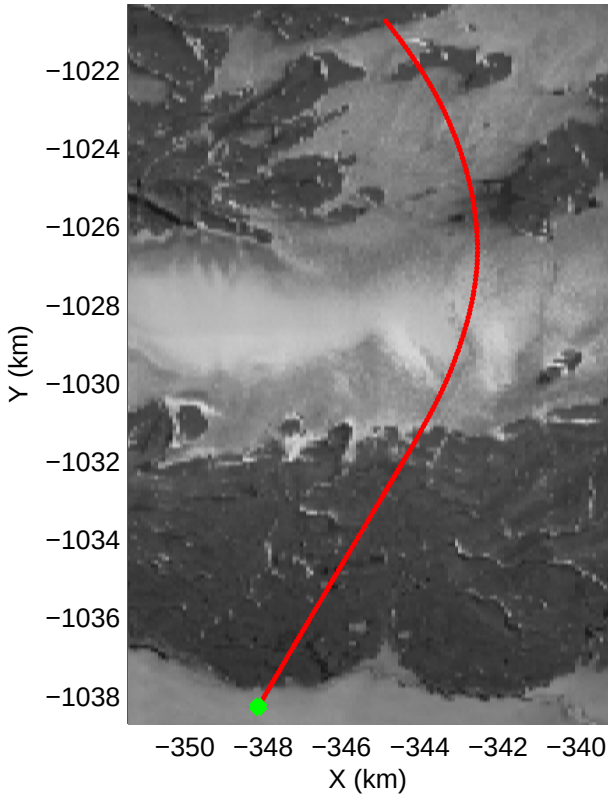

−1038
−1040
−1042
−1044
−1046
−1048
−1050
−1052
−1054
Y (km)
−358
−356
−354
−352
−350
−348
X (km)

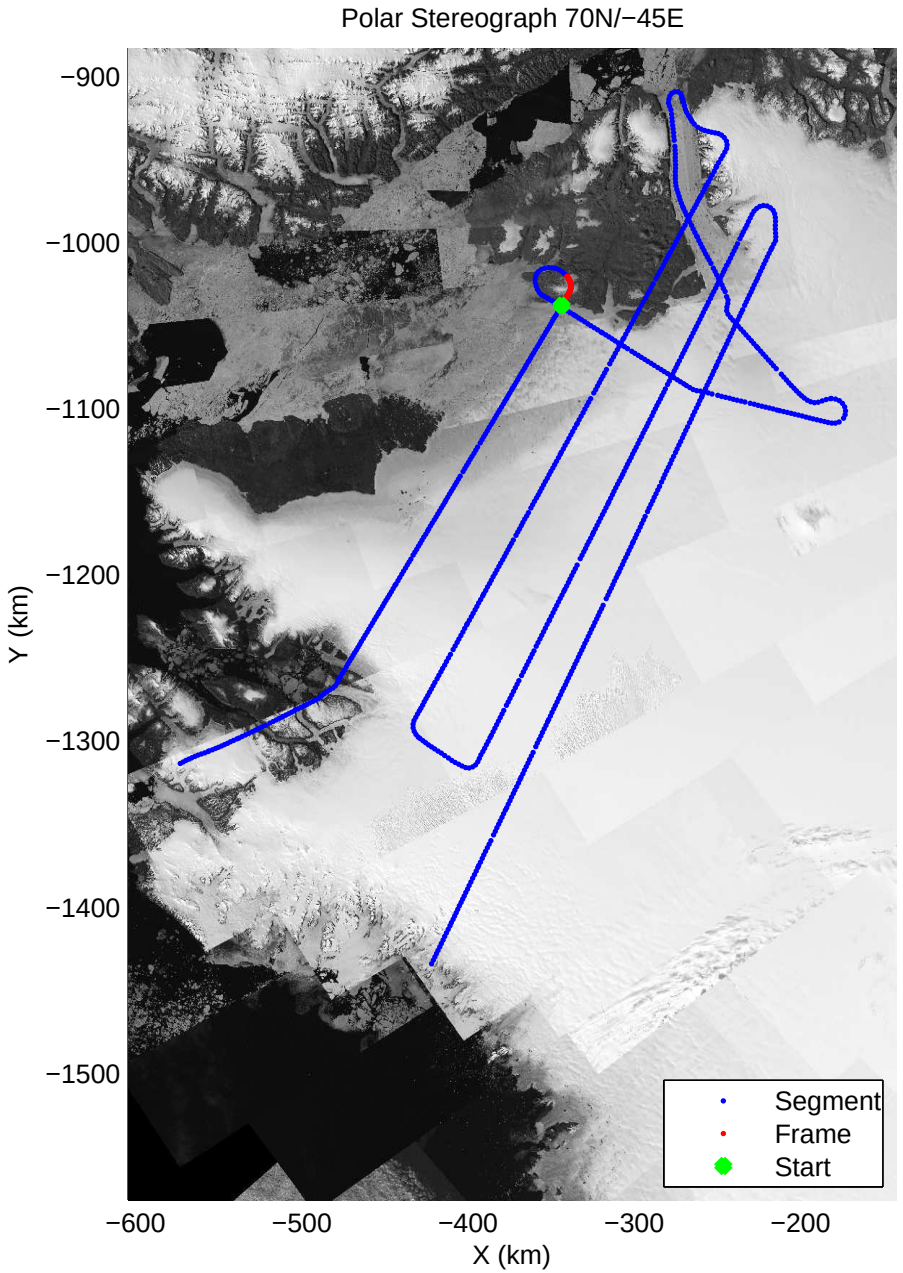

Polar Stereograph 70N/−45E
−900
−1000
−1100
−1200
−1300
−1400
−1500
Y (km)
−600
−500
−400
−300
−200
X (km)
Segment
Frame
Start

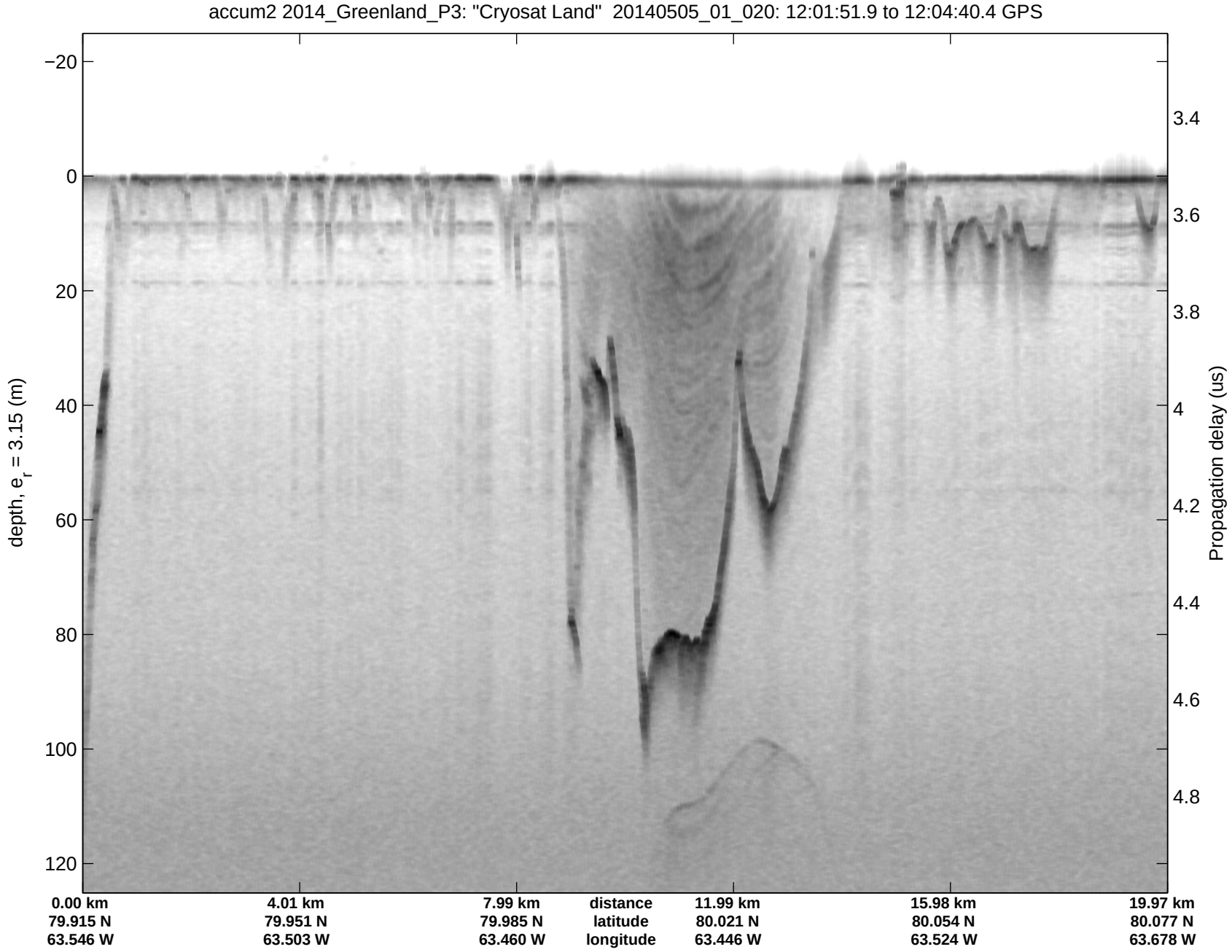

accum2 2014_Greenland_P3: "Cryosat Land" 20140505_01_019: 11:58:49.7 to 12:01:51.7 GPS
depth, e_r = 3.15 (m)
−20
0
20
40
60
80
100
120
Propagation delay (us)
3.2
3.4
3.6
3.8
4
4.2
4.4
4.6
4.8
0.00 km
79.740 N
63.757 W
4.01 km
79.775 N
63.715 W
8.00 km
79.810 N
63.673 W
distance
latitude
longitude
11.99 km
79.845 N
63.632 W
16.00 km
79.880 N
63.589 W
19.98 km
79.915 N
63.546 W

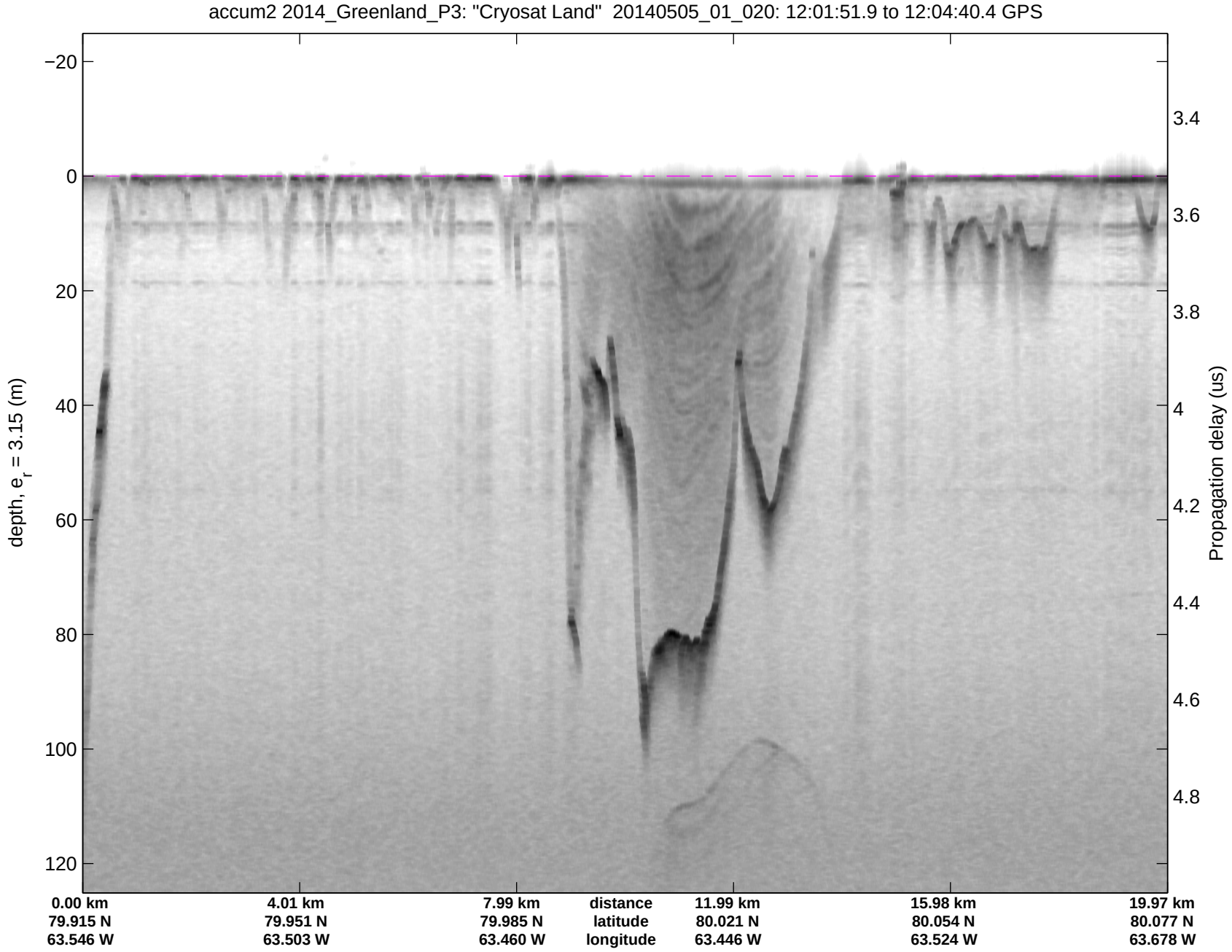

accum2 2014_Greenland_P3: "Cryosat Land" 20140505_01_019: 11:58:49.7 to 12:01:51.7 GPS
depth, e_r = 3.15 (m)
−20
0
20
40
60
80
100
120
Propagation delay (us)
3.2
3.4
3.6
3.8
4
4.2
4.4
4.6
4.8
0.00 km
79.740 N
63.757 W
4.01 km
79.775 N
63.715 W
8.00 km
79.810 N
63.673 W
distance
latitude
longitude
11.99 km
79.845 N
63.632 W
16.00 km
79.880 N
63.589 W
19.98 km
79.915 N
63.546 W

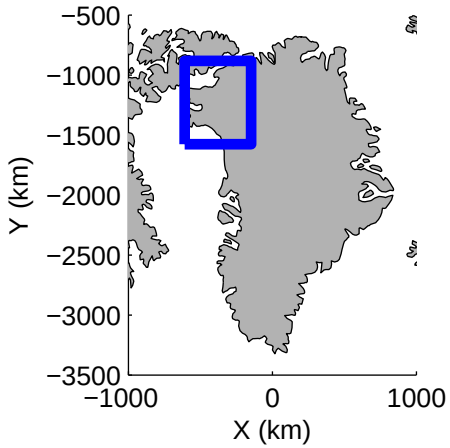

−500
−1000
−1500
−2000
−2500
−3000
−3500
Y (km)
−1000
0
1000
X (km)

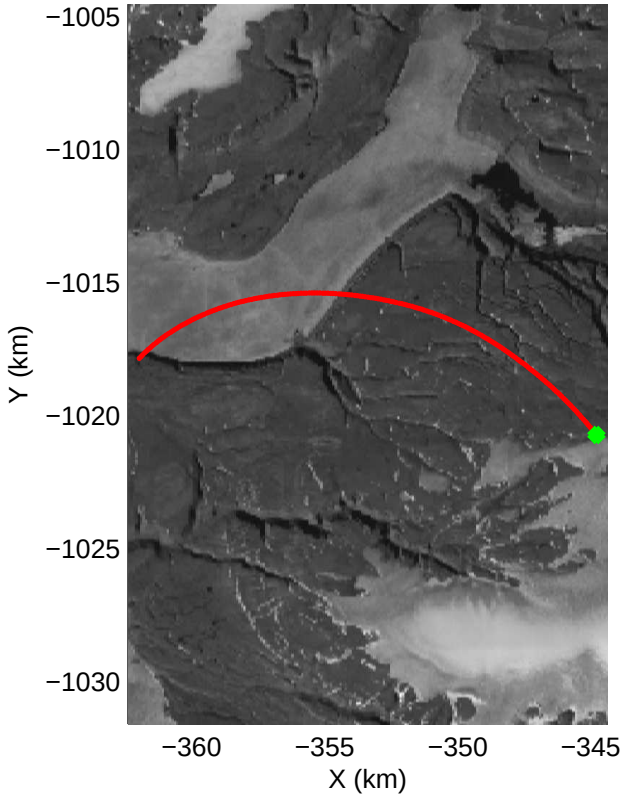

−1022
−1024
−1026
−1028
−1030
−1032
−1034
−1036
−1038
Y (km)
−350
−348
−346
−344
−342
−340
X (km)

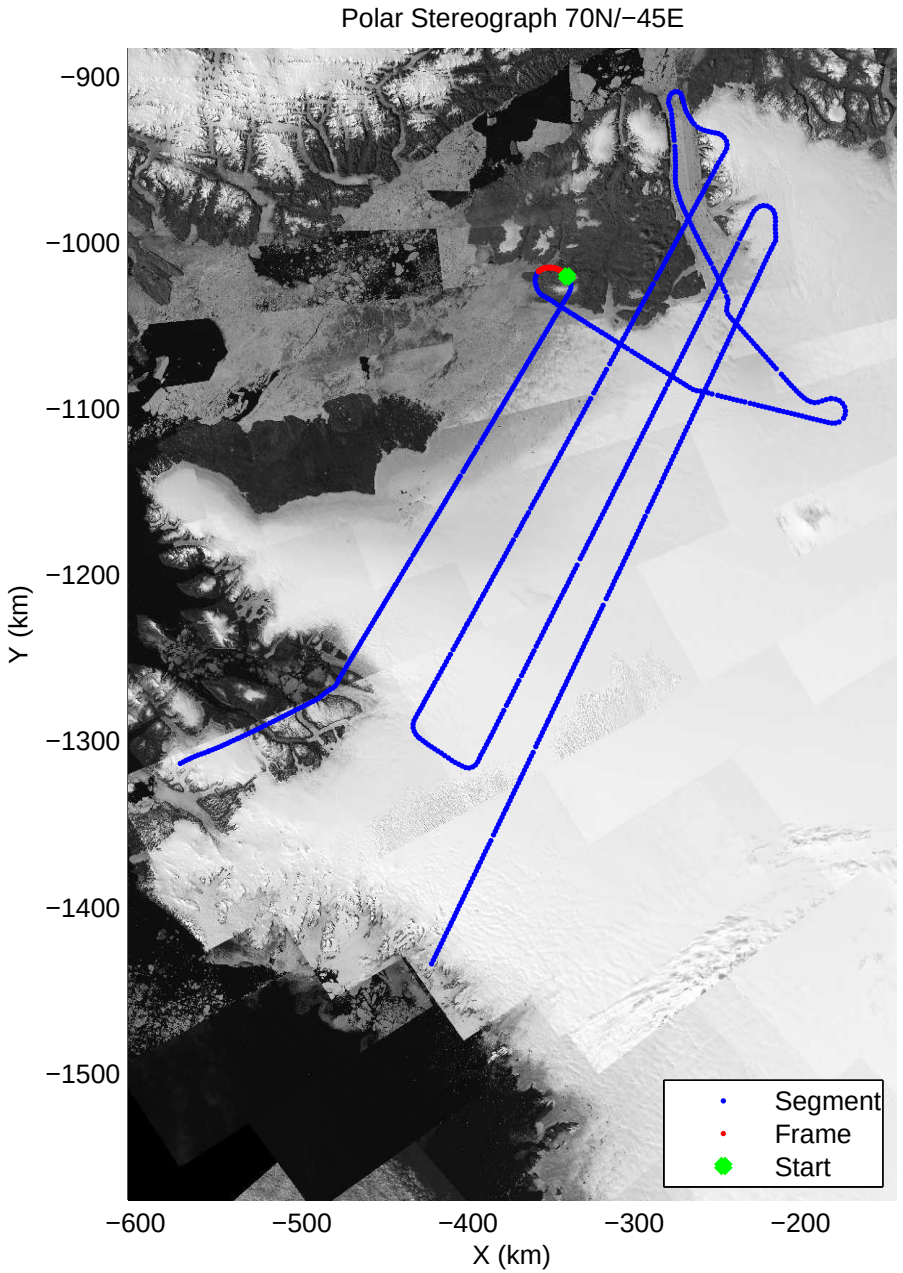

Polar Stereograph 70N/−45E
−900
−1000
−1100
−1200
−1300
−1400
−1500
Y (km)
−600
−500
−400
−300
−200
X (km)
Segment
Frame
Start

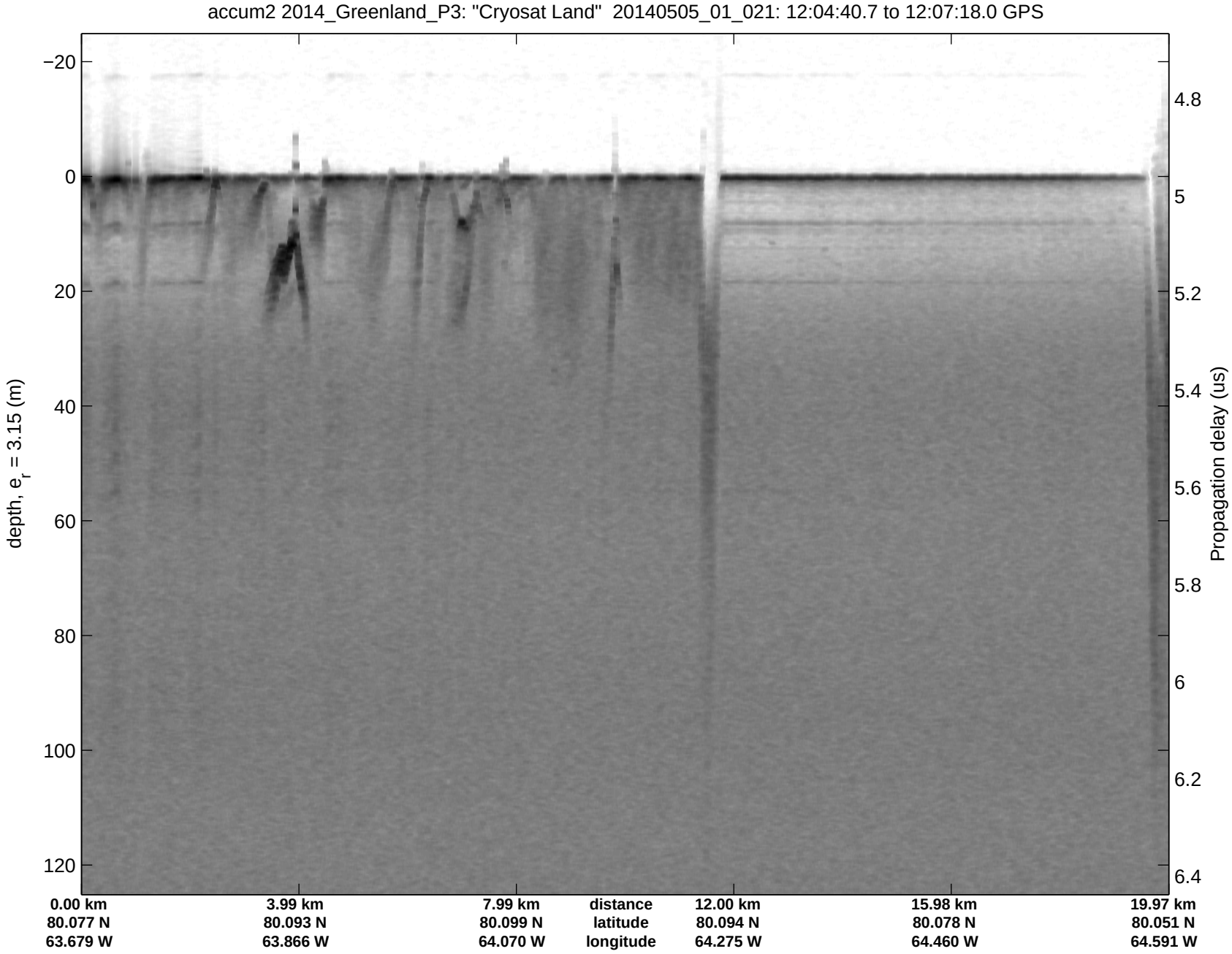

accum2 2014_Greenland_P3: "Cryosat Land" 20140505_01_020: 12:01:51.9 to 12:04:40.4 GPS
depth, e_r = 3.15 (m)
−20
0
20
40
60
80
100
120
Propagation delay (us)
3.4
3.6
3.8
4
4.2
4.4
4.6
4.8
0.00 km
79.915 N
63.546 W
4.01 km
79.951 N
63.503 W
7.99 km
79.985 N
63.460 W
distance
latitude
longitude
11.99 km
80.021 N
63.446 W
15.98 km
80.054 N
63.524 W
19.97 km
80.077 N
63.678 W

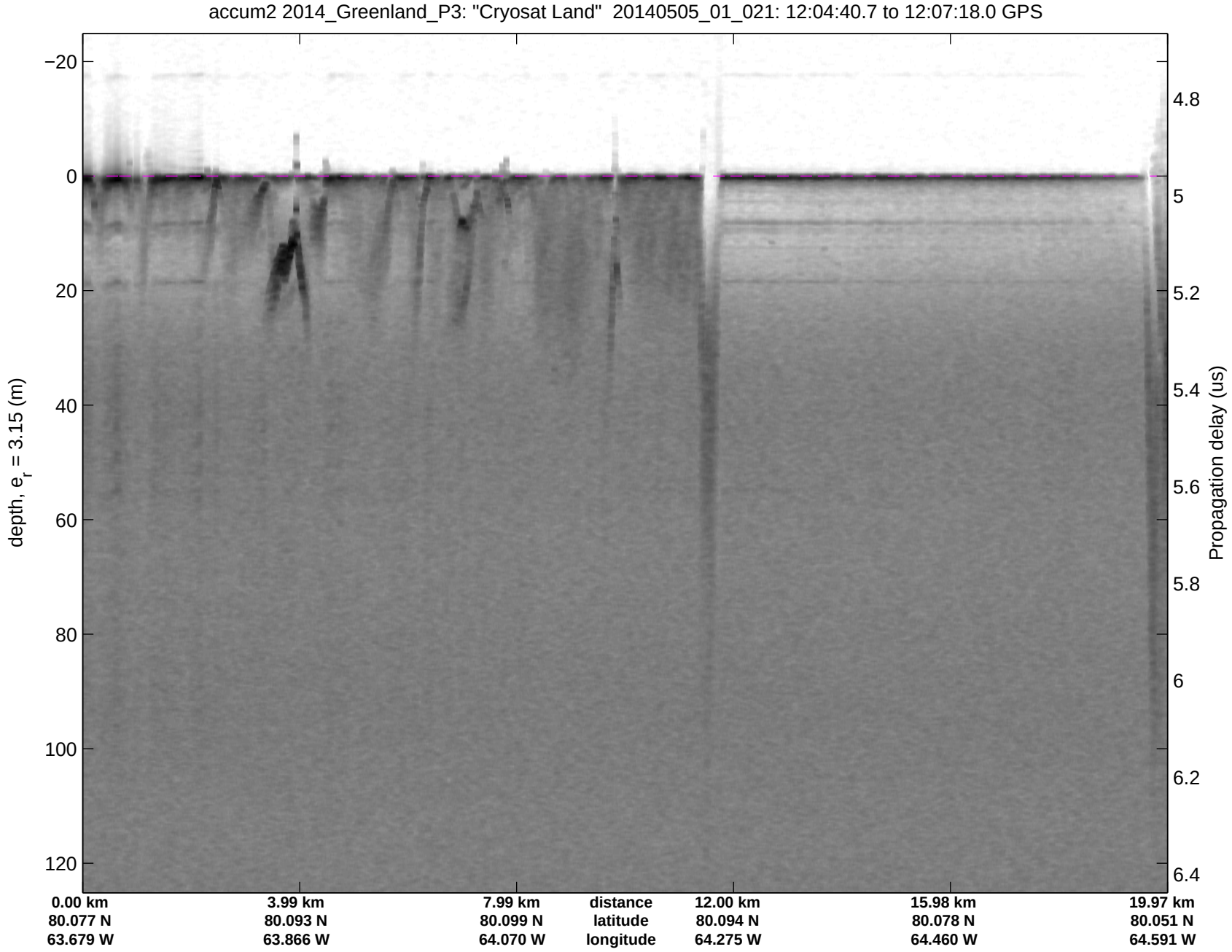

accum2 2014_Greenland_P3: "Cryosat Land" 20140505_01_020: 12:01:51.9 to 12:04:40.4 GPS
depth, e_r = 3.15 (m)
−20
0
20
40
60
80
100
120
Propagation delay (us)
3.4
3.6
3.8
4
4.2
4.4
4.6
4.8
0.00 km
79.915 N
63.546 W
4.01 km
79.951 N
63.503 W
7.99 km
79.985 N
63.460 W
distance
latitude
longitude
11.99 km
80.021 N
63.446 W
15.98 km
80.054 N
63.524 W
19.97 km
80.077 N
63.678 W

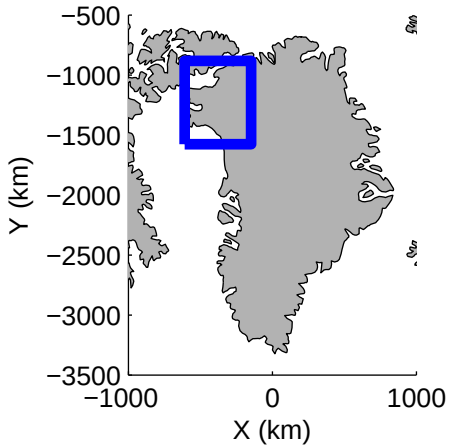

−500
−1000
−1500
−2000
−2500
−3000
−3500
Y (km)
−1000
0
1000
X (km)

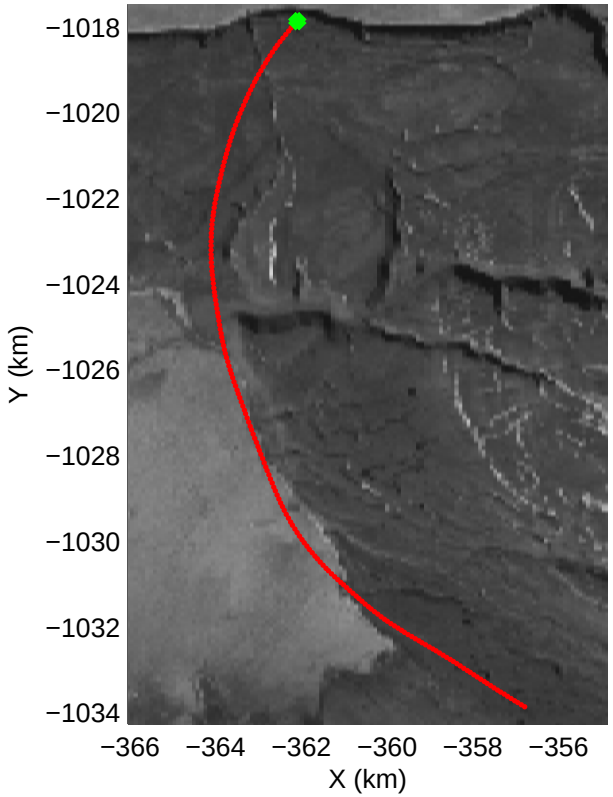

−1005
−1010
−1015
−1020
−1025
−1030
Y (km)
−360
−355
−350
−345
X (km)

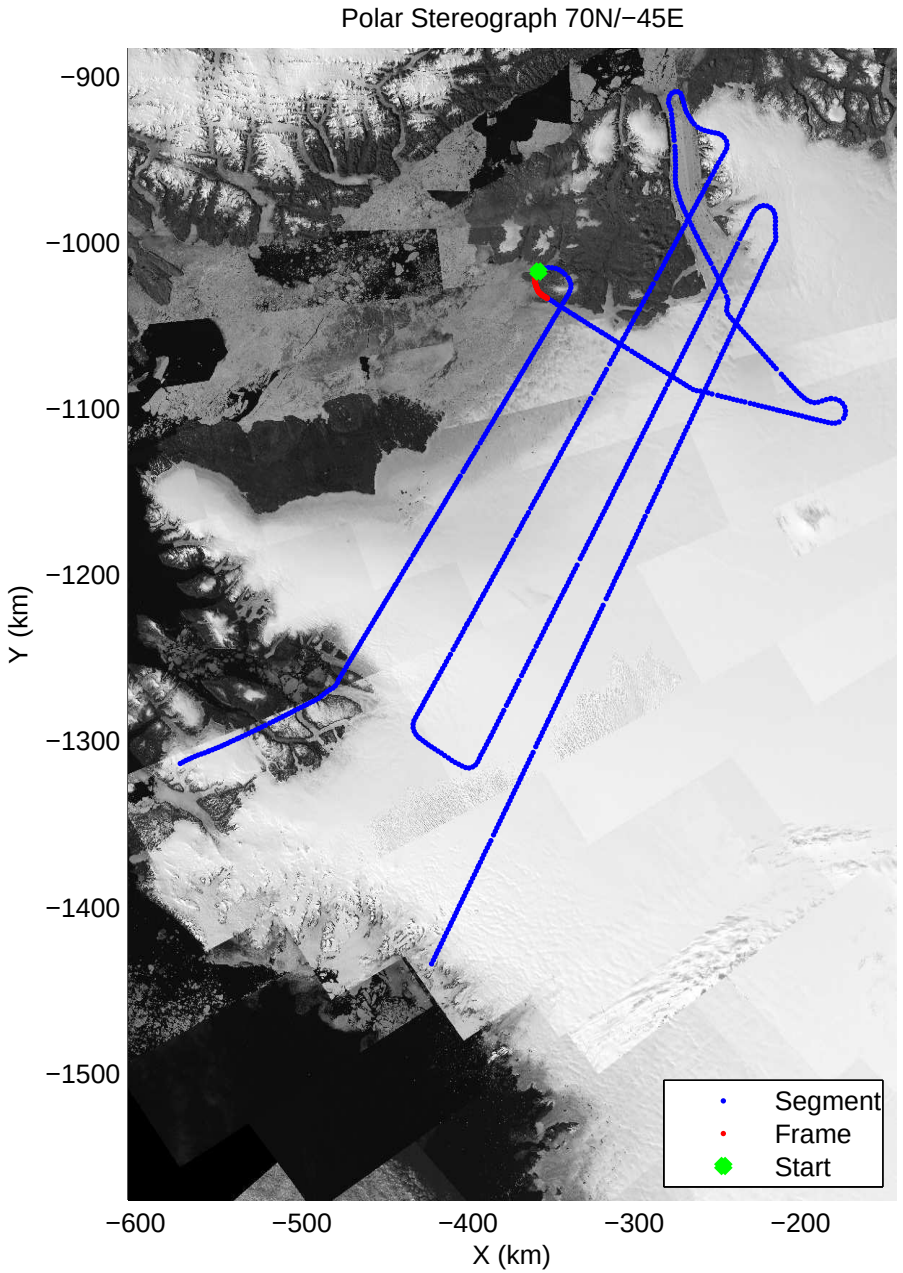

Polar Stereograph 70N/−45E
−900
−1000
−1100
−1200
−1300
−1400
−1500
Y (km)
−600
−500
−400
−300
−200
X (km)
Segment
Frame
Start

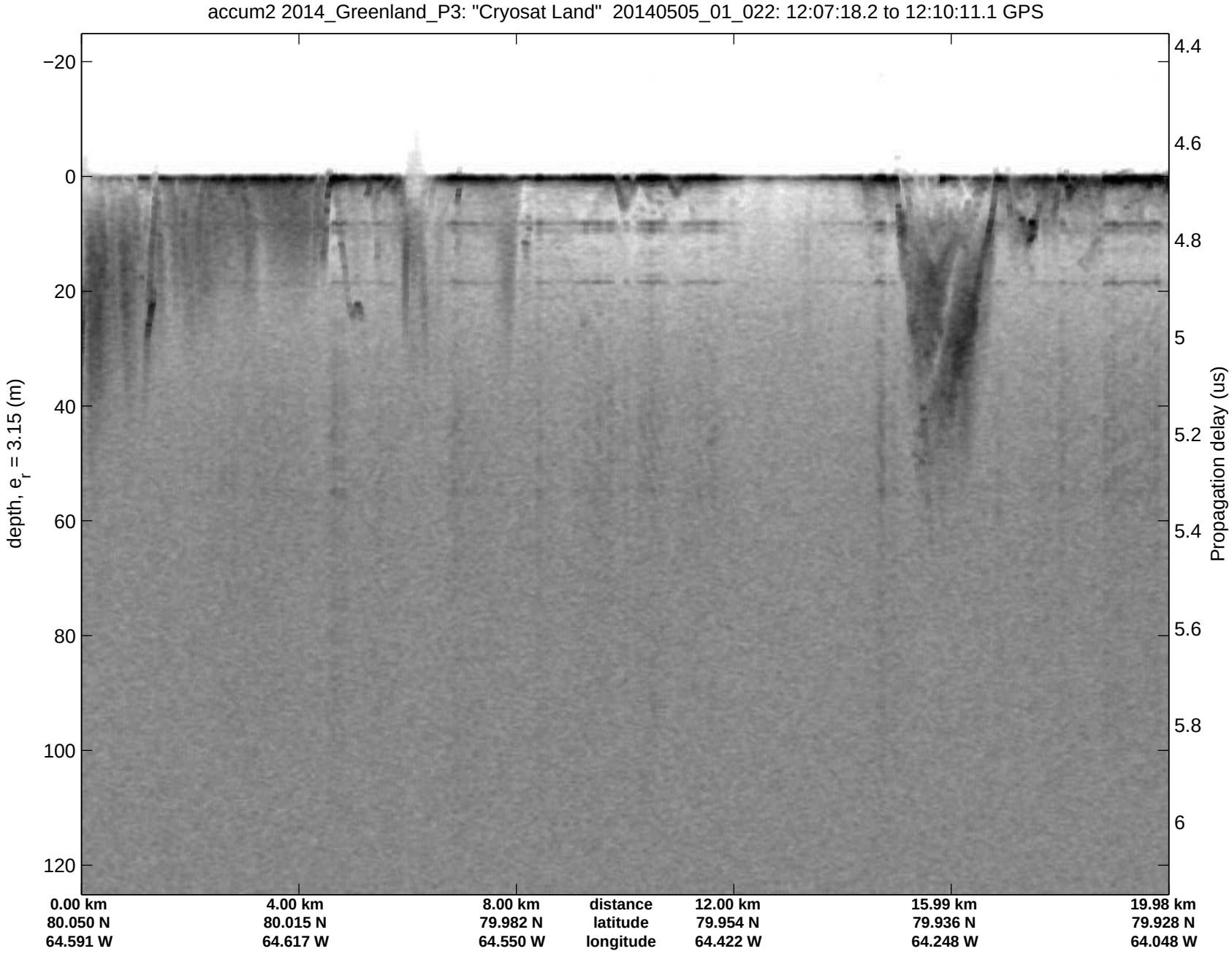

accum2 2014_Greenland_P3: "Cryosat Land" 20140505_01_021: 12:04:40.7 to 12:07:18.0 GPS
depth, e_r = 3.15 (m)
−20
0
20
40
60
80
100
120
Propagation delay (us)
4.8
5
5.2
5.4
5.6
5.8
6
6.2
6.4
0.00 km
80.077 N
63.679 W
3.99 km
80.093 N
63.866 W
7.99 km
80.099 N
64.070 W
distance
latitude
longitude
12.00 km
80.094 N
64.275 W
15.98 km
80.078 N
64.460 W
19.97 km
80.051 N
64.591 W

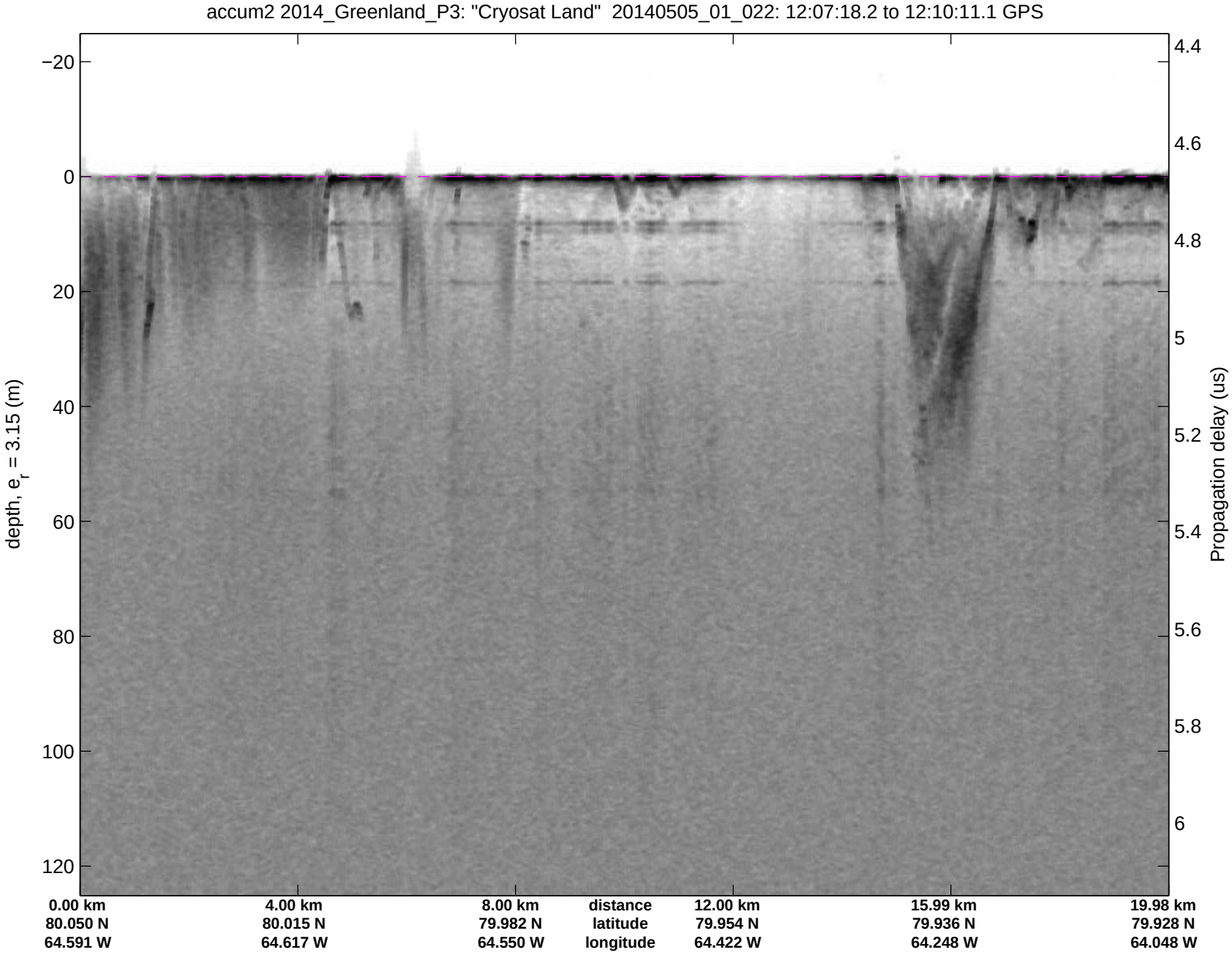

accum2 2014_Greenland_P3: "Cryosat Land" 20140505_01_021: 12:04:40.7 to 12:07:18.0 GPS
depth, e_r = 3.15 (m)
−20
0
20
40
60
80
100
120
Propagation delay (us)
4.8
5
5.2
5.4
5.6
5.8
6
6.2
6.4
0.00 km
80.077 N
63.679 W
3.99 km
80.093 N
63.866 W
7.99 km
80.099 N
64.070 W
distance
latitude
longitude
12.00 km
80.094 N
64.275 W
15.98 km
80.078 N
64.460 W
19.97 km
80.051 N
64.591 W

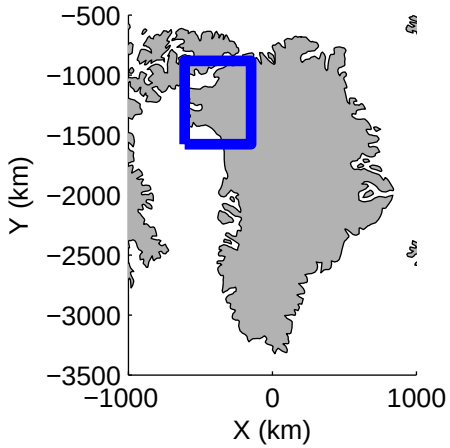

−500
−1000
−1500
−2000
−2500
−3000
−3500
Y (km)
−1000
0
1000
X (km)

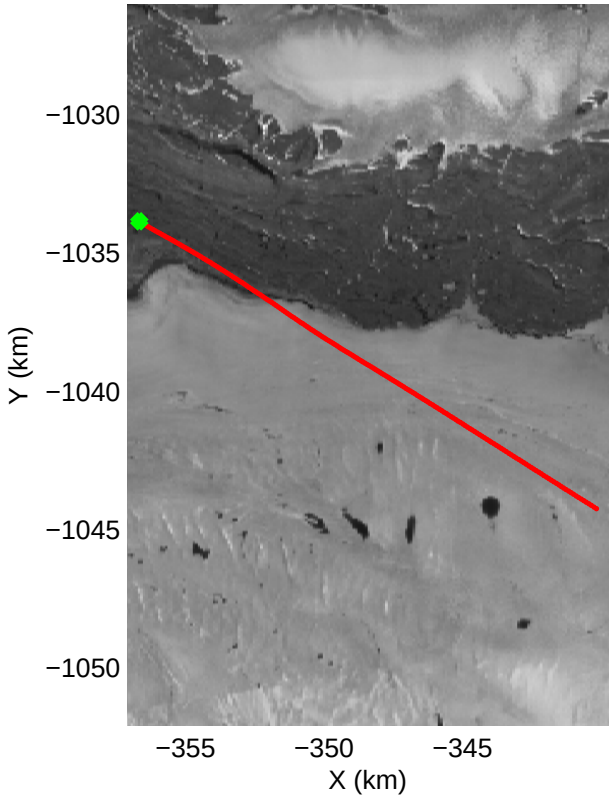

−1018
−1020
−1022
−1024
−1026
−1028
−1030
−1032
−1034
Y (km)
−366
−364
−362
−360
−358
−356
X (km)

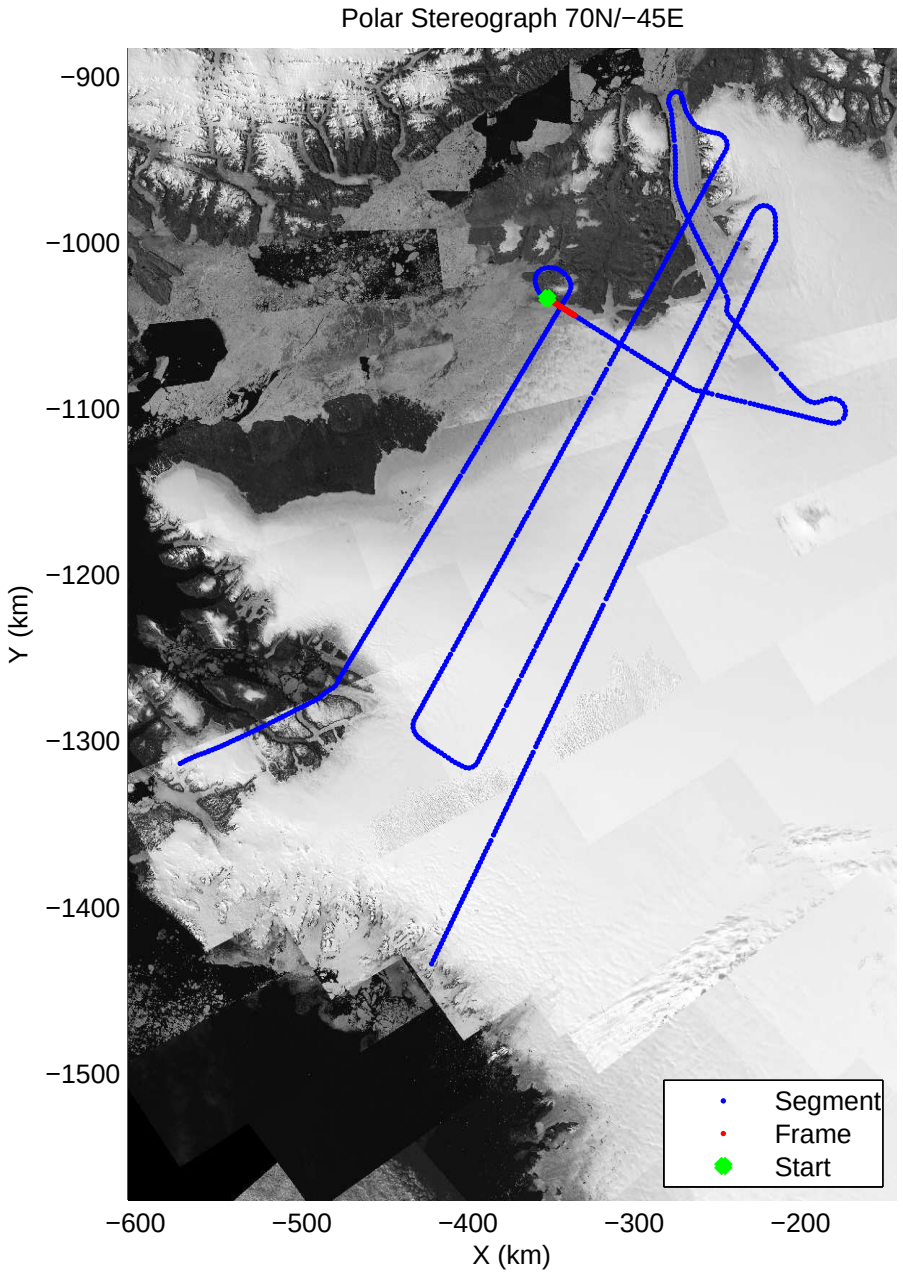

Polar Stereograph 70N/−45E
−900
−1000
−1100
−1200
−1300
−1400
−1500
Y (km)
−600
−500
−400
−300
−200
X (km)
Segment
Frame
Start

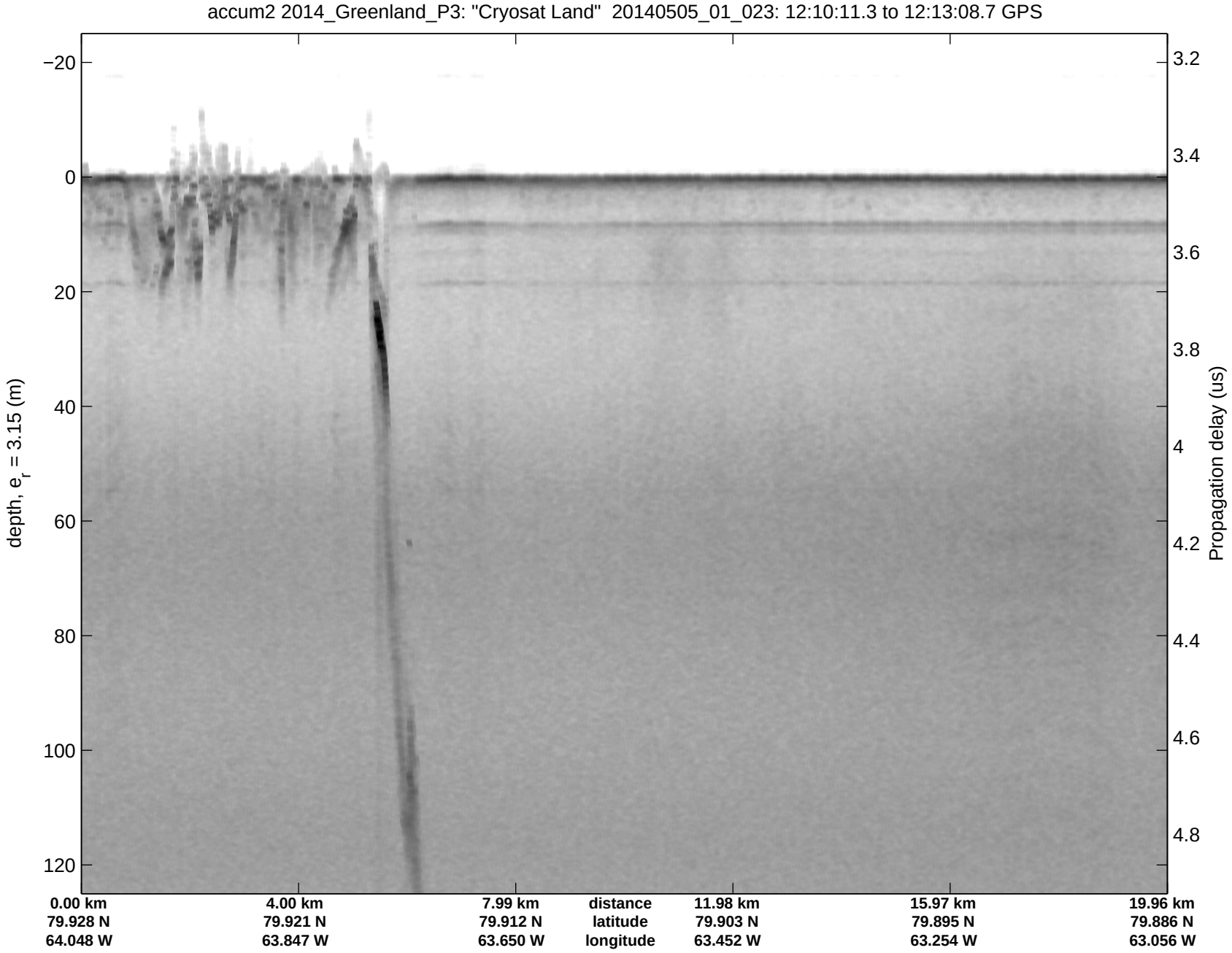

accum2 2014_Greenland_P3: "Cryosat Land" 20140505_01_022: 12:07:18.2 to 12:10:11.1 GPS
depth, e_r = 3.15 (m)
−20
0
20
40
60
80
100
120
Propagation delay (us)
4.4
4.6
4.8
5
5.2
5.4
5.6
5.8
6
0.00 km
80.050 N
64.591 W
4.00 km
80.015 N
64.617 W
8.00 km
79.982 N
64.550 W
distance
latitude
longitude
12.00 km
79.954 N
64.422 W
15.99 km
79.936 N
64.248 W
19.98 km
79.928 N
64.048 W

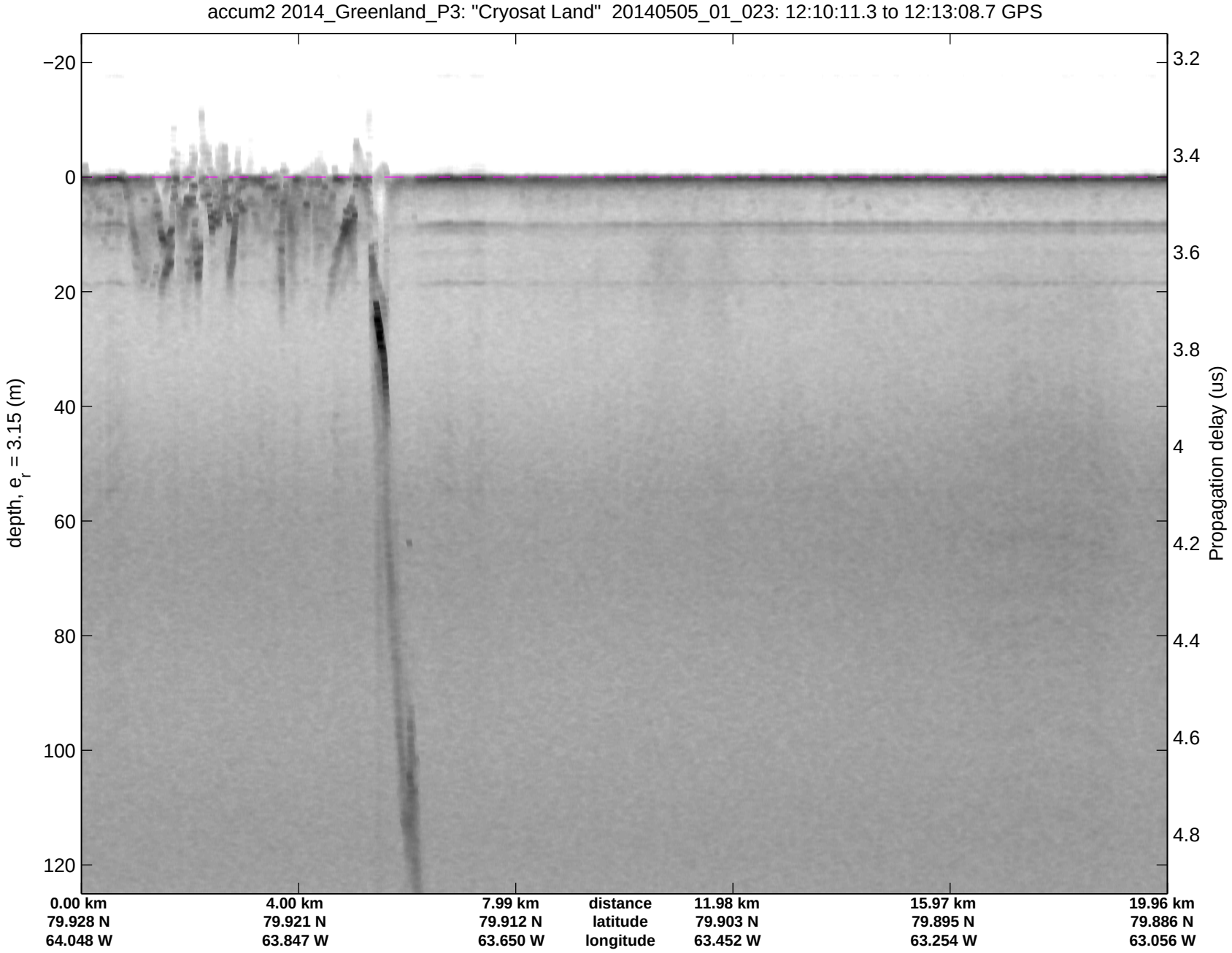

accum2 2014_Greenland_P3: "Cryosat Land" 20140505_01_022: 12:07:18.2 to 12:10:11.1 GPS
depth, e_r = 3.15 (m)
−20
0
20
40
60
80
100
120
Propagation delay (us)
4.4
4.6
4.8
5
5.2
5.4
5.6
5.8
6
0.00 km
80.050 N
64.591 W
4.00 km
80.015 N
64.617 W
8.00 km
79.982 N
64.550 W
distance
latitude
longitude
12.00 km
79.954 N
64.422 W
15.99 km
79.936 N
64.248 W
19.98 km
79.928 N
64.048 W

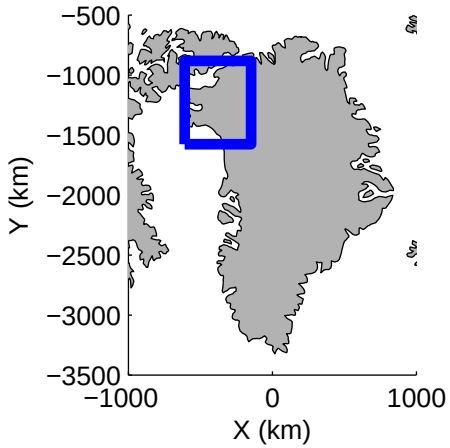

−500
−1000
−1500
−2000
−2500
−3000
−3500
Y (km)
−1000
0
1000
X (km)

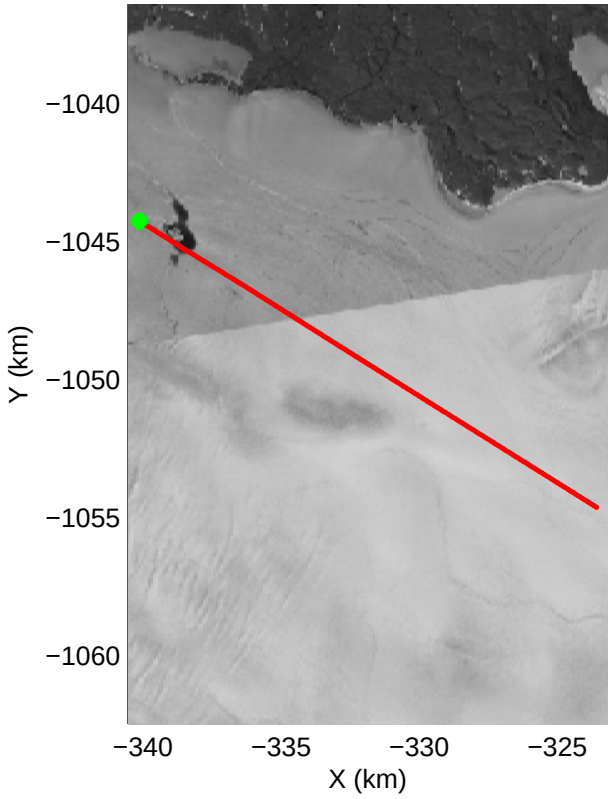

−1030
−1035
−1040
−1045
−1050
Y (km)
−355
−350
−345
X (km)

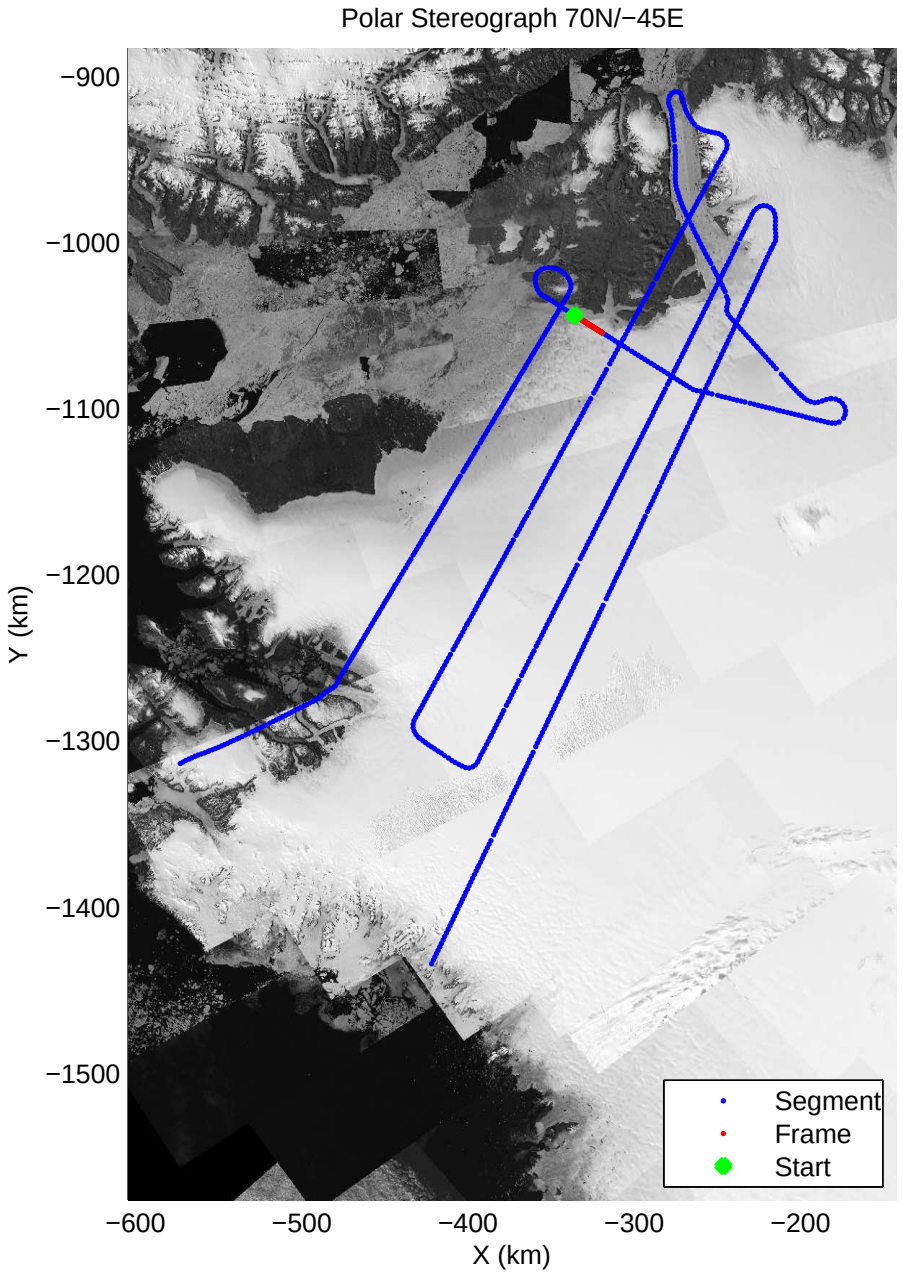

Polar Stereograph 70N/−45E
−900
−1000
−1100
−1200
−1300
−1400
−1500
Y (km)
−600
−500
−400
−300
−200
X (km)
Segment
Frame
Start

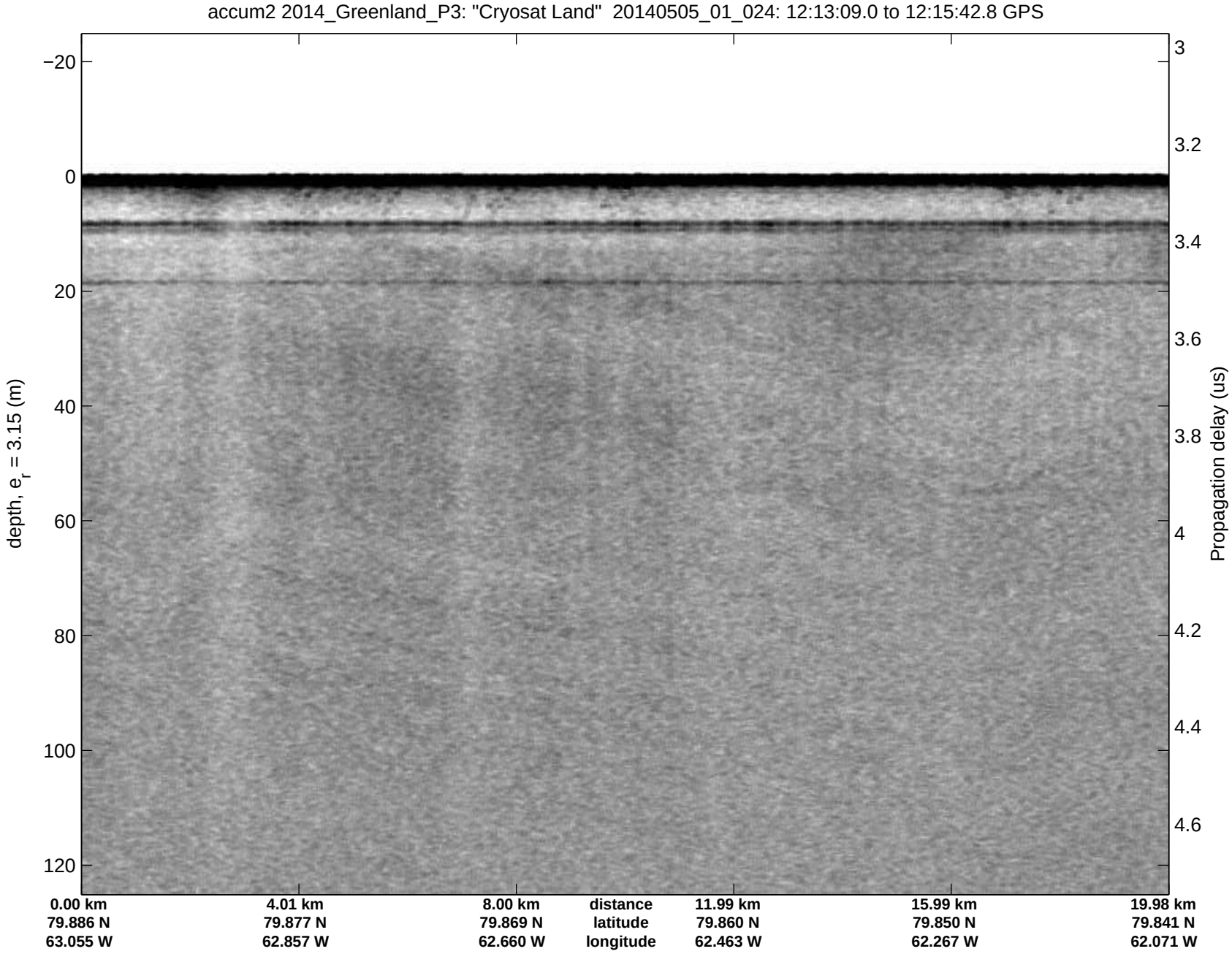

accum2 2014_Greenland_P3: "Cryosat Land" 20140505_01_023: 12:10:11.3 to 12:13:08.7 GPS
depth, e_r = 3.15 (m)
−20
0
20
40
60
80
100
120
Propagation delay (us)
3.2
3.4
3.6
3.8
4
4.2
4.4
4.6
4.8
0.00 km
79.928 N
64.048 W
4.00 km
79.921 N
63.847 W
7.99 km
79.912 N
63.650 W
distance
latitude
longitude
11.98 km
79.903 N
63.452 W
15.97 km
79.895 N
63.254 W
19.96 km
79.886 N
63.056 W

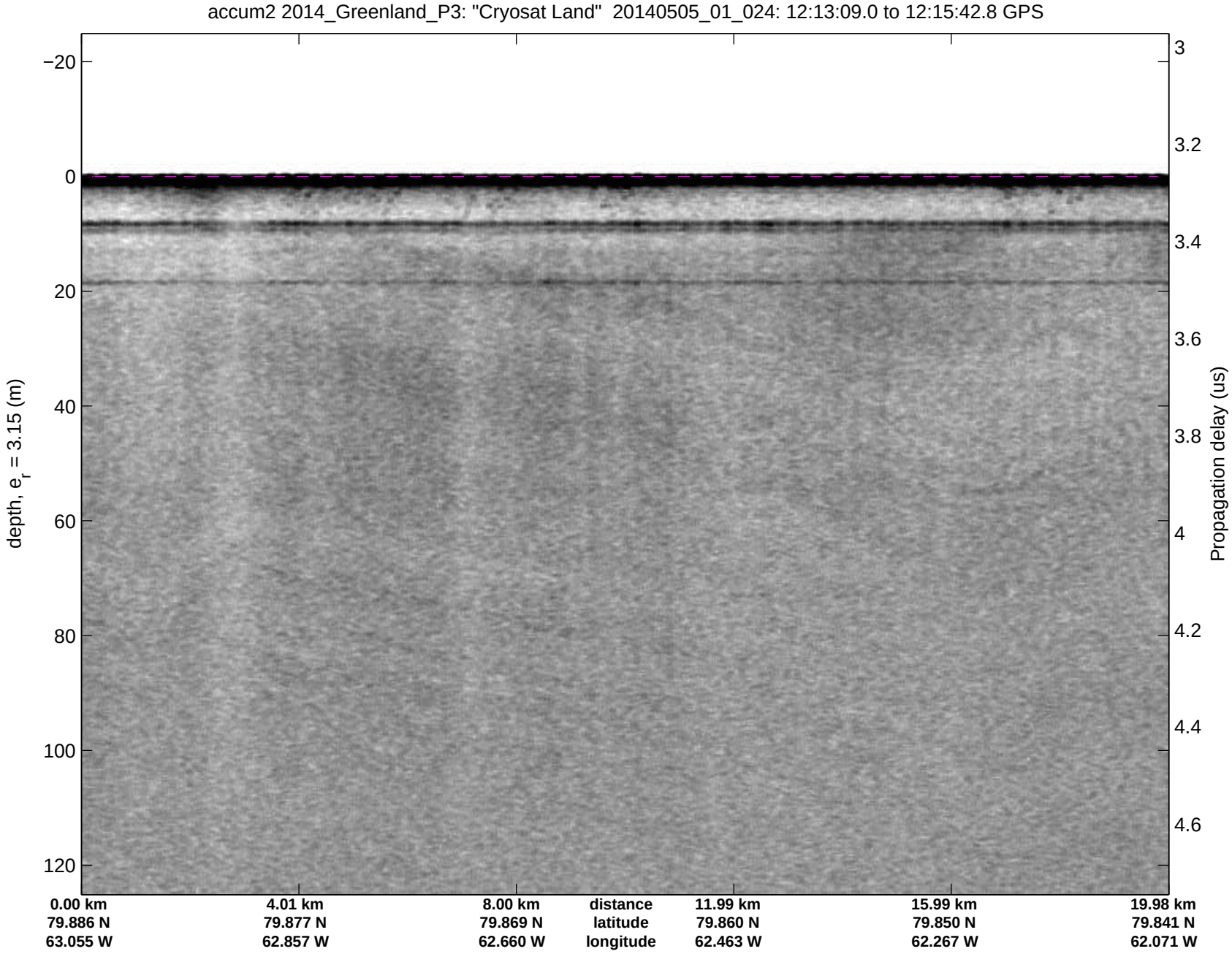

accum2 2014_Greenland_P3: "Cryosat Land" 20140505_01_023: 12:10:11.3 to 12:13:08.7 GPS
depth, e_r = 3.15 (m)
−20
0
20
40
60
80
100
120
Propagation delay (us)
3.2
3.4
3.6
3.8
4
4.2
4.4
4.6
4.8
0.00 km
79.928 N
64.048 W
4.00 km
79.921 N
63.847 W
7.99 km
79.912 N
63.650 W
distance
latitude
longitude
11.98 km
79.903 N
63.452 W
15.97 km
79.895 N
63.254 W
19.96 km
79.886 N
63.056 W

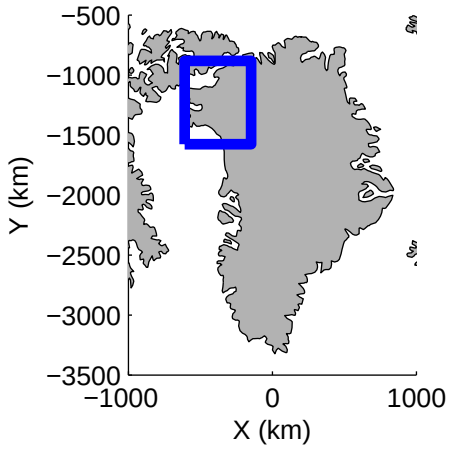

−500
−1000
−1500
−2000
−2500
−3000
−3500
Y (km)
−1000
0
1000
X (km)

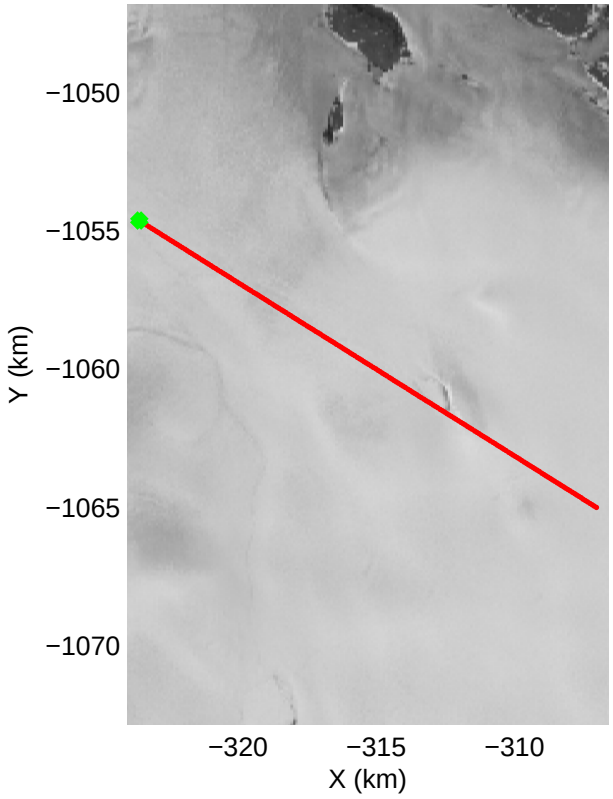

−1040
−1045
−1050
−1055
−1060
Y (km)
−340
−335
−330
−325
X (km)

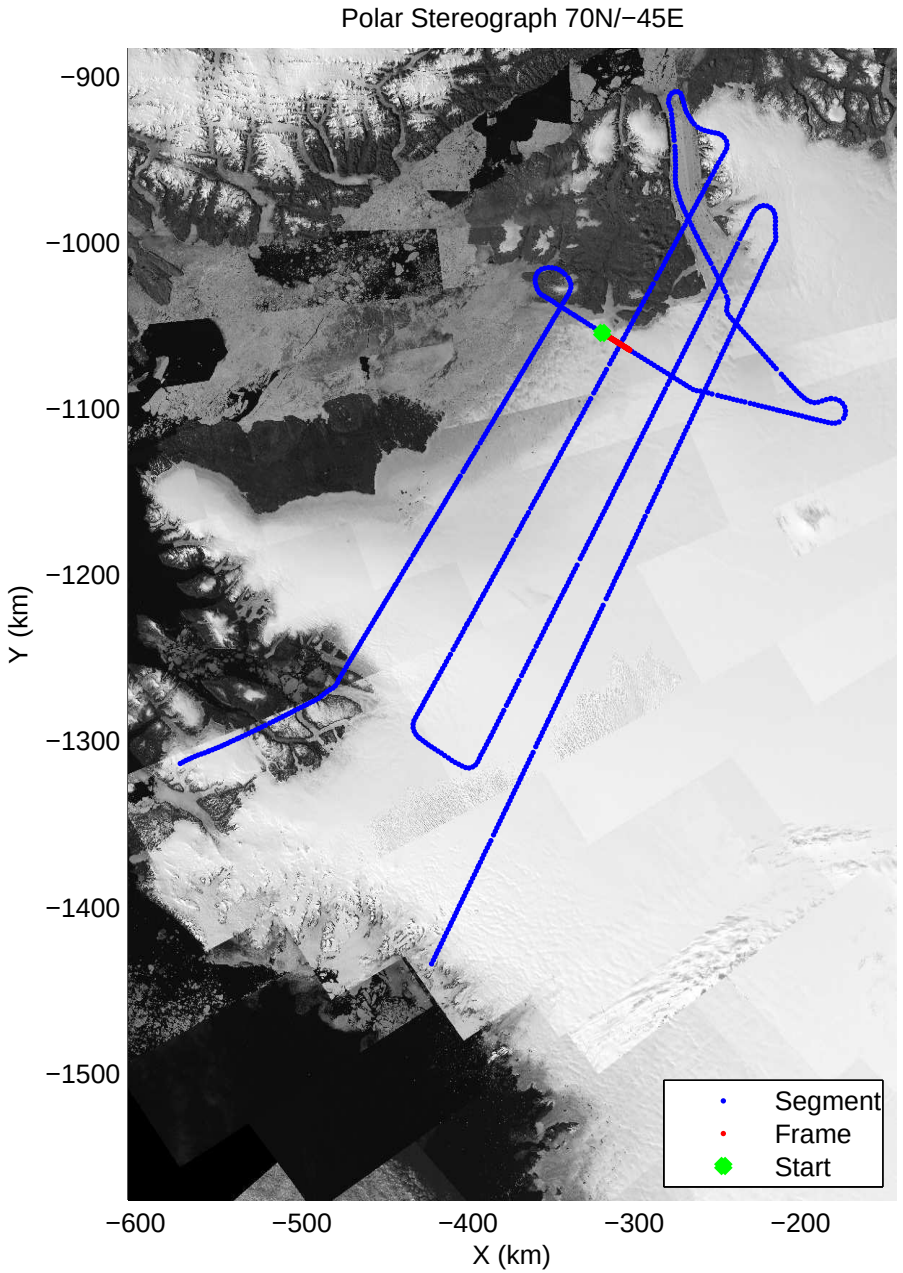

Polar Stereograph 70N/−45E
−900
−1000
−1100
−1200
−1300
−1400
−1500
Y (km)
−600
−500
−400
−300
−200
X (km)
Segment
Frame
Start

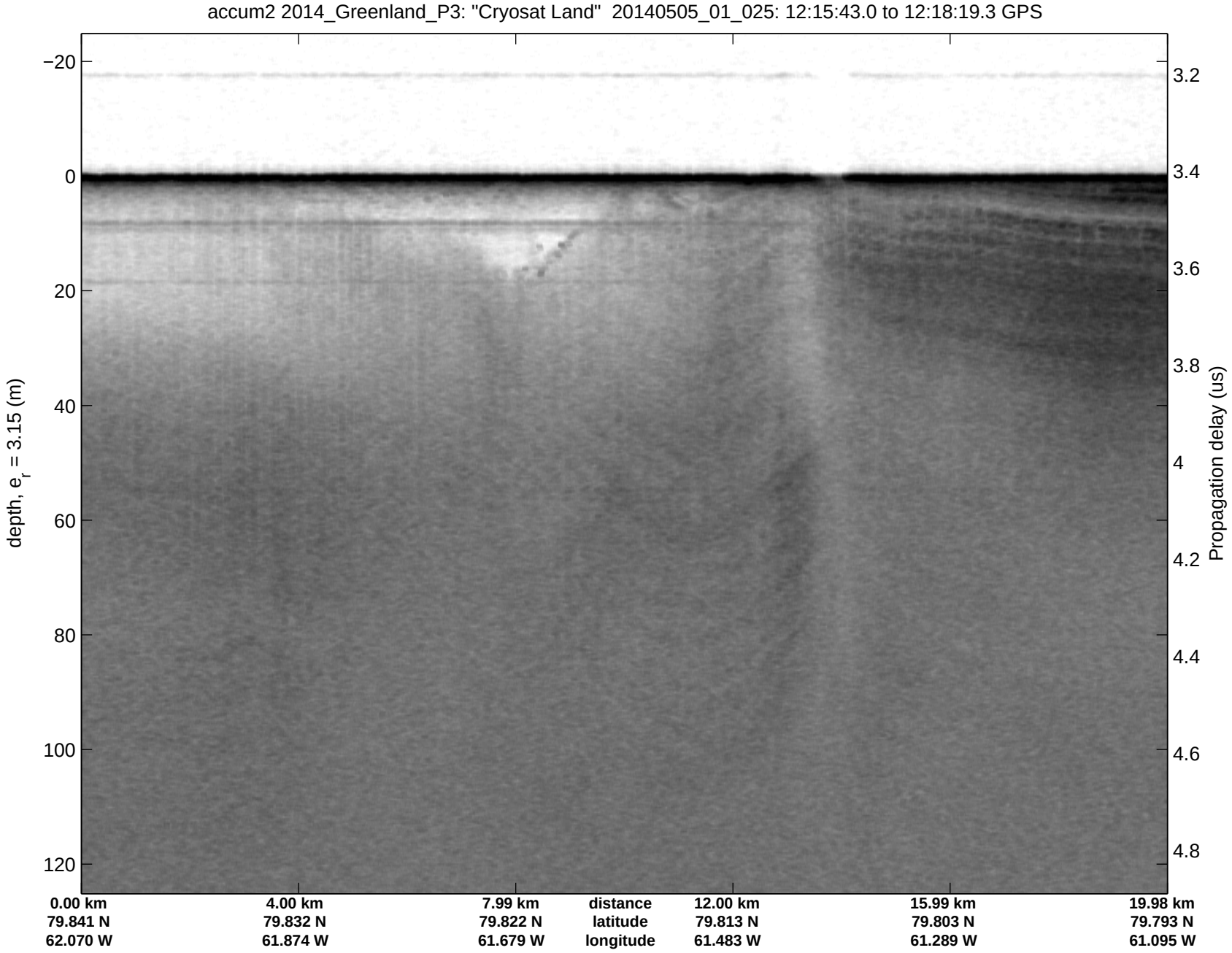

accum2 2014_Greenland_P3: "Cryosat Land" 20140505_01_024: 12:13:09.0 to 12:15:42.8 GPS
depth, e_r = 3.15 (m)
−20
0
20
40
60
80
100
120
Propagation delay (us)
3
3.2
3.4
3.6
3.8
4
4.2
4.4
4.6
0.00 km
79.886 N
63.055 W
4.01 km
79.877 N
62.857 W
8.00 km
79.869 N
62.660 W
distance
latitude
longitude
11.99 km
79.860 N
62.463 W
15.99 km
79.850 N
62.267 W
19.98 km
79.841 N
62.071 W

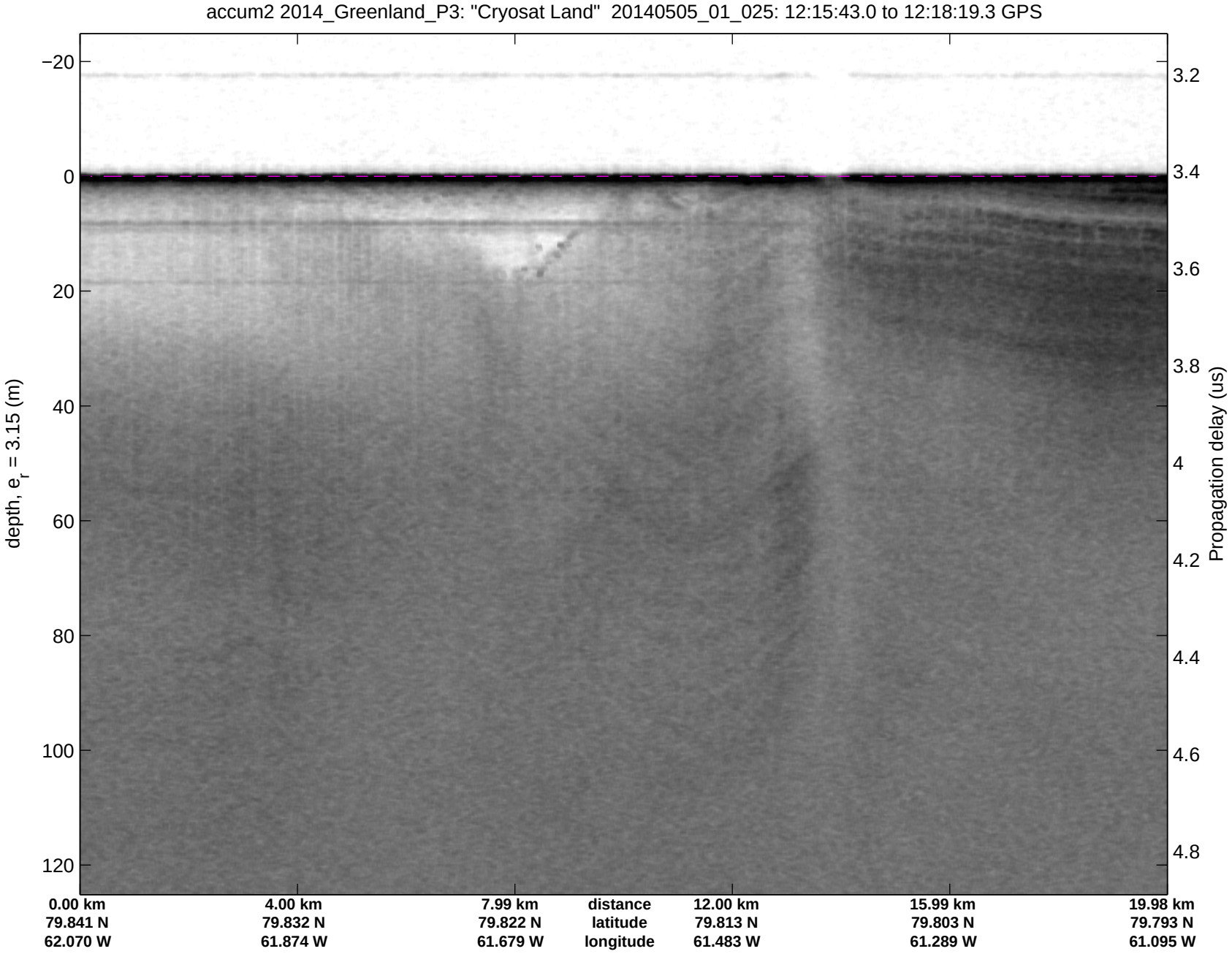

accum2 2014_Greenland_P3: "Cryosat Land" 20140505_01_024: 12:13:09.0 to 12:15:42.8 GPS
depth, e_r = 3.15 (m)
−20
0
20
40
60
80
100
120
Propagation delay (us)
3
3.2
3.4
3.6
3.8
4
4.2
4.4
4.6
0.00 km
79.886 N
63.055 W
4.01 km
79.877 N
62.857 W
8.00 km
79.869 N
62.660 W
distance
latitude
longitude
11.99 km
79.860 N
62.463 W
15.99 km
79.850 N
62.267 W
19.98 km
79.841 N
62.071 W

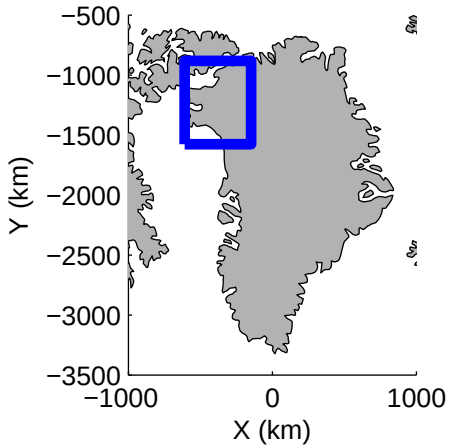

−500
−1000
−1500
−2000
−2500
−3000
−3500
Y (km)
−1000
0
1000
X (km)

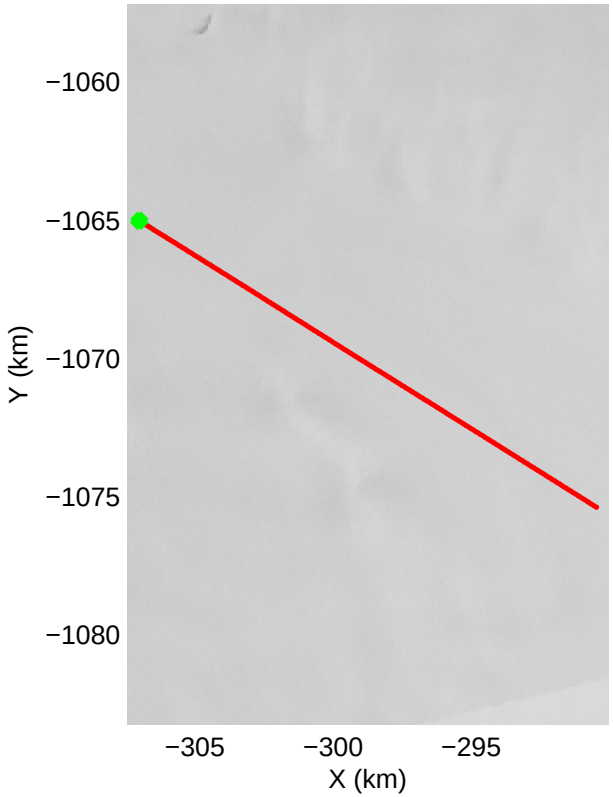

−1050
−1055
−1060
−1065
−1070
Y (km)
−320
−315
−310
X (km)

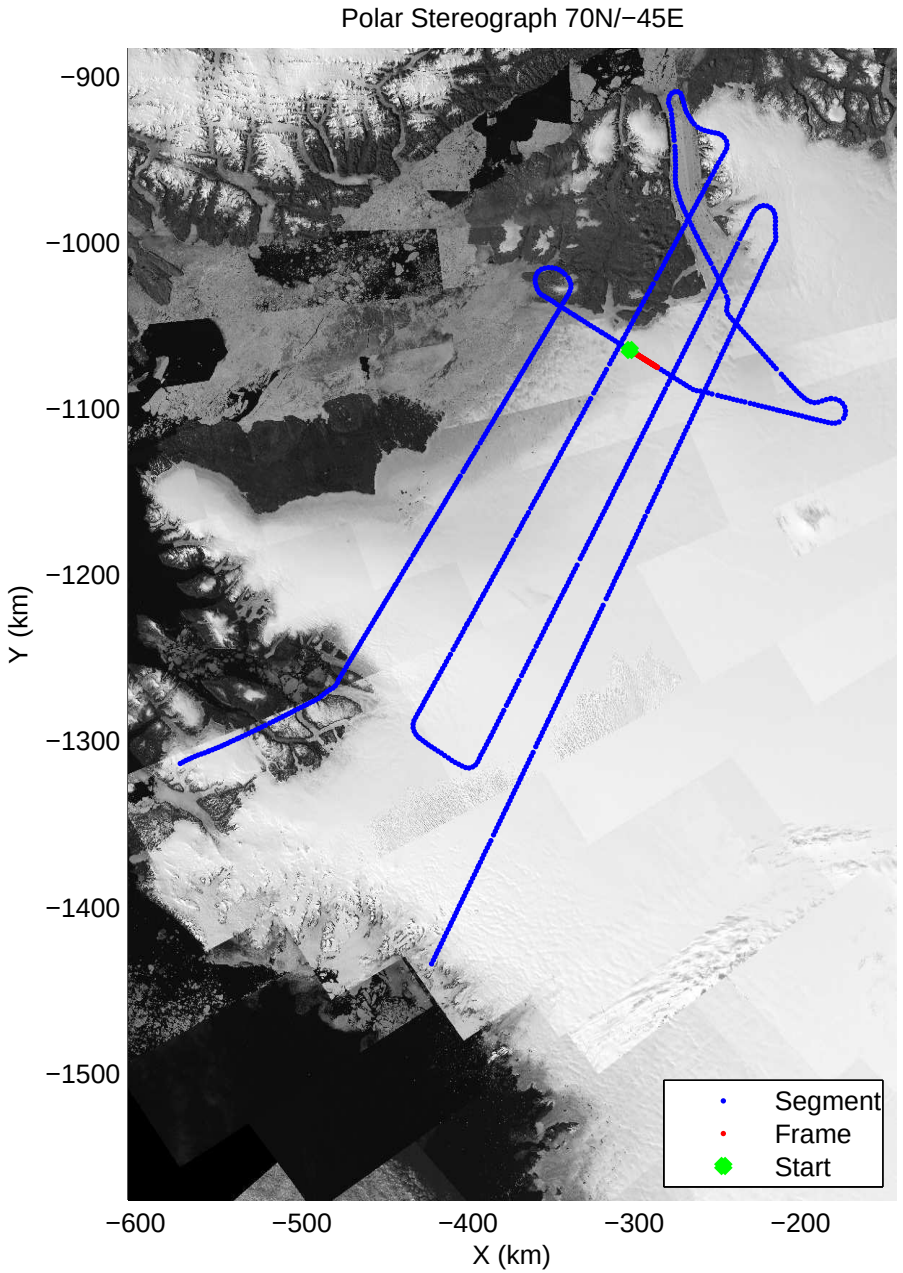

Polar Stereograph 70N/−45E
−900
−1000
−1100
−1200
−1300
−1400
−1500
Y (km)
−600
−500
−400
−300
−200
X (km)
Segment
Frame
Start

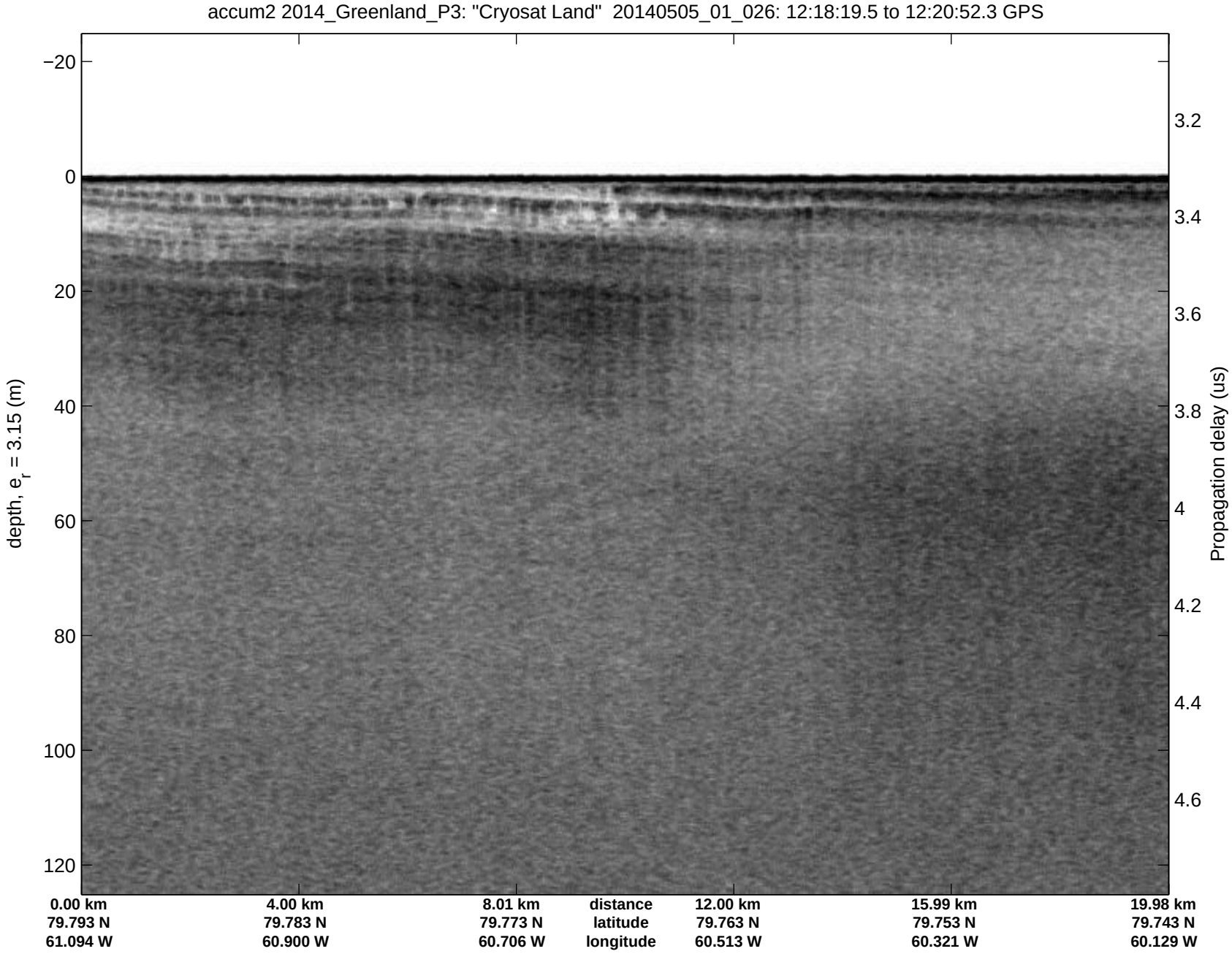

accum2 2014_Greenland_P3: "Cryosat Land" 20140505_01_025: 12:15:43.0 to 12:18:19.3 GPS
depth, e_r = 3.15 (m)
−20
0
20
40
60
80
100
120
Propagation delay (us)
3.2
3.4
3.6
3.8
4
4.2
4.4
4.6
4.8
0.00 km
79.841 N
62.070 W
4.00 km
79.832 N
61.874 W
7.99 km
79.822 N
61.679 W
distance
latitude
longitude
12.00 km
79.813 N
61.483 W
15.99 km
79.803 N
61.289 W
19.98 km
79.793 N
61.095 W

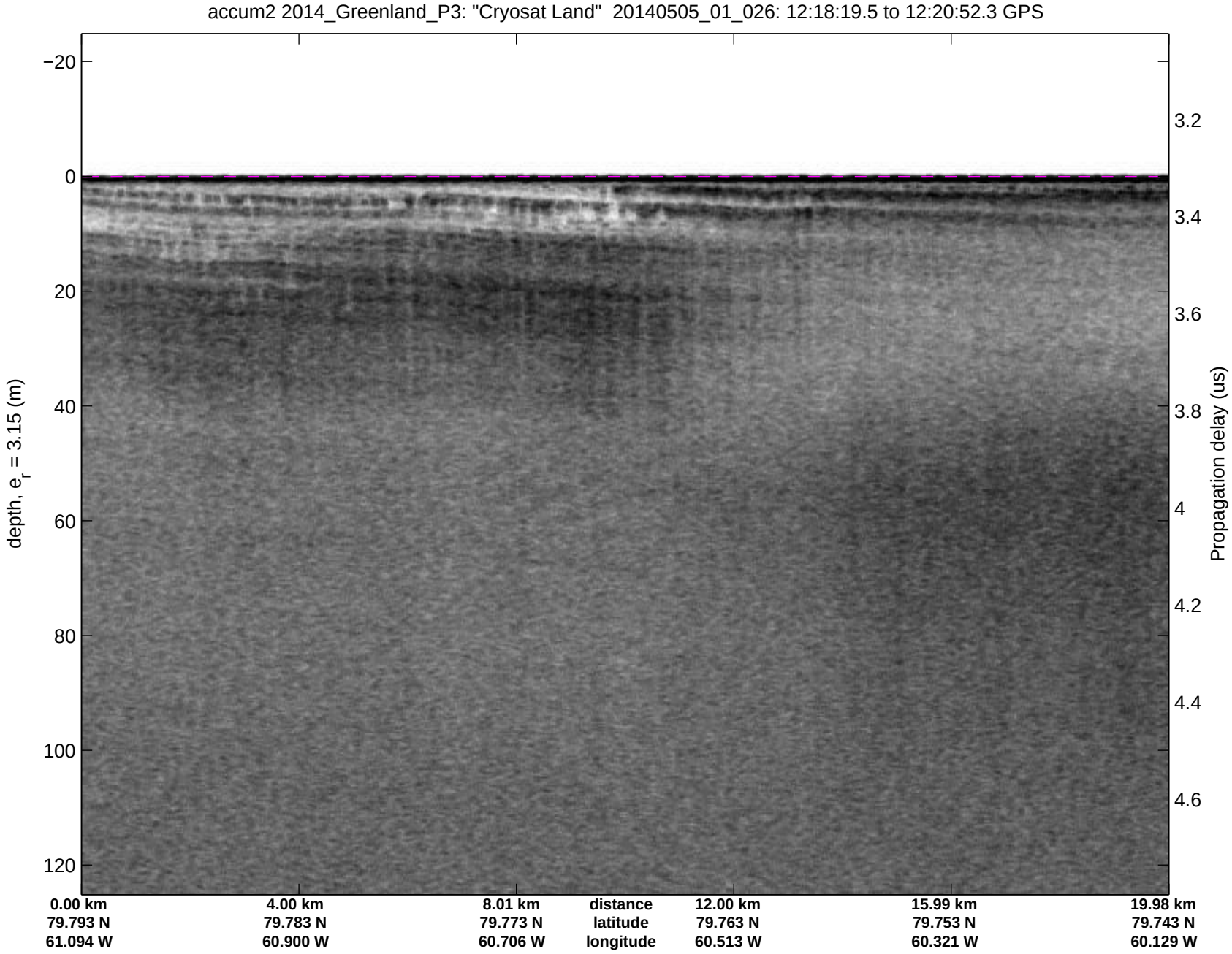

accum2 2014_Greenland_P3: "Cryosat Land" 20140505_01_025: 12:15:43.0 to 12:18:19.3 GPS
depth, e_r = 3.15 (m)
−20
0
20
40
60
80
100
120
Propagation delay (us)
3.2
3.4
3.6
3.8
4
4.2
4.4
4.6
4.8
0.00 km
79.841 N
62.070 W
4.00 km
79.832 N
61.874 W
7.99 km
79.822 N
61.679 W
distance
latitude
longitude
12.00 km
79.813 N
61.483 W
15.99 km
79.803 N
61.289 W
19.98 km
79.793 N
61.095 W

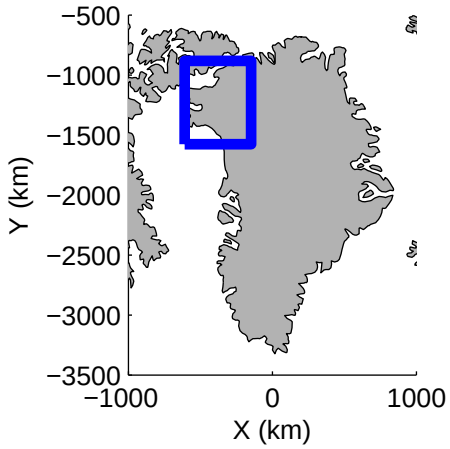

−500
−1000
−1500
−2000
−2500
−3000
−3500
Y (km)
−1000
0
1000
X (km)

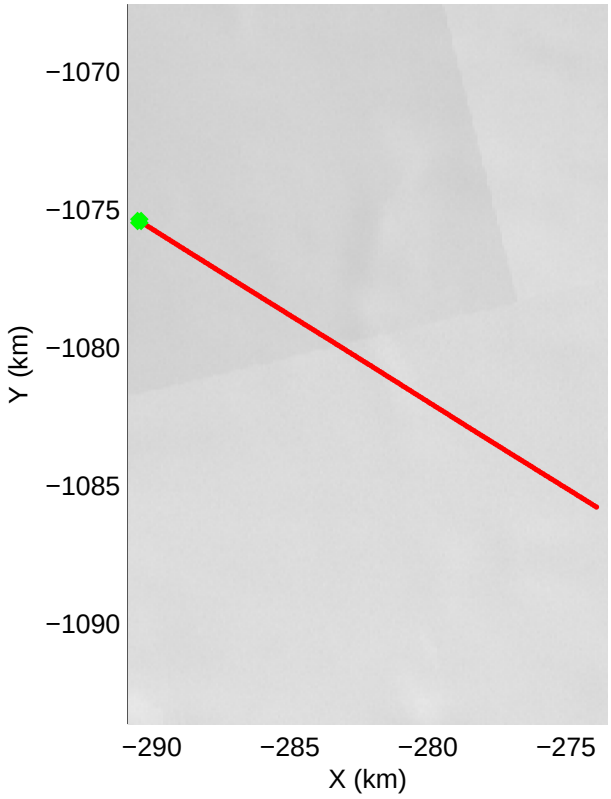

−1060
−1065
−1070
−1075
−1080
Y (km)
−305
−300
−295
X (km)

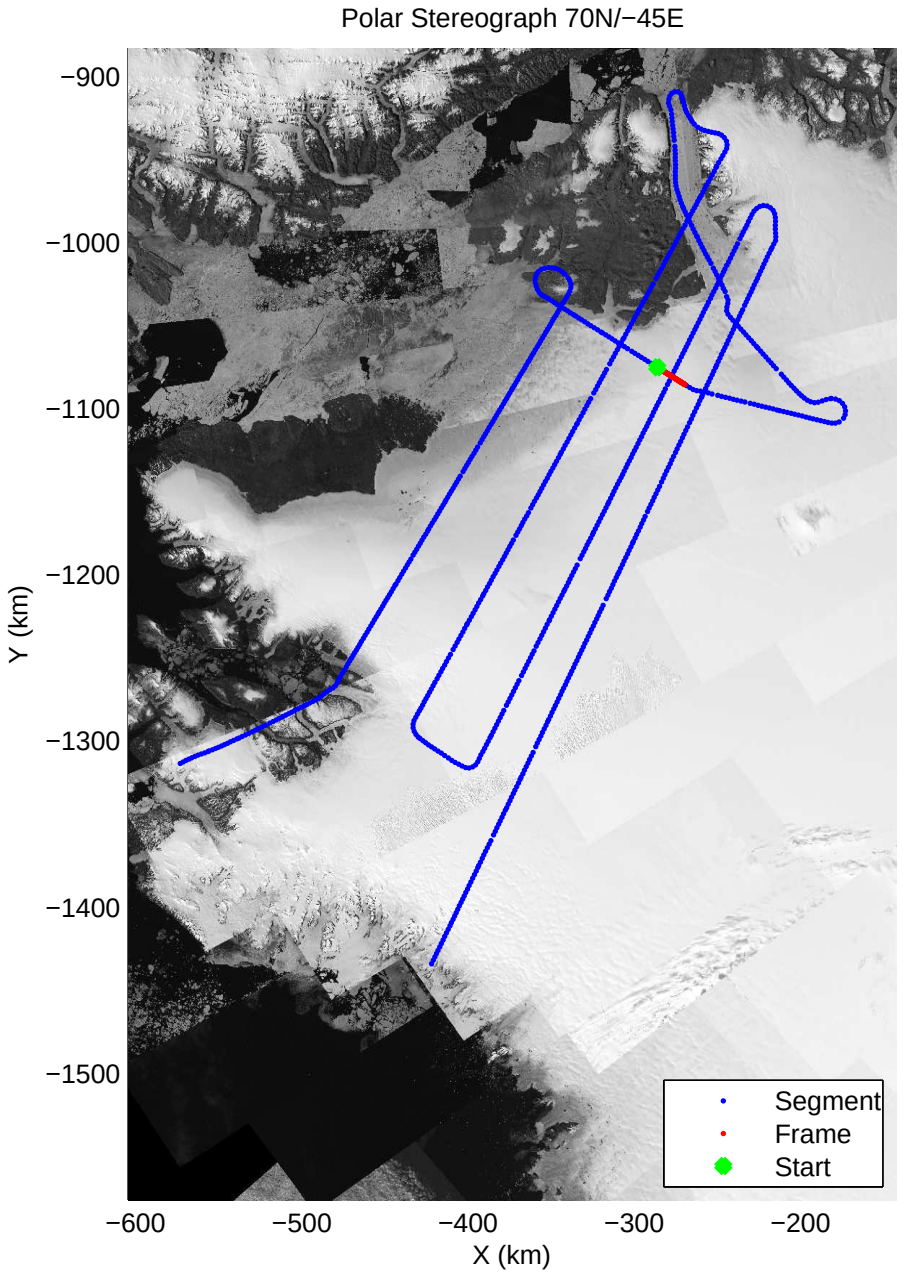

Polar Stereograph 70N/−45E
−900
−1000
−1100
−1200
−1300
−1400
−1500
Y (km)
−600
−500
−400
−300
−200
X (km)
Segment
Frame
Start

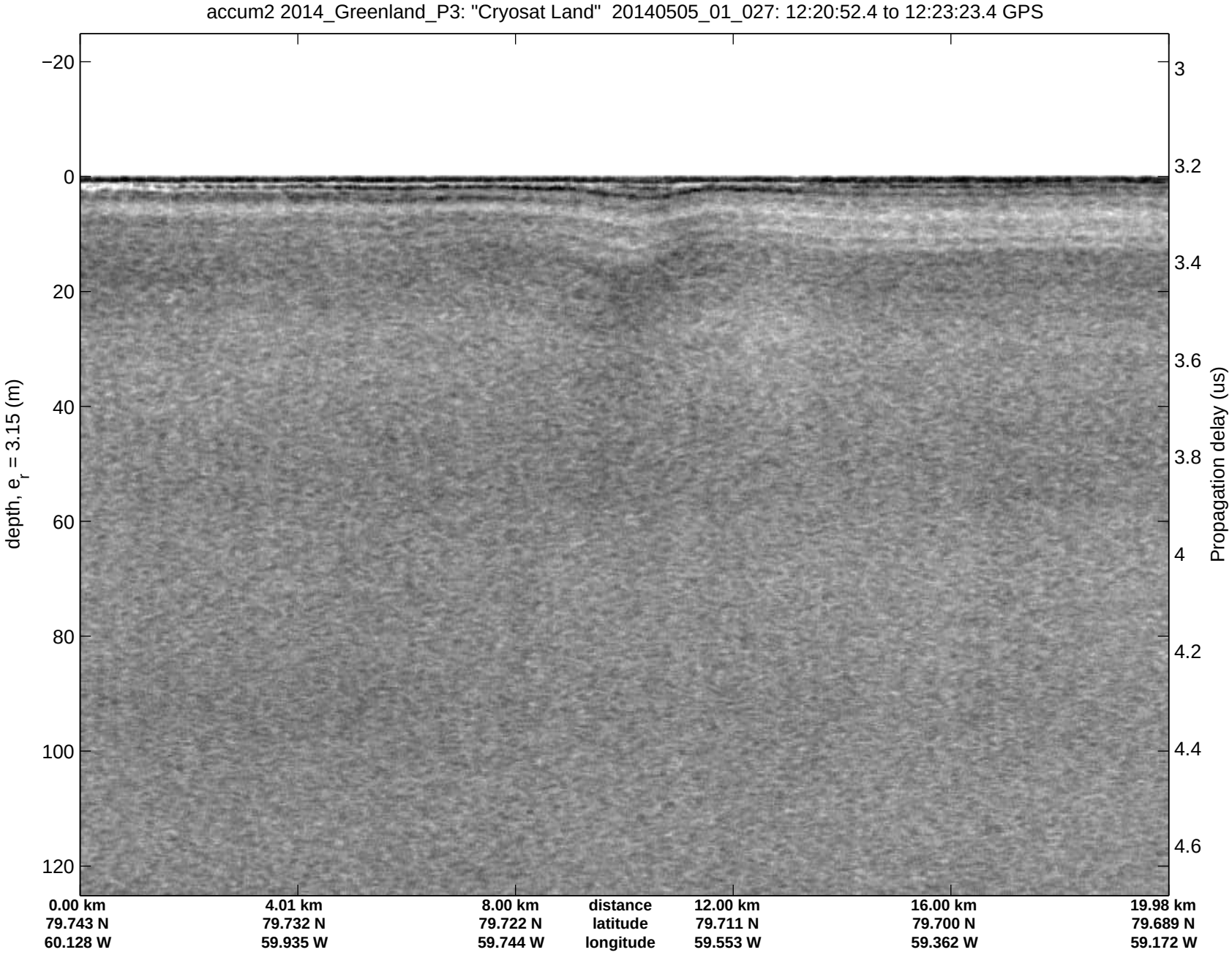

accum2 2014_Greenland_P3: "Cryosat Land" 20140505_01_026: 12:18:19.5 to 12:20:52.3 GPS
depth, e_r = 3.15 (m)
−20
0
20
40
60
80
100
120
Propagation delay (us)
3.2
3.4
3.6
3.8
4
4.2
4.4
4.6
0.00 km
79.793 N
61.094 W
4.00 km
79.783 N
60.900 W
8.01 km
79.773 N
60.706 W
distance
latitude
longitude
12.00 km
79.763 N
60.513 W
15.99 km
79.753 N
60.321 W
19.98 km
79.743 N
60.129 W

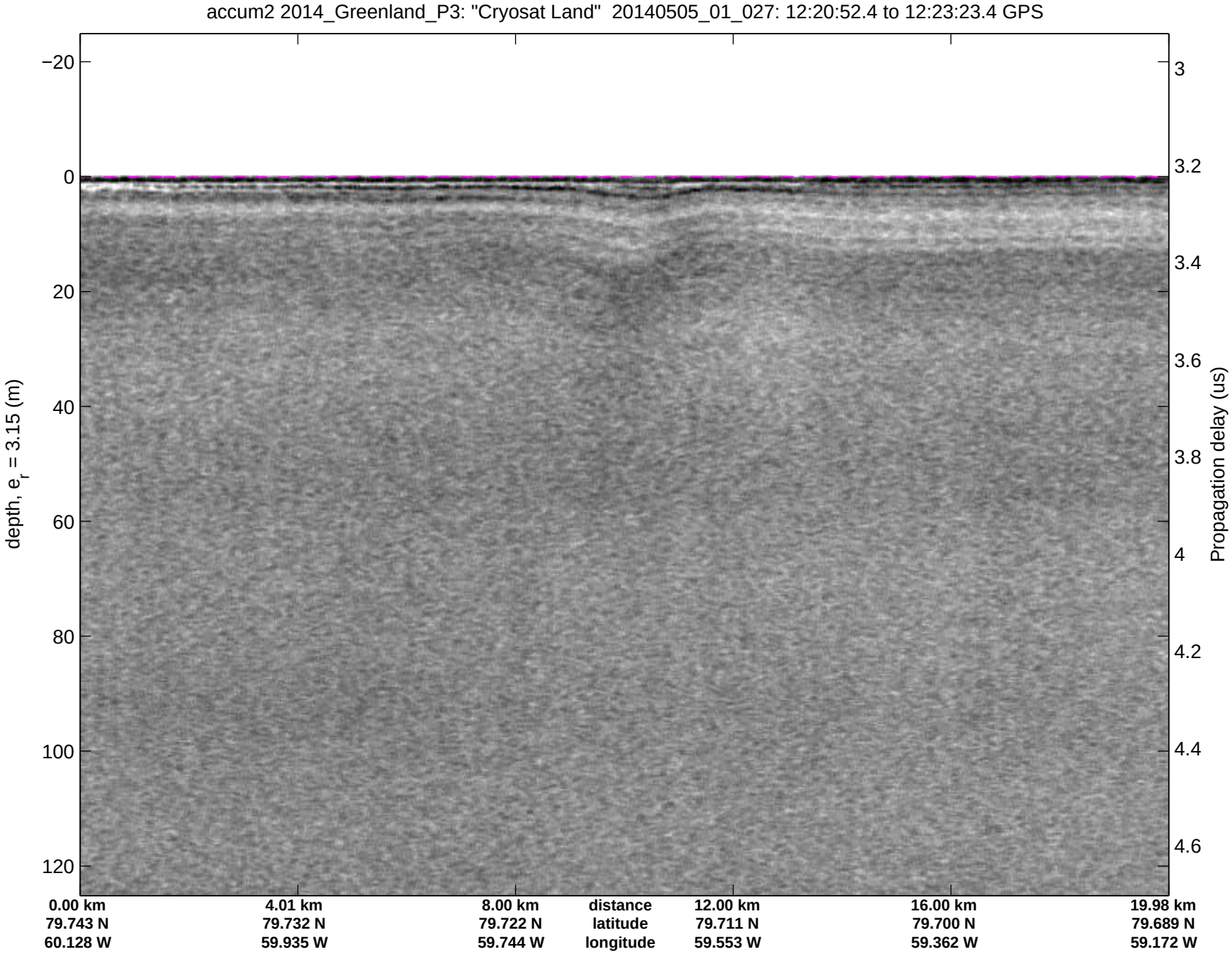

accum2 2014_Greenland_P3: "Cryosat Land" 20140505_01_026: 12:18:19.5 to 12:20:52.3 GPS
depth, e_r = 3.15 (m)
−20
0
20
40
60
80
100
120
Propagation delay (us)
3.2
3.4
3.6
3.8
4
4.2
4.4
4.6
0.00 km
79.793 N
61.094 W
4.00 km
79.783 N
60.900 W
8.01 km
79.773 N
60.706 W
distance
latitude
longitude
12.00 km
79.763 N
60.513 W
15.99 km
79.753 N
60.321 W
19.98 km
79.743 N
60.129 W

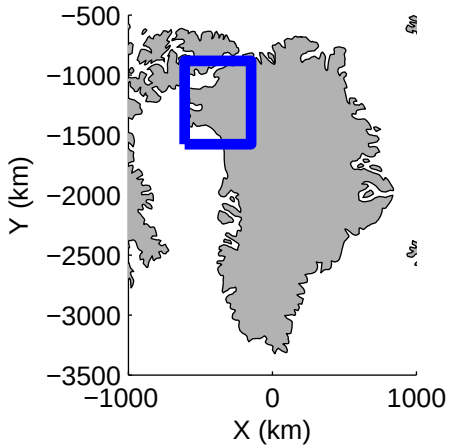

−500
−1000
−1500
−2000
−2500
−3000
−3500
Y (km)
−1000
0
1000
X (km)

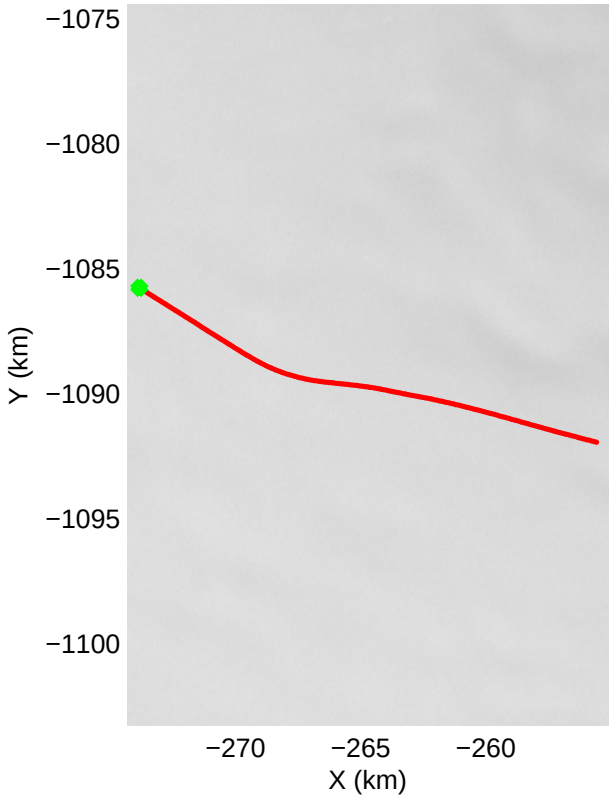

−1070
−1075
−1080
−1085
−1090
Y (km)
−290
−285
−280
−275
X (km)

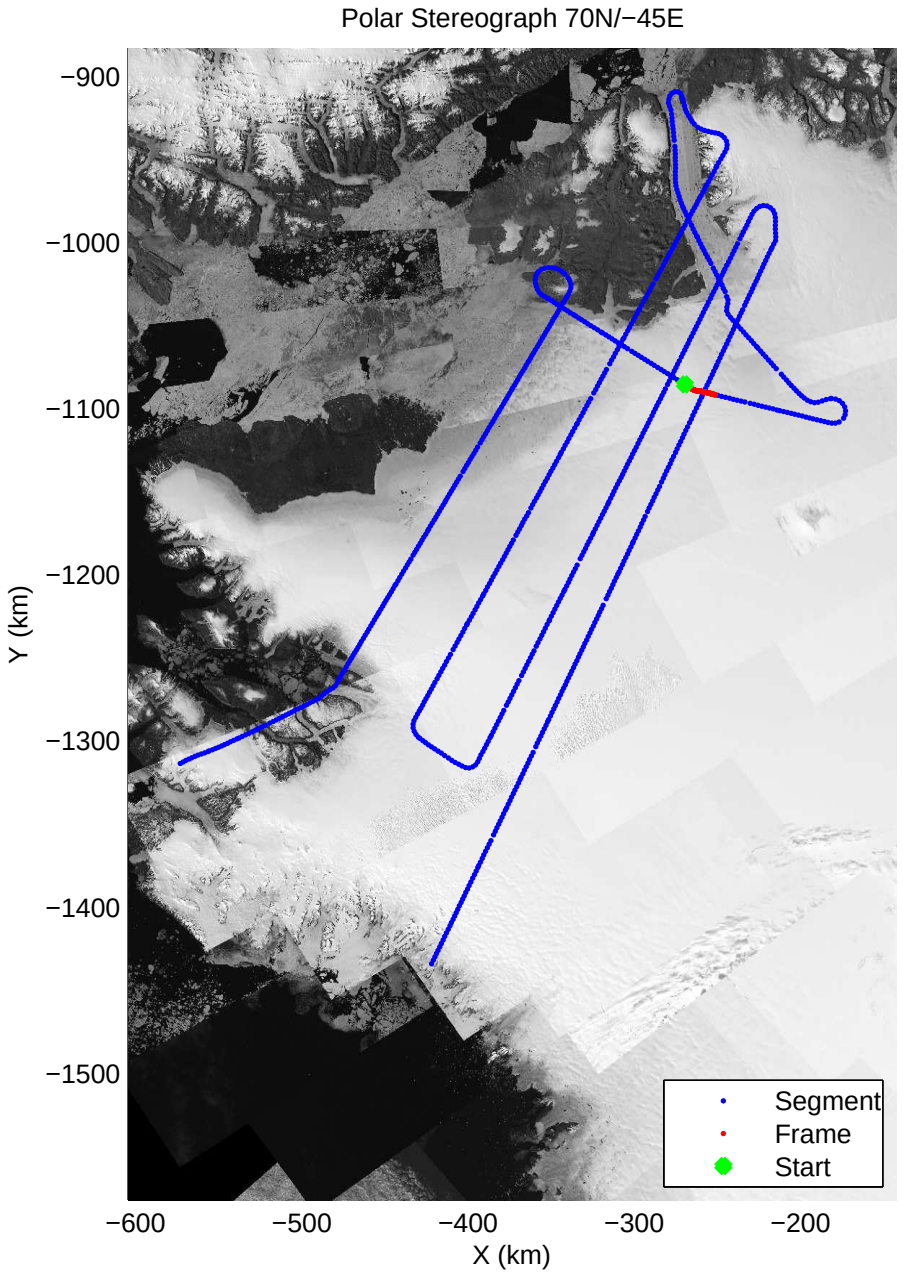

Polar Stereograph 70N/−45E
−900
−1000
−1100
−1200
−1300
−1400
−1500
Y (km)
−600
−500
−400
−300
−200
X (km)
Segment
Frame
Start

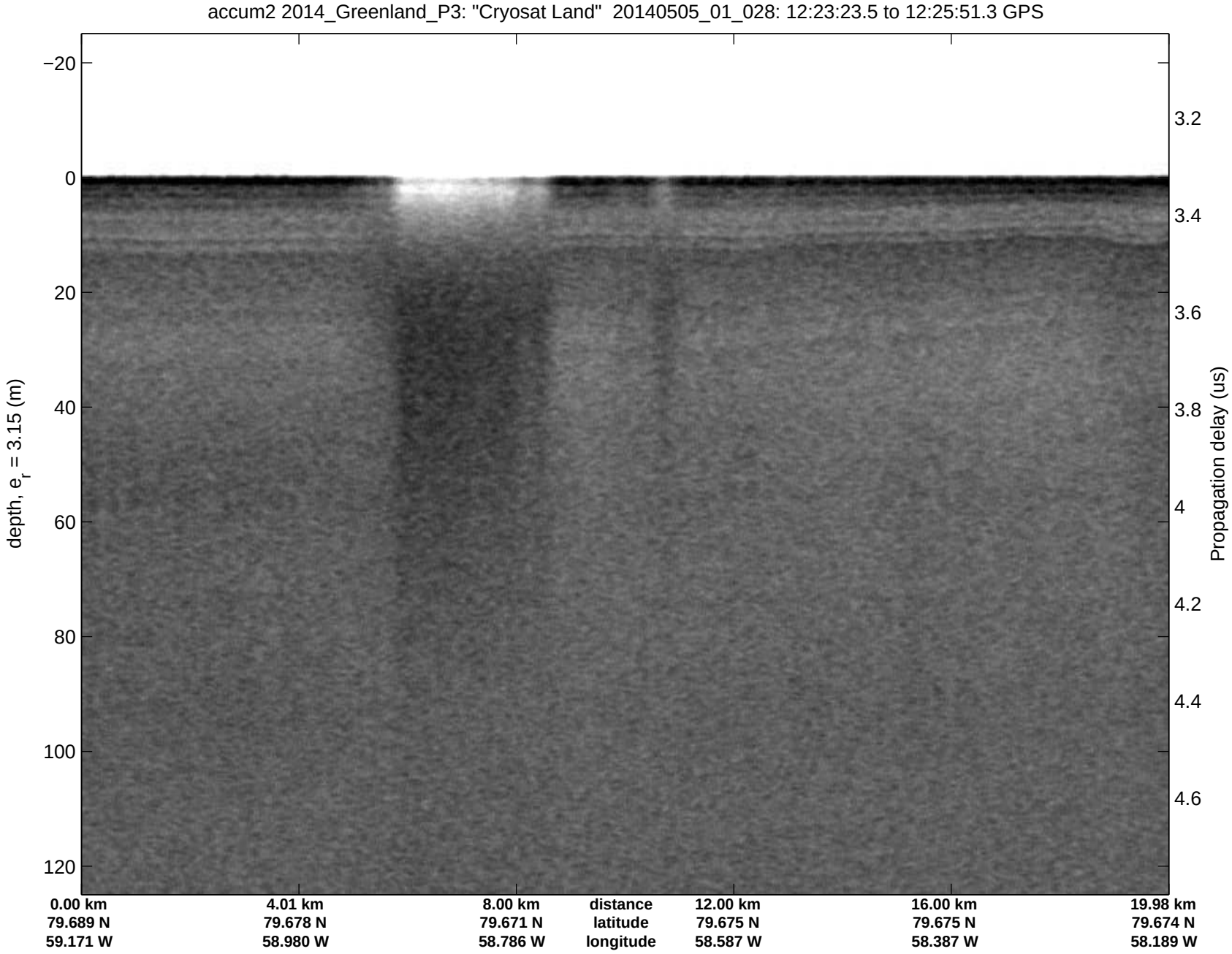

accum2 2014_Greenland_P3: "Cryosat Land" 20140505_01_027: 12:20:52.4 to 12:23:23.4 GPS
depth, e_r = 3.15 (m)
−20
0
20
40
60
80
100
120
Propagation delay (us)
3
3.2
3.4
3.6
3.8
4
4.2
4.4
4.6
0.00 km
79.743 N
60.128 W
4.01 km
79.732 N
59.935 W
8.00 km
79.722 N
59.744 W
distance
latitude
longitude
12.00 km
79.711 N
59.553 W
16.00 km
79.700 N
59.362 W
19.98 km
79.689 N
59.172 W

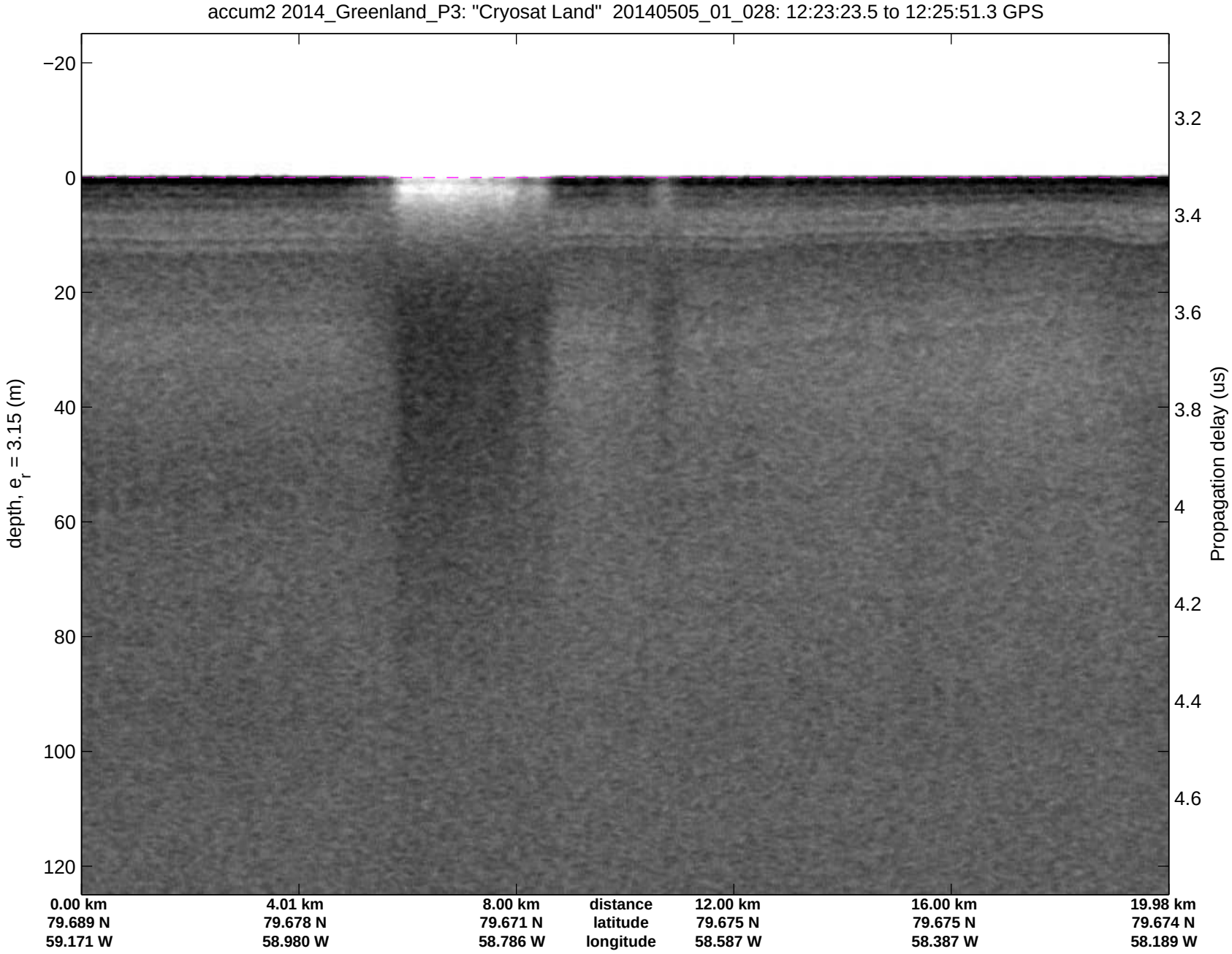

accum2 2014_Greenland_P3: "Cryosat Land" 20140505_01_027: 12:20:52.4 to 12:23:23.4 GPS
depth, e_r = 3.15 (m)
−20
0
20
40
60
80
100
120
3
3.2
3.4
3.6
3.8
4
4.2
4.4
4.6
Propagation delay (us)
0.00 km
79.743 N
60.128 W
4.01 km
79.732 N
59.935 W
8.00 km
79.722 N
59.744 W
distance
latitude
longitude
12.00 km
79.711 N
59.553 W
16.00 km
79.700 N
59.362 W
19.98 km
79.689 N
59.172 W

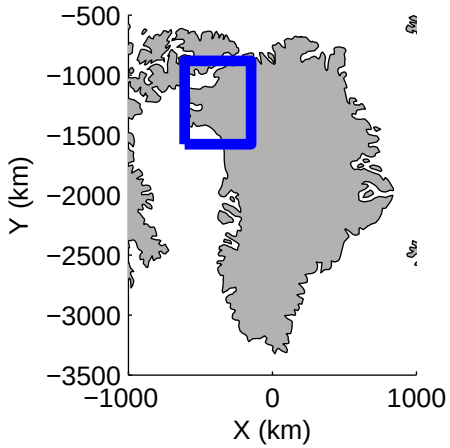

−500
−1000
−1500
−2000
−2500
−3000
−3500
Y (km)
−1000
0
1000
X (km)

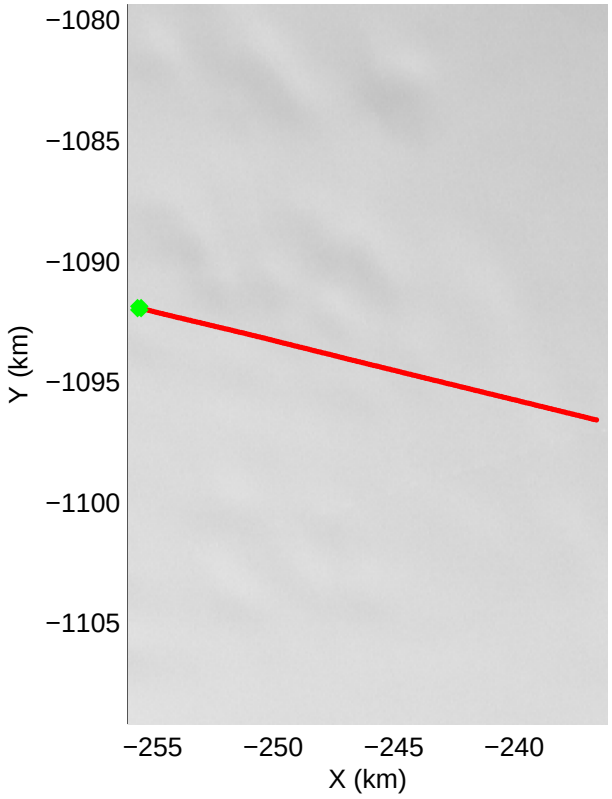

−1075
−1080
−1085
−1090
−1095
−1100
Y (km)
−270
−265
−260
X (km)

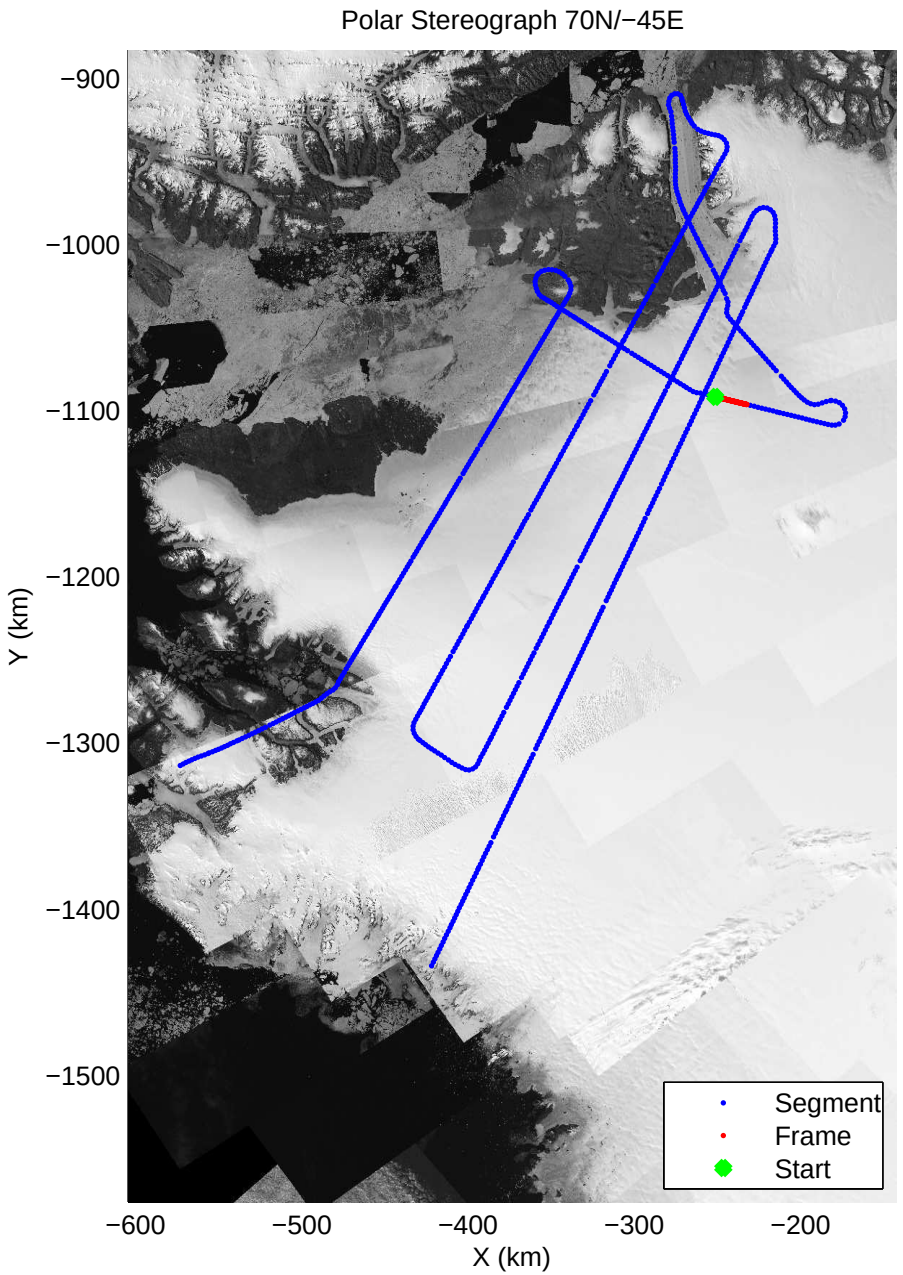

Polar Stereograph 70N/−45E
−900
−1000
−1100
−1200
−1300
−1400
−1500
Y (km)
−600
−500
−400
−300
−200
X (km)
Segment
Frame
Start

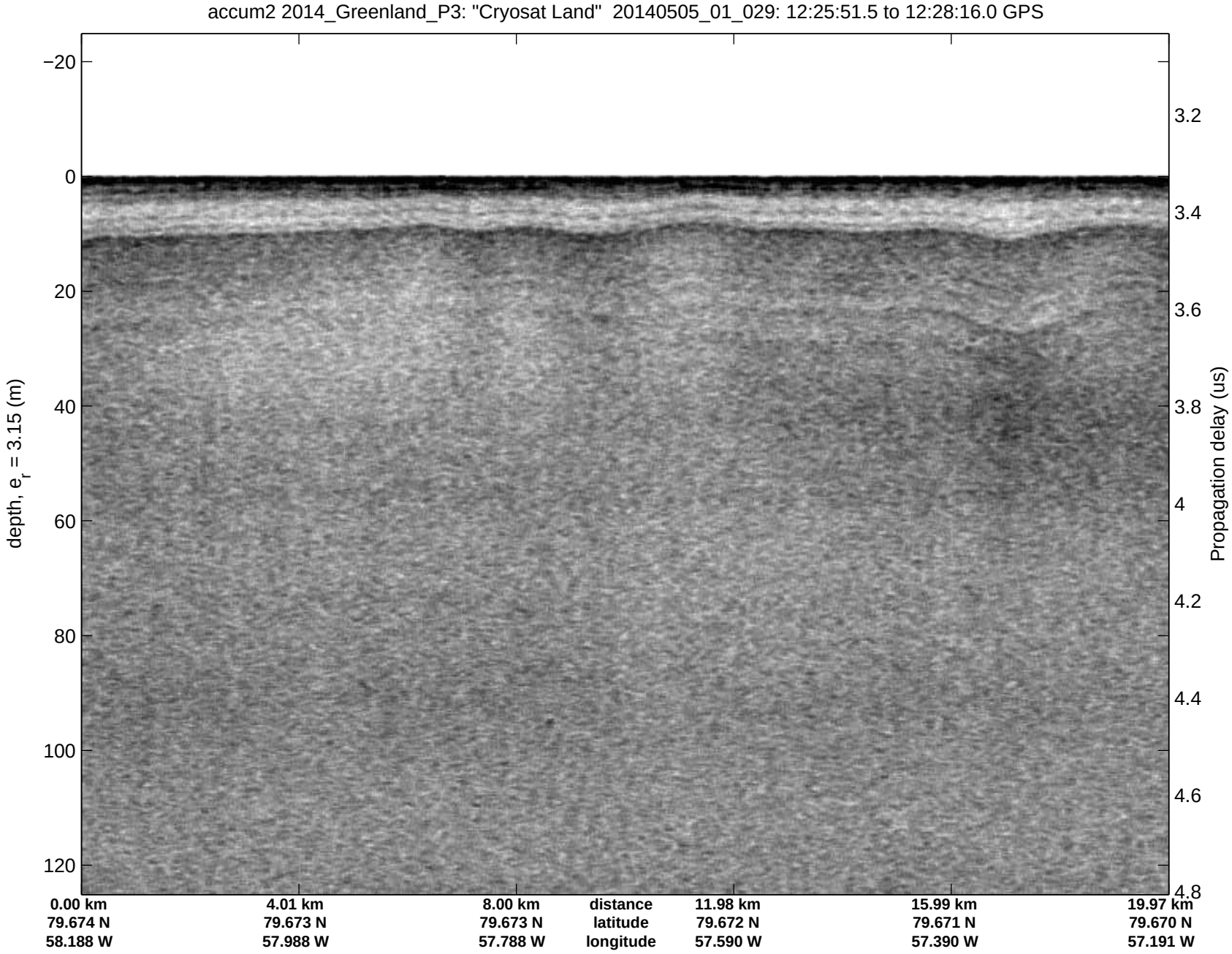

accum2 2014_Greenland_P3: "Cryosat Land" 20140505_01_028: 12:23:23.5 to 12:25:51.3 GPS
depth, e_r = 3.15 (m)
−20
0
20
40
60
80
100
120
Propagation delay (us)
3.2
3.4
3.6
3.8
4
4.2
4.4
4.6
0.00 km
79.689 N
59.171 W
4.01 km
79.678 N
58.980 W
8.00 km
79.671 N
58.786 W
distance
latitude
longitude
12.00 km
79.675 N
58.587 W
16.00 km
79.675 N
58.387 W
19.98 km
79.674 N
58.189 W

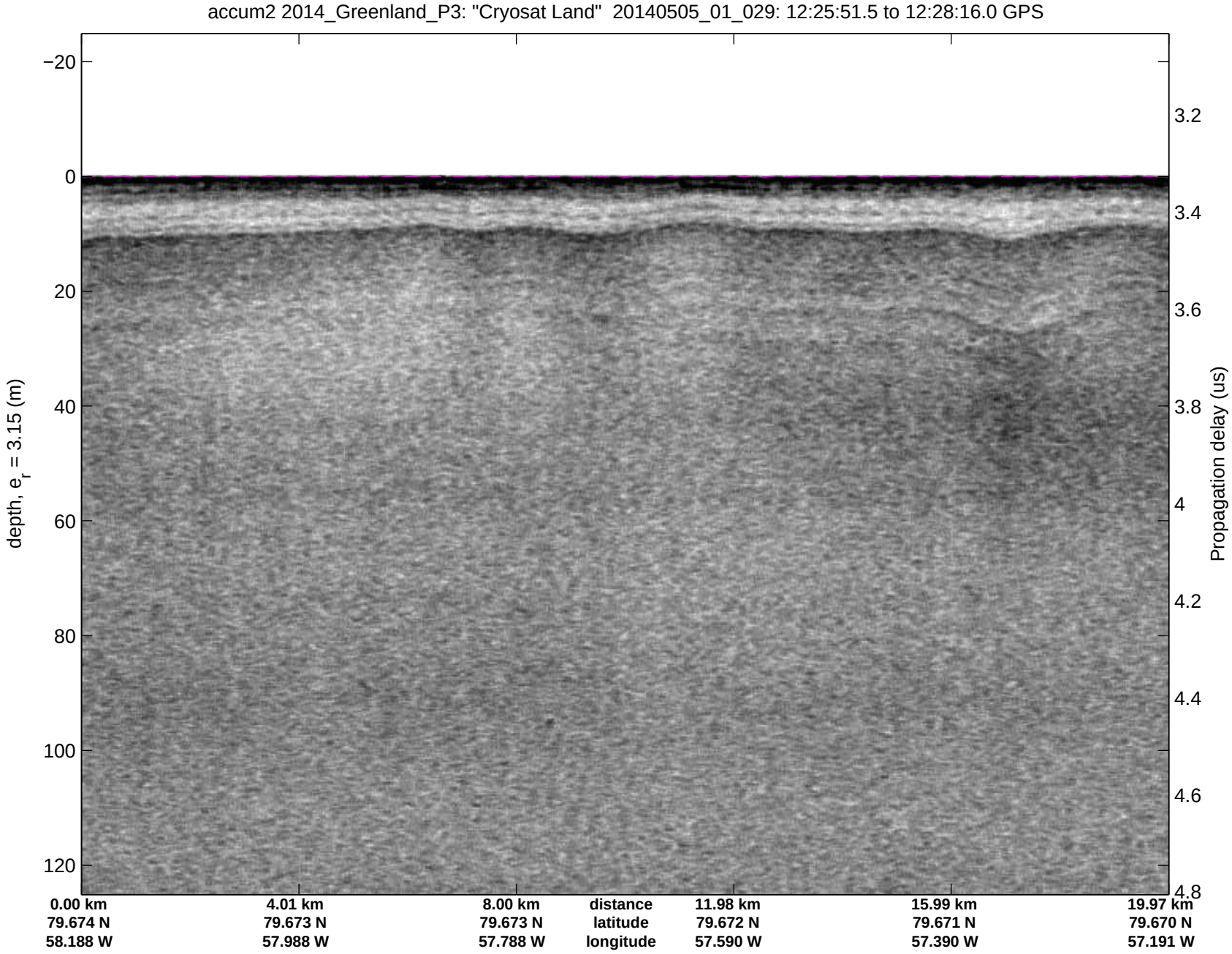

accum2 2014_Greenland_P3: "Cryosat Land" 20140505_01_028: 12:23:23.5 to 12:25:51.3 GPS
depth, e_r = 3.15 (m)
−20
0
20
40
60
80
100
120
Propagation delay (us)
3.2
3.4
3.6
3.8
4
4.2
4.4
4.6
0.00 km
79.689 N
59.171 W
4.01 km
79.678 N
58.980 W
8.00 km
79.671 N
58.786 W
distance
latitude
longitude
12.00 km
79.675 N
58.587 W
16.00 km
79.675 N
58.387 W
19.98 km
79.674 N
58.189 W

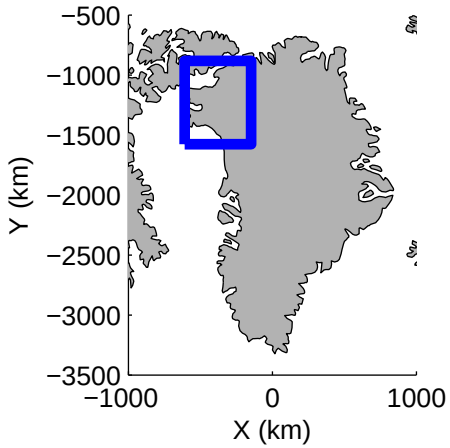

−500
−1000
−1500
−2000
−2500
−3000
−3500
Y (km)
−1000
0
1000
X (km)

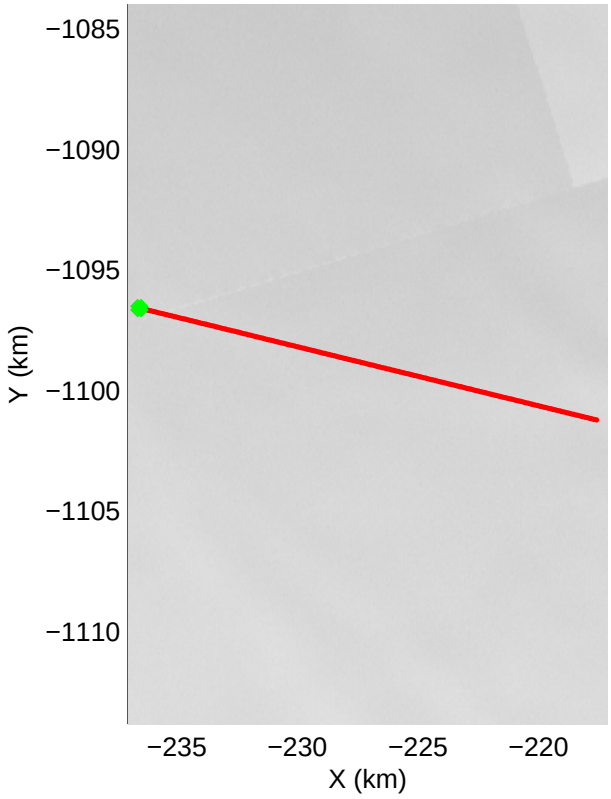

−1080
−1085
−1090
−1095
−1100
−1105
Y (km)
−255
−250
−245
−240
X (km)

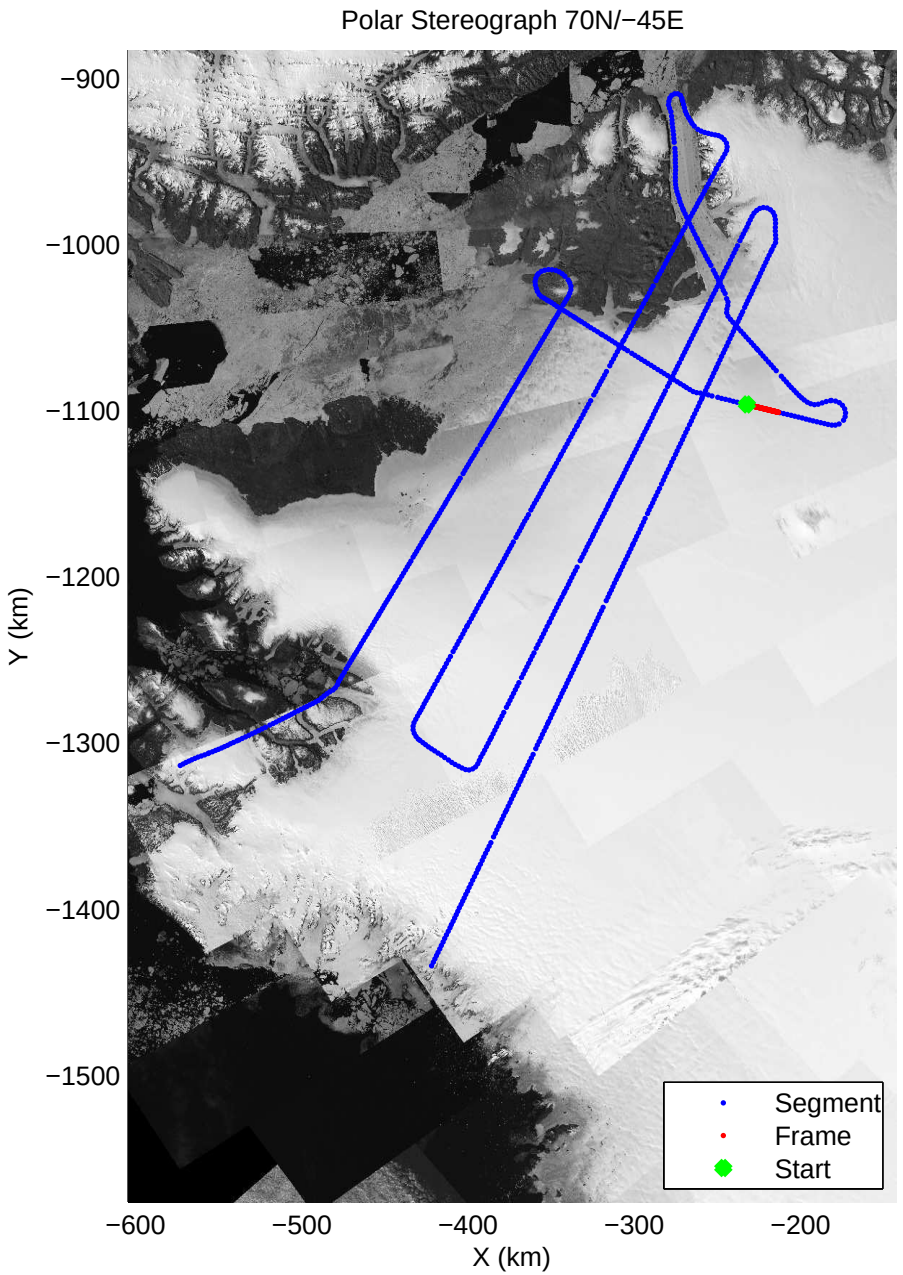

Polar Stereograph 70N/−45E
−900
−1000
−1100
−1200
−1300
−1400
−1500
Y (km)
−600
−500
−400
−300
−200
X (km)
Segment
Frame
Start

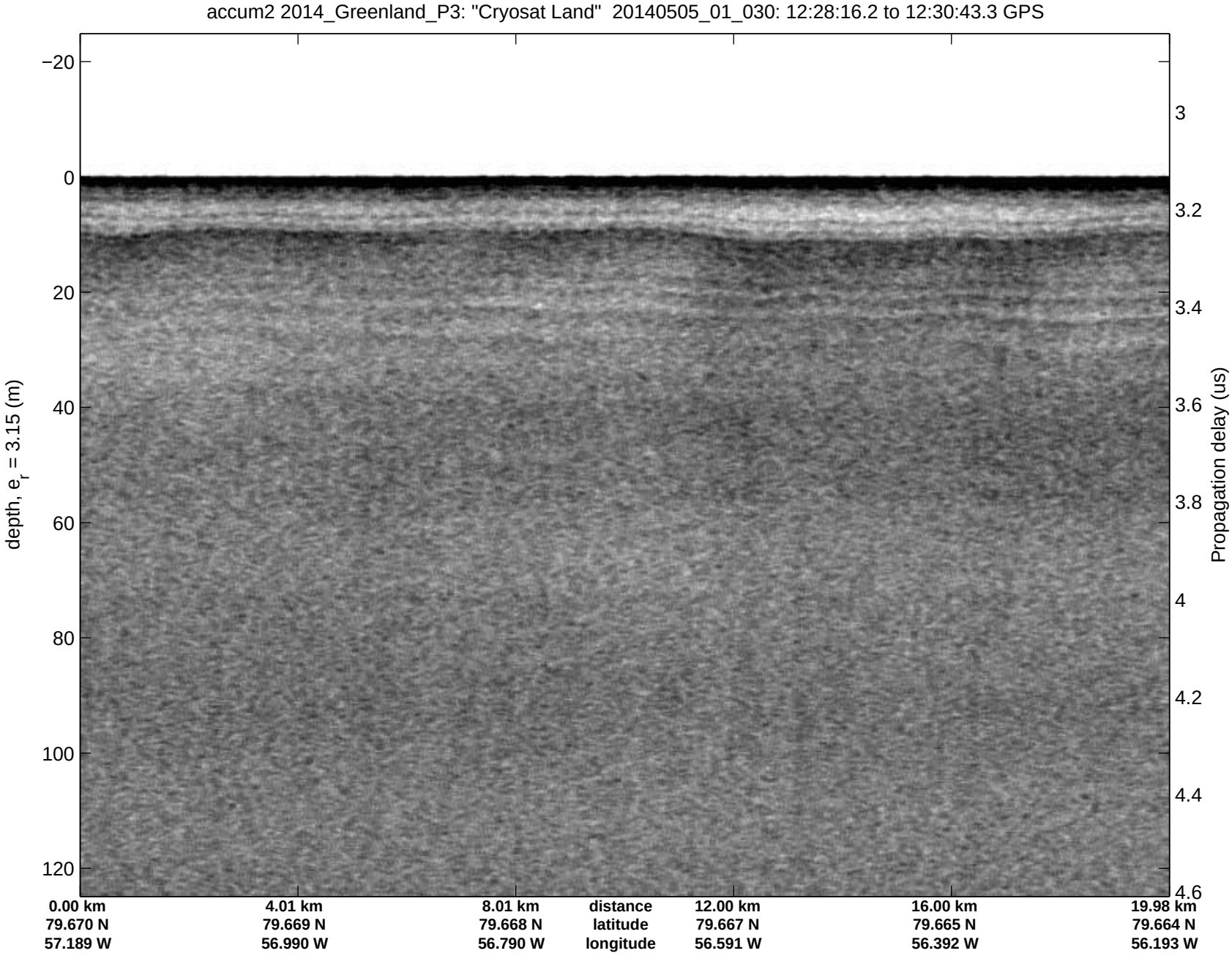

accum2 2014_Greenland_P3: "Cryosat Land" 20140505_01_029: 12:25:51.5 to 12:28:16.0 GPS
depth, e_r = 3.15 (m)
−20
0
20
40
60
80
100
120
Propagation delay (us)
3.2
3.4
3.6
3.8
4
4.2
4.4
4.6
4.8
0.00 km
79.674 N
58.188 W
4.01 km
79.673 N
57.988 W
8.00 km
79.673 N
57.788 W
distance
latitude
longitude
11.98 km
79.672 N
57.590 W
15.99 km
79.671 N
57.390 W
19.97 km
79.670 N
57.191 W

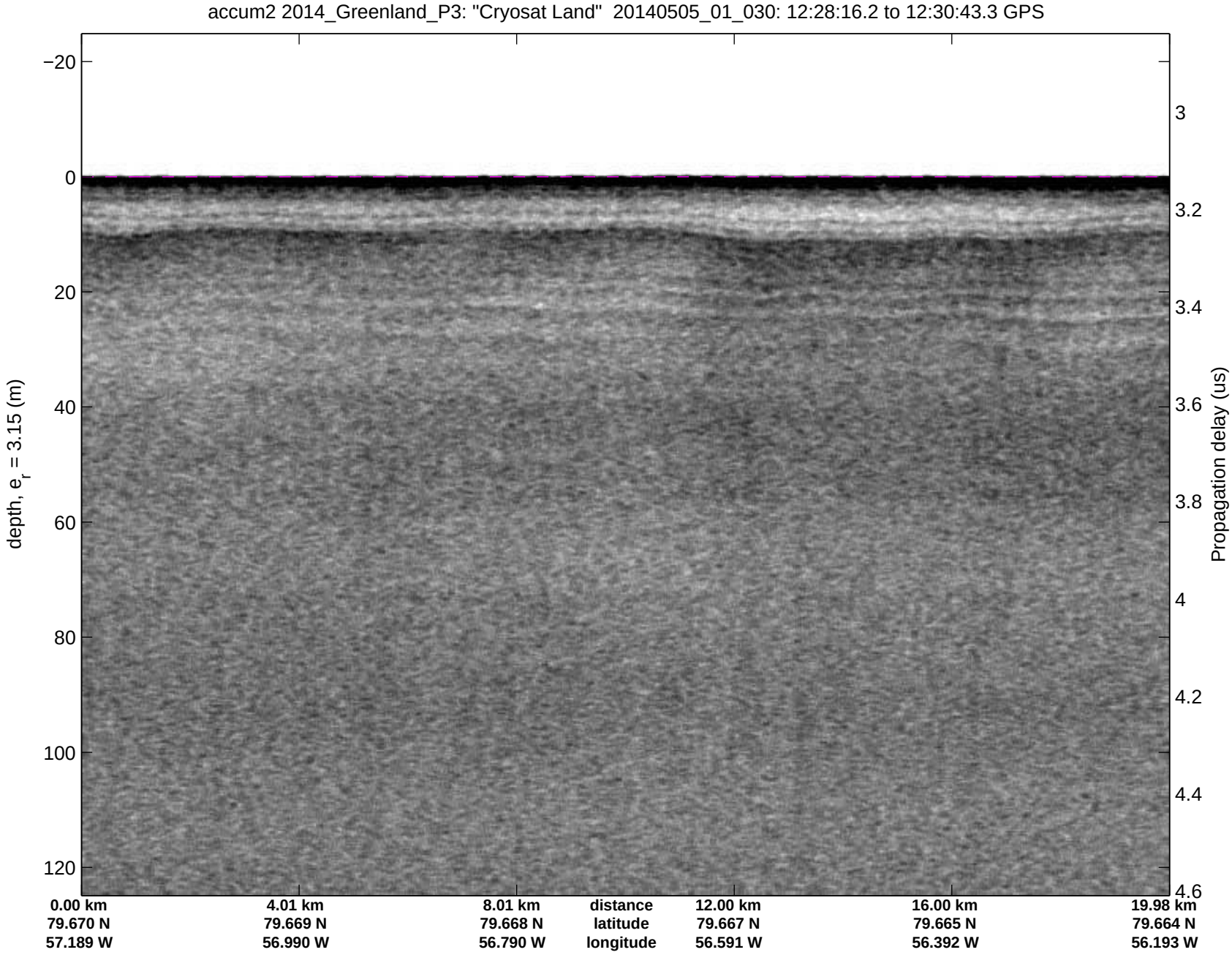

accum2 2014_Greenland_P3: "Cryosat Land" 20140505_01_029: 12:25:51.5 to 12:28:16.0 GPS
depth, e_r = 3.15 (m)
−20
0
20
40
60
80
100
120
Propagation delay (us)
3.2
3.4
3.6
3.8
4
4.2
4.4
4.6
4.8
0.00 km
79.674 N
58.188 W
4.01 km
79.673 N
57.988 W
8.00 km
79.673 N
57.788 W
distance
latitude
longitude
11.98 km
79.672 N
57.590 W
15.99 km
79.671 N
57.390 W
19.97 km
79.670 N
57.191 W

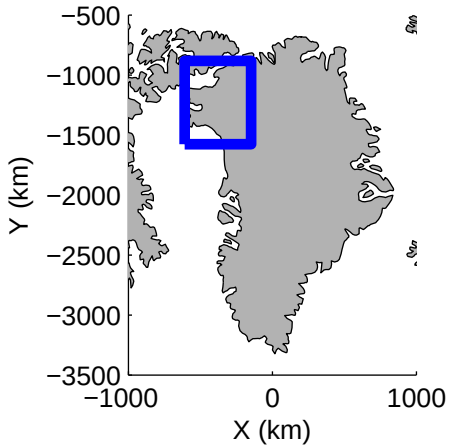

−500
−1000
−1500
−2000
−2500
−3000
−3500
Y (km)
−1000
0
1000
X (km)


−1085
−1090
−1095
−1100
−1105
−1110
Y (km)
−235
−230
−225
−220
X (km)

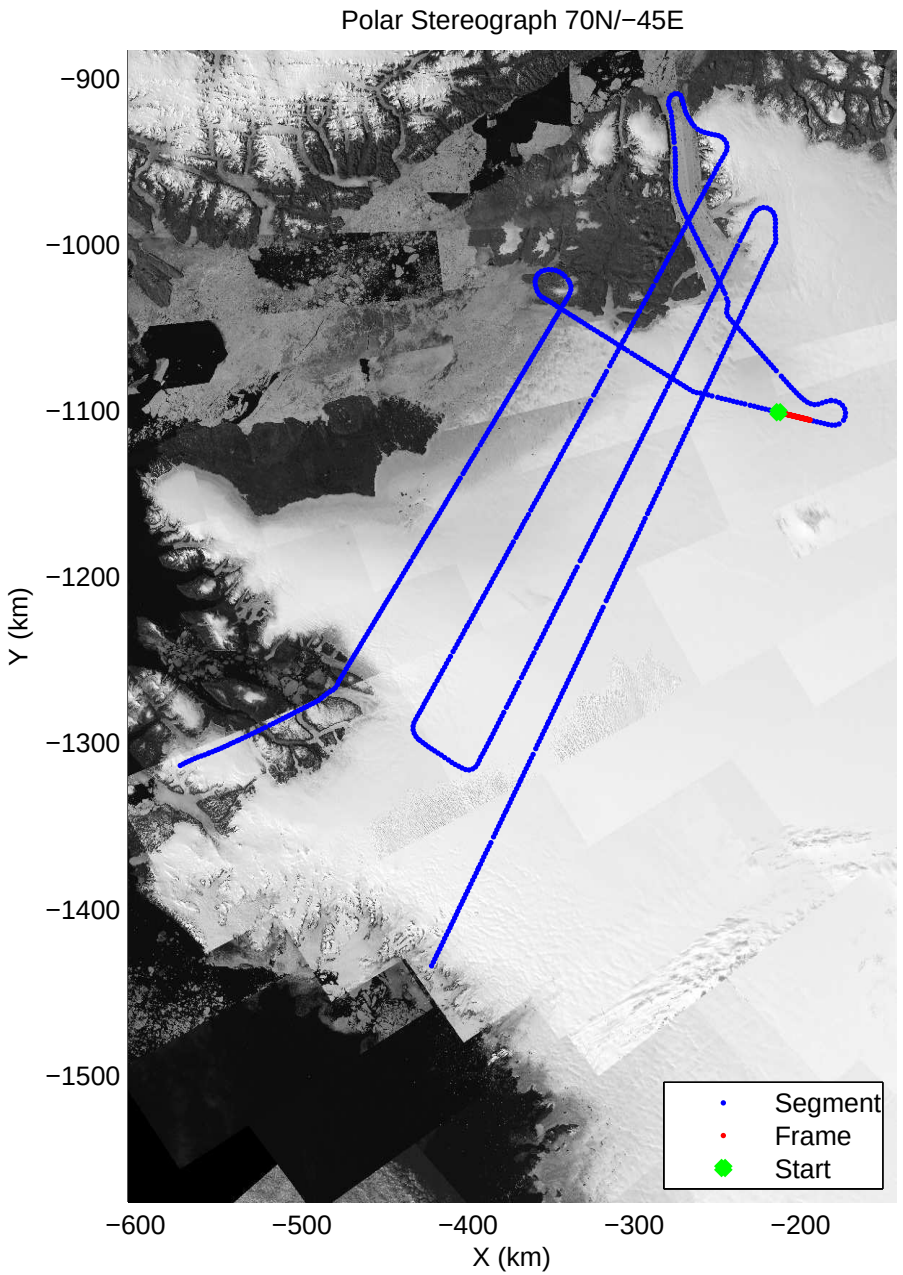

Polar Stereograph 70N/−45E
−900
−1000
−1100
−1200
−1300
−1400
−1500
Y (km)
−600
−500
−400
−300
−200
X (km)
Segment
Frame
Start

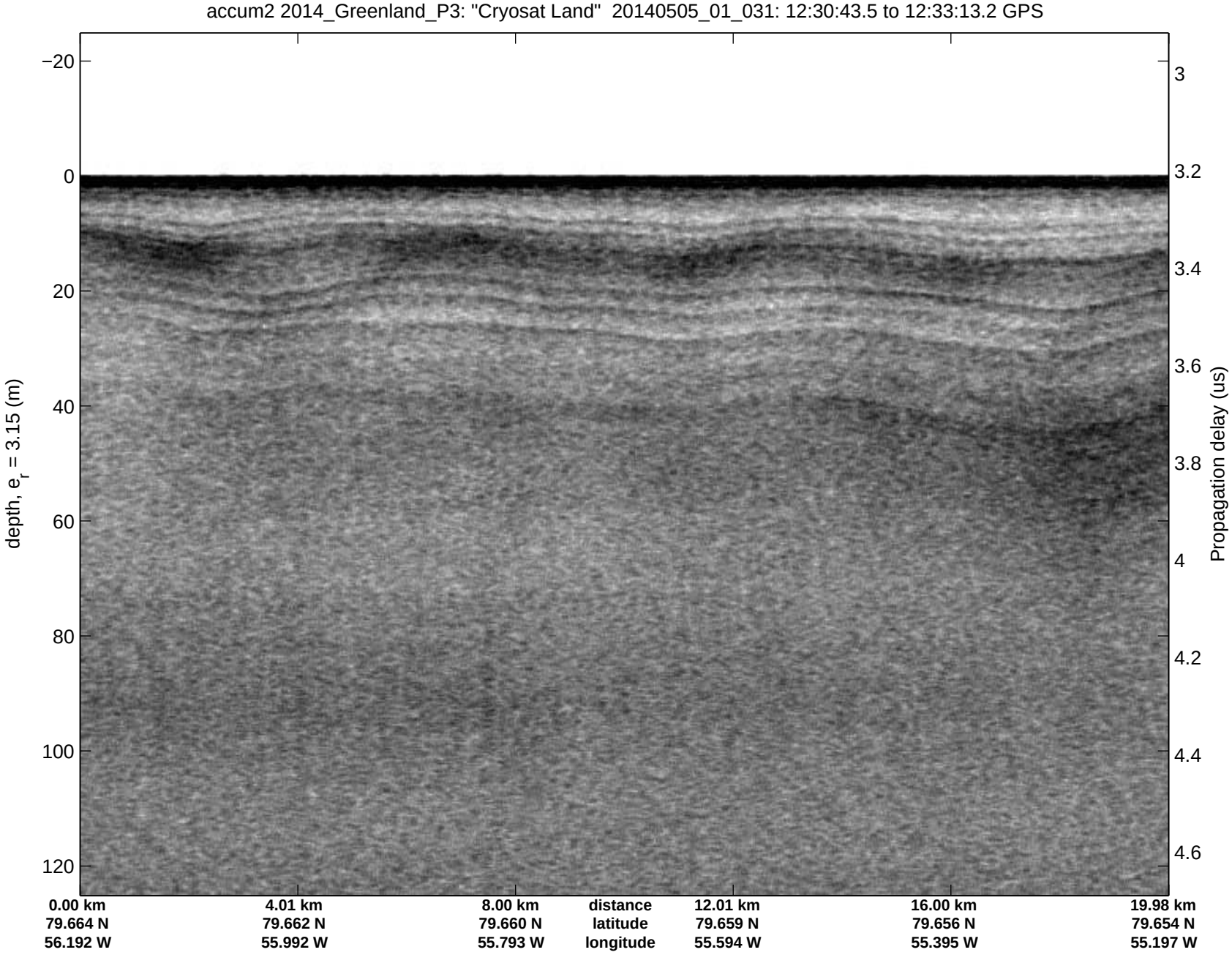

accum2 2014_Greenland_P3: "Cryosat Land" 20140505_01_030: 12:28:16.2 to 12:30:43.3 GPS
depth, e_r = 3.15 (m)
−20
0
20
40
60
80
100
120
Propagation delay (us)
3
3.2
3.4
3.6
3.8
4
4.2
4.4
4.6
0.00 km
79.670 N
57.189 W
4.01 km
79.669 N
56.990 W
8.01 km
79.668 N
56.790 W
distance
latitude
longitude
12.00 km
79.667 N
56.591 W
16.00 km
79.665 N
56.392 W
19.98 km
79.664 N
56.193 W

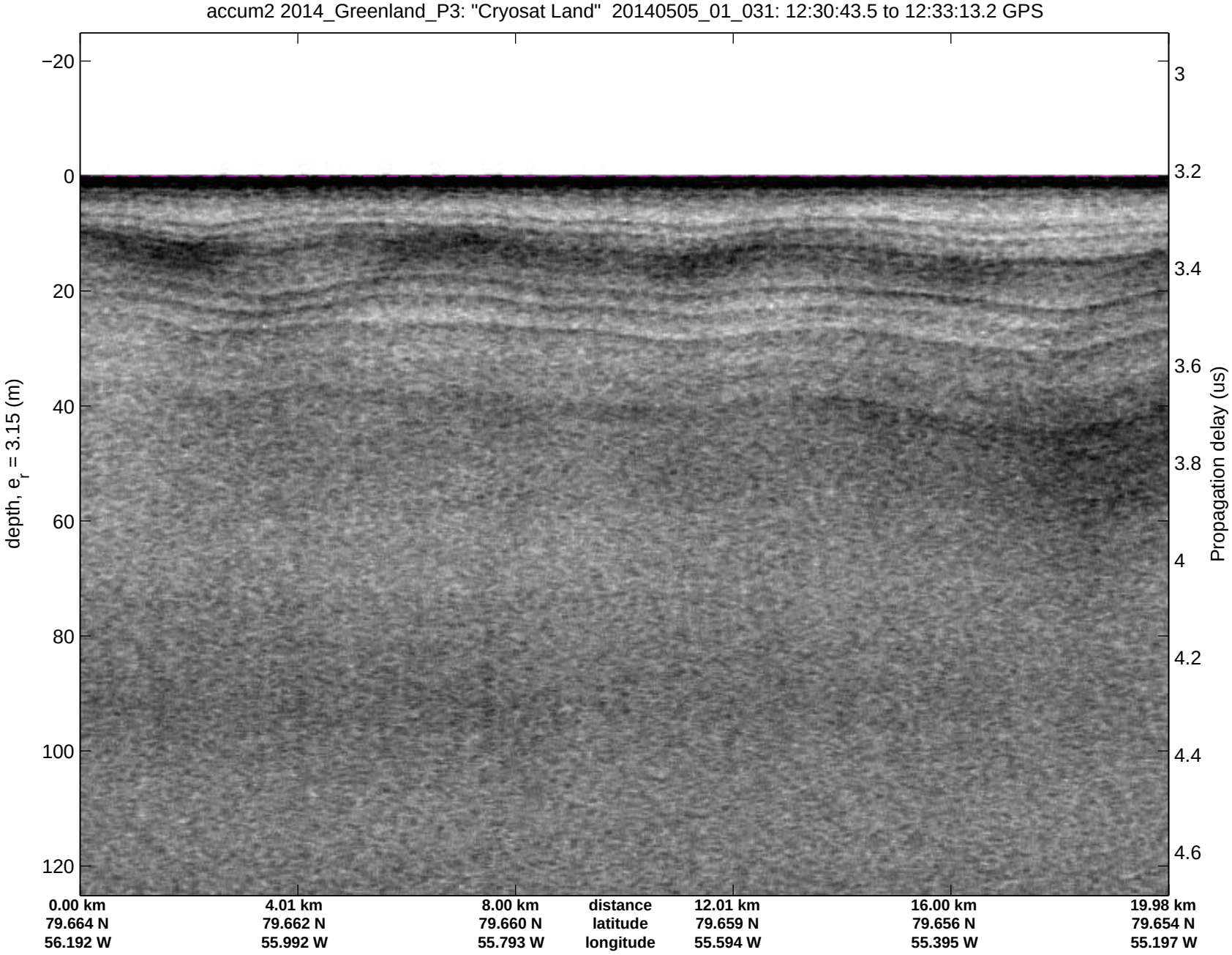

accum2 2014_Greenland_P3: "Cryosat Land" 20140505_01_030: 12:28:16.2 to 12:30:43.3 GPS
depth, e_r = 3.15 (m)
−20
0
20
40
60
80
100
120
Propagation delay (us)
3
3.2
3.4
3.6
3.8
4
4.2
4.4
4.6
0.00 km
79.670 N
57.189 W
4.01 km
79.669 N
56.990 W
8.01 km
79.668 N
56.790 W
distance
latitude
longitude
12.00 km
79.667 N
56.591 W
16.00 km
79.665 N
56.392 W
19.98 km
79.664 N
56.193 W

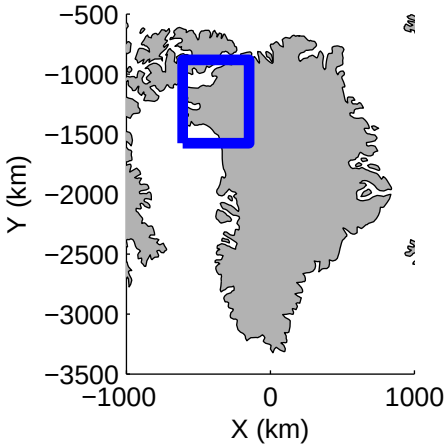

−500
−1000
−1500
−2000
−2500
−3000
−3500
Y (km)
−1000
0
1000
X (km)

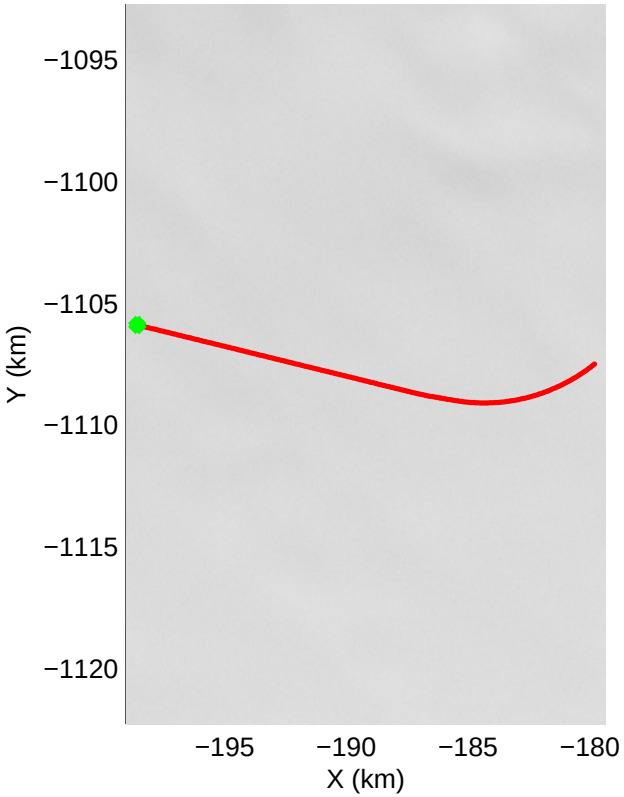

−1090
−1095
−1100
−1105
−1110
−1115
Y (km)
−215
−210
−205
−200
X (km)

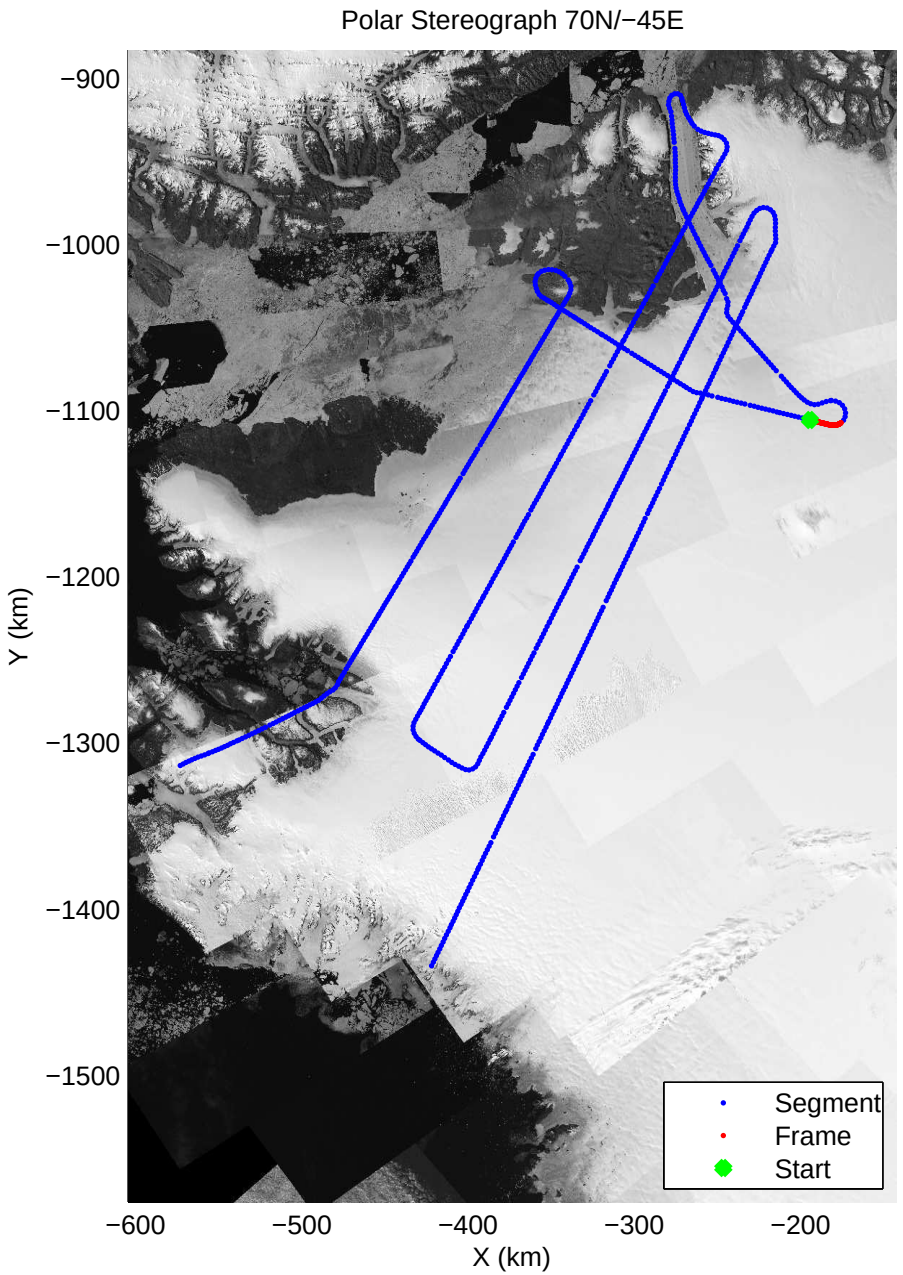

Polar Stereograph 70N/−45E
−900
−1000
−1100
−1200
−1300
−1400
−1500
Y (km)
−600
−500
−400
−300
−200
X (km)
Segment
Frame
Start

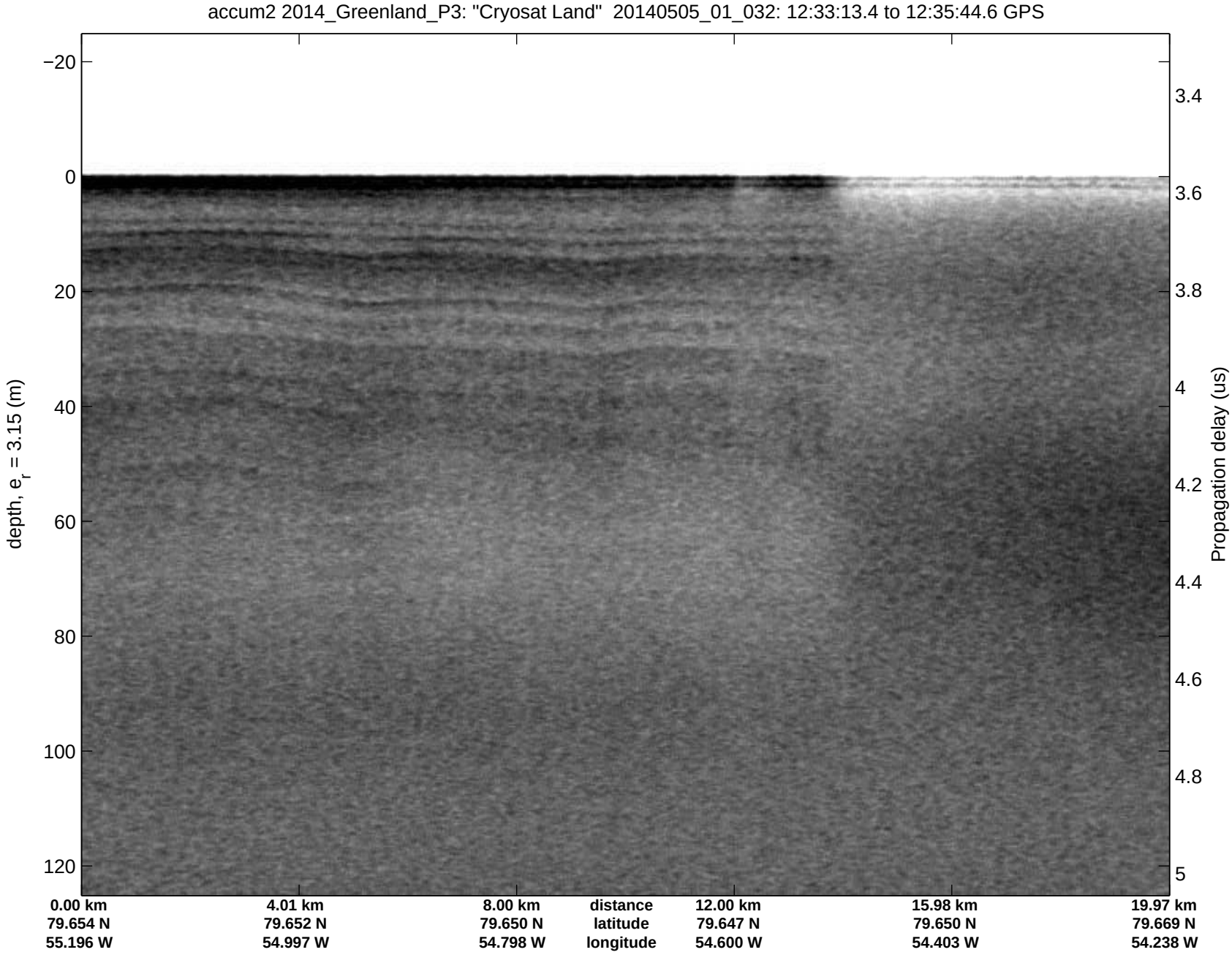

accum2 2014_Greenland_P3: "Cryosat Land" 20140505_01_031: 12:30:43.5 to 12:33:13.2 GPS
depth, e_r = 3.15 (m)
−20
0
20
40
60
80
100
120
Propagation delay (us)
3
3.2
3.4
3.6
3.8
4
4.2
4.4
4.6
0.00 km
79.664 N
56.192 W
4.01 km
79.662 N
55.992 W
8.00 km
79.660 N
55.793 W
distance
latitude
longitude
12.01 km
79.659 N
55.594 W
16.00 km
79.656 N
55.395 W
19.98 km
79.654 N
55.197 W

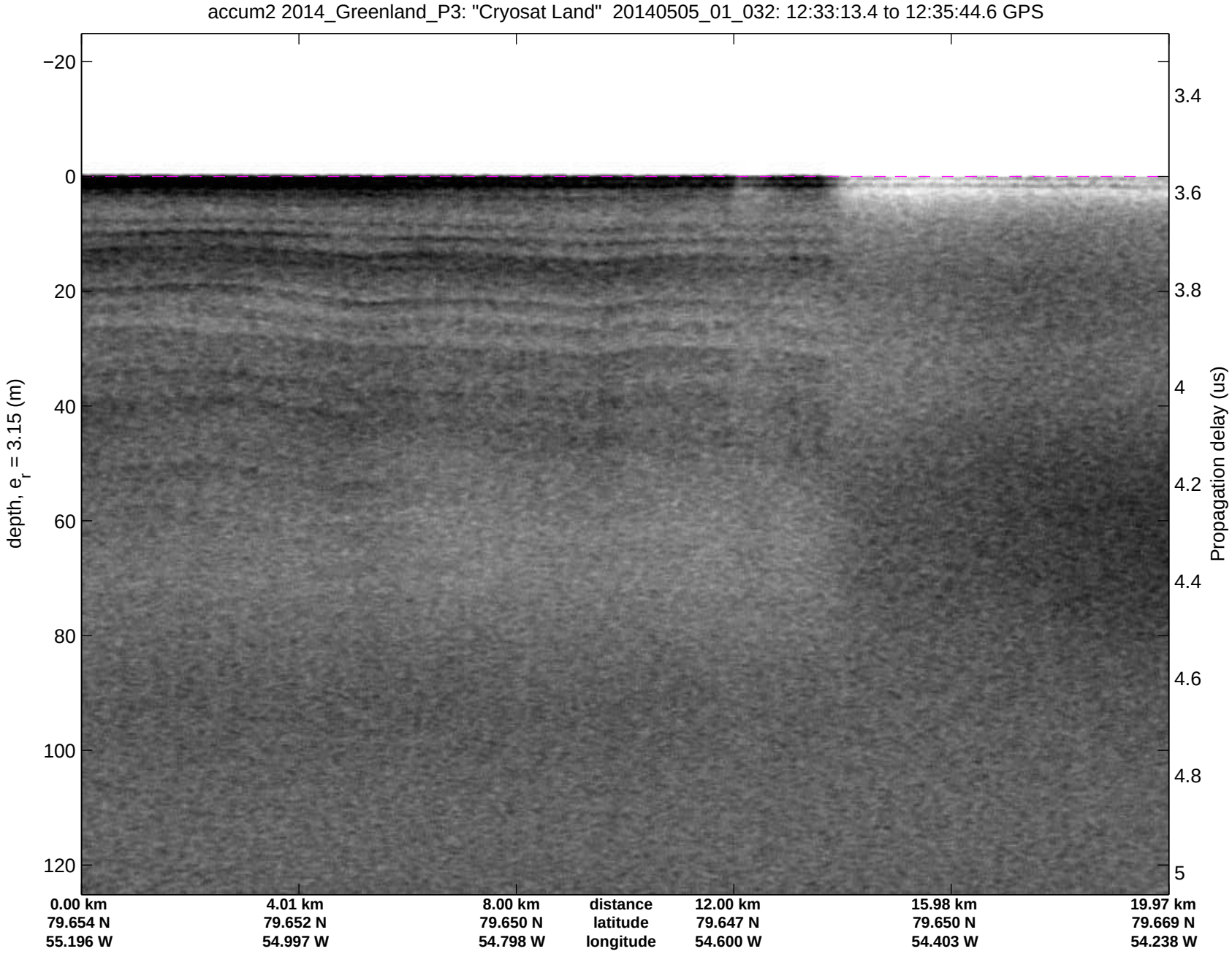

accum2 2014_Greenland_P3: "Cryosat Land" 20140505_01_031: 12:30:43.5 to 12:33:13.2 GPS
depth, e_r = 3.15 (m)
−20
0
20
40
60
80
100
120
Propagation delay (us)
3
3.2
3.4
3.6
3.8
4
4.2
4.4
4.6
0.00 km
79.664 N
56.192 W
4.01 km
79.662 N
55.992 W
8.00 km
79.660 N
55.793 W
distance
latitude
longitude
12.01 km
79.659 N
55.594 W
16.00 km
79.656 N
55.395 W
19.98 km
79.654 N
55.197 W

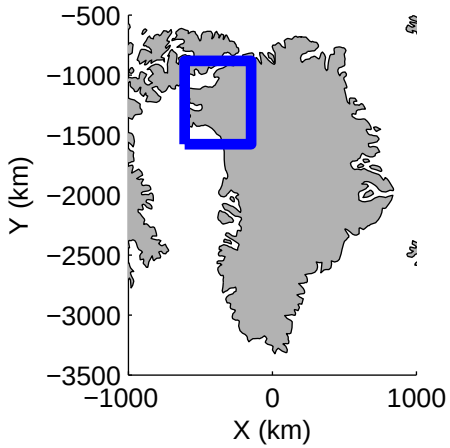

−500
−1000
−1500
−2000
−2500
−3000
−3500
Y (km)
−1000
0
1000
X (km)

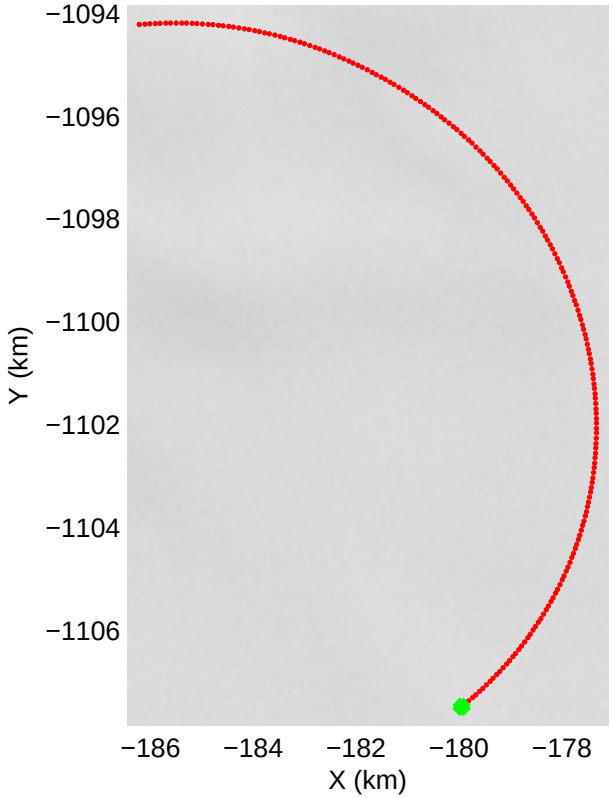

−1095
−1100
−1105
−1110
−1115
−1120
Y (km)
−195
−190
−185
−180
X (km)

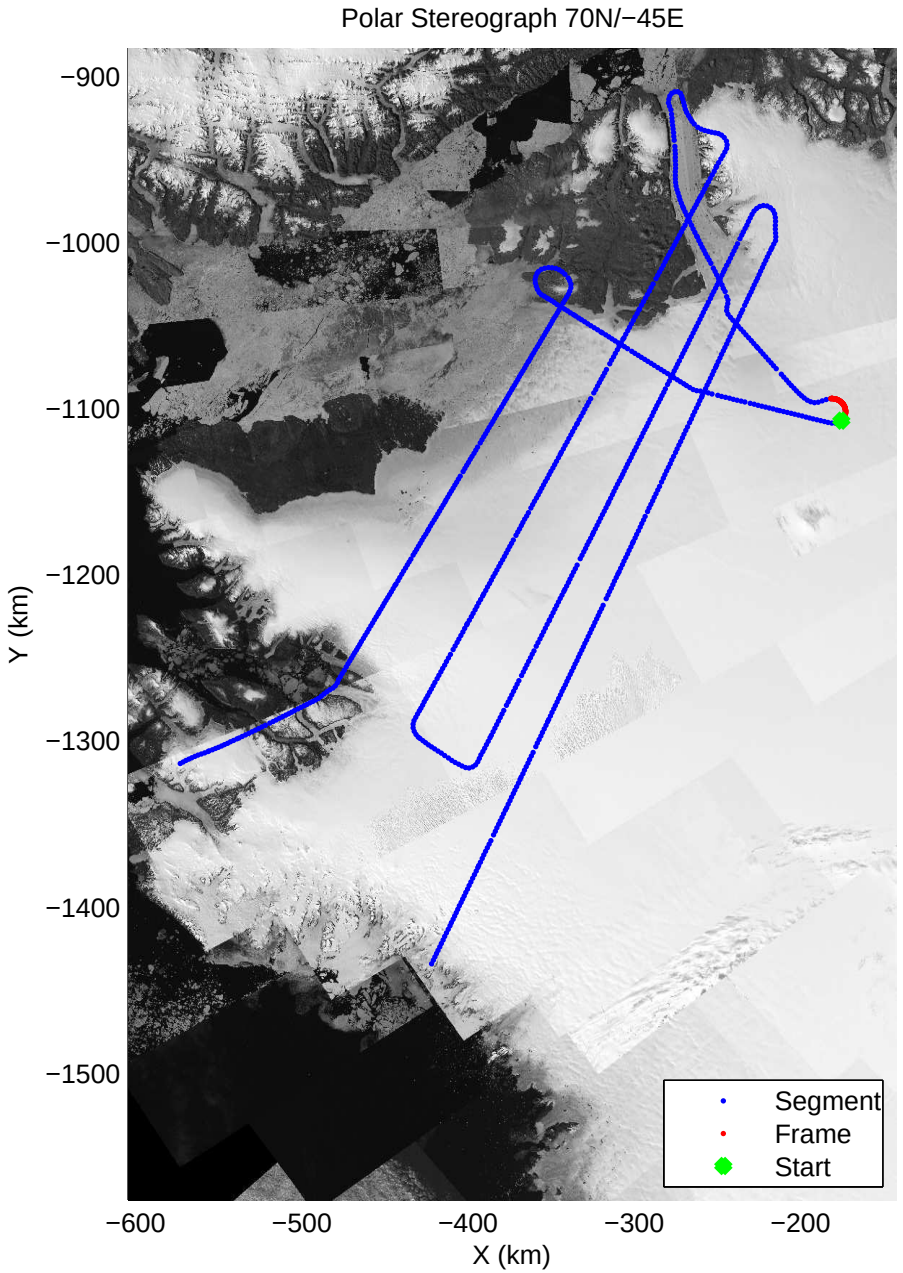

Polar Stereograph 70N/−45E
−900
−1000
−1100
−1200
−1300
−1400
−1500
Y (km)
−600
−500
−400
−300
−200
X (km)
Segment
Frame
Start

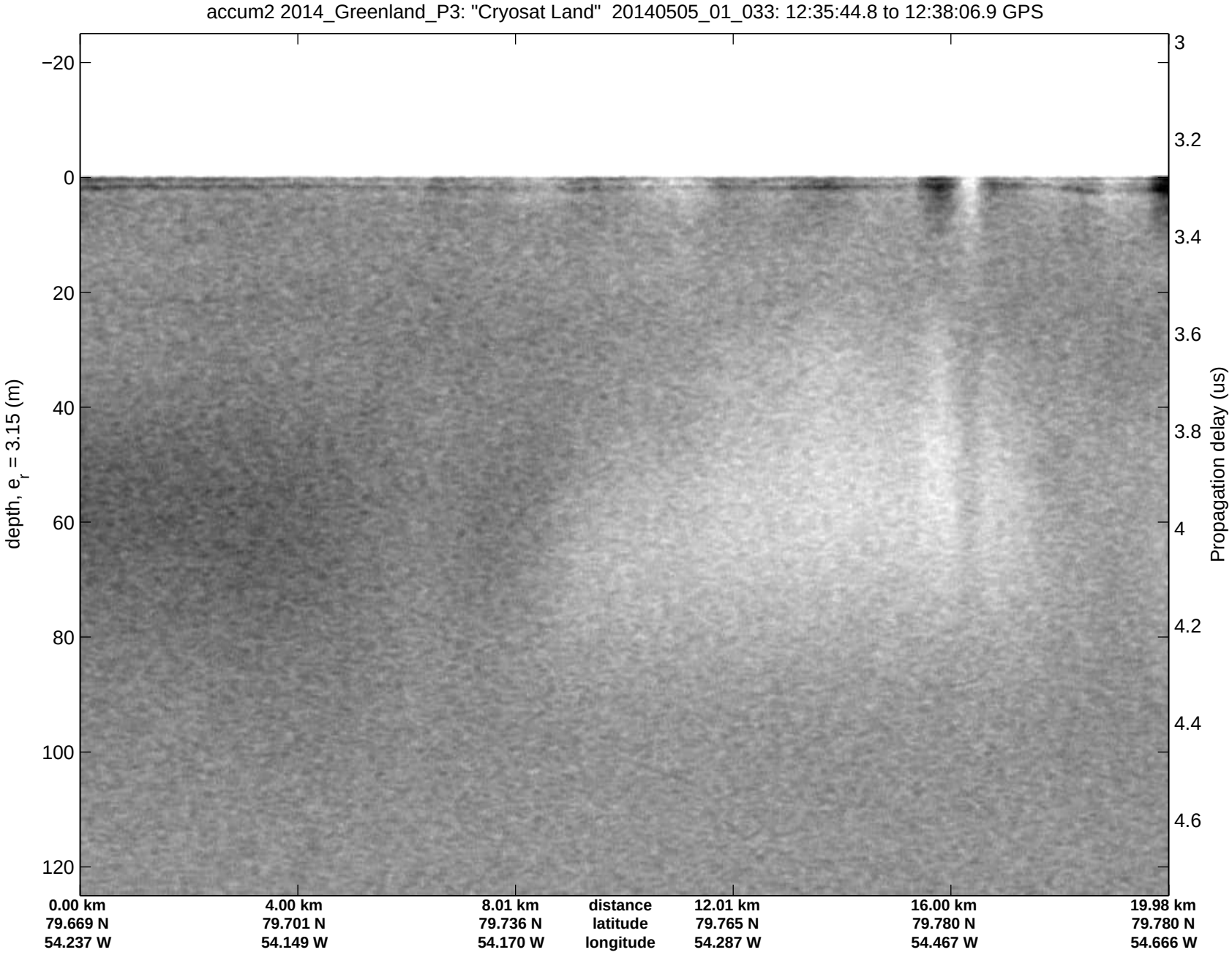

accum2 2014_Greenland_P3: "Cryosat Land" 20140505_01_032: 12:33:13.4 to 12:35:44.6 GPS
depth, e_r = 3.15 (m)
−20
0
20
40
60
80
100
120
Propagation delay (us)
3.4
3.6
3.8
4
4.2
4.4
4.6
4.8
5
0.00 km
79.654 N
55.196 W
4.01 km
79.652 N
54.997 W
8.00 km
79.650 N
54.798 W
distance
latitude
longitude
12.00 km
79.647 N
54.600 W
15.98 km
79.650 N
54.403 W
19.97 km
79.669 N
54.238 W

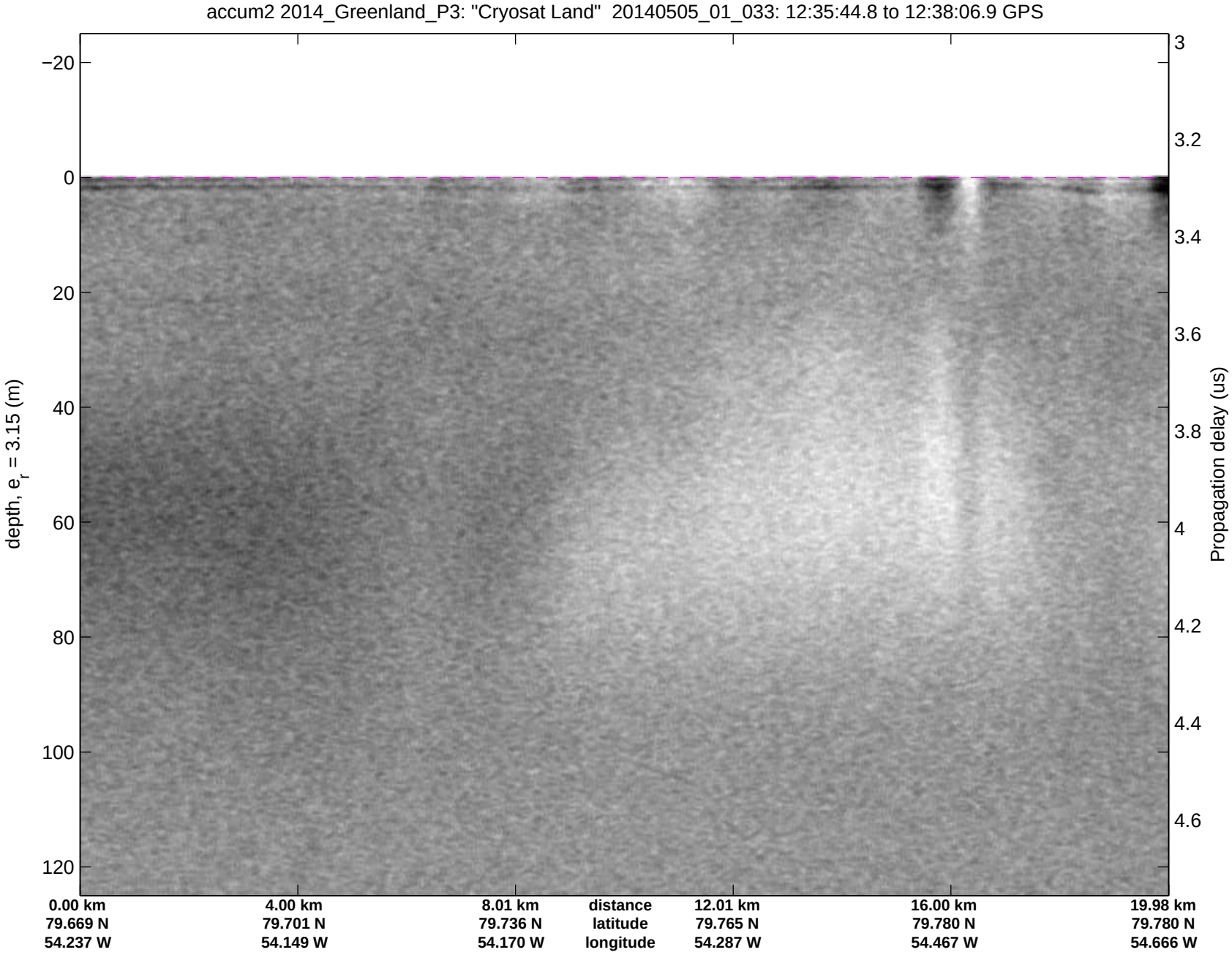

accum2 2014_Greenland_P3: "Cryosat Land" 20140505_01_032: 12:33:13.4 to 12:35:44.6 GPS
depth, e_r = 3.15 (m)
−20
0
20
40
60
80
100
120
Propagation delay (us)
3.4
3.6
3.8
4
4.2
4.4
4.6
4.8
5
0.00 km
79.654 N
55.196 W
4.01 km
79.652 N
54.997 W
8.00 km
79.650 N
54.798 W
distance
latitude
longitude
12.00 km
79.647 N
54.600 W
15.98 km
79.650 N
54.403 W
19.97 km
79.669 N
54.238 W

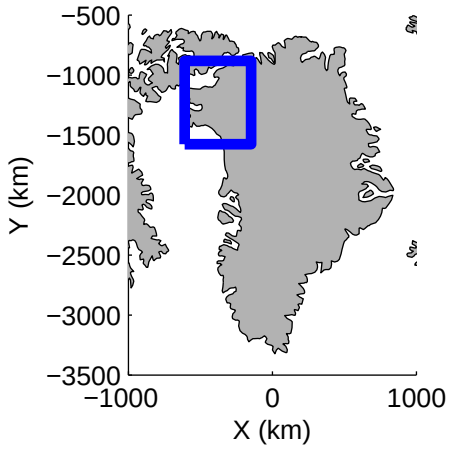

−500
−1000
−1500
−2000
−2500
−3000
−3500
Y (km)
−1000
0
1000
X (km)

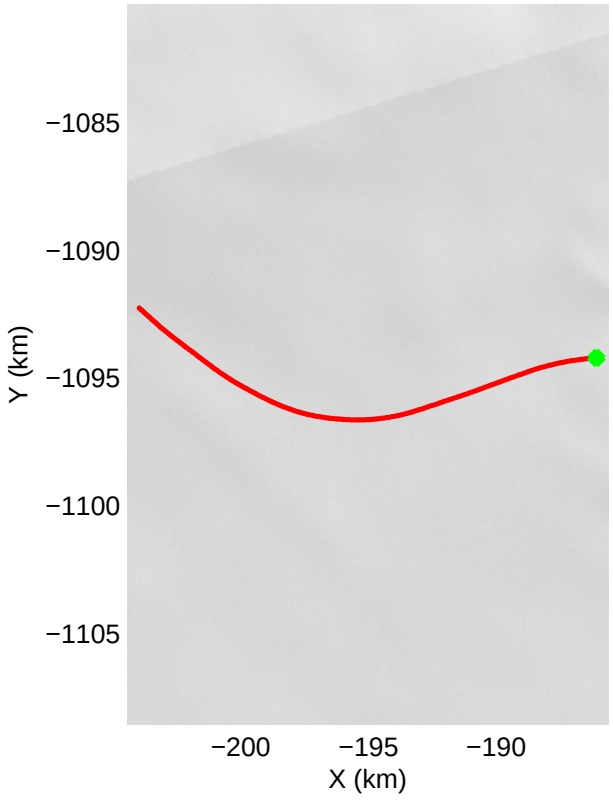

−1094
−1096
−1098
−1100
−1102
−1104
−1106
Y (km)
−186
−184
−182
−180
−178
X (km)

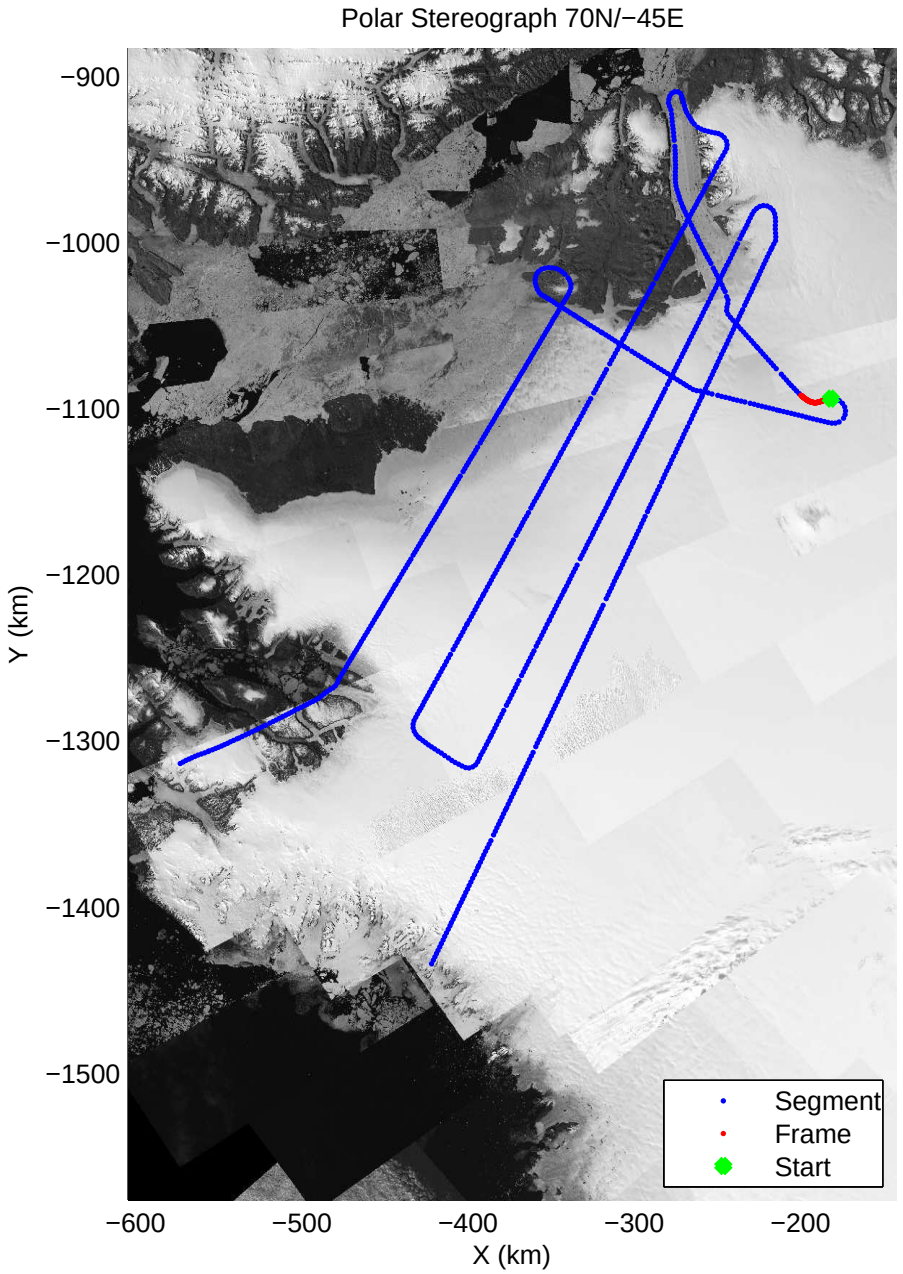

Polar Stereograph 70N/−45E
−900
−1000
−1100
−1200
−1300
−1400
−1500
Y (km)
−600
−500
−400
−300
−200
X (km)
Segment
Frame
Start

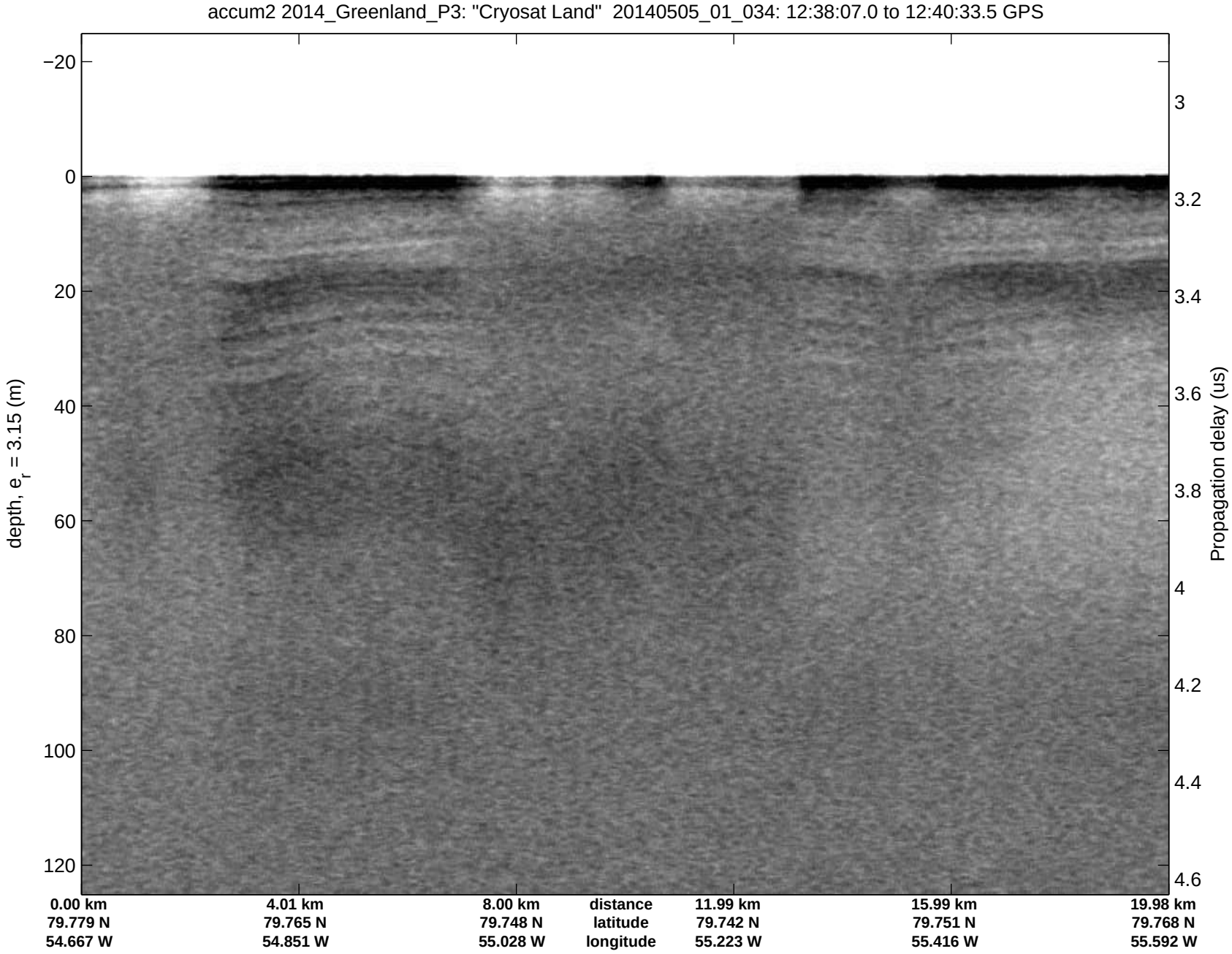

accum2 2014_Greenland_P3: "Cryosat Land" 20140505_01_033: 12:35:44.8 to 12:38:06.9 GPS
depth, e_r = 3.15 (m)
−20
0
20
40
60
80
100
120
Propagation delay (us)
3
3.2
3.4
3.6
3.8
4
4.2
4.4
4.6
0.00 km
79.669 N
54.237 W
4.00 km
79.701 N
54.149 W
8.01 km
79.736 N
54.170 W
distance
latitude
longitude
12.01 km
79.765 N
54.287 W
16.00 km
79.780 N
54.467 W
19.98 km
79.780 N
54.666 W

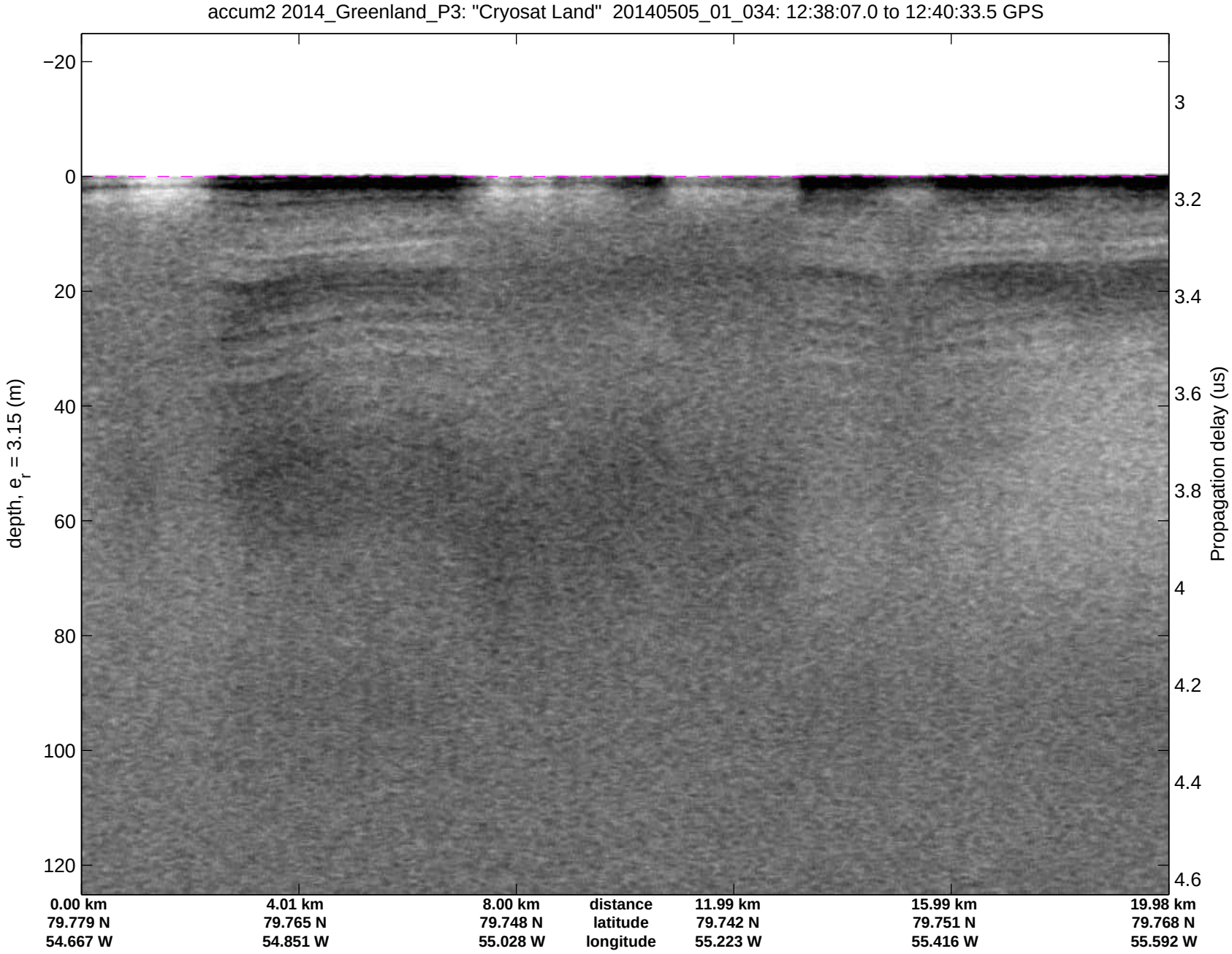

accum2 2014_Greenland_P3: "Cryosat Land" 20140505_01_033: 12:35:44.8 to 12:38:06.9 GPS
depth, e_r = 3.15 (m)
−20
0
20
40
60
80
100
120
Propagation delay (us)
3
3.2
3.4
3.6
3.8
4
4.2
4.4
4.6
0.00 km
79.669 N
54.237 W
4.00 km
79.701 N
54.149 W
8.01 km
79.736 N
54.170 W
distance
latitude
longitude
12.01 km
79.765 N
54.287 W
16.00 km
79.780 N
54.467 W
19.98 km
79.780 N
54.666 W

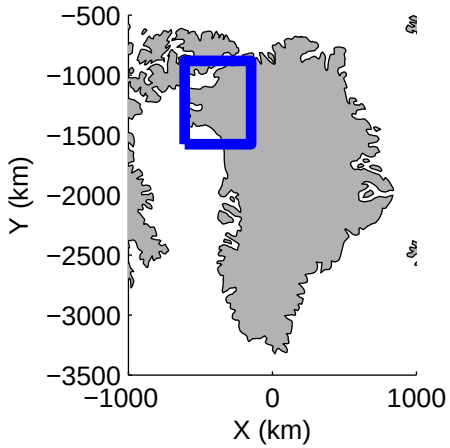

−500
−1000
−1500
−2000
−2500
−3000
−3500
Y (km)
−1000
0
1000
X (km)

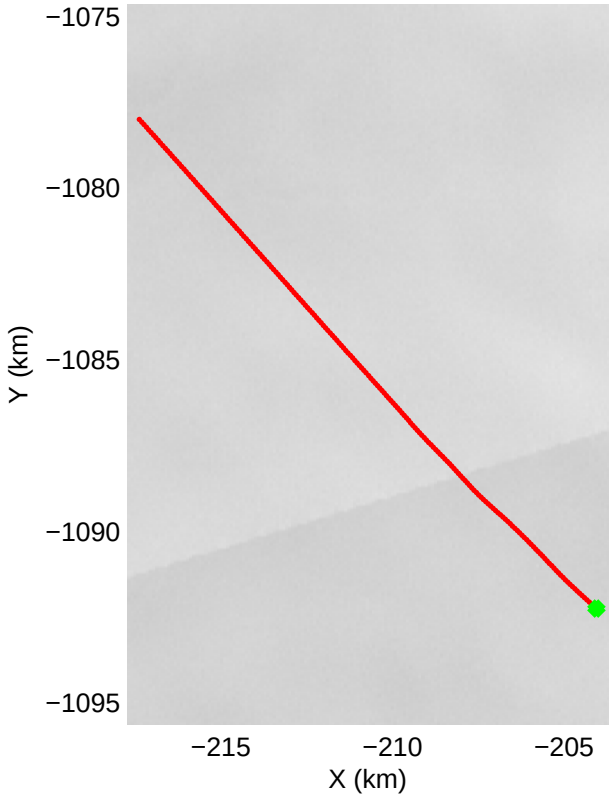

−1085
−1090
−1095
−1100
−1105
Y (km)
−200
−195
−190
X (km)

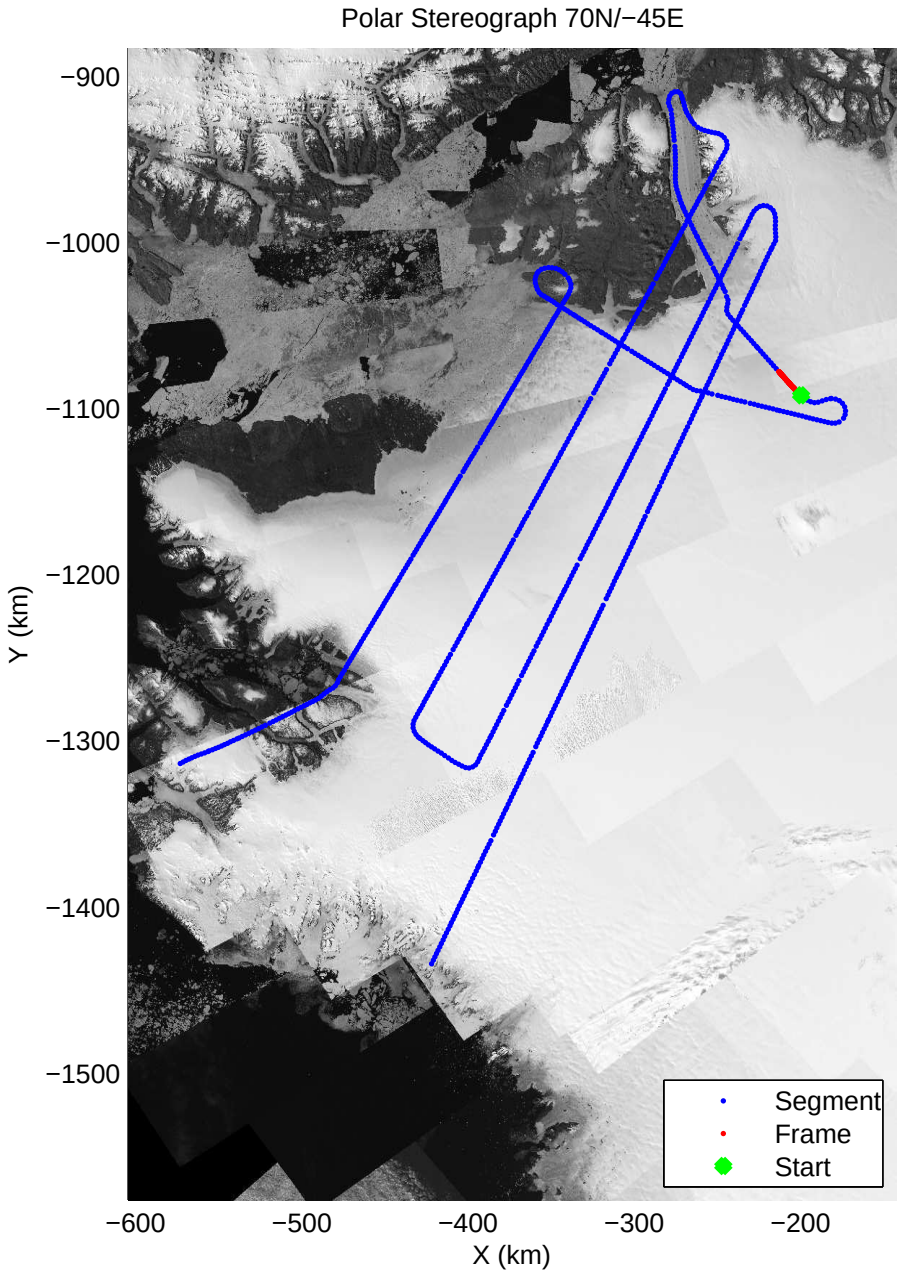

Polar Stereograph 70N/−45E
−900
−1000
−1100
−1200
−1300
−1400
−1500
Y (km)
−600
−500
−400
−300
−200
X (km)
Segment
Frame
Start


accum2 2014_Greenland_P3: "Cryosat Land" 20140505_01_034: 12:38:07.0 to 12:40:33.5 GPS
depth, e_r = 3.15 (m)
−20
0
20
40
60
80
100
120
Propagation delay (us)
3
3.2
3.4
3.6
3.8
4
4.2
4.4
4.6
0.00 km
79.779 N
54.667 W
4.01 km
79.765 N
54.851 W
8.00 km
79.748 N
55.028 W
distance
latitude
longitude
11.99 km
79.742 N
55.223 W
15.99 km
79.751 N
55.416 W
19.98 km
79.768 N
55.592 W


accum2 2014_Greenland_P3: "Cryosat Land" 20140505_01_034: 12:38:07.0 to 12:40:33.5 GPS
depth, e_r = 3.15 (m)
−20
0
20
40
60
80
100
120
Propagation delay (us)
3
3.2
3.4
3.6
3.8
4
4.2
4.4
4.6
0.00 km
79.779 N
54.667 W
4.01 km
79.765 N
54.851 W
8.00 km
79.748 N
55.028 W
distance
latitude
longitude
11.99 km
79.742 N
55.223 W
15.99 km
79.751 N
55.416 W
19.98 km
79.768 N
55.592 W

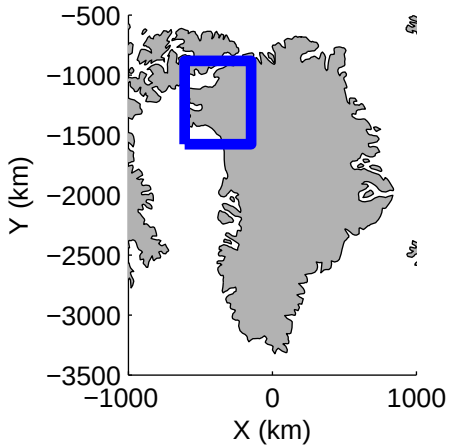

−500
−1000
−1500
−2000
−2500
−3000
−3500
Y (km)
−1000
0
1000
X (km)

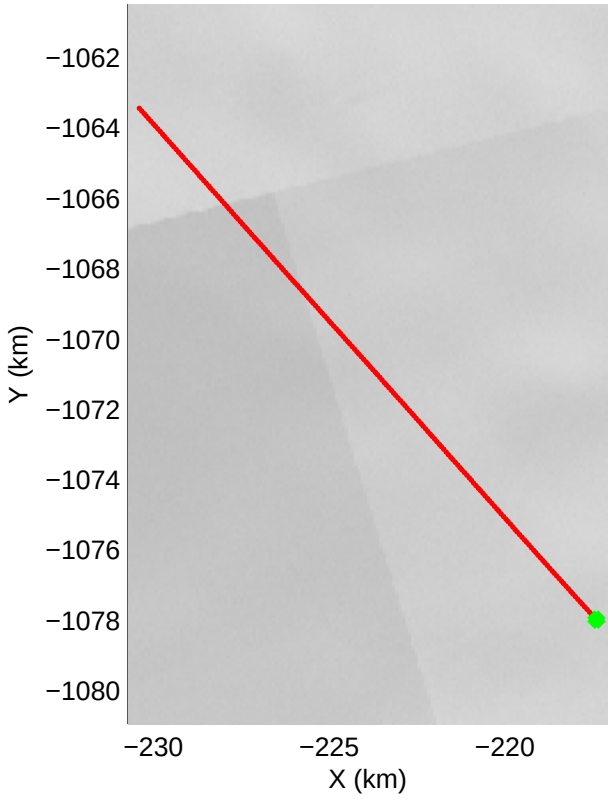

−1075
−1080
−1085
−1090
−1095
Y (km)
−215
−210
−205
X (km)

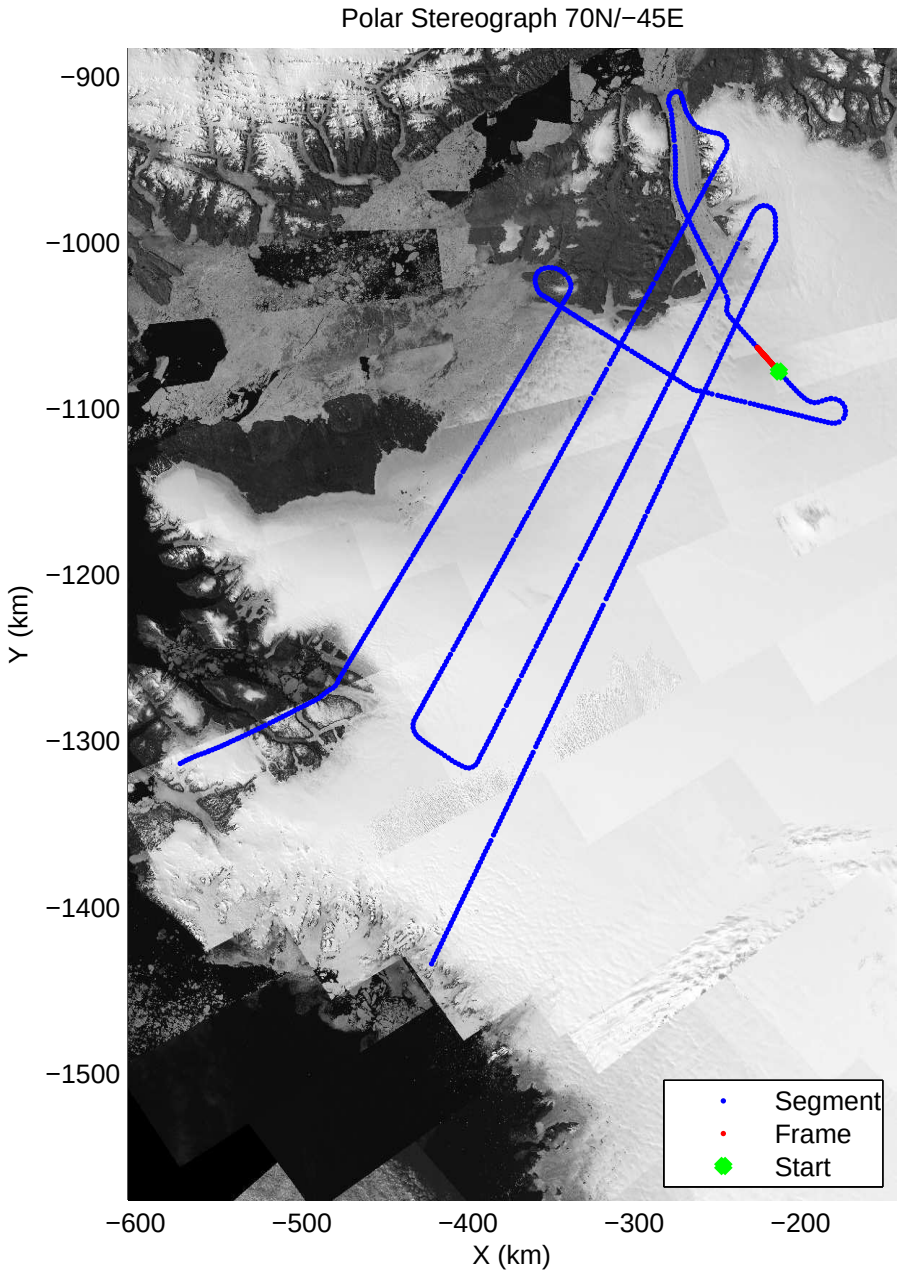

Polar Stereograph 70N/−45E
−900
−1000
−1100
−1200
−1300
−1400
−1500
Y (km)
−600
−500
−400
−300
−200
X (km)
Segment
Frame
Start

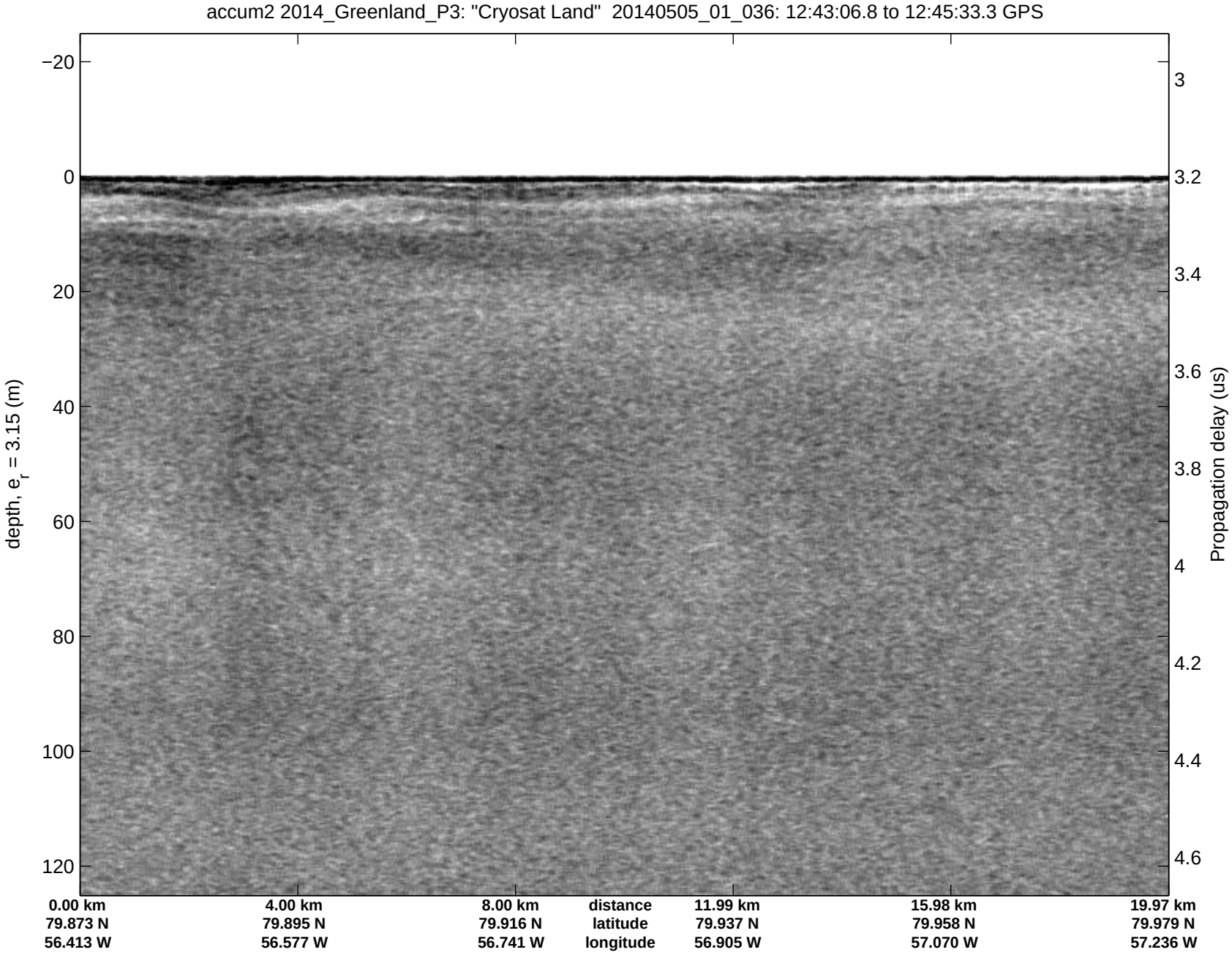

accum2 2014_Greenland_P3: "Cryosat Land" 20140505_01_035: 12:40:33.7 to 12:43:06.6 GPS
depth, e_r = 3.15 (m)
−20
0
20
40
60
80
100
120
Propagation delay (us)
3
3.2
3.4
3.6
3.8
4
4.2
4.4
4.6
0.00 km
79.768 N
55.593 W
4.00 km
79.788 N
55.761 W
8.00 km
79.809 N
55.927 W
distance
latitude
longitude
11.99 km
79.830 N
56.088 W
15.99 km
79.852 N
56.250 W
19.98 km
79.873 N
56.412 W

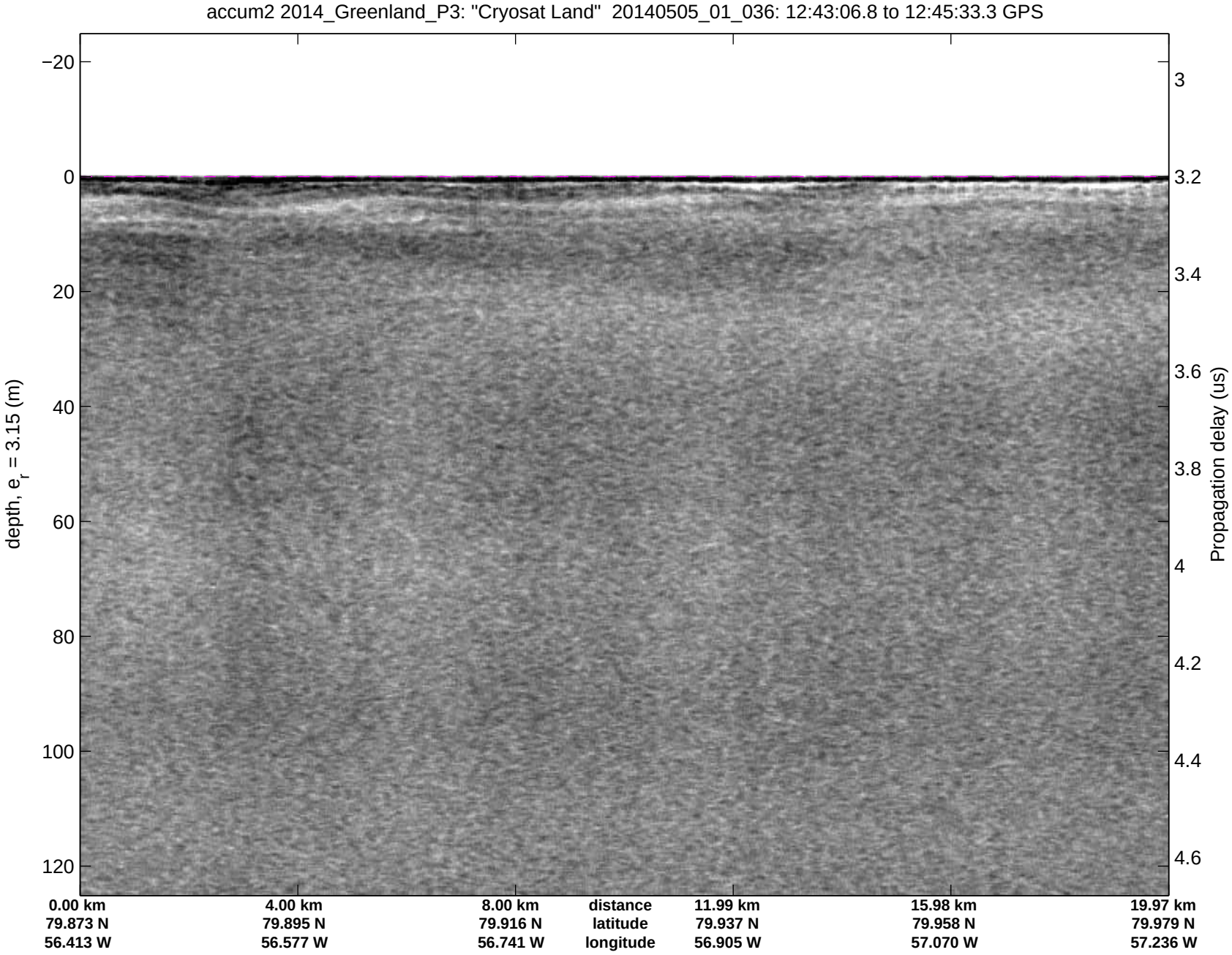

accum2 2014_Greenland_P3: "Cryosat Land" 20140505_01_035: 12:40:33.7 to 12:43:06.6 GPS
depth, e_r = 3.15 (m)
−20
0
20
40
60
80
100
120
Propagation delay (us)
3
3.2
3.4
3.6
3.8
4
4.2
4.4
4.6
0.00 km
79.768 N
55.593 W
4.00 km
79.788 N
55.761 W
8.00 km
79.809 N
55.927 W
distance
latitude
longitude
11.99 km
79.830 N
56.088 W
15.99 km
79.852 N
56.250 W
19.98 km
79.873 N
56.412 W

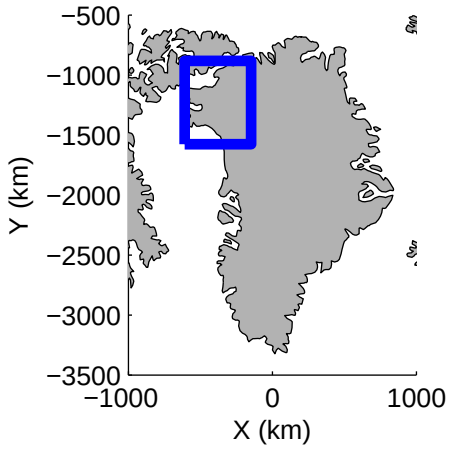

−500
−1000
−1500
−2000
−2500
−3000
−3500
Y (km)
−1000
0
1000
X (km)

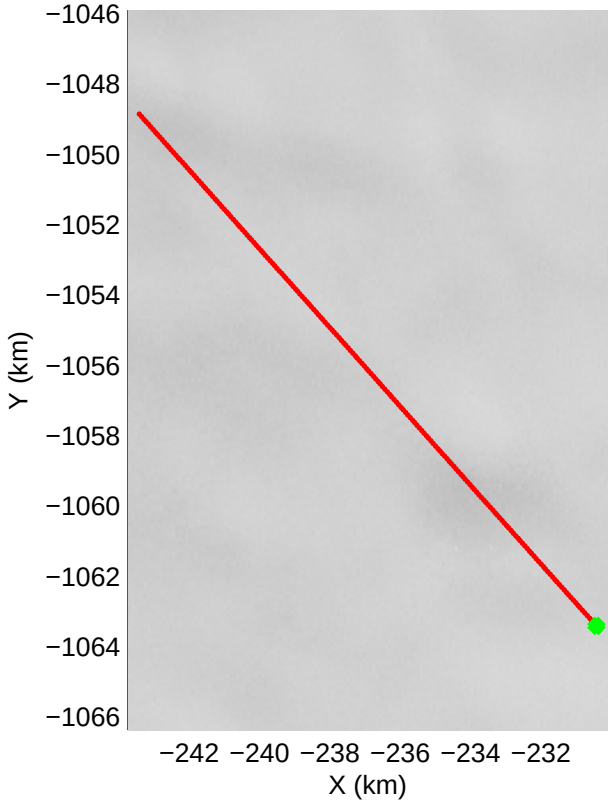

−1062
−1064
−1066
−1068
−1070
−1072
−1074
−1076
−1078
−1080
Y (km)
−230
−225
−220
X (km)

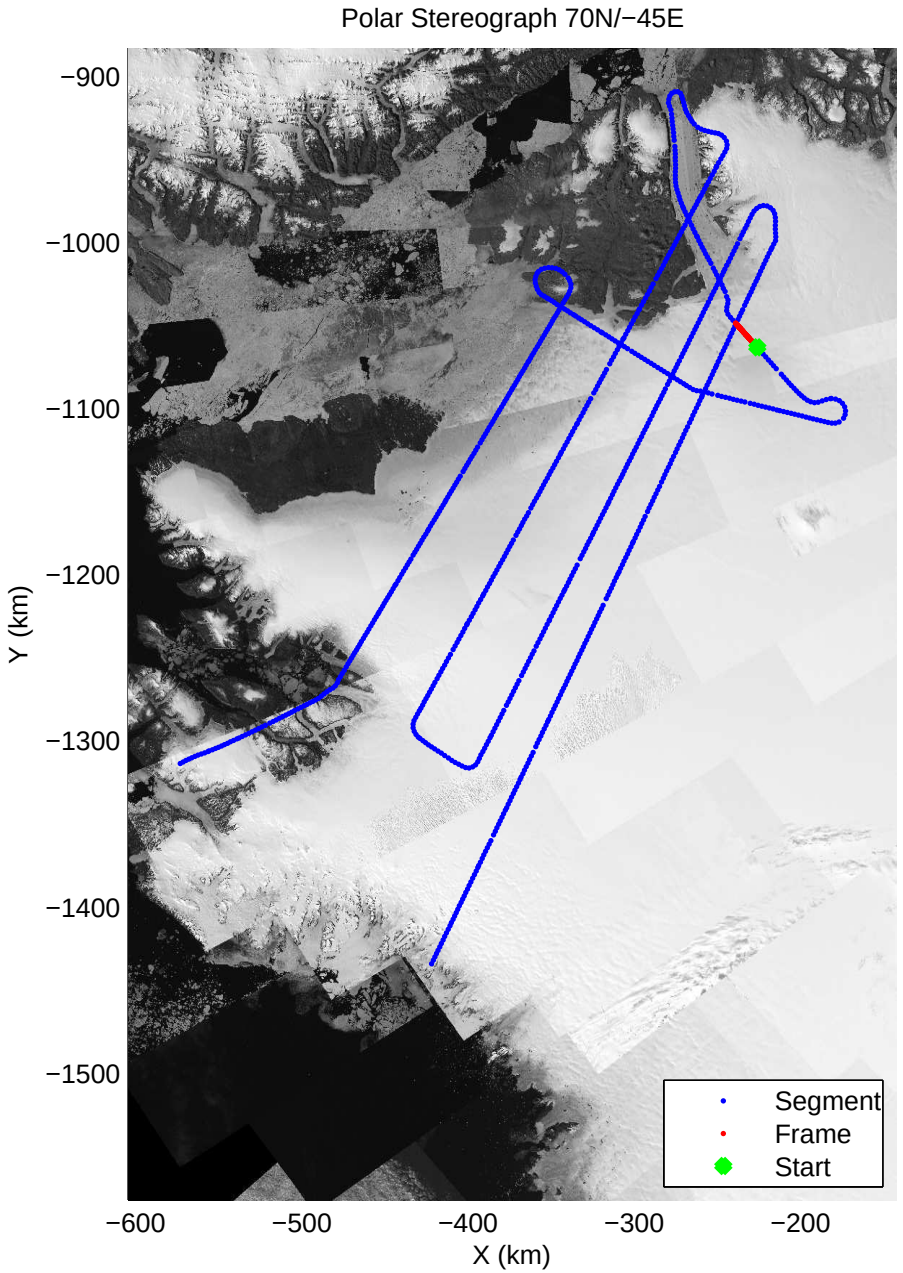

Polar Stereograph 70N/−45E
−900
−1000
−1100
−1200
−1300
−1400
−1500
Y (km)
−600
−500
−400
−300
−200
X (km)
Segment
Frame
Start

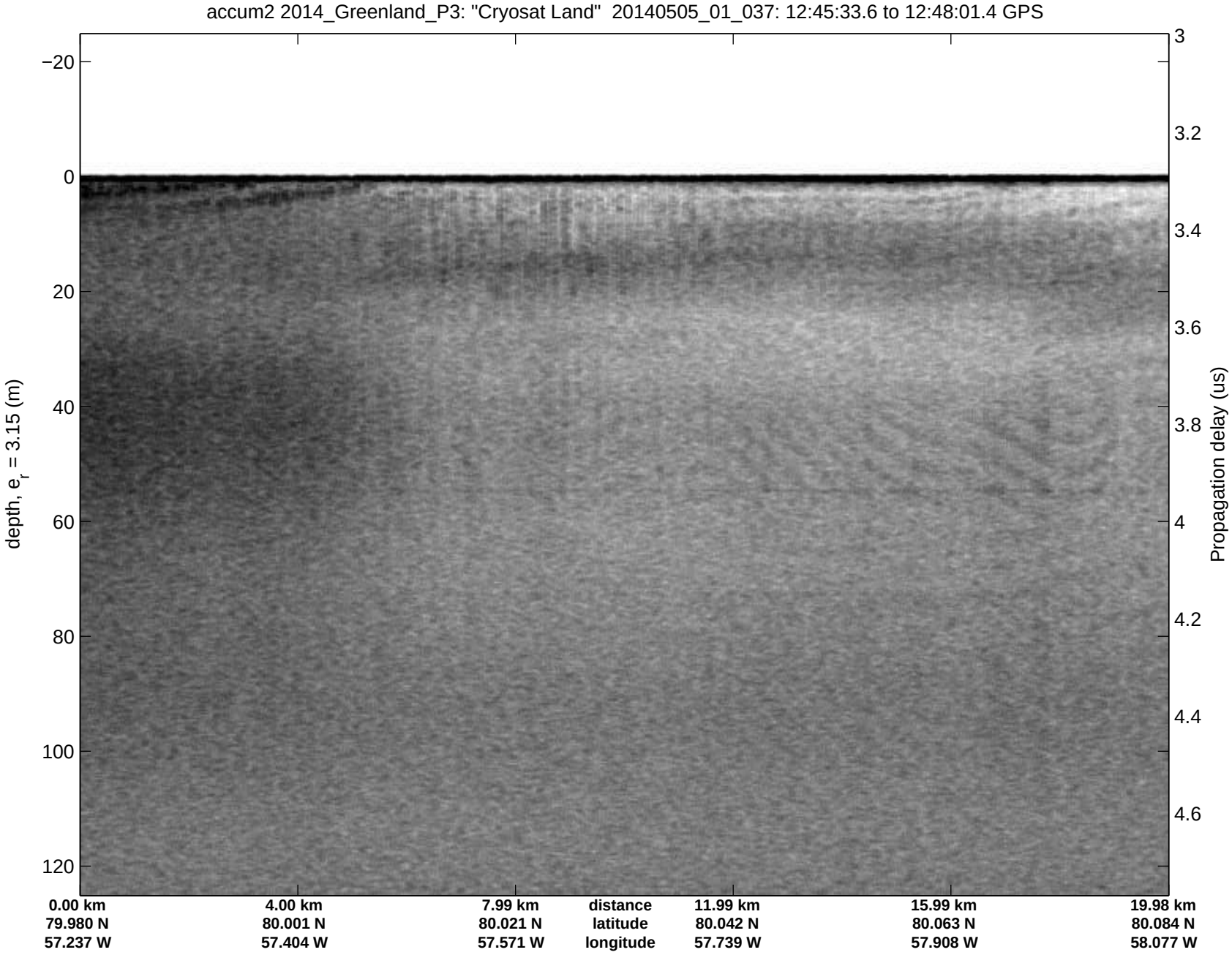

accum2 2014_Greenland_P3: "Cryosat Land" 20140505_01_036: 12:43:06.8 to 12:45:33.3 GPS
depth, e_r = 3.15 (m)
−20
0
20
40
60
80
100
120
Propagation delay (us)
3
3.2
3.4
3.6
3.8
4
4.2
4.4
4.6
0.00 km
79.873 N
56.413 W
4.00 km
79.895 N
56.577 W
8.00 km
79.916 N
56.741 W
distance
latitude
longitude
11.99 km
79.937 N
56.905 W
15.98 km
79.958 N
57.070 W
19.97 km
79.979 N
57.236 W

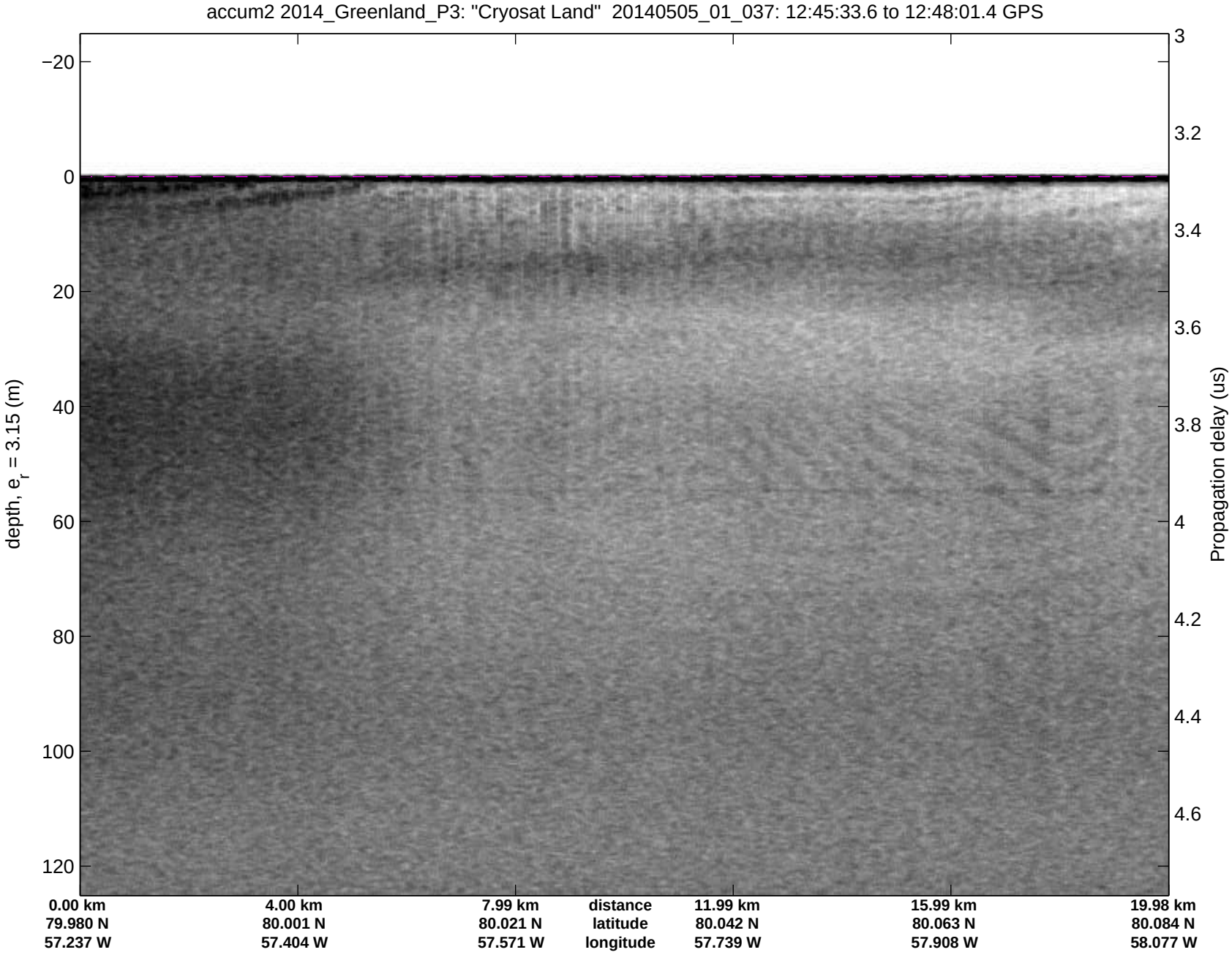

accum2 2014_Greenland_P3: "Cryosat Land" 20140505_01_036: 12:43:06.8 to 12:45:33.3 GPS
depth, e_r = 3.15 (m)
−20
0
20
40
60
80
100
120
Propagation delay (us)
3
3.2
3.4
3.6
3.8
4
4.2
4.4
4.6
0.00 km
79.873 N
56.413 W
4.00 km
79.895 N
56.577 W
8.00 km
79.916 N
56.741 W
distance
latitude
longitude
11.99 km
79.937 N
56.905 W
15.98 km
79.958 N
57.070 W
19.97 km
79.979 N
57.236 W

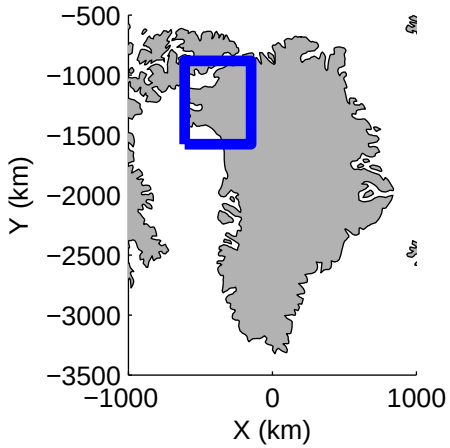

−500
−1000
−1500
−2000
−2500
−3000
−3500
Y (km)
−1000
0
1000
X (km)

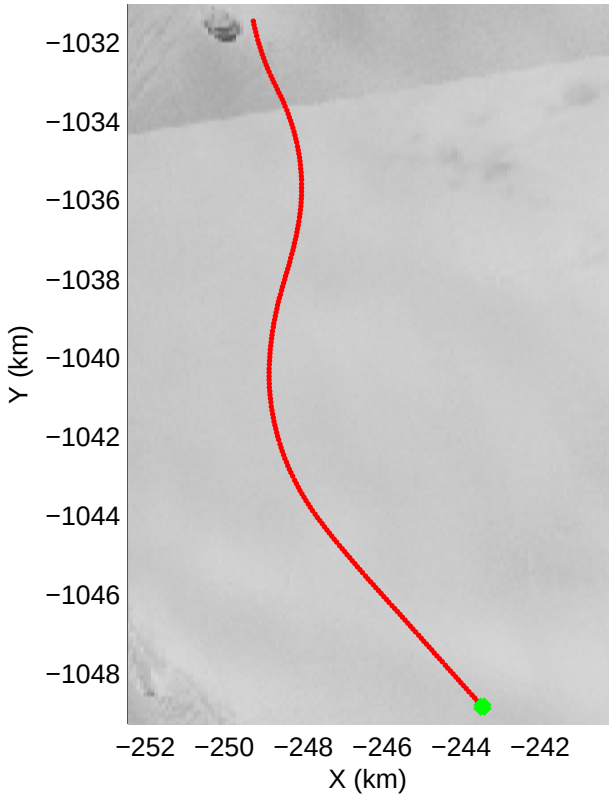

−1046
−1048
−1050
−1052
−1054
−1056
−1058
−1060
−1062
−1064
−1066
Y (km)
−242 −240 −238 −236 −234 −232
X (km)

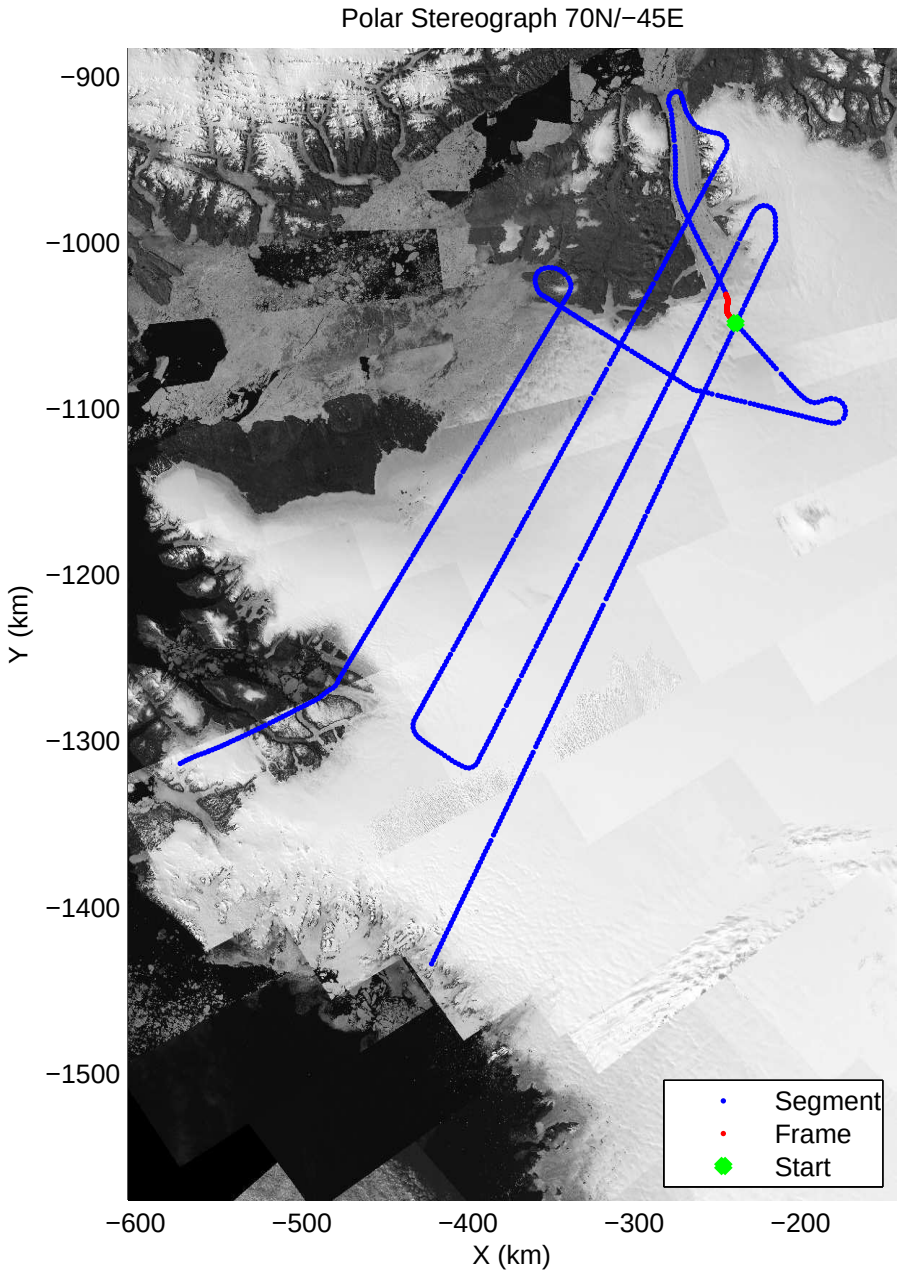

Polar Stereograph 70N/−45E
−900
−1000
−1100
−1200
−1300
−1400
−1500
Y (km)
−600
−500
−400
−300
−200
X (km)
Segment
Frame
Start

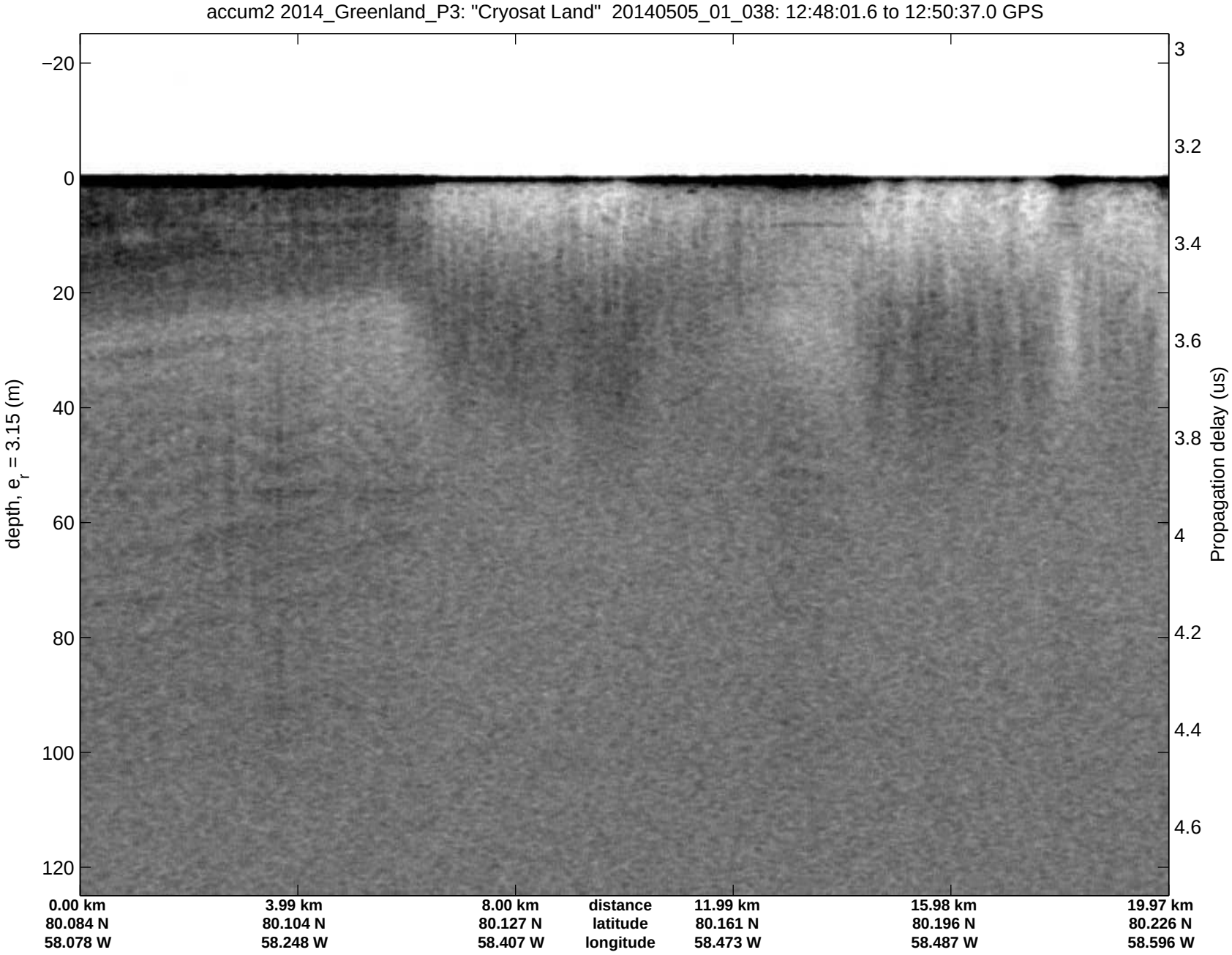

accum2 2014_Greenland_P3: "Cryosat Land" 20140505_01_037: 12:45:33.6 to 12:48:01.4 GPS
depth, e_r = 3.15 (m)
−20
0
20
40
60
80
100
120
Propagation delay (us)
3
3.2
3.4
3.6
3.8
4
4.2
4.4
4.6
0.00 km
79.980 N
57.237 W
4.00 km
80.001 N
57.404 W
7.99 km
80.021 N
57.571 W
distance
latitude
longitude
11.99 km
80.042 N
57.739 W
15.99 km
80.063 N
57.908 W
19.98 km
80.084 N
58.077 W

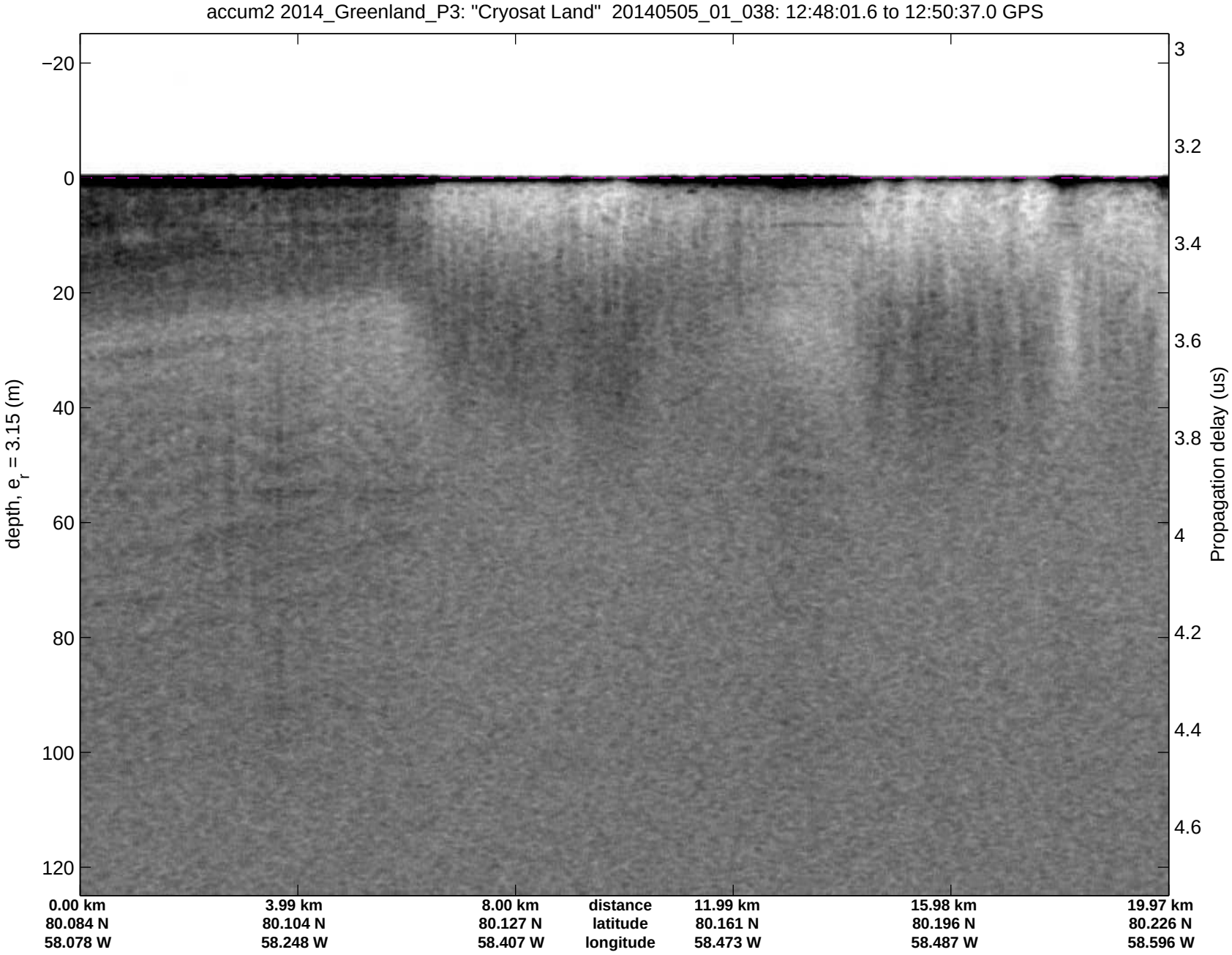

accum2 2014_Greenland_P3: "Cryosat Land" 20140505_01_037: 12:45:33.6 to 12:48:01.4 GPS
depth, e_r = 3.15 (m)
−20
0
20
40
60
80
100
120
Propagation delay (us)
3
3.2
3.4
3.6
3.8
4
4.2
4.4
4.6
0.00 km
79.980 N
57.237 W
4.00 km
80.001 N
57.404 W
7.99 km
80.021 N
57.571 W
distance
latitude
longitude
11.99 km
80.042 N
57.739 W
15.99 km
80.063 N
57.908 W
19.98 km
80.084 N
58.077 W

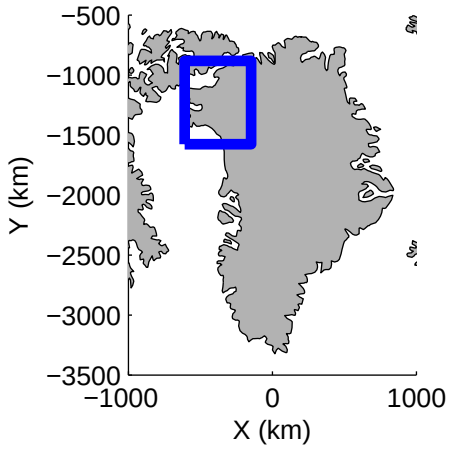

−500
−1000
−1500
−2000
−2500
−3000
−3500
Y (km)
−1000
0
1000
X (km)

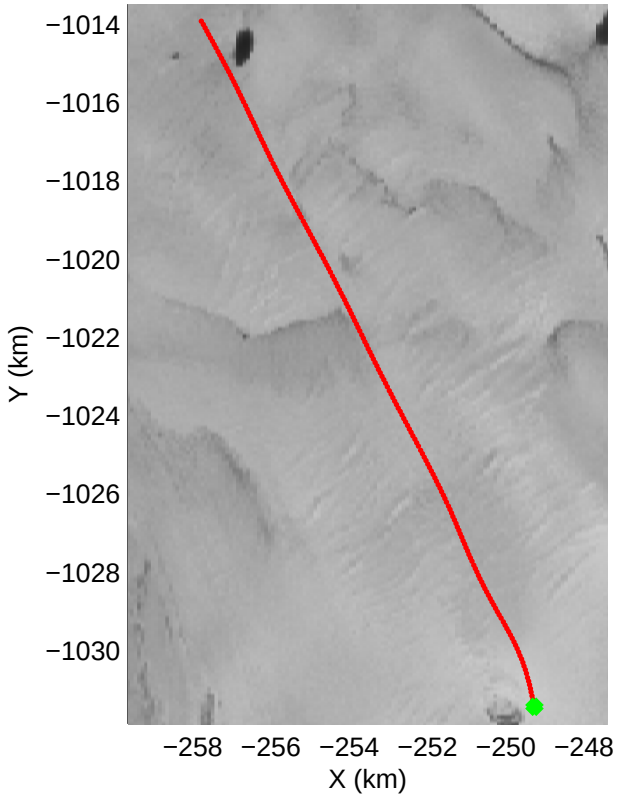

−1032
−1034
−1036
−1038
−1040
−1042
−1044
−1046
−1048
Y (km)
−252
−250
−248
−246
−244
−242
X (km)

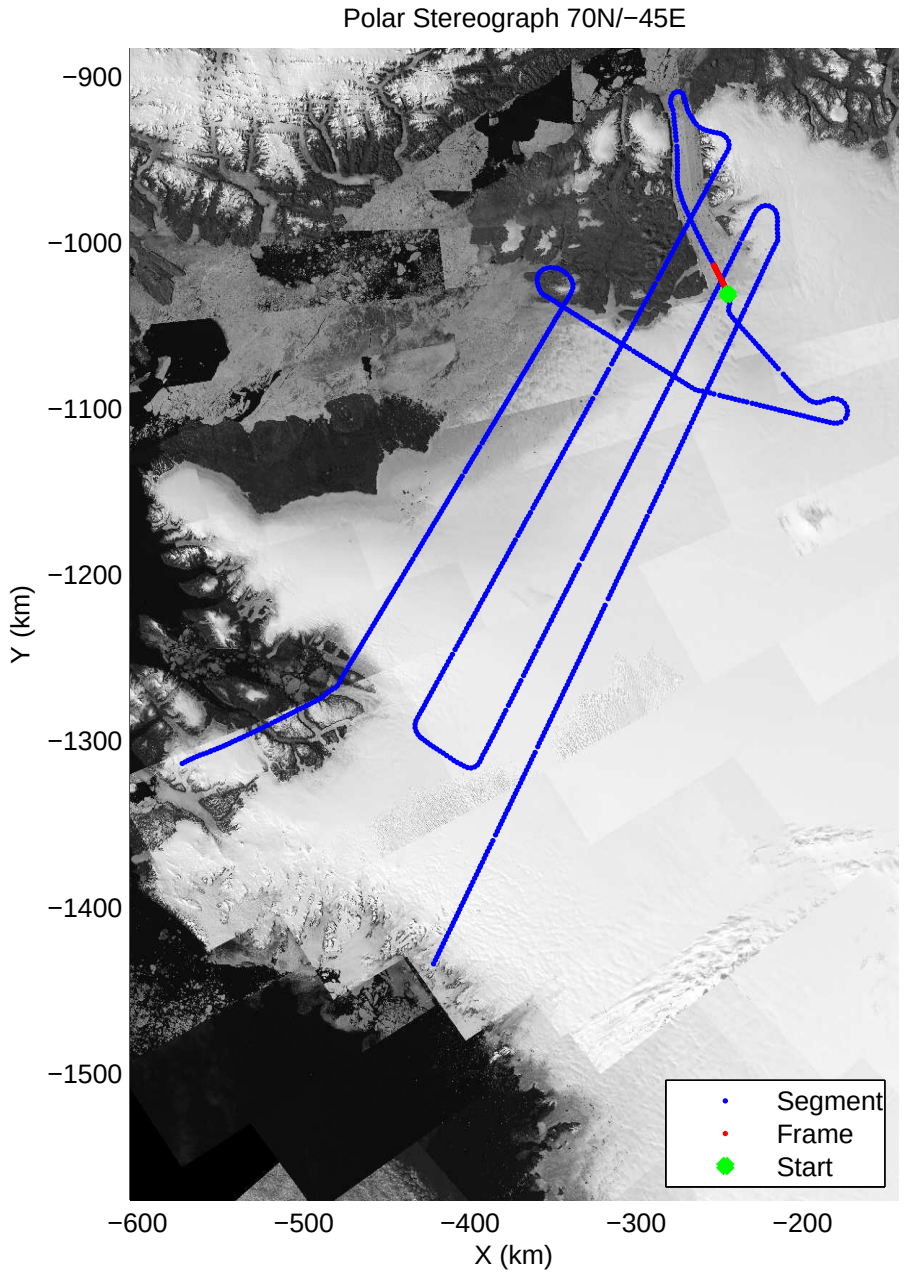

Polar Stereograph 70N/−45E
−900
−1000
−1100
−1200
−1300
−1400
−1500
Y (km)
−600
−500
−400
−300
−200
X (km)
Segment
Frame
Start

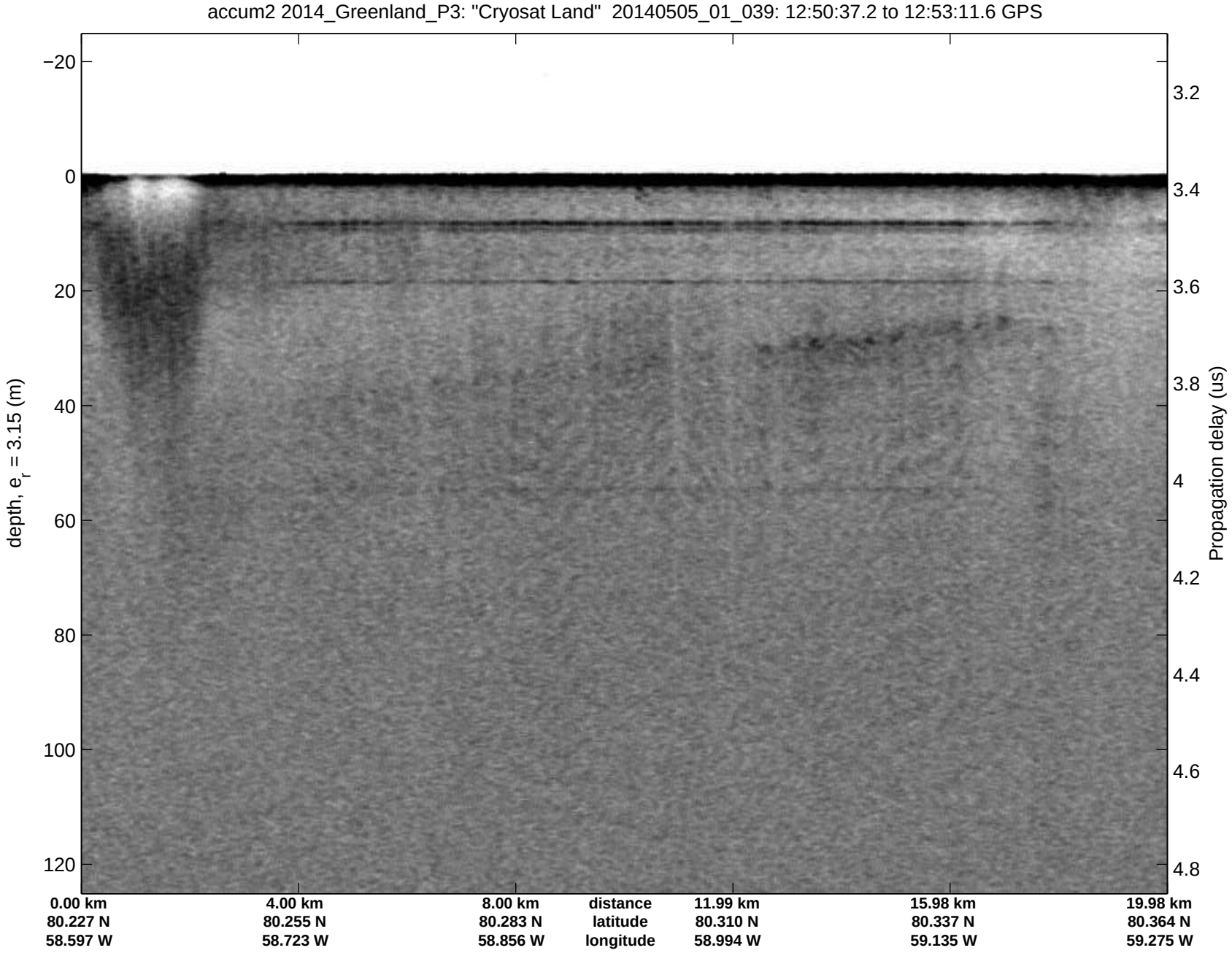

accum2 2014_Greenland_P3: "Cryosat Land" 20140505_01_038: 12:48:01.6 to 12:50:37.0 GPS
depth, e_r = 3.15 (m)
−20
0
20
40
60
80
100
120
3
3.2
3.4
3.6
3.8
4
4.2
4.4
4.6
Propagation delay (us)
0.00 km
80.084 N
58.078 W
3.99 km
80.104 N
58.248 W
8.00 km
80.127 N
58.407 W
distance
latitude
longitude
11.99 km
80.161 N
58.473 W
15.98 km
80.196 N
58.487 W
19.97 km
80.226 N
58.596 W

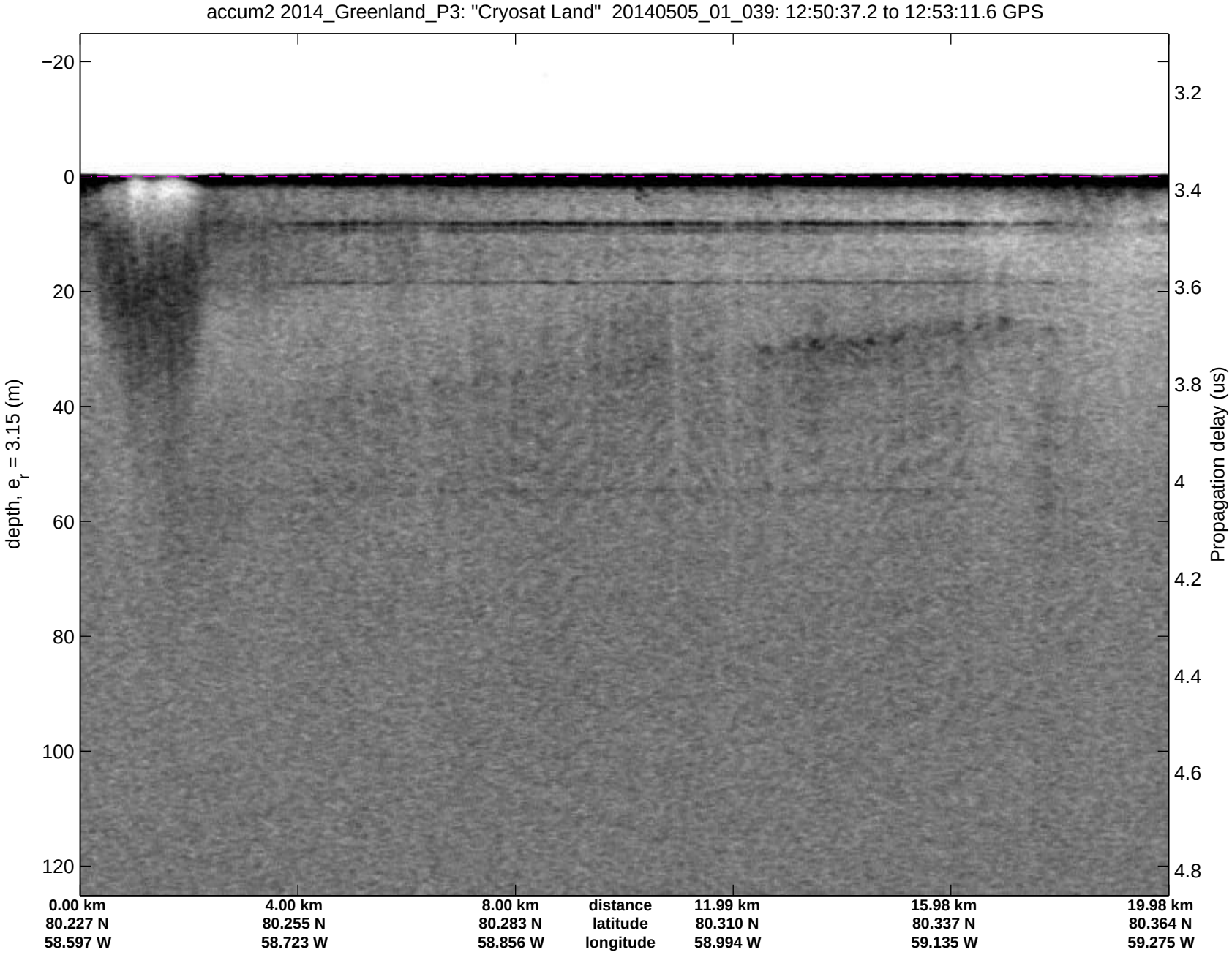

accum2 2014_Greenland_P3: "Cryosat Land" 20140505_01_038: 12:48:01.6 to 12:50:37.0 GPS
depth, e_r = 3.15 (m)
−20
0
20
40
60
80
100
120
Propagation delay (us)
3
3.2
3.4
3.6
3.8
4
4.2
4.4
4.6
0.00 km
80.084 N
58.078 W
3.99 km
80.104 N
58.248 W
8.00 km
80.127 N
58.407 W
distance
latitude
longitude
11.99 km
80.161 N
58.473 W
15.98 km
80.196 N
58.487 W
19.97 km
80.226 N
58.596 W

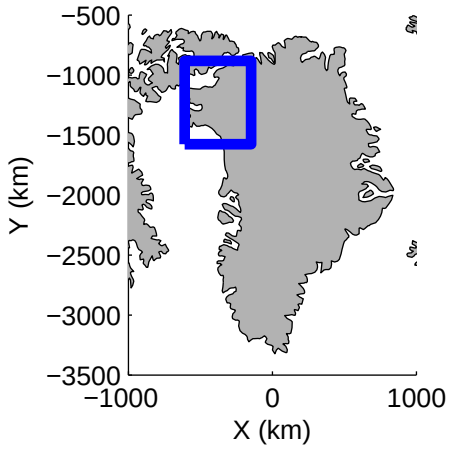

−500
−1000
−1500
−2000
−2500
−3000
−3500
Y (km)
−1000
0
1000
X (km)

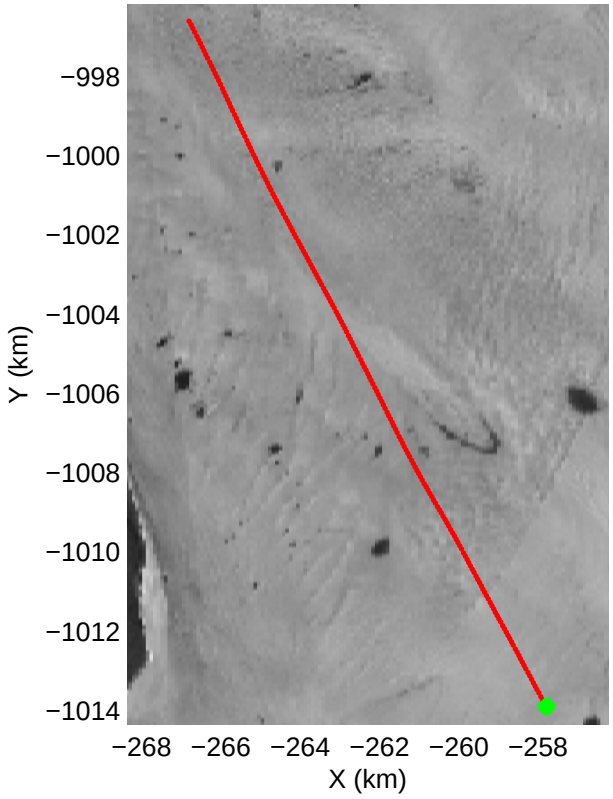

−1014
−1016
−1018
−1020
−1022
−1024
−1026
−1028
−1030
Y (km)
−258
−256
−254
−252
−250
−248
X (km)

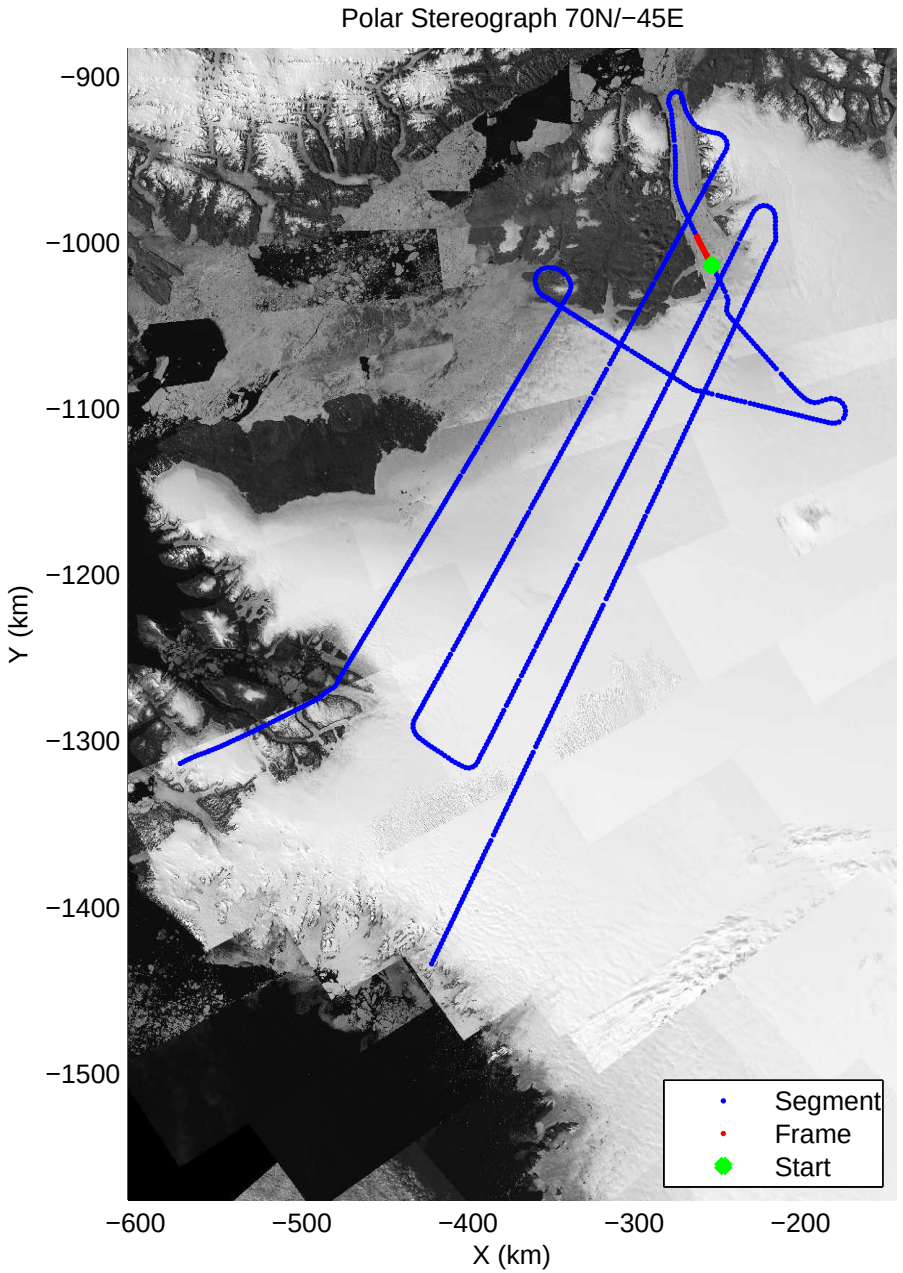

Polar Stereograph 70N/−45E
−900
−1000
−1100
−1200
−1300
−1400
−1500
Y (km)
−600
−500
−400
−300
−200
X (km)
Segment
Frame
Start

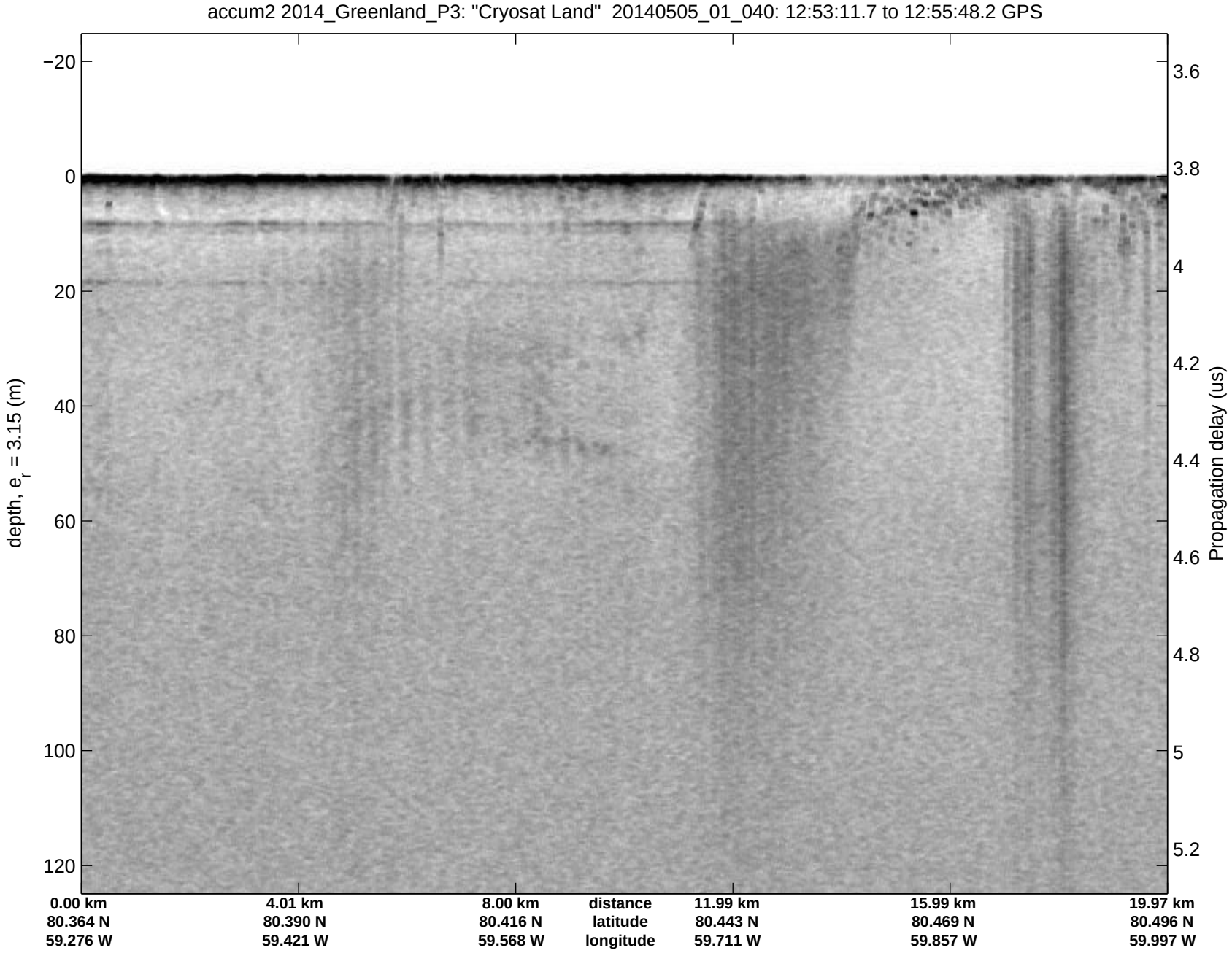

accum2 2014_Greenland_P3: "Cryosat Land" 20140505_01_039: 12:50:37.2 to 12:53:11.6 GPS
depth, e_r = 3.15 (m)
−20
0
20
40
60
80
100
120
Propagation delay (us)
3.2
3.4
3.6
3.8
4
4.2
4.4
4.6
4.8
0.00 km
80.227 N
58.597 W
4.00 km
80.255 N
58.723 W
8.00 km
80.283 N
58.856 W
distance
latitude
longitude
11.99 km
80.310 N
58.994 W
15.98 km
80.337 N
59.135 W
19.98 km
80.364 N
59.275 W

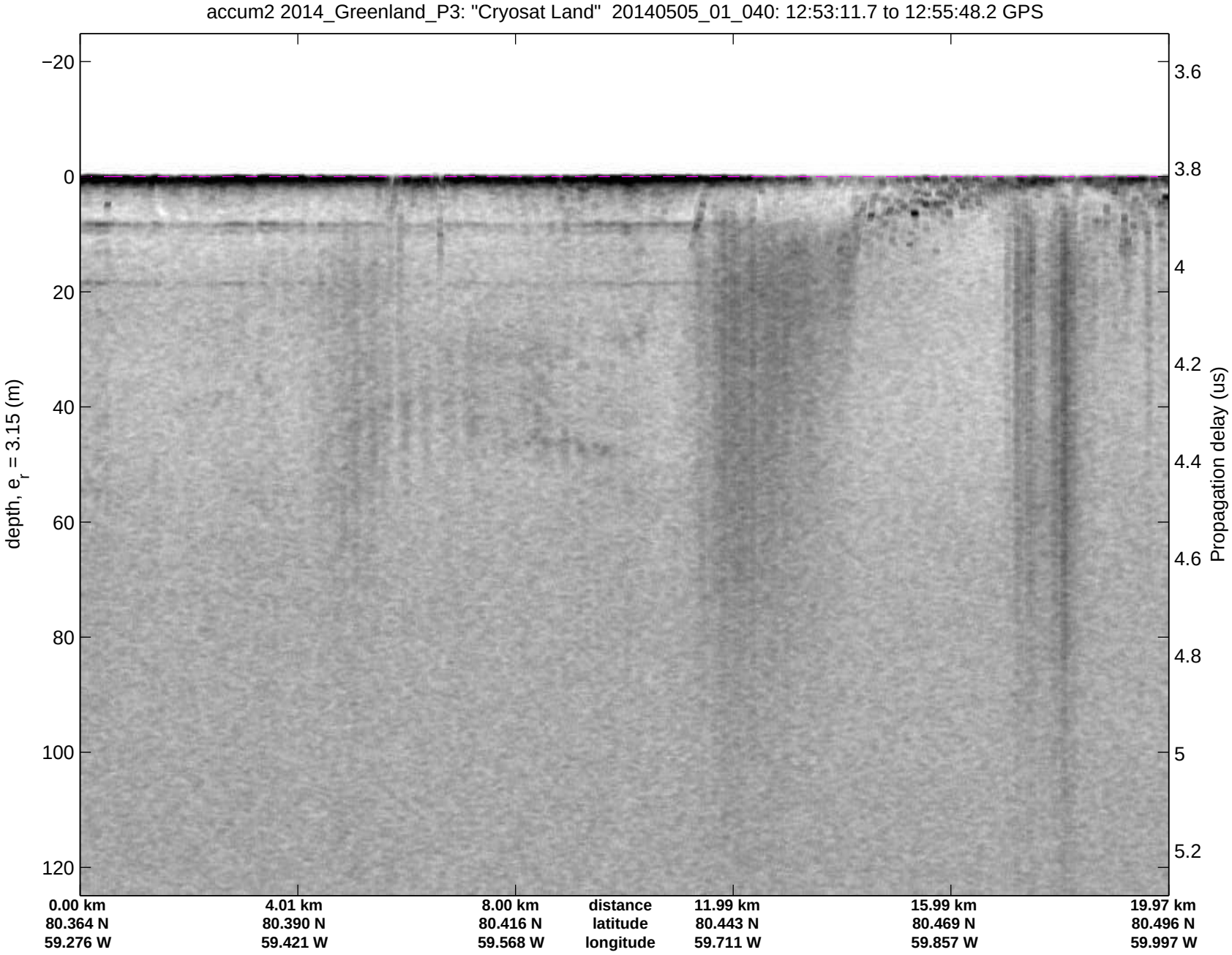

accum2 2014_Greenland_P3: "Cryosat Land" 20140505_01_039: 12:50:37.2 to 12:53:11.6 GPS
depth, e_r = 3.15 (m)
−20
0
20
40
60
80
100
120
Propagation delay (us)
3.2
3.4
3.6
3.8
4
4.2
4.4
4.6
4.8
0.00 km
80.227 N
58.597 W
4.00 km
80.255 N
58.723 W
8.00 km
80.283 N
58.856 W
distance
latitude
longitude
11.99 km
80.310 N
58.994 W
15.98 km
80.337 N
59.135 W
19.98 km
80.364 N
59.275 W

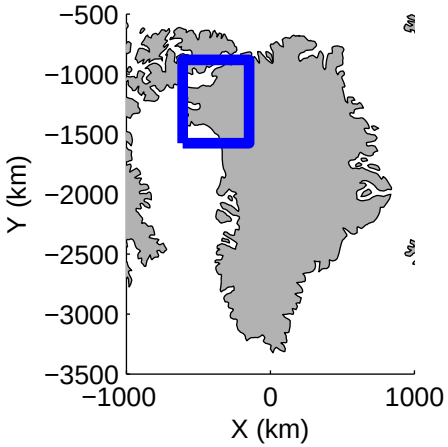

−500
−1000
−1500
−2000
−2500
−3000
−3500
Y (km)
−1000
0
1000
X (km)

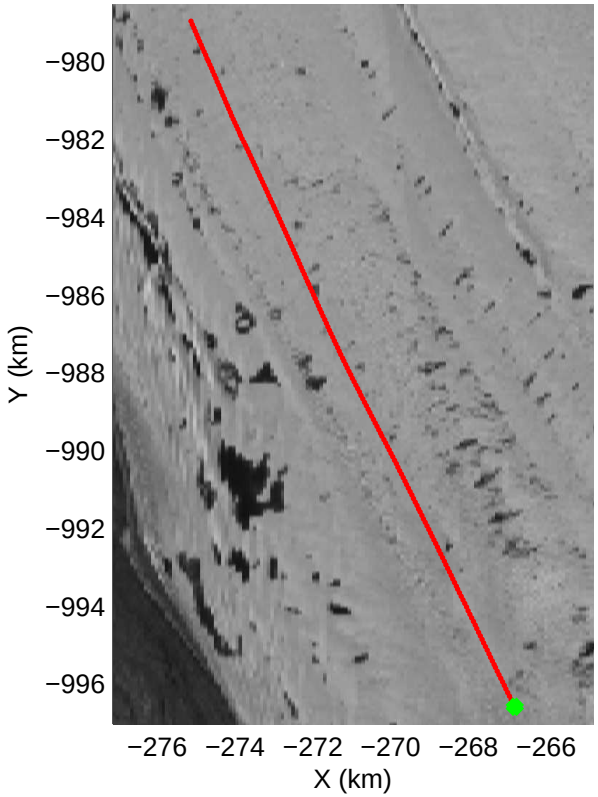

−998
−1000
−1002
−1004
−1006
−1008
−1010
−1012
−1014
Y (km)
−268
−266
−264
−262
−260
−258
X (km)

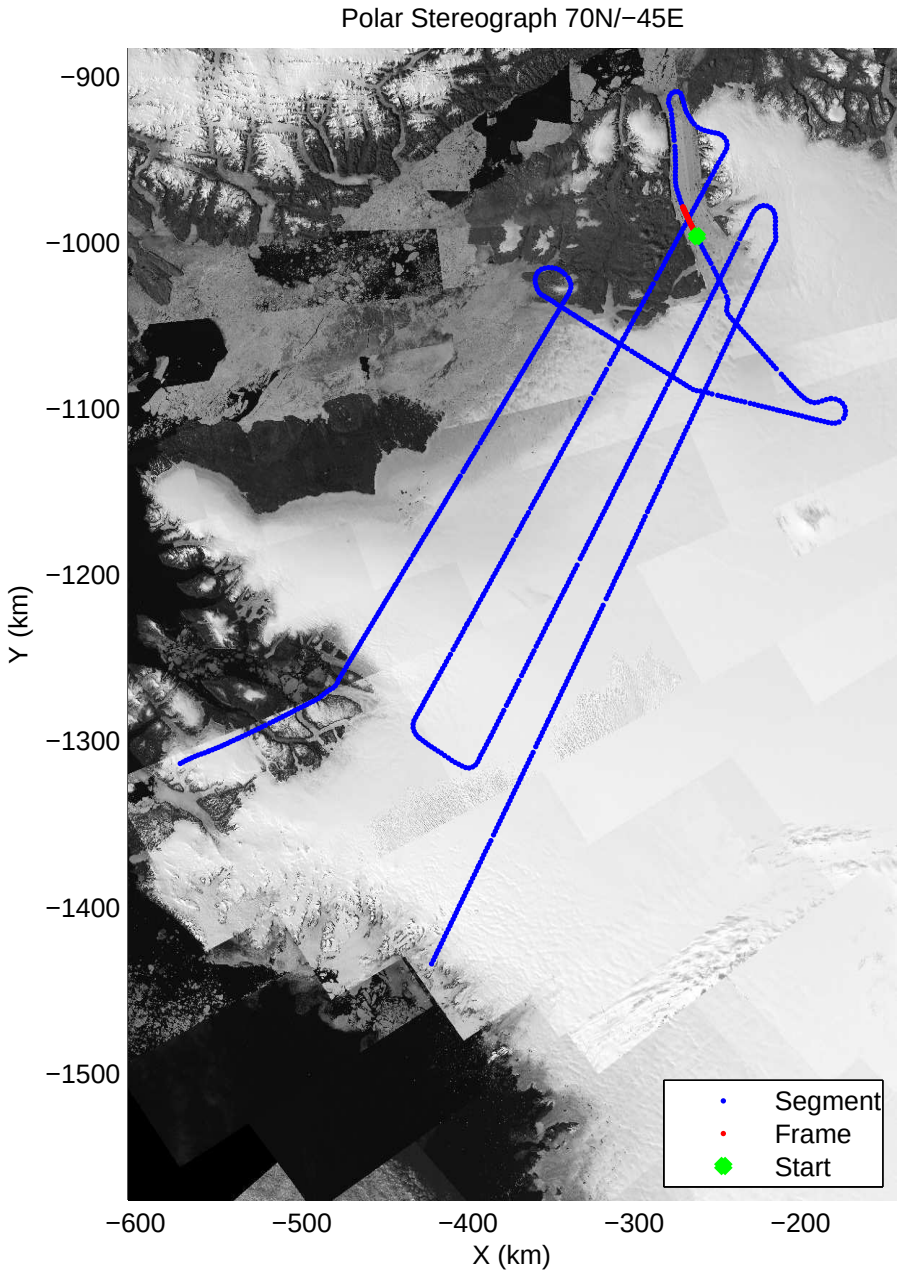

Polar Stereograph 70N/−45E
−900
−1000
−1100
−1200
−1300
−1400
−1500
Y (km)
−600
−500
−400
−300
−200
X (km)
Segment
Frame
Start

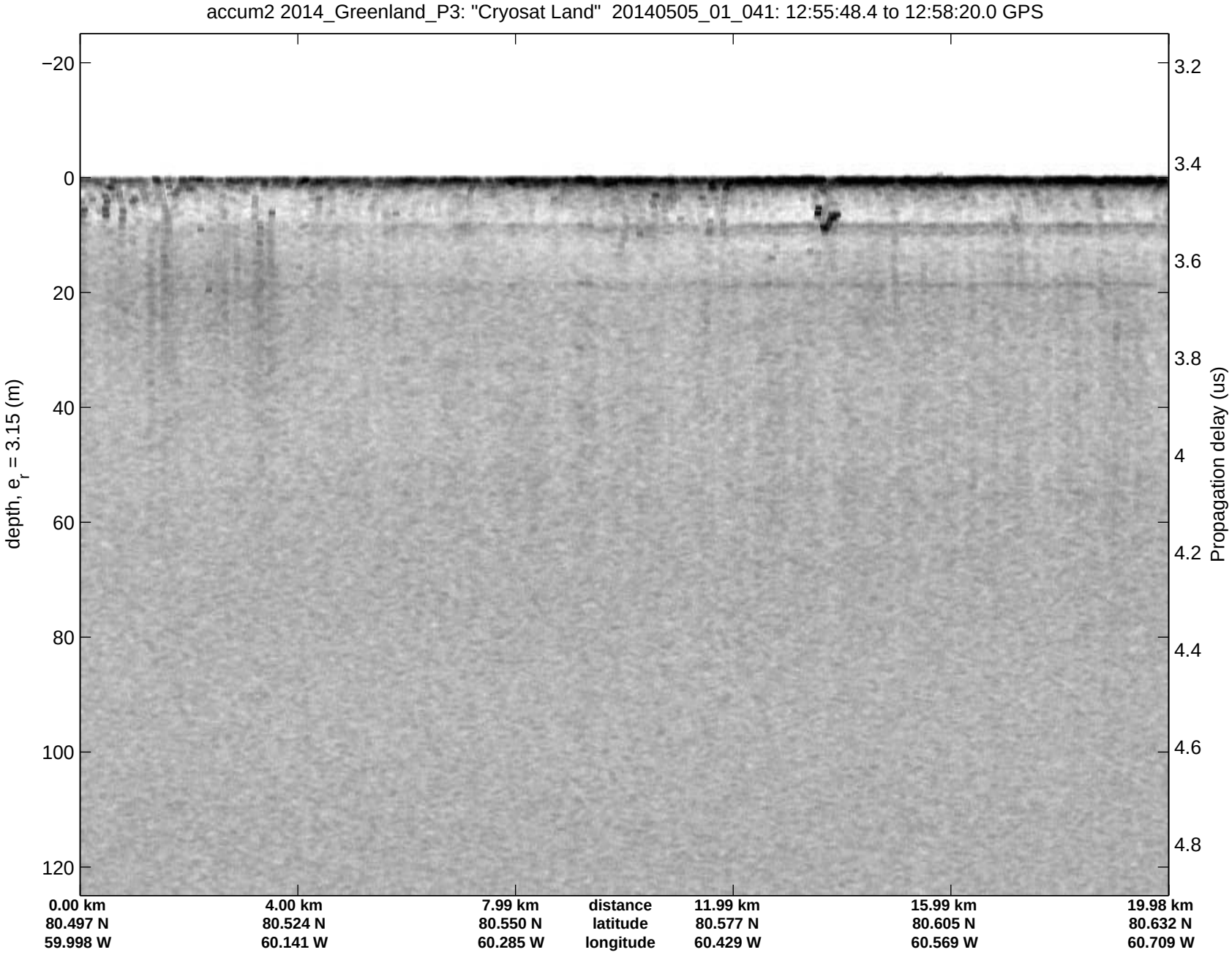

accum2 2014_Greenland_P3: "Cryosat Land" 20140505_01_040: 12:53:11.7 to 12:55:48.2 GPS
depth, e_r = 3.15 (m)
−20
0
20
40
60
80
100
120
Propagation delay (us)
3.6
3.8
4
4.2
4.4
4.6
4.8
5
5.2
0.00 km
80.364 N
59.276 W
4.01 km
80.390 N
59.421 W
8.00 km
80.416 N
59.568 W
distance
latitude
longitude
11.99 km
80.443 N
59.711 W
15.99 km
80.469 N
59.857 W
19.97 km
80.496 N
59.997 W

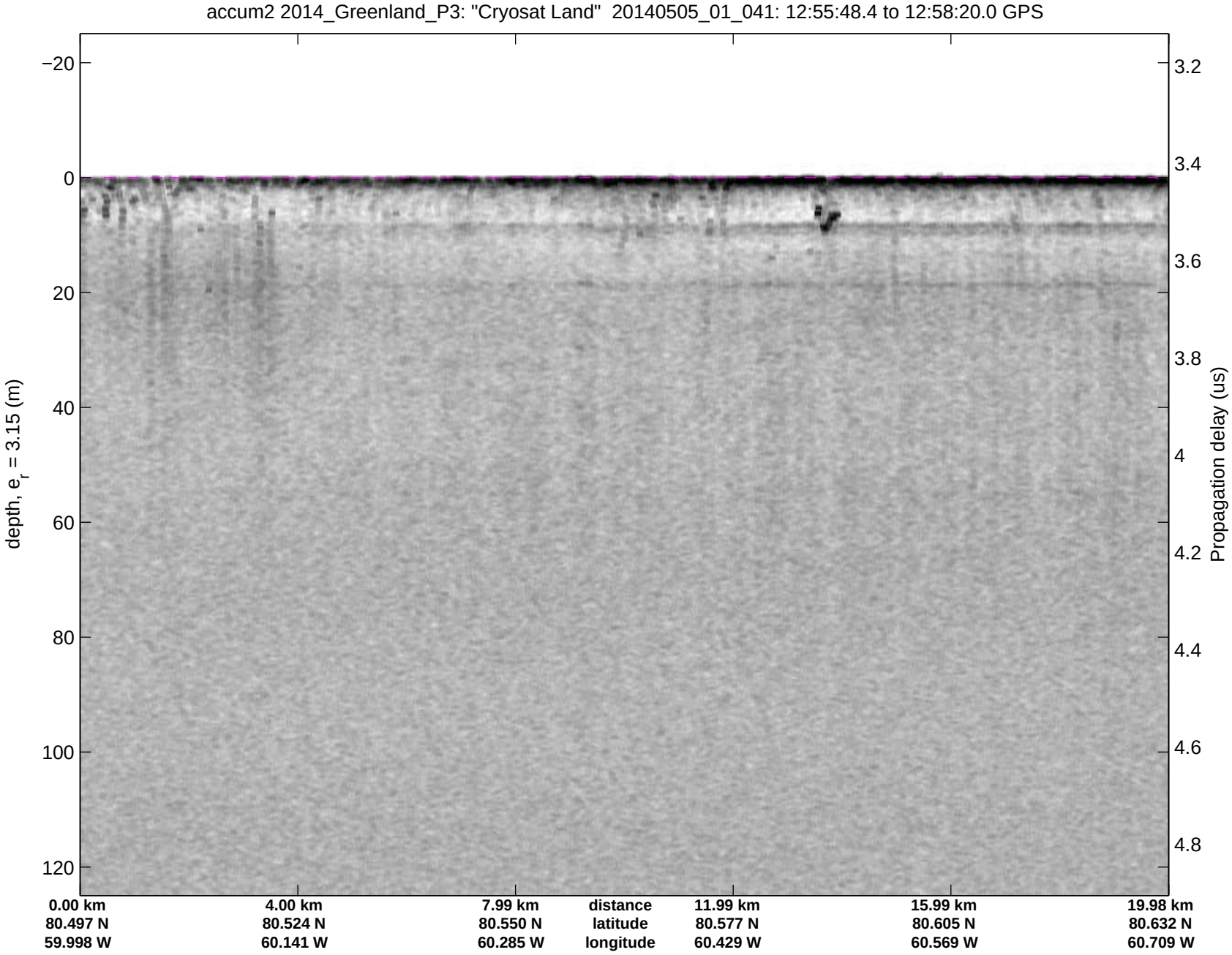

accum2 2014_Greenland_P3: "Cryosat Land" 20140505_01_040: 12:53:11.7 to 12:55:48.2 GPS
depth, e_r = 3.15 (m)
−20
0
20
40
60
80
100
120
Propagation delay (us)
3.6
3.8
4
4.2
4.4
4.6
4.8
5
5.2
0.00 km
80.364 N
59.276 W
4.01 km
80.390 N
59.421 W
8.00 km
80.416 N
59.568 W
distance
latitude
longitude
11.99 km
80.443 N
59.711 W
15.99 km
80.469 N
59.857 W
19.97 km
80.496 N
59.997 W

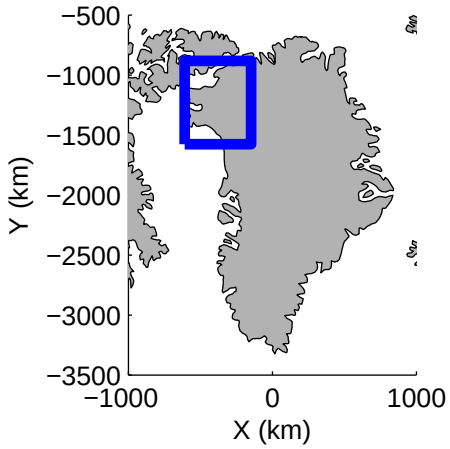

−500
−1000
−1500
−2000
−2500
−3000
−3500
Y (km)
−1000
0
1000
X (km)

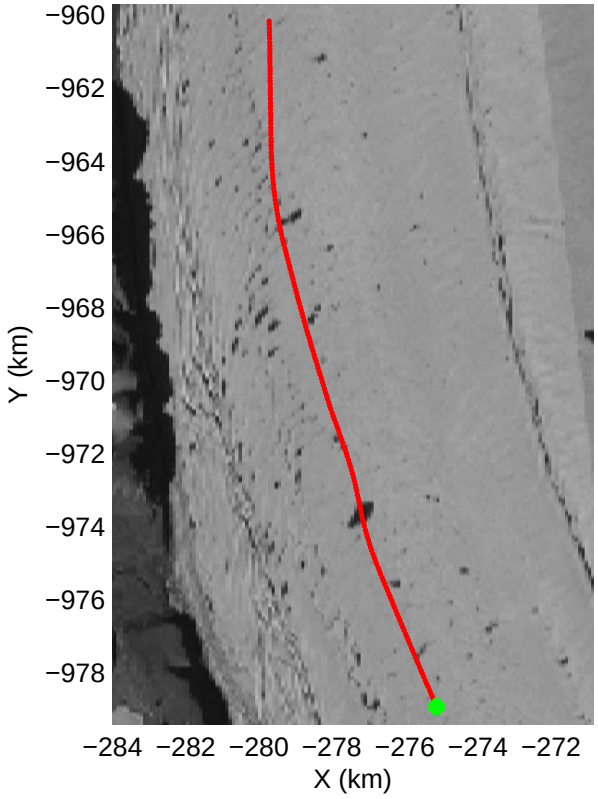

−980
−982
−984
−986
−988
−990
−992
−994
−996
Y (km)
−276
−274
−272
−270
−268
−266
X (km)

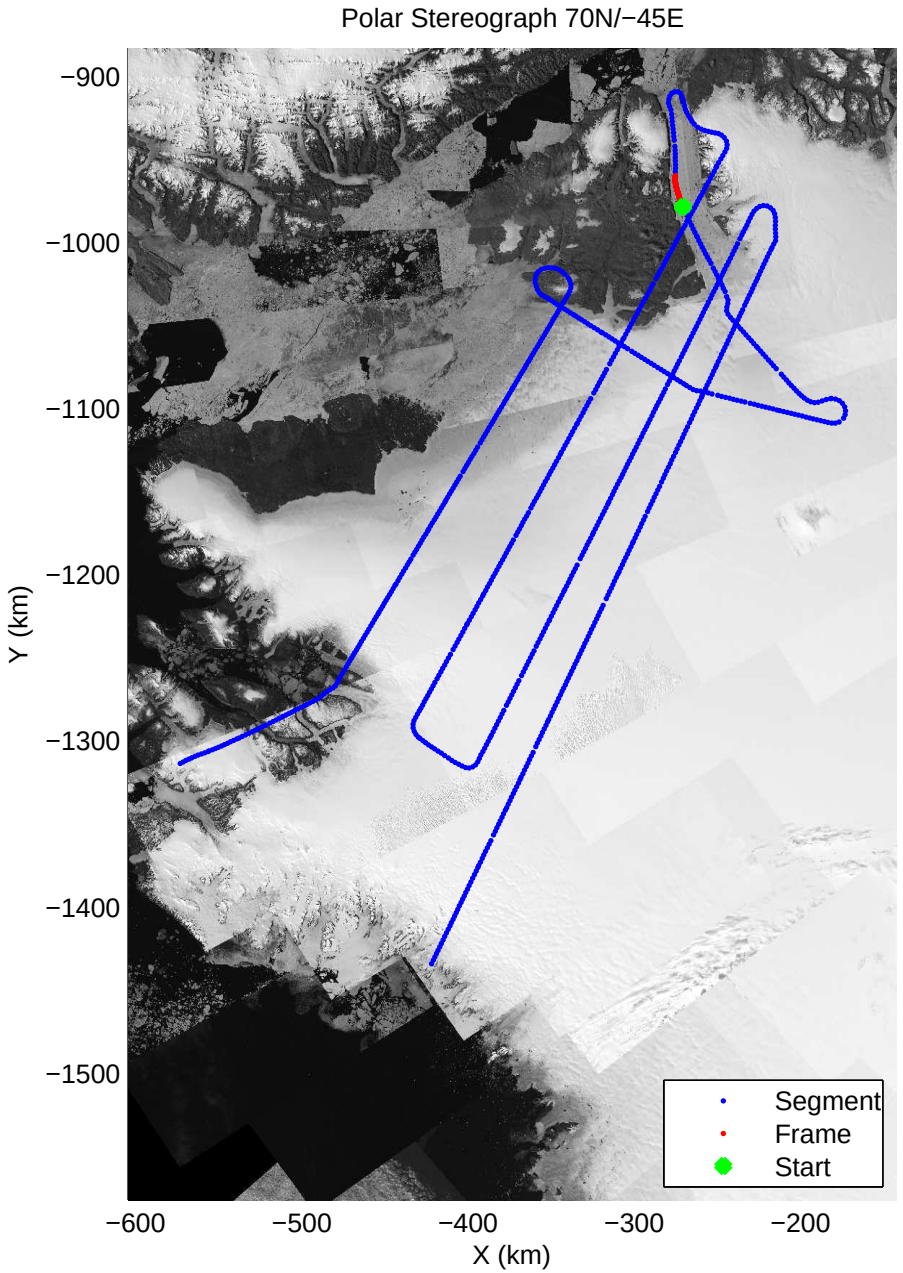

Polar Stereograph 70N/−45E
−900
−1000
−1100
−1200
−1300
−1400
−1500
Y (km)
−600
−500
−400
−300
−200
X (km)
Segment
Frame
Start

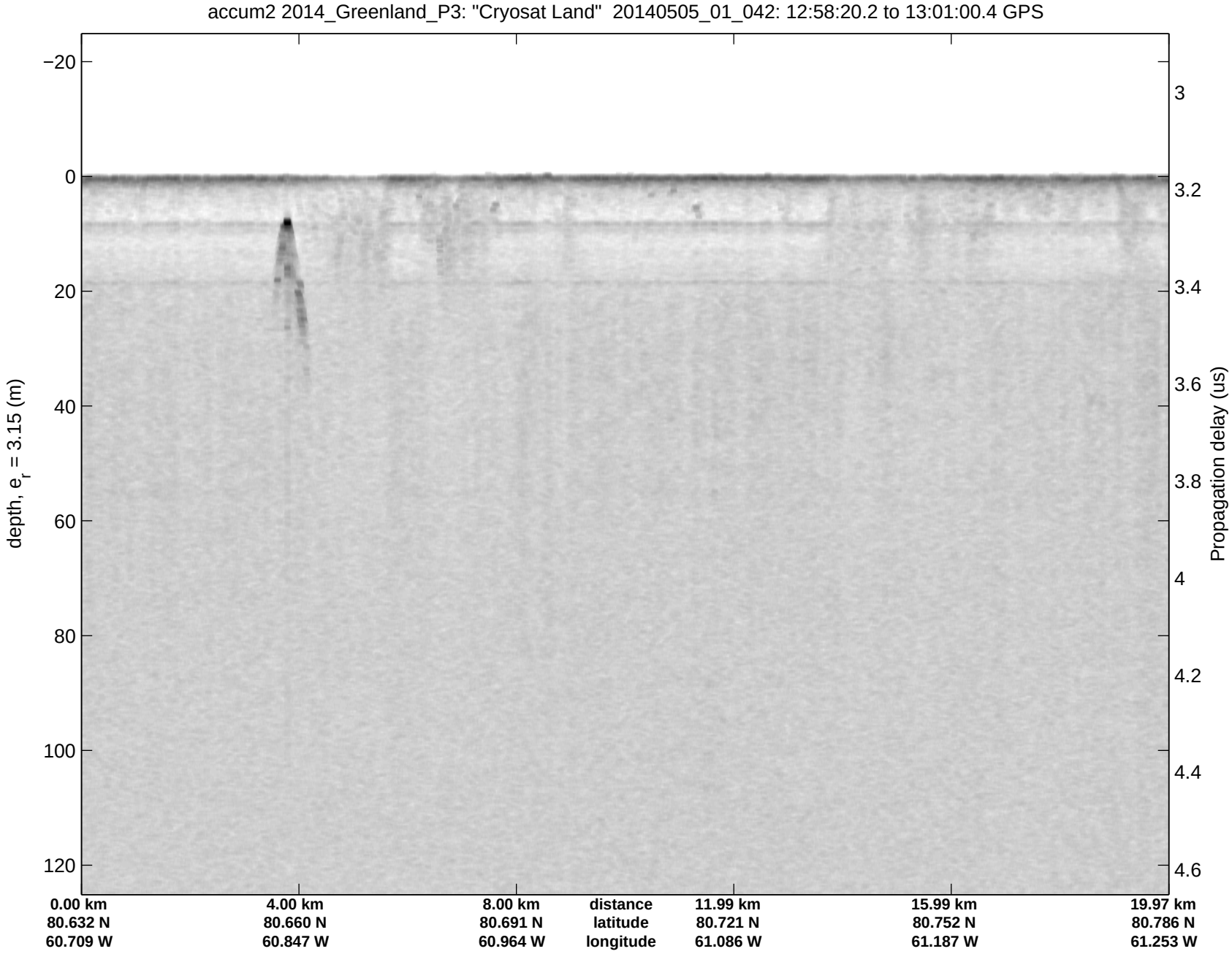

accum2 2014_Greenland_P3: "Cryosat Land" 20140505_01_041: 12:55:48.4 to 12:58:20.0 GPS
depth, e_r = 3.15 (m)
−20
0
20
40
60
80
100
120
Propagation delay (us)
3.2
3.4
3.6
3.8
4
4.2
4.4
4.6
4.8
0.00 km
80.497 N
59.998 W
4.00 km
80.524 N
60.141 W
7.99 km
80.550 N
60.285 W
distance
latitude
longitude
11.99 km
80.577 N
60.429 W
15.99 km
80.605 N
60.569 W
19.98 km
80.632 N
60.709 W

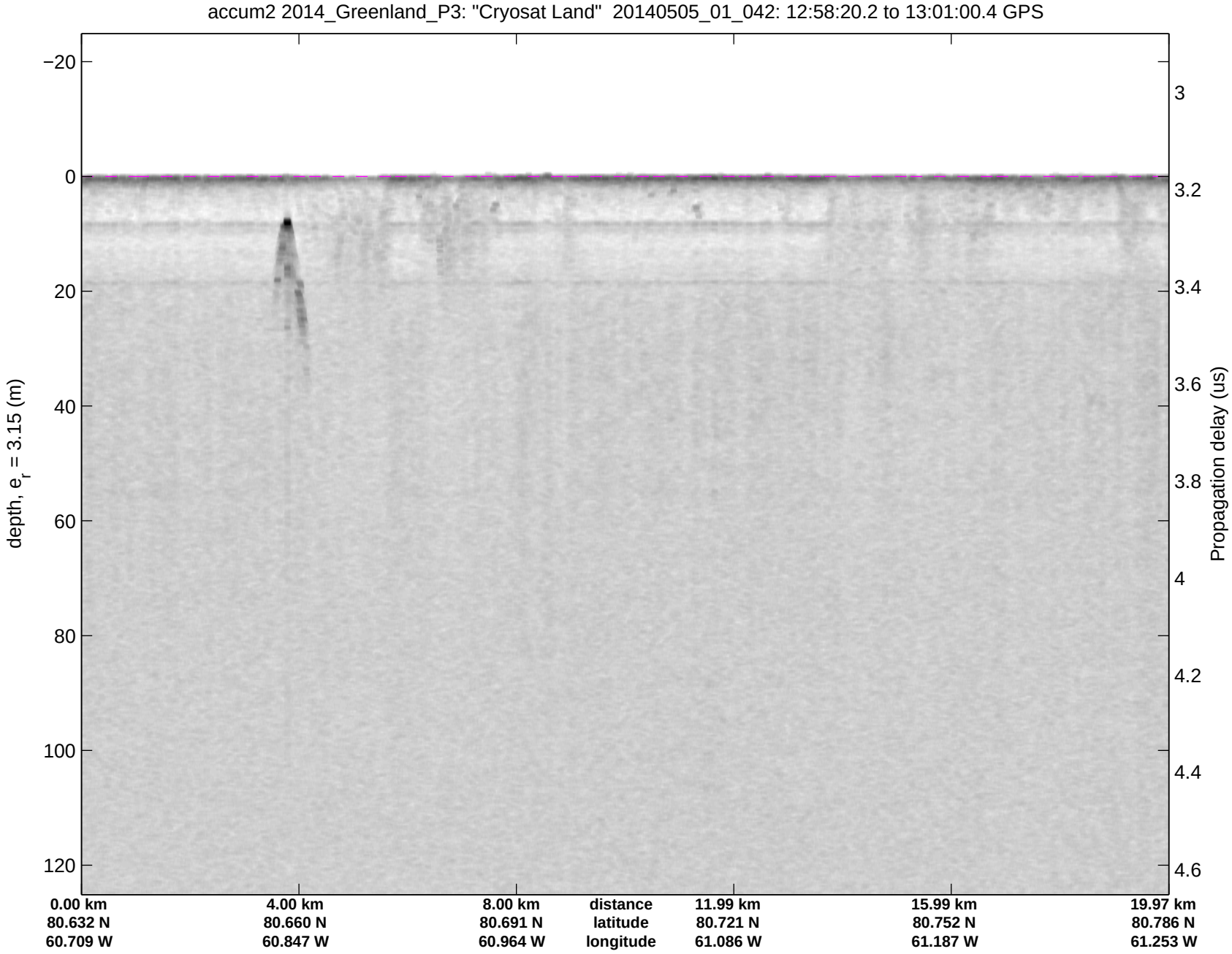

accum2 2014_Greenland_P3: "Cryosat Land" 20140505_01_041: 12:55:48.4 to 12:58:20.0 GPS
depth, e_r = 3.15 (m)
−20
0
20
40
60
80
100
120
3.2
3.4
3.6
3.8
4
4.2
4.4
4.6
4.8
Propagation delay (us)
0.00 km
80.497 N
59.998 W
4.00 km
80.524 N
60.141 W
7.99 km
80.550 N
60.285 W
distance
latitude
longitude
11.99 km
80.577 N
60.429 W
15.99 km
80.605 N
60.569 W
19.98 km
80.632 N
60.709 W

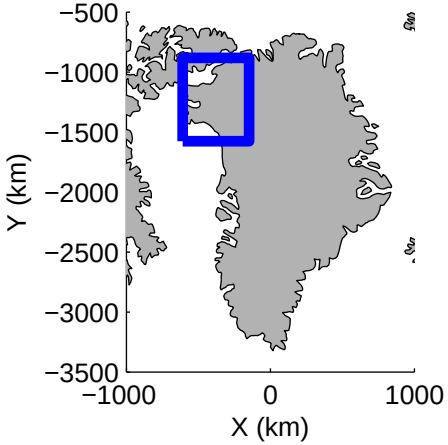

−500
−1000
−1500
−2000
−2500
−3000
−3500
Y (km)
−1000
0
1000
X (km)

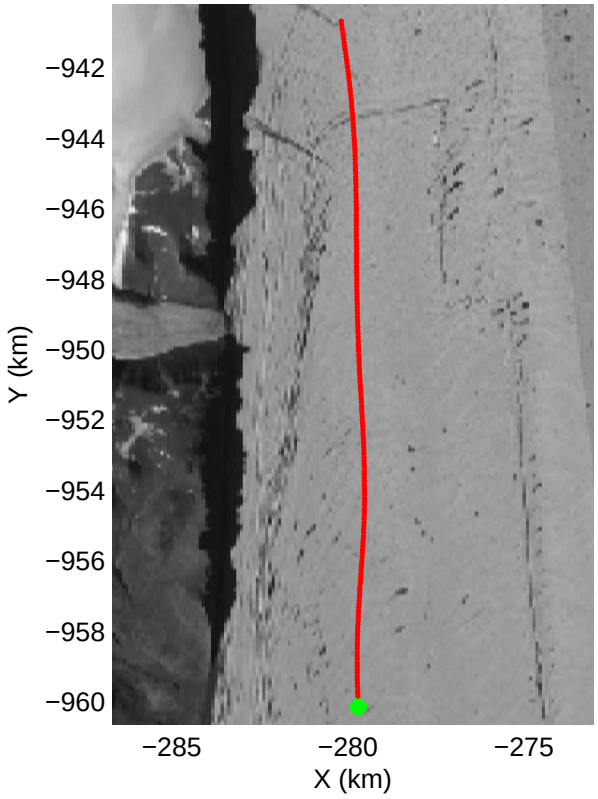

−960
−962
−964
−966
−968
−970
−972
−974
−976
−978
Y (km)
−284
−282
−280
−278
−276
−274
−272
X (km)

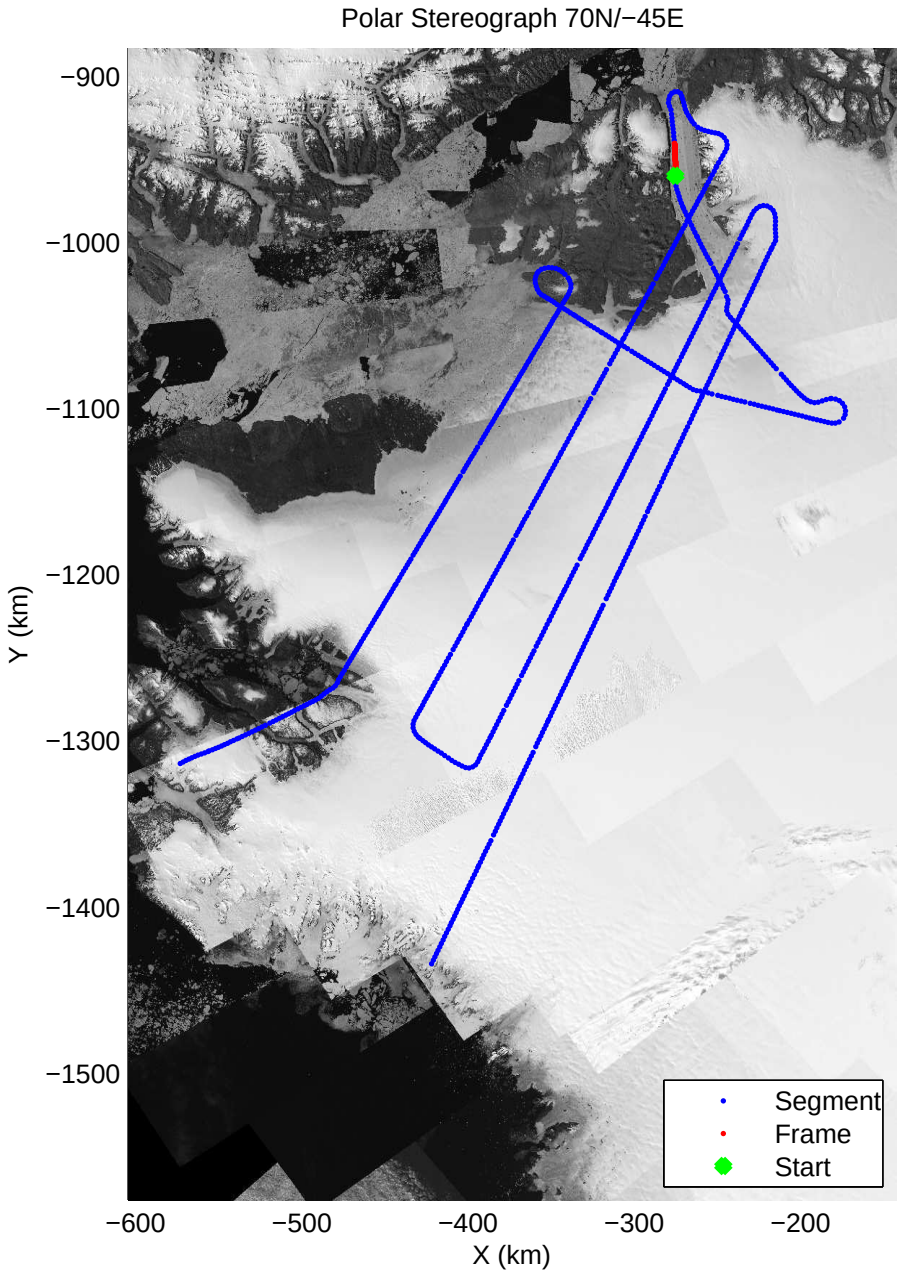

Polar Stereograph 70N/−45E
−900
−1000
−1100
−1200
−1300
−1400
−1500
Y (km)
−600
−500
−400
−300
−200
X (km)
Segment
Frame
Start

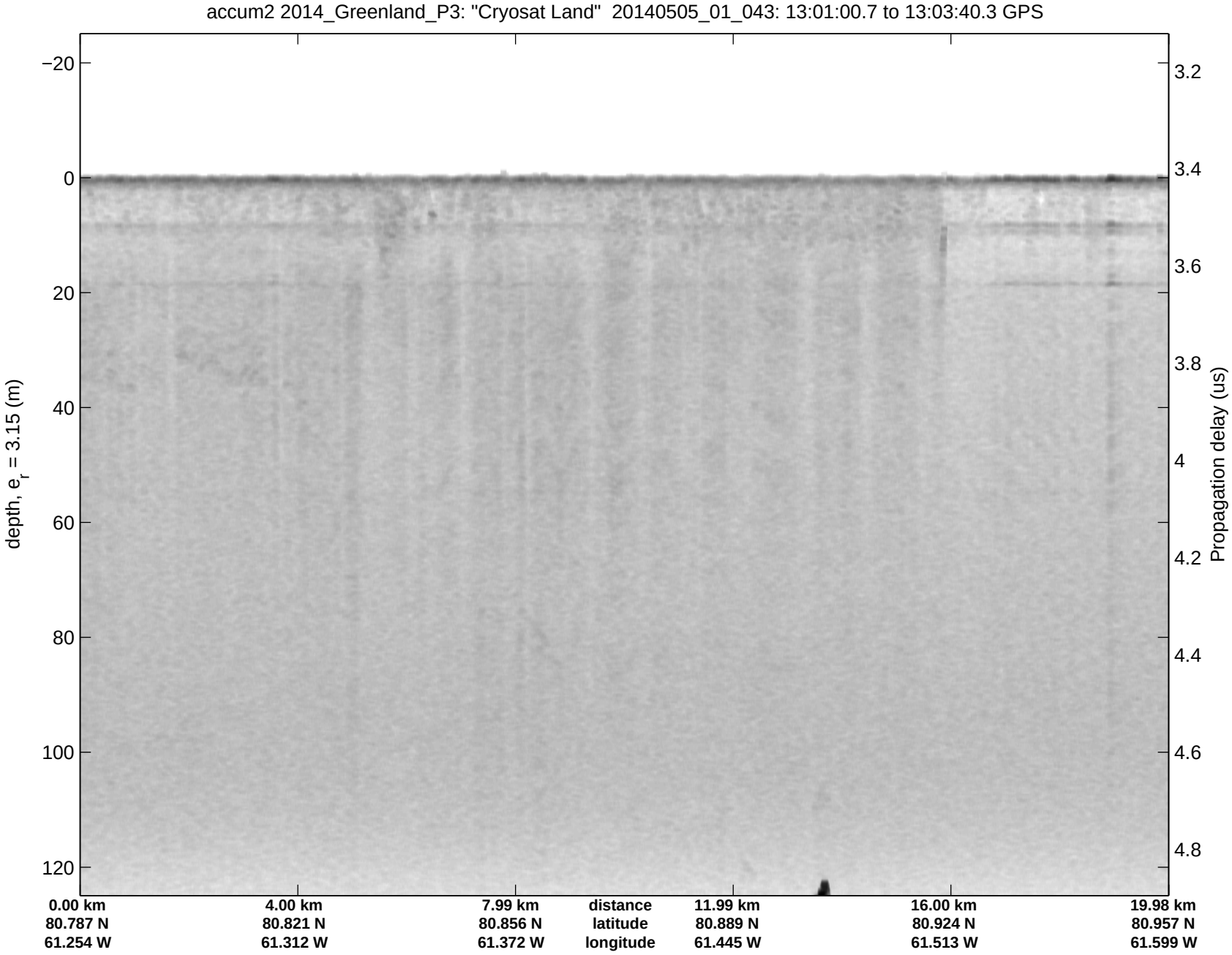

accum2 2014_Greenland_P3: "Cryosat Land" 20140505_01_042: 12:58:20.2 to 13:01:00.4 GPS
depth, e_r = 3.15 (m)
−20
0
20
40
60
80
100
120
Propagation delay (us)
3
3.2
3.4
3.6
3.8
4
4.2
4.4
4.6
0.00 km
80.632 N
60.709 W
4.00 km
80.660 N
60.847 W
8.00 km
80.691 N
60.964 W
distance
latitude
longitude
11.99 km
80.721 N
61.086 W
15.99 km
80.752 N
61.187 W
19.97 km
80.786 N
61.253 W

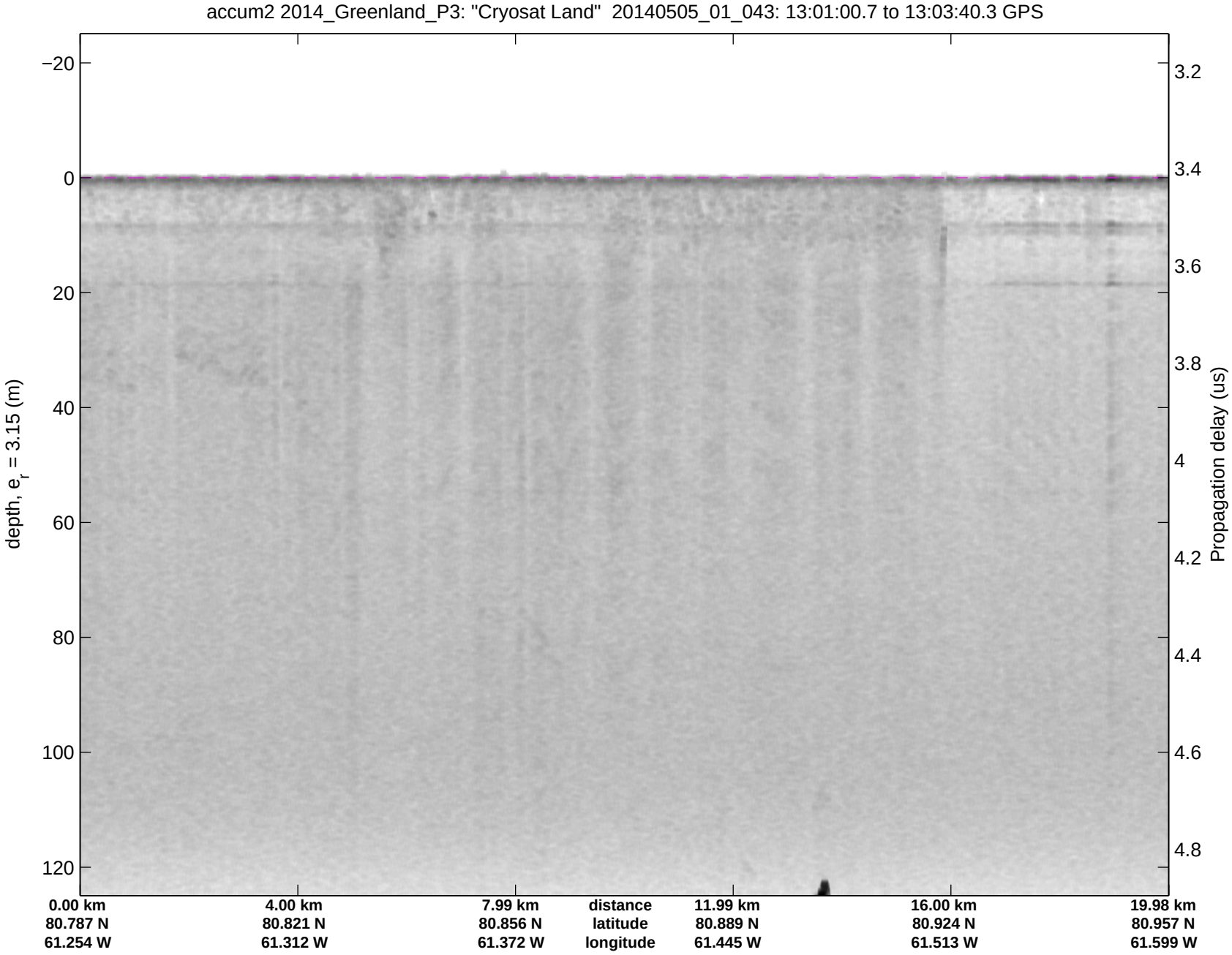

accum2 2014_Greenland_P3: "Cryosat Land" 20140505_01_042: 12:58:20.2 to 13:01:00.4 GPS
depth, e_r = 3.15 (m)
−20
0
20
40
60
80
100
120
Propagation delay (us)
3
3.2
3.4
3.6
3.8
4
4.2
4.4
4.6
0.00 km
80.632 N
60.709 W
4.00 km
80.660 N
60.847 W
8.00 km
80.691 N
60.964 W
distance
latitude
longitude
11.99 km
80.721 N
61.086 W
15.99 km
80.752 N
61.187 W
19.97 km
80.786 N
61.253 W

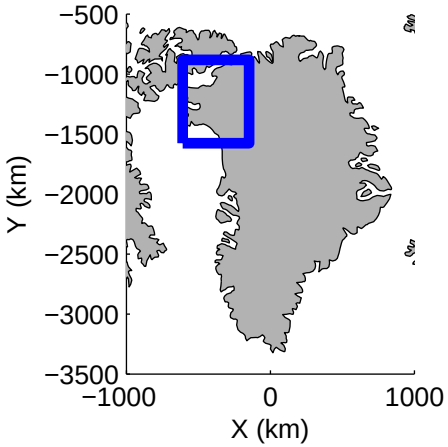

−500
−1000
−1500
−2000
−2500
−3000
−3500
Y (km)
−1000
0
1000
X (km)

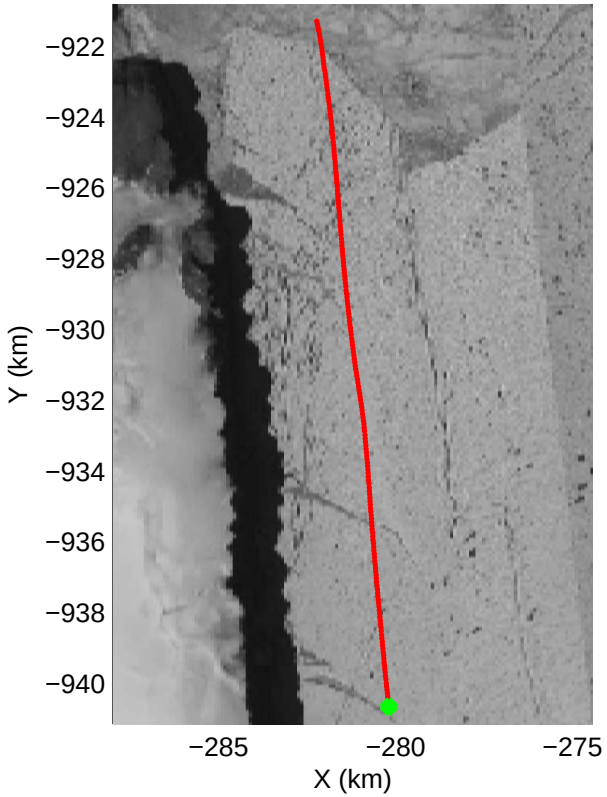

−942
−944
−946
−948
−950
−952
−954
−956
−958
−960
Y (km)
−285
−280
−275
X (km)

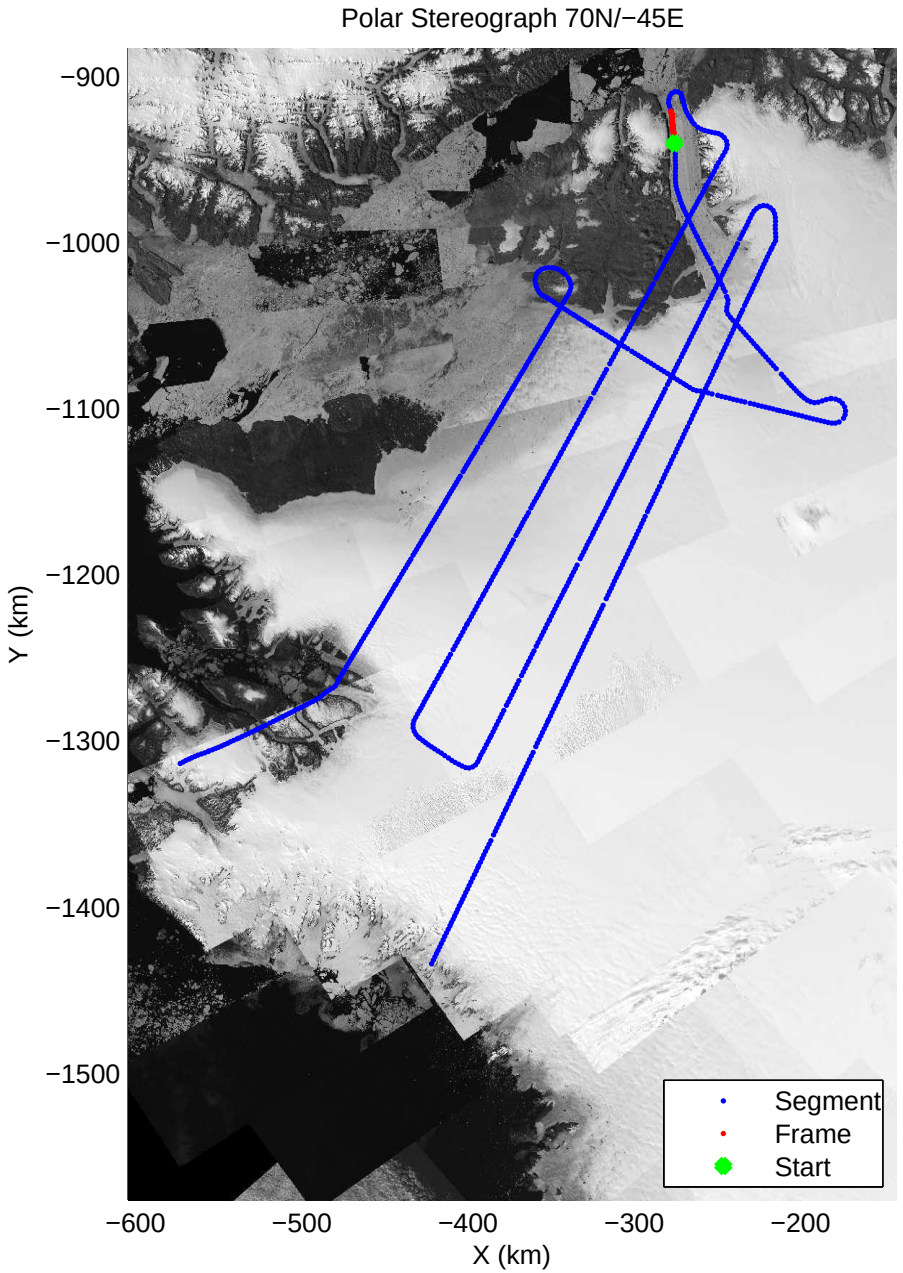

Polar Stereograph 70N/−45E
−900
−1000
−1100
−1200
−1300
−1400
−1500
Y (km)
−600
−500
−400
−300
−200
X (km)
Segment
Frame
Start

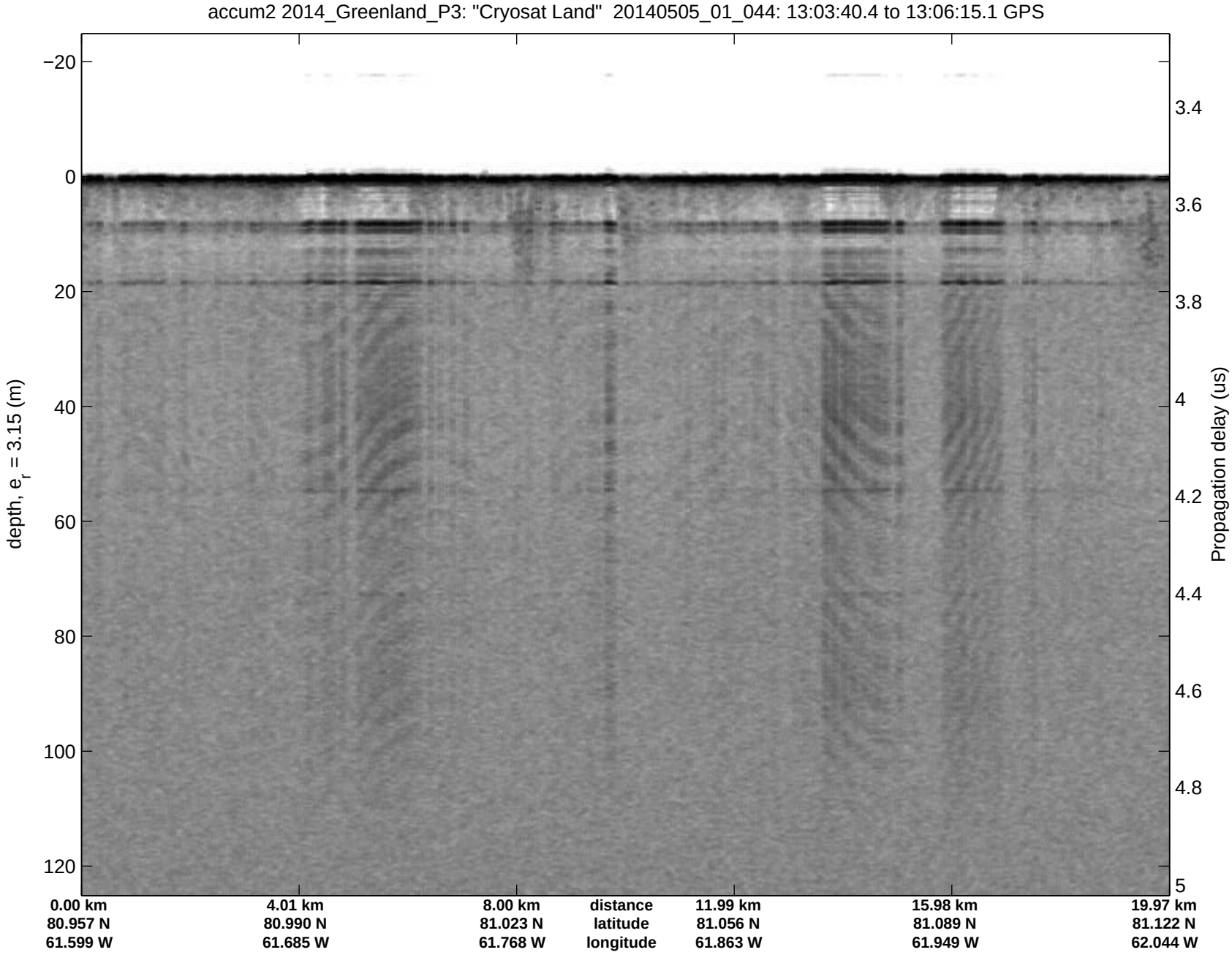

accum2 2014_Greenland_P3: "Cryosat Land" 20140505_01_043: 13:01:00.7 to 13:03:40.3 GPS
depth, e_r = 3.15 (m)
−20
0
20
40
60
80
100
120
Propagation delay (us)
3.2
3.4
3.6
3.8
4
4.2
4.4
4.6
4.8
0.00 km
80.787 N
61.254 W
4.00 km
80.821 N
61.312 W
7.99 km
80.856 N
61.372 W
distance
latitude
longitude
11.99 km
80.889 N
61.445 W
16.00 km
80.924 N
61.513 W
19.98 km
80.957 N
61.599 W

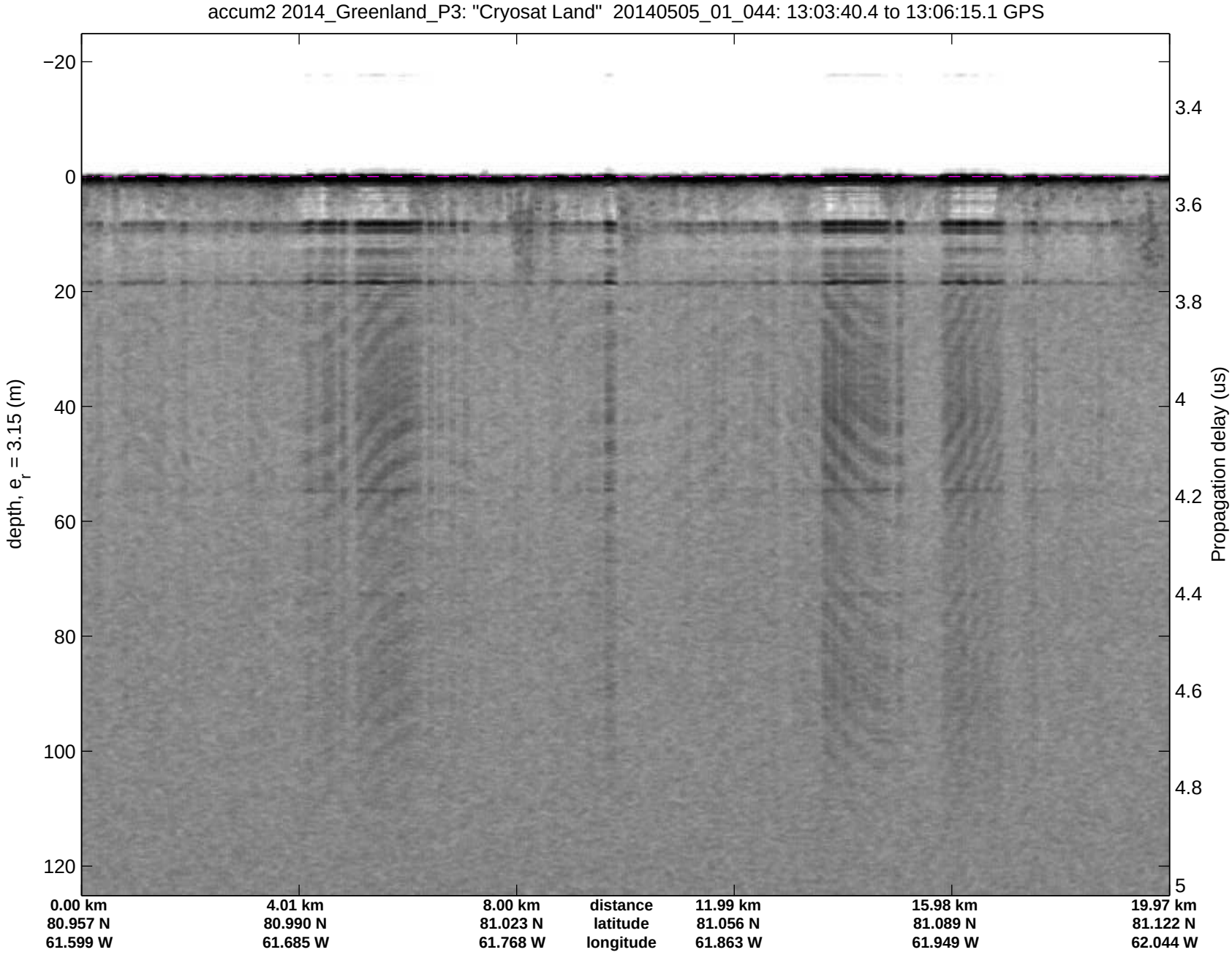

accum2 2014_Greenland_P3: "Cryosat Land" 20140505_01_043: 13:01:00.7 to 13:03:40.3 GPS
depth, e_r = 3.15 (m)
−20
0
20
40
60
80
100
120
Propagation delay (us)
3.2
3.4
3.6
3.8
4
4.2
4.4
4.6
4.8
0.00 km
80.787 N
61.254 W
4.00 km
80.821 N
61.312 W
7.99 km
80.856 N
61.372 W
distance
latitude
longitude
11.99 km
80.889 N
61.445 W
16.00 km
80.924 N
61.513 W
19.98 km
80.957 N
61.599 W

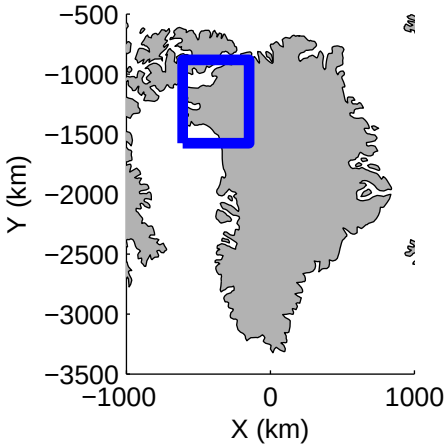

−500
−1000
−1500
−2000
−2500
−3000
−3500
Y (km)
−1000
0
1000
X (km)

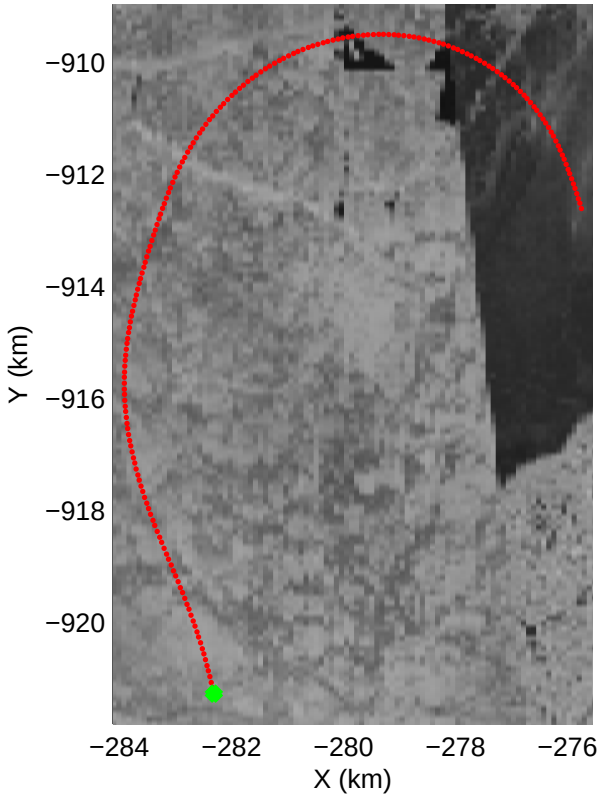

−922
−924
−926
−928
−930
−932
−934
−936
−938
−940
Y (km)
−285
−280
−275
X (km)

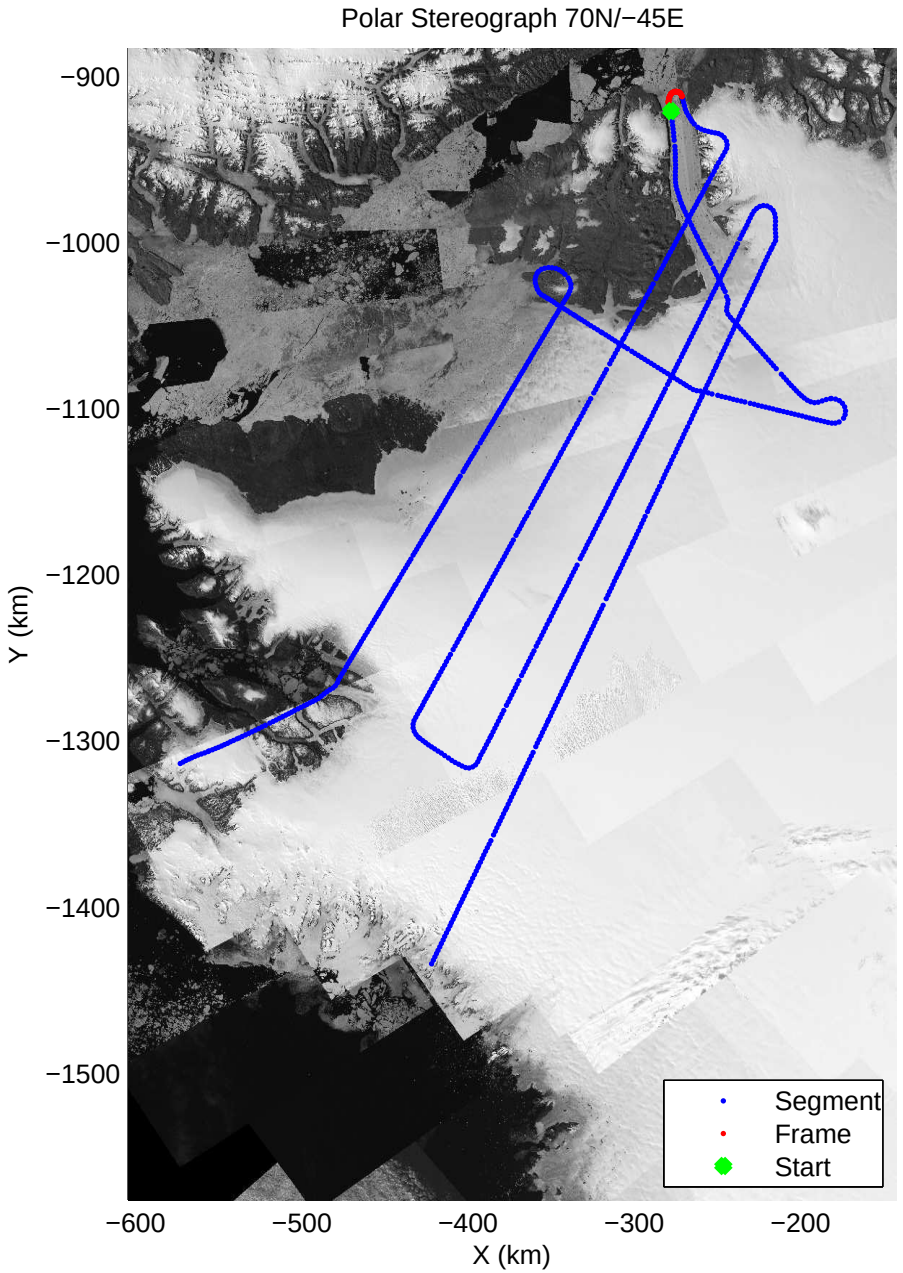

Polar Stereograph 70N/−45E
−900
−1000
−1100
−1200
−1300
−1400
−1500
Y (km)
−600
−500
−400
−300
−200
X (km)
Segment
Frame
Start

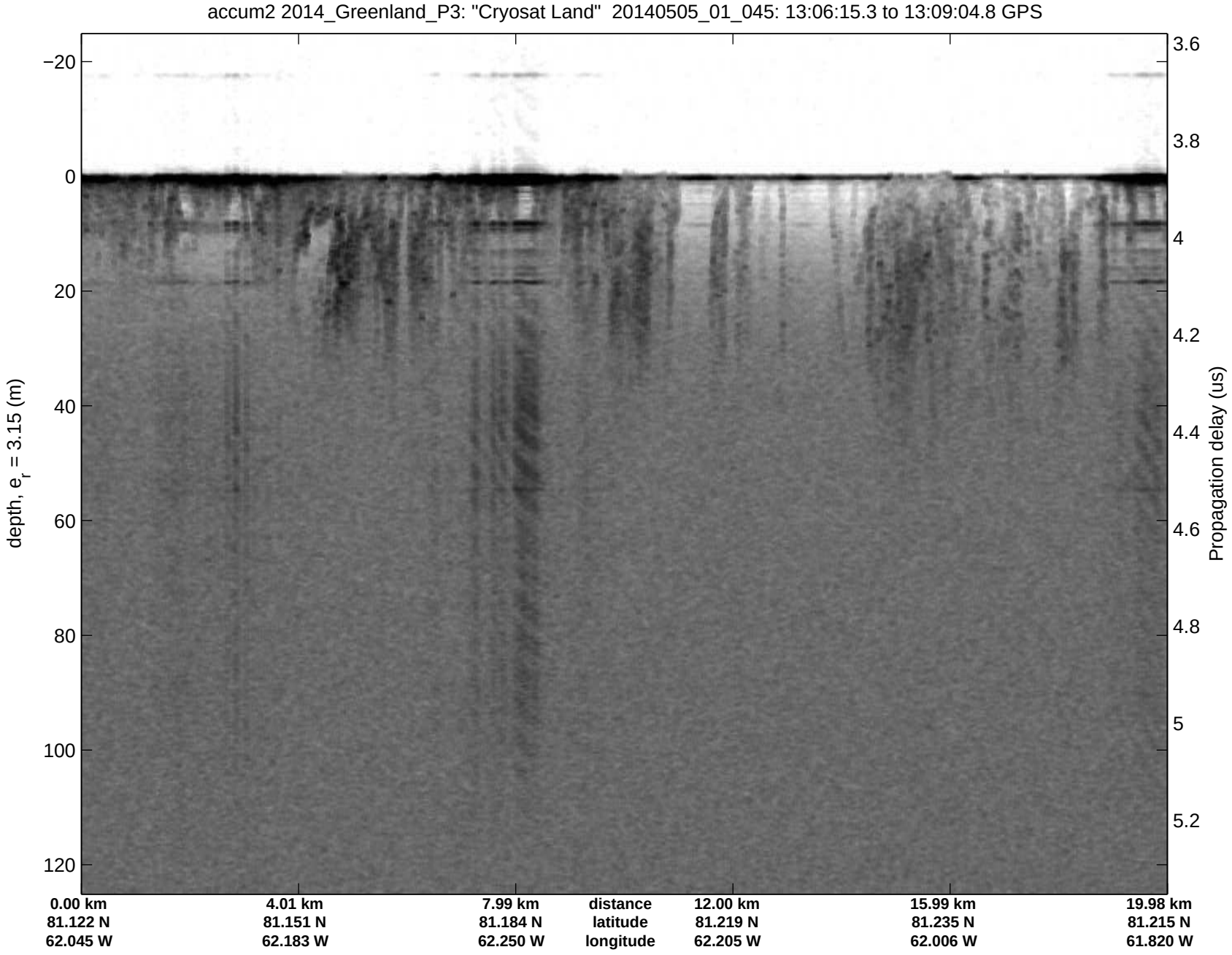

accum2 2014_Greenland_P3: "Cryosat Land" 20140505_01_044: 13:03:40.4 to 13:06:15.1 GPS
depth, e_r = 3.15 (m)
−20
0
20
40
60
80
100
120
Propagation delay (us)
3.4
3.6
3.8
4
4.2
4.4
4.6
4.8
5
0.00 km
80.957 N
61.599 W
4.01 km
80.990 N
61.685 W
8.00 km
81.023 N
61.768 W
distance
latitude
longitude
11.99 km
81.056 N
61.863 W
15.98 km
81.089 N
61.949 W
19.97 km
81.122 N
62.044 W

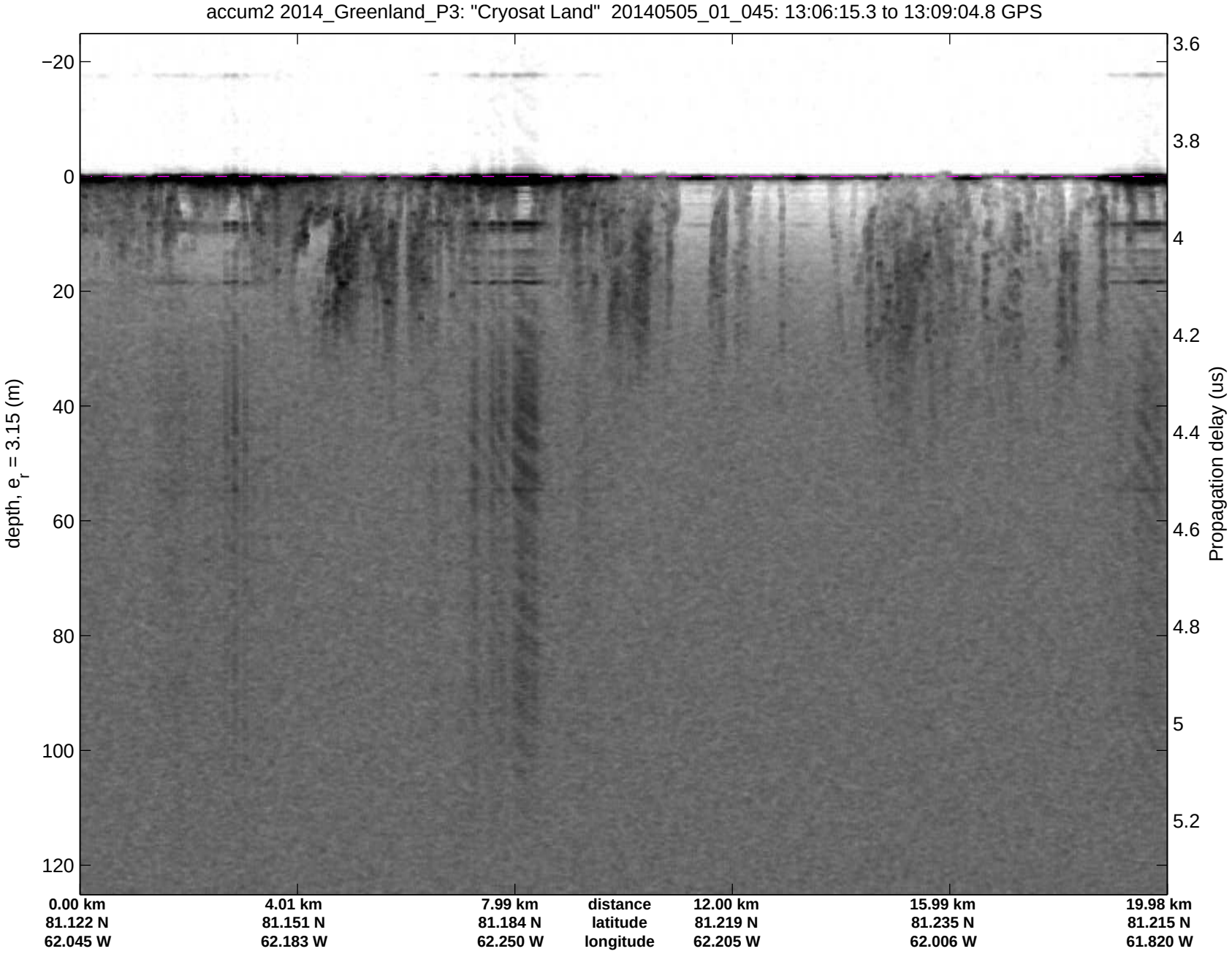

accum2 2014_Greenland_P3: "Cryosat Land" 20140505_01_044: 13:03:40.4 to 13:06:15.1 GPS
depth, e_r = 3.15 (m)
−20
0
20
40
60
80
100
120
Propagation delay (us)
3.4
3.6
3.8
4
4.2
4.4
4.6
4.8
5
0.00 km
80.957 N
61.599 W
4.01 km
80.990 N
61.685 W
8.00 km
81.023 N
61.768 W
distance
latitude
longitude
11.99 km
81.056 N
61.863 W
15.98 km
81.089 N
61.949 W
19.97 km
81.122 N
62.044 W

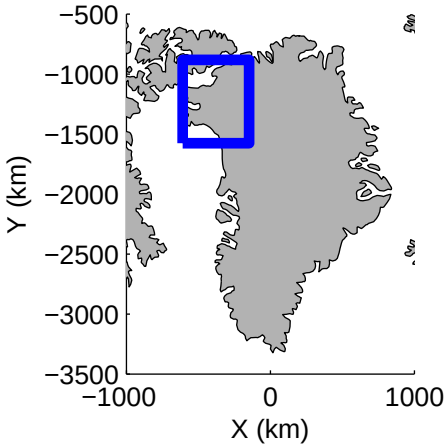

−500
−1000
−1500
−2000
−2500
−3000
−3500
Y (km)
−1000
0
1000
X (km)

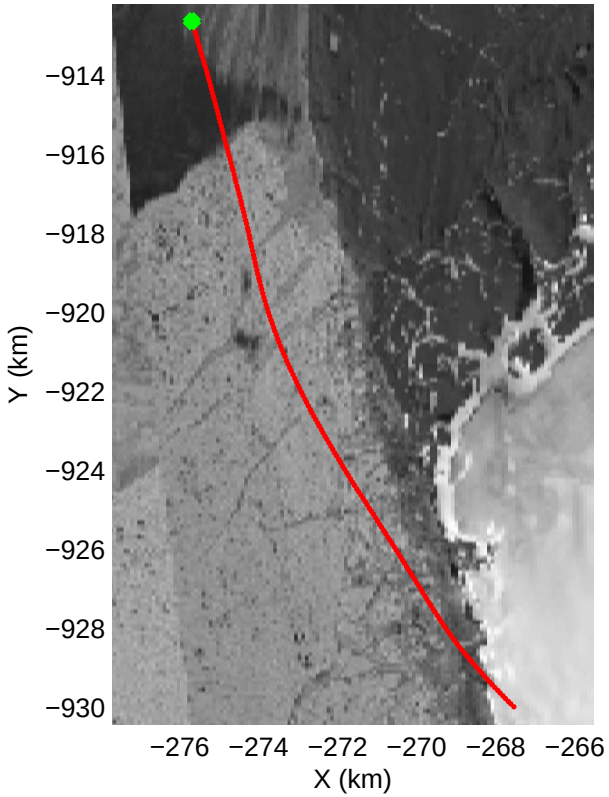

−910
−912
−914
−916
−918
−920
Y (km)
−284
−282
−280
−278
−276
X (km)

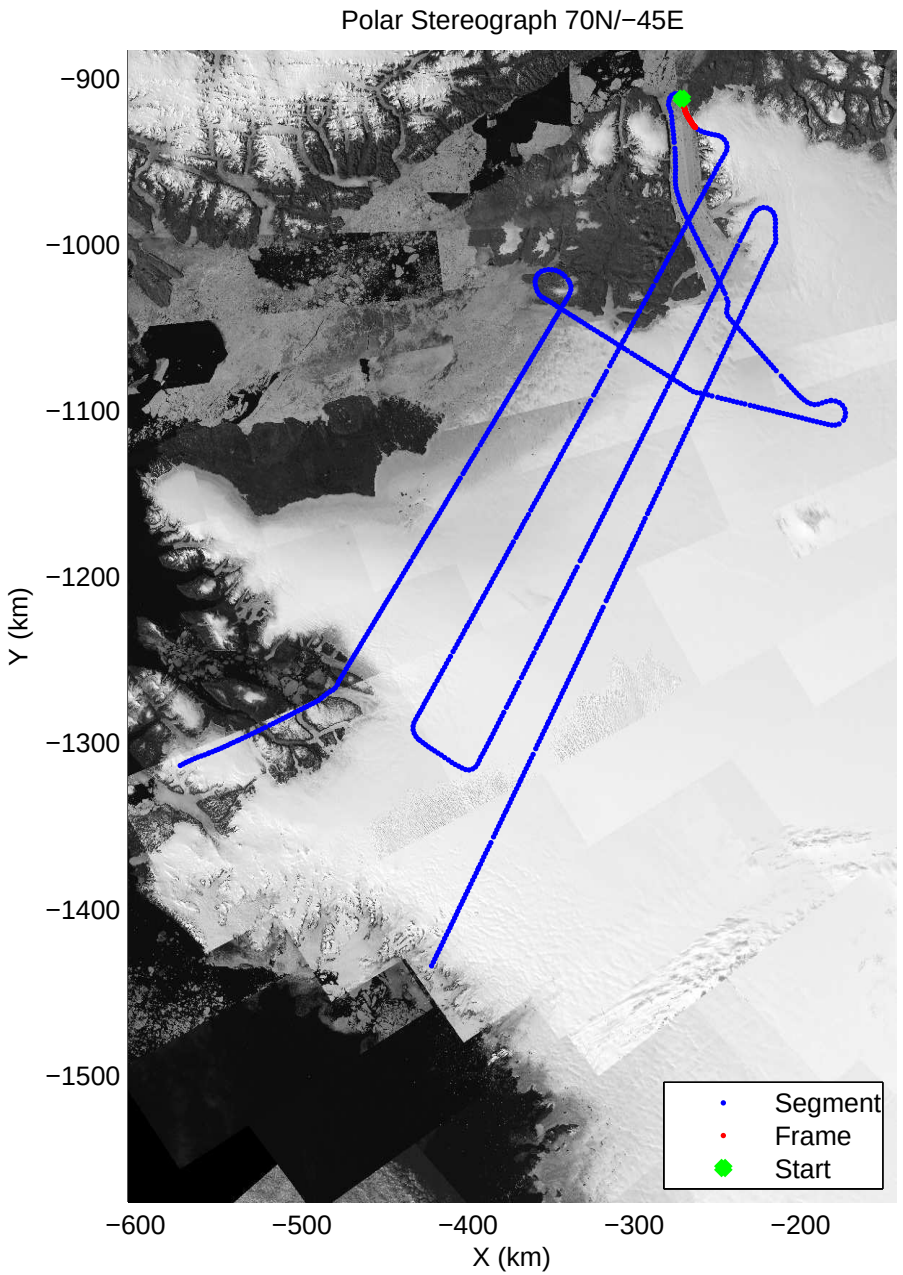

Polar Stereograph 70N/−45E
−900
−1000
−1100
−1200
−1300
−1400
−1500
Y (km)
−600
−500
−400
−300
−200
X (km)
Segment
Frame
Start

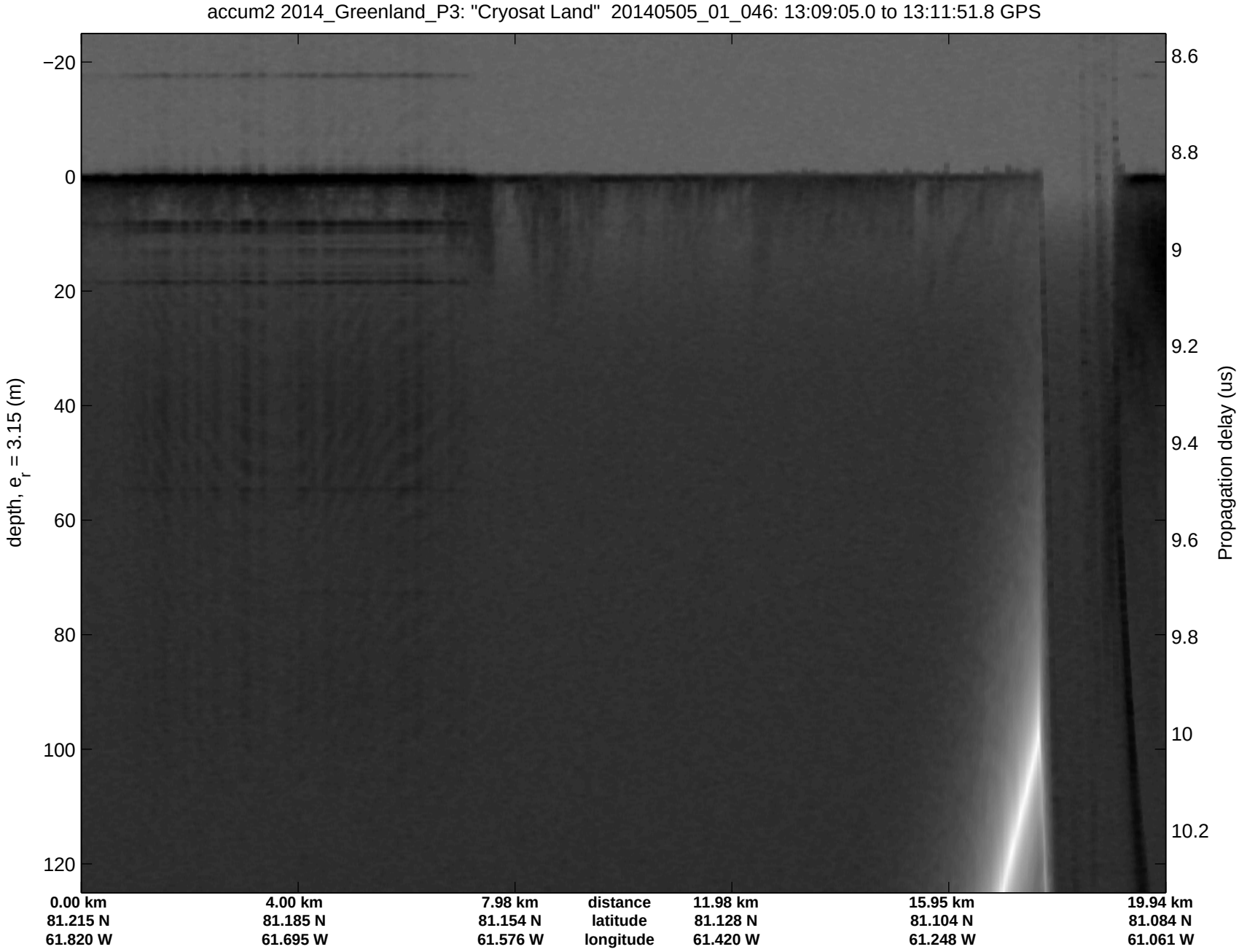

accum2 2014_Greenland_P3: "Cryosat Land" 20140505_01_045: 13:06:15.3 to 13:09:04.8 GPS
depth, e_r = 3.15 (m)
−20
0
20
40
60
80
100
120
Propagation delay (us)
3.6
3.8
4
4.2
4.4
4.6
4.8
5
5.2
0.00 km
81.122 N
62.045 W
4.01 km
81.151 N
62.183 W
7.99 km
81.184 N
62.250 W
distance
latitude
longitude
12.00 km
81.219 N
62.205 W
15.99 km
81.235 N
62.006 W
19.98 km
81.215 N
61.820 W

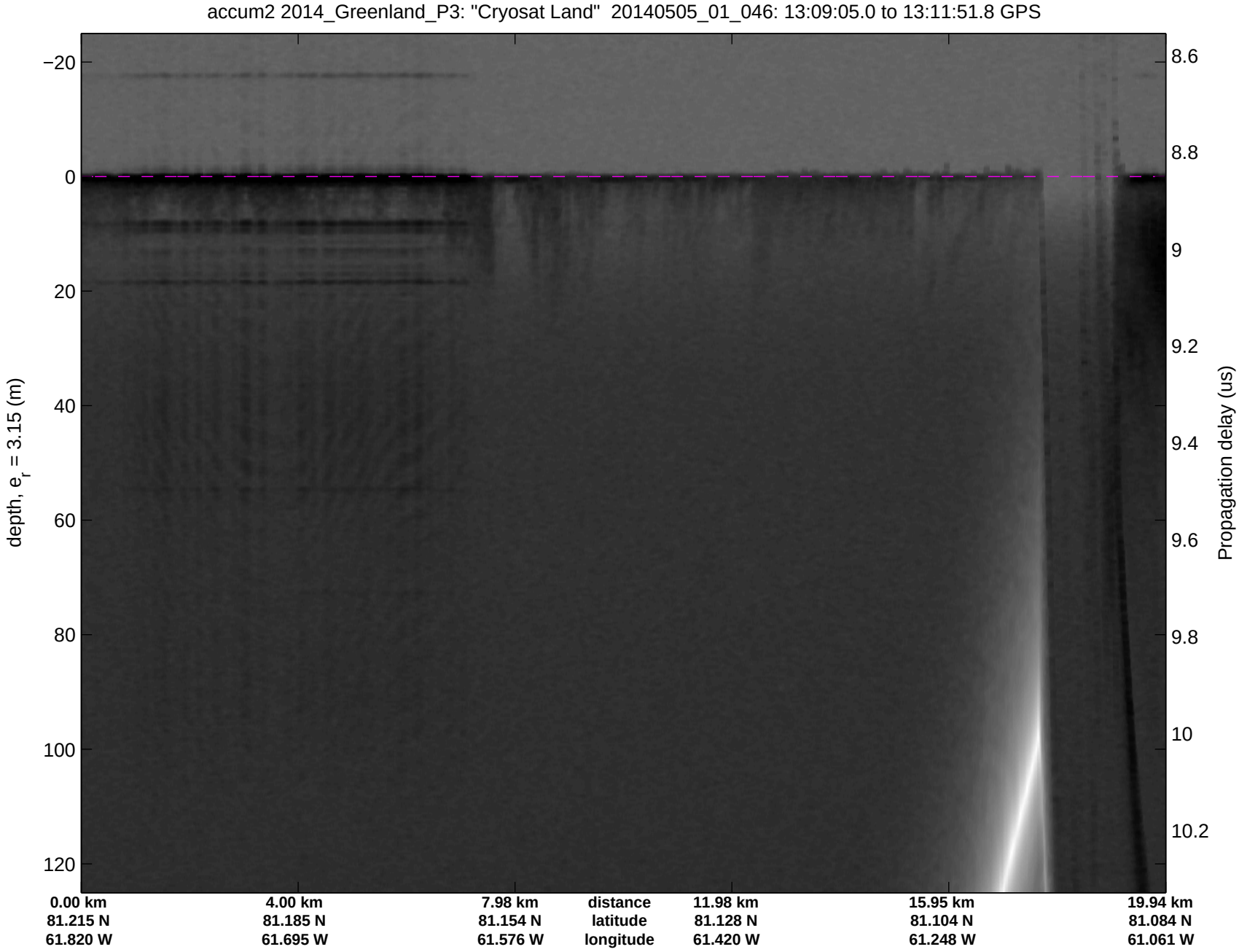

accum2 2014_Greenland_P3: "Cryosat Land" 20140505_01_045: 13:06:15.3 to 13:09:04.8 GPS
depth, e_r = 3.15 (m)
−20
0
20
40
60
80
100
120
Propagation delay (us)
3.6
3.8
4
4.2
4.4
4.6
4.8
5
5.2
0.00 km
81.122 N
62.045 W
4.01 km
81.151 N
62.183 W
7.99 km
81.184 N
62.250 W
distance
latitude
longitude
12.00 km
81.219 N
62.205 W
15.99 km
81.235 N
62.006 W
19.98 km
81.215 N
61.820 W

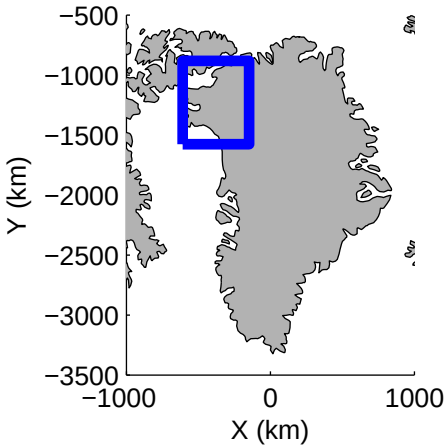

−500
−1000
−1500
−2000
−2500
−3000
−3500
Y (km)
−1000
0
1000
X (km)

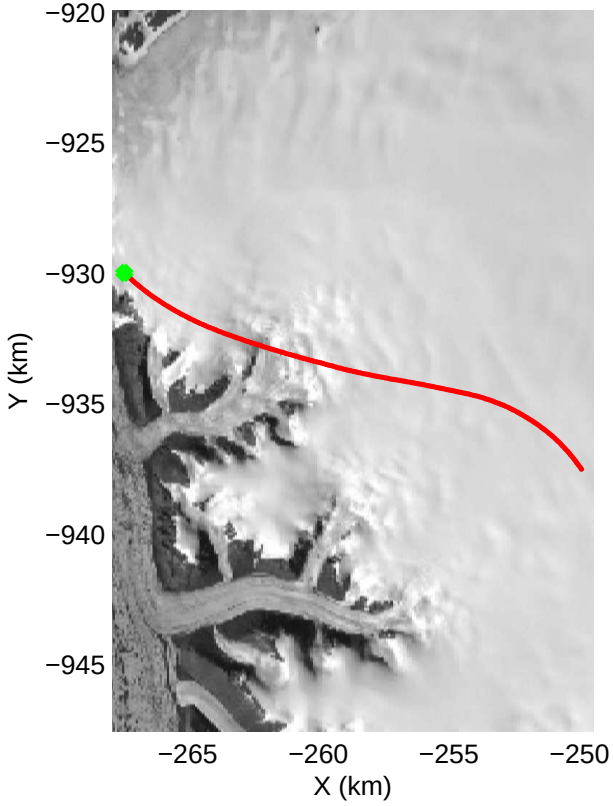

−914
−916
−918
−920
−922
−924
−926
−928
−930
Y (km)
−276
−274
−272
−270
−268
−266
X (km)

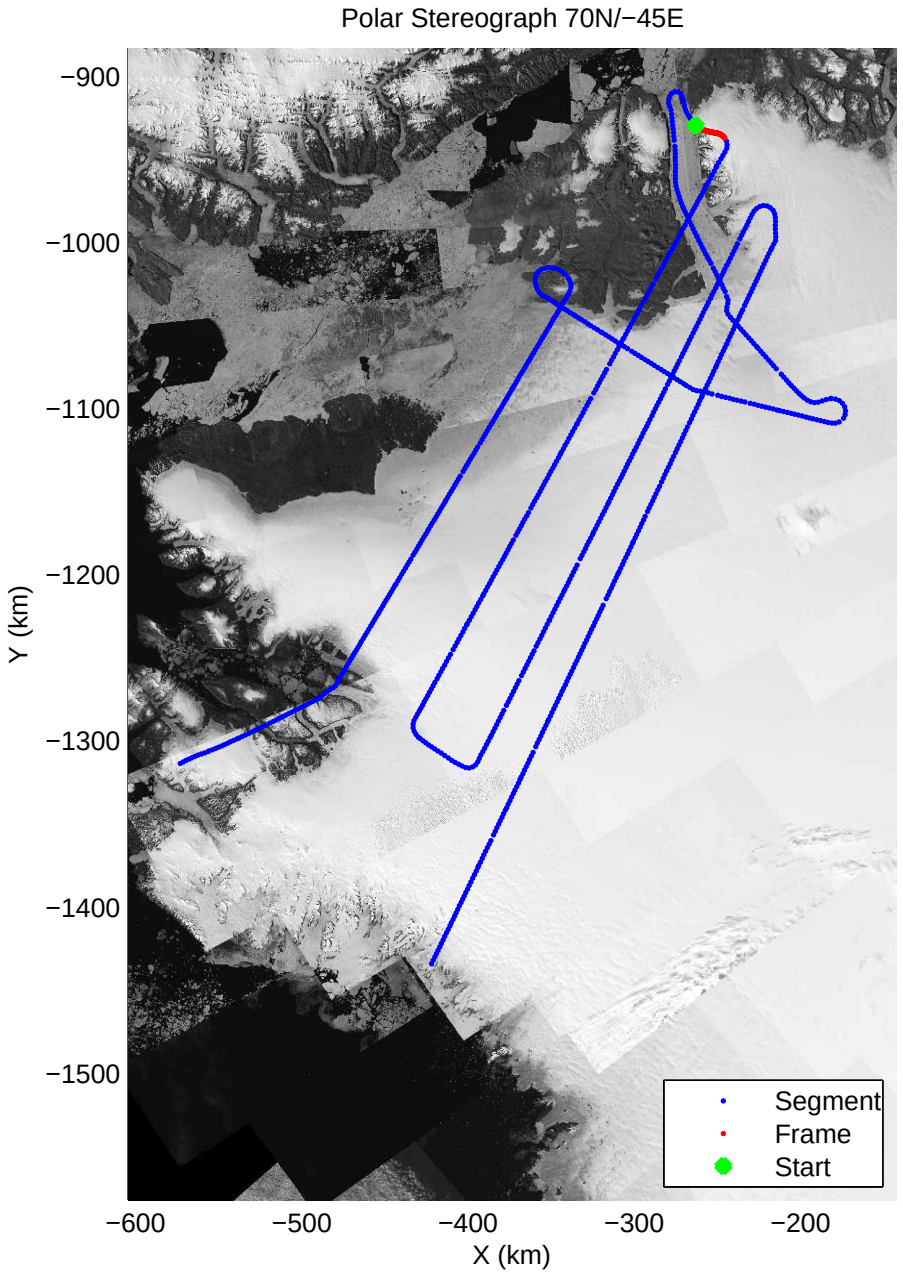

Polar Stereograph 70N/−45E
−900
−1000
−1100
−1200
−1300
−1400
−1500
Y (km)
−600
−500
−400
−300
−200
X (km)
Segment
Frame
Start

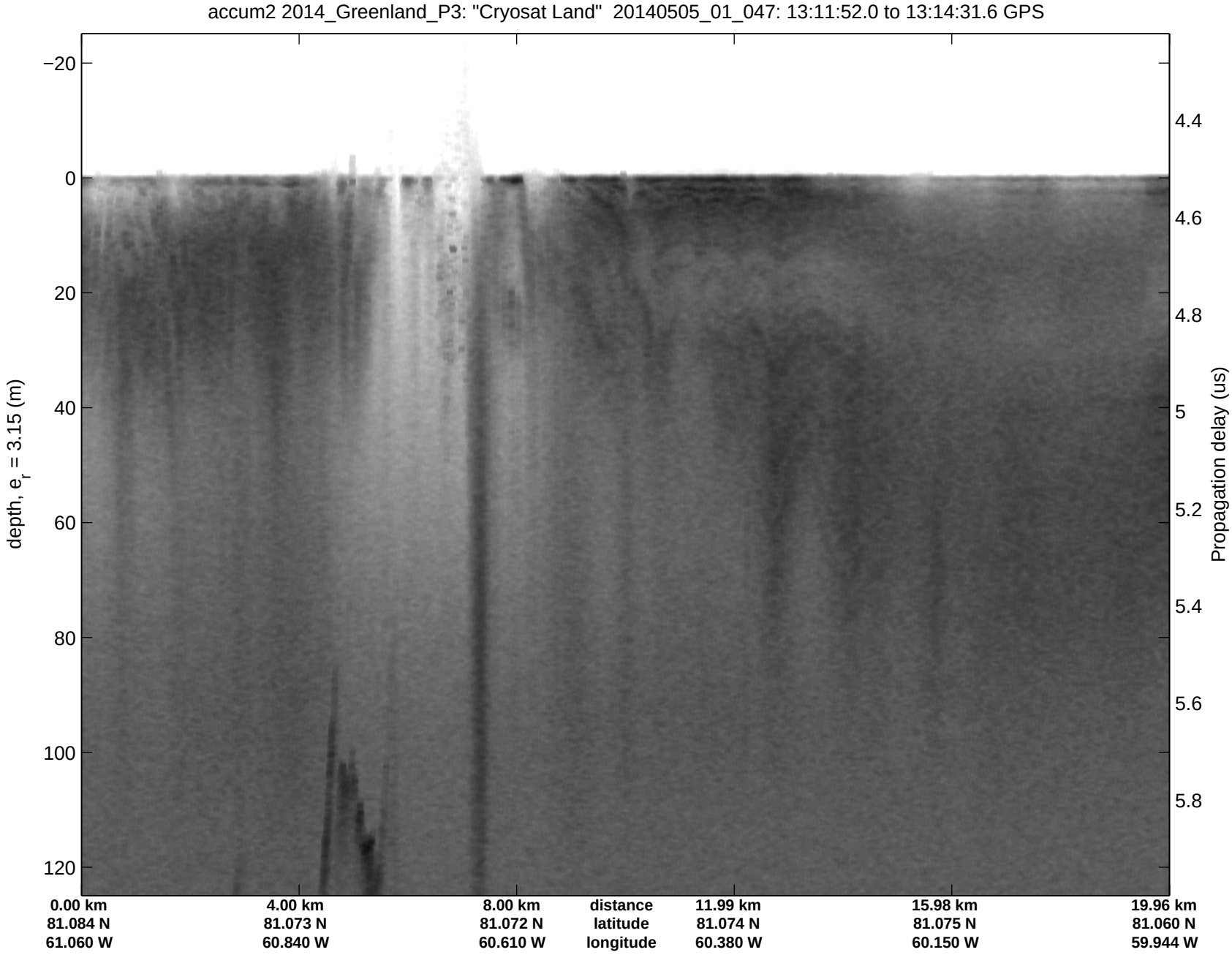

accum2 2014_Greenland_P3: "Cryosat Land" 20140505_01_046: 13:09:05.0 to 13:11:51.8 GPS
depth, e_r = 3.15 (m)
−20
0
20
40
60
80
100
120
Propagation delay (us)
8.6
8.8
9
9.2
9.4
9.6
9.8
10
10.2
0.00 km
81.215 N
61.820 W
4.00 km
81.185 N
61.695 W
7.98 km
81.154 N
61.576 W
distance
latitude
longitude
11.98 km
81.128 N
61.420 W
15.95 km
81.104 N
61.248 W
19.94 km
81.084 N
61.061 W

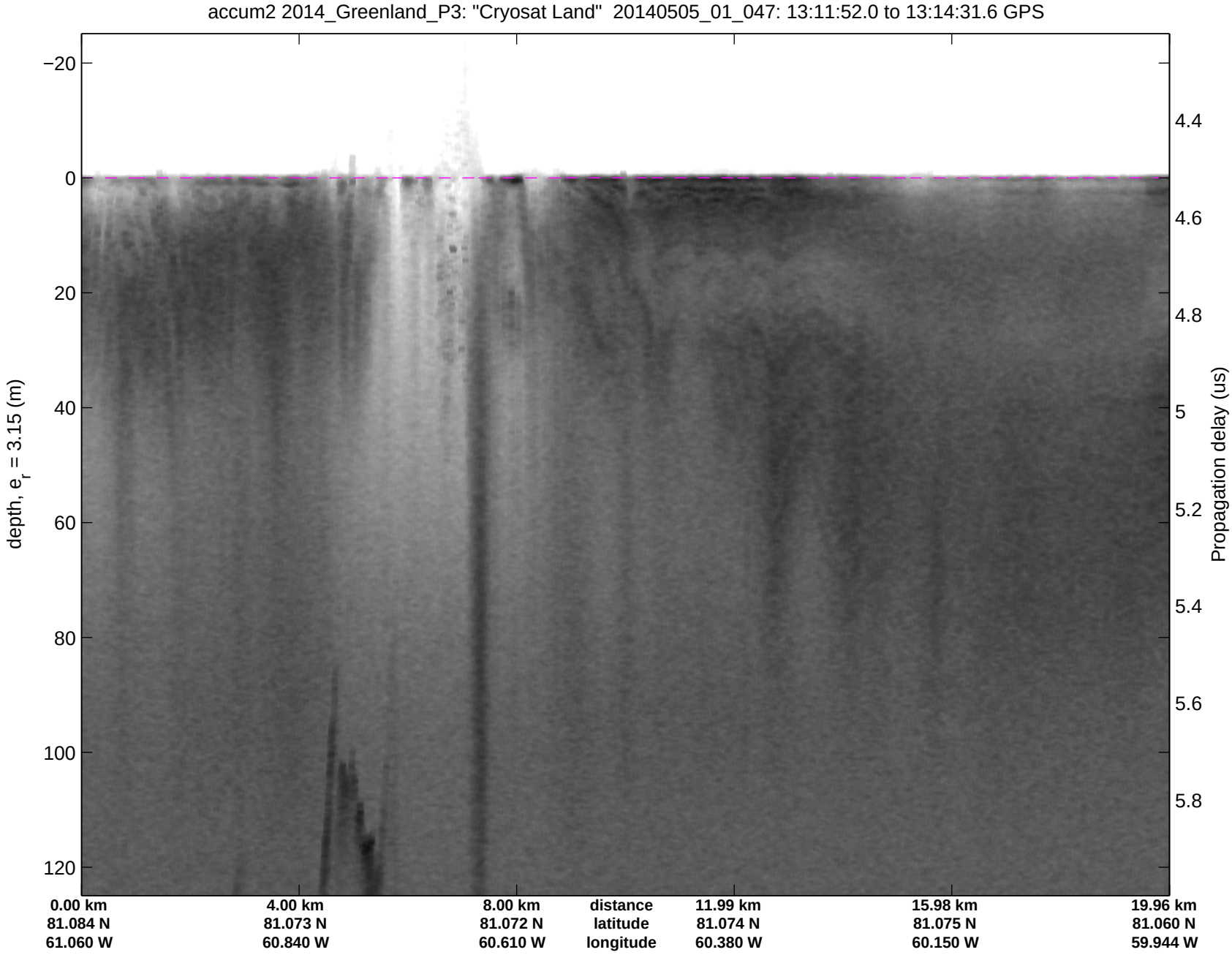

accum2 2014_Greenland_P3: "Cryosat Land" 20140505_01_046: 13:09:05.0 to 13:11:51.8 GPS
depth, e_r = 3.15 (m)
−20
0
20
40
60
80
100
120
Propagation delay (us)
8.6
8.8
9
9.2
9.4
9.6
9.8
10
10.2
0.00 km
81.215 N
61.820 W
4.00 km
81.185 N
61.695 W
7.98 km
81.154 N
61.576 W
distance
latitude
longitude
11.98 km
81.128 N
61.420 W
15.95 km
81.104 N
61.248 W
19.94 km
81.084 N
61.061 W

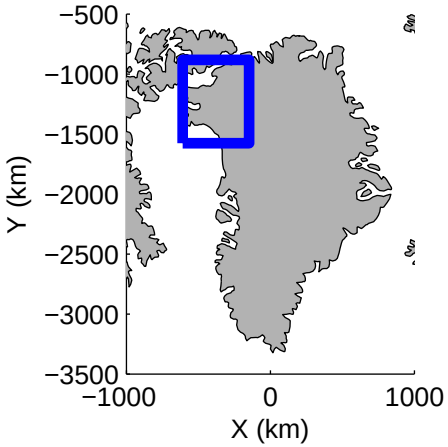

−500
−1000
−1500
−2000
−2500
−3000
−3500
Y (km)
−1000
0
1000
X (km)

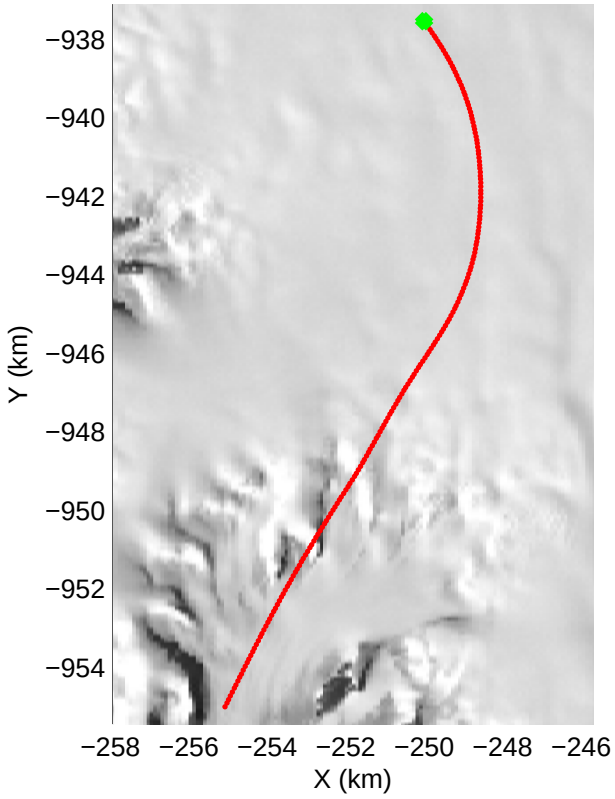

−920
−925
−930
−935
−940
−945
Y (km)
−265
−260
−255
−250
X (km)

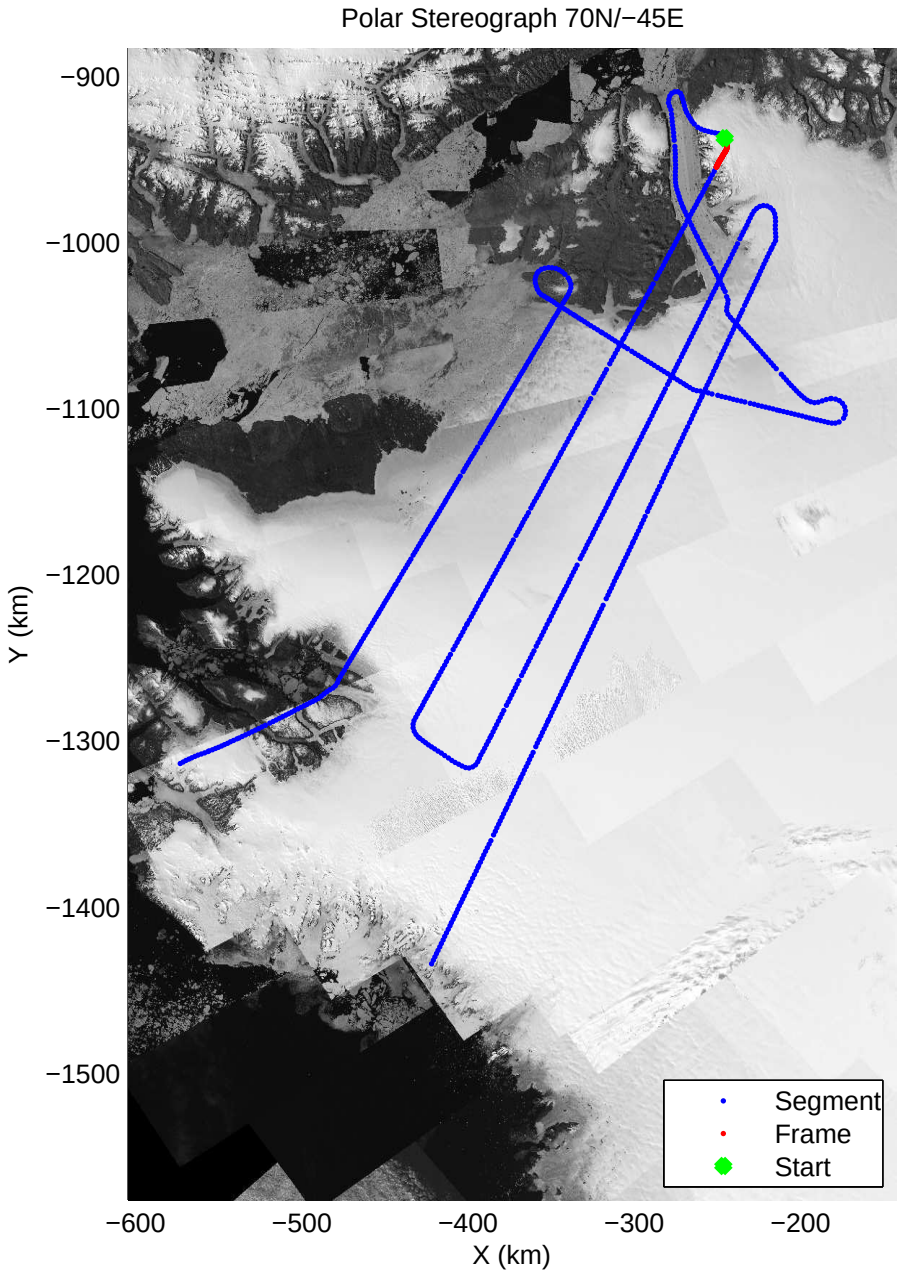

Polar Stereograph 70N/−45E
−900
−1000
−1100
−1200
−1300
−1400
−1500
Y (km)
−600
−500
−400
−300
−200
X (km)
Segment
Frame
Start

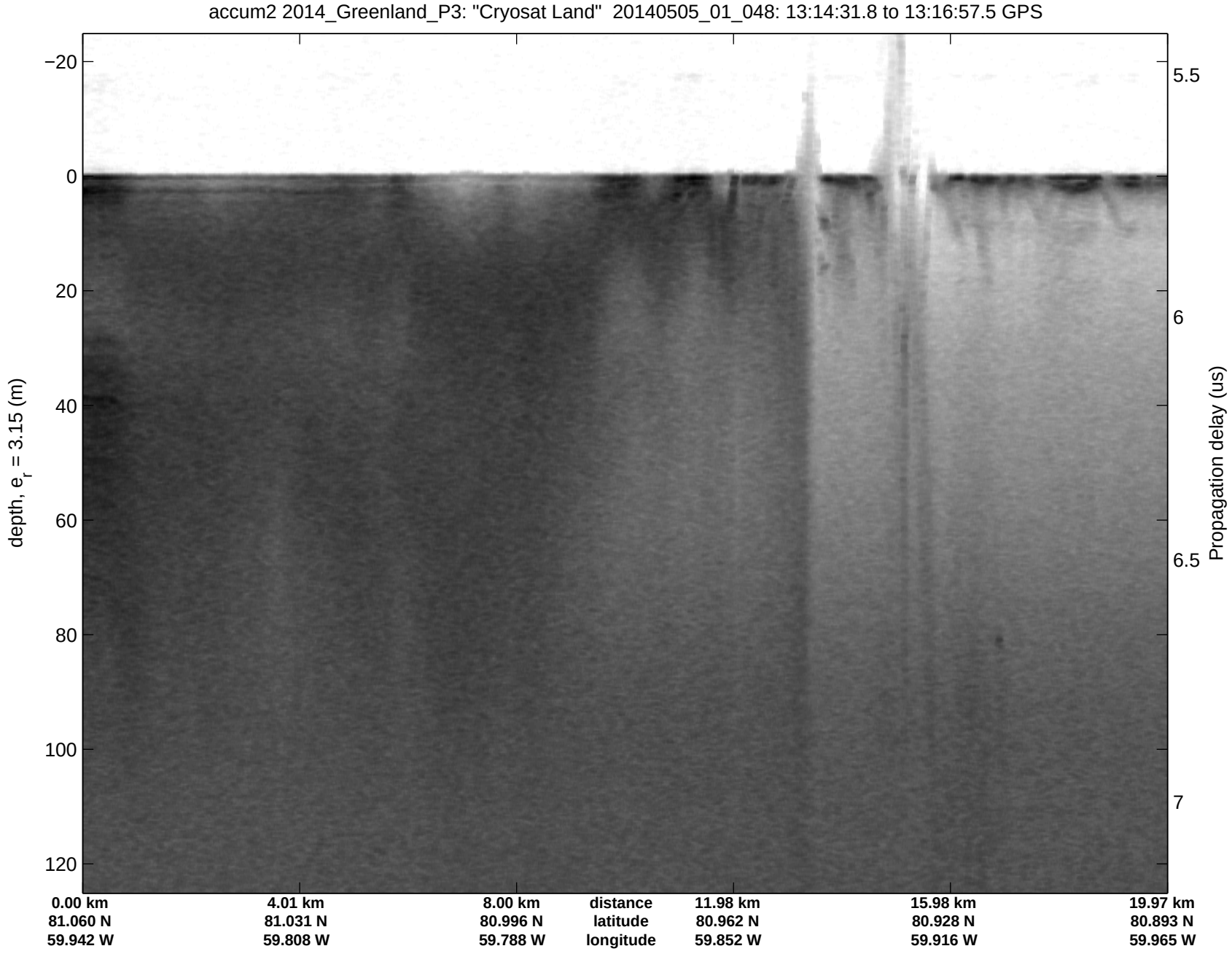

accum2 2014_Greenland_P3: "Cryosat Land" 20140505_01_047: 13:11:52.0 to 13:14:31.6 GPS
depth, e_r = 3.15 (m)
−20
0
20
40
60
80
100
120
Propagation delay (us)
4.4
4.6
4.8
5
5.2
5.4
5.6
5.8
0.00 km
81.084 N
61.060 W
4.00 km
81.073 N
60.840 W
8.00 km
81.072 N
60.610 W
distance
latitude
longitude
11.99 km
81.074 N
60.380 W
15.98 km
81.075 N
60.150 W
19.96 km
81.060 N
59.944 W

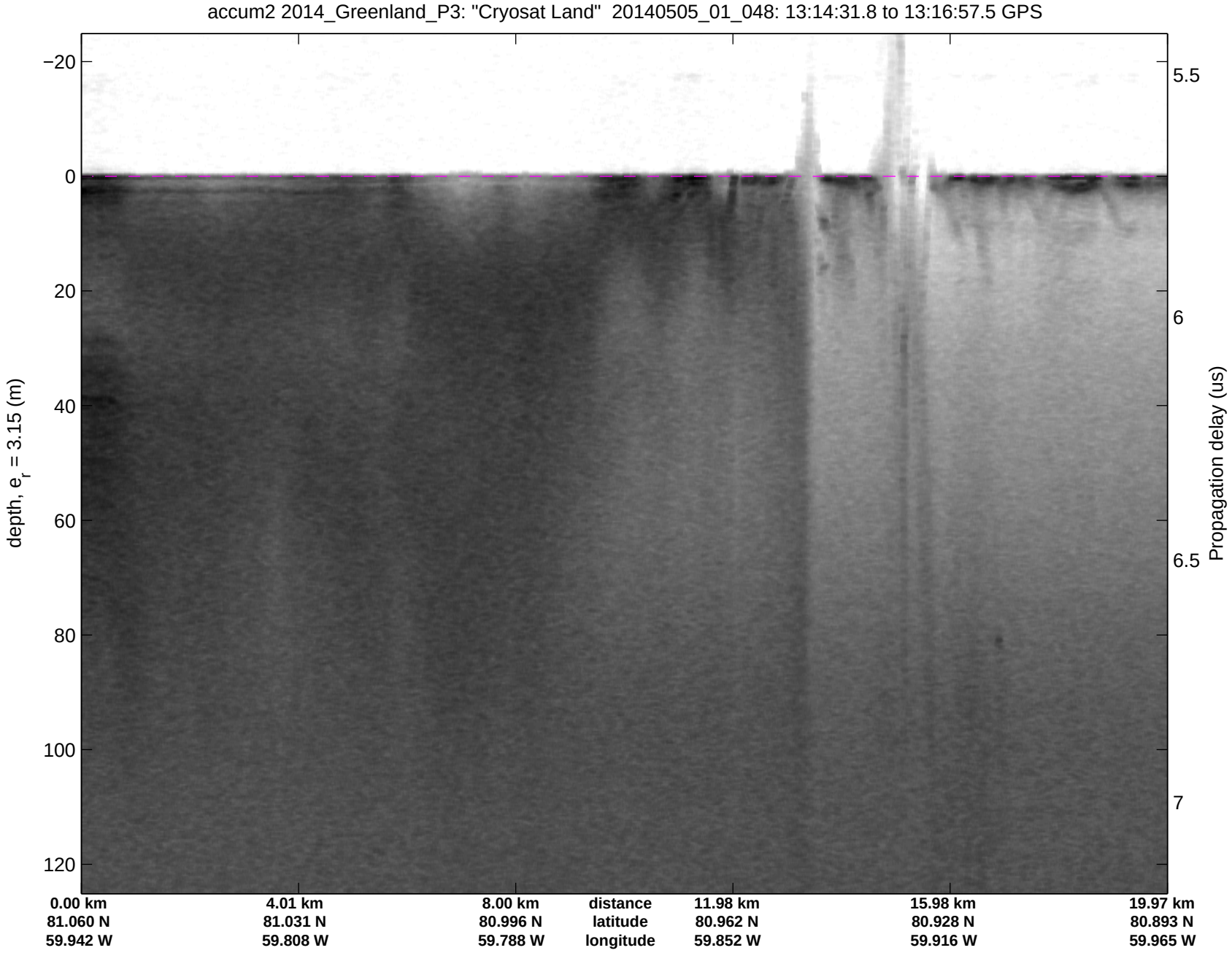

accum2 2014_Greenland_P3: "Cryosat Land" 20140505_01_047: 13:11:52.0 to 13:14:31.6 GPS
depth, e_r = 3.15 (m)
−20
0
20
40
60
80
100
120
Propagation delay (us)
4.4
4.6
4.8
5
5.2
5.4
5.6
5.8
0.00 km
81.084 N
61.060 W
4.00 km
81.073 N
60.840 W
8.00 km
81.072 N
60.610 W
distance
latitude
longitude
11.99 km
81.074 N
60.380 W
15.98 km
81.075 N
60.150 W
19.96 km
81.060 N
59.944 W

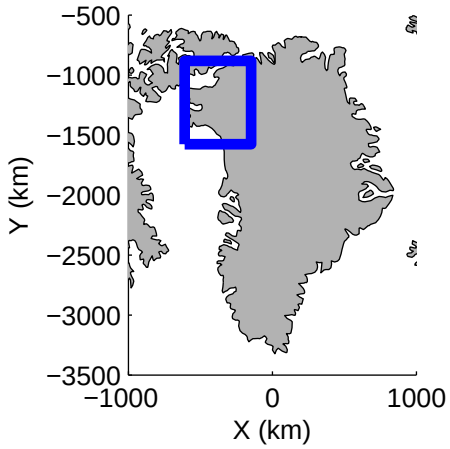

−500
−1000
−1500
−2000
−2500
−3000
−3500
Y (km)
−1000
0
1000
X (km)

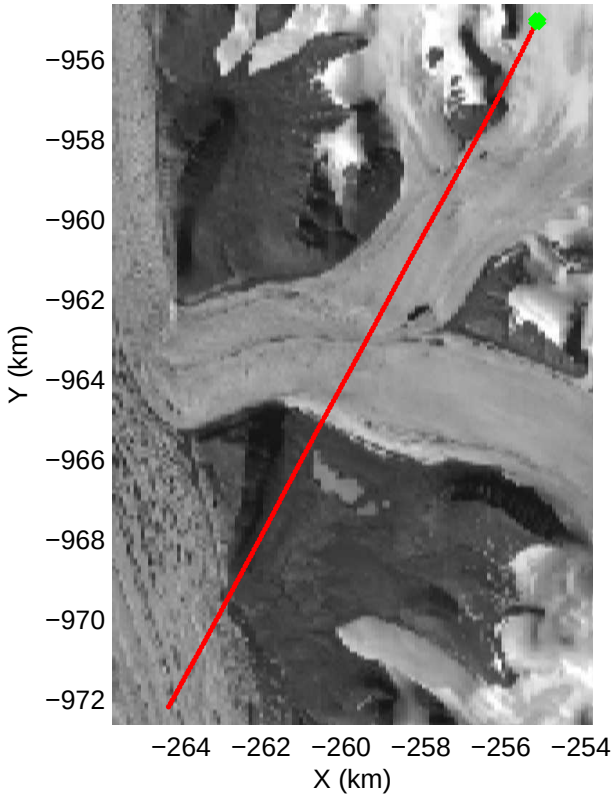

−938
−940
−942
−944
−946
−948
−950
−952
−954
Y (km)
−258
−256
−254
−252
−250
−248
−246
X (km)

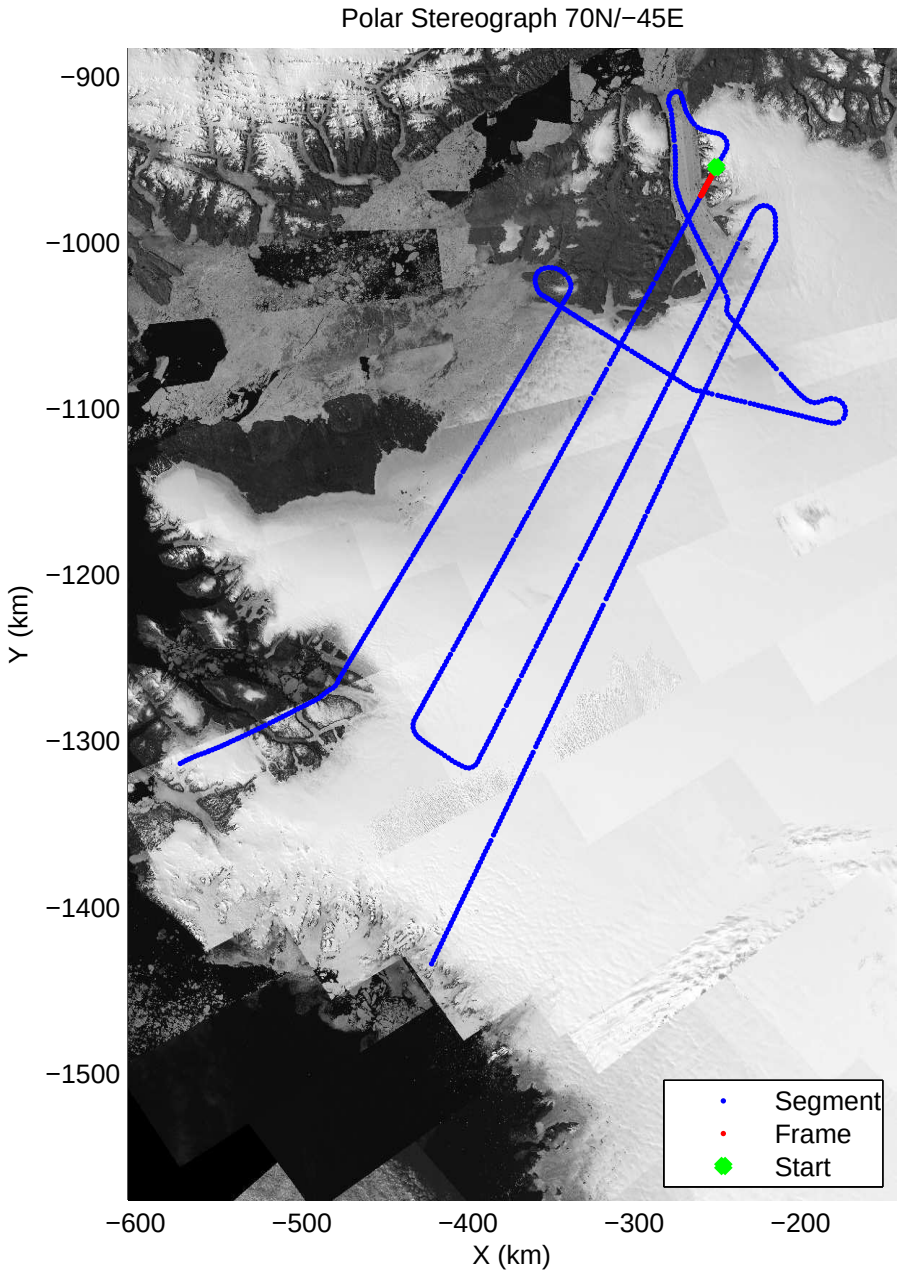

Polar Stereograph 70N/−45E
−900
−1000
−1100
−1200
−1300
−1400
−1500
Y (km)
−600
−500
−400
−300
−200
X (km)
Segment
Frame
Start

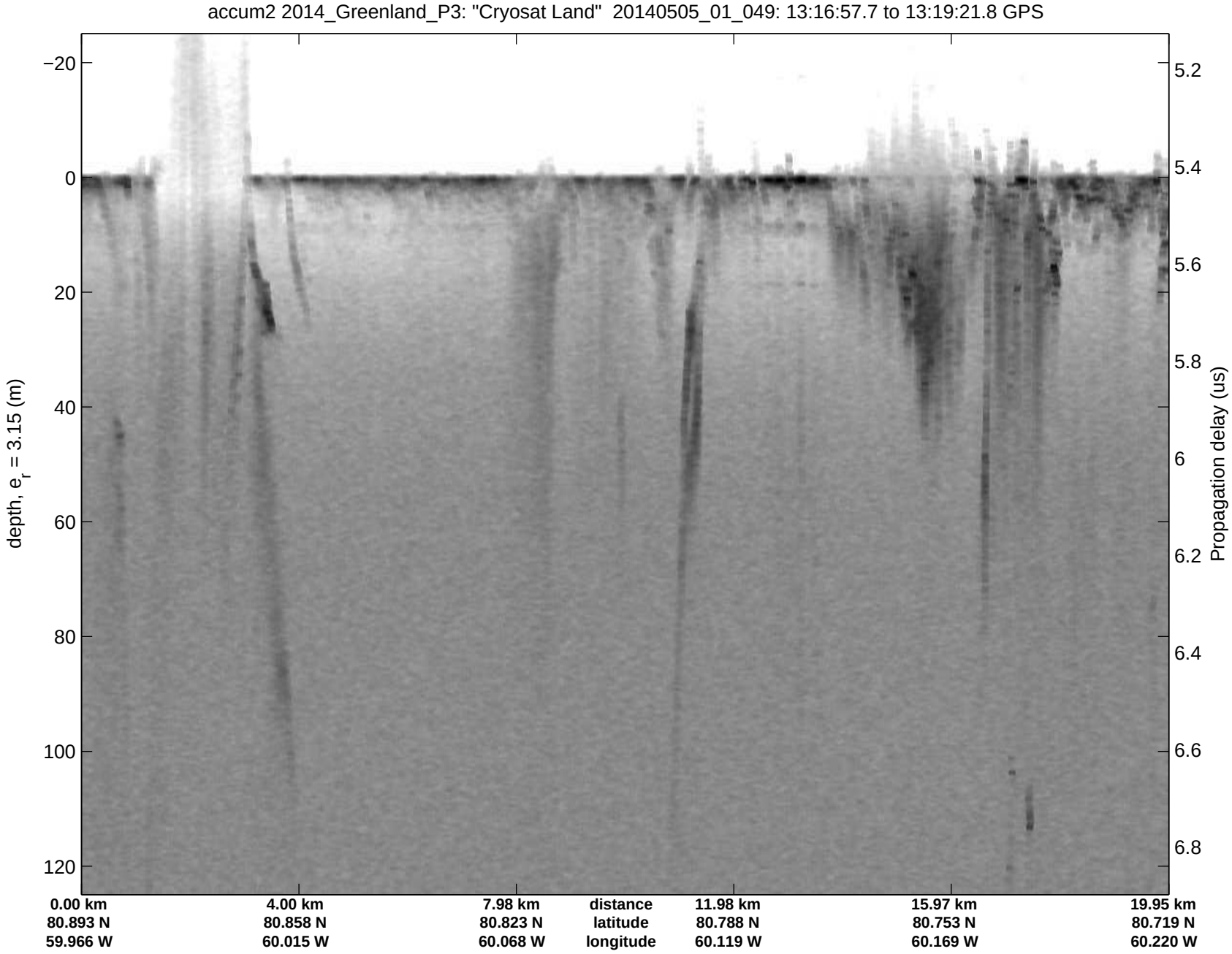

accum2 2014_Greenland_P3: "Cryosat Land" 20140505_01_048: 13:14:31.8 to 13:16:57.5 GPS
depth, e_r = 3.15 (m)
−20
0
20
40
60
80
100
120
Propagation delay (us)
5.5
6
6.5
7
0.00 km
81.060 N
59.942 W
4.01 km
81.031 N
59.808 W
8.00 km
80.996 N
59.788 W
distance
latitude
longitude
11.98 km
80.962 N
59.852 W
15.98 km
80.928 N
59.916 W
19.97 km
80.893 N
59.965 W

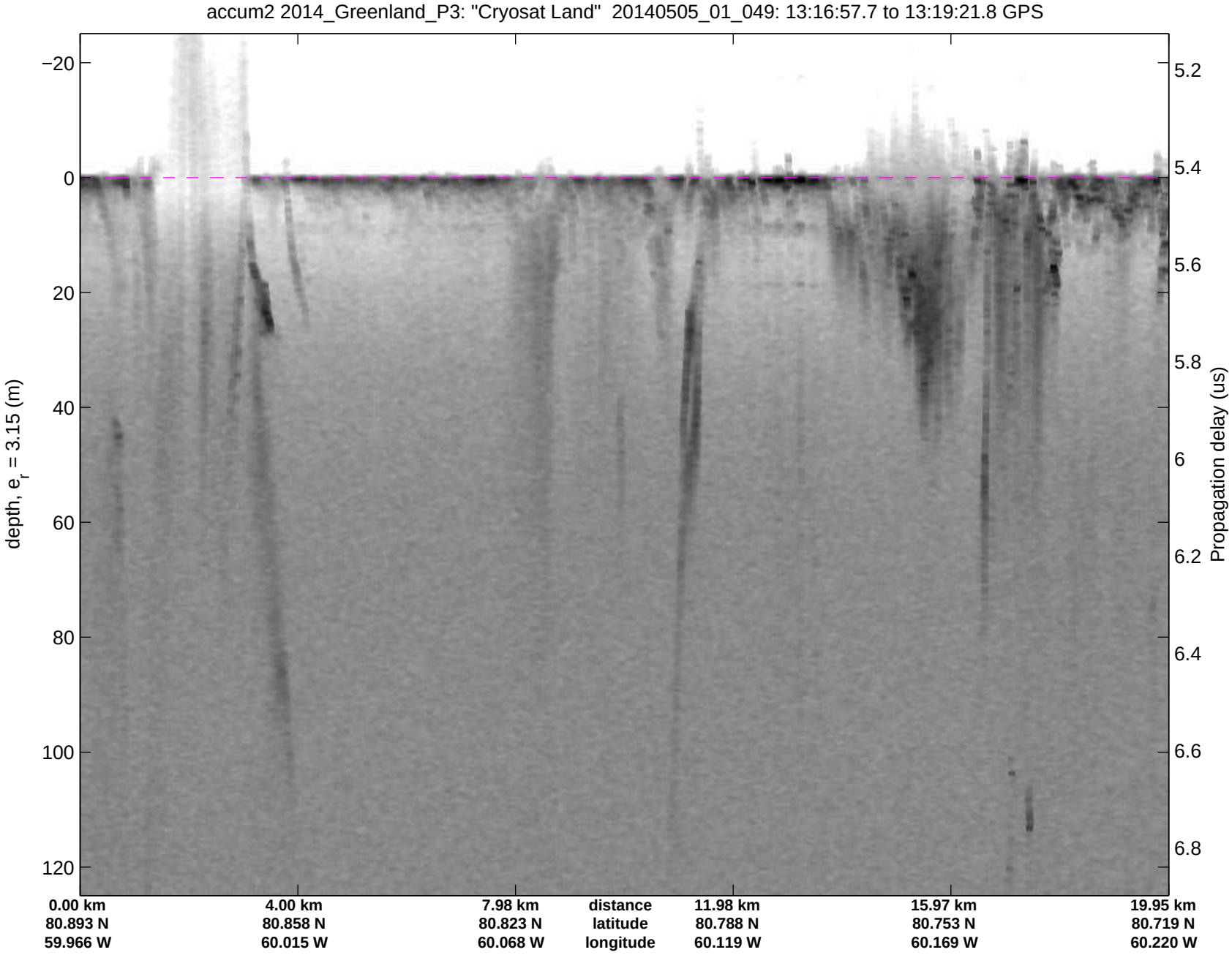

accum2 2014_Greenland_P3: "Cryosat Land" 20140505_01_048: 13:14:31.8 to 13:16:57.5 GPS
depth, e_r = 3.15 (m)
−20
0
20
40
60
80
100
120
Propagation delay (us)
5.5
6
6.5
7
0.00 km
81.060 N
59.942 W
4.01 km
81.031 N
59.808 W
8.00 km
80.996 N
59.788 W
distance
latitude
longitude
11.98 km
80.962 N
59.852 W
15.98 km
80.928 N
59.916 W
19.97 km
80.893 N
59.965 W

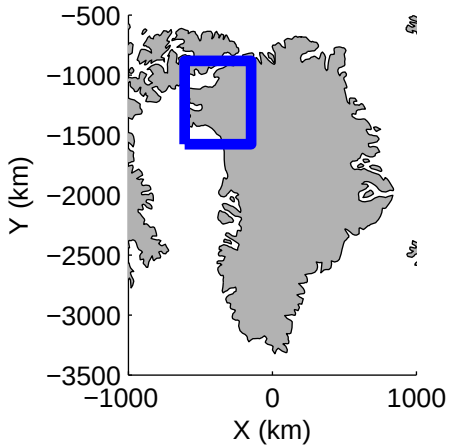

−500
−1000
−1500
−2000
−2500
−3000
−3500
Y (km)
−1000
0
1000
X (km)

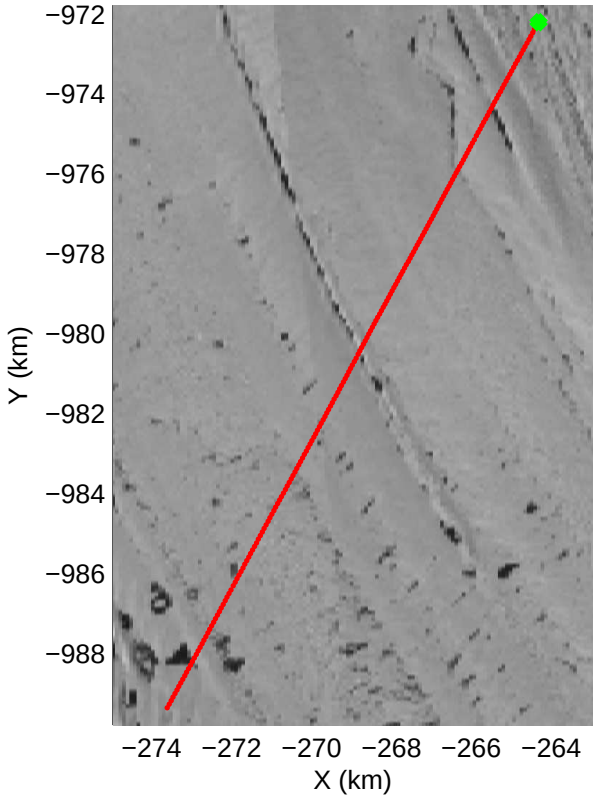

−956
−958
−960
−962
−964
−966
−968
−970
−972
Y (km)
−264
−262
−260
−258
−256
−254
X (km)

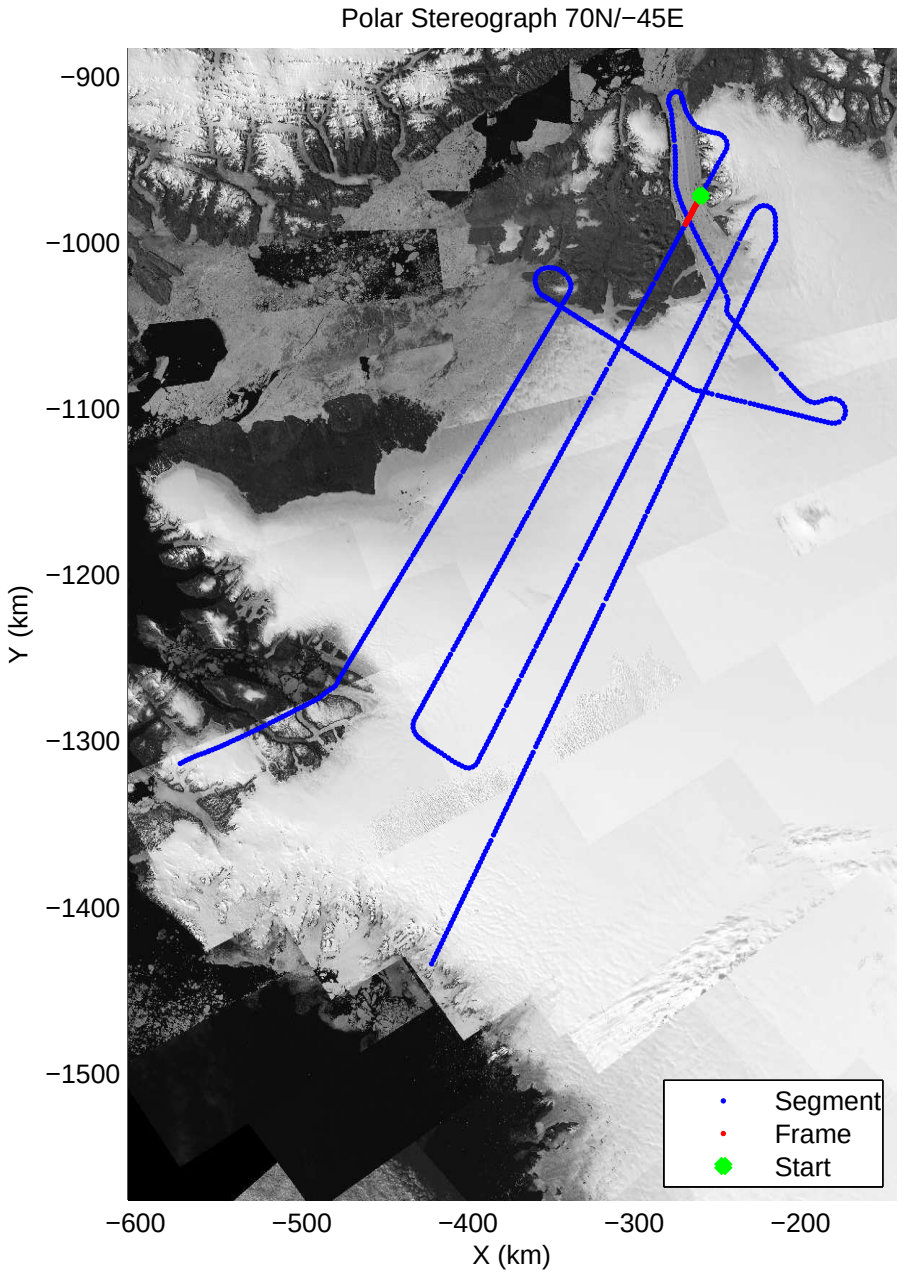

Polar Stereograph 70N/−45E
−900
−1000
−1100
−1200
−1300
−1400
−1500
Y (km)
−600
−500
−400
−300
−200
X (km)
Segment
Frame
Start

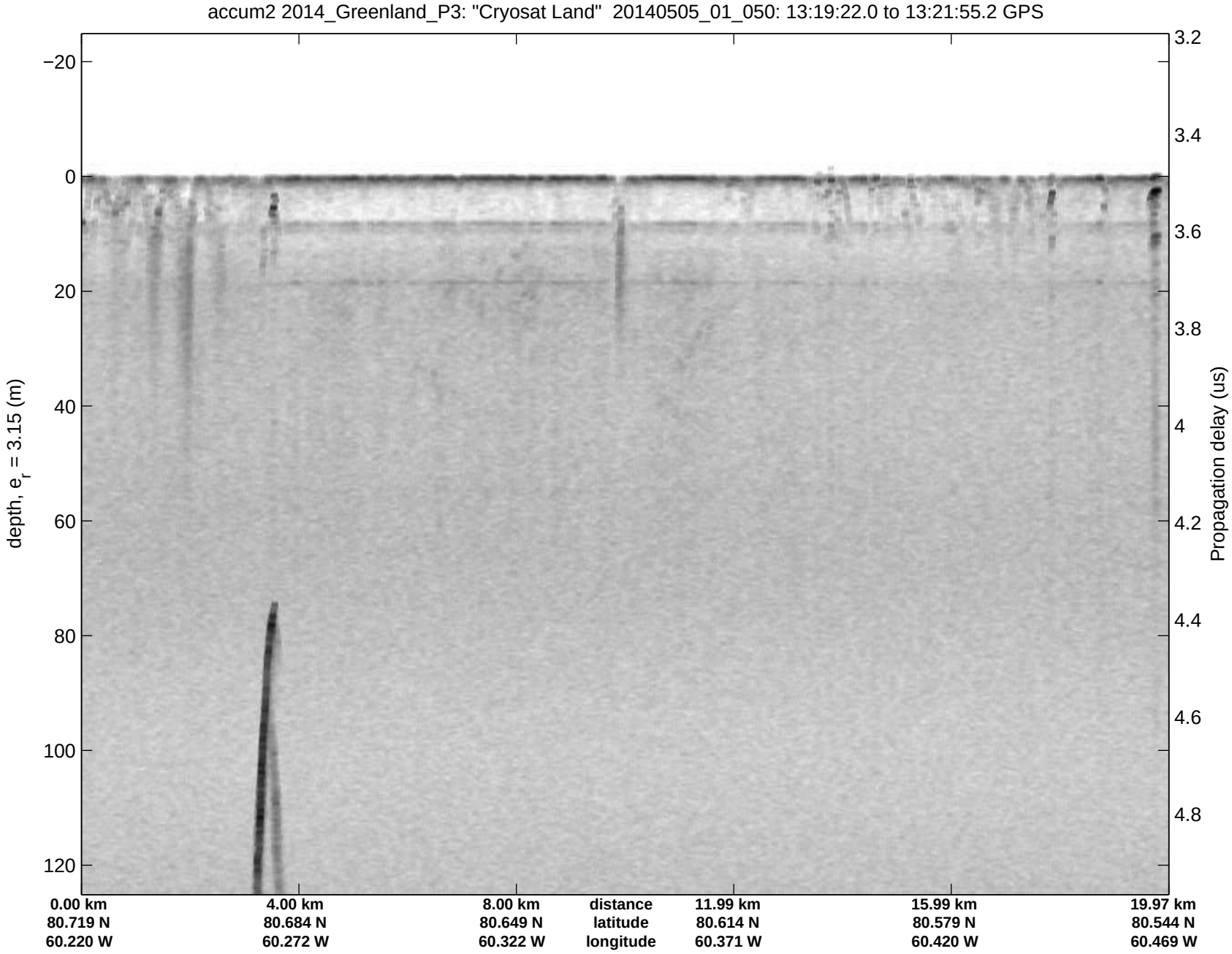

accum2 2014_Greenland_P3: "Cryosat Land" 20140505_01_049: 13:16:57.7 to 13:19:21.8 GPS
depth, e_r = 3.15 (m)
−20
0
20
40
60
80
100
120
Propagation delay (us)
5.2
5.4
5.6
5.8
6
6.2
6.4
6.6
6.8
0.00 km
80.893 N
59.966 W
4.00 km
80.858 N
60.015 W
7.98 km
80.823 N
60.068 W
distance
latitude
longitude
11.98 km
80.788 N
60.119 W
15.97 km
80.753 N
60.169 W
19.95 km
80.719 N
60.220 W

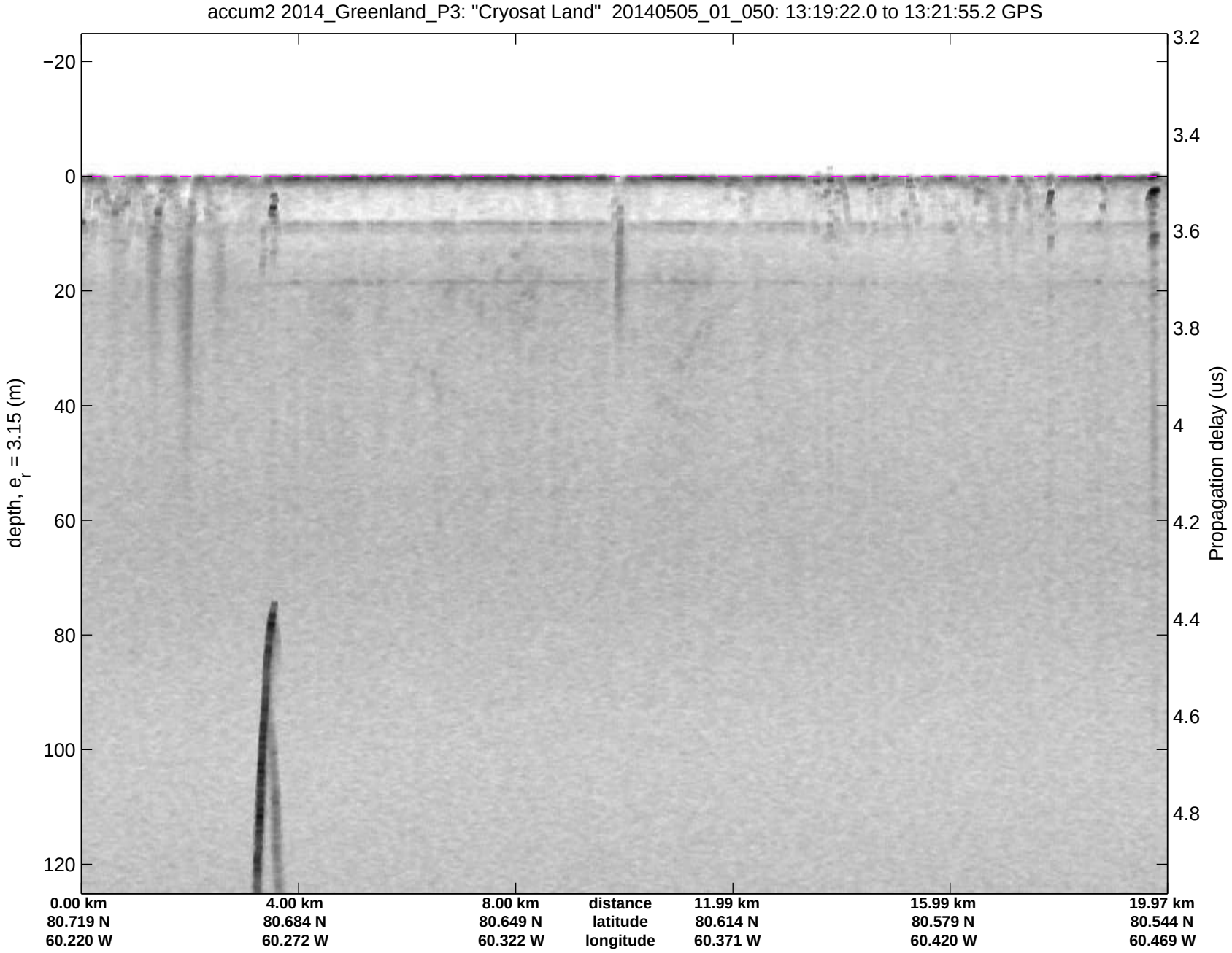

accum2 2014_Greenland_P3: "Cryosat Land" 20140505_01_049: 13:16:57.7 to 13:19:21.8 GPS
depth, e_r = 3.15 (m)
−20
0
20
40
60
80
100
120
Propagation delay (us)
5.2
5.4
5.6
5.8
6
6.2
6.4
6.6
6.8
0.00 km
80.893 N
59.966 W
4.00 km
80.858 N
60.015 W
7.98 km
80.823 N
60.068 W
distance
latitude
longitude
11.98 km
80.788 N
60.119 W
15.97 km
80.753 N
60.169 W
19.95 km
80.719 N
60.220 W

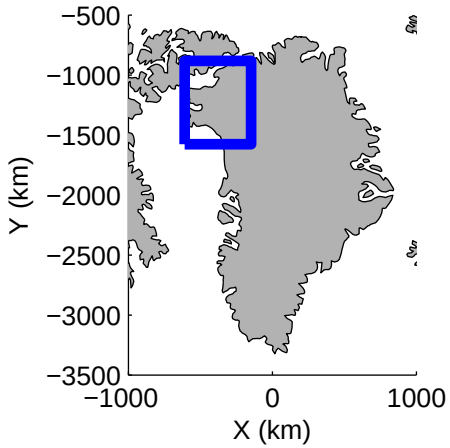

−500
−1000
−1500
−2000
−2500
−3000
−3500
Y (km)
−1000
0
1000
X (km)

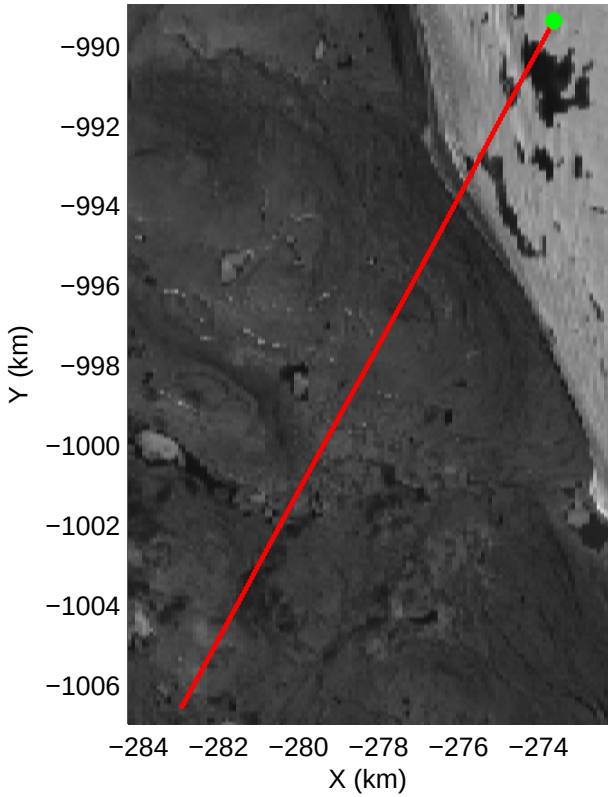

−972
−974
−976
−978
−980
−982
−984
−986
−988
Y (km)
−274
−272
−270
−268
−266
−264
X (km)

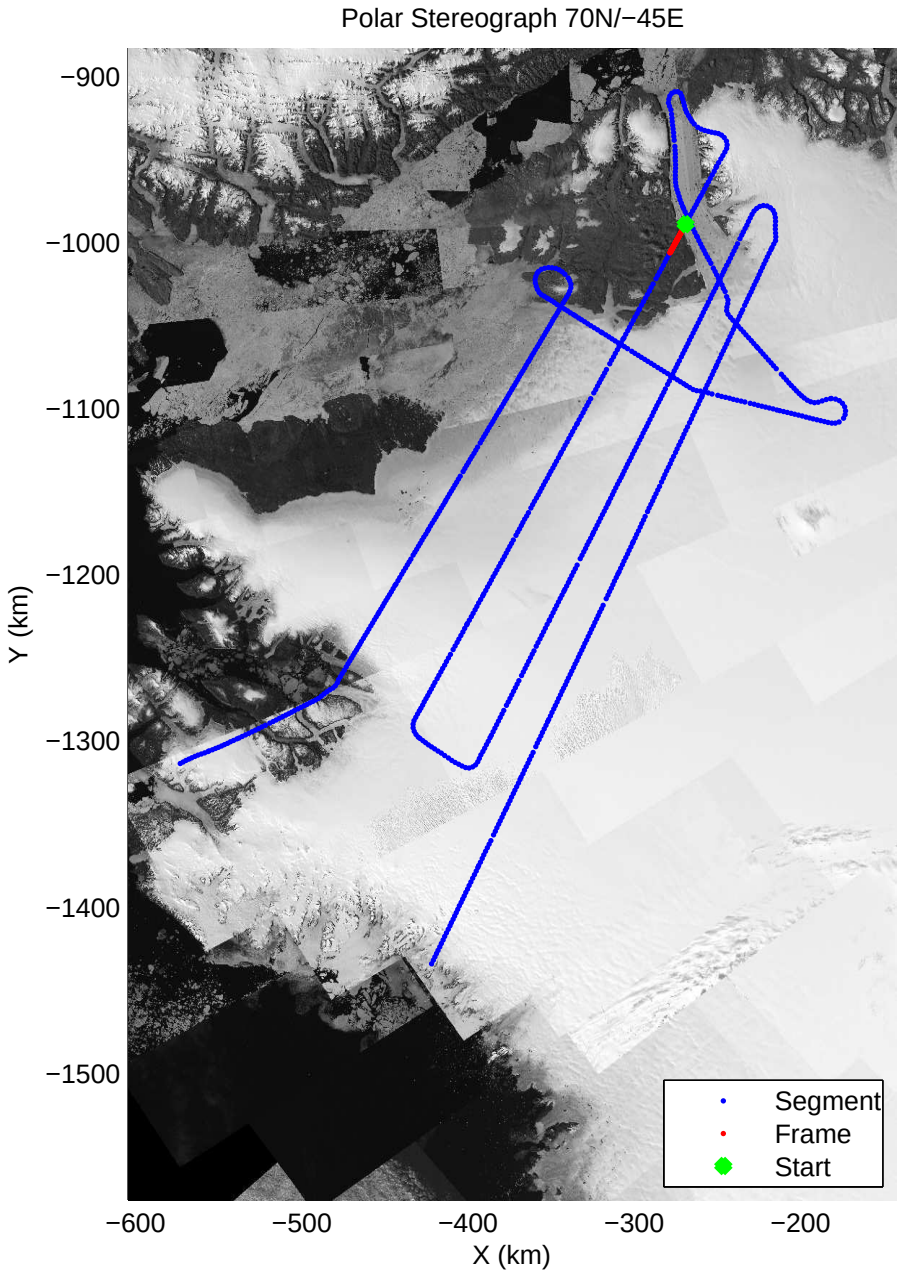

Polar Stereograph 70N/−45E
−900
−1000
−1100
−1200
−1300
−1400
−1500
Y (km)
−600
−500
−400
−300
−200
X (km)
Segment
Frame
Start

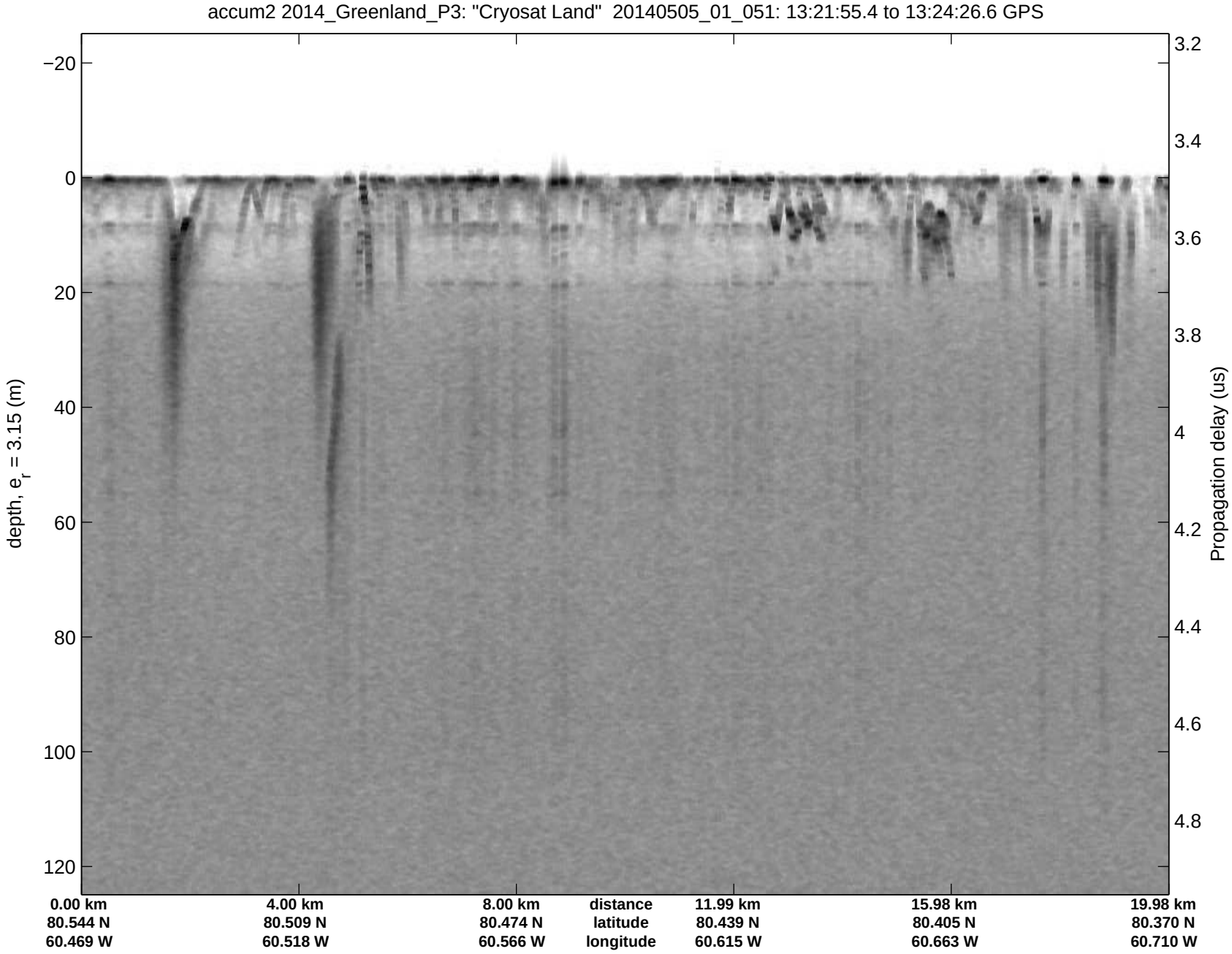

accum2 2014_Greenland_P3: "Cryosat Land" 20140505_01_050: 13:19:22.0 to 13:21:55.2 GPS
depth, e_r = 3.15 (m)
−20
0
20
40
60
80
100
120
Propagation delay (us)
3.2
3.4
3.6
3.8
4
4.2
4.4
4.6
4.8
0.00 km
80.719 N
60.220 W
4.00 km
80.684 N
60.272 W
8.00 km
80.649 N
60.322 W
distance
latitude
longitude
11.99 km
80.614 N
60.371 W
15.99 km
80.579 N
60.420 W
19.97 km
80.544 N
60.469 W

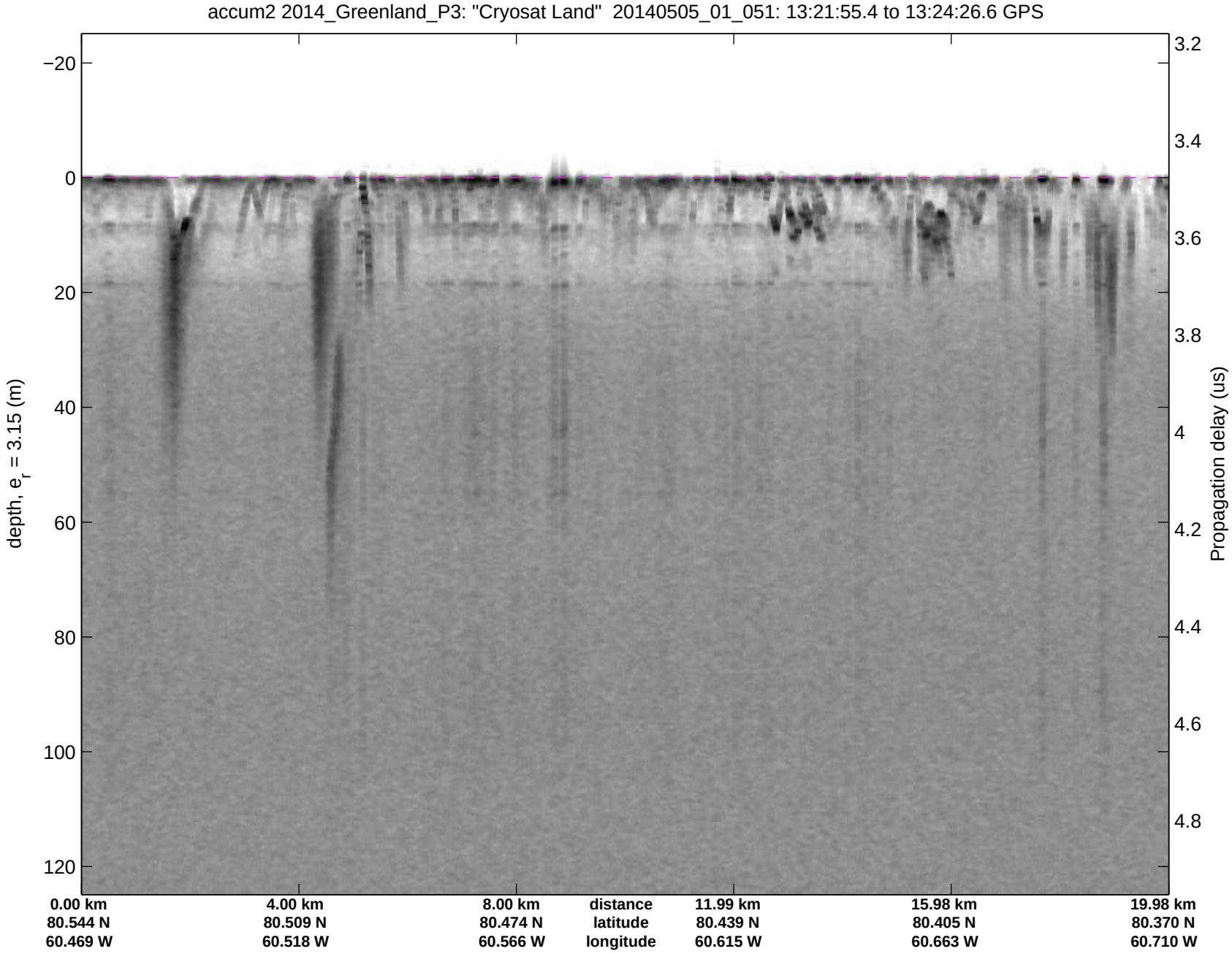

accum2 2014_Greenland_P3: "Cryosat Land" 20140505_01_050: 13:19:22.0 to 13:21:55.2 GPS
depth, e_r = 3.15 (m)
−20
0
20
40
60
80
100
120
Propagation delay (us)
3.2
3.4
3.6
3.8
4
4.2
4.4
4.6
4.8
0.00 km
80.719 N
60.220 W
4.00 km
80.684 N
60.272 W
8.00 km
80.649 N
60.322 W
distance
latitude
longitude
11.99 km
80.614 N
60.371 W
15.99 km
80.579 N
60.420 W
19.97 km
80.544 N
60.469 W

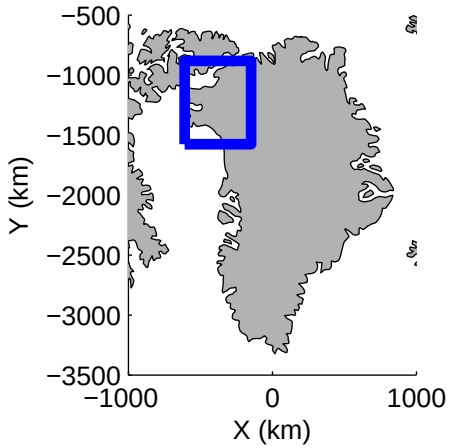

−500
−1000
−1500
−2000
−2500
−3000
−3500
Y (km)
−1000
0
1000
X (km)

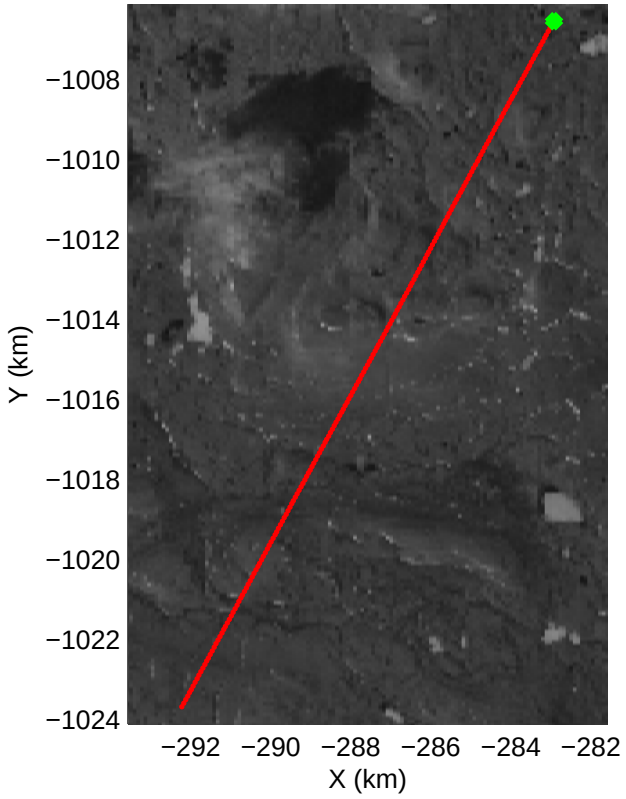

−990
−992
−994
−996
−998
−1000
−1002
−1004
−1006
Y (km)
−284
−282
−280
−278
−276
−274
X (km)

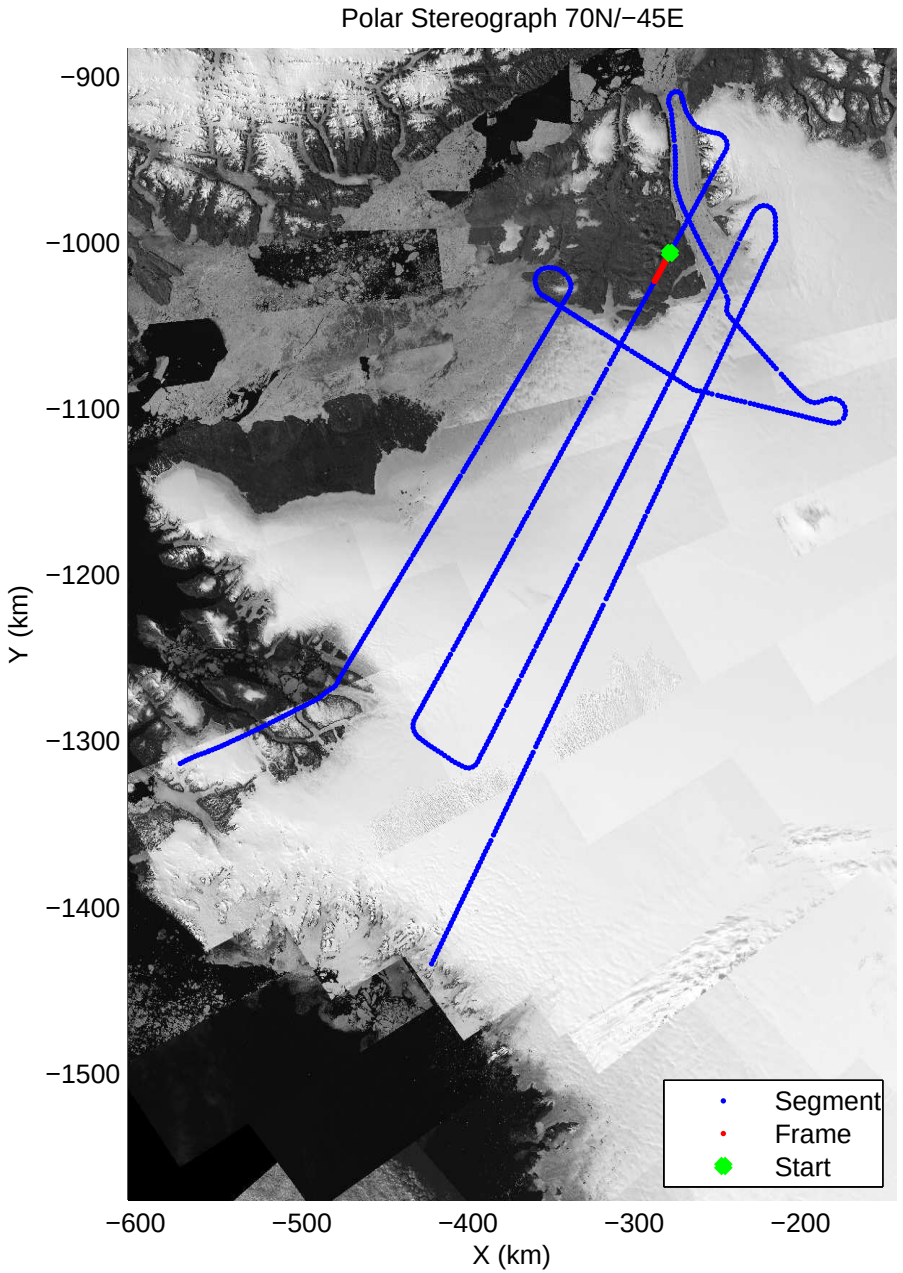

Polar Stereograph 70N/−45E
−900
−1000
−1100
−1200
−1300
−1400
−1500
Y (km)
−600
−500
−400
−300
−200
X (km)
Segment
Frame
Start

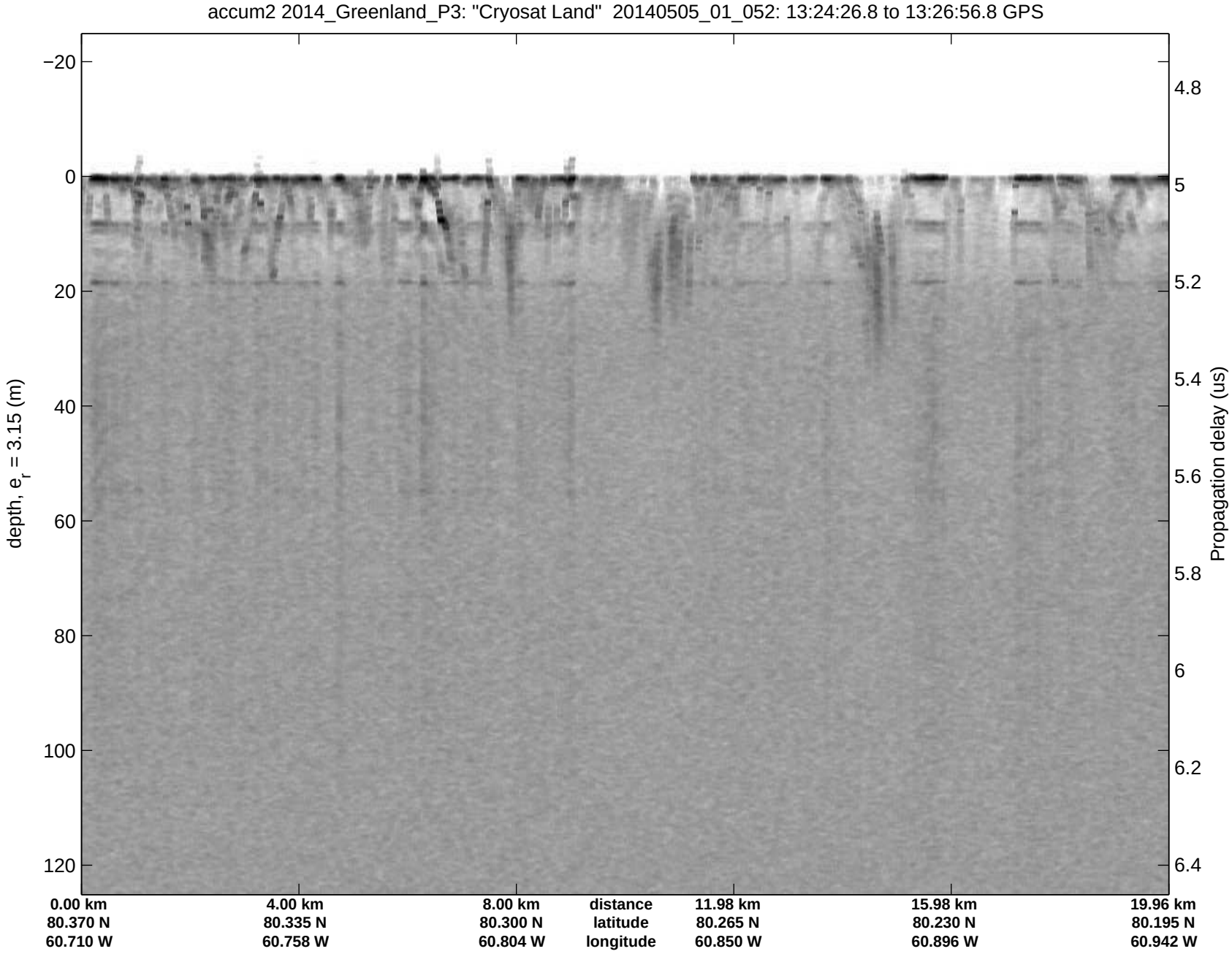

accum2 2014_Greenland_P3: "Cryosat Land" 20140505_01_051: 13:21:55.4 to 13:24:26.6 GPS
depth, e_r = 3.15 (m)
−20
0
20
40
60
80
100
120
Propagation delay (us)
3.2
3.4
3.6
3.8
4
4.2
4.4
4.6
4.8
0.00 km
80.544 N
60.469 W
4.00 km
80.509 N
60.518 W
8.00 km
80.474 N
60.566 W
distance
latitude
longitude
11.99 km
80.439 N
60.615 W
15.98 km
80.405 N
60.663 W
19.98 km
80.370 N
60.710 W

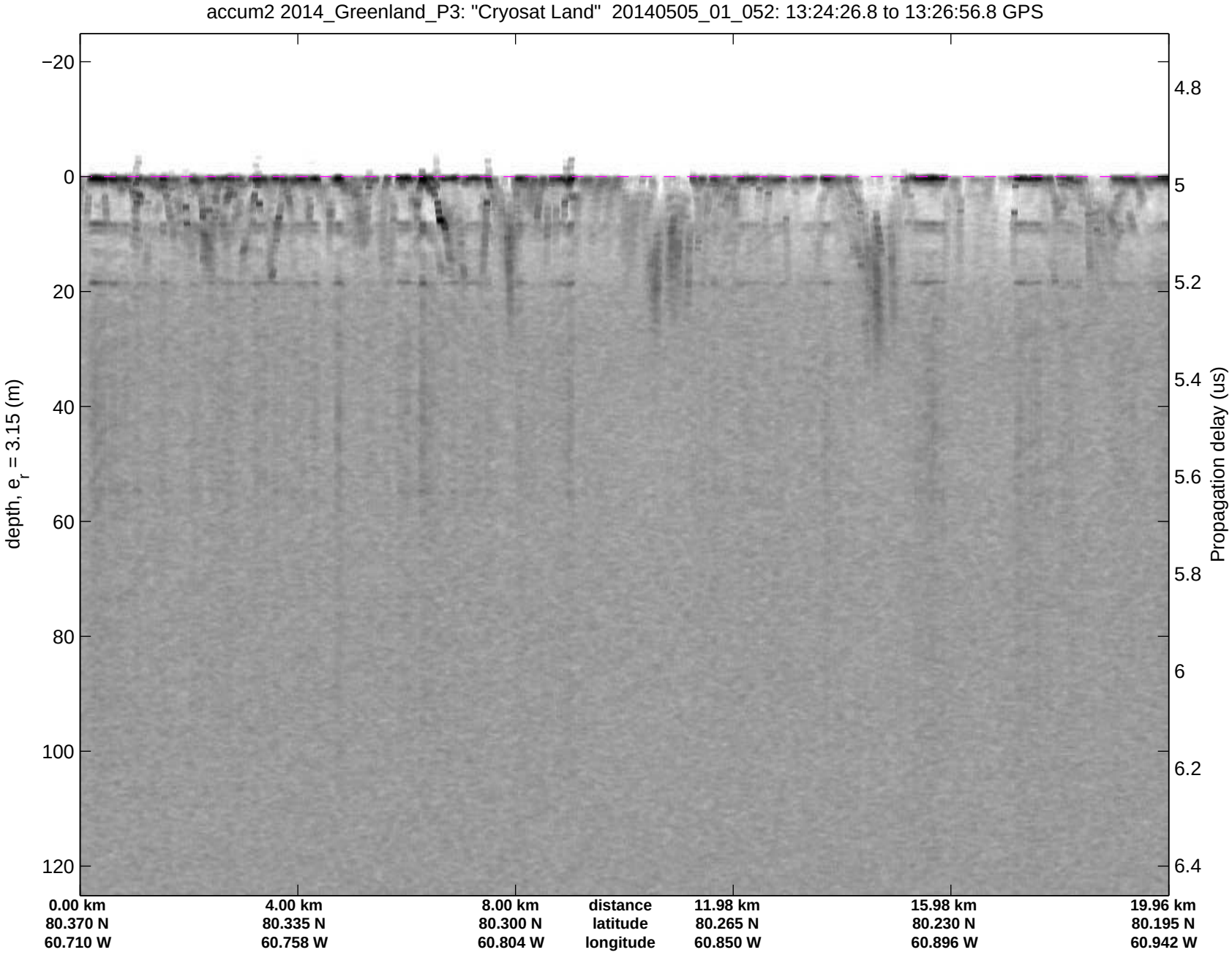

accum2 2014_Greenland_P3: "Cryosat Land" 20140505_01_051: 13:21:55.4 to 13:24:26.6 GPS
depth, e_r = 3.15 (m)
−20
0
20
40
60
80
100
120
3.2
3.4
3.6
3.8
4
4.2
4.4
4.6
4.8
Propagation delay (us)
0.00 km
80.544 N
60.469 W
4.00 km
80.509 N
60.518 W
8.00 km
80.474 N
60.566 W
distance
latitude
longitude
11.99 km
80.439 N
60.615 W
15.98 km
80.405 N
60.663 W
19.98 km
80.370 N
60.710 W

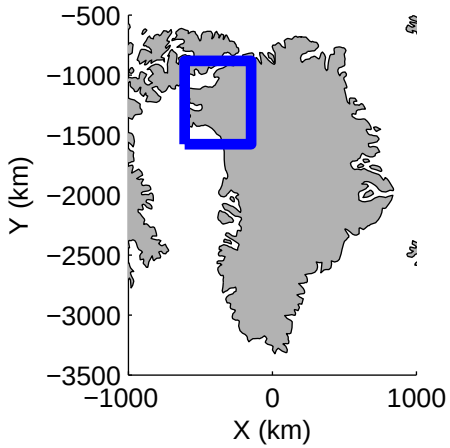

−500
−1000
−1500
−2000
−2500
−3000
−3500
Y (km)
−1000
0
1000
X (km)

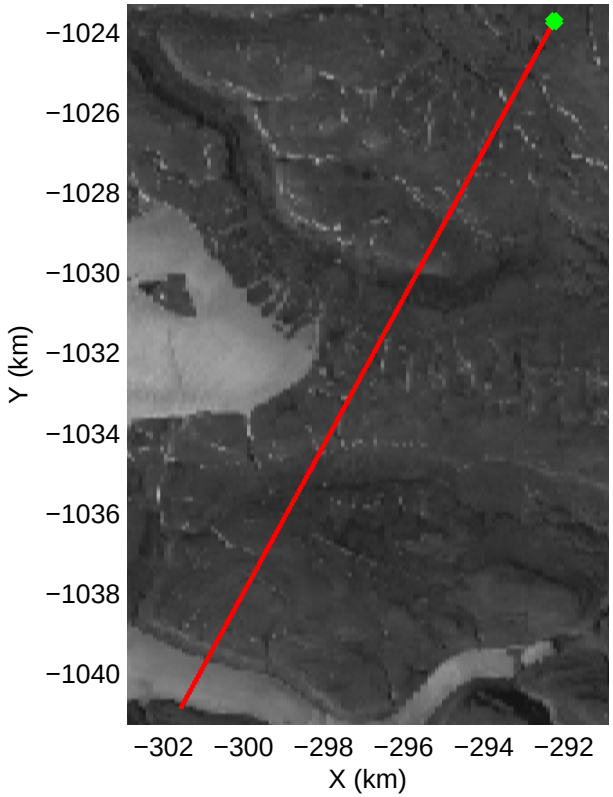

−1008
−1010
−1012
−1014
−1016
−1018
−1020
−1022
−1024
Y (km)
−292
−290
−288
−286
−284
−282
X (km)

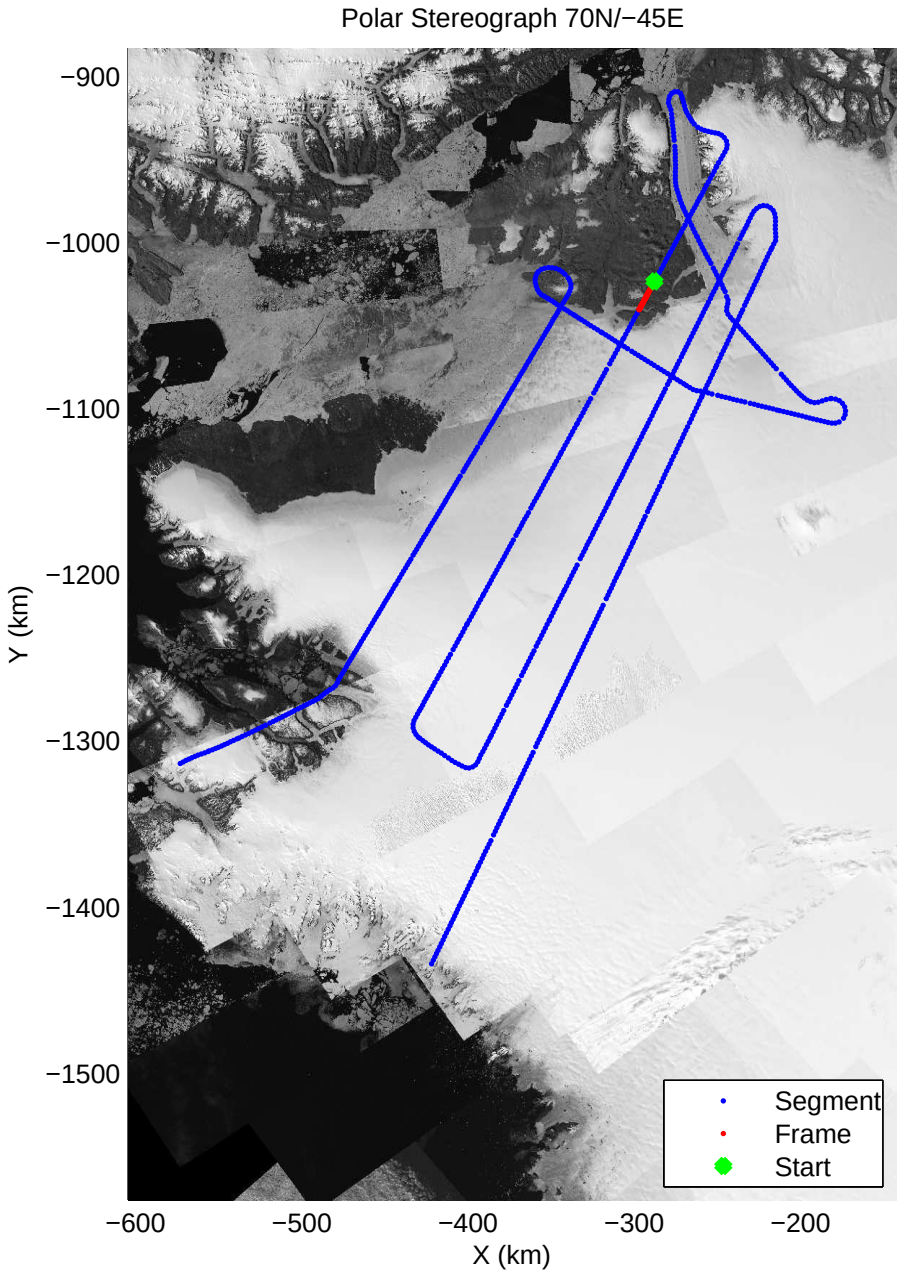

Polar Stereograph 70N/−45E
−900
−1000
−1100
−1200
−1300
−1400
−1500
Y (km)
−600
−500
−400
−300
−200
X (km)
Segment
Frame
Start

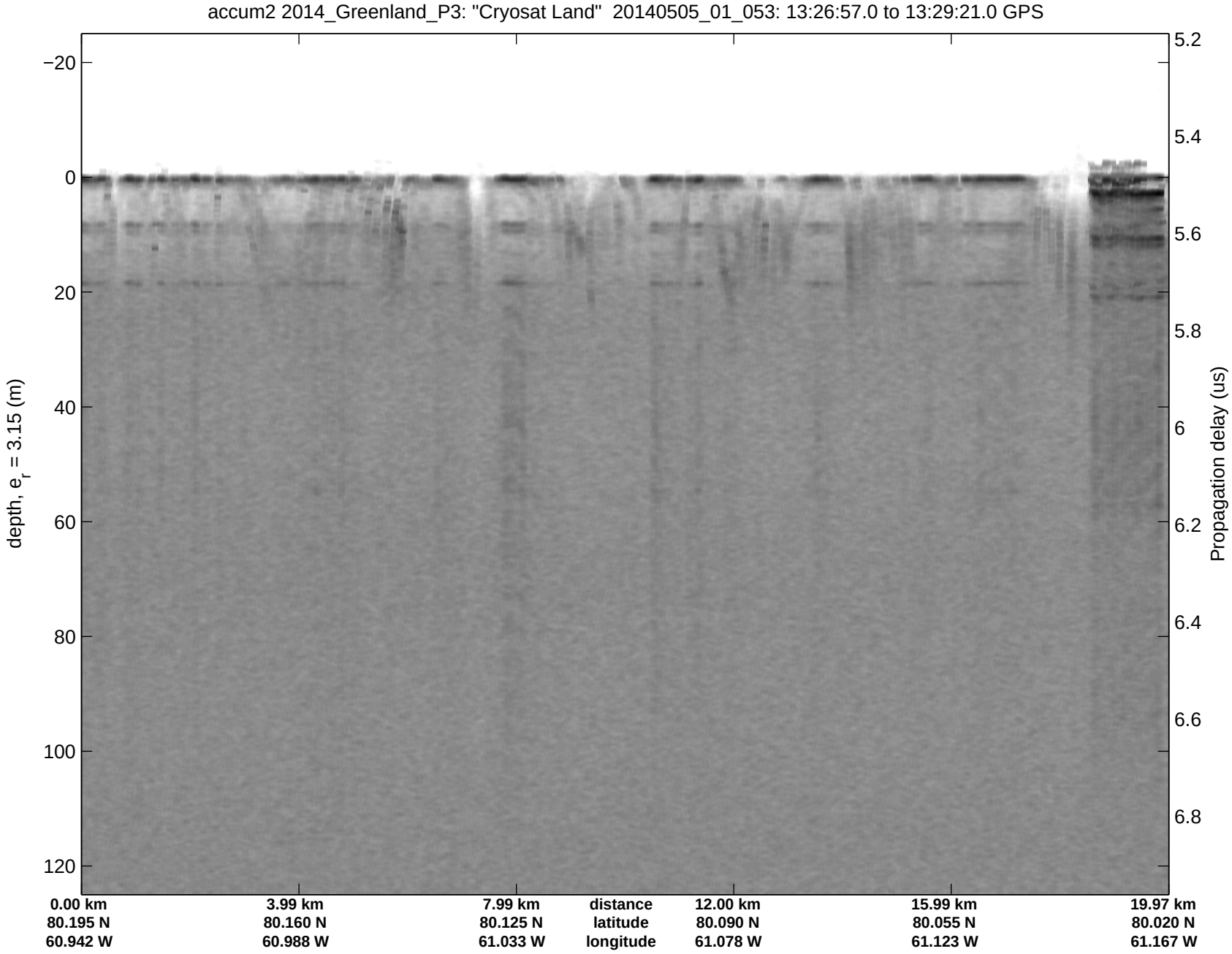

accum2 2014_Greenland_P3: "Cryosat Land" 20140505_01_052: 13:24:26.8 to 13:26:56.8 GPS
depth, e_r = 3.15 (m)
−20
0
20
40
60
80
100
120
Propagation delay (us)
4.8
5
5.2
5.4
5.6
5.8
6
6.2
6.4
0.00 km
80.370 N
60.710 W
4.00 km
80.335 N
60.758 W
8.00 km
80.300 N
60.804 W
distance
latitude
longitude
11.98 km
80.265 N
60.850 W
15.98 km
80.230 N
60.896 W
19.96 km
80.195 N
60.942 W

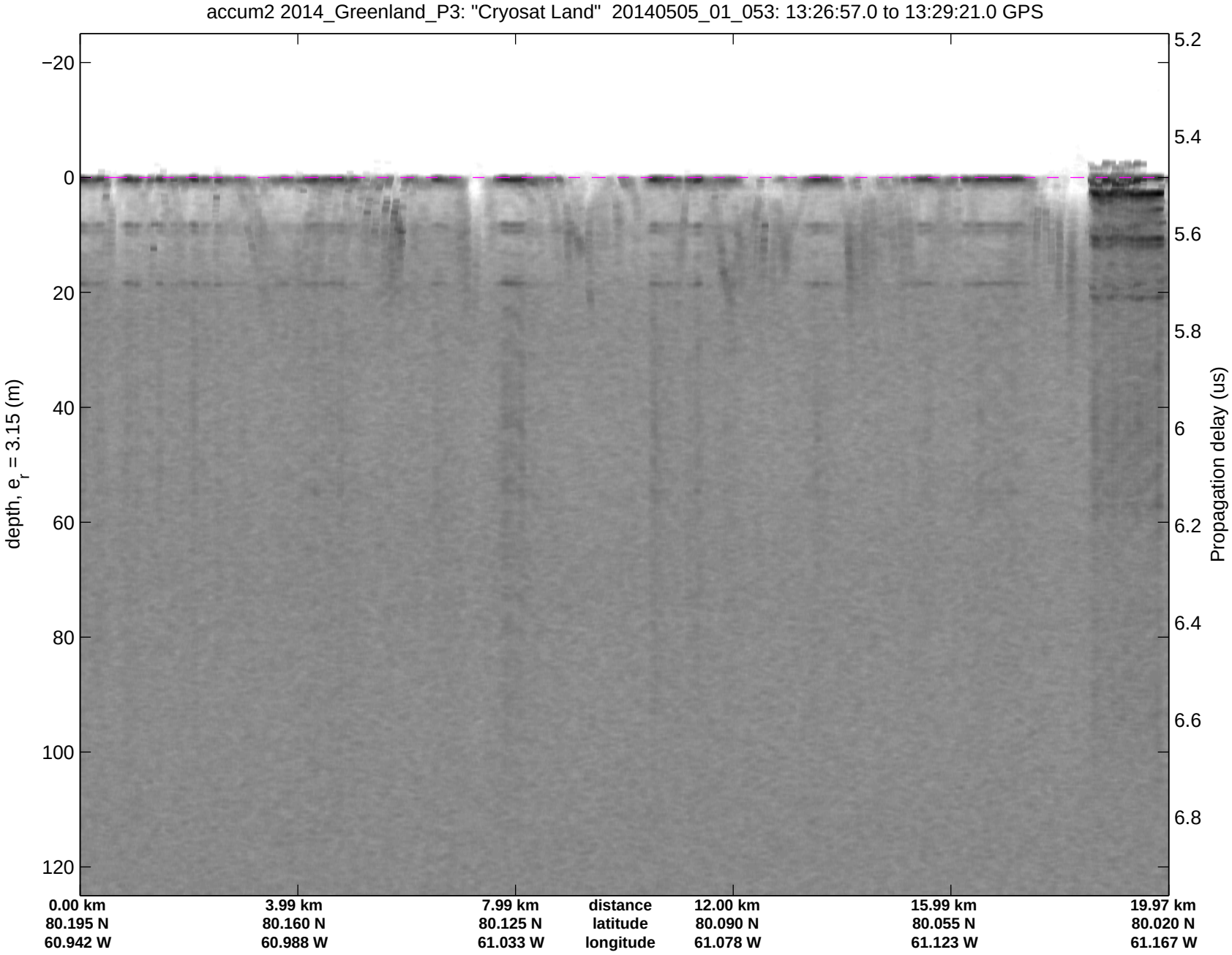

accum2 2014_Greenland_P3: "Cryosat Land" 20140505_01_052: 13:24:26.8 to 13:26:56.8 GPS
depth, e_r = 3.15 (m)
−20
0
20
40
60
80
100
120
Propagation delay (us)
4.8
5
5.2
5.4
5.6
5.8
6
6.2
6.4
0.00 km
80.370 N
60.710 W
4.00 km
80.335 N
60.758 W
8.00 km
80.300 N
60.804 W
distance
latitude
longitude
11.98 km
80.265 N
60.850 W
15.98 km
80.230 N
60.896 W
19.96 km
80.195 N
60.942 W

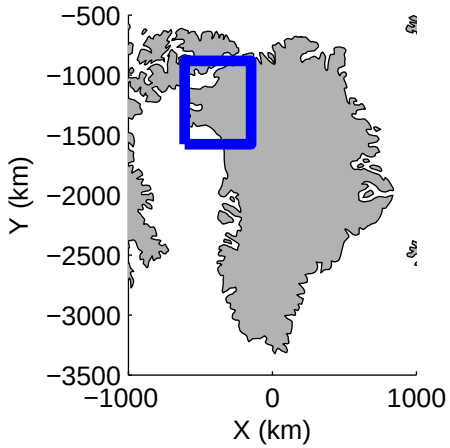

−500
−1000
−1500
−2000
−2500
−3000
−3500
Y (km)
−1000
0
1000
X (km)

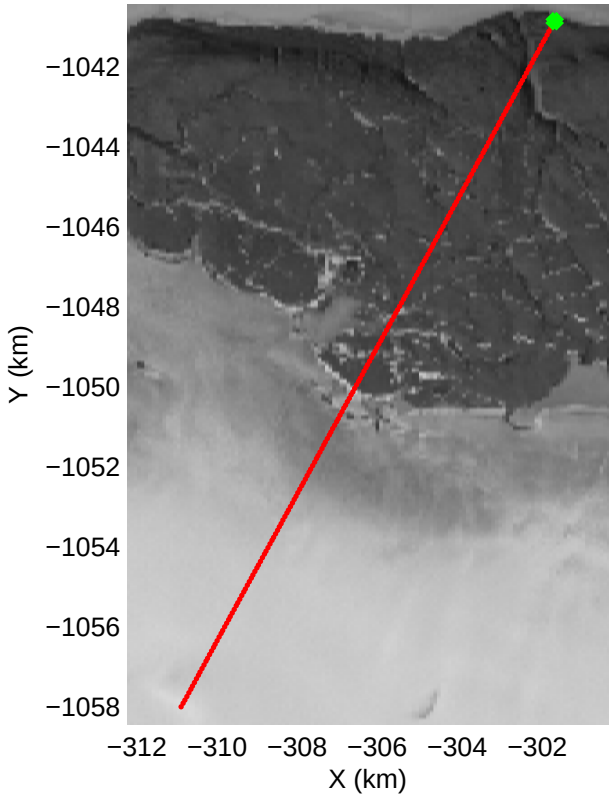

−1024
−1026
−1028
−1030
−1032
−1034
−1036
−1038
−1040
Y (km)
−302
−300
−298
−296
−294
−292
X (km)

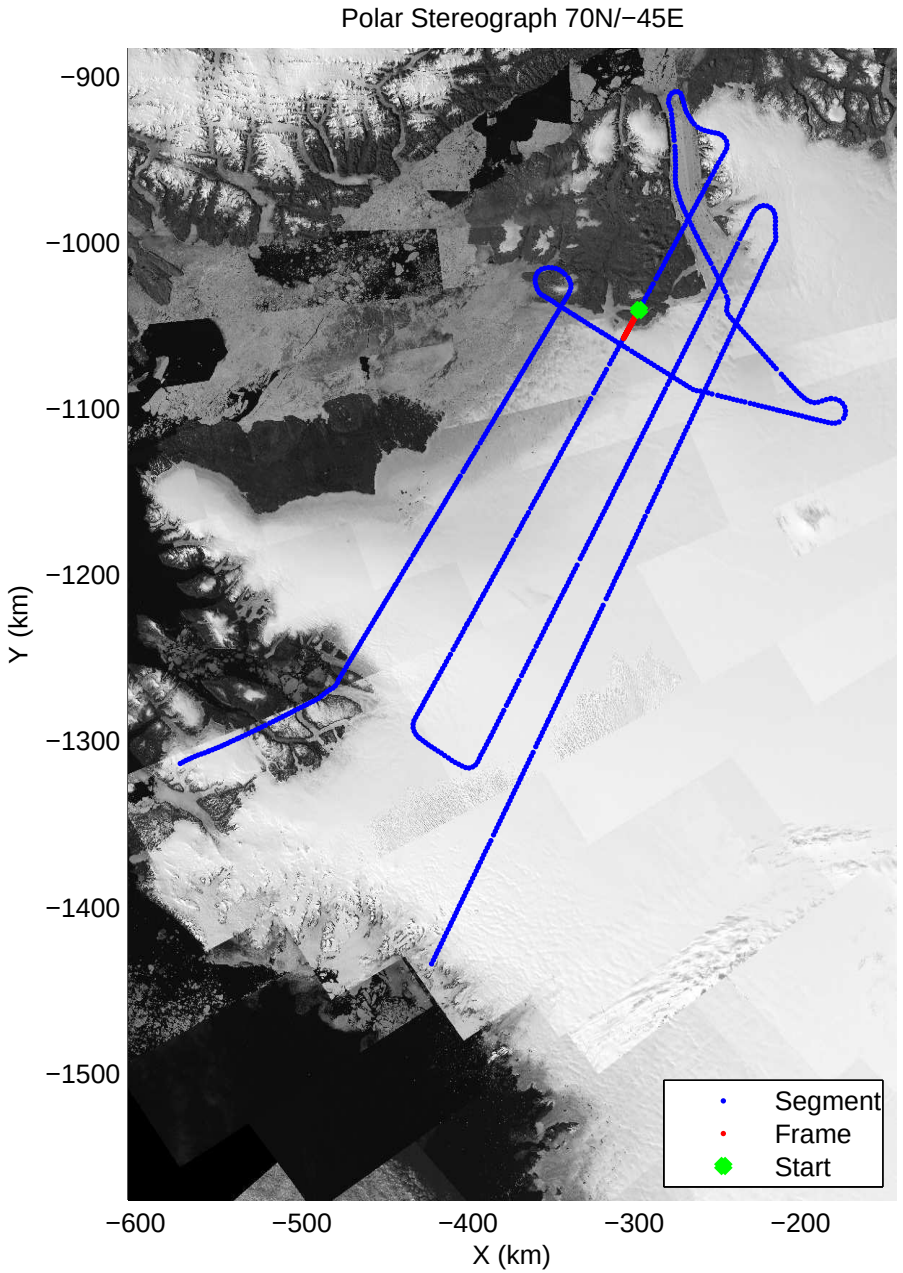

Polar Stereograph 70N/−45E
−900
−1000
−1100
−1200
−1300
−1400
−1500
Y (km)
−600
−500
−400
−300
−200
X (km)
Segment
Frame
Start

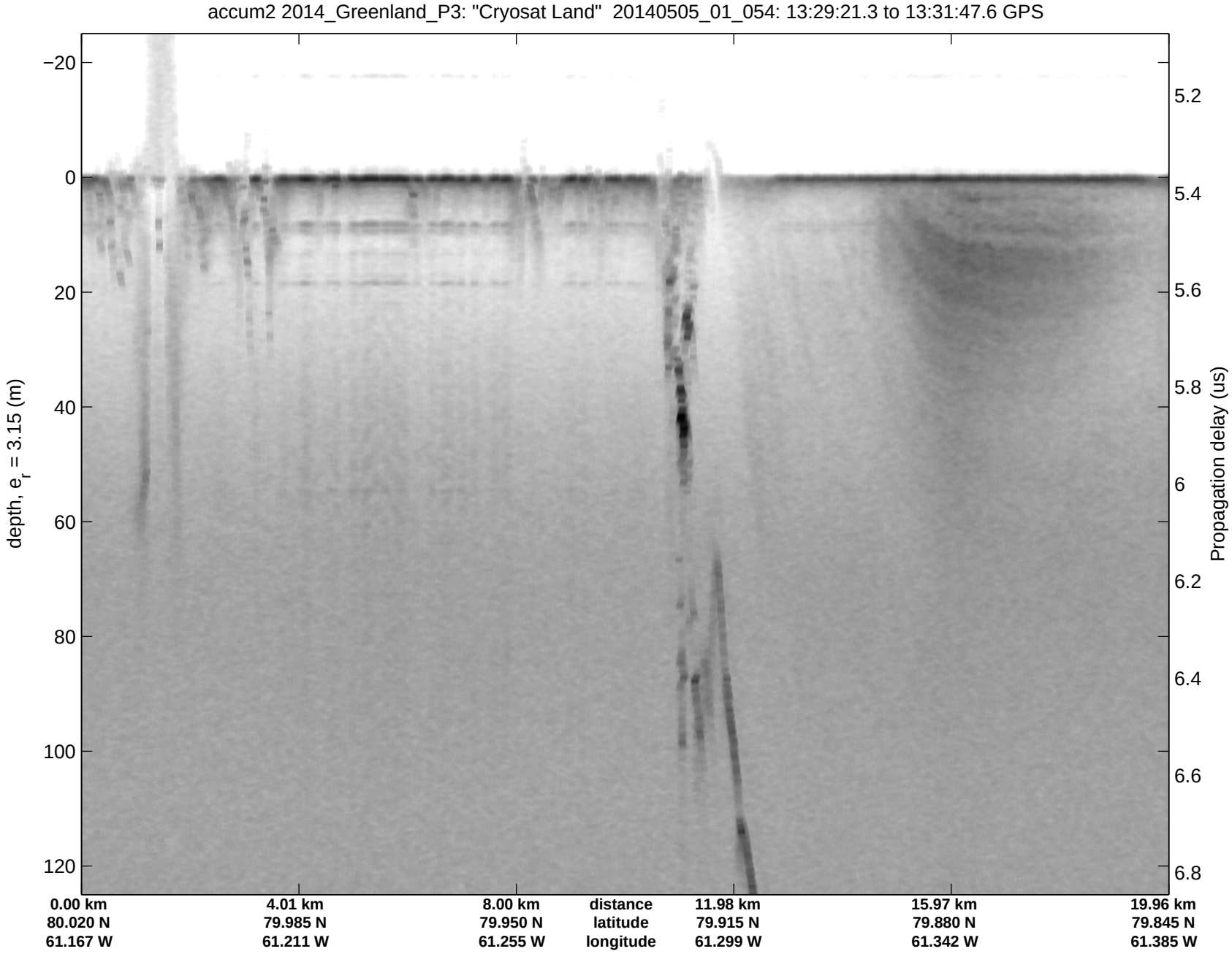

accum2 2014_Greenland_P3: "Cryosat Land" 20140505_01_053: 13:26:57.0 to 13:29:21.0 GPS
depth, e_r = 3.15 (m)
−20
0
20
40
60
80
100
120
5.2
5.4
5.6
5.8
6
6.2
6.4
6.6
6.8
Propagation delay (us)
0.00 km
80.195 N
60.942 W
3.99 km
80.160 N
60.988 W
7.99 km
80.125 N
61.033 W
distance
latitude
longitude
12.00 km
80.090 N
61.078 W
15.99 km
80.055 N
61.123 W
19.97 km
80.020 N
61.167 W

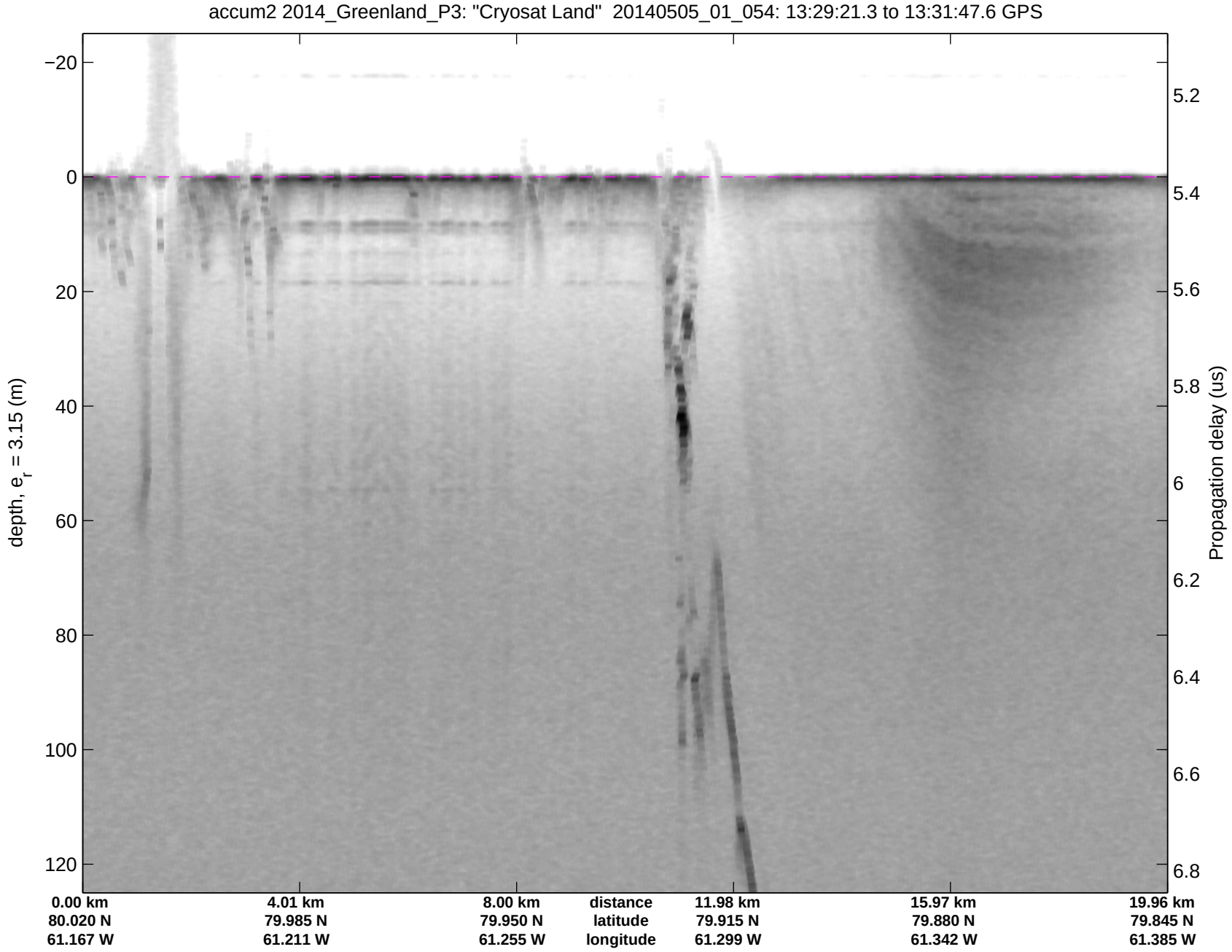

accum2 2014_Greenland_P3: "Cryosat Land" 20140505_01_053: 13:26:57.0 to 13:29:21.0 GPS
depth, e_r = 3.15 (m)
−20
0
20
40
60
80
100
120
Propagation delay (us)
5.2
5.4
5.6
5.8
6
6.2
6.4
6.6
6.8
0.00 km
80.195 N
60.942 W
3.99 km
80.160 N
60.988 W
7.99 km
80.125 N
61.033 W
distance
latitude
longitude
12.00 km
80.090 N
61.078 W
15.99 km
80.055 N
61.123 W
19.97 km
80.020 N
61.167 W

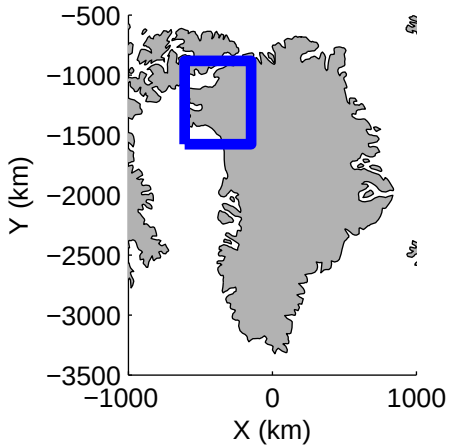

−500
−1000
−1500
−2000
−2500
−3000
−3500
Y (km)
−1000
0
1000
X (km)

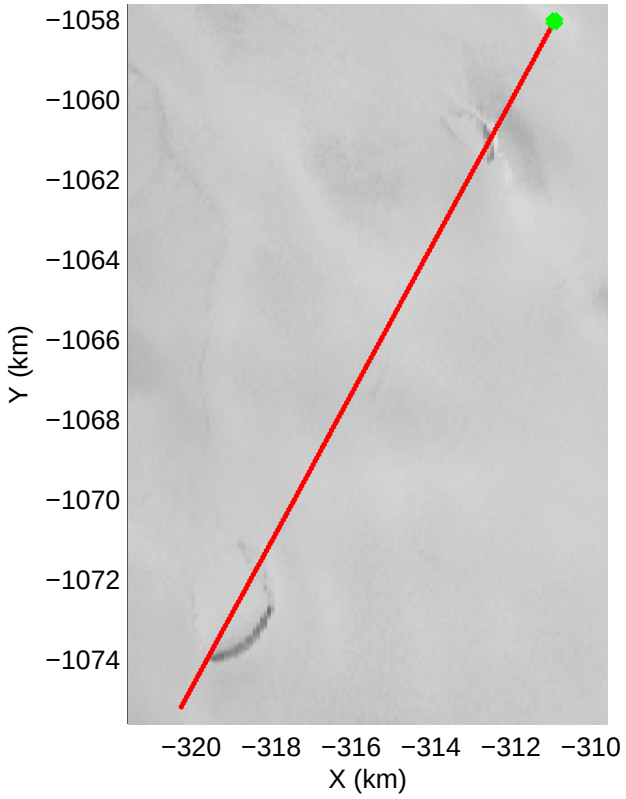

−1042
−1044
−1046
−1048
−1050
−1052
−1054
−1056
−1058
Y (km)
−312
−310
−308
−306
−304
−302
X (km)

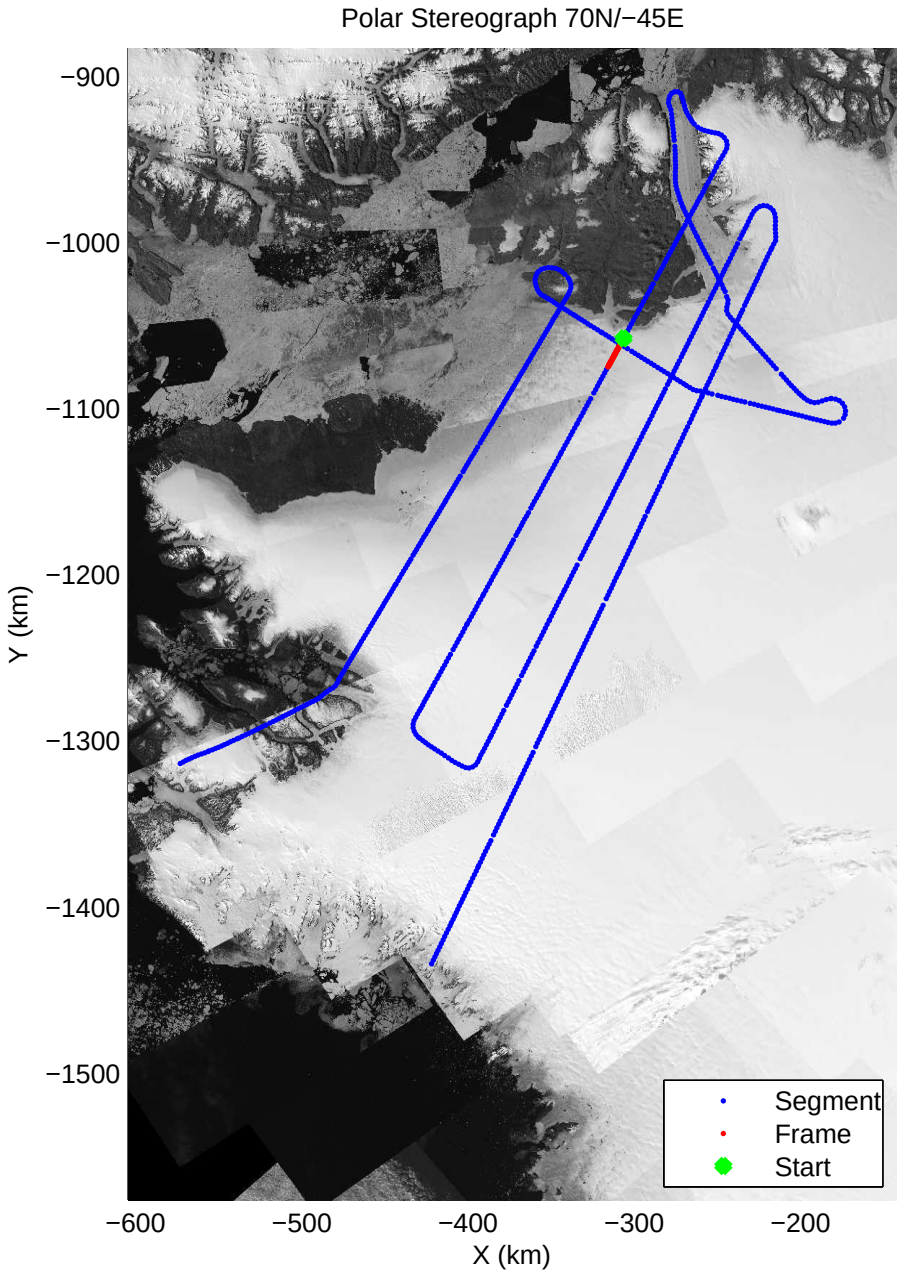

Polar Stereograph 70N/−45E
−900
−1000
−1100
−1200
−1300
−1400
−1500
Y (km)
−600
−500
−400
−300
−200
X (km)
Segment
Frame
Start

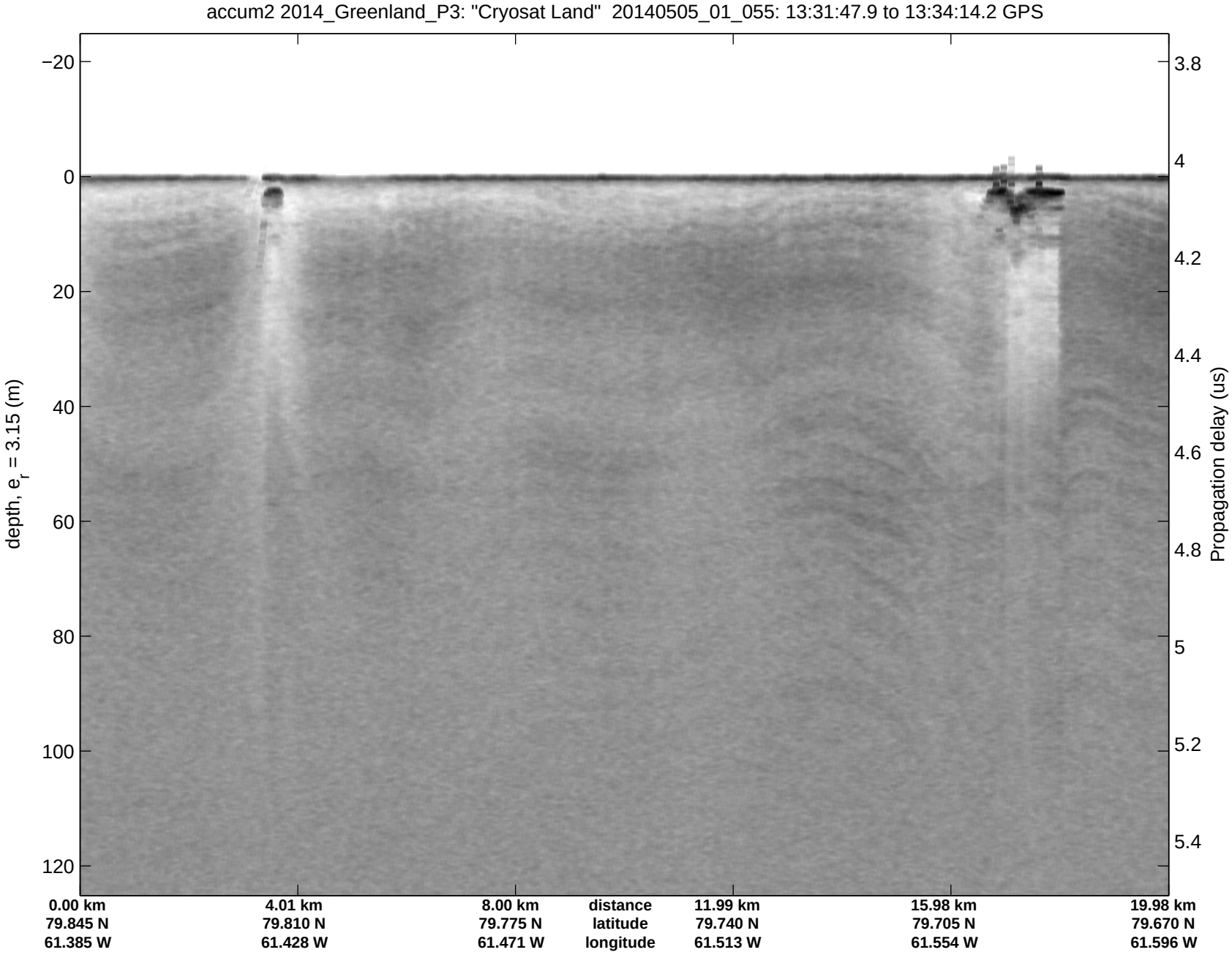

accum2 2014_Greenland_P3: "Cryosat Land" 20140505_01_054: 13:29:21.3 to 13:31:47.6 GPS
depth, e_r = 3.15 (m)
−20
0
20
40
60
80
100
120
Propagation delay (us)
5.2
5.4
5.6
5.8
6
6.2
6.4
6.6
6.8
0.00 km
80.020 N
61.167 W
4.01 km
79.985 N
61.211 W
8.00 km
79.950 N
61.255 W
distance
latitude
longitude
11.98 km
79.915 N
61.299 W
15.97 km
79.880 N
61.342 W
19.96 km
79.845 N
61.385 W

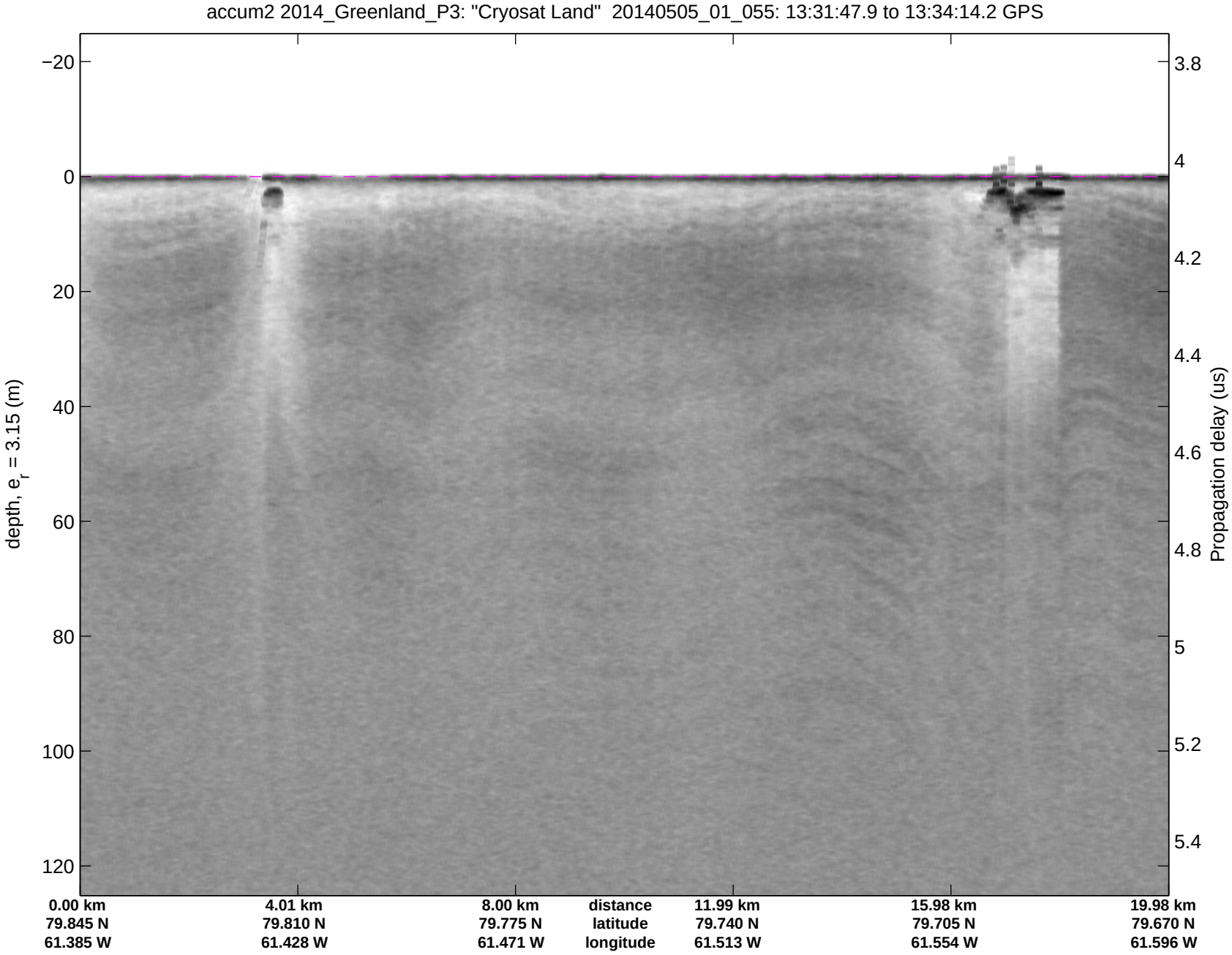

accum2 2014_Greenland_P3: "Cryosat Land" 20140505_01_054: 13:29:21.3 to 13:31:47.6 GPS
depth, e_r = 3.15 (m)
−20
0
20
40
60
80
100
120
Propagation delay (us)
5.2
5.4
5.6
5.8
6
6.2
6.4
6.6
6.8
0.00 km
80.020 N
61.167 W
4.01 km
79.985 N
61.211 W
8.00 km
79.950 N
61.255 W
distance
latitude
longitude
11.98 km
79.915 N
61.299 W
15.97 km
79.880 N
61.342 W
19.96 km
79.845 N
61.385 W

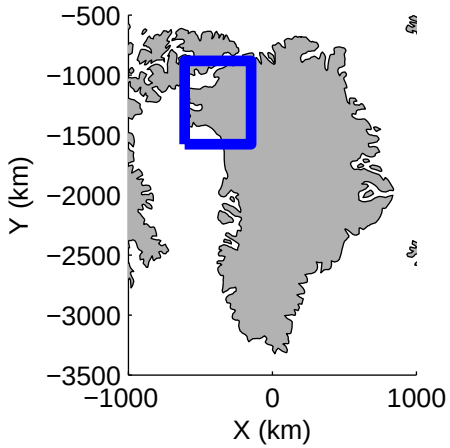

−500
−1000
−1500
−2000
−2500
−3000
−3500
Y (km)
−1000
0
1000
X (km)

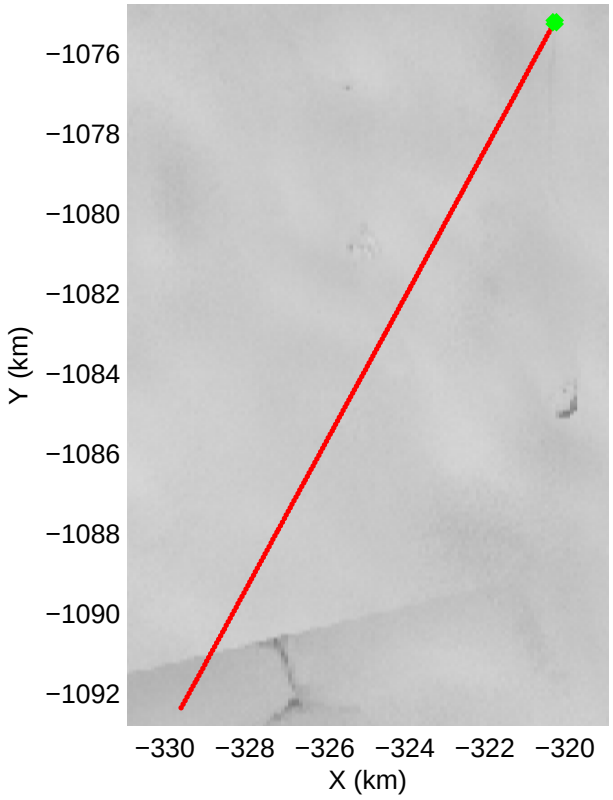

−1058
−1060
−1062
−1064
−1066
−1068
−1070
−1072
−1074
Y (km)
−320
−318
−316
−314
−312
−310
X (km)

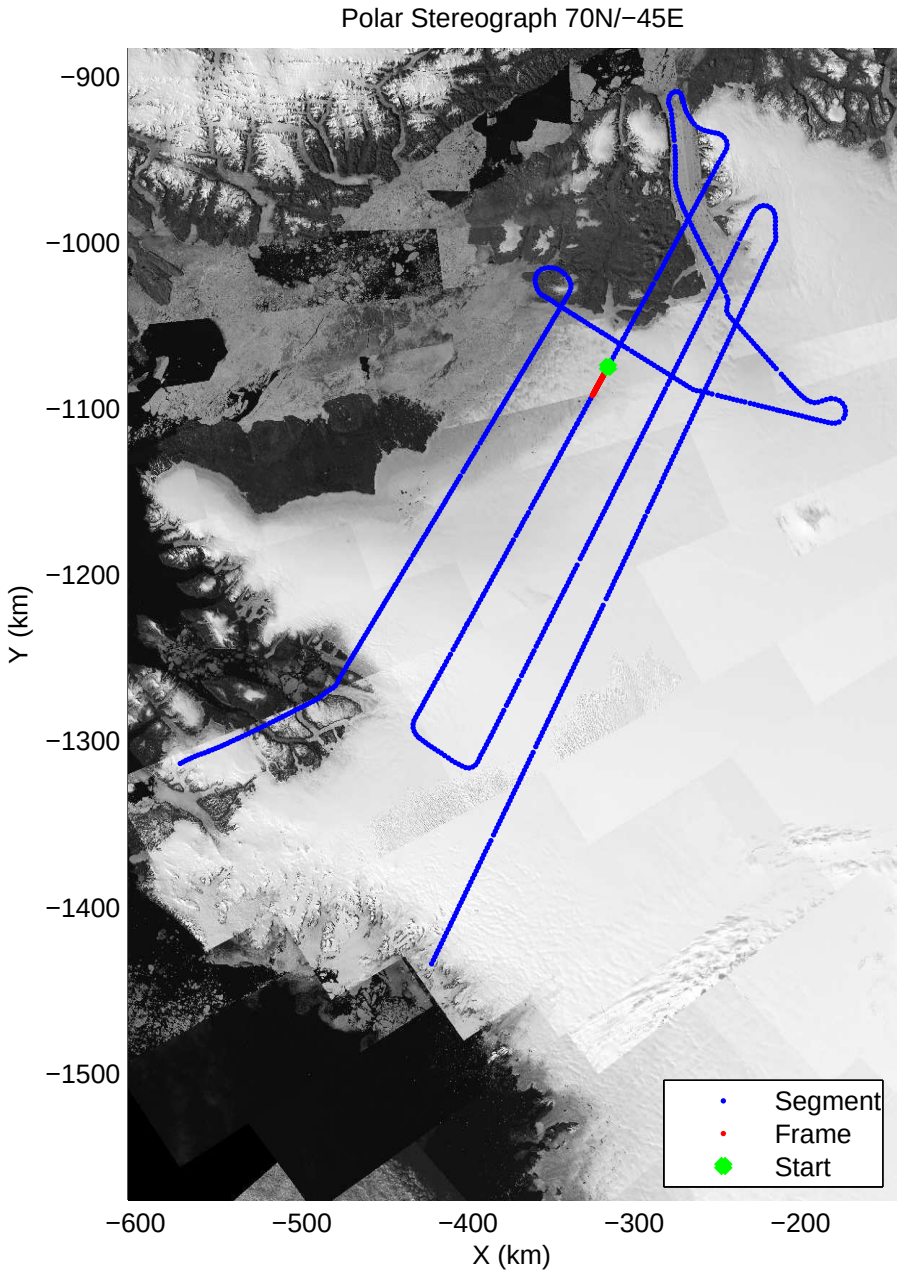

Polar Stereograph 70N/−45E
−900
−1000
−1100
−1200
−1300
−1400
−1500
Y (km)
−600
−500
−400
−300
−200
X (km)
Segment
Frame
Start

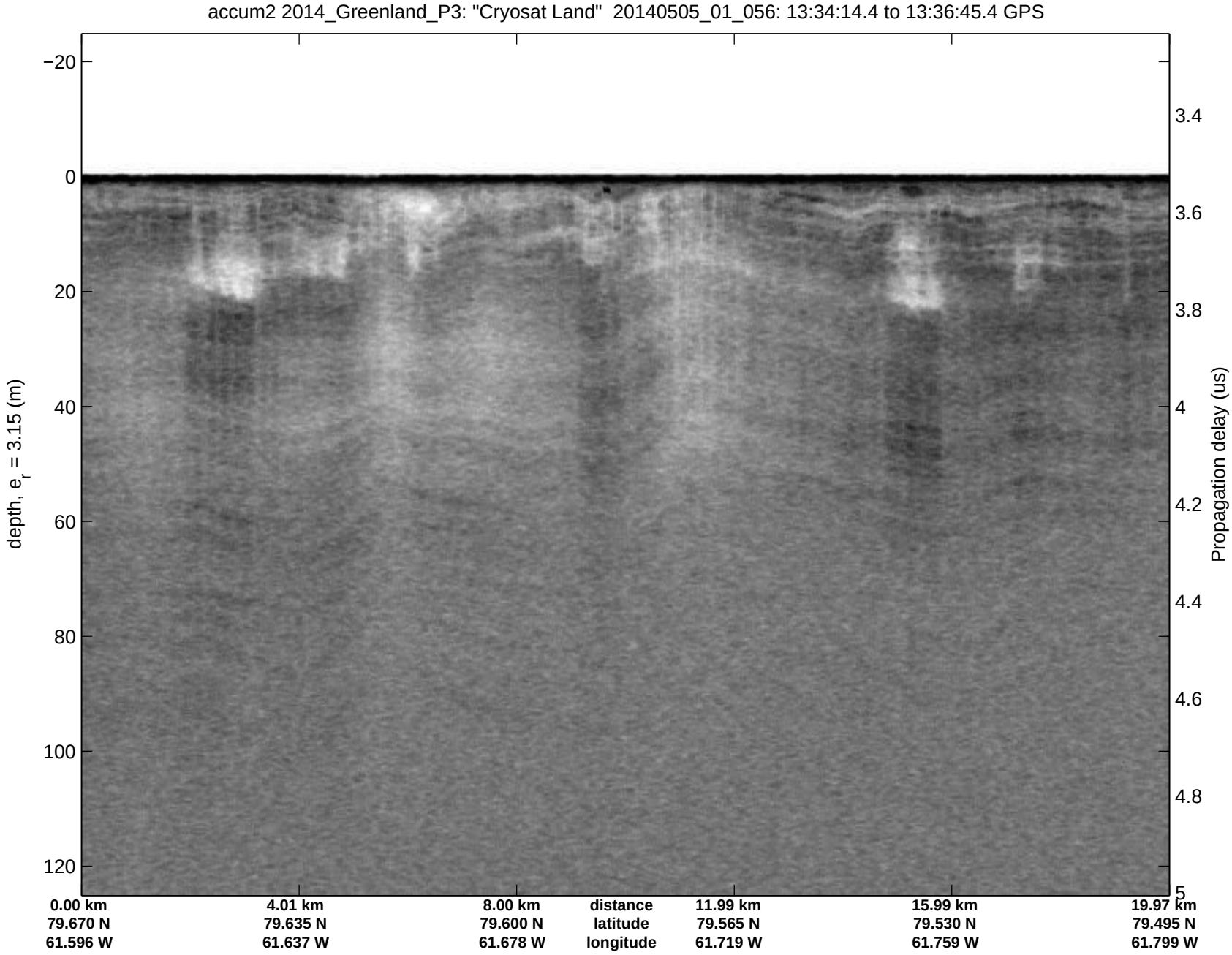

accum2 2014_Greenland_P3: "Cryosat Land" 20140505_01_055: 13:31:47.9 to 13:34:14.2 GPS
depth, e_r = 3.15 (m)
−20
0
20
40
60
80
100
120
Propagation delay (us)
3.8
4
4.2
4.4
4.6
4.8
5
5.2
5.4
0.00 km
79.845 N
61.385 W
4.01 km
79.810 N
61.428 W
8.00 km
79.775 N
61.471 W
distance
latitude
longitude
11.99 km
79.740 N
61.513 W
15.98 km
79.705 N
61.554 W
19.98 km
79.670 N
61.596 W

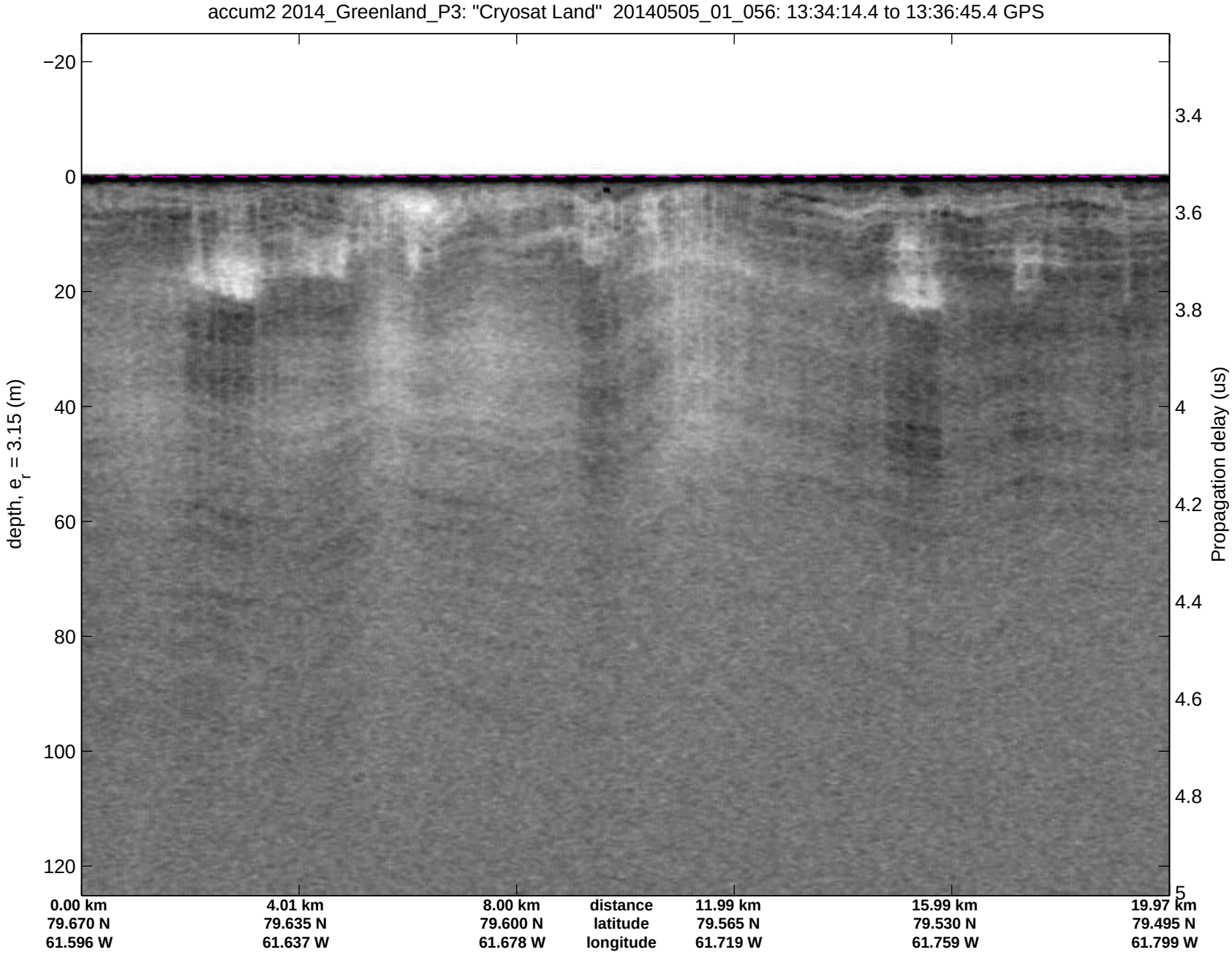

accum2 2014_Greenland_P3: "Cryosat Land" 20140505_01_055: 13:31:47.9 to 13:34:14.2 GPS
depth, e_r = 3.15 (m)
−20
0
20
40
60
80
100
120
Propagation delay (us)
3.8
4
4.2
4.4
4.6
4.8
5
5.2
5.4
0.00 km
79.845 N
61.385 W
4.01 km
79.810 N
61.428 W
8.00 km
79.775 N
61.471 W
distance
latitude
longitude
11.99 km
79.740 N
61.513 W
15.98 km
79.705 N
61.554 W
19.98 km
79.670 N
61.596 W

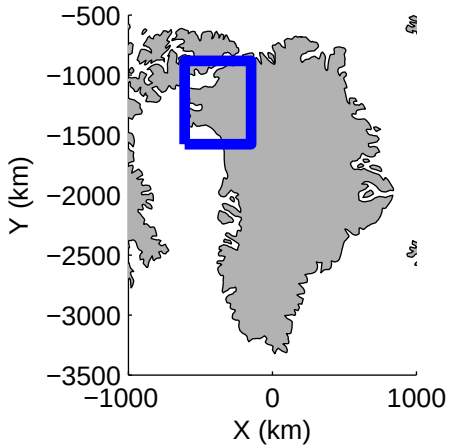

−500
−1000
−1500
−2000
−2500
−3000
−3500
Y (km)
−1000
0
1000
X (km)

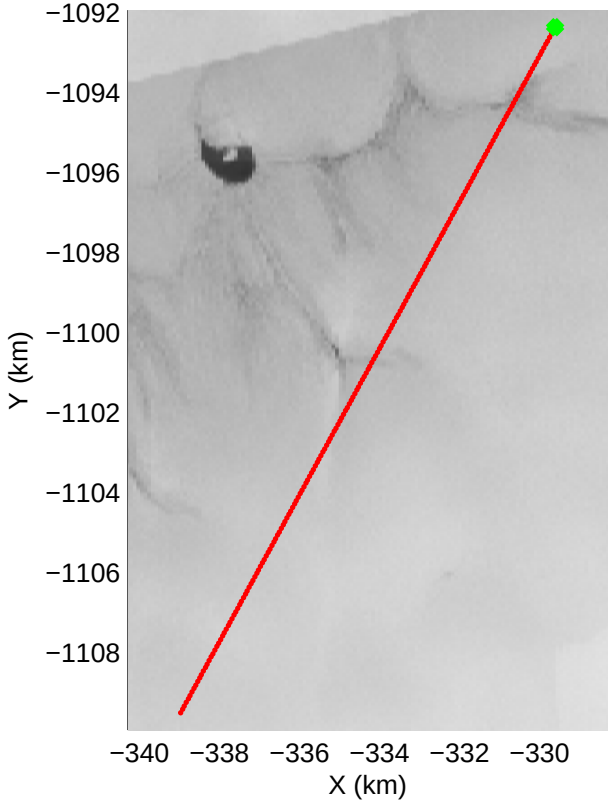

−1076
−1078
−1080
−1082
−1084
−1086
−1088
−1090
−1092
Y (km)
−330
−328
−326
−324
−322
−320
X (km)

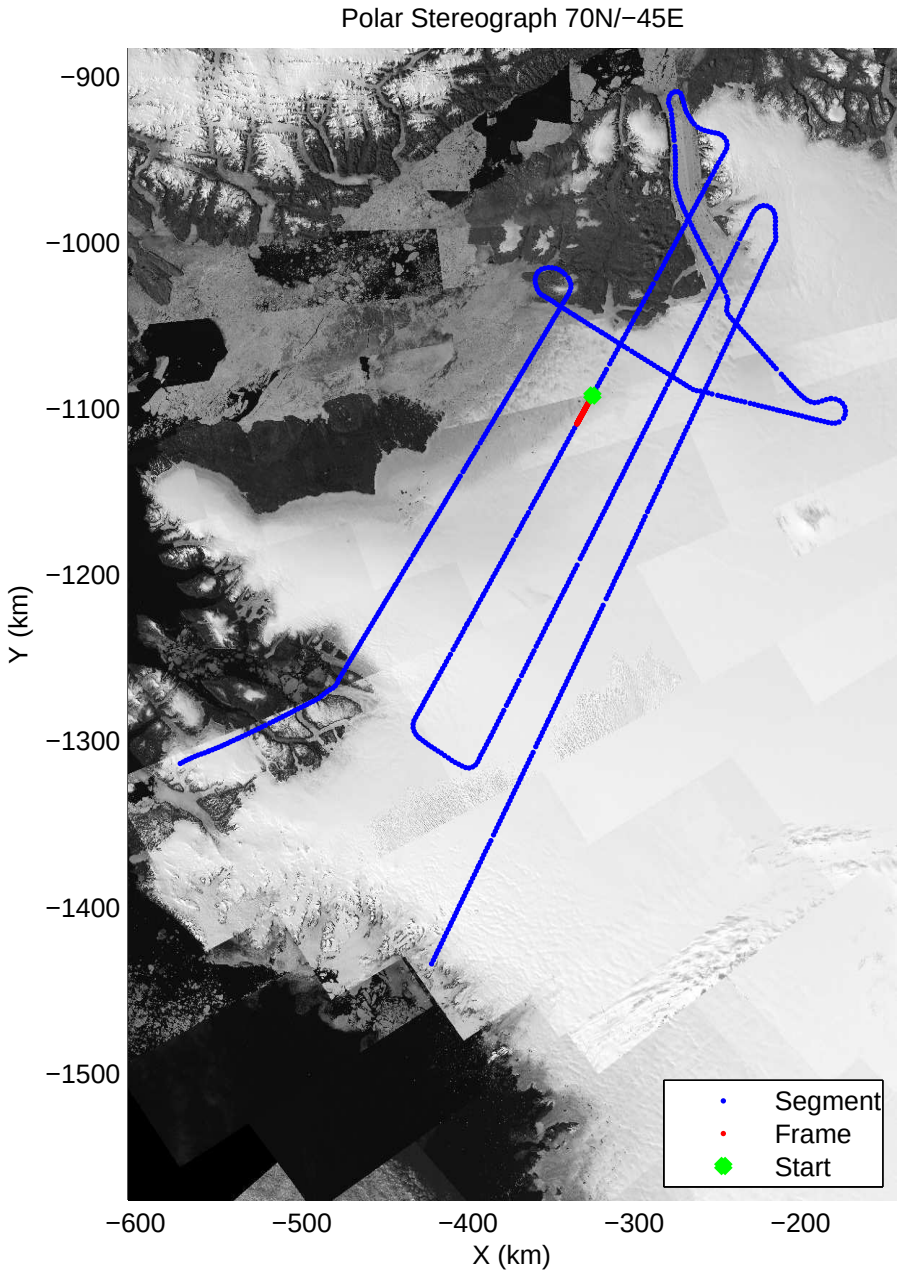

Polar Stereograph 70N/−45E
−900
−1000
−1100
−1200
−1300
−1400
−1500
Y (km)
−600
−500
−400
−300
−200
X (km)
Segment
Frame
Start

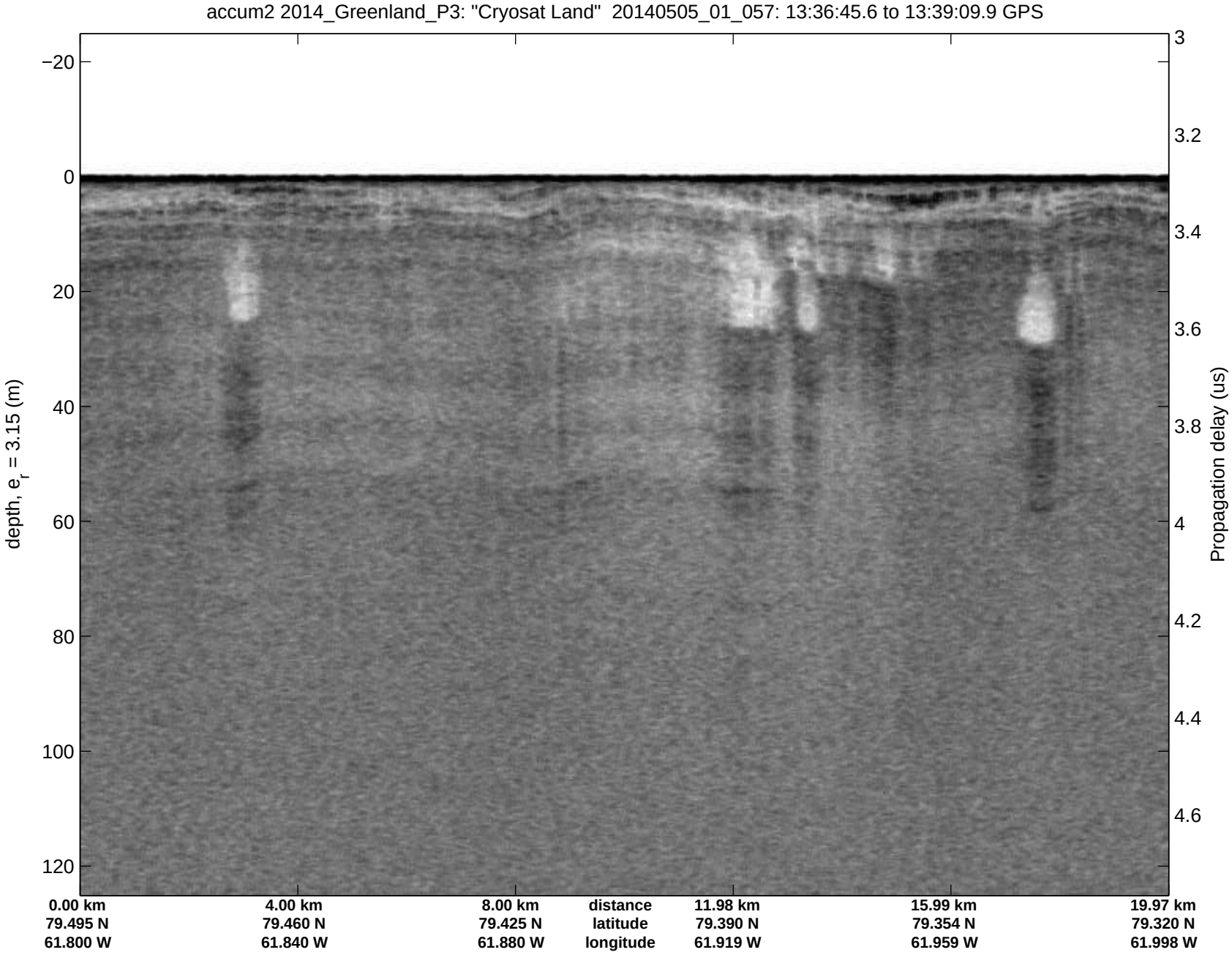

accum2 2014_Greenland_P3: "Cryosat Land" 20140505_01_056: 13:34:14.4 to 13:36:45.4 GPS
depth, e_r = 3.15 (m)
−20
0
20
40
60
80
100
120
Propagation delay (us)
3.4
3.6
3.8
4
4.2
4.4
4.6
4.8
5
0.00 km
79.670 N
61.596 W
4.01 km
79.635 N
61.637 W
8.00 km
79.600 N
61.678 W
distance
latitude
longitude
11.99 km
79.565 N
61.719 W
15.99 km
79.530 N
61.759 W
19.97 km
79.495 N
61.799 W

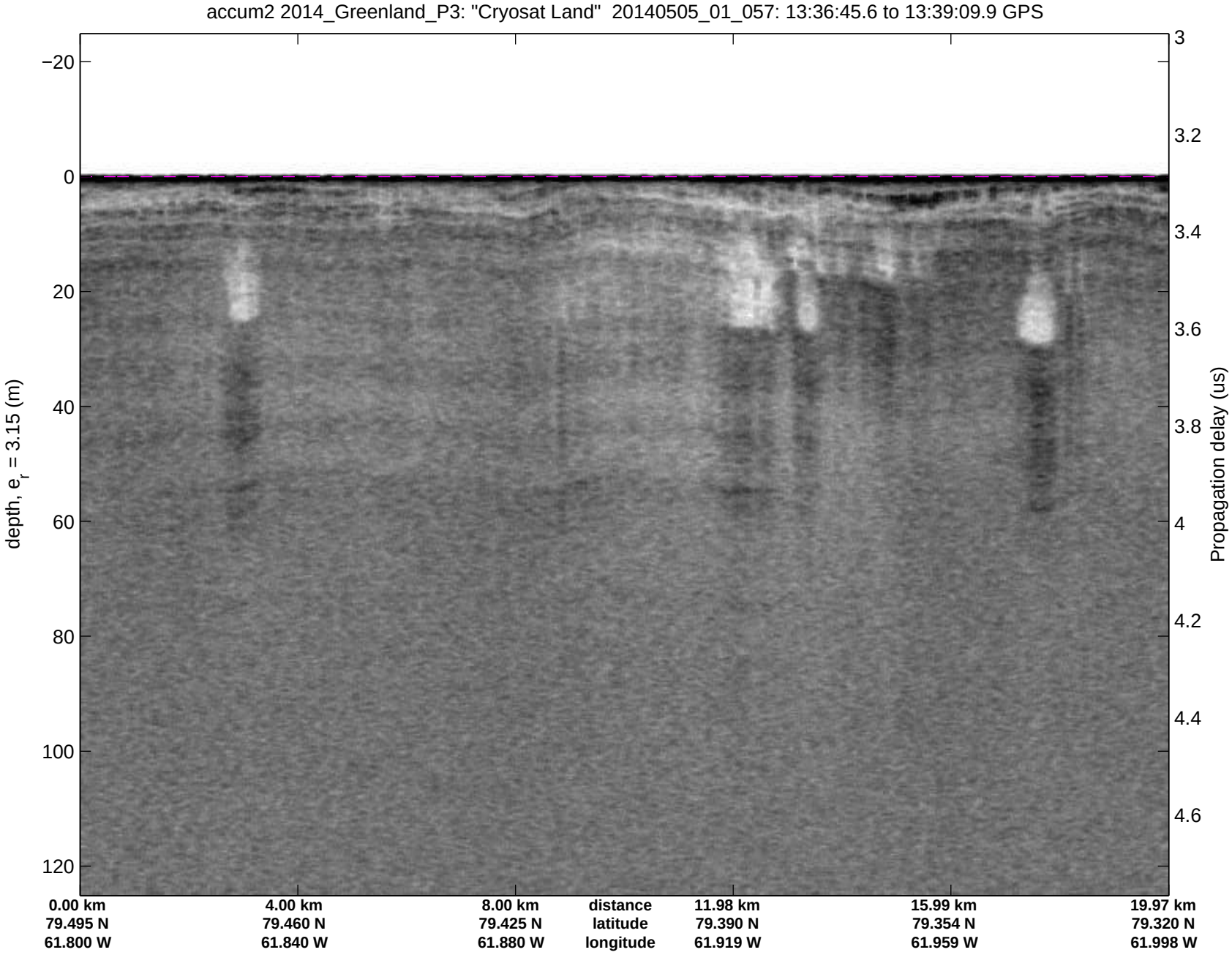

accum2 2014_Greenland_P3: "Cryosat Land" 20140505_01_056: 13:34:14.4 to 13:36:45.4 GPS
depth, e_r = 3.15 (m)
−20
0
20
40
60
80
100
120
Propagation delay (us)
3.4
3.6
3.8
4
4.2
4.4
4.6
4.8
5
0.00 km
79.670 N
61.596 W
4.01 km
79.635 N
61.637 W
8.00 km
79.600 N
61.678 W
distance
latitude
longitude
11.99 km
79.565 N
61.719 W
15.99 km
79.530 N
61.759 W
19.97 km
79.495 N
61.799 W

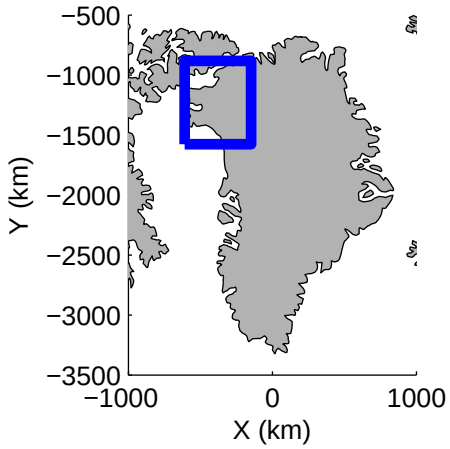

−500
−1000
−1500
−2000
−2500
−3000
−3500
Y (km)
−1000
0
1000
X (km)

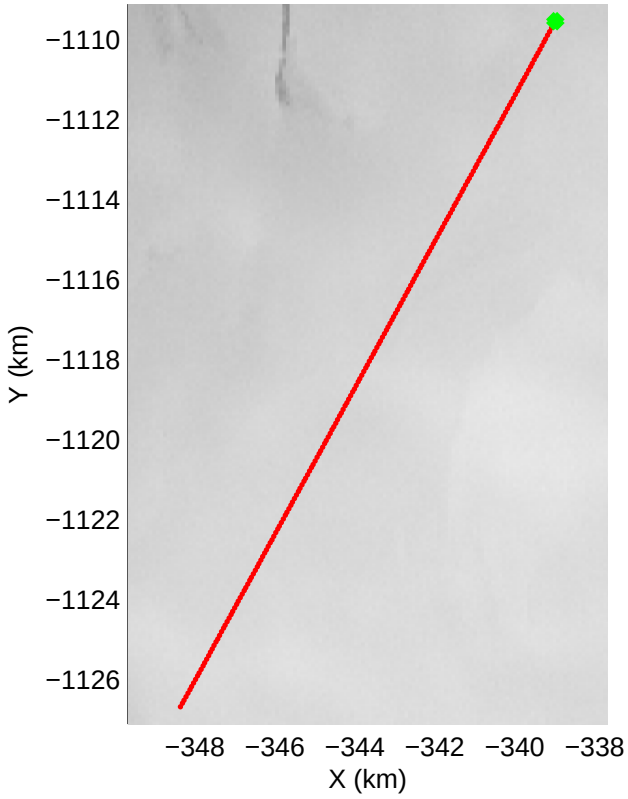

−1092
−1094
−1096
−1098
−1100
−1102
−1104
−1106
−1108
Y (km)
−340
−338
−336
−334
−332
−330
X (km)

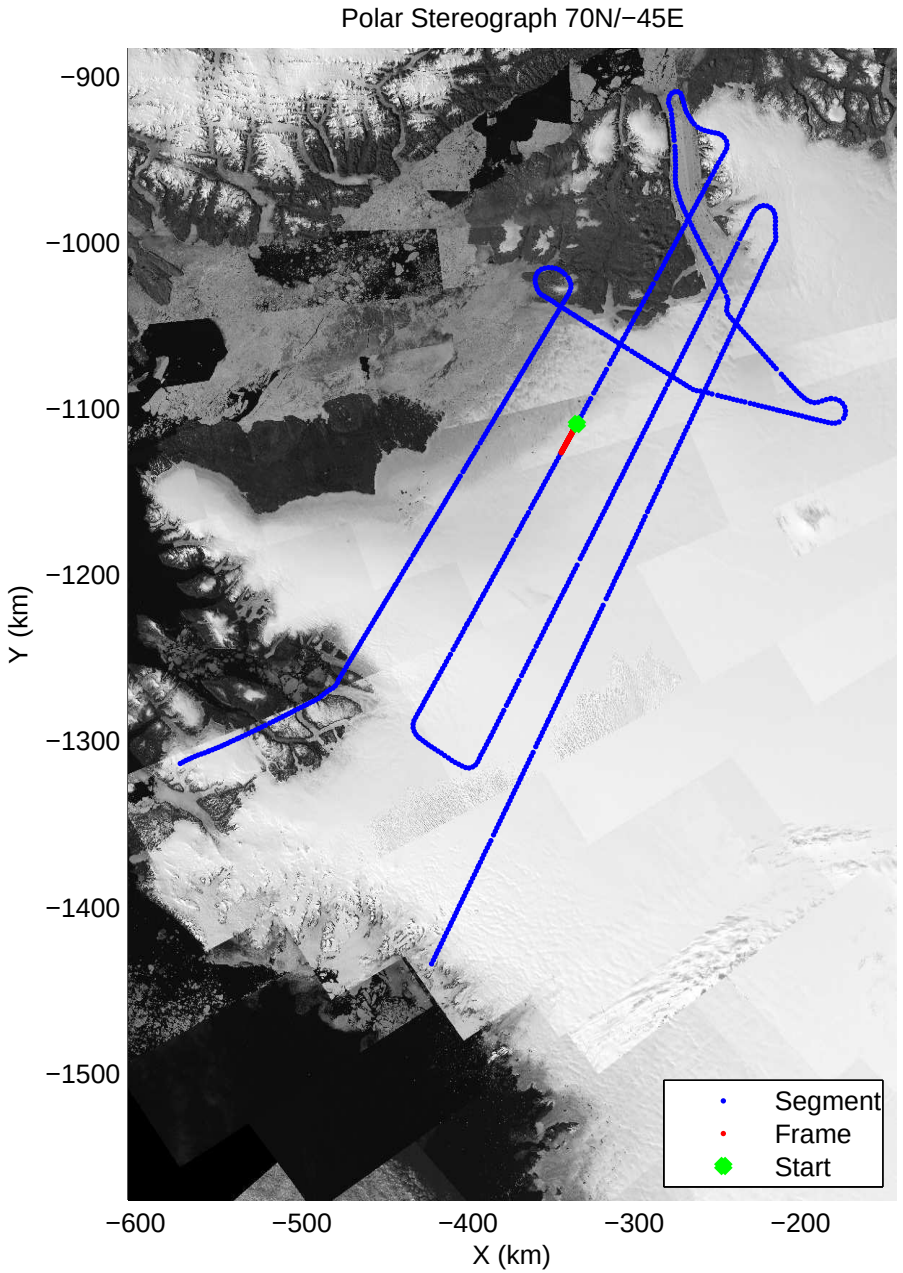

Polar Stereograph 70N/−45E
−900
−1000
−1100
−1200
−1300
−1400
−1500
Y (km)
−600
−500
−400
−300
−200
X (km)
Segment
Frame
Start

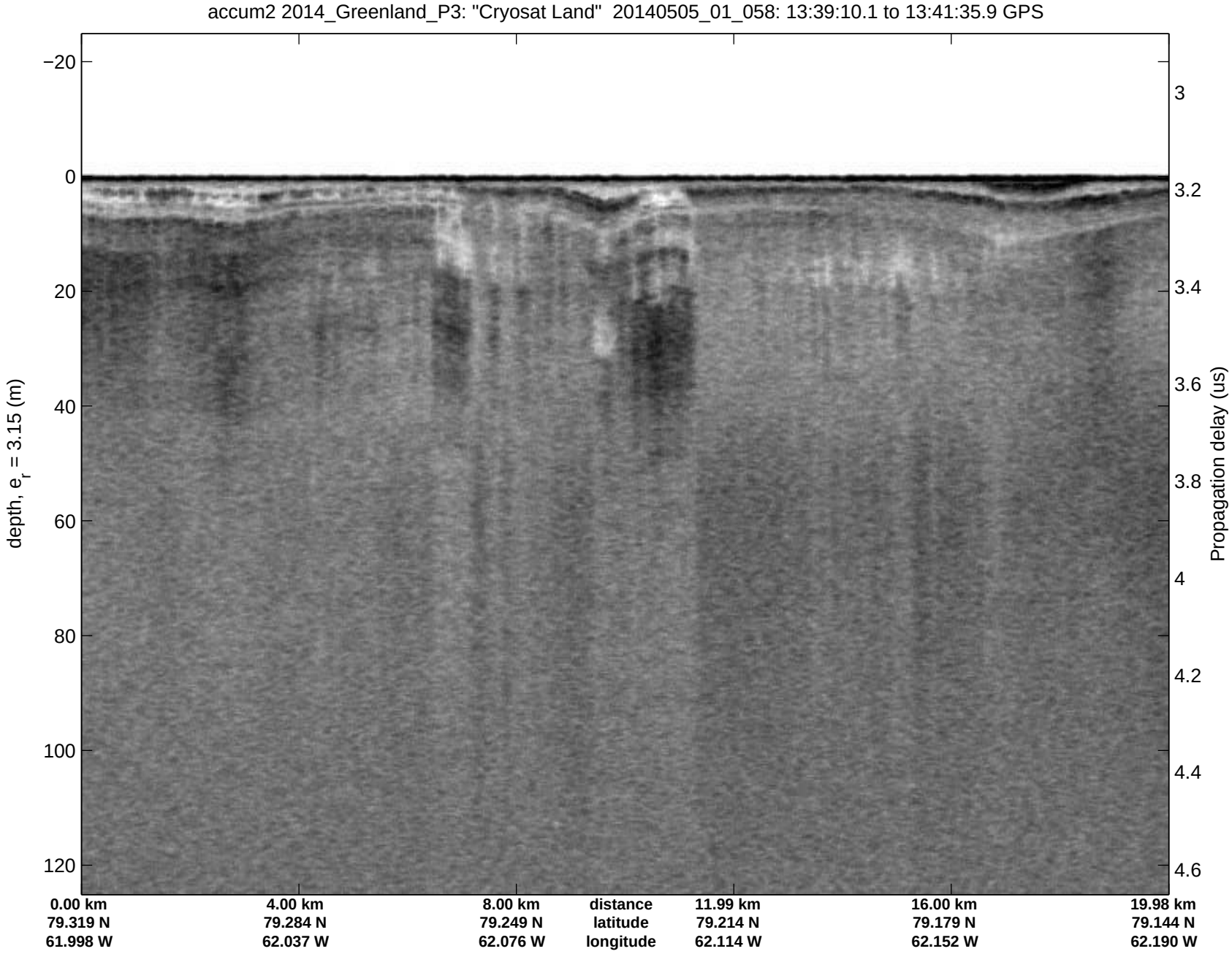

accum2 2014_Greenland_P3: "Cryosat Land" 20140505_01_057: 13:36:45.6 to 13:39:09.9 GPS
depth, e_r = 3.15 (m)
−20
0
20
40
60
80
100
120
Propagation delay (us)
3
3.2
3.4
3.6
3.8
4
4.2
4.4
4.6
0.00 km
79.495 N
61.800 W
4.00 km
79.460 N
61.840 W
8.00 km
79.425 N
61.880 W
distance
latitude
longitude
11.98 km
79.390 N
61.919 W
15.99 km
79.354 N
61.959 W
19.97 km
79.320 N
61.998 W

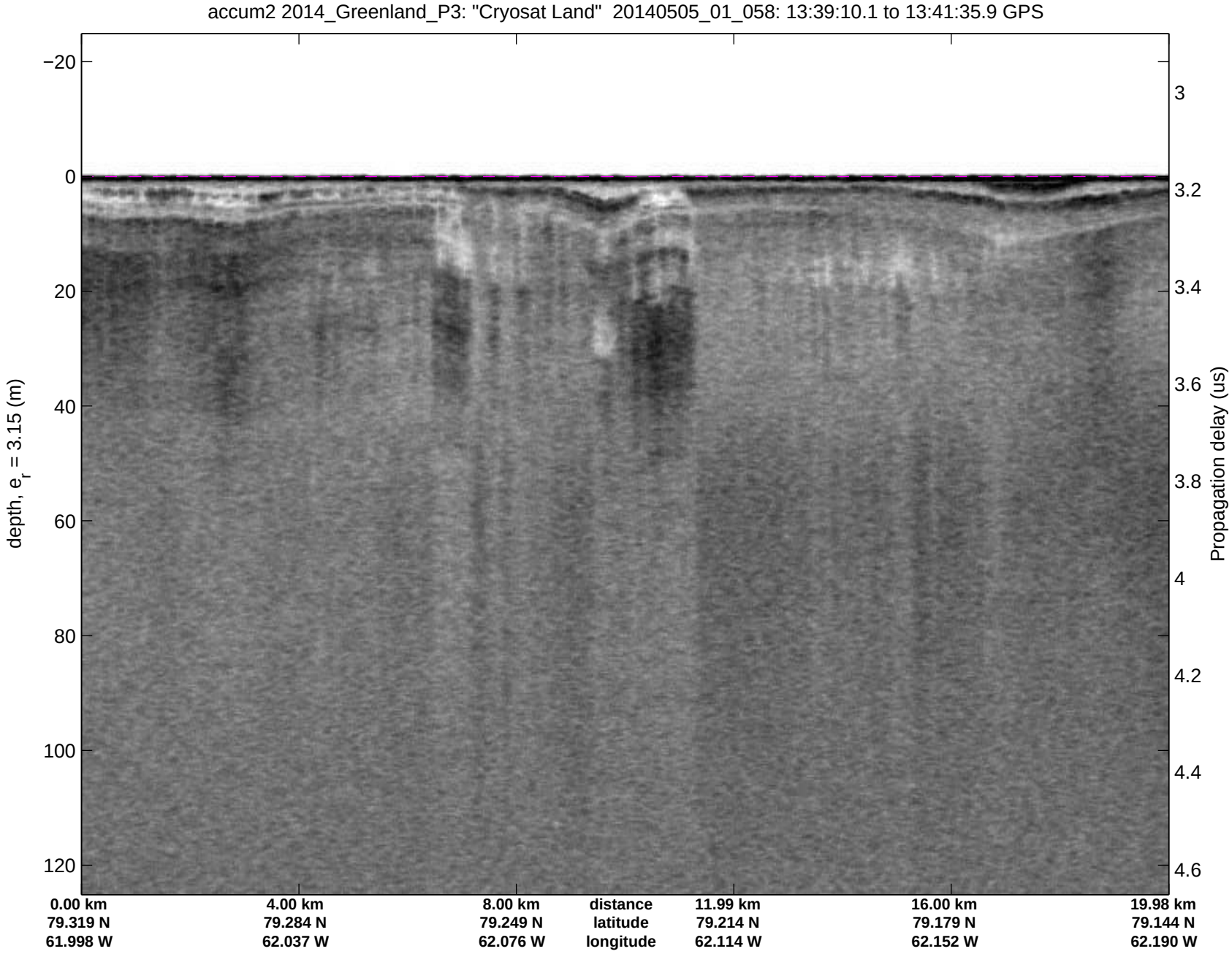

accum2 2014_Greenland_P3: "Cryosat Land" 20140505_01_057: 13:36:45.6 to 13:39:09.9 GPS
depth, e_r = 3.15 (m)
−20
0
20
40
60
80
100
120
Propagation delay (us)
3
3.2
3.4
3.6
3.8
4
4.2
4.4
4.6
0.00 km
79.495 N
61.800 W
4.00 km
79.460 N
61.840 W
8.00 km
79.425 N
61.880 W
distance
latitude
longitude
11.98 km
79.390 N
61.919 W
15.99 km
79.354 N
61.959 W
19.97 km
79.320 N
61.998 W

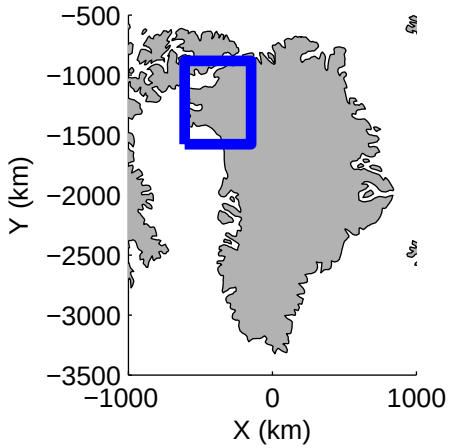

−500
−1000
−1500
−2000
−2500
−3000
−3500
Y (km)
−1000
0
1000
X (km)

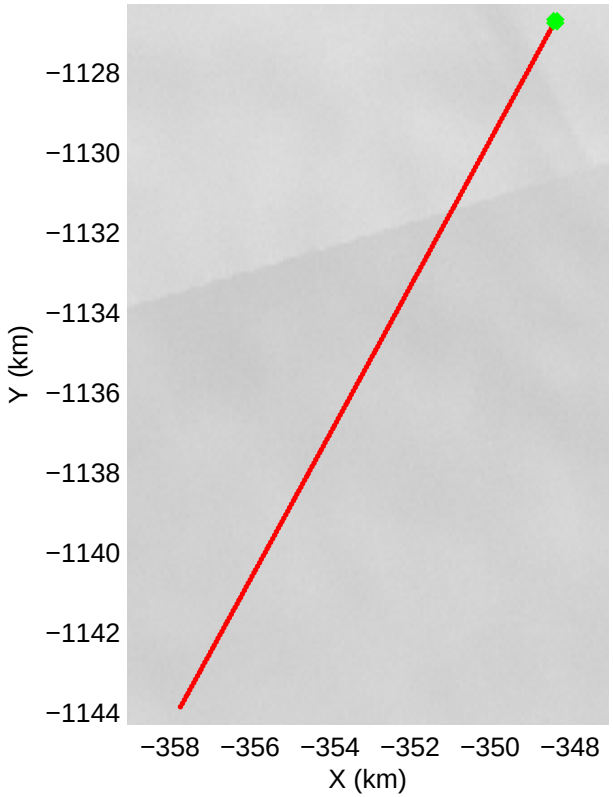

−1110
−1112
−1114
−1116
−1118
−1120
−1122
−1124
−1126
Y (km)
−348
−346
−344
−342
−340
−338
X (km)

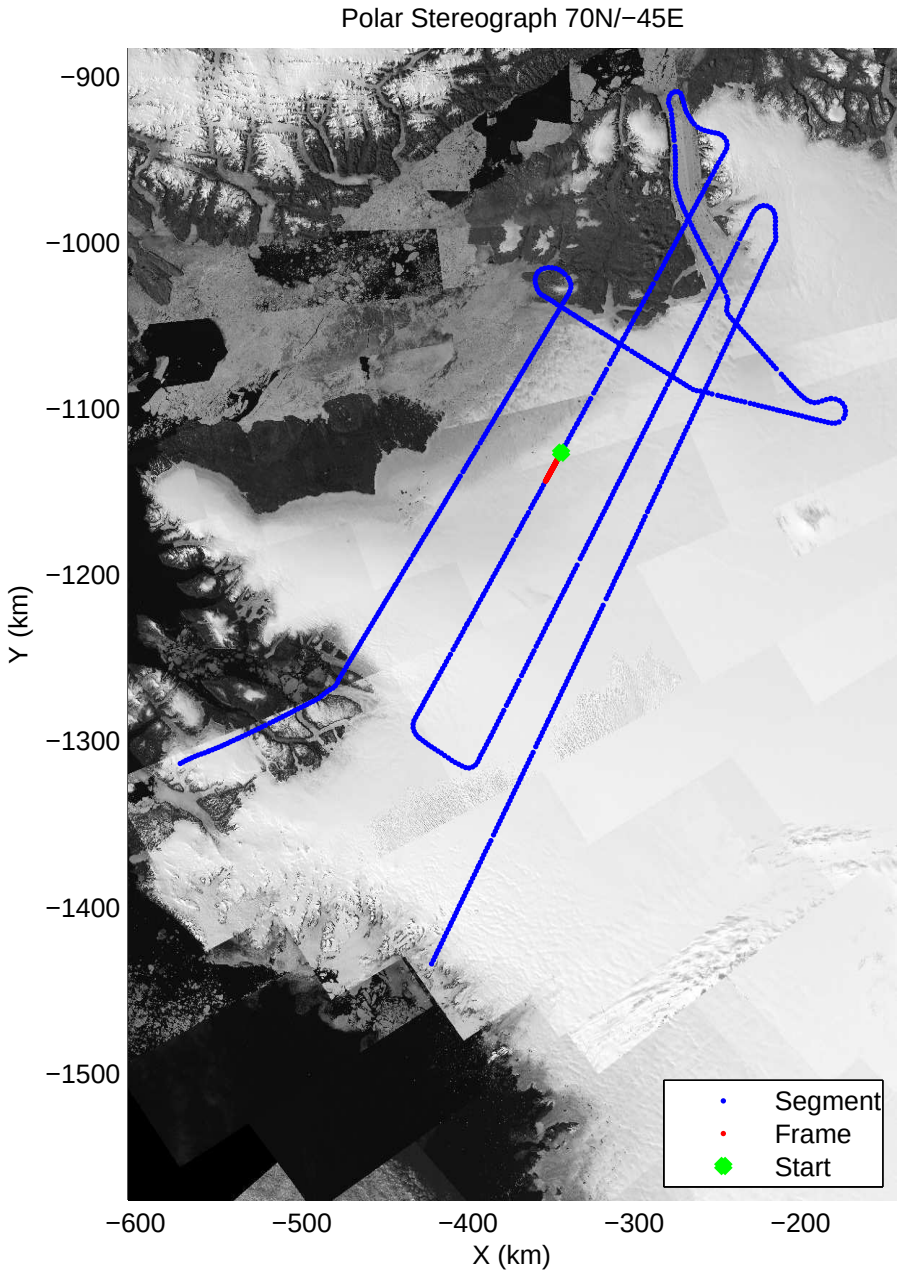

Polar Stereograph 70N/−45E
−900
−1000
−1100
−1200
−1300
−1400
−1500
Y (km)
−600
−500
−400
−300
−200
X (km)
Segment
Frame
Start

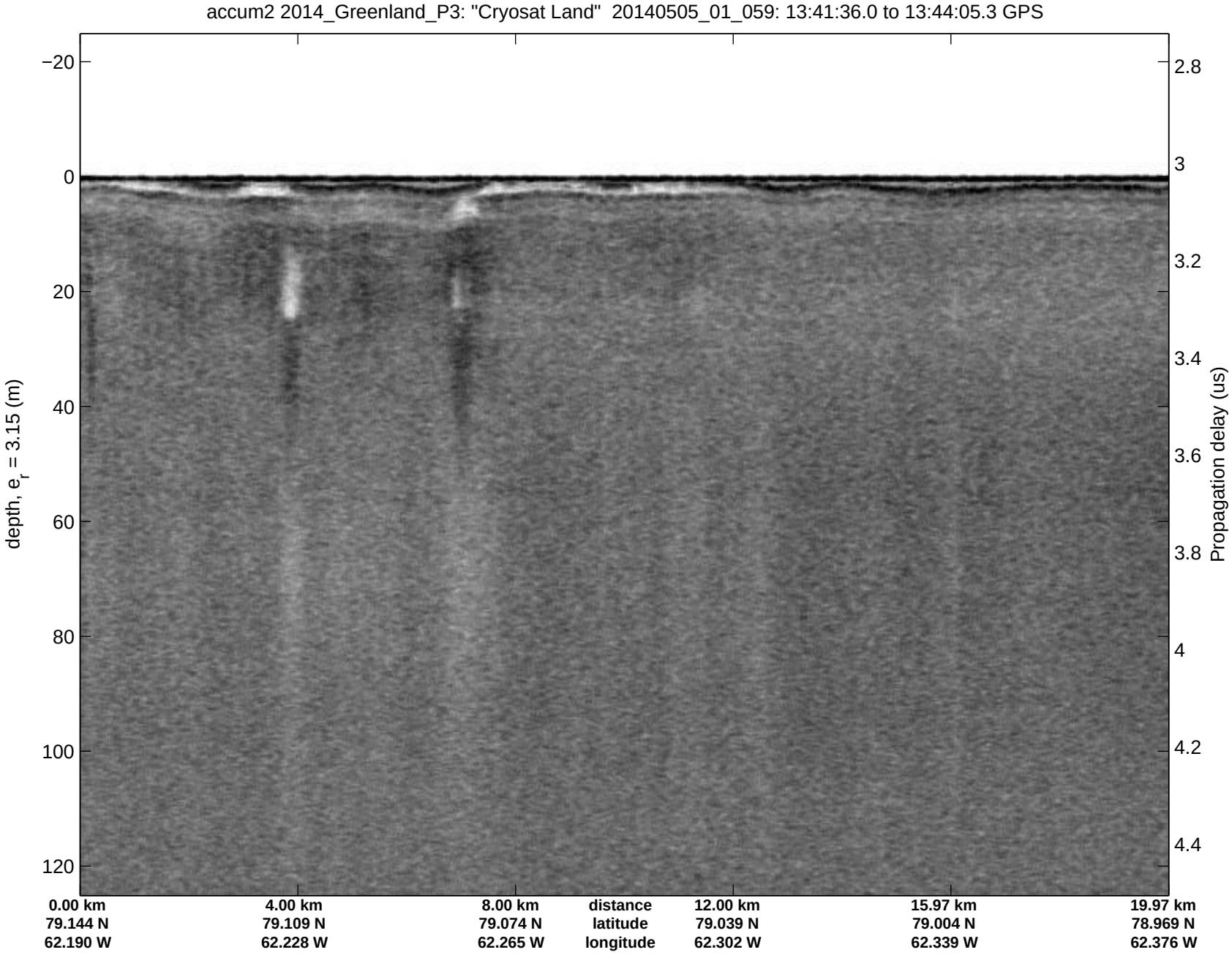

accum2 2014_Greenland_P3: "Cryosat Land" 20140505_01_058: 13:39:10.1 to 13:41:35.9 GPS
depth, e_r = 3.15 (m)
−20
0
20
40
60
80
100
120
Propagation delay (us)
3
3.2
3.4
3.6
3.8
4
4.2
4.4
4.6
0.00 km
79.319 N
61.998 W
4.00 km
79.284 N
62.037 W
8.00 km
79.249 N
62.076 W
distance
latitude
longitude
11.99 km
79.214 N
62.114 W
16.00 km
79.179 N
62.152 W
19.98 km
79.144 N
62.190 W

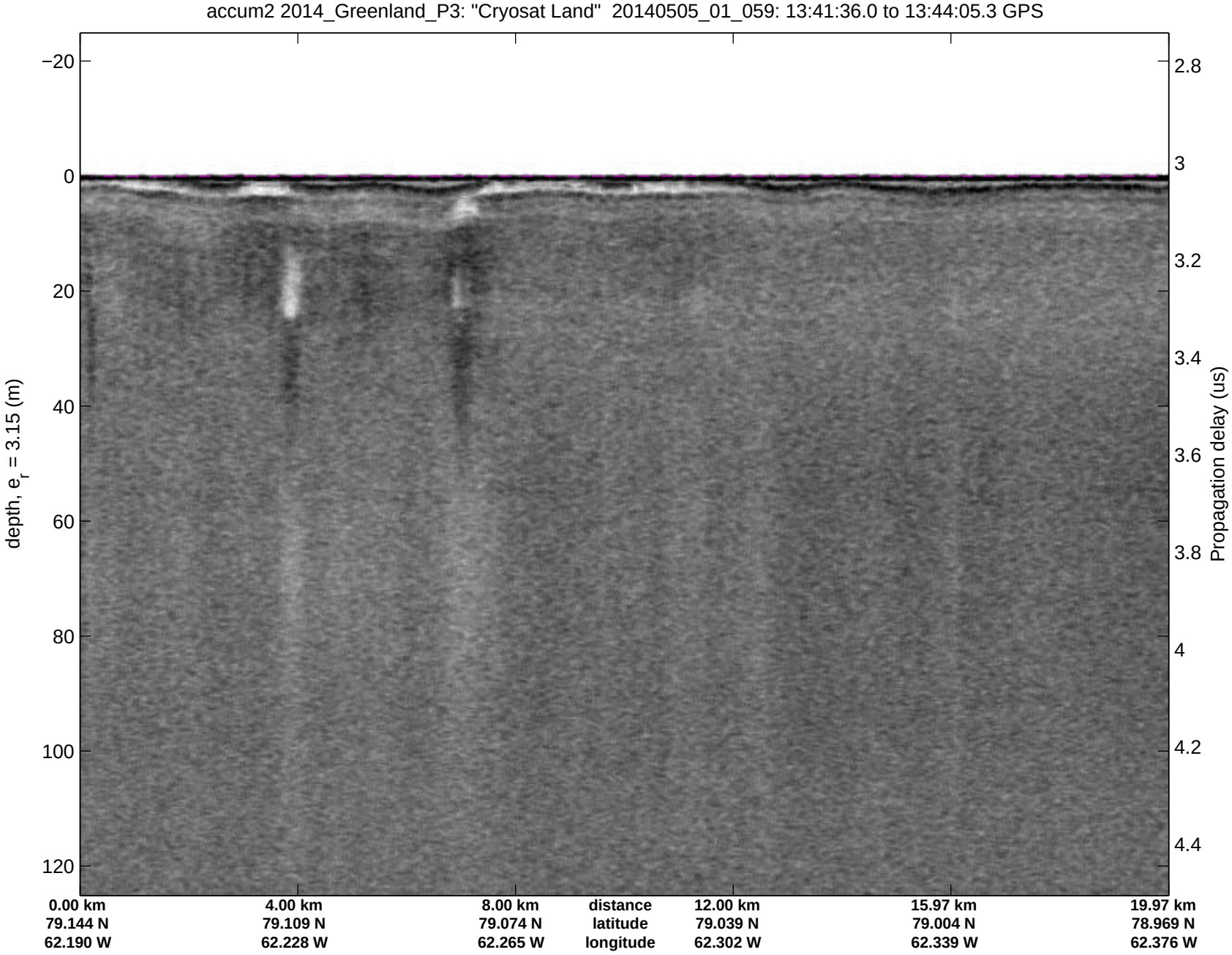

accum2 2014_Greenland_P3: "Cryosat Land" 20140505_01_058: 13:39:10.1 to 13:41:35.9 GPS
depth, e_r = 3.15 (m)
−20
0
20
40
60
80
100
120
Propagation delay (us)
3
3.2
3.4
3.6
3.8
4
4.2
4.4
4.6
0.00 km
79.319 N
61.998 W
4.00 km
79.284 N
62.037 W
8.00 km
79.249 N
62.076 W
distance
latitude
longitude
11.99 km
79.214 N
62.114 W
16.00 km
79.179 N
62.152 W
19.98 km
79.144 N
62.190 W

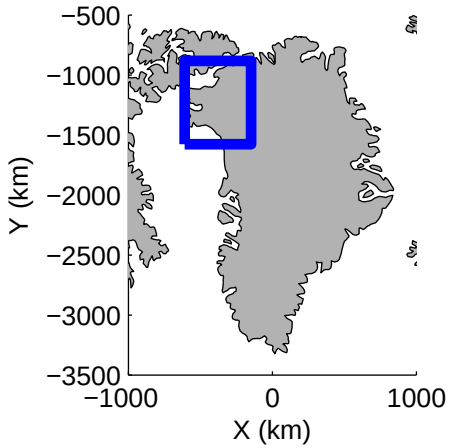

−500
−1000
−1500
−2000
−2500
−3000
−3500
Y (km)
−1000
0
1000
X (km)

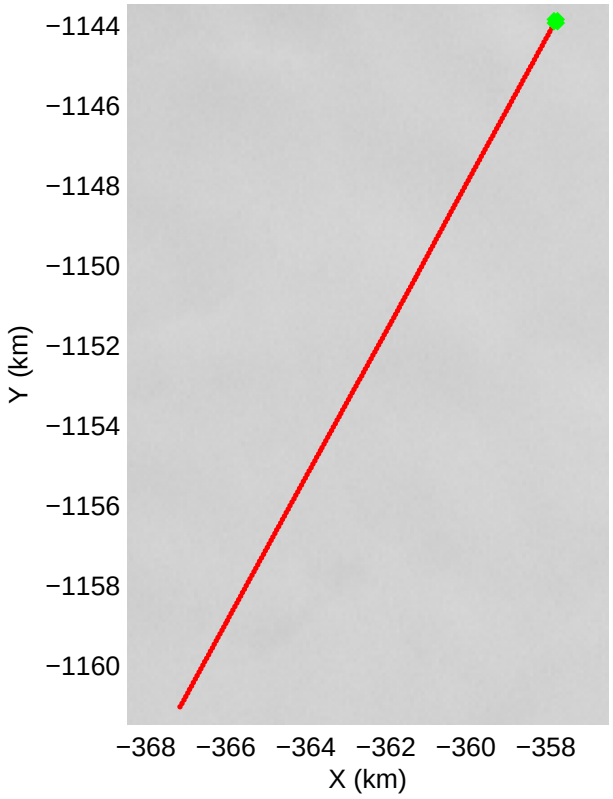

−1128
−1130
−1132
−1134
−1136
−1138
−1140
−1142
−1144
Y (km)
−358
−356
−354
−352
−350
−348
X (km)

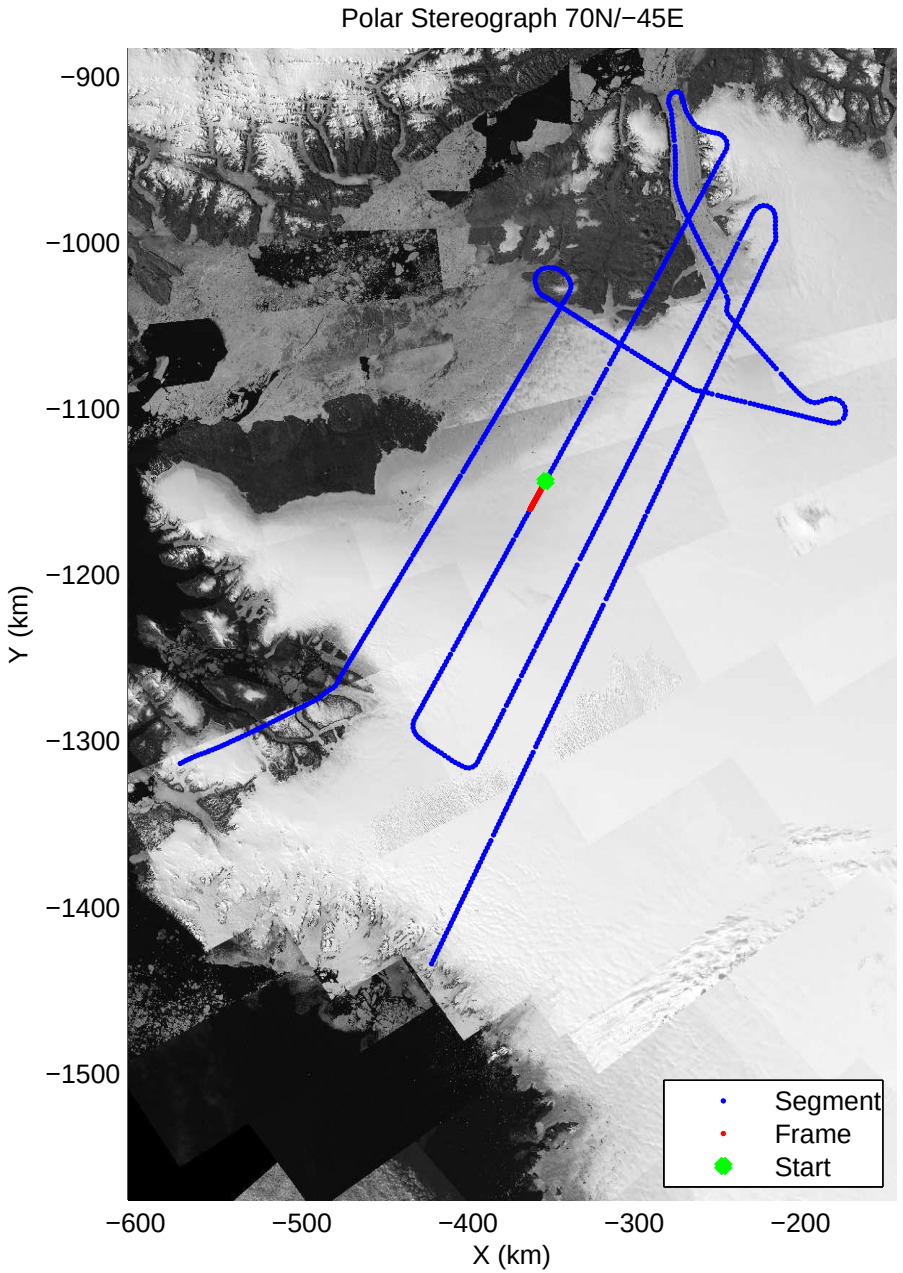

Polar Stereograph 70N/−45E
−900
−1000
−1100
−1200
−1300
−1400
−1500
Y (km)
−600
−500
−400
−300
−200
X (km)
Segment
Frame
Start

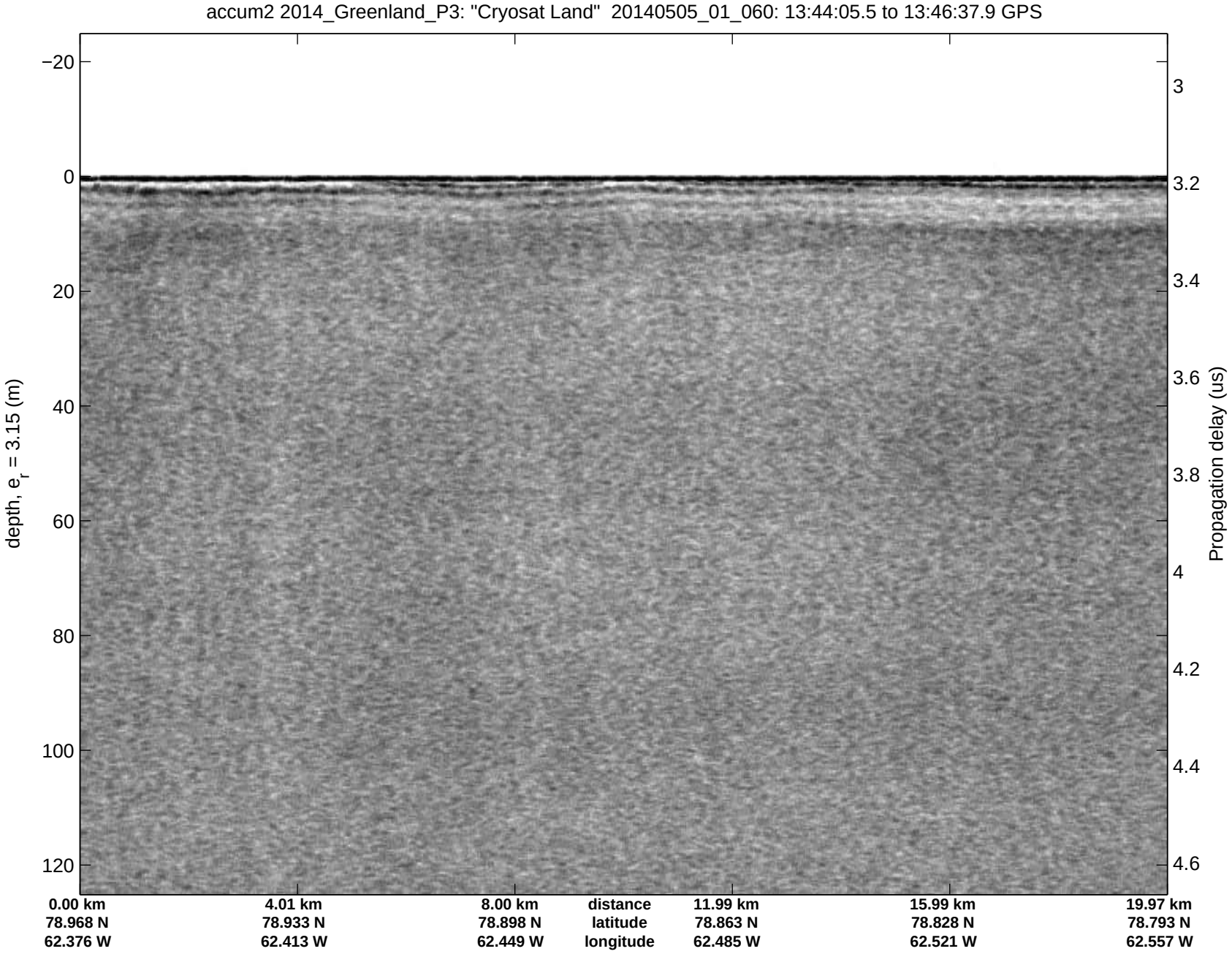

accum2 2014_Greenland_P3: "Cryosat Land" 20140505_01_059: 13:41:36.0 to 13:44:05.3 GPS
depth, e_r = 3.15 (m)
−20
0
20
40
60
80
100
120
Propagation delay (us)
2.8
3
3.2
3.4
3.6
3.8
4
4.2
4.4
0.00 km
79.144 N
62.190 W
4.00 km
79.109 N
62.228 W
8.00 km
79.074 N
62.265 W
distance
latitude
longitude
12.00 km
79.039 N
62.302 W
15.97 km
79.004 N
62.339 W
19.97 km
78.969 N
62.376 W

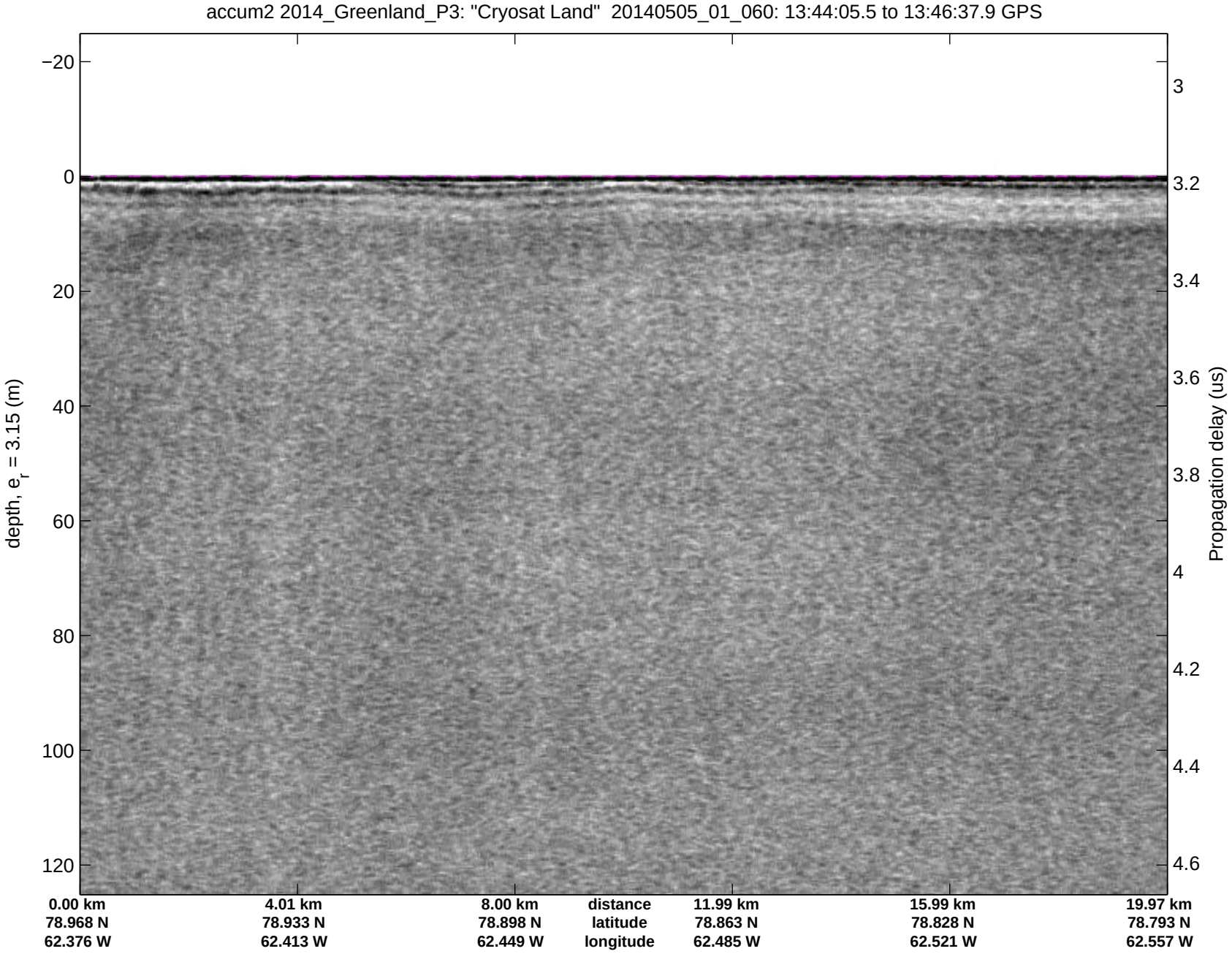

accum2 2014_Greenland_P3: "Cryosat Land" 20140505_01_059: 13:41:36.0 to 13:44:05.3 GPS
depth, e_r = 3.15 (m)
−20
0
20
40
60
80
100
120
Propagation delay (us)
2.8
3
3.2
3.4
3.6
3.8
4
4.2
4.4
0.00 km
79.144 N
62.190 W
4.00 km
79.109 N
62.228 W
8.00 km
79.074 N
62.265 W
distance
latitude
longitude
12.00 km
79.039 N
62.302 W
15.97 km
79.004 N
62.339 W
19.97 km
78.969 N
62.376 W

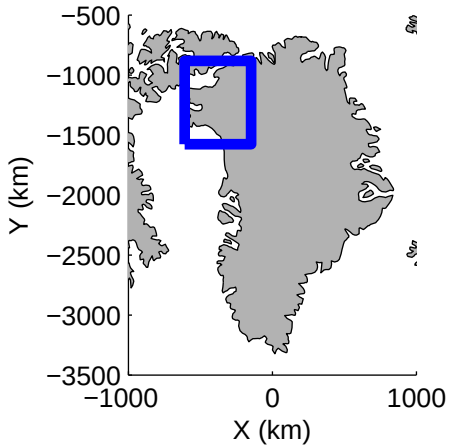

−500
−1000
−1500
−2000
−2500
−3000
−3500
Y (km)
−1000
0
1000
X (km)

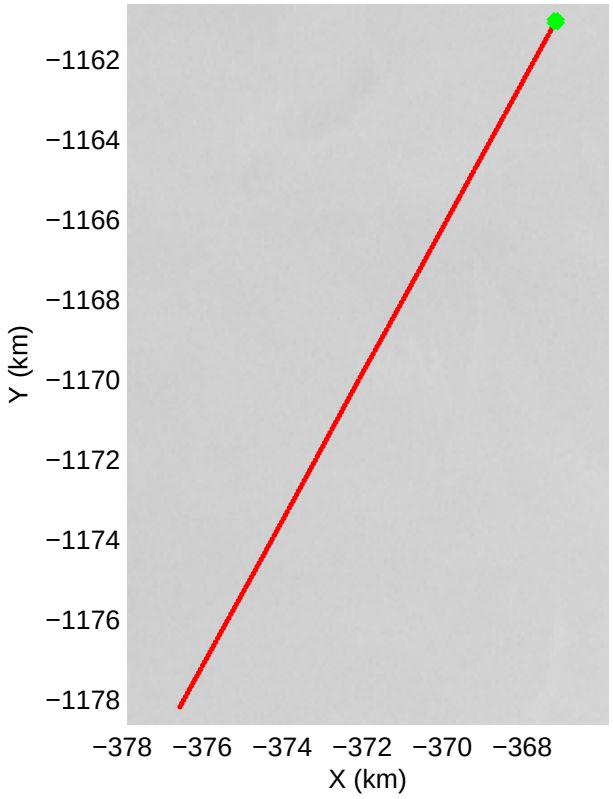

−1144
−1146
−1148
−1150
−1152
−1154
−1156
−1158
−1160
Y (km)
−368
−366
−364
−362
−360
−358
X (km)

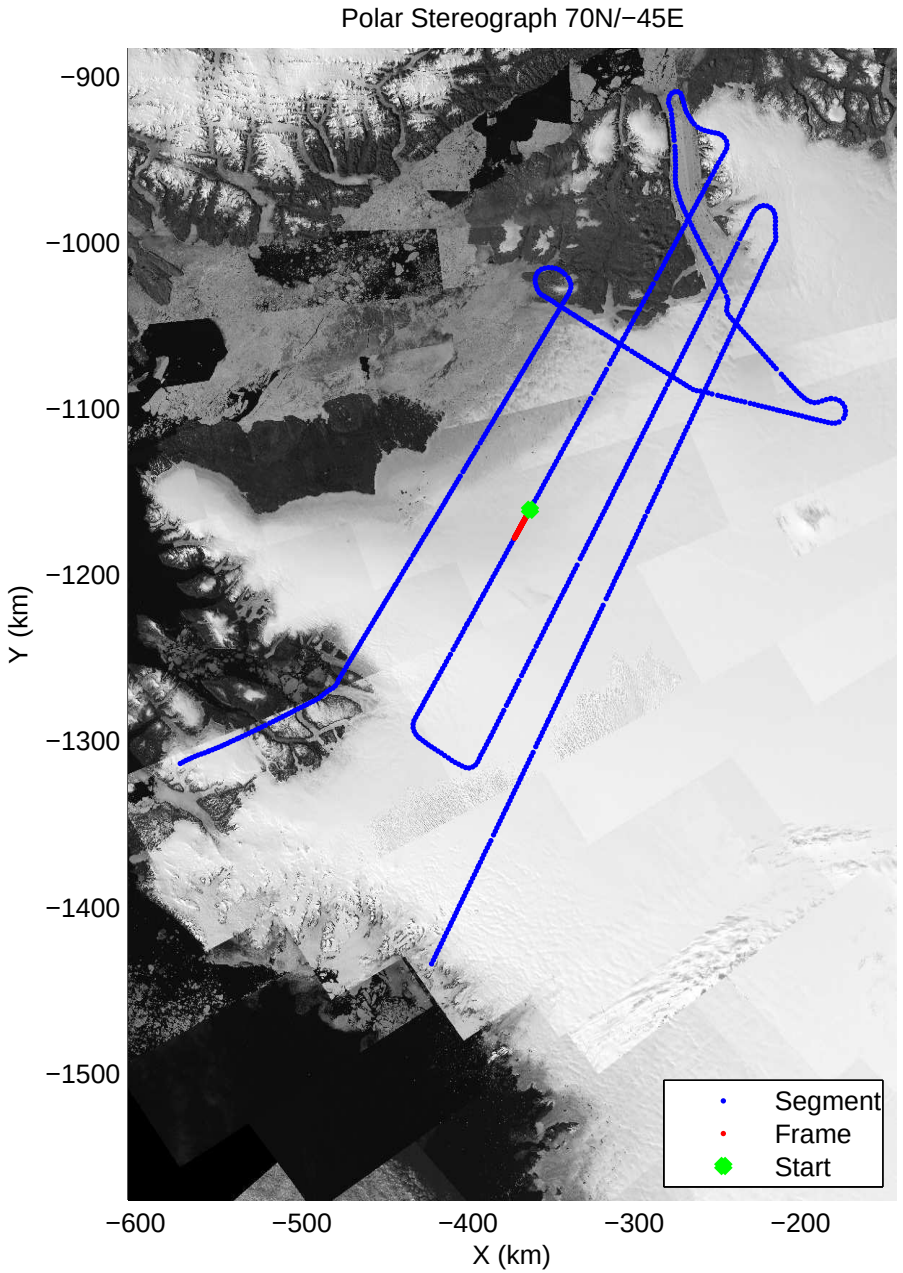

Polar Stereograph 70N/−45E
−900
−1000
−1100
−1200
−1300
−1400
−1500
Y (km)
−600
−500
−400
−300
−200
X (km)
Segment
Frame
Start

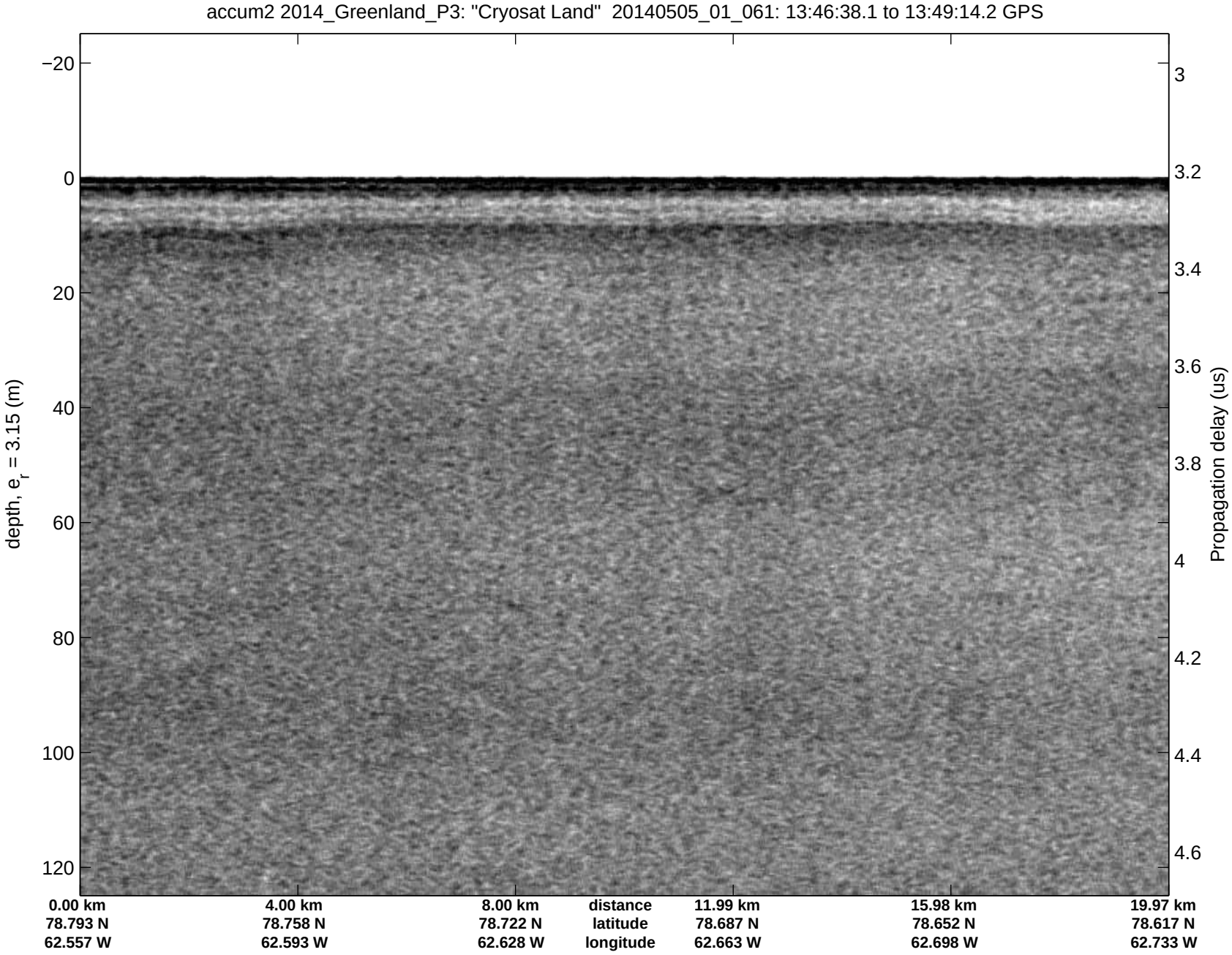

accum2 2014_Greenland_P3: "Cryosat Land" 20140505_01_060: 13:44:05.5 to 13:46:37.9 GPS
depth, e_r = 3.15 (m)
−20
0
20
40
60
80
100
120
Propagation delay (us)
3
3.2
3.4
3.6
3.8
4
4.2
4.4
4.6
0.00 km
78.968 N
62.376 W
4.01 km
78.933 N
62.413 W
8.00 km
78.898 N
62.449 W
distance
latitude
longitude
11.99 km
78.863 N
62.485 W
15.99 km
78.828 N
62.521 W
19.97 km
78.793 N
62.557 W

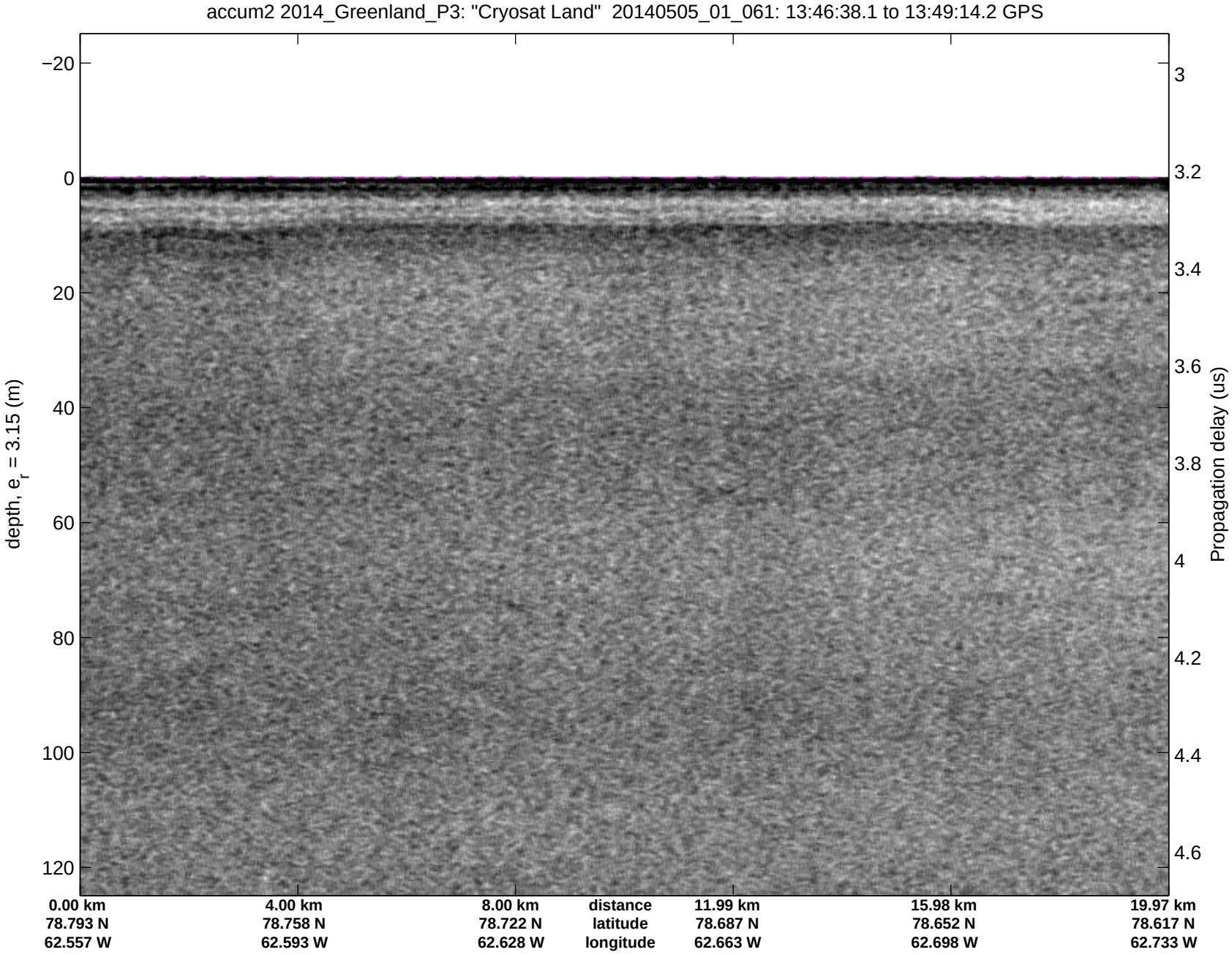

accum2 2014_Greenland_P3: "Cryosat Land" 20140505_01_060: 13:44:05.5 to 13:46:37.9 GPS
depth, e_r = 3.15 (m)
−20
0
20
40
60
80
100
120
Propagation delay (us)
3
3.2
3.4
3.6
3.8
4
4.2
4.4
4.6
0.00 km
78.968 N
62.376 W
4.01 km
78.933 N
62.413 W
8.00 km
78.898 N
62.449 W
distance
latitude
longitude
11.99 km
78.863 N
62.485 W
15.99 km
78.828 N
62.521 W
19.97 km
78.793 N
62.557 W

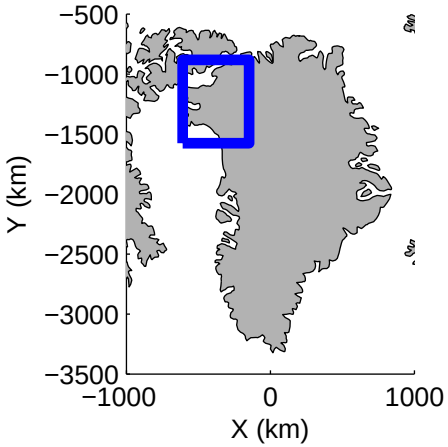

−500
−1000
−1500
−2000
−2500
−3000
−3500
Y (km)
−1000
0
1000
X (km)

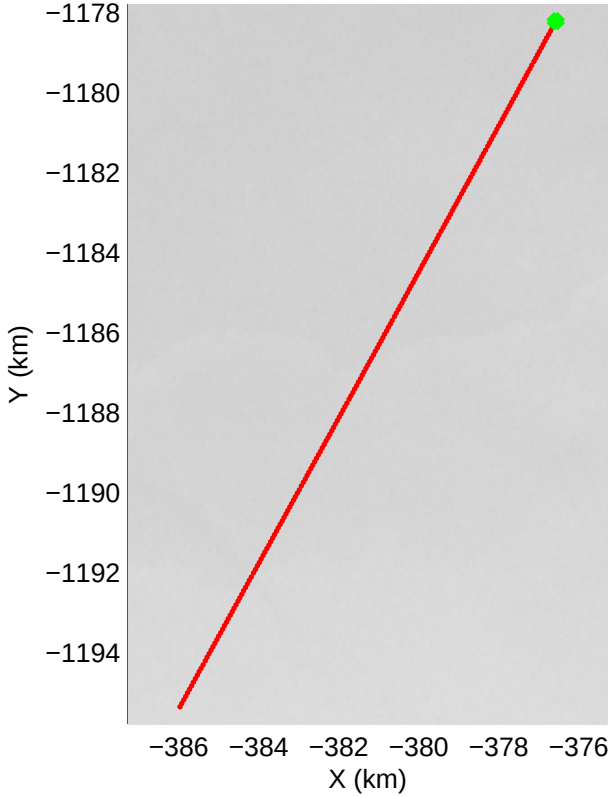

−1162
−1164
−1166
−1168
−1170
−1172
−1174
−1176
−1178
Y (km)
−378
−376
−374
−372
−370
−368
X (km)

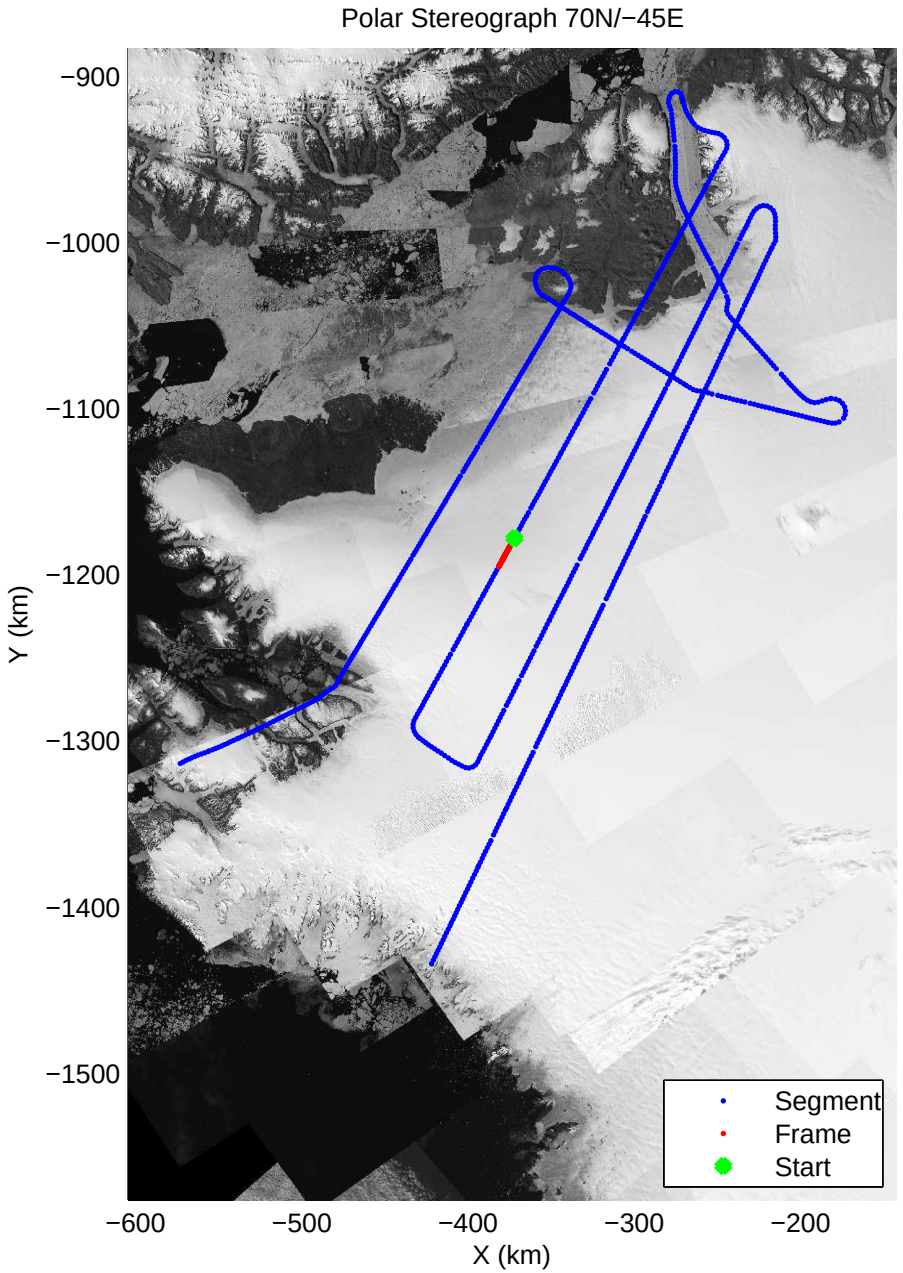

Polar Stereograph 70N/−45E
−900
−1000
−1100
−1200
−1300
−1400
−1500
Y (km)
−600
−500
−400
−300
−200
X (km)
Segment
Frame
Start

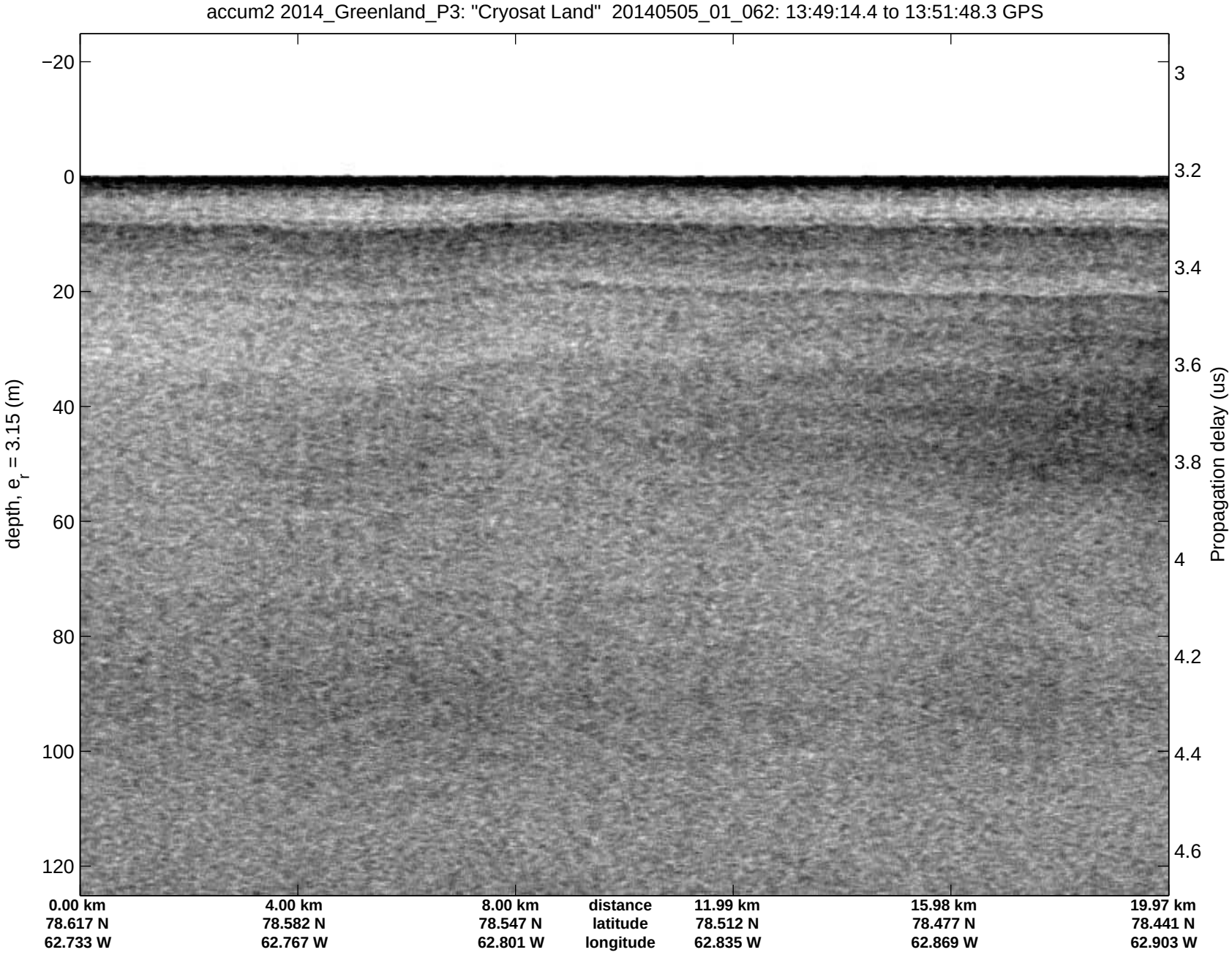

accum2 2014_Greenland_P3: "Cryosat Land" 20140505_01_061: 13:46:38.1 to 13:49:14.2 GPS
depth, e_r = 3.15 (m)
−20
0
20
40
60
80
100
120
Propagation delay (us)
3
3.2
3.4
3.6
3.8
4
4.2
4.4
4.6
0.00 km
78.793 N
62.557 W
4.00 km
78.758 N
62.593 W
8.00 km
78.722 N
62.628 W
distance
latitude
longitude
11.99 km
78.687 N
62.663 W
15.98 km
78.652 N
62.698 W
19.97 km
78.617 N
62.733 W

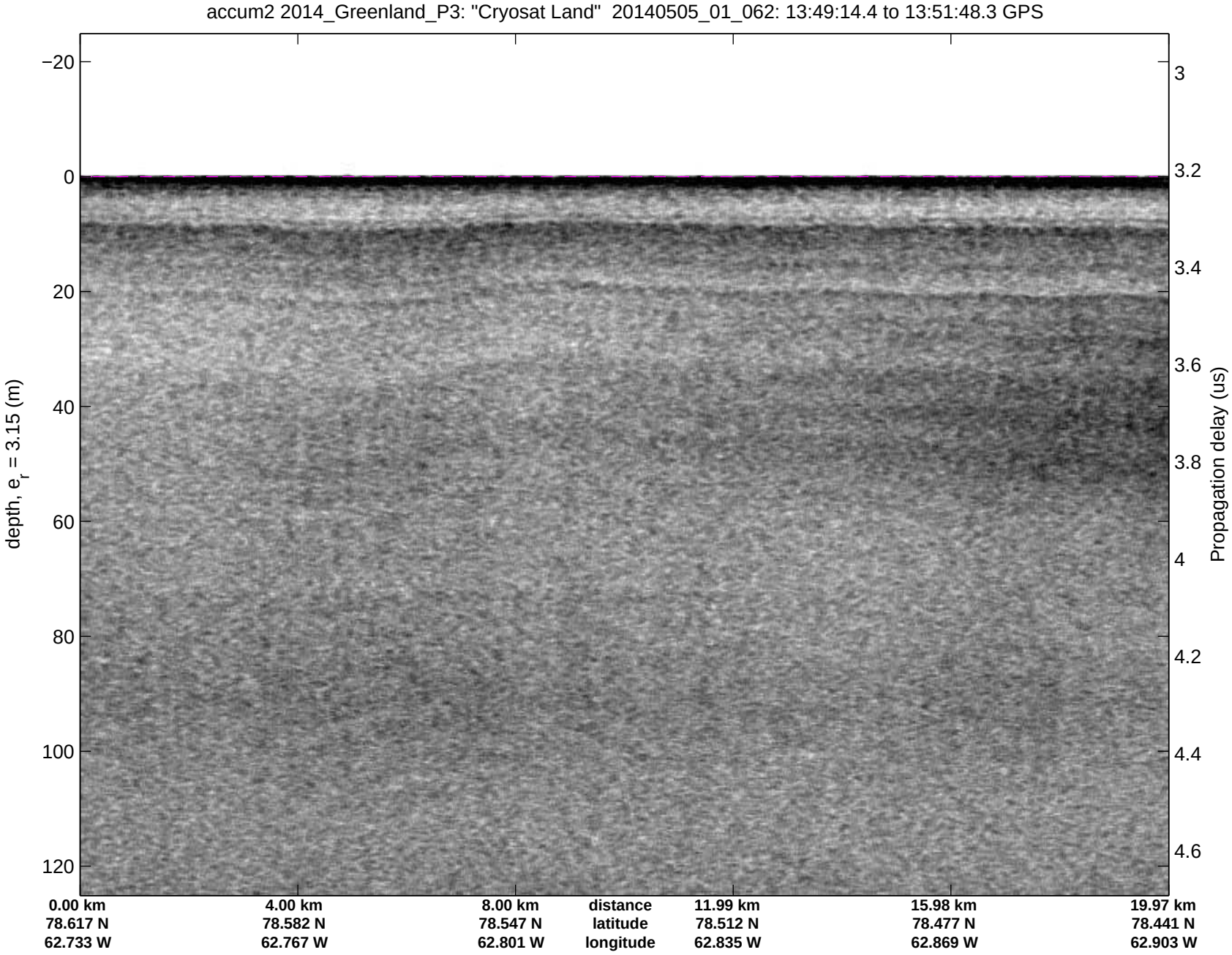

accum2 2014_Greenland_P3: "Cryosat Land" 20140505_01_061: 13:46:38.1 to 13:49:14.2 GPS
depth, e_r = 3.15 (m)
−20
0
20
40
60
80
100
120
Propagation delay (us)
3
3.2
3.4
3.6
3.8
4
4.2
4.4
4.6
0.00 km
78.793 N
62.557 W
4.00 km
78.758 N
62.593 W
8.00 km
78.722 N
62.628 W
distance
latitude
longitude
11.99 km
78.687 N
62.663 W
15.98 km
78.652 N
62.698 W
19.97 km
78.617 N
62.733 W

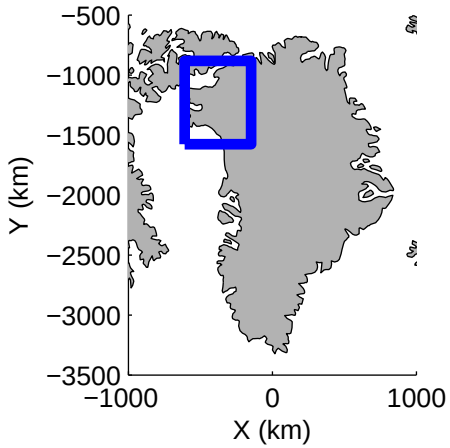

−500
−1000
−1500
−2000
−2500
−3000
−3500
Y (km)
−1000
0
1000
X (km)

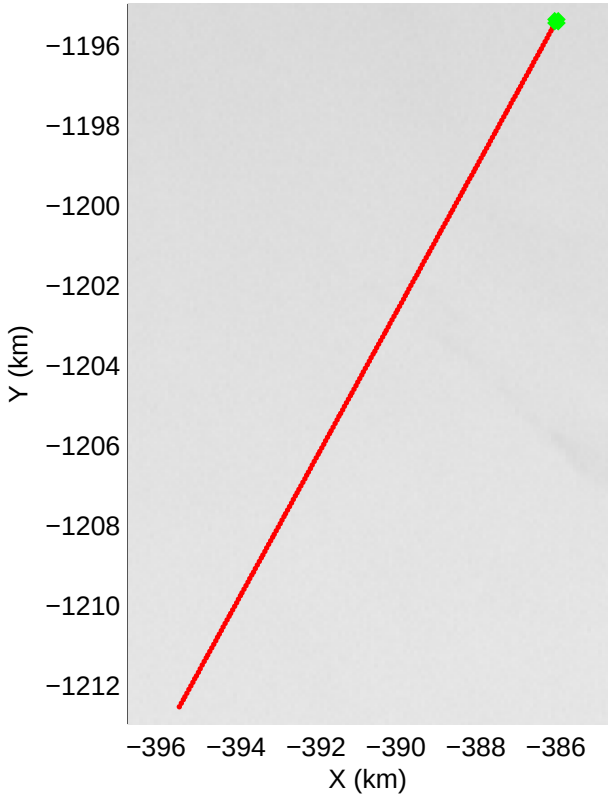

−1178
−1180
−1182
−1184
−1186
−1188
−1190
−1192
−1194
Y (km)
−386
−384
−382
−380
−378
−376
X (km)

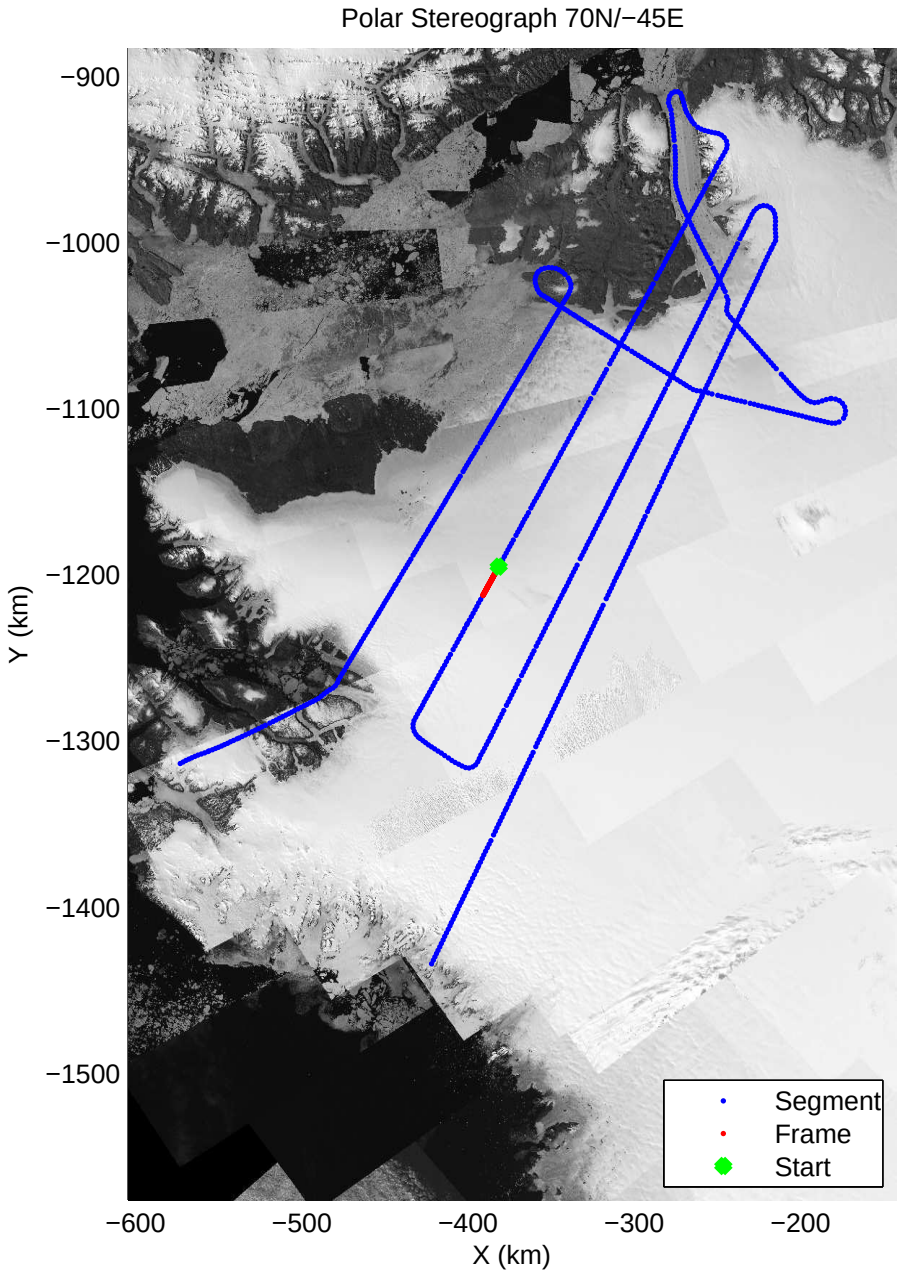

Polar Stereograph 70N/−45E
−900
−1000
−1100
−1200
−1300
−1400
−1500
Y (km)
−600
−500
−400
−300
−200
X (km)
Segment
Frame
Start

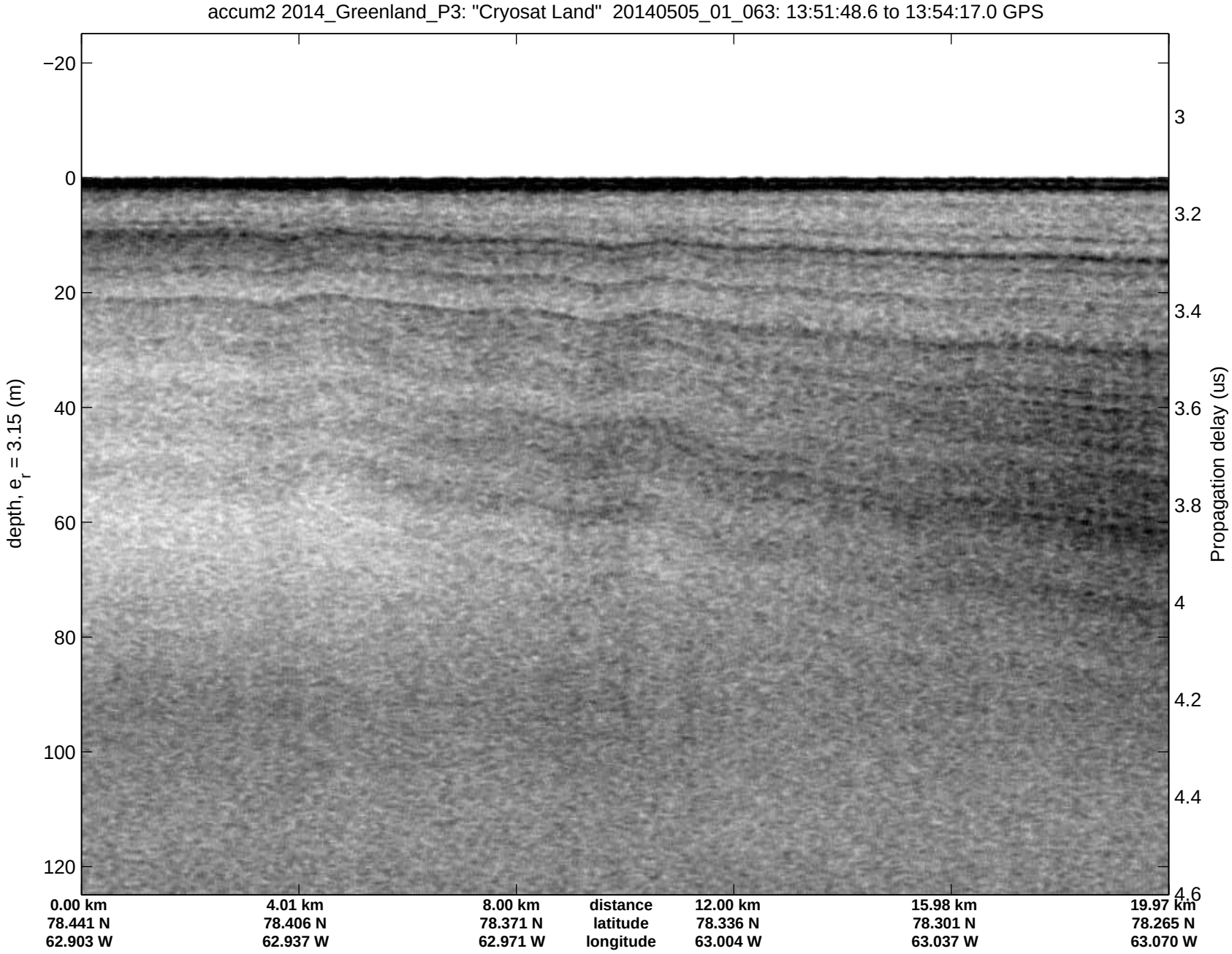

accum2 2014_Greenland_P3: "Cryosat Land" 20140505_01_062: 13:49:14.4 to 13:51:48.3 GPS
depth, e_r = 3.15 (m)
−20
0
20
40
60
80
100
120
Propagation delay (us)
3
3.2
3.4
3.6
3.8
4
4.2
4.4
4.6
0.00 km
78.617 N
62.733 W
4.00 km
78.582 N
62.767 W
8.00 km
78.547 N
62.801 W
distance
latitude
longitude
11.99 km
78.512 N
62.835 W
15.98 km
78.477 N
62.869 W
19.97 km
78.441 N
62.903 W

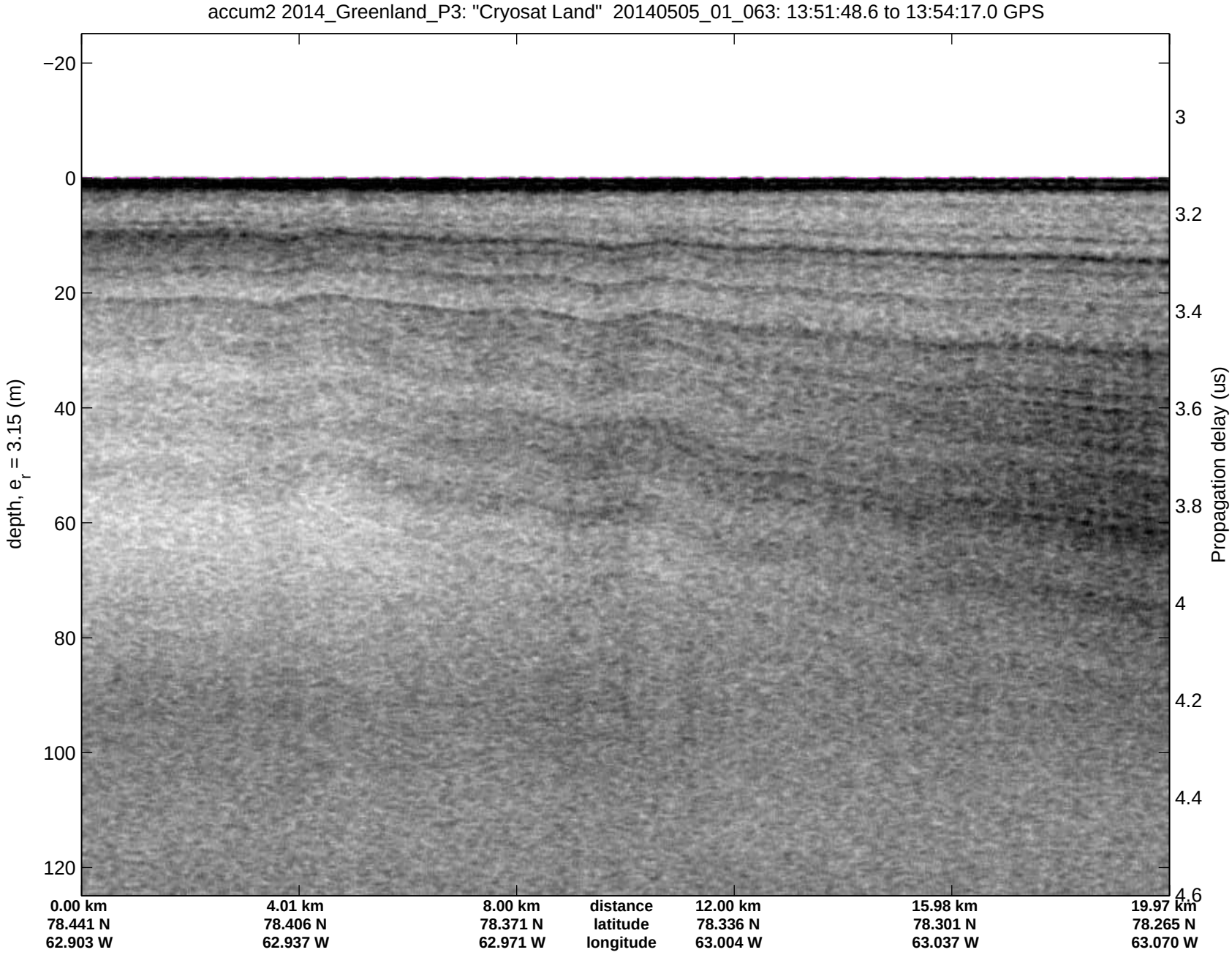

accum2 2014_Greenland_P3: "Cryosat Land" 20140505_01_062: 13:49:14.4 to 13:51:48.3 GPS
depth, e_r = 3.15 (m)
−20
0
20
40
60
80
100
120
Propagation delay (us)
3
3.2
3.4
3.6
3.8
4
4.2
4.4
4.6
0.00 km
78.617 N
62.733 W
4.00 km
78.582 N
62.767 W
8.00 km
78.547 N
62.801 W
distance
latitude
longitude
11.99 km
78.512 N
62.835 W
15.98 km
78.477 N
62.869 W
19.97 km
78.441 N
62.903 W

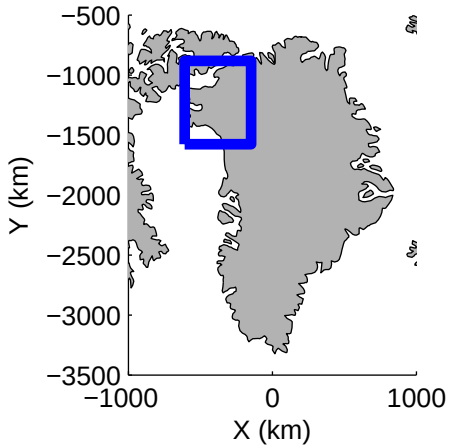

−500
−1000
−1500
−2000
−2500
−3000
−3500
Y (km)
−1000
0
1000
X (km)

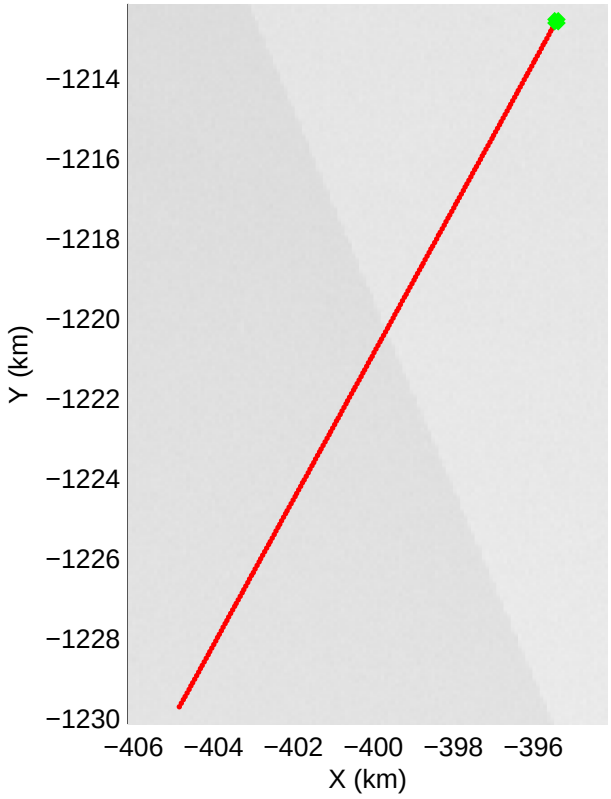

−1196
−1198
−1200
−1202
−1204
−1206
−1208
−1210
−1212
Y (km)
−396
−394
−392
−390
−388
−386
X (km)

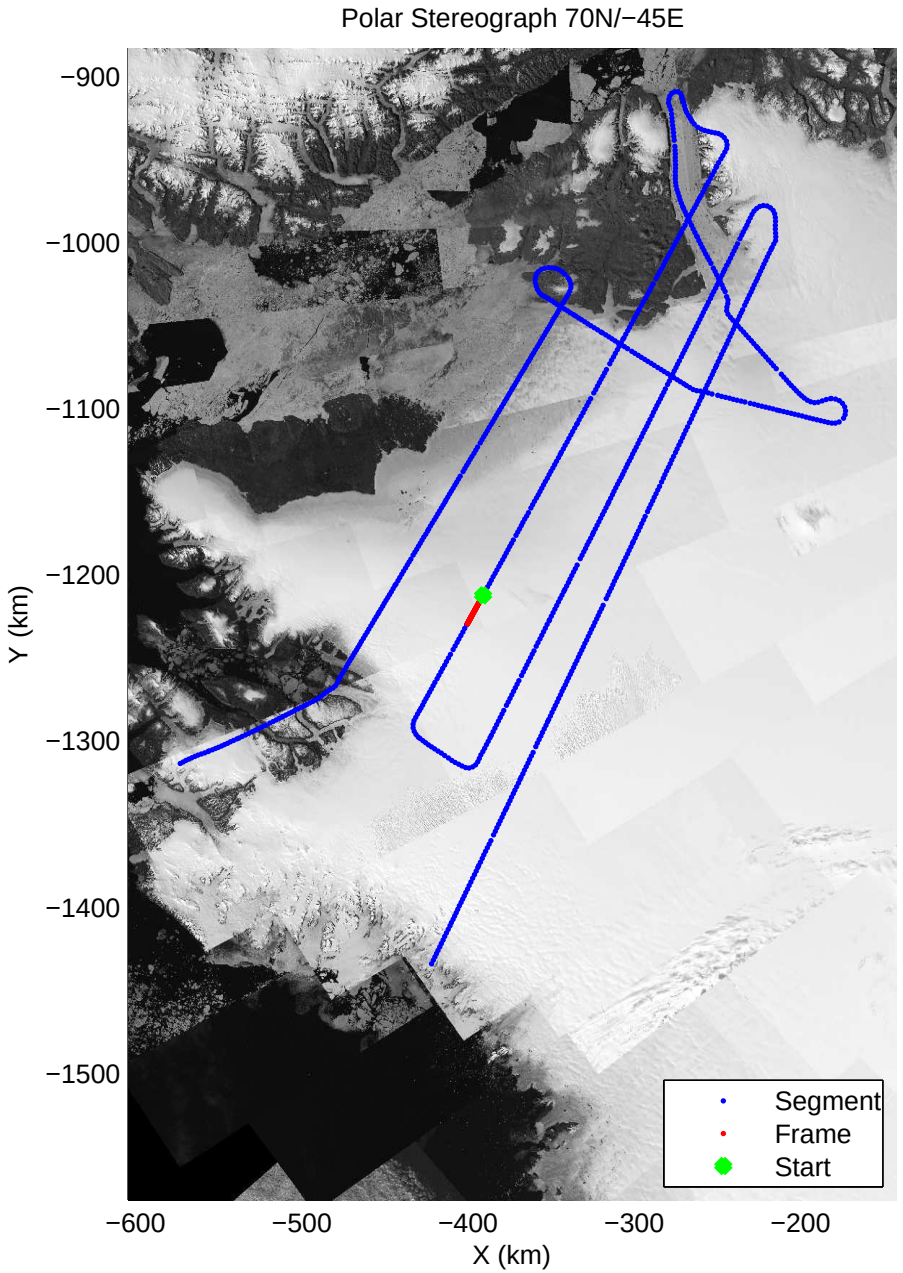

Polar Stereograph 70N/−45E
−900
−1000
−1100
−1200
−1300
−1400
−1500
Y (km)
−600
−500
−400
−300
−200
X (km)
Segment
Frame
Start

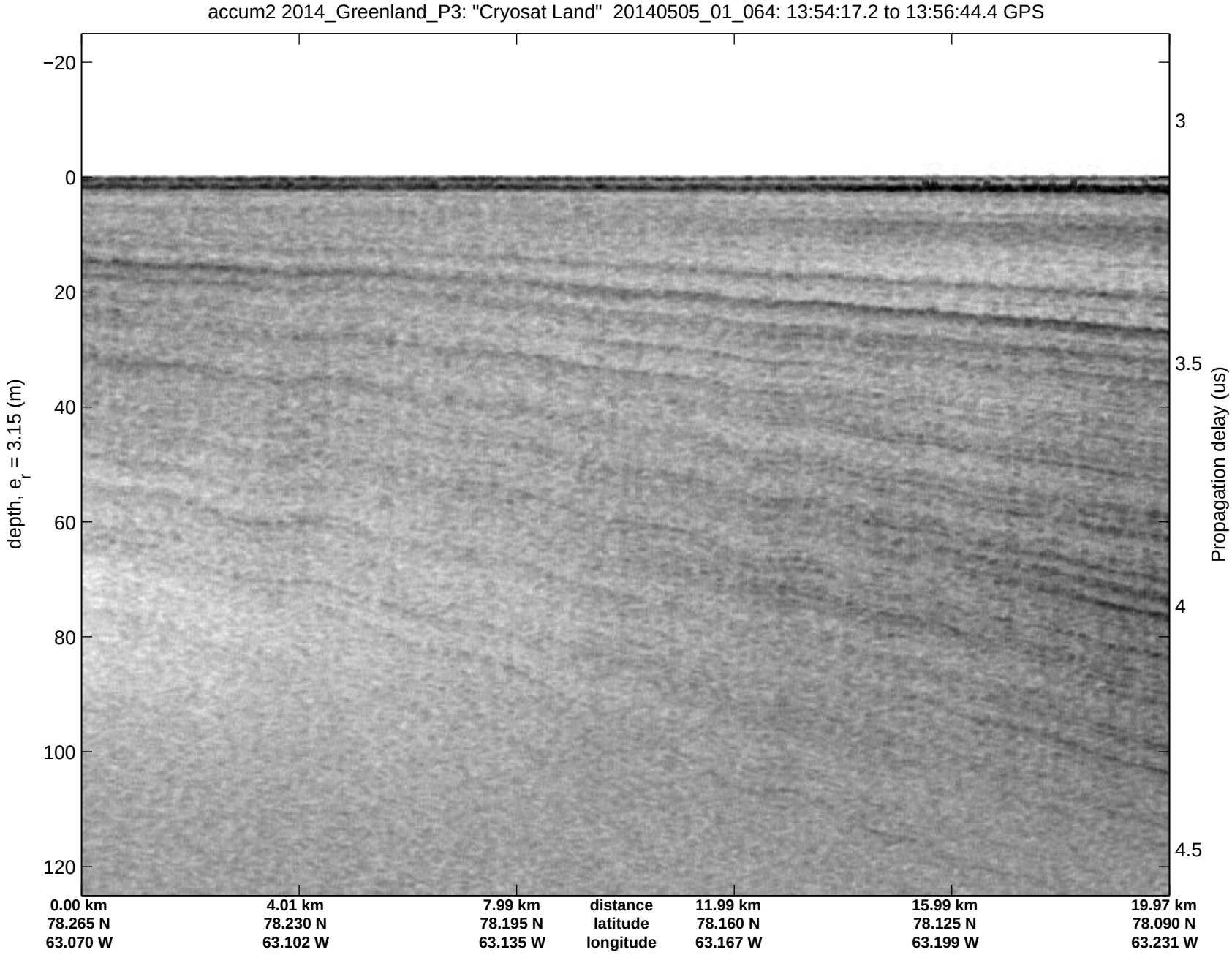

accum2 2014_Greenland_P3: "Cryosat Land" 20140505_01_063: 13:51:48.6 to 13:54:17.0 GPS
depth, e_r = 3.15 (m)
−20
0
20
40
60
80
100
120
Propagation delay (us)
3
3.2
3.4
3.6
3.8
4
4.2
4.4
4.6
0.00 km
78.441 N
62.903 W
4.01 km
78.406 N
62.937 W
8.00 km
78.371 N
62.971 W
distance
latitude
longitude
12.00 km
78.336 N
63.004 W
15.98 km
78.301 N
63.037 W
19.97 km
78.265 N
63.070 W

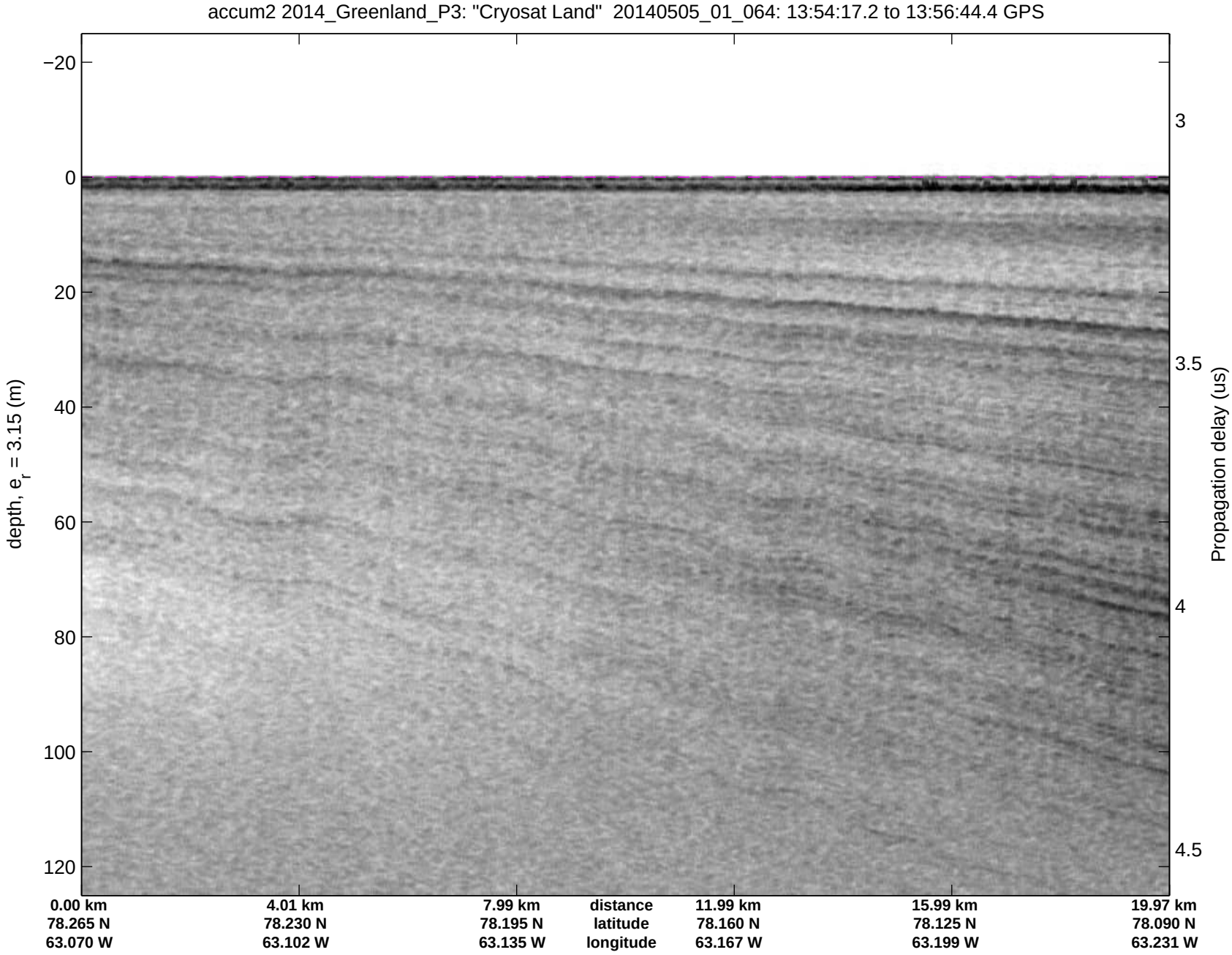

accum2 2014_Greenland_P3: "Cryosat Land" 20140505_01_063: 13:51:48.6 to 13:54:17.0 GPS
depth, e_r = 3.15 (m)
−20
0
20
40
60
80
100
120
Propagation delay (us)
3
3.2
3.4
3.6
3.8
4
4.2
4.4
4.6
0.00 km
78.441 N
62.903 W
4.01 km
78.406 N
62.937 W
8.00 km
78.371 N
62.971 W
distance
latitude
longitude
12.00 km
78.336 N
63.004 W
15.98 km
78.301 N
63.037 W
19.97 km
78.265 N
63.070 W

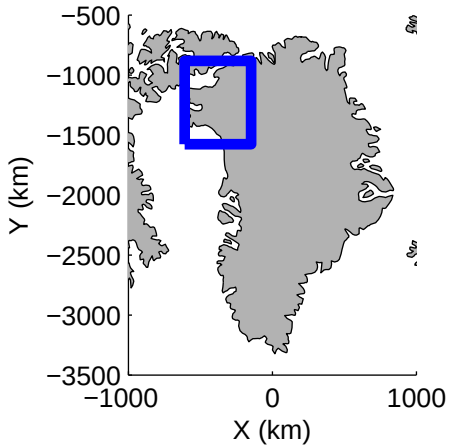

−500
−1000
−1500
−2000
−2500
−3000
−3500
Y (km)
−1000
0
1000
X (km)


−1214
−1216
−1218
−1220
−1222
−1224
−1226
−1228
−1230
Y (km)
−406
−404
−402
−400
−398
−396
X (km)

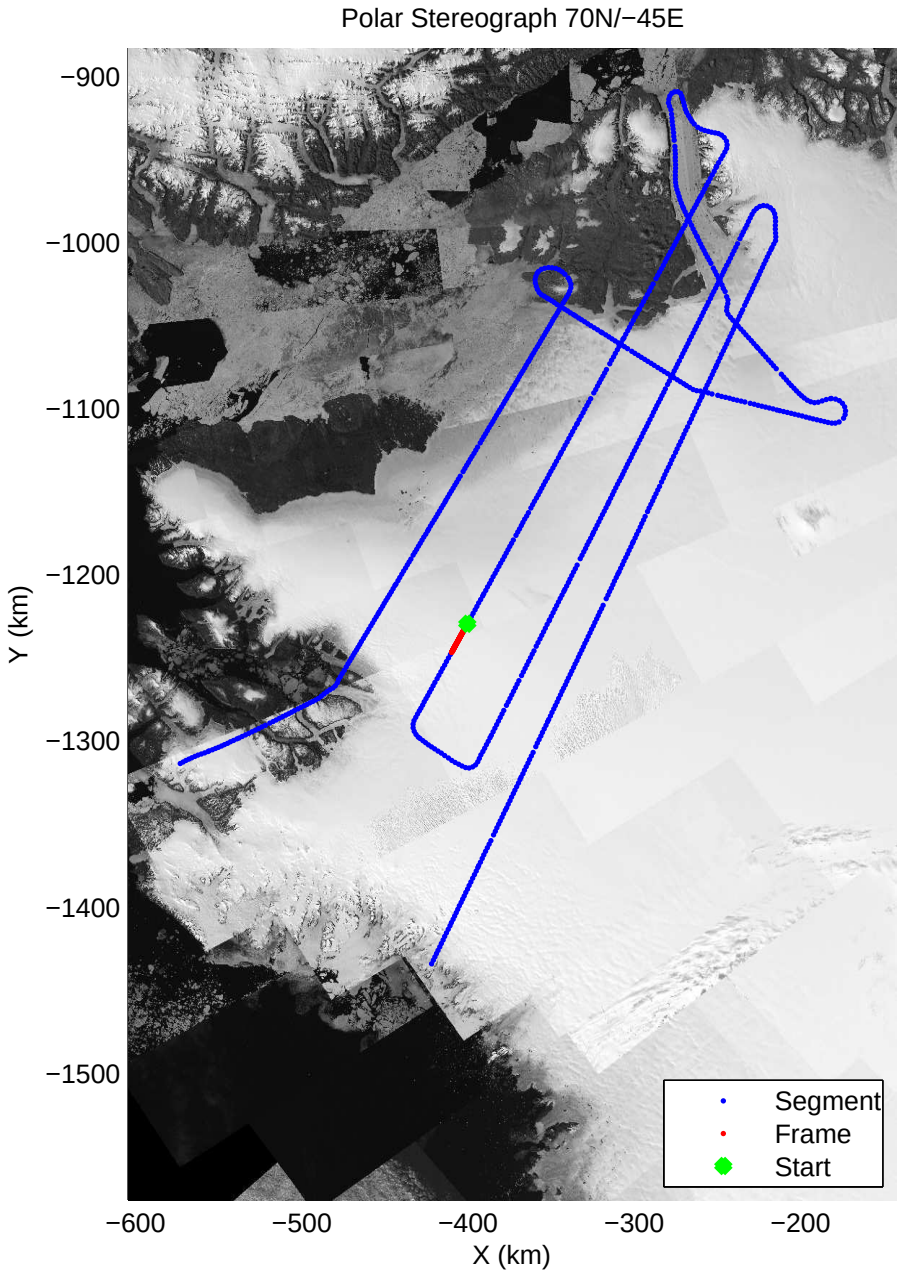

Polar Stereograph 70N/−45E
−900
−1000
−1100
−1200
−1300
−1400
−1500
Y (km)
−600
−500
−400
−300
−200
X (km)
Segment
Frame
Start

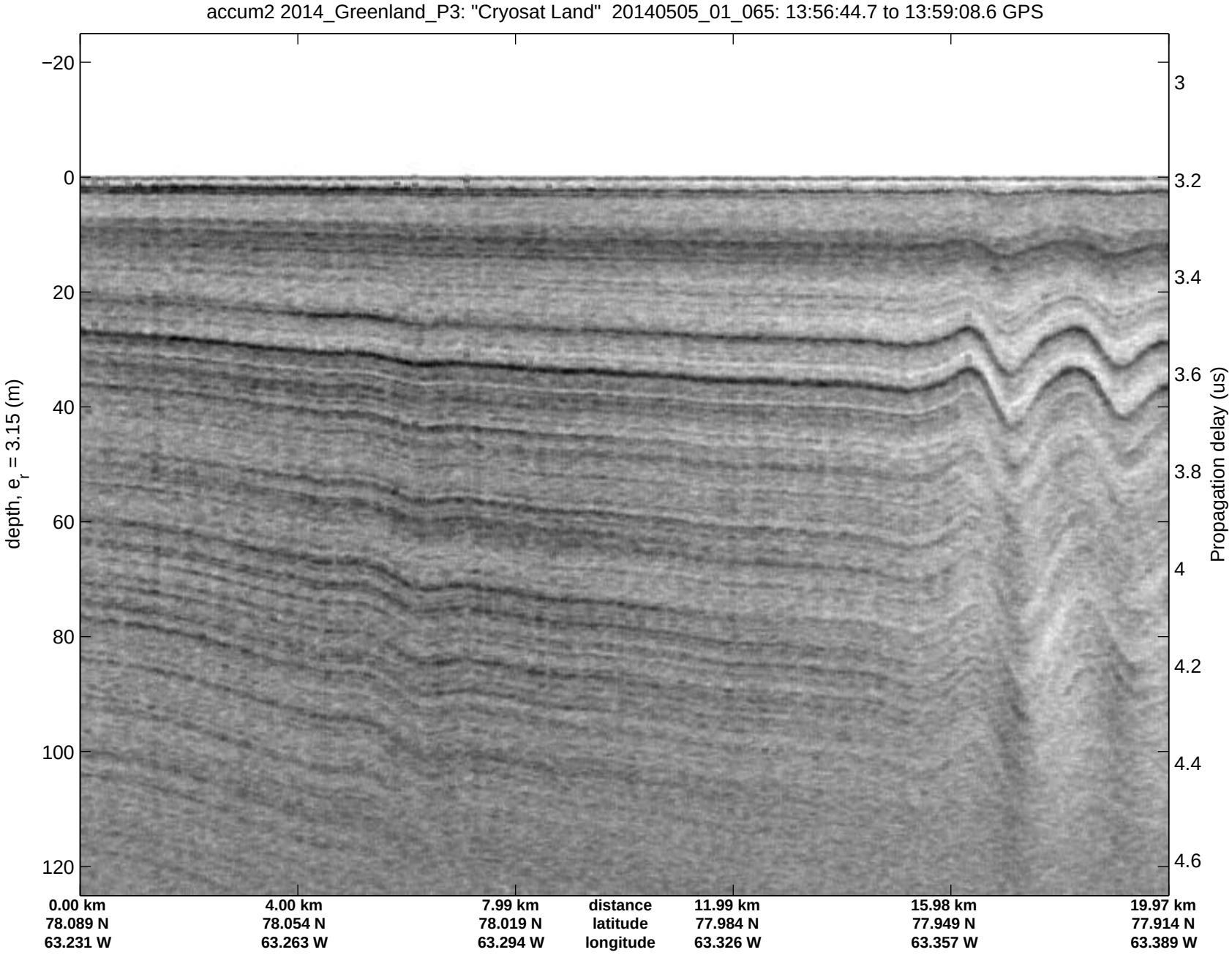

accum2 2014_Greenland_P3: "Cryosat Land" 20140505_01_064: 13:54:17.2 to 13:56:44.4 GPS
depth, e_r = 3.15 (m)
−20
0
20
40
60
80
100
120
Propagation delay (us)
3
3.5
4
4.5
0.00 km
78.265 N
63.070 W
4.01 km
78.230 N
63.102 W
7.99 km
78.195 N
63.135 W
distance
latitude
longitude
11.99 km
78.160 N
63.167 W
15.99 km
78.125 N
63.199 W
19.97 km
78.090 N
63.231 W

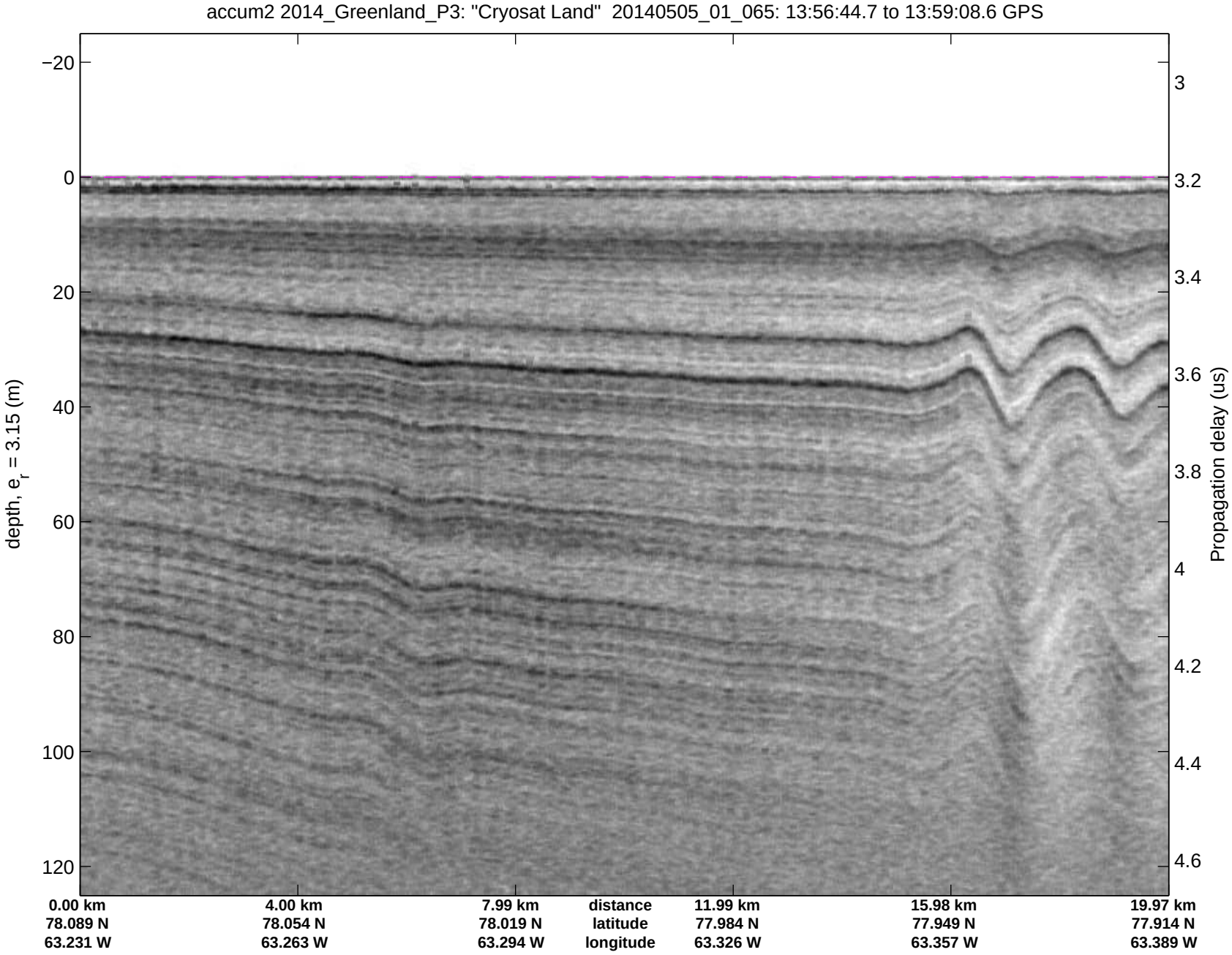

accum2 2014_Greenland_P3: "Cryosat Land" 20140505_01_064: 13:54:17.2 to 13:56:44.4 GPS
depth, e_r = 3.15 (m)
−20
0
20
40
60
80
100
120
Propagation delay (us)
3
3.5
4
4.5
0.00 km
78.265 N
63.070 W
4.01 km
78.230 N
63.102 W
7.99 km
78.195 N
63.135 W
distance
latitude
longitude
11.99 km
78.160 N
63.167 W
15.99 km
78.125 N
63.199 W
19.97 km
78.090 N
63.231 W

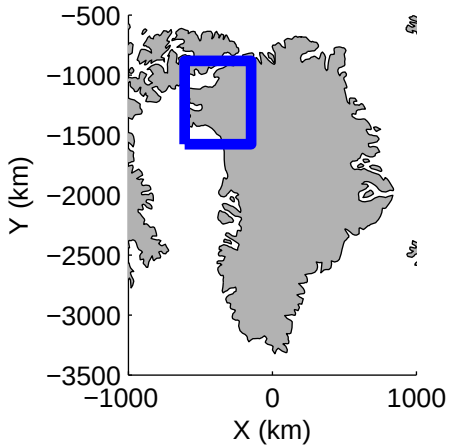

−500
−1000
−1500
−2000
−2500
−3000
−3500
Y (km)
−1000
0
1000
X (km)

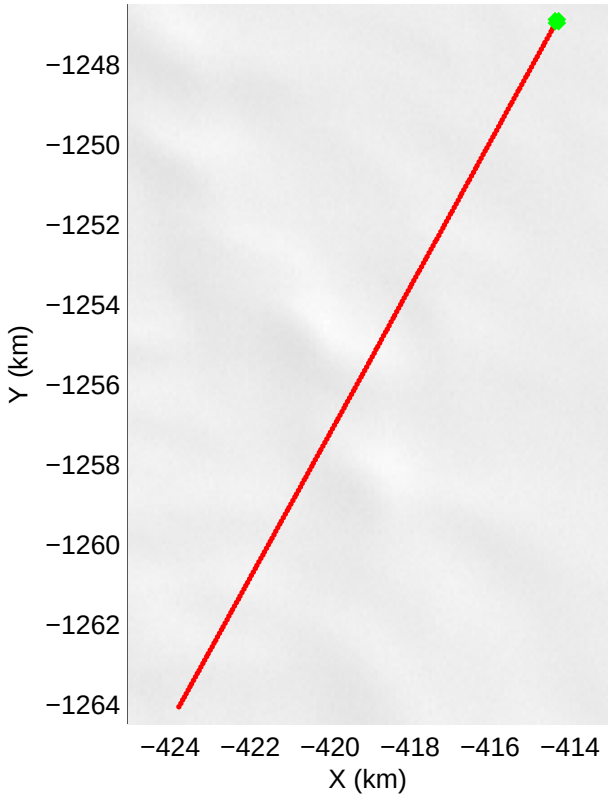

−1230
−1232
−1234
−1236
−1238
−1240
−1242
−1244
−1246
Y (km)
−414
−412
−410
−408
−406
−404
X (km)

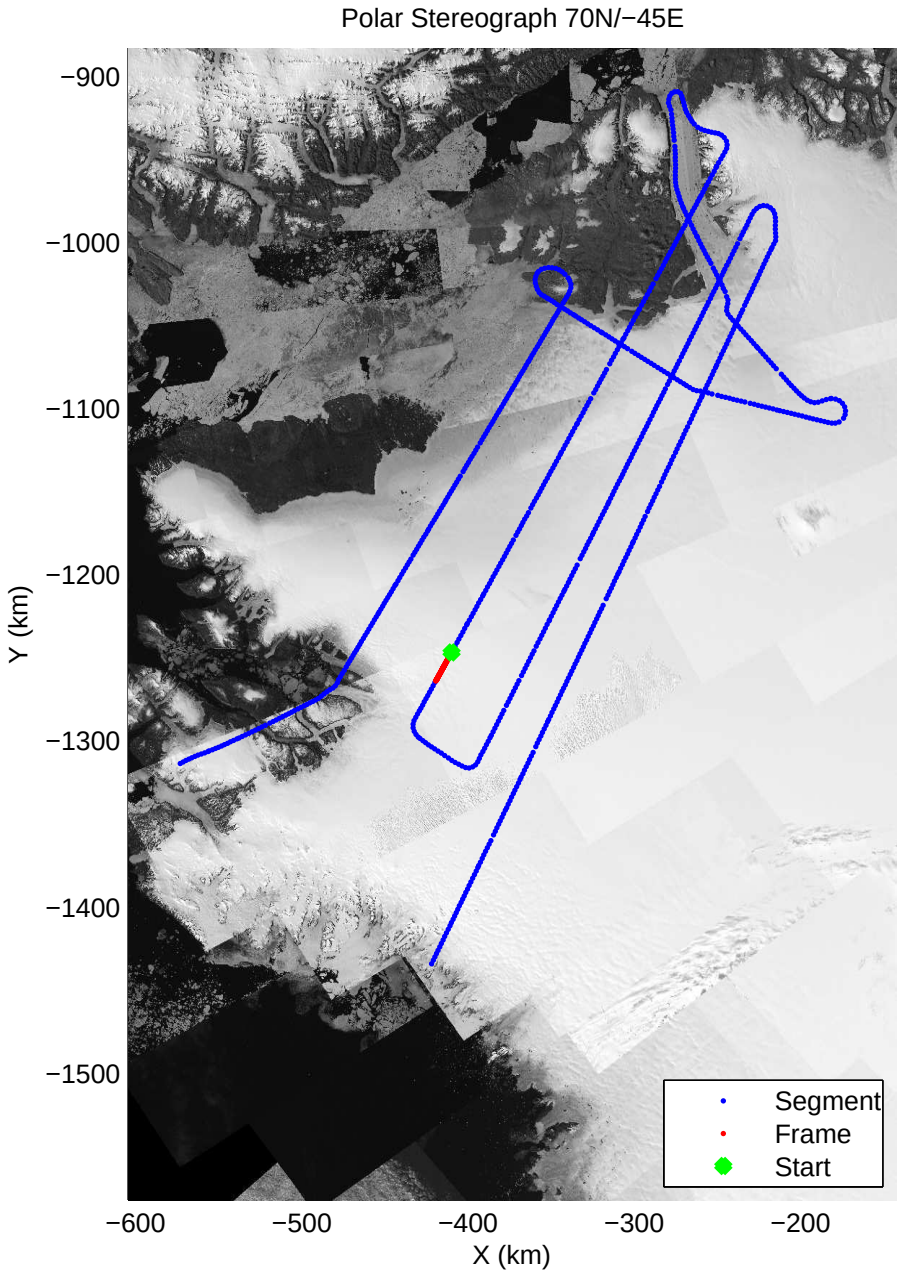

Polar Stereograph 70N/−45E
−900
−1000
−1100
−1200
−1300
−1400
−1500
Y (km)
−600
−500
−400
−300
−200
X (km)
Segment
Frame
Start

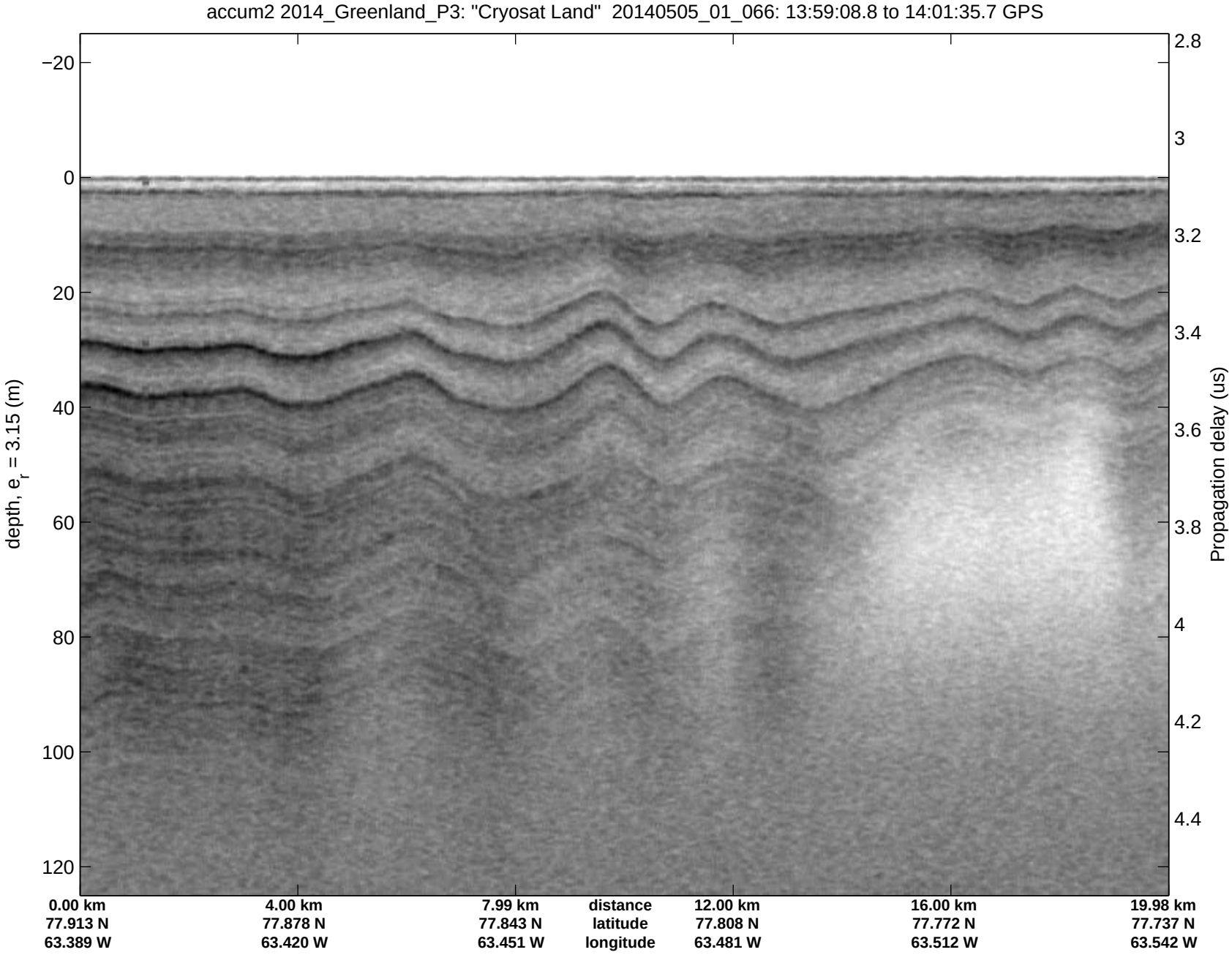

accum2 2014_Greenland_P3: "Cryosat Land" 20140505_01_065: 13:56:44.7 to 13:59:08.6 GPS
depth, e_r = 3.15 (m)
−20
0
20
40
60
80
100
120
Propagation delay (us)
3
3.2
3.4
3.6
3.8
4
4.2
4.4
4.6
0.00 km
78.089 N
63.231 W
4.00 km
78.054 N
63.263 W
7.99 km
78.019 N
63.294 W
distance
latitude
longitude
11.99 km
77.984 N
63.326 W
15.98 km
77.949 N
63.357 W
19.97 km
77.914 N
63.389 W

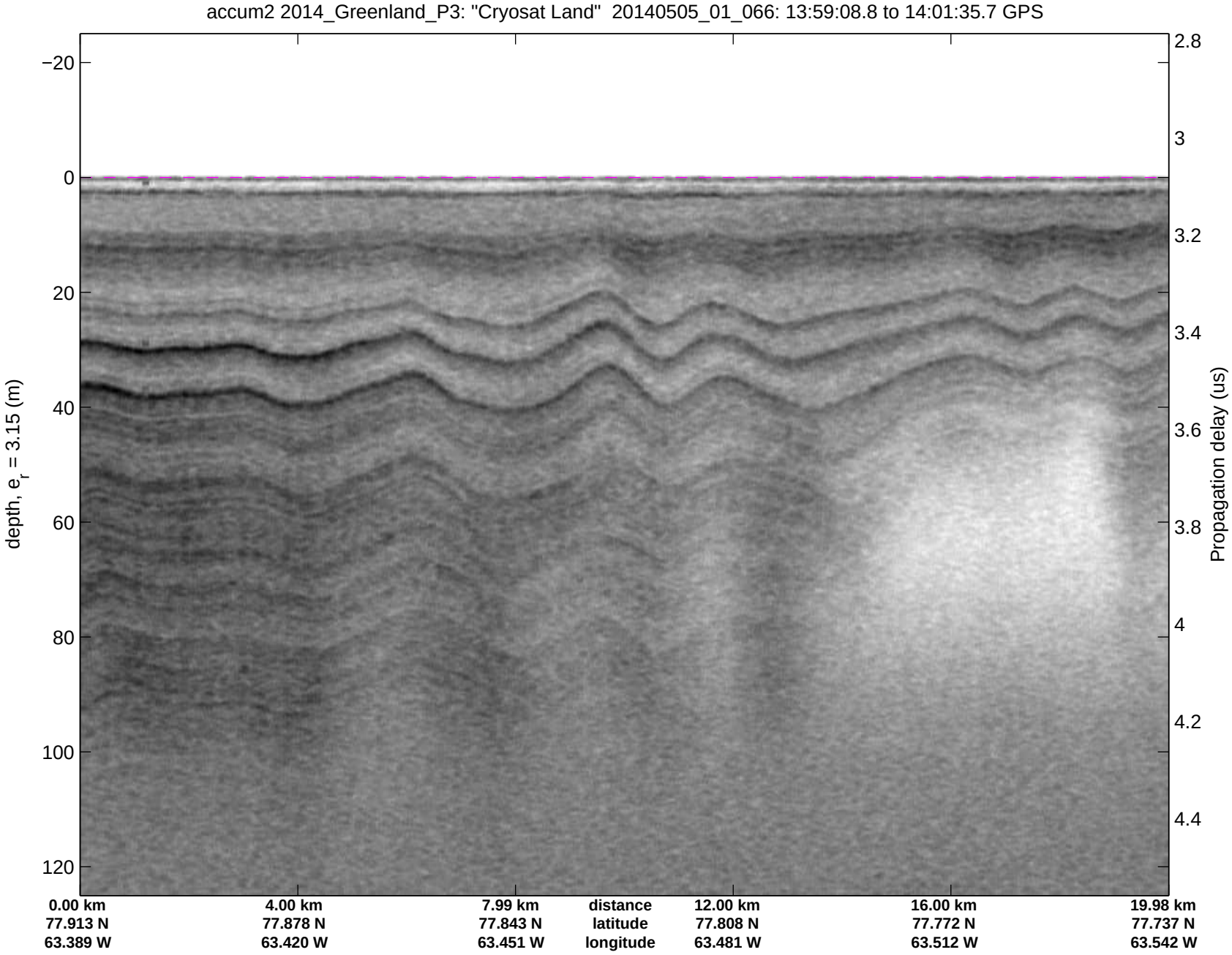

accum2 2014_Greenland_P3: "Cryosat Land" 20140505_01_065: 13:56:44.7 to 13:59:08.6 GPS
depth, e_r = 3.15 (m)
−20
0
20
40
60
80
100
120
Propagation delay (us)
3
3.2
3.4
3.6
3.8
4
4.2
4.4
4.6
0.00 km
78.089 N
63.231 W
4.00 km
78.054 N
63.263 W
7.99 km
78.019 N
63.294 W
distance
latitude
longitude
11.99 km
77.984 N
63.326 W
15.98 km
77.949 N
63.357 W
19.97 km
77.914 N
63.389 W

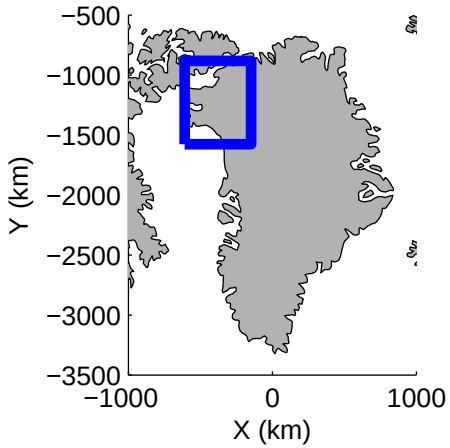

−500
−1000
−1500
−2000
−2500
−3000
−3500
Y (km)
−1000
0
1000
X (km)

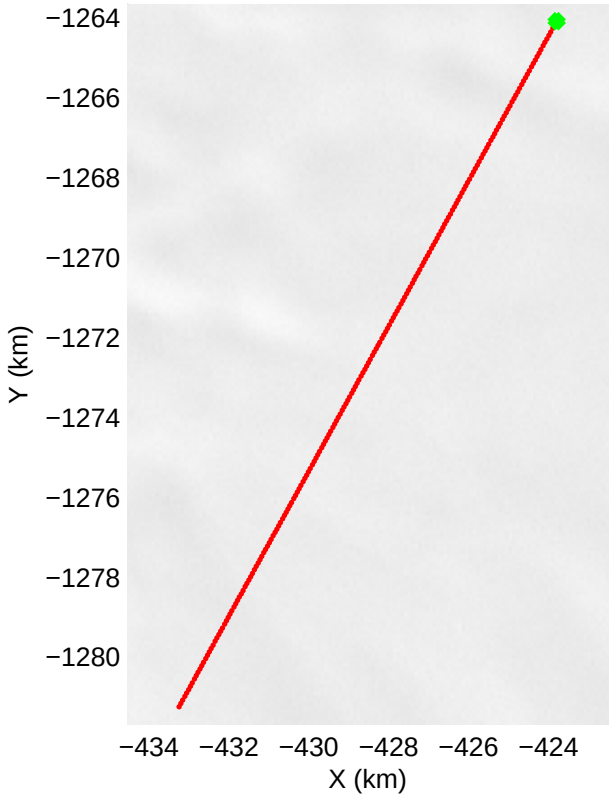

−1248
−1250
−1252
−1254
−1256
−1258
−1260
−1262
−1264
Y (km)
−424
−422
−420
−418
−416
−414
X (km)

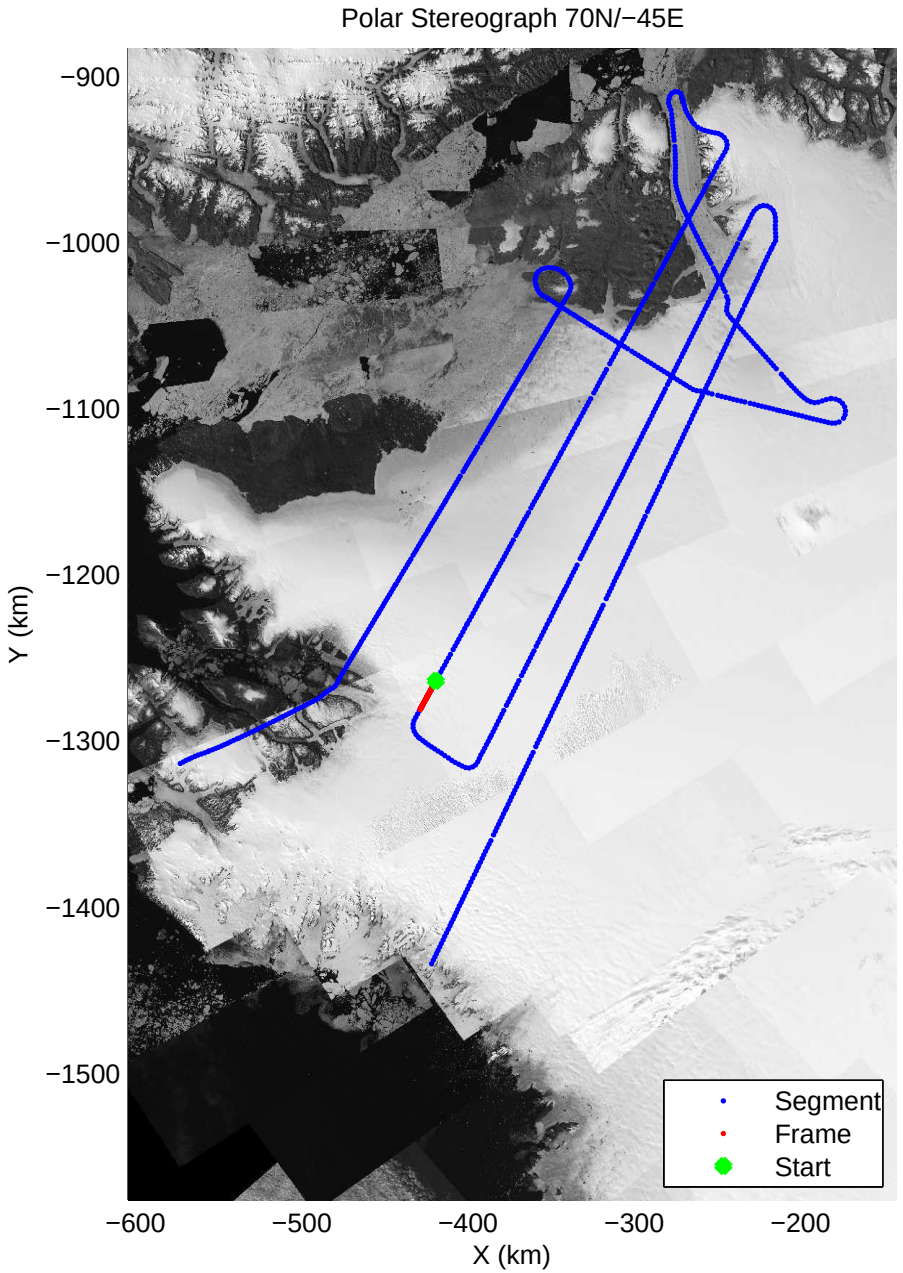

Polar Stereograph 70N/−45E
−900
−1000
−1100
−1200
−1300
−1400
−1500
Y (km)
−600
−500
−400
−300
−200
X (km)
Segment
Frame
Start

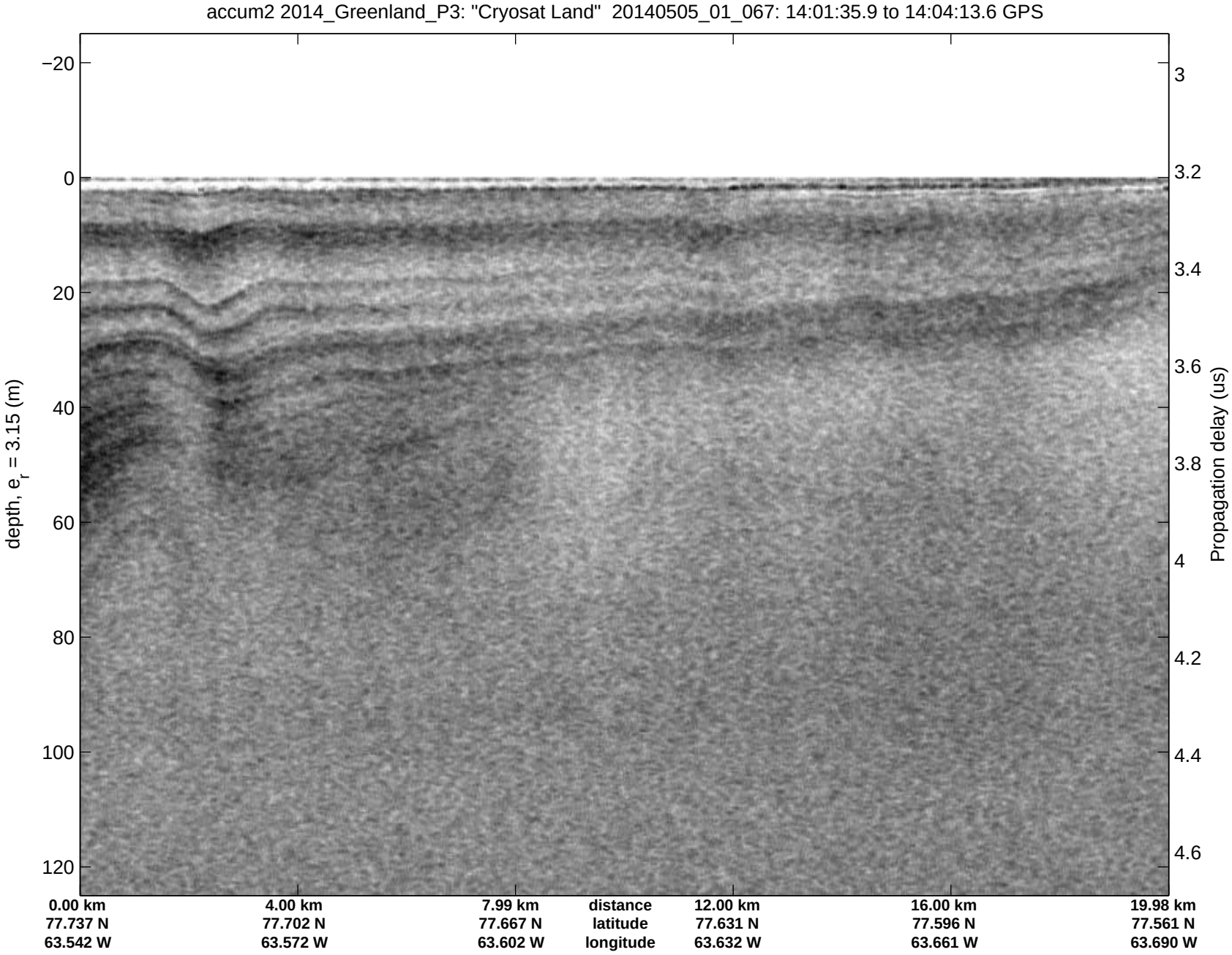

accum2 2014_Greenland_P3: "Cryosat Land" 20140505_01_066: 13:59:08.8 to 14:01:35.7 GPS
depth, e_r = 3.15 (m)
−20
0
20
40
60
80
100
120
Propagation delay (us)
2.8
3
3.2
3.4
3.6
3.8
4
4.2
4.4
0.00 km
77.913 N
63.389 W
4.00 km
77.878 N
63.420 W
7.99 km
77.843 N
63.451 W
distance
latitude
longitude
12.00 km
77.808 N
63.481 W
16.00 km
77.772 N
63.512 W
19.98 km
77.737 N
63.542 W

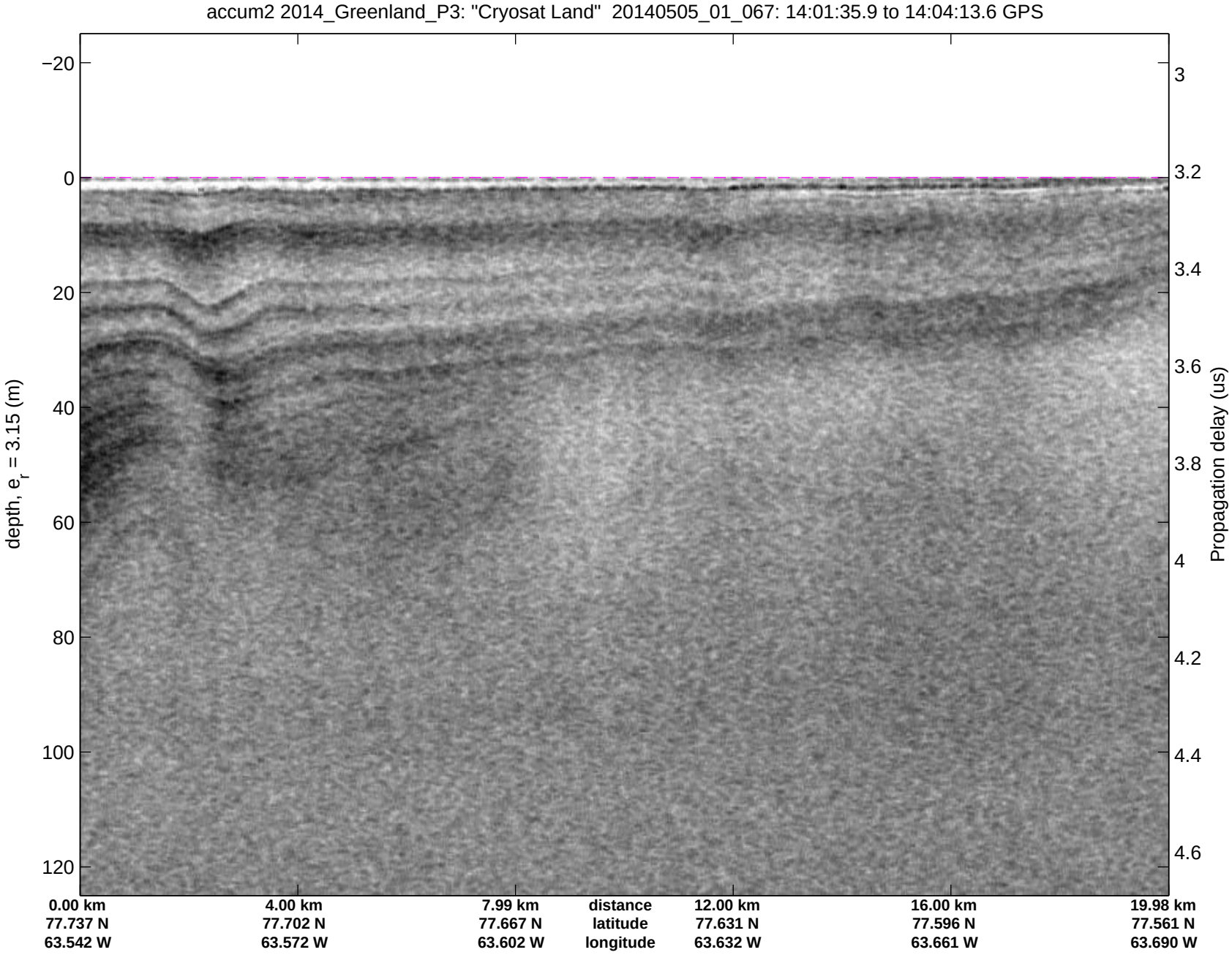

accum2 2014_Greenland_P3: "Cryosat Land" 20140505_01_066: 13:59:08.8 to 14:01:35.7 GPS
depth, e_r = 3.15 (m)
Propagation delay (us)
−20
0
20
40
60
80
100
120
2.8
3
3.2
3.4
3.6
3.8
4
4.2
4.4
0.00 km
77.913 N
63.389 W
4.00 km
77.878 N
63.420 W
7.99 km
77.843 N
63.451 W
distance
latitude
longitude
12.00 km
77.808 N
63.481 W
16.00 km
77.772 N
63.512 W
19.98 km
77.737 N
63.542 W

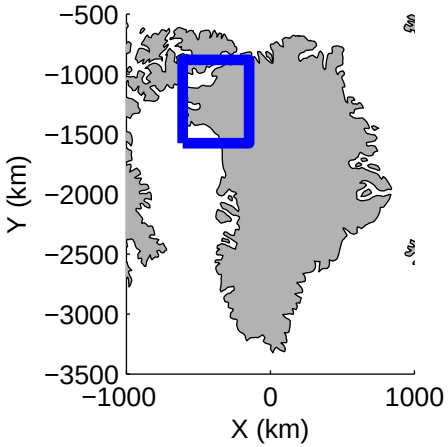

−500
−1000
−1500
−2000
−2500
−3000
−3500
Y (km)
−1000
0
1000
X (km)

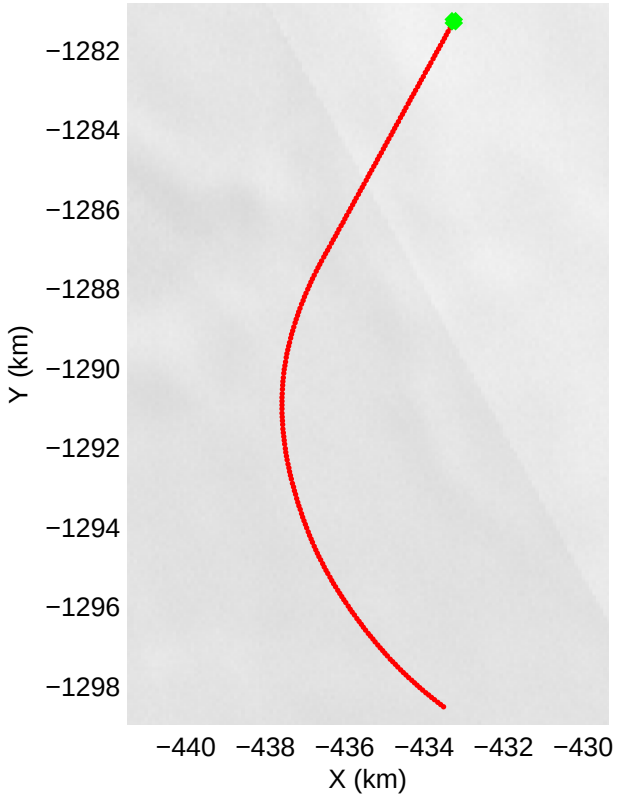

−1264
−1266
−1268
−1270
−1272
−1274
−1276
−1278
−1280
Y (km)
−434
−432
−430
−428
−426
−424
X (km)

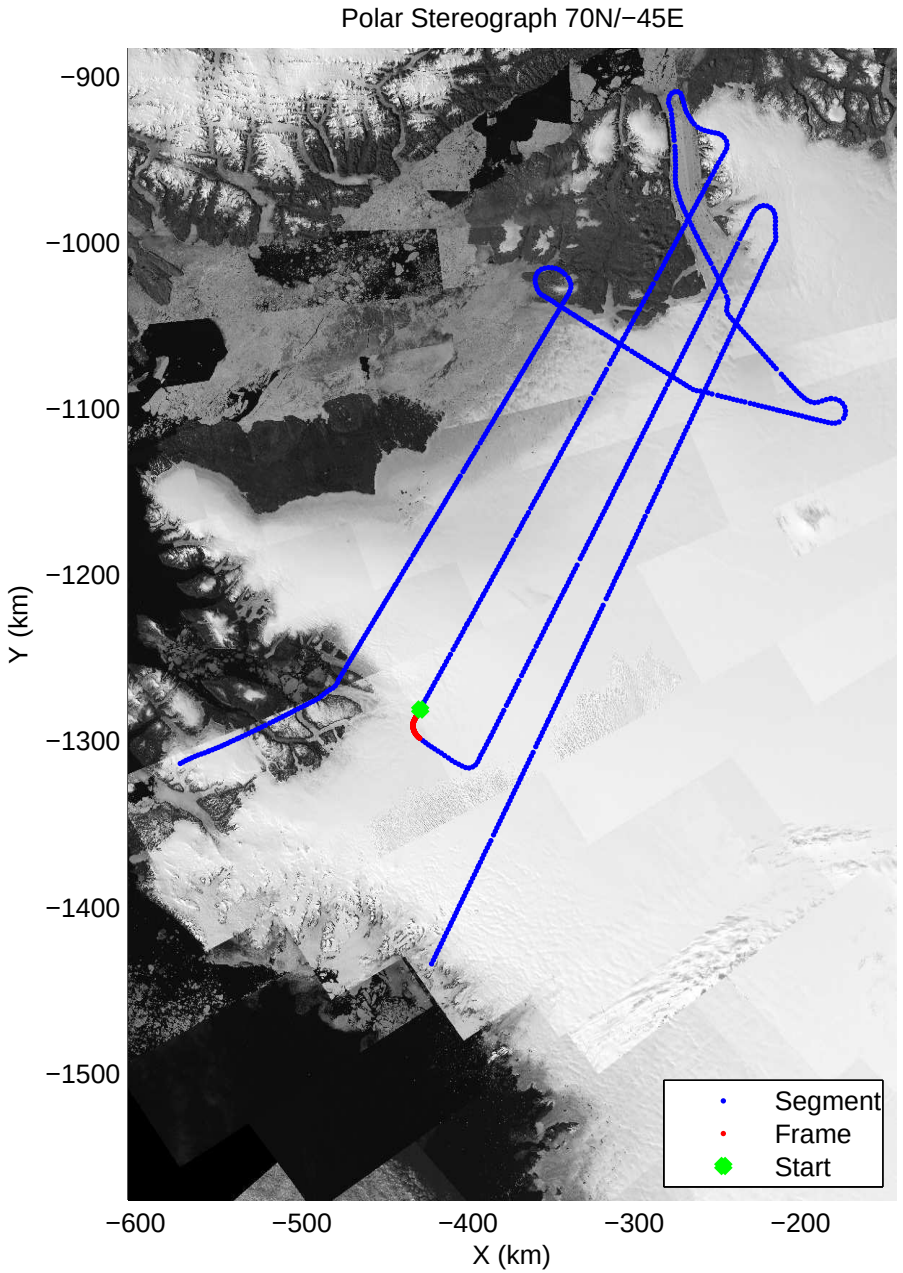

Polar Stereograph 70N/−45E
−900
−1000
−1100
−1200
−1300
−1400
−1500
Y (km)
−600
−500
−400
−300
−200
X (km)
Segment
Frame
Start

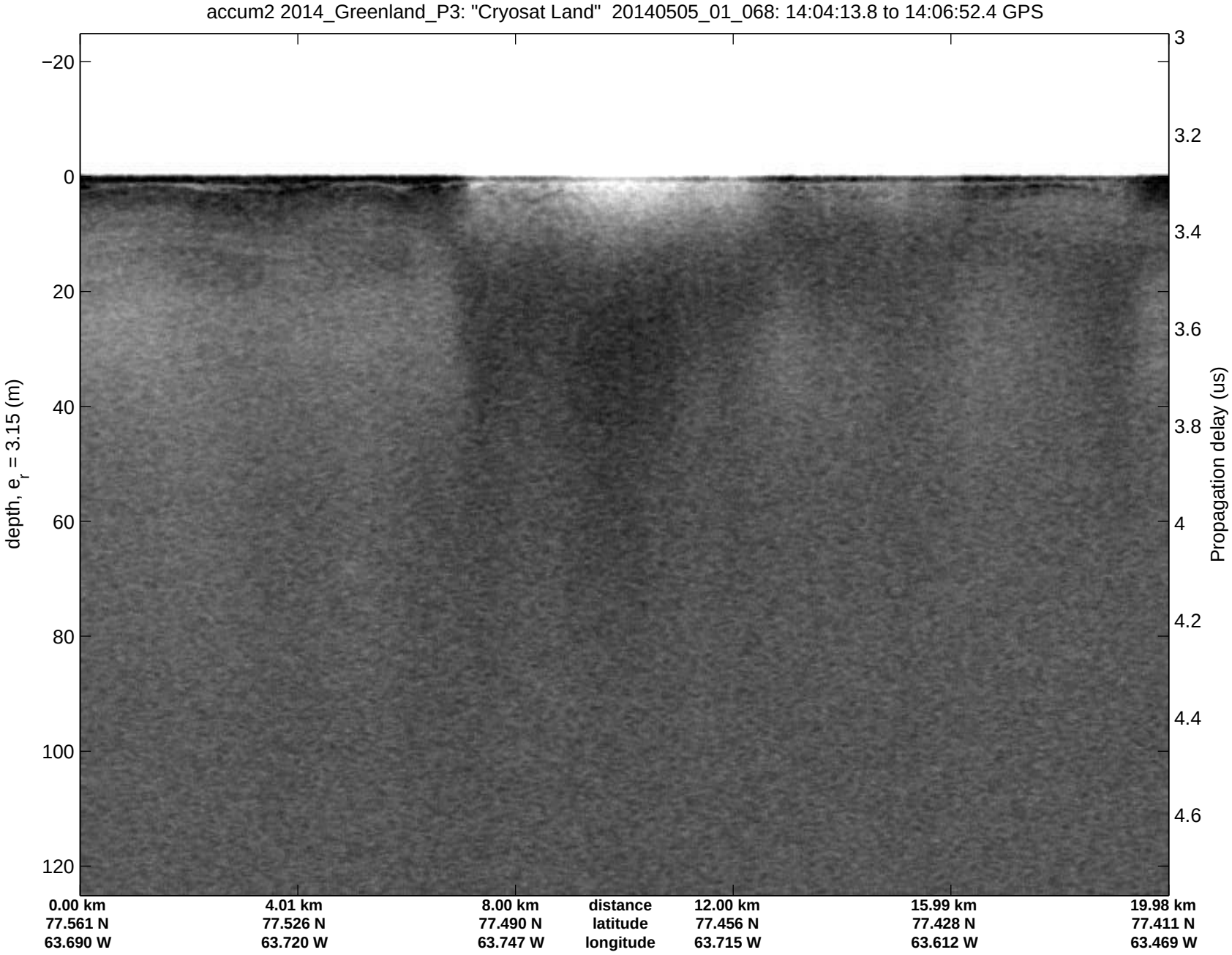

accum2 2014_Greenland_P3: "Cryosat Land" 20140505_01_067: 14:01:35.9 to 14:04:13.6 GPS
depth, e_r = 3.15 (m)
−20
0
20
40
60
80
100
120
Propagation delay (us)
3
3.2
3.4
3.6
3.8
4
4.2
4.4
4.6
0.00 km
77.737 N
63.542 W
4.00 km
77.702 N
63.572 W
7.99 km
77.667 N
63.602 W
distance
latitude
longitude
12.00 km
77.631 N
63.632 W
16.00 km
77.596 N
63.661 W
19.98 km
77.561 N
63.690 W

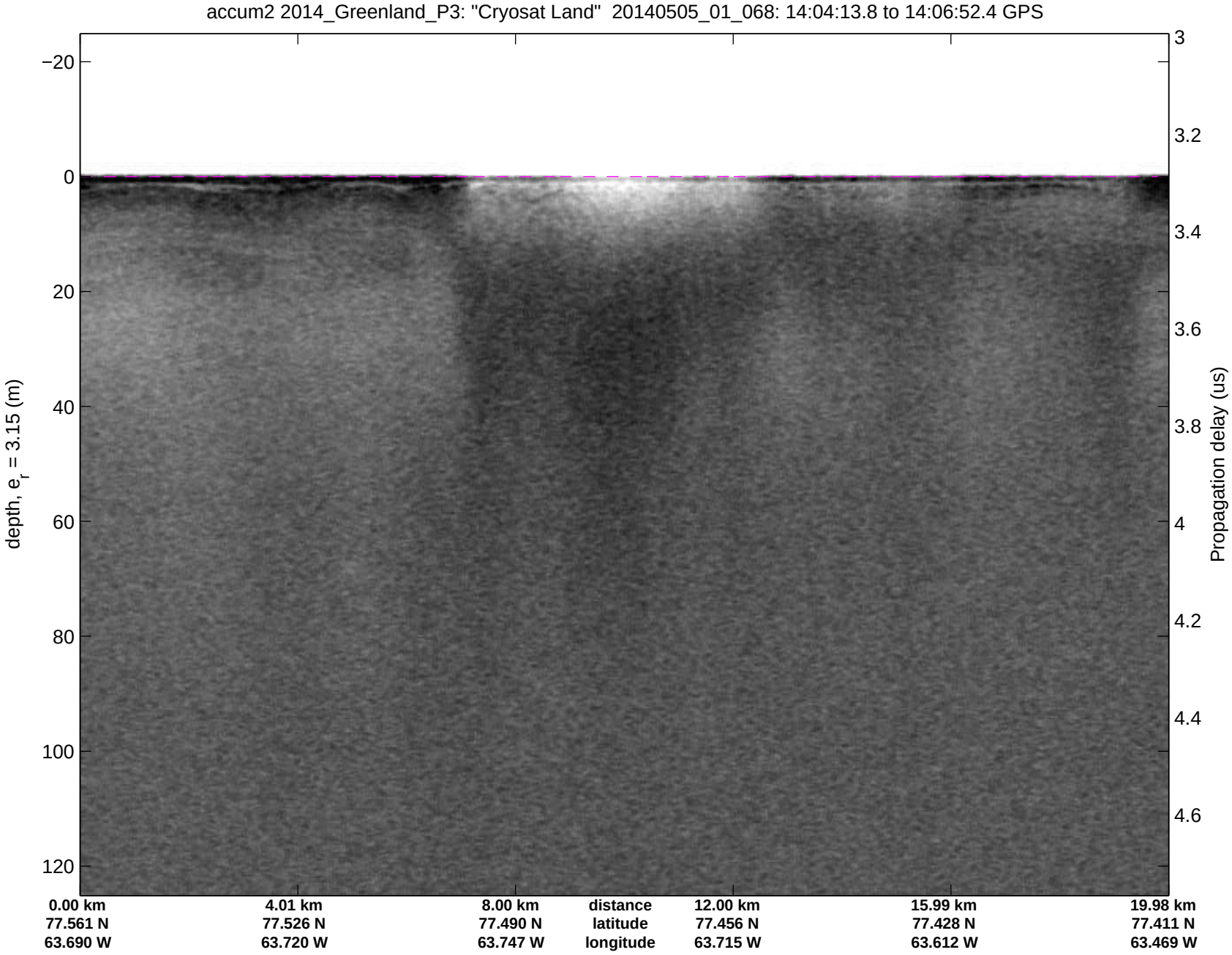

accum2 2014_Greenland_P3: "Cryosat Land" 20140505_01_067: 14:01:35.9 to 14:04:13.6 GPS
depth, e_r = 3.15 (m)
−20
0
20
40
60
80
100
120
Propagation delay (us)
3
3.2
3.4
3.6
3.8
4
4.2
4.4
4.6
0.00 km
77.737 N
63.542 W
4.00 km
77.702 N
63.572 W
7.99 km
77.667 N
63.602 W
distance
latitude
longitude
12.00 km
77.631 N
63.632 W
16.00 km
77.596 N
63.661 W
19.98 km
77.561 N
63.690 W

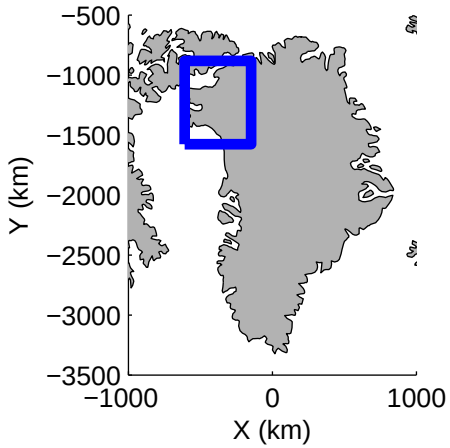

−500
−1000
−1500
−2000
−2500
−3000
−3500
Y (km)
−1000
0
1000
X (km)

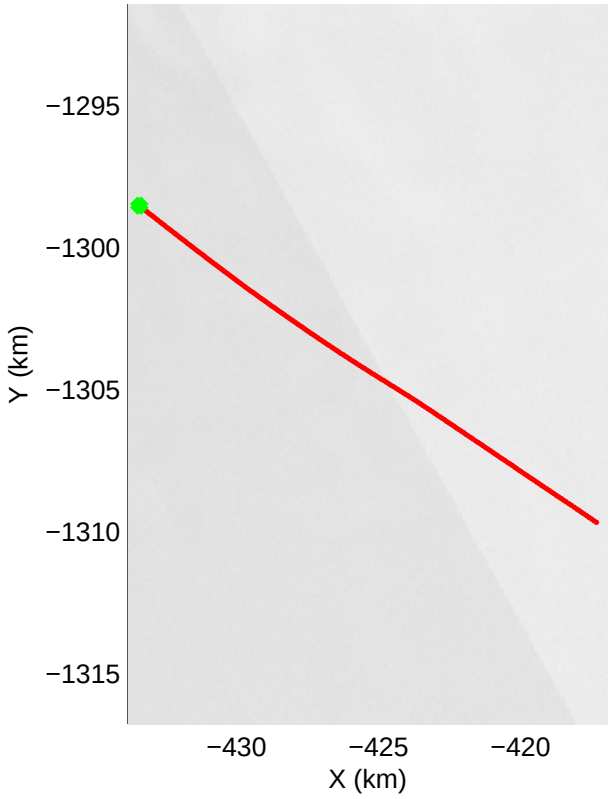

−1282
−1284
−1286
−1288
−1290
−1292
−1294
−1296
−1298
Y (km)
−440
−438
−436
−434
−432
−430
X (km)

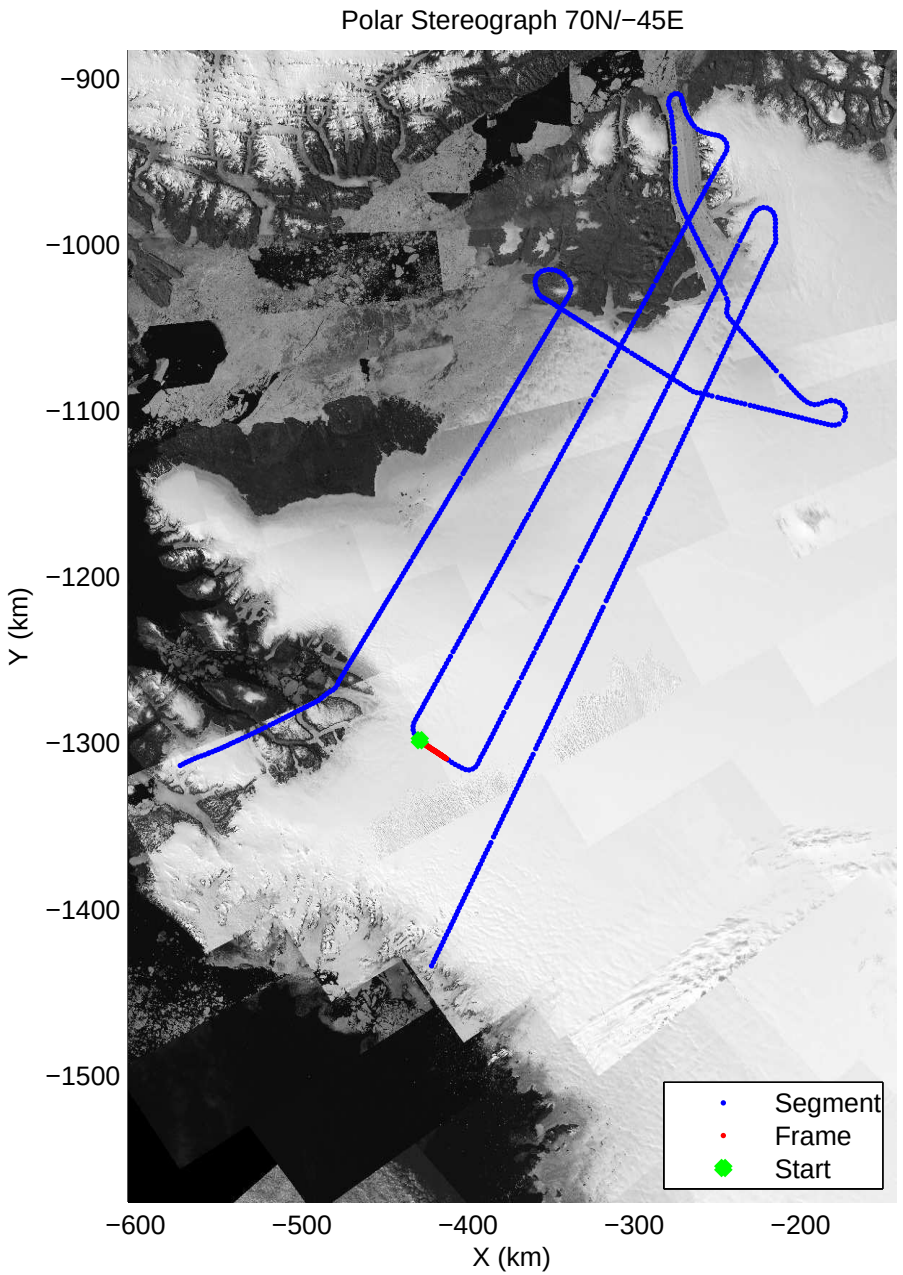

Polar Stereograph 70N/−45E
−900
−1000
−1100
−1200
−1300
−1400
−1500
Y (km)
−600
−500
−400
−300
−200
X (km)
Segment
Frame
Start

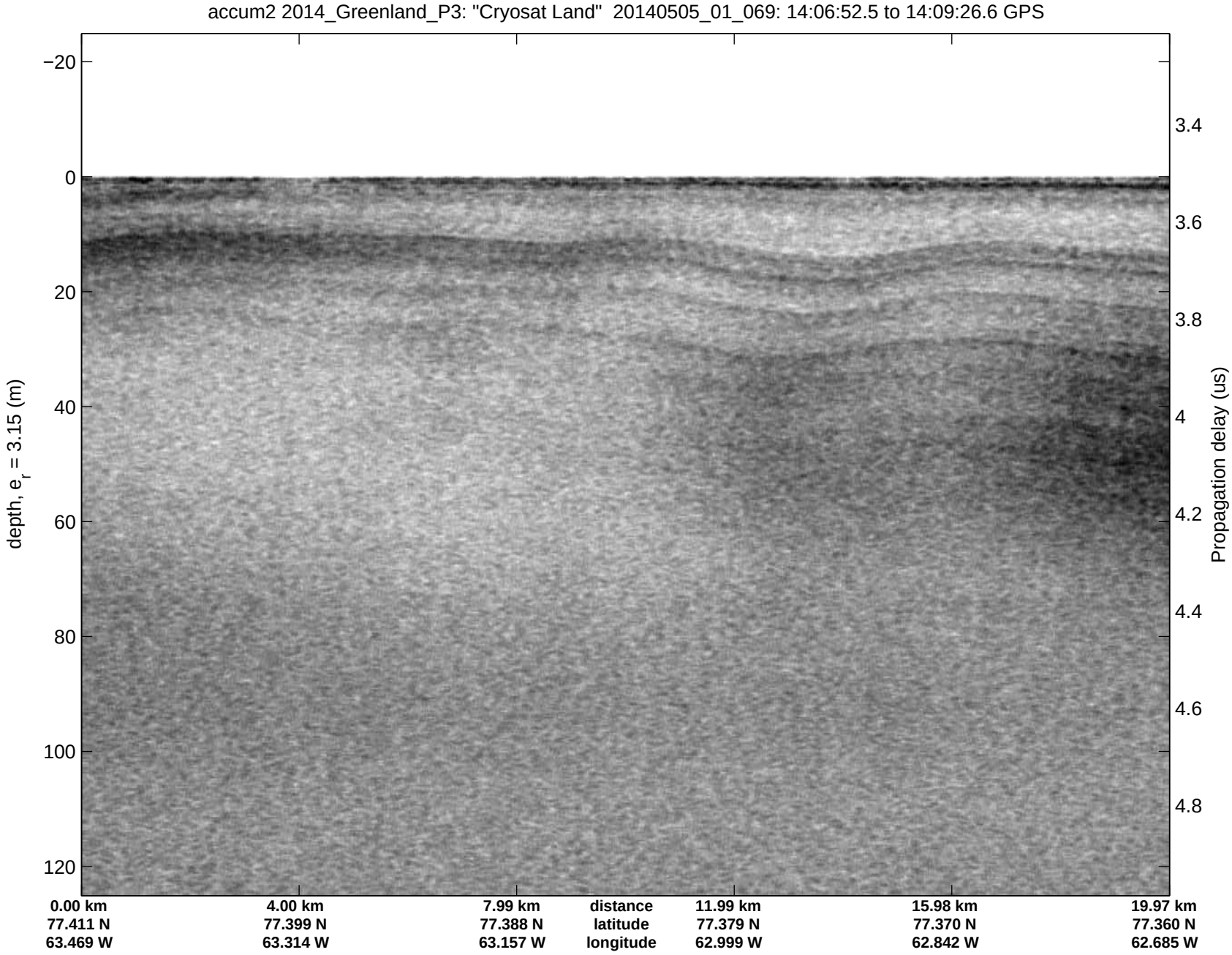

accum2 2014_Greenland_P3: "Cryosat Land" 20140505_01_068: 14:04:13.8 to 14:06:52.4 GPS
depth, e_r = 3.15 (m)
−20
0
20
40
60
80
100
120
Propagation delay (us)
3
3.2
3.4
3.6
3.8
4
4.2
4.4
4.6
0.00 km
77.561 N
63.690 W
4.01 km
77.526 N
63.720 W
8.00 km
77.490 N
63.747 W
distance
latitude
longitude
12.00 km
77.456 N
63.715 W
15.99 km
77.428 N
63.612 W
19.98 km
77.411 N
63.469 W

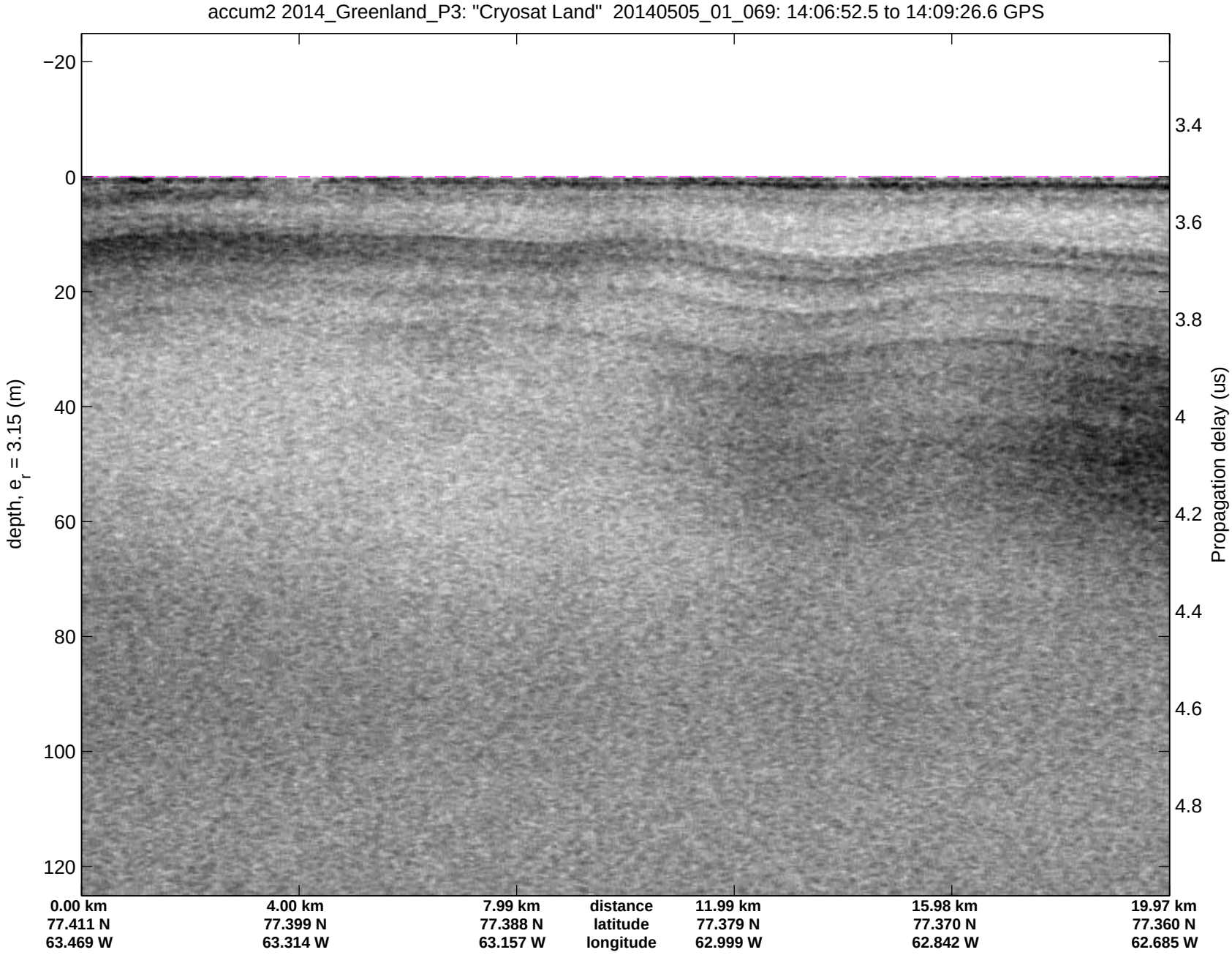

accum2 2014_Greenland_P3: "Cryosat Land" 20140505_01_068: 14:04:13.8 to 14:06:52.4 GPS
depth, e_r = 3.15 (m)
−20
0
20
40
60
80
100
120
3
3.2
3.4
3.6
3.8
4
4.2
4.4
4.6
Propagation delay (us)
0.00 km
77.561 N
63.690 W
4.01 km
77.526 N
63.720 W
8.00 km
77.490 N
63.747 W
distance
latitude
longitude
12.00 km
77.456 N
63.715 W
15.99 km
77.428 N
63.612 W
19.98 km
77.411 N
63.469 W

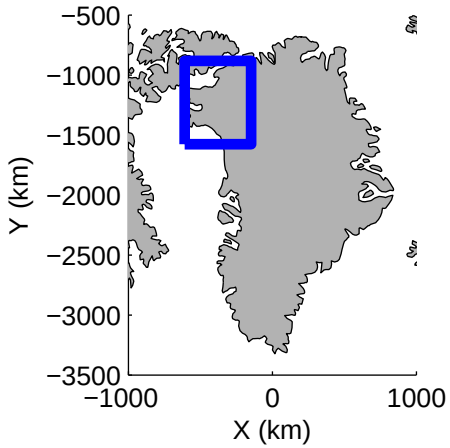

−500
−1000
−1500
−2000
−2500
−3000
−3500
Y (km)
−1000
0
1000
X (km)

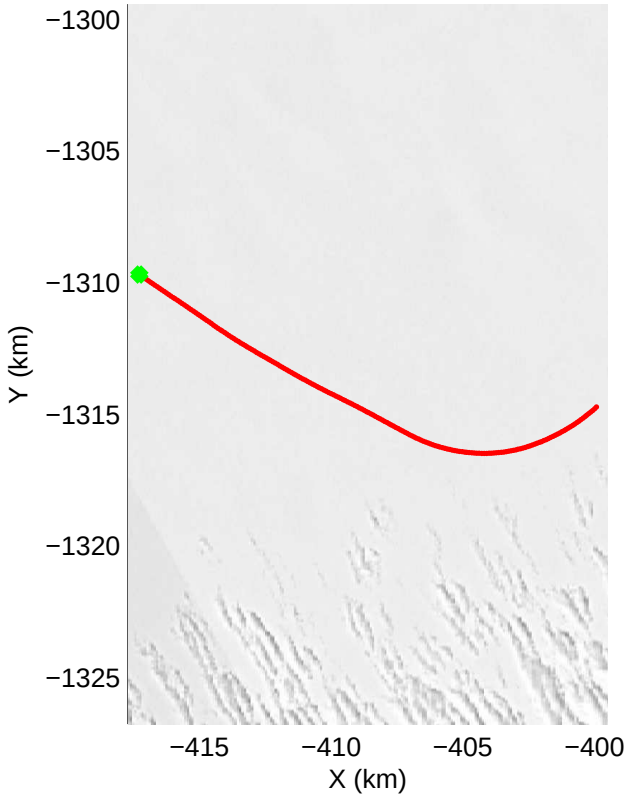

−1295
−1300
−1305
−1310
−1315
Y (km)
−430
−425
−420
X (km)

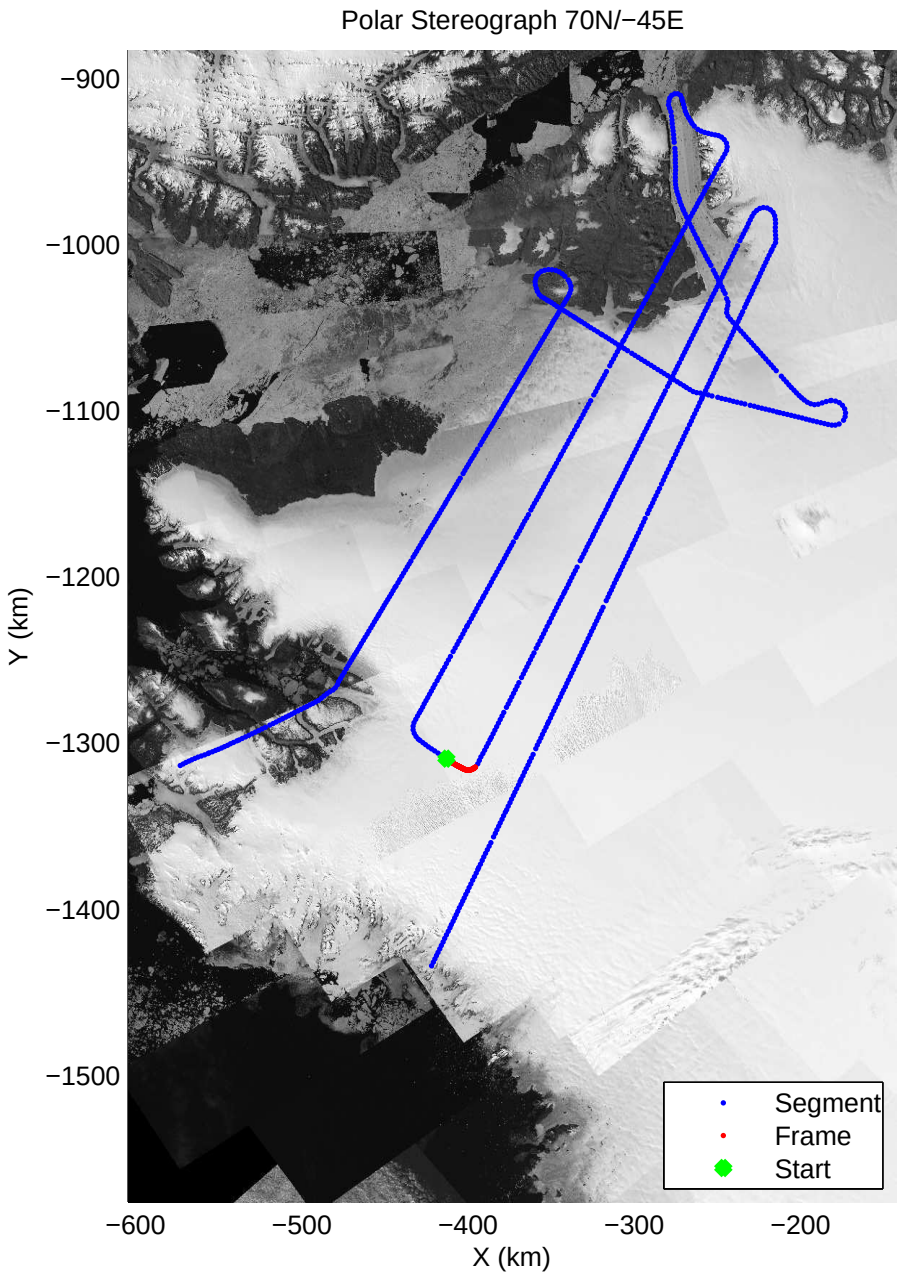

Polar Stereograph 70N/−45E
−900
−1000
−1100
−1200
−1300
−1400
−1500
Y (km)
−600
−500
−400
−300
−200
X (km)
Segment
Frame
Start

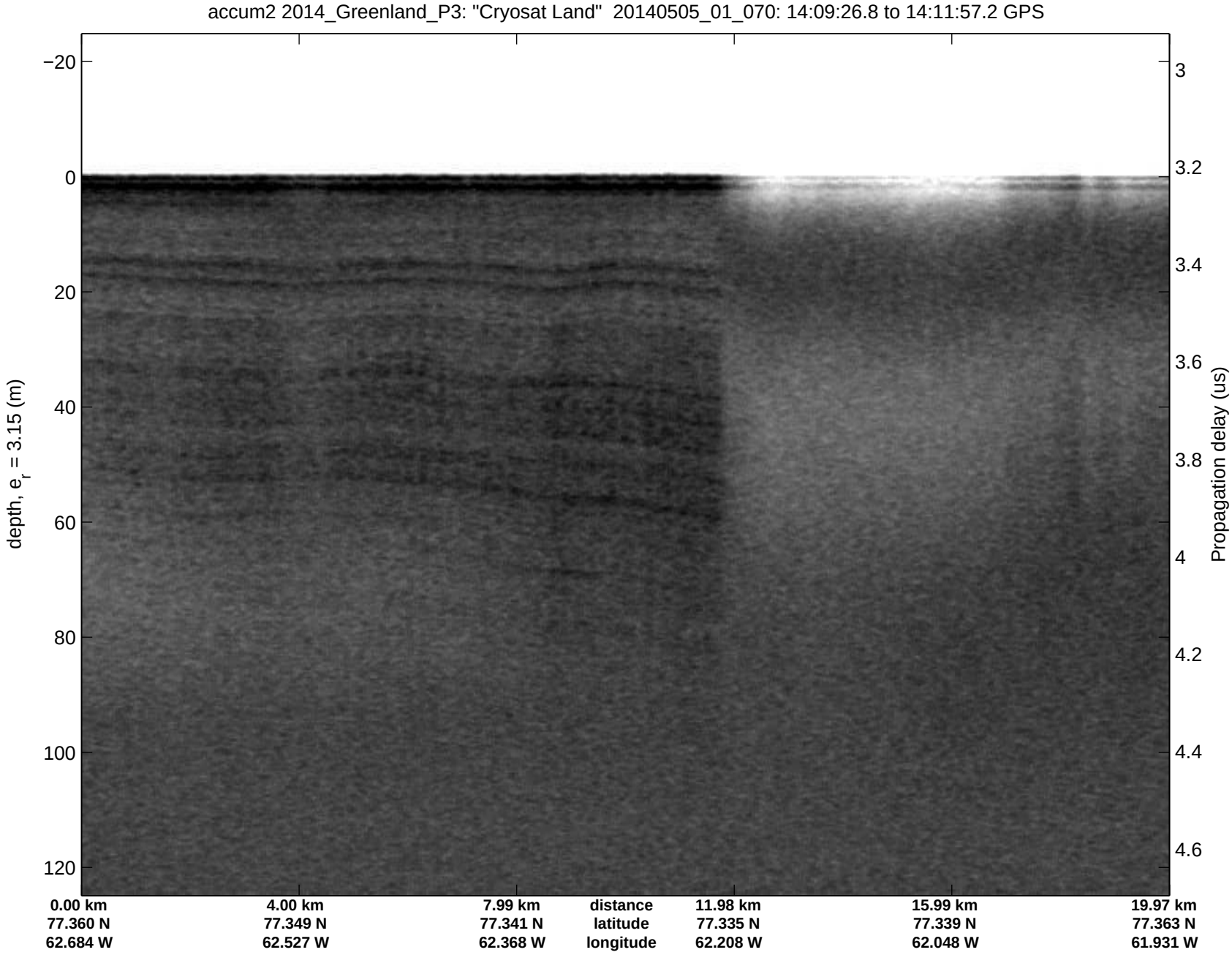

accum2 2014_Greenland_P3: "Cryosat Land" 20140505_01_069: 14:06:52.5 to 14:09:26.6 GPS
depth, e_r = 3.15 (m)
−20
0
20
40
60
80
100
120
Propagation delay (us)
3.4
3.6
3.8
4
4.2
4.4
4.6
4.8
0.00 km
77.411 N
63.469 W
4.00 km
77.399 N
63.314 W
7.99 km
77.388 N
63.157 W
distance
latitude
longitude
11.99 km
77.379 N
62.999 W
15.98 km
77.370 N
62.842 W
19.97 km
77.360 N
62.685 W

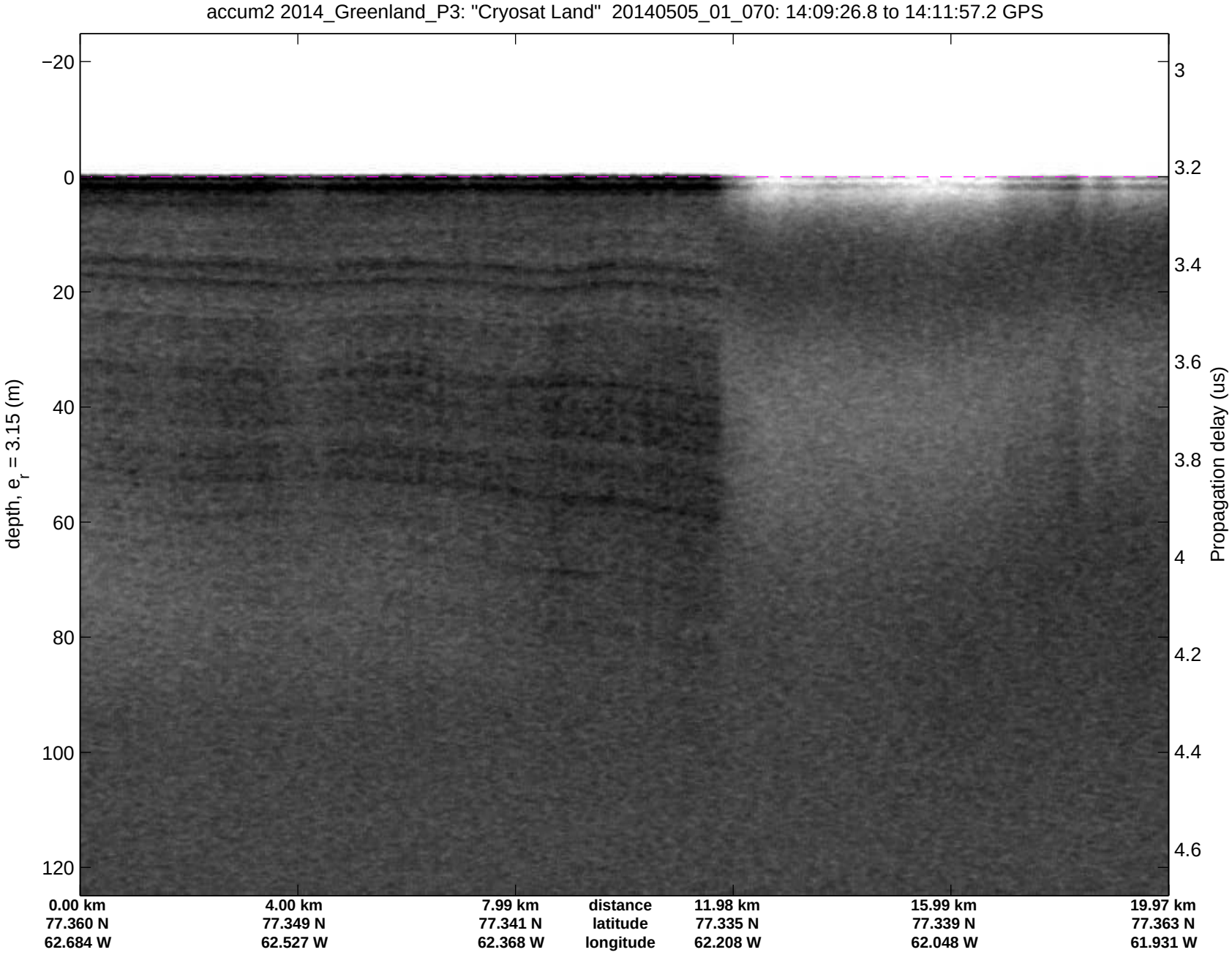

accum2 2014_Greenland_P3: "Cryosat Land" 20140505_01_069: 14:06:52.5 to 14:09:26.6 GPS
depth, e_r = 3.15 (m)
−20
0
20
40
60
80
100
120
Propagation delay (us)
3.4
3.6
3.8
4
4.2
4.4
4.6
4.8
0.00 km
77.411 N
63.469 W
4.00 km
77.399 N
63.314 W
7.99 km
77.388 N
63.157 W
distance
latitude
longitude
11.99 km
77.379 N
62.999 W
15.98 km
77.370 N
62.842 W
19.97 km
77.360 N
62.685 W

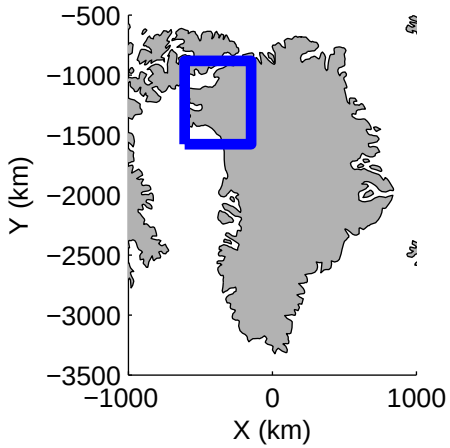

−500
−1000
−1500
−2000
−2500
−3000
−3500
Y (km)
−1000
0
1000
X (km)

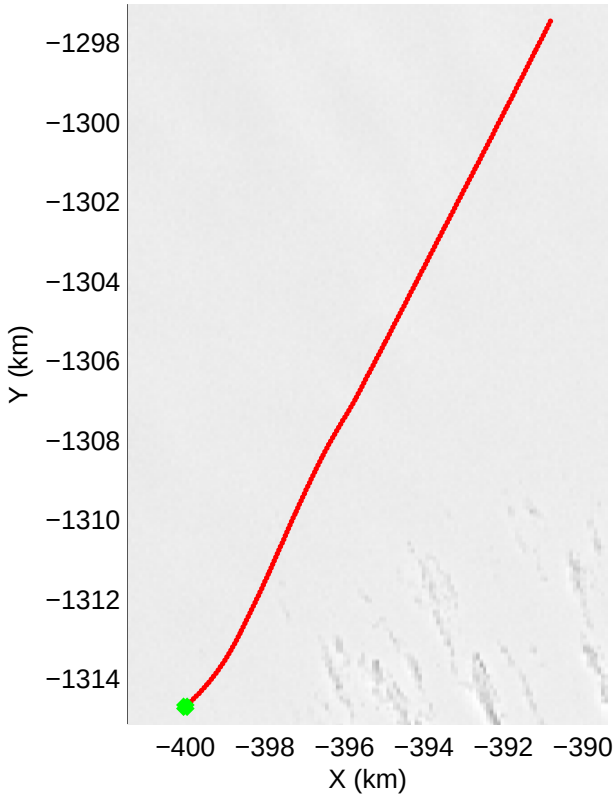

−1300
−1305
−1310
−1315
−1320
−1325
Y (km)
−415
−410
−405
−400
X (km)

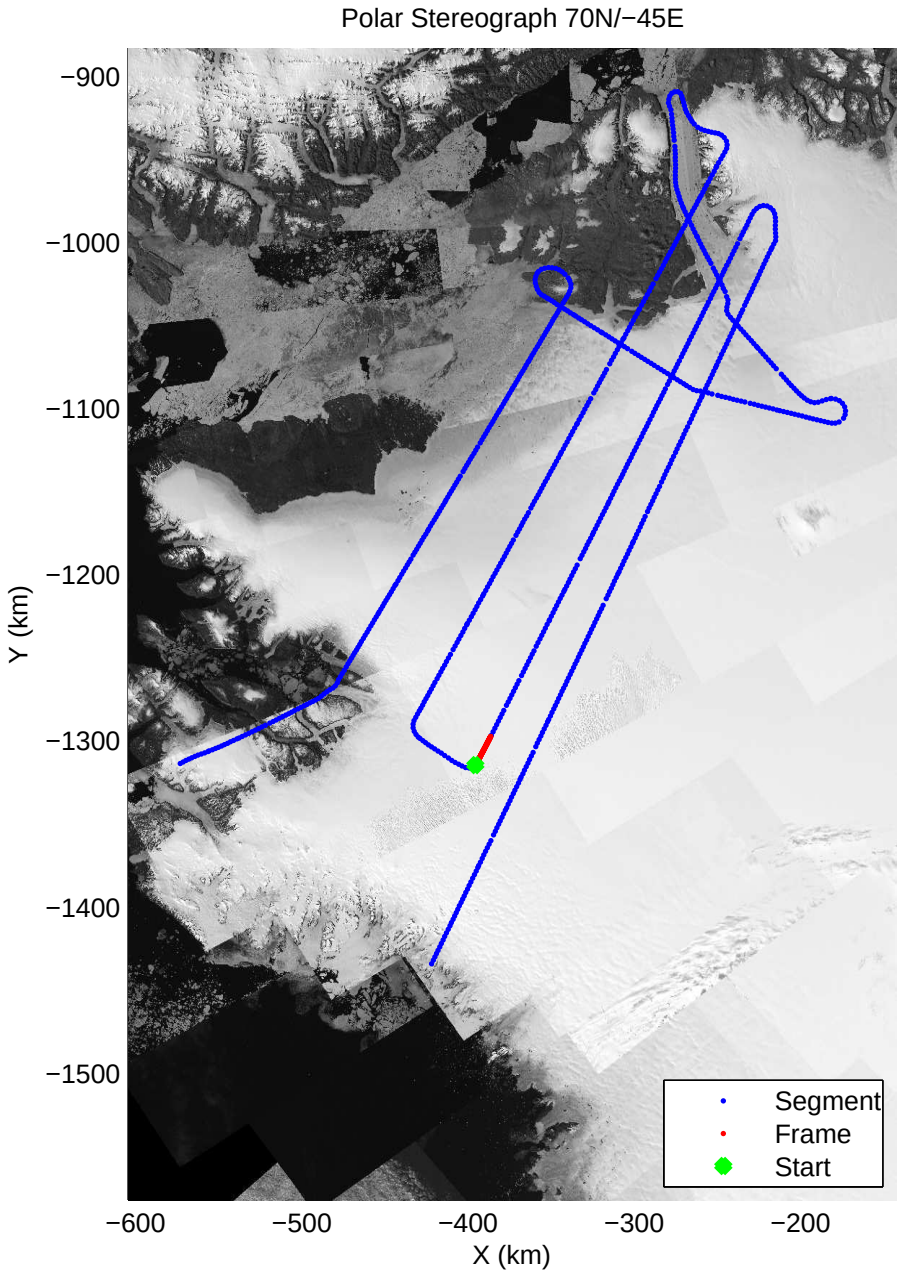

Polar Stereograph 70N/−45E
−900
−1000
−1100
−1200
−1300
−1400
−1500
Y (km)
−600
−500
−400
−300
−200
X (km)
Segment
Frame
Start

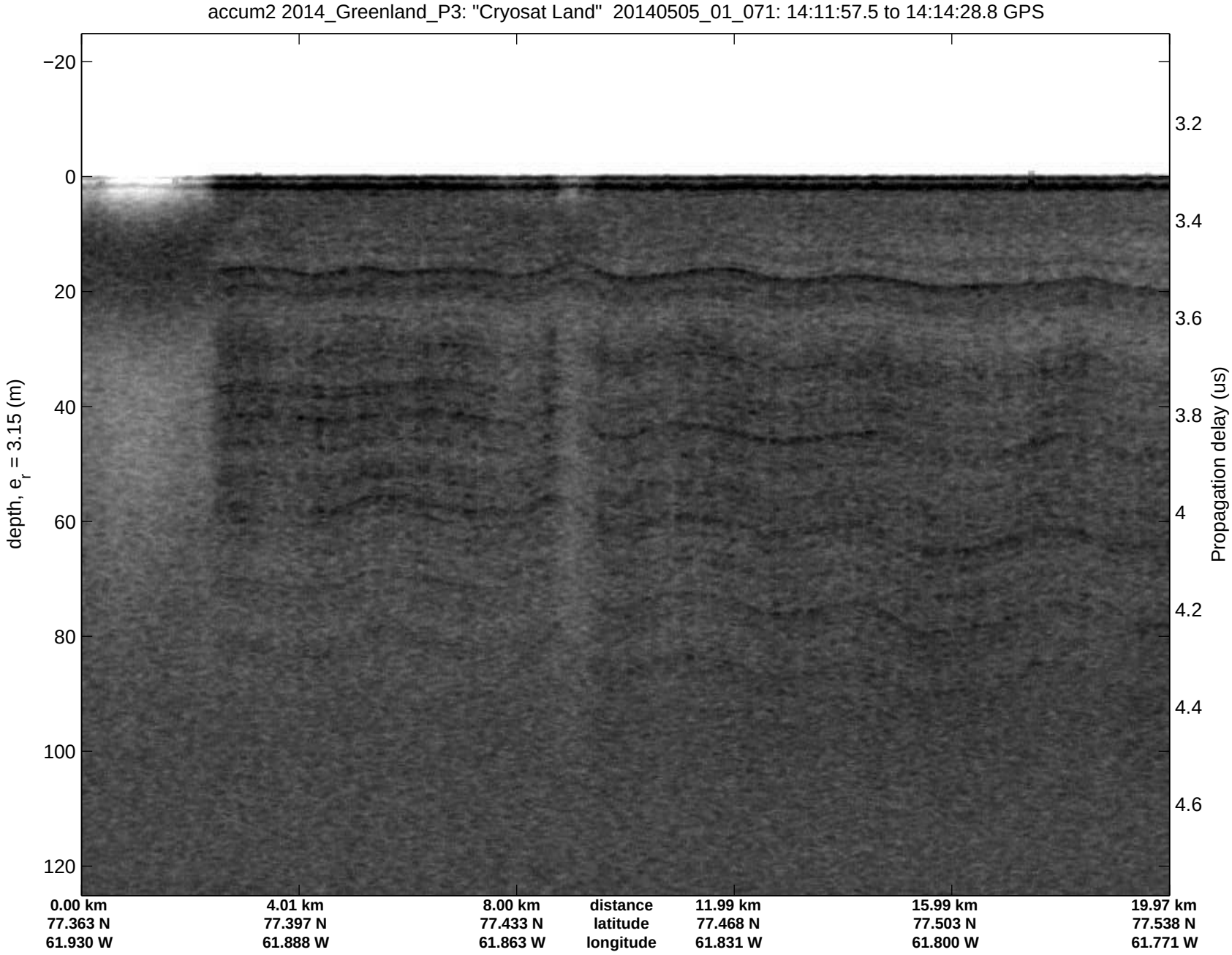

accum2 2014_Greenland_P3: "Cryosat Land" 20140505_01_070: 14:09:26.8 to 14:11:57.2 GPS
depth, e_r = 3.15 (m)
−20
0
20
40
60
80
100
120
Propagation delay (us)
3
3.2
3.4
3.6
3.8
4
4.2
4.4
4.6
0.00 km
77.360 N
62.684 W
4.00 km
77.349 N
62.527 W
7.99 km
77.341 N
62.368 W
distance
latitude
longitude
11.98 km
77.335 N
62.208 W
15.99 km
77.339 N
62.048 W
19.97 km
77.363 N
61.931 W

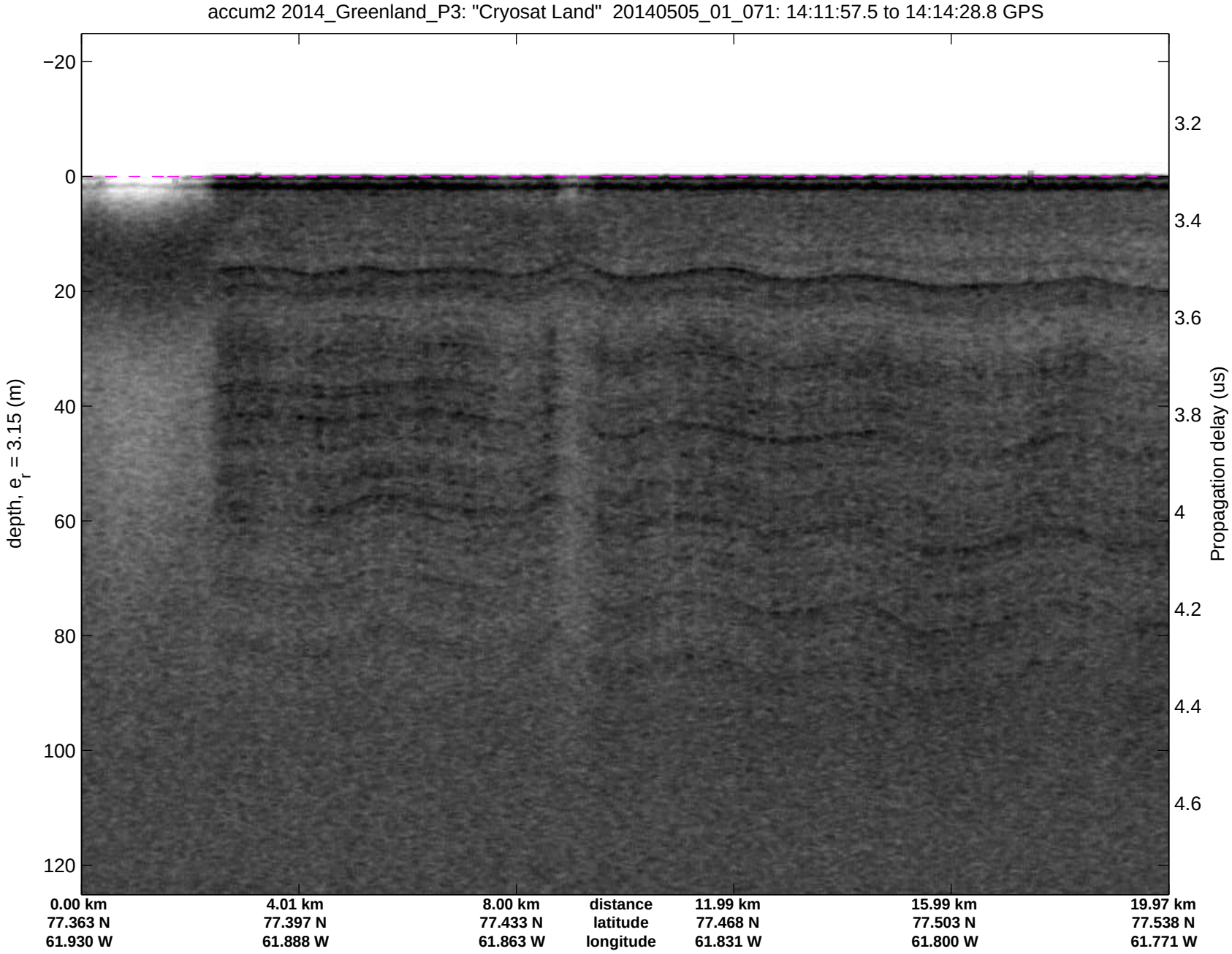

accum2 2014_Greenland_P3: "Cryosat Land" 20140505_01_070: 14:09:26.8 to 14:11:57.2 GPS
depth, e_r = 3.15 (m)
−20
0
20
40
60
80
100
120
Propagation delay (us)
3
3.2
3.4
3.6
3.8
4
4.2
4.4
4.6
0.00 km
77.360 N
62.684 W
4.00 km
77.349 N
62.527 W
7.99 km
77.341 N
62.368 W
distance
latitude
longitude
11.98 km
77.335 N
62.208 W
15.99 km
77.339 N
62.048 W
19.97 km
77.363 N
61.931 W

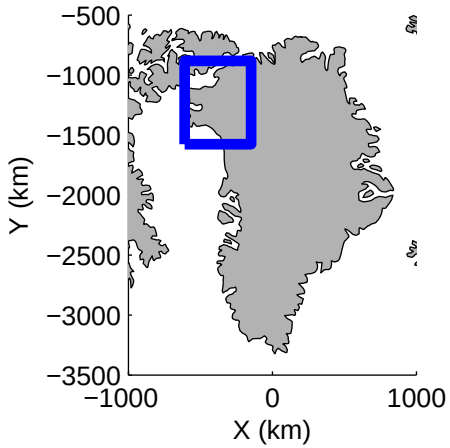

−500
−1000
−1500
−2000
−2500
−3000
−3500
Y (km)
−1000
0
1000
X (km)

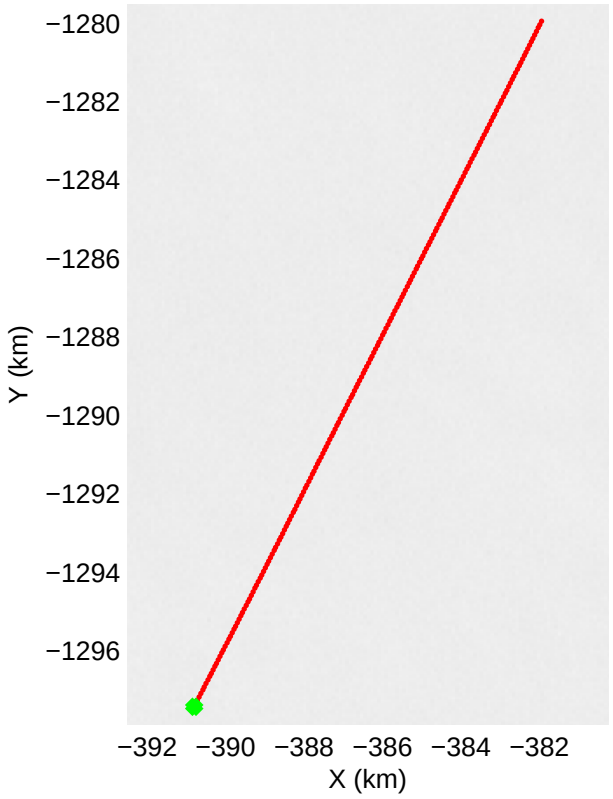

−1298
−1300
−1302
−1304
−1306
−1308
−1310
−1312
−1314
Y (km)
−400
−398
−396
−394
−392
−390
X (km)

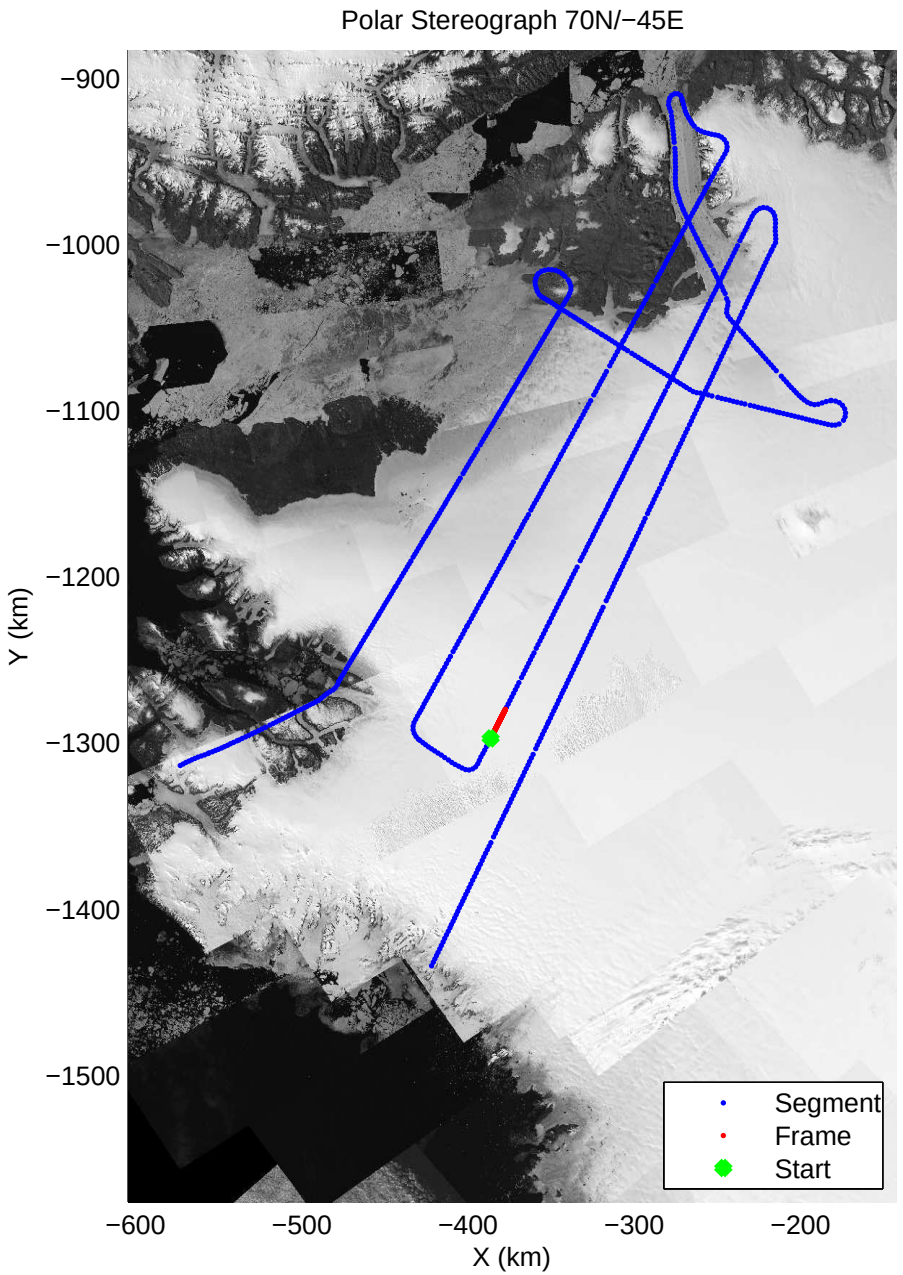

Polar Stereograph 70N/−45E
−900
−1000
−1100
−1200
−1300
−1400
−1500
Y (km)
−600
−500
−400
−300
−200
X (km)
Segment
Frame
Start

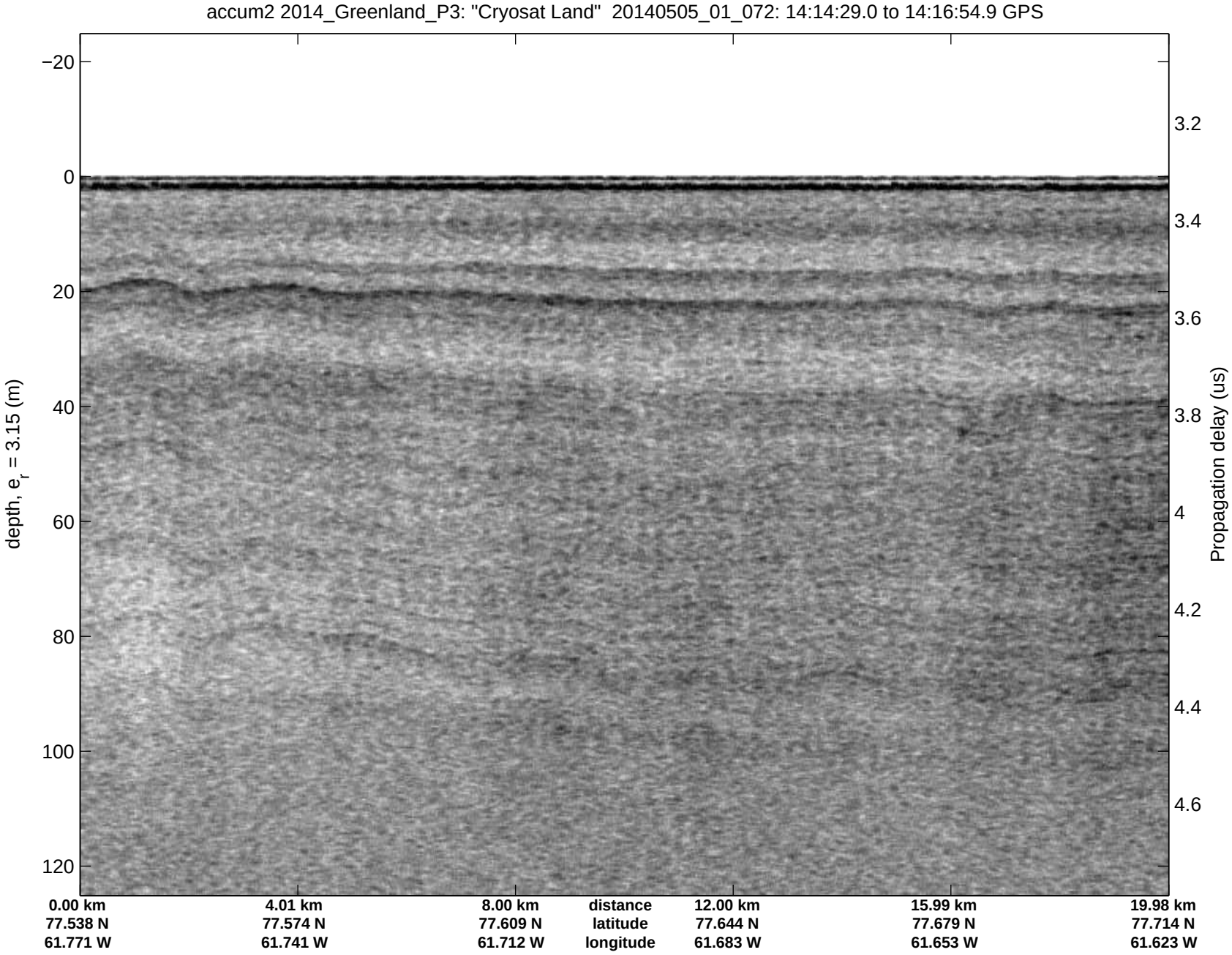

accum2 2014_Greenland_P3: "Cryosat Land" 20140505_01_071: 14:11:57.5 to 14:14:28.8 GPS
depth, e_r = 3.15 (m)
−20
0
20
40
60
80
100
120
Propagation delay (us)
3.2
3.4
3.6
3.8
4
4.2
4.4
4.6
0.00 km
77.363 N
61.930 W
4.01 km
77.397 N
61.888 W
8.00 km
77.433 N
61.863 W
distance
latitude
longitude
11.99 km
77.468 N
61.831 W
15.99 km
77.503 N
61.800 W
19.97 km
77.538 N
61.771 W

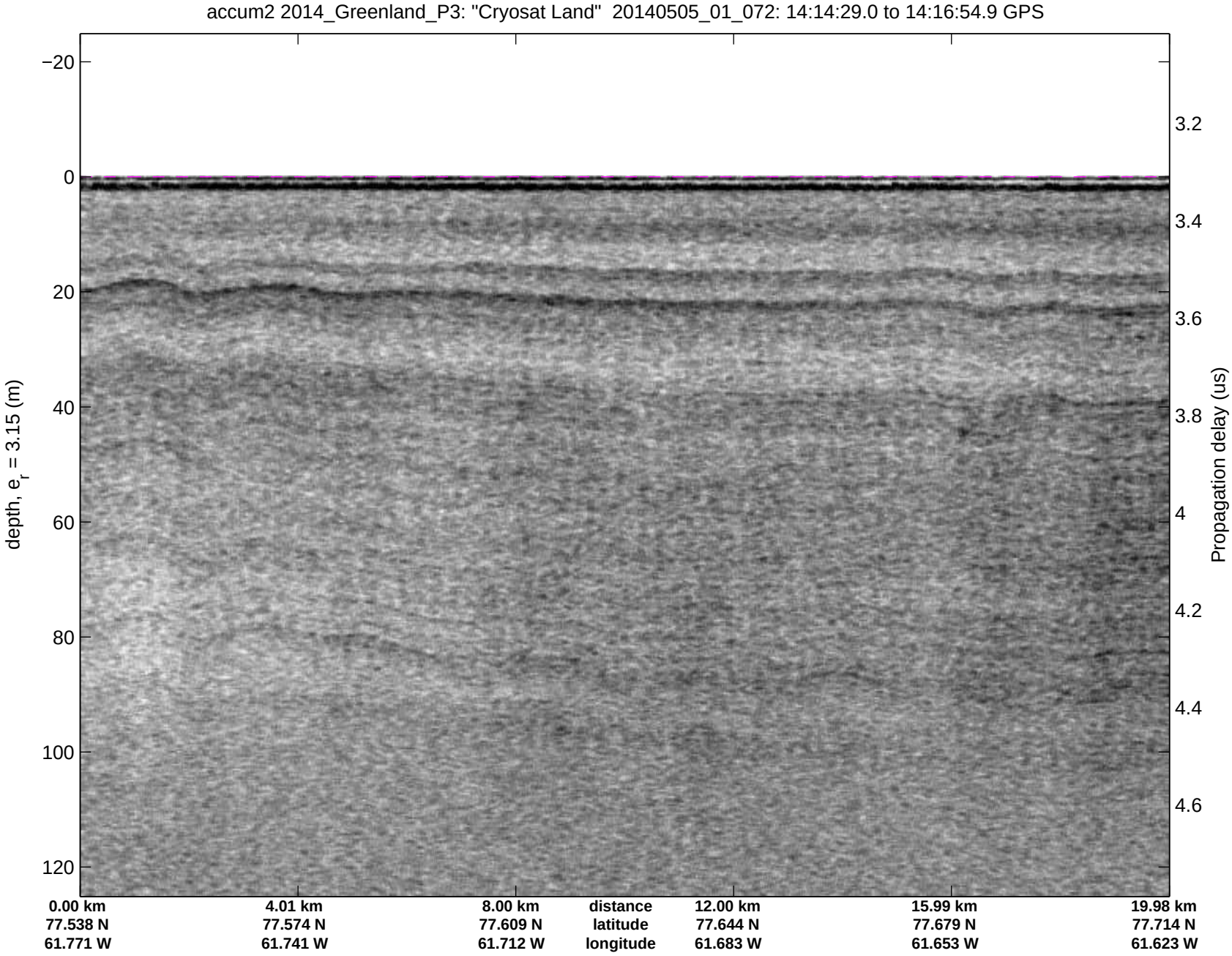

accum2 2014_Greenland_P3: "Cryosat Land" 20140505_01_071: 14:11:57.5 to 14:14:28.8 GPS
depth, e_r = 3.15 (m)
−20
0
20
40
60
80
100
120
Propagation delay (us)
3.2
3.4
3.6
3.8
4
4.2
4.4
4.6
0.00 km
77.363 N
61.930 W
4.01 km
77.397 N
61.888 W
8.00 km
77.433 N
61.863 W
distance
latitude
longitude
11.99 km
77.468 N
61.831 W
15.99 km
77.503 N
61.800 W
19.97 km
77.538 N
61.771 W

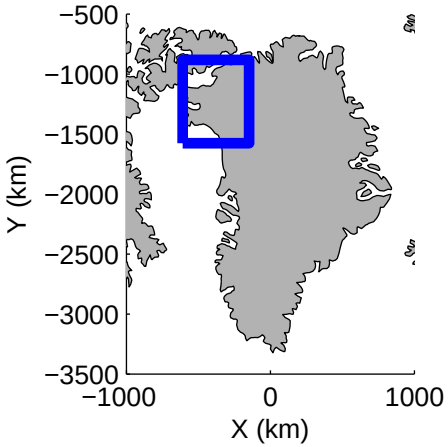

−500
−1000
−1500
−2000
−2500
−3000
−3500
Y (km)
−1000
0
1000
X (km)

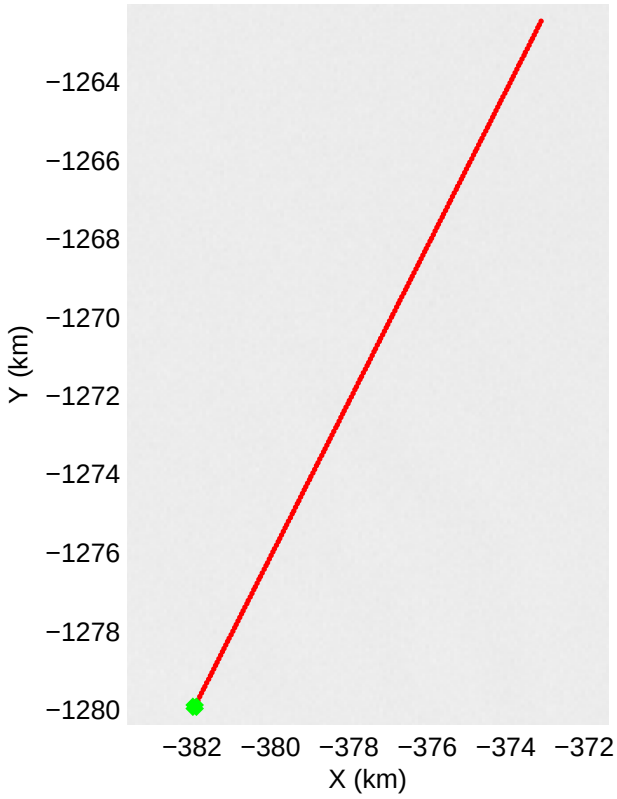

−1280
−1282
−1284
−1286
−1288
−1290
−1292
−1294
−1296
Y (km)
−392
−390
−388
−386
−384
−382
X (km)

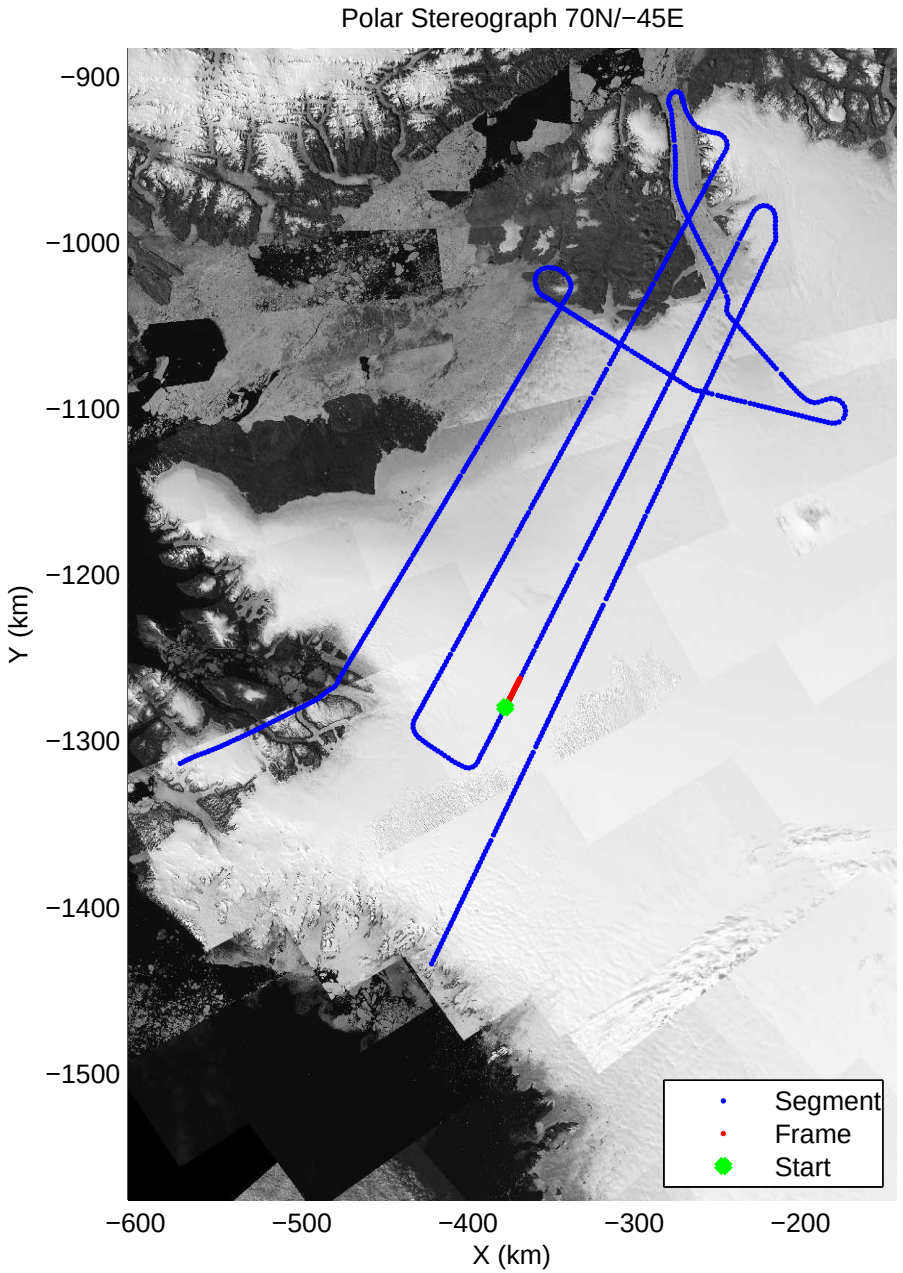

Polar Stereograph 70N/−45E
−900
−1000
−1100
−1200
−1300
−1400
−1500
Y (km)
−600
−500
−400
−300
−200
X (km)
Segment
Frame
Start

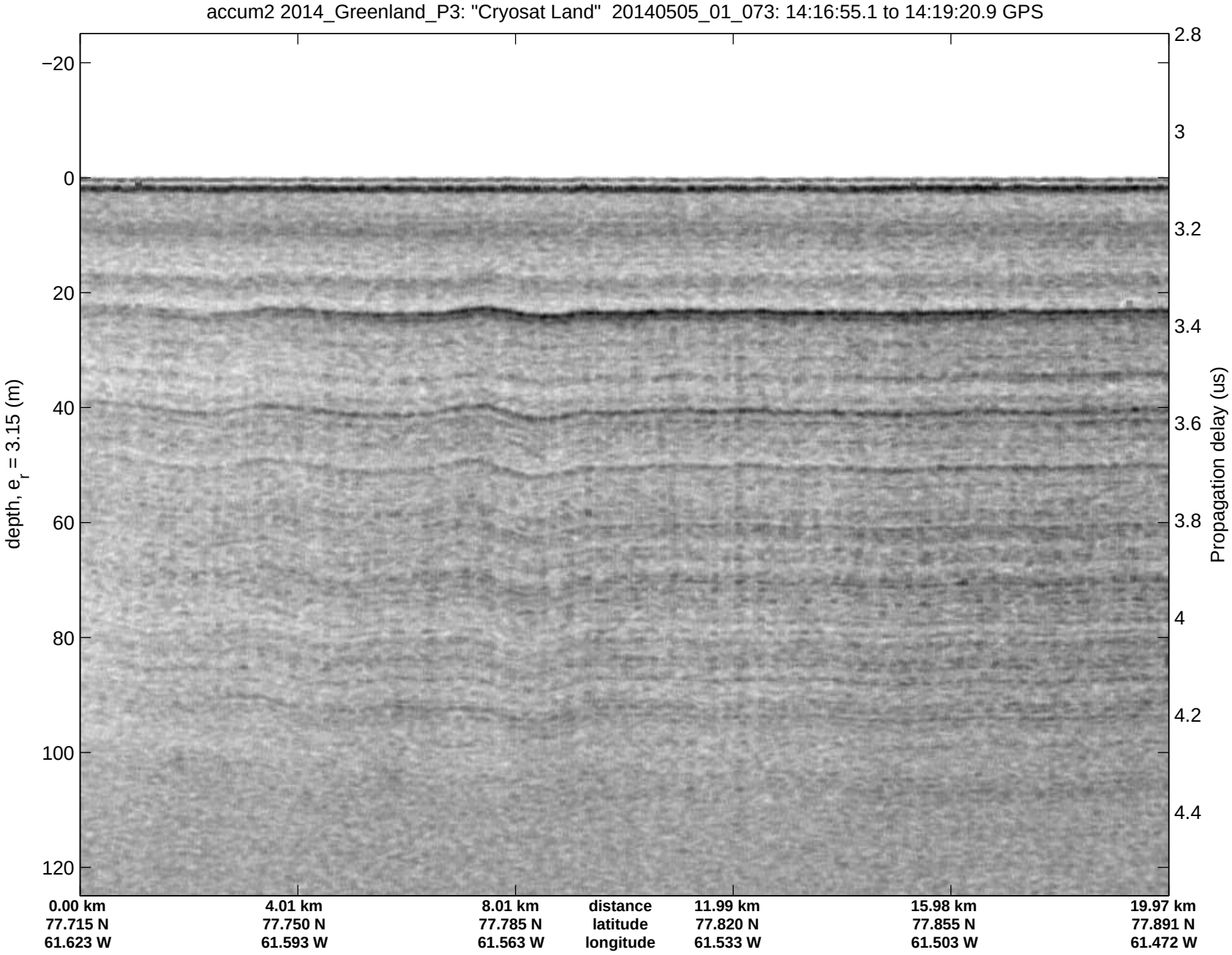

accum2 2014_Greenland_P3: "Cryosat Land" 20140505_01_072: 14:14:29.0 to 14:16:54.9 GPS
depth, e_r = 3.15 (m)
−20
0
20
40
60
80
100
120
Propagation delay (us)
3.2
3.4
3.6
3.8
4
4.2
4.4
4.6
0.00 km
77.538 N
61.771 W
4.01 km
77.574 N
61.741 W
8.00 km
77.609 N
61.712 W
distance
latitude
longitude
12.00 km
77.644 N
61.683 W
15.99 km
77.679 N
61.653 W
19.98 km
77.714 N
61.623 W

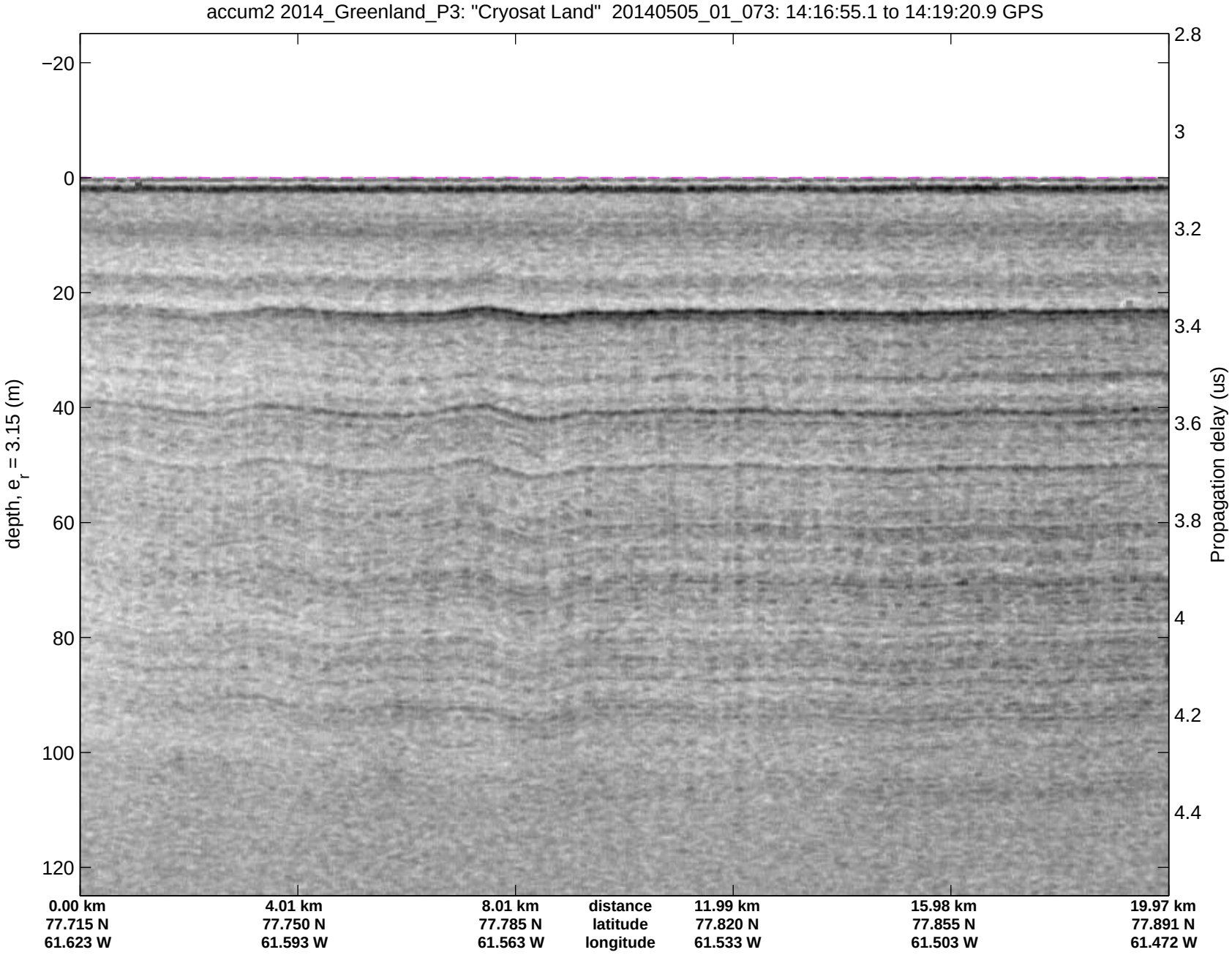

accum2 2014_Greenland_P3: "Cryosat Land" 20140505_01_072: 14:14:29.0 to 14:16:54.9 GPS
depth, e_r = 3.15 (m)
−20
0
20
40
60
80
100
120
Propagation delay (us)
3.2
3.4
3.6
3.8
4
4.2
4.4
4.6
0.00 km
77.538 N
61.771 W
4.01 km
77.574 N
61.741 W
8.00 km
77.609 N
61.712 W
distance
latitude
longitude
12.00 km
77.644 N
61.683 W
15.99 km
77.679 N
61.653 W
19.98 km
77.714 N
61.623 W

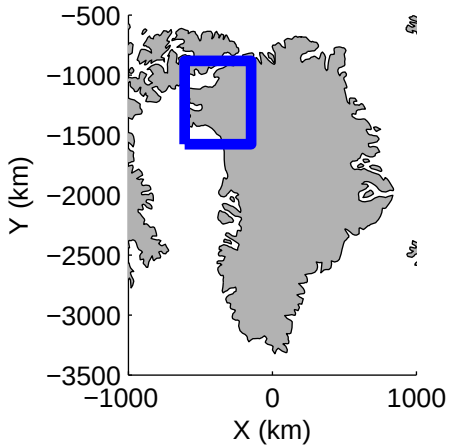

−500
−1000
−1500
−2000
−2500
−3000
−3500
Y (km)
−1000
0
1000
X (km)

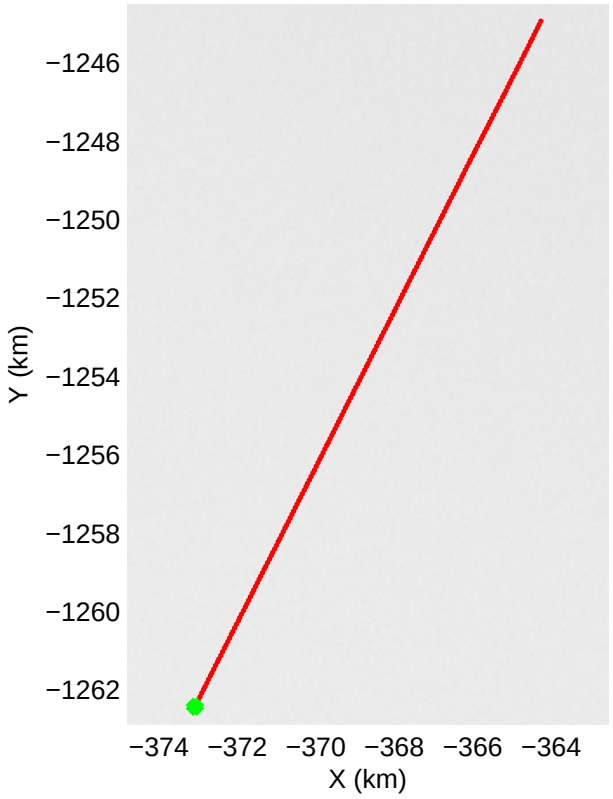

−1264
−1266
−1268
−1270
−1272
−1274
−1276
−1278
−1280
Y (km)
−382
−380
−378
−376
−374
−372
X (km)

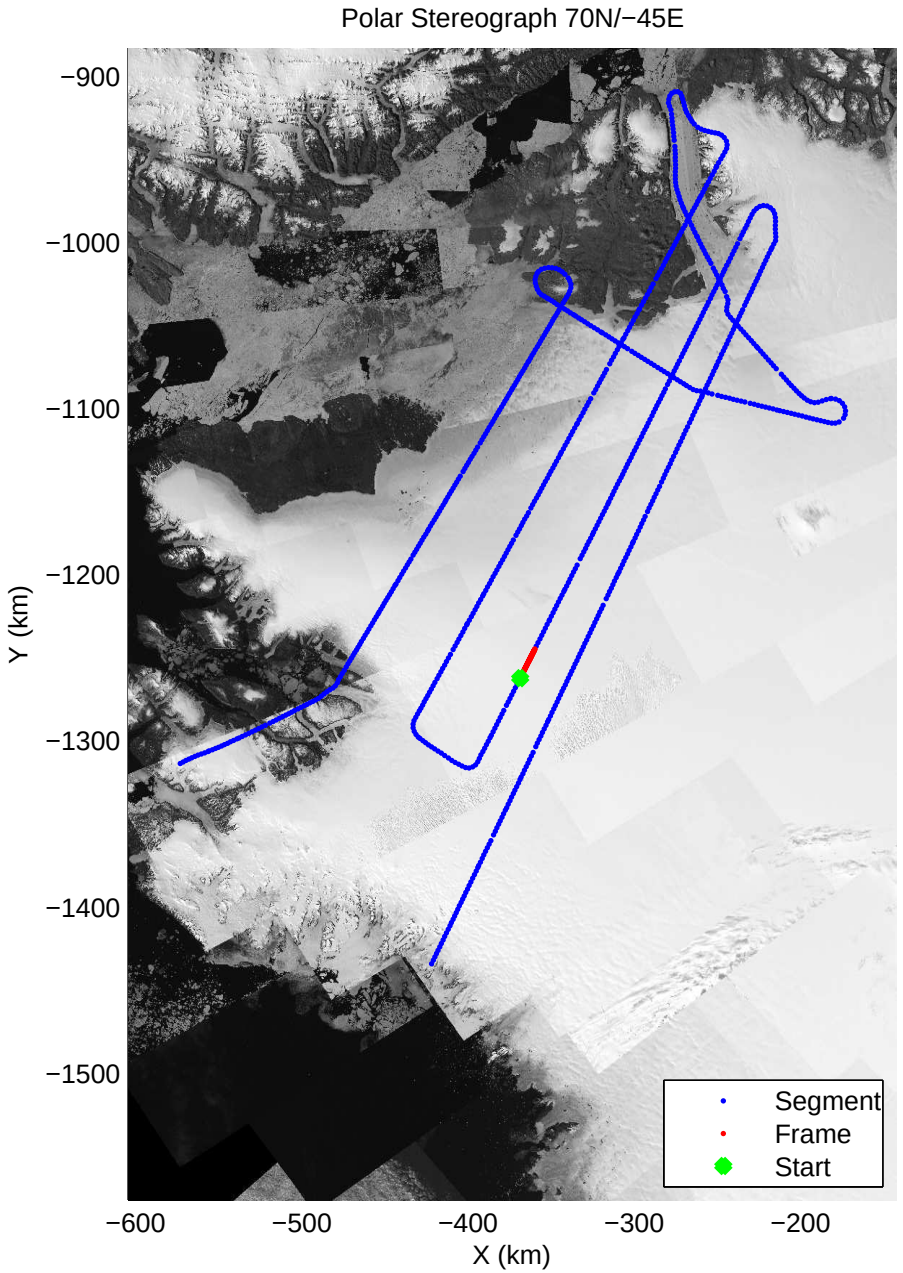

Polar Stereograph 70N/−45E
−900
−1000
−1100
−1200
−1300
−1400
−1500
Y (km)
−600
−500
−400
−300
−200
X (km)
Segment
Frame
Start

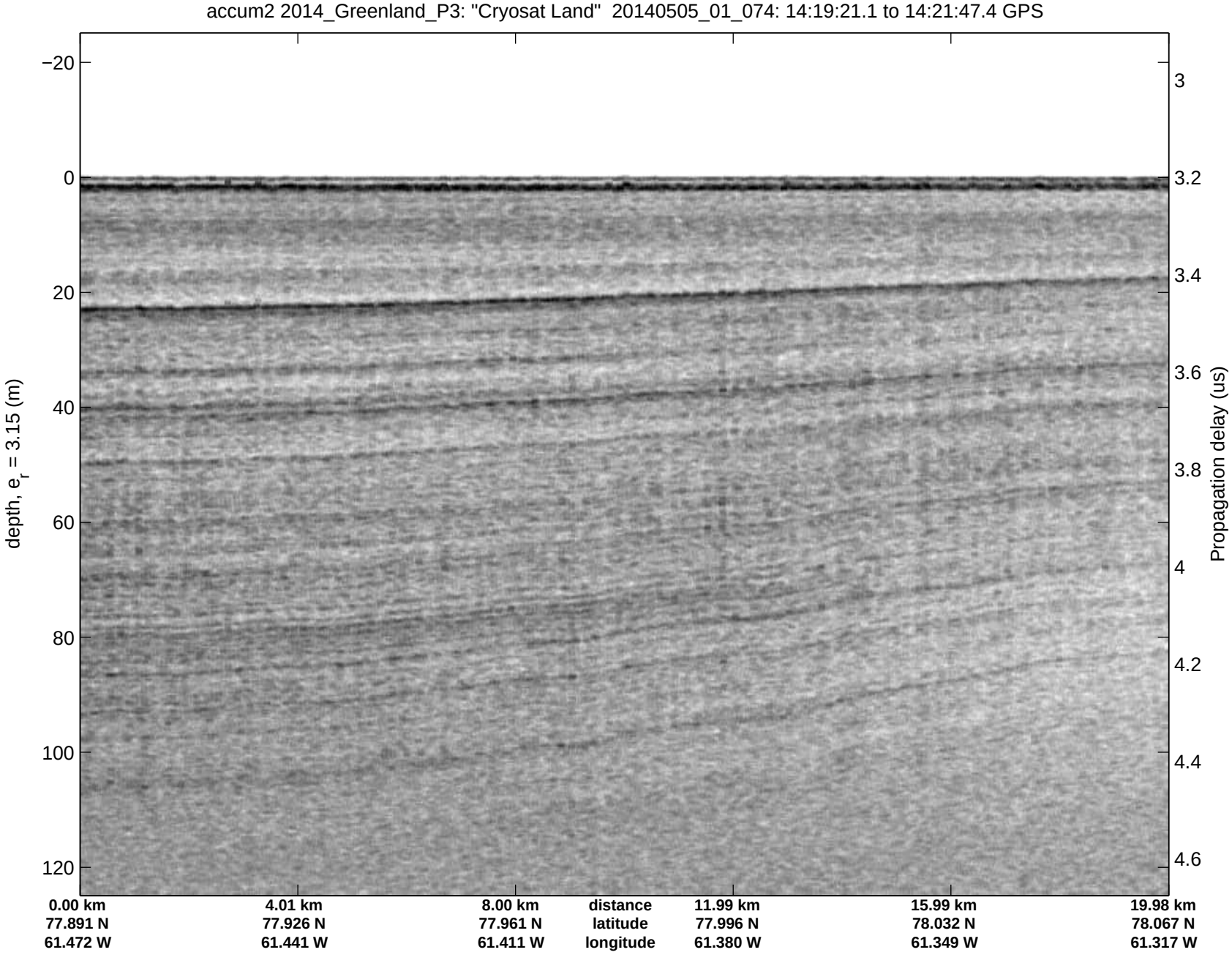

accum2 2014_Greenland_P3: "Cryosat Land" 20140505_01_073: 14:16:55.1 to 14:19:20.9 GPS
depth, e_r = 3.15 (m)
−20
0
20
40
60
80
100
120
Propagation delay (us)
2.8
3
3.2
3.4
3.6
3.8
4
4.2
4.4
0.00 km
77.715 N
61.623 W
4.01 km
77.750 N
61.593 W
8.01 km
77.785 N
61.563 W
distance
latitude
longitude
11.99 km
77.820 N
61.533 W
15.98 km
77.855 N
61.503 W
19.97 km
77.891 N
61.472 W

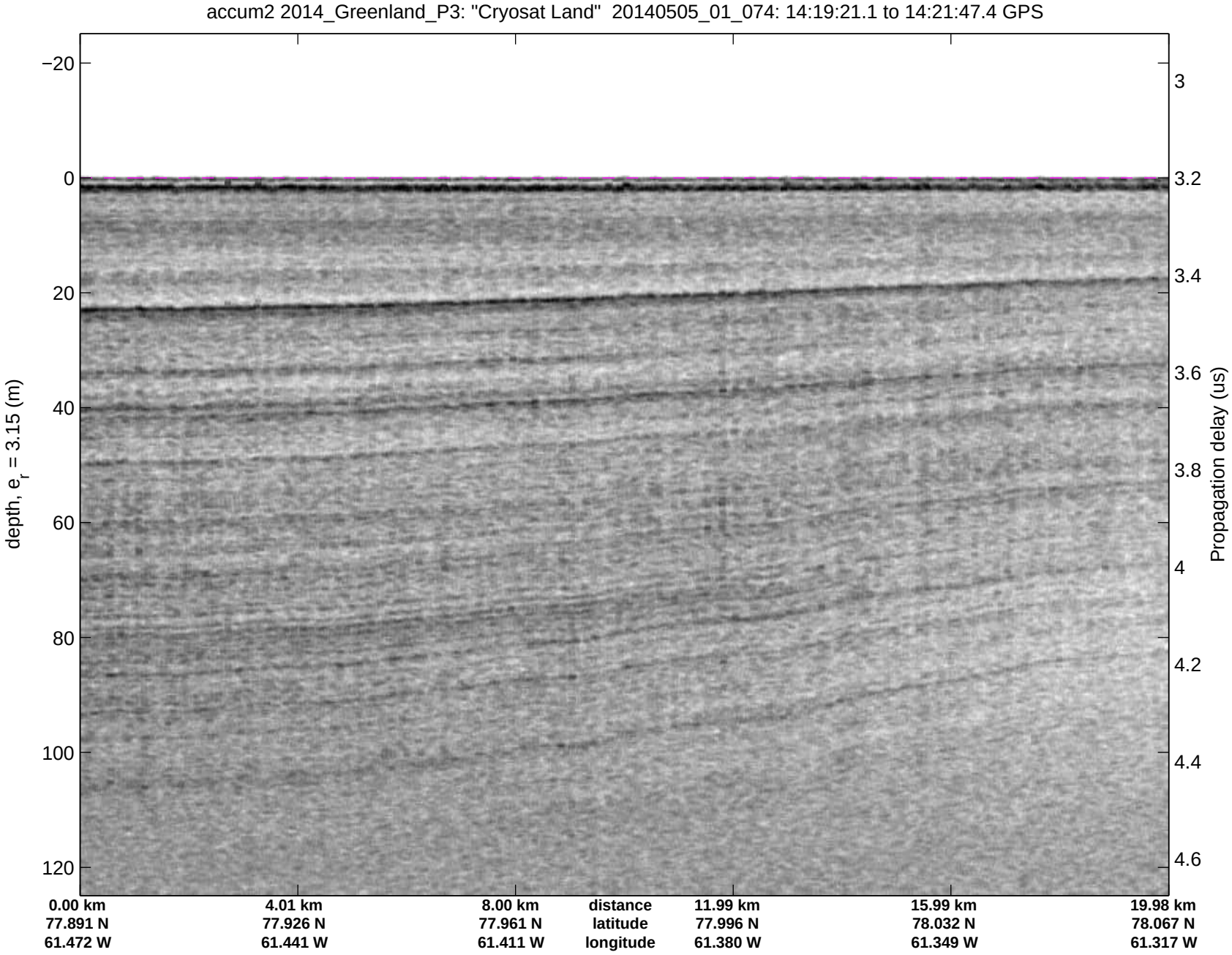

accum2 2014_Greenland_P3: "Cryosat Land" 20140505_01_073: 14:16:55.1 to 14:19:20.9 GPS
depth, e_r = 3.15 (m)
−20
0
20
40
60
80
100
120
2.8
3
3.2
3.4
3.6
3.8
4
4.2
4.4
Propagation delay (us)
0.00 km
77.715 N
61.623 W
4.01 km
77.750 N
61.593 W
8.01 km
77.785 N
61.563 W
distance
latitude
longitude
11.99 km
77.820 N
61.533 W
15.98 km
77.855 N
61.503 W
19.97 km
77.891 N
61.472 W

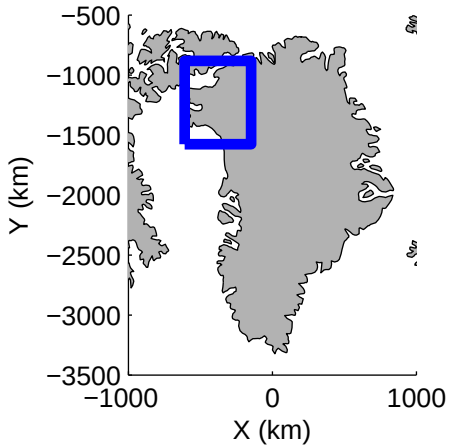

−500
−1000
−1500
−2000
−2500
−3000
−3500
Y (km)
−1000
0
1000
X (km)

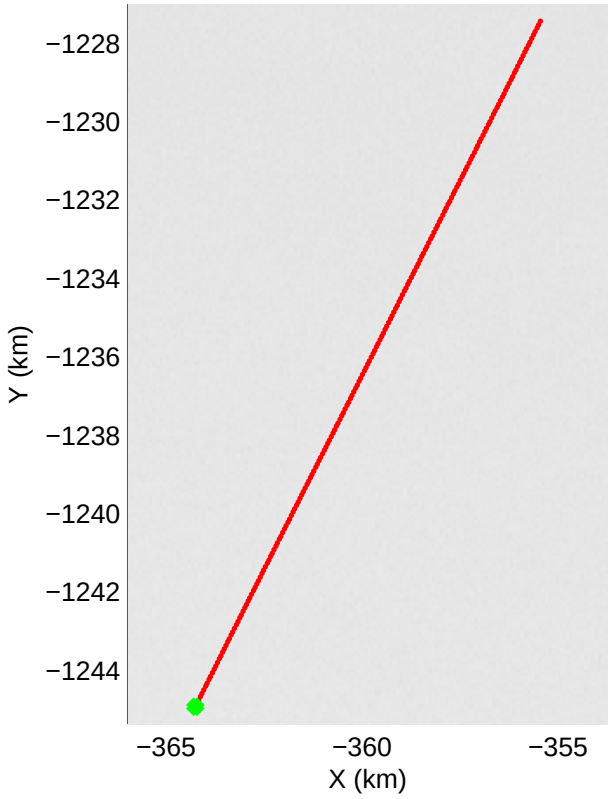

−1246
−1248
−1250
−1252
−1254
−1256
−1258
−1260
−1262
Y (km)
−374
−372
−370
−368
−366
−364
X (km)

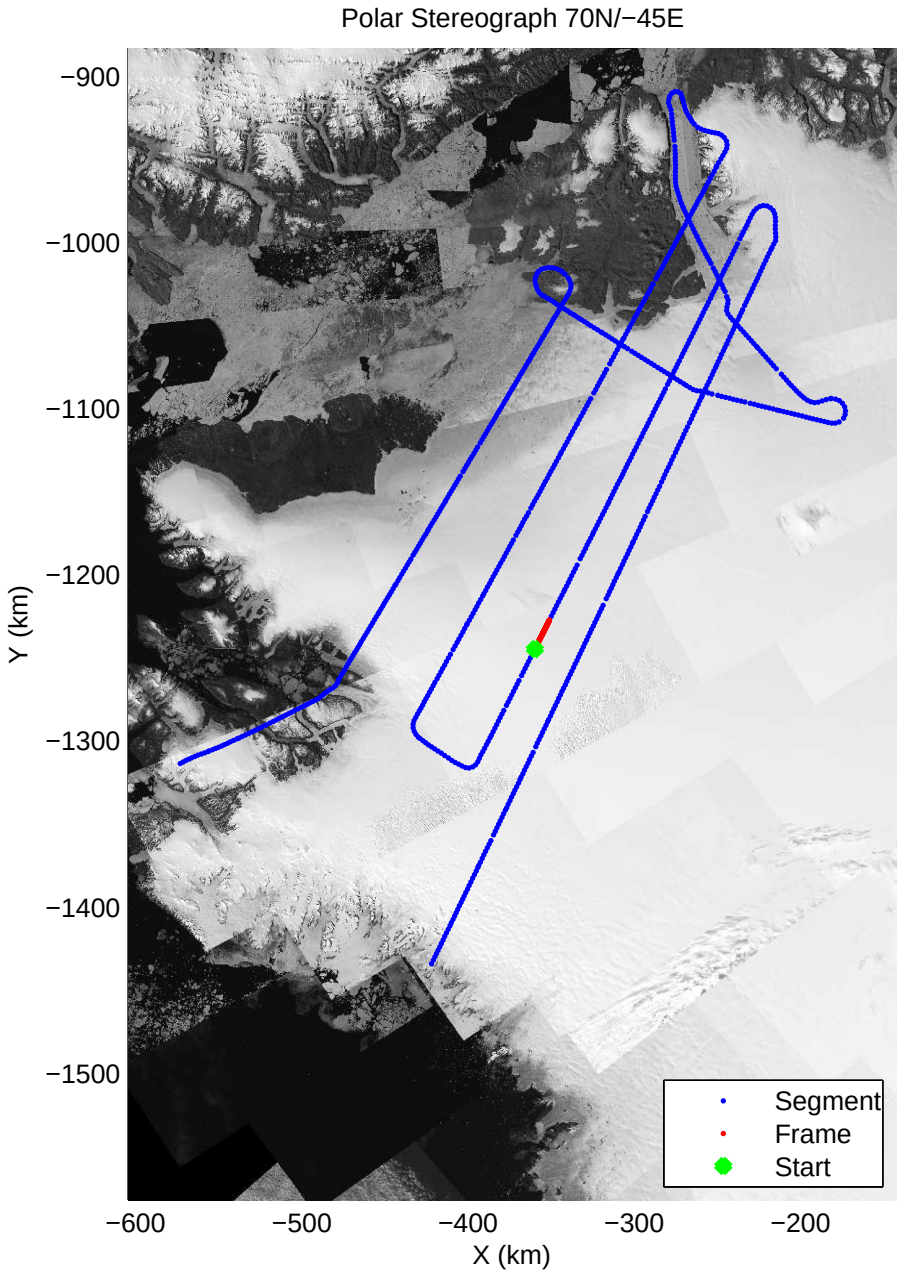

Polar Stereograph 70N/−45E
−900
−1000
−1100
−1200
−1300
−1400
−1500
Y (km)
−600
−500
−400
−300
−200
X (km)
Segment
Frame
Start

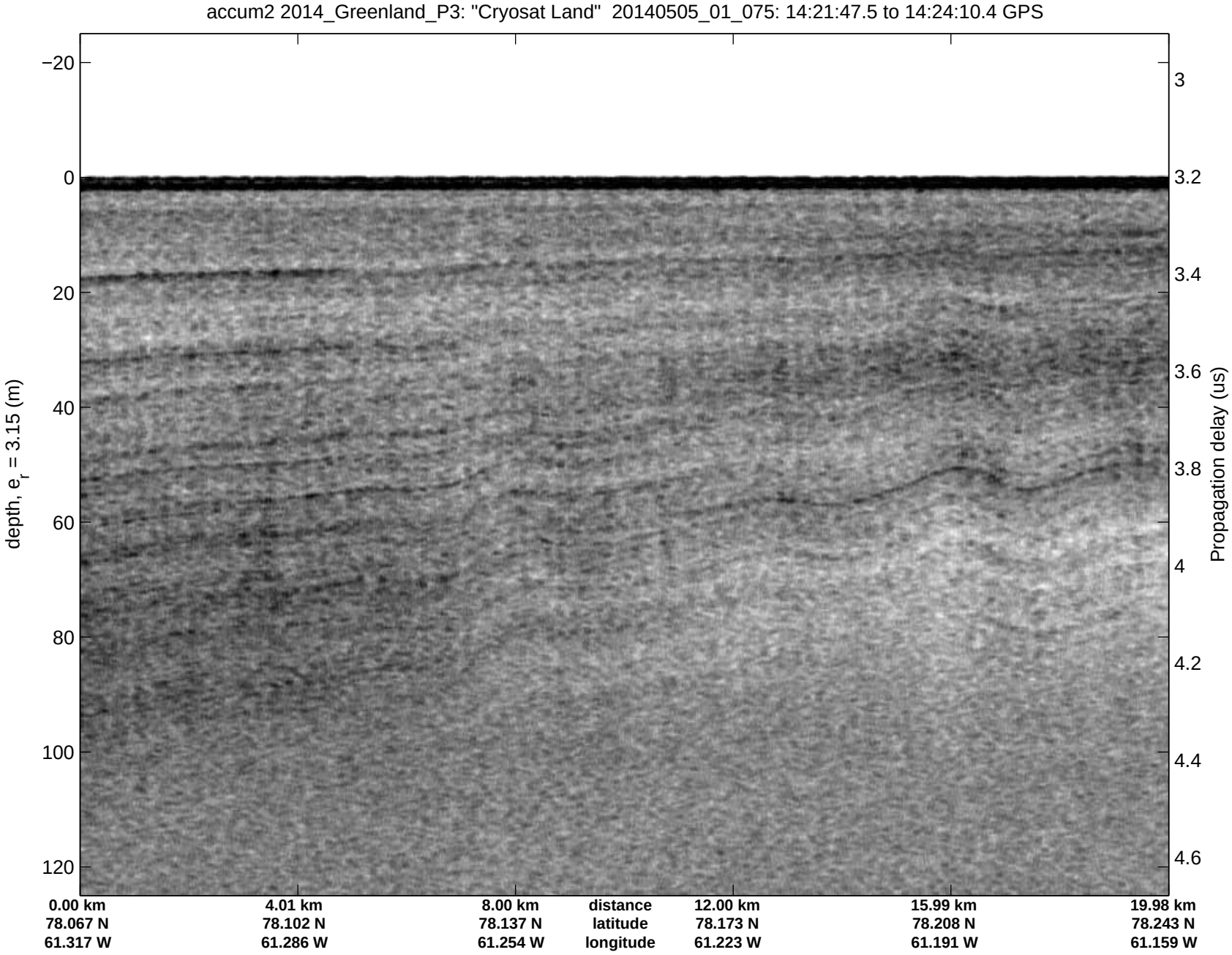

accum2 2014_Greenland_P3: "Cryosat Land" 20140505_01_074: 14:19:21.1 to 14:21:47.4 GPS
depth, e_r = 3.15 (m)
−20
0
20
40
60
80
100
120
Propagation delay (us)
3
3.2
3.4
3.6
3.8
4
4.2
4.4
4.6
0.00 km
77.891 N
61.472 W
4.01 km
77.926 N
61.441 W
8.00 km
77.961 N
61.411 W
distance
latitude
longitude
11.99 km
77.996 N
61.380 W
15.99 km
78.032 N
61.349 W
19.98 km
78.067 N
61.317 W

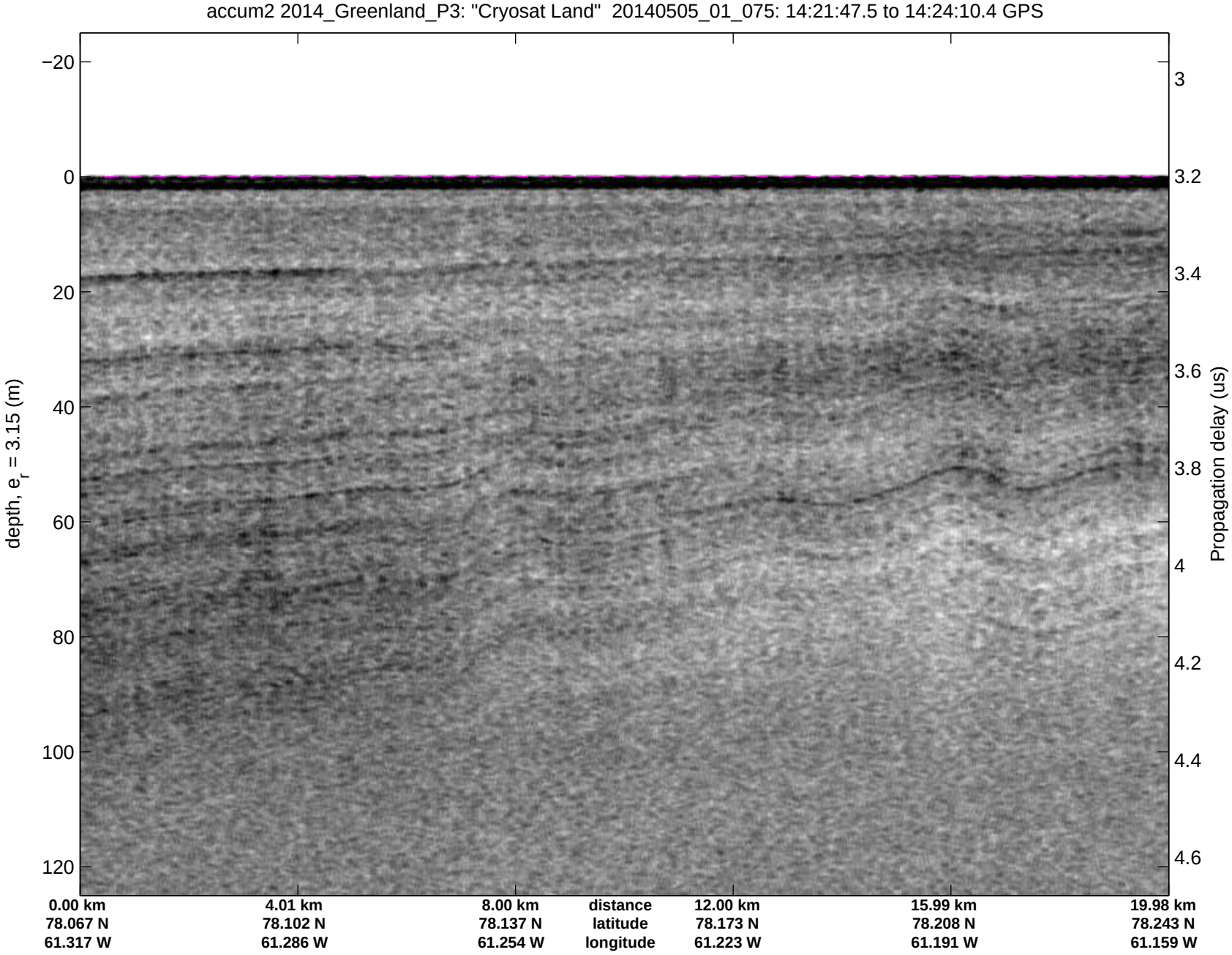

accum2 2014_Greenland_P3: "Cryosat Land" 20140505_01_074: 14:19:21.1 to 14:21:47.4 GPS
depth, e_r = 3.15 (m)
−20
0
20
40
60
80
100
120
Propagation delay (us)
3
3.2
3.4
3.6
3.8
4
4.2
4.4
4.6
0.00 km
77.891 N
61.472 W
4.01 km
77.926 N
61.441 W
8.00 km
77.961 N
61.411 W
distance
latitude
longitude
11.99 km
77.996 N
61.380 W
15.99 km
78.032 N
61.349 W
19.98 km
78.067 N
61.317 W

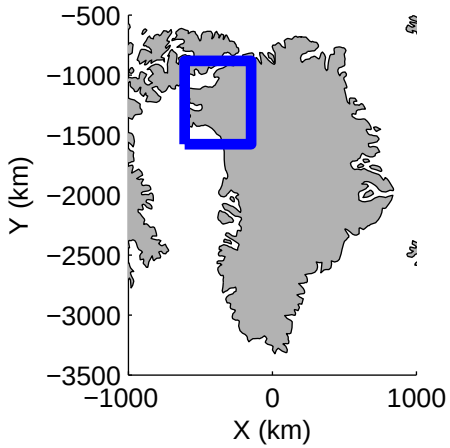

−500
−1000
−1500
−2000
−2500
−3000
−3500
Y (km)
−1000
0
1000
X (km)

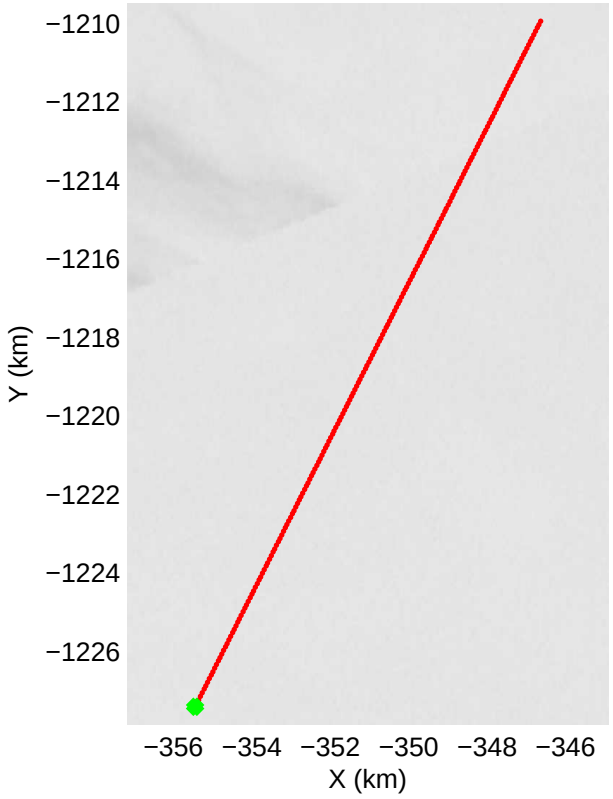

−1228
−1230
−1232
−1234
−1236
−1238
−1240
−1242
−1244
Y (km)
−365
−360
−355
X (km)

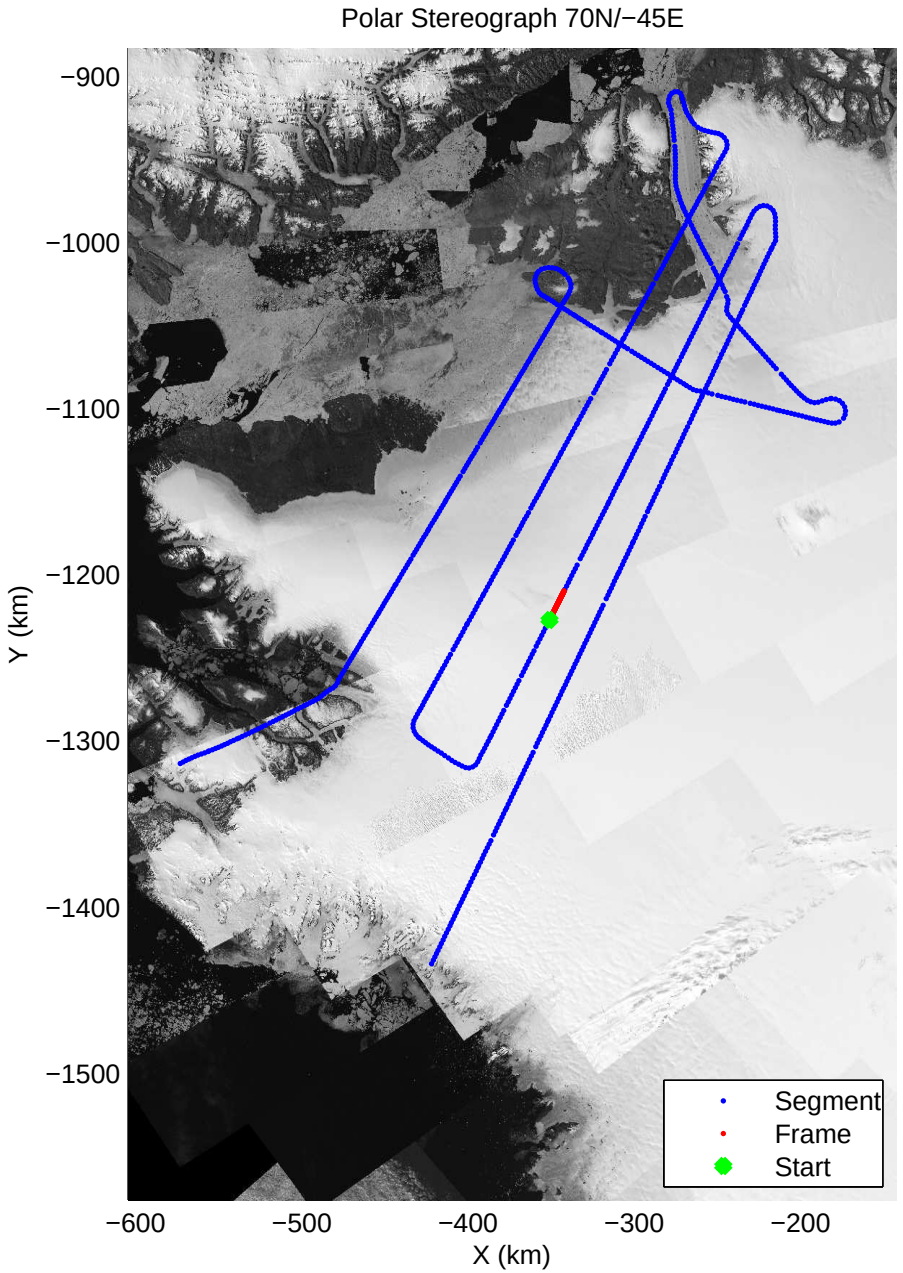

Polar Stereograph 70N/−45E
−900
−1000
−1100
−1200
−1300
−1400
−1500
Y (km)
−600
−500
−400
−300
−200
X (km)
Segment
Frame
Start

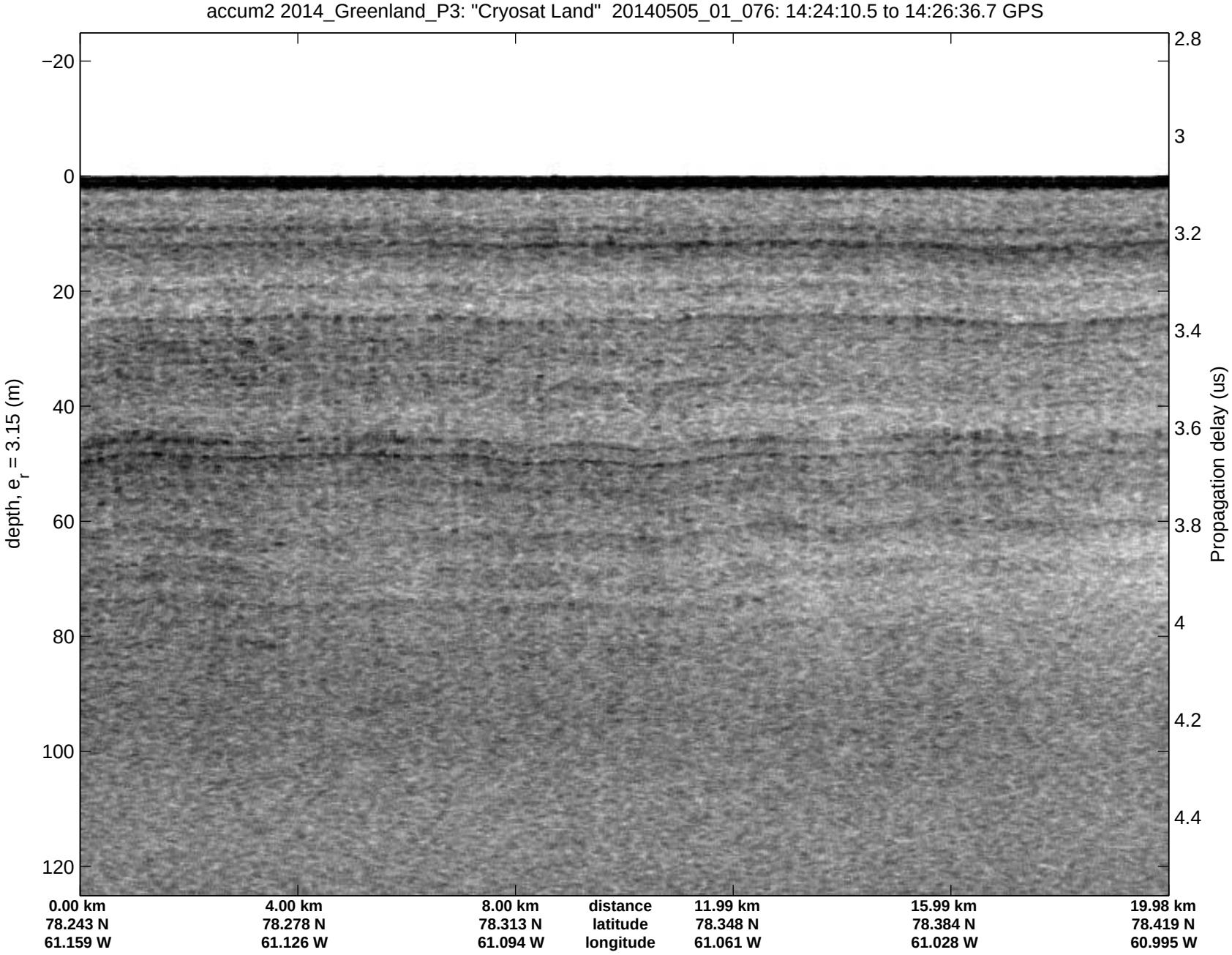

accum2 2014_Greenland_P3: "Cryosat Land" 20140505_01_075: 14:21:47.5 to 14:24:10.4 GPS
depth, e_r = 3.15 (m)
−20
0
20
40
60
80
100
120
Propagation delay (us)
3
3.2
3.4
3.6
3.8
4
4.2
4.4
4.6
0.00 km
78.067 N
61.317 W
4.01 km
78.102 N
61.286 W
8.00 km
78.137 N
61.254 W
distance
latitude
longitude
12.00 km
78.173 N
61.223 W
15.99 km
78.208 N
61.191 W
19.98 km
78.243 N
61.159 W

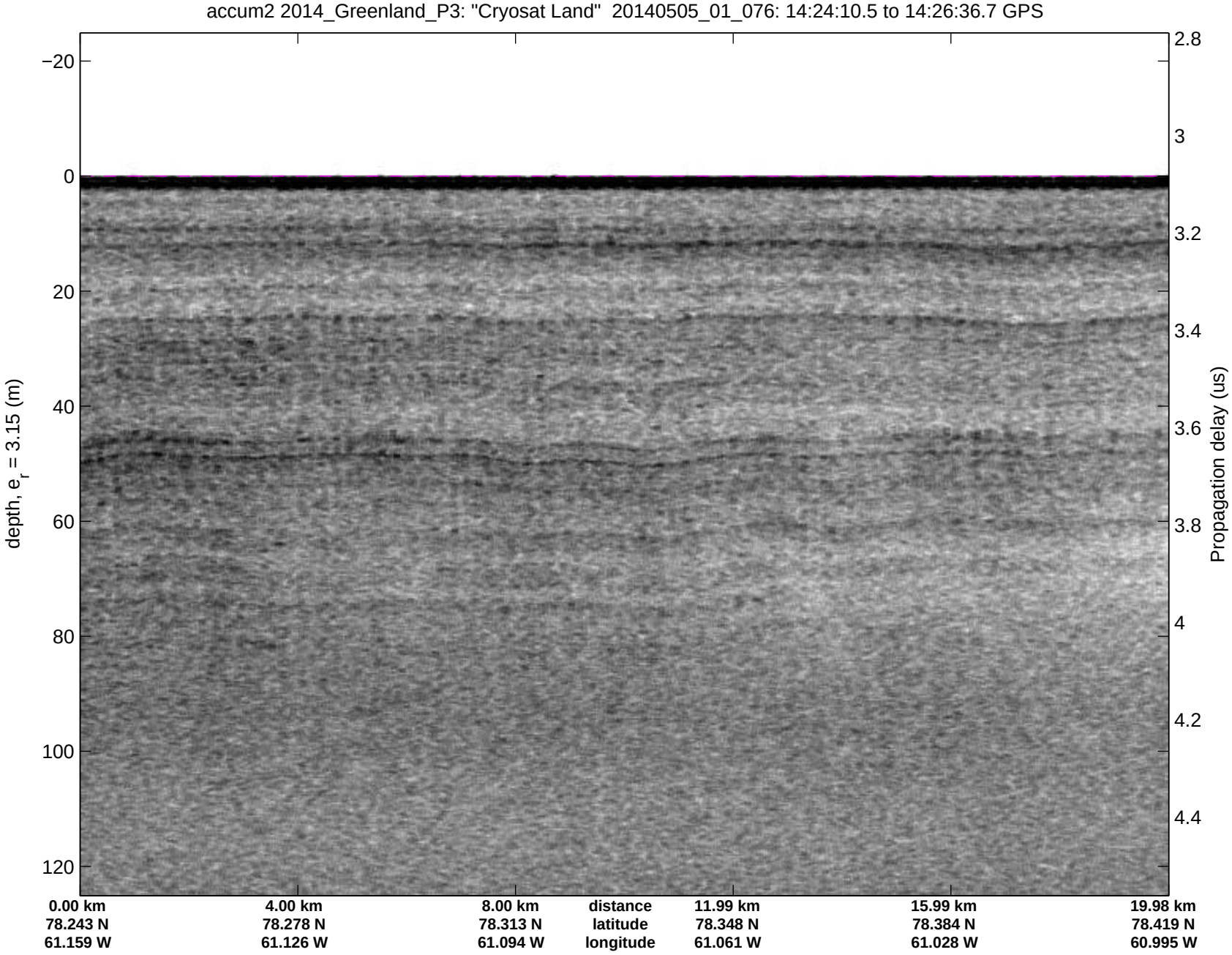

accum2 2014_Greenland_P3: "Cryosat Land" 20140505_01_075: 14:21:47.5 to 14:24:10.4 GPS
depth, e_r = 3.15 (m)
−20
0
20
40
60
80
100
120
Propagation delay (us)
3
3.2
3.4
3.6
3.8
4
4.2
4.4
4.6
0.00 km
78.067 N
61.317 W
4.01 km
78.102 N
61.286 W
8.00 km
78.137 N
61.254 W
distance
latitude
longitude
12.00 km
78.173 N
61.223 W
15.99 km
78.208 N
61.191 W
19.98 km
78.243 N
61.159 W

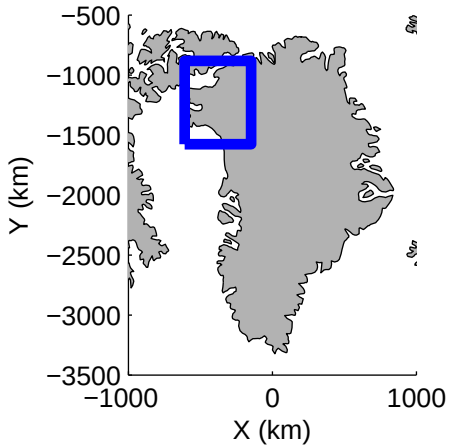

−500
−1000
−1500
−2000
−2500
−3000
−3500
Y (km)
−1000
0
1000
X (km)

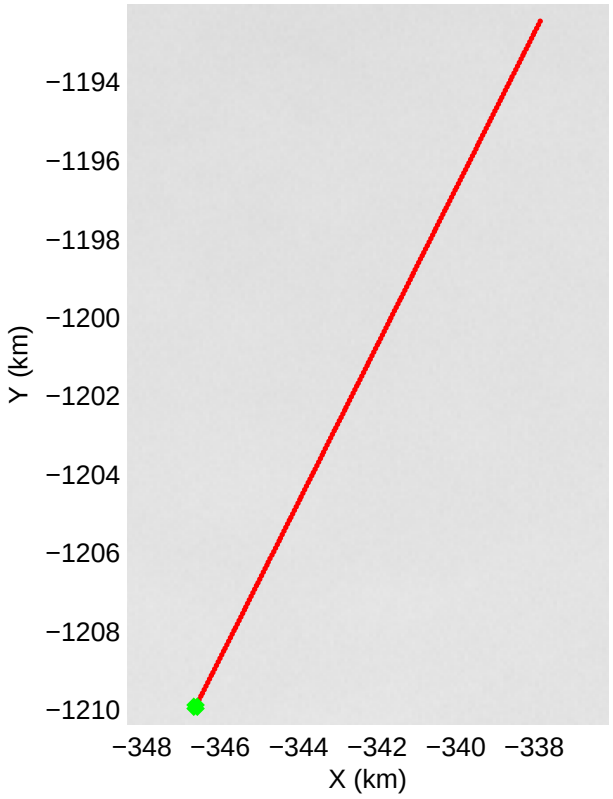

−1210
−1212
−1214
−1216
−1218
−1220
−1222
−1224
−1226
Y (km)
−356
−354
−352
−350
−348
−346
X (km)

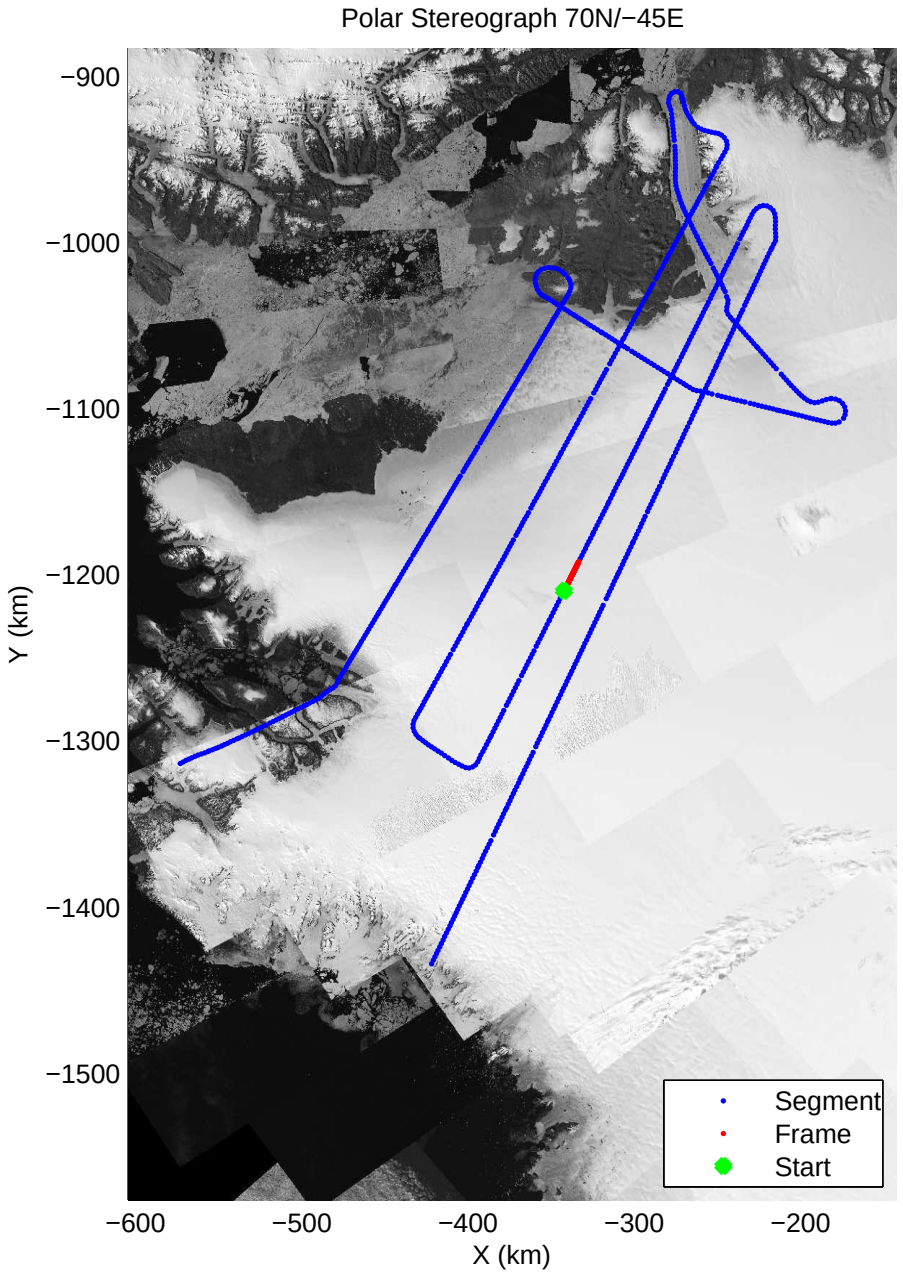

Polar Stereograph 70N/−45E
−900
−1000
−1100
−1200
−1300
−1400
−1500
Y (km)
−600
−500
−400
−300
−200
X (km)
Segment
Frame
Start

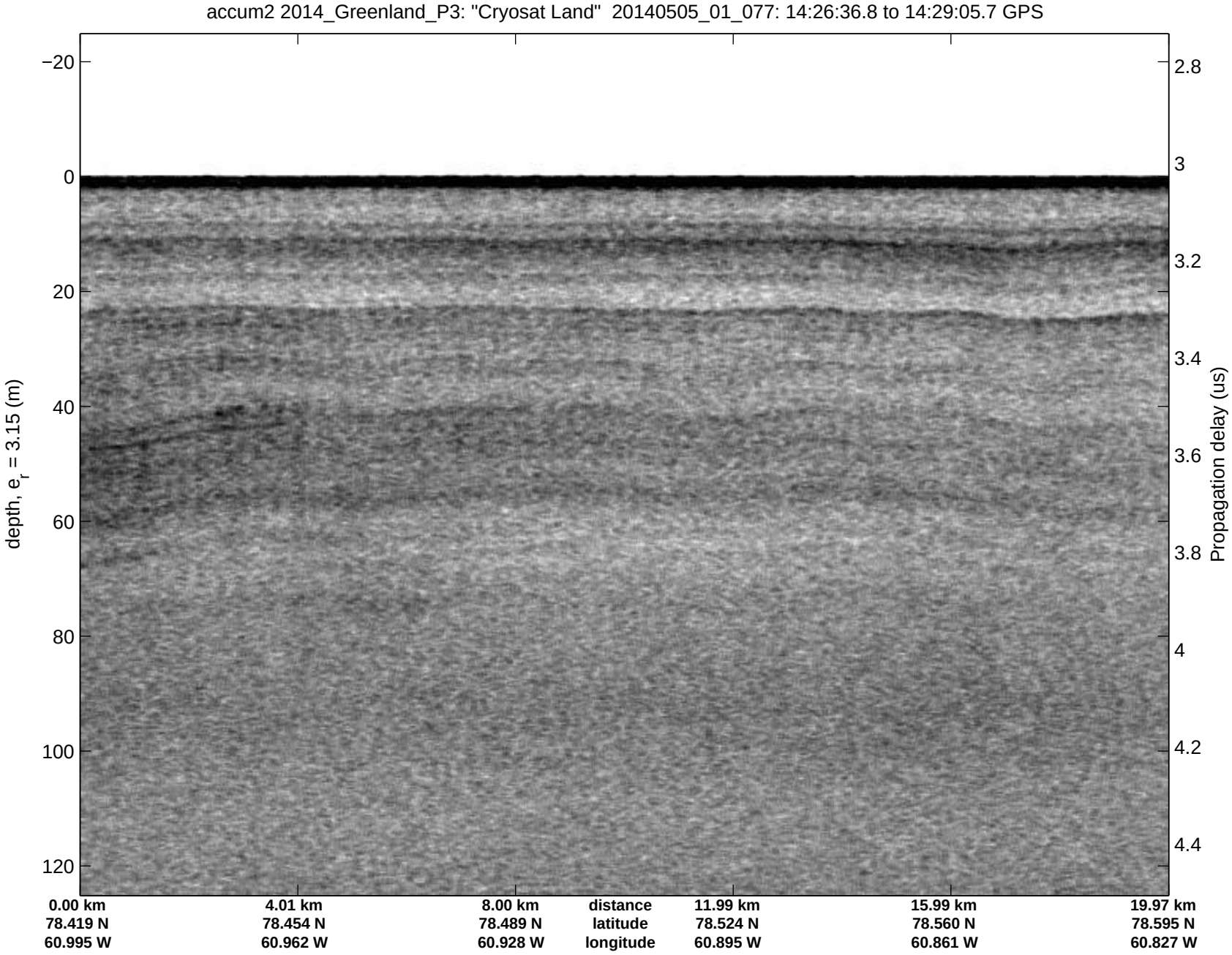

accum2 2014_Greenland_P3: "Cryosat Land" 20140505_01_076: 14:24:10.5 to 14:26:36.7 GPS
depth, e_r = 3.15 (m)
−20
0
20
40
60
80
100
120
2.8
3
3.2
3.4
3.6
3.8
4
4.2
4.4
Propagation delay (us)
0.00 km
78.243 N
61.159 W
4.00 km
78.278 N
61.126 W
8.00 km
78.313 N
61.094 W
distance
latitude
longitude
11.99 km
78.348 N
61.061 W
15.99 km
78.384 N
61.028 W
19.98 km
78.419 N
60.995 W

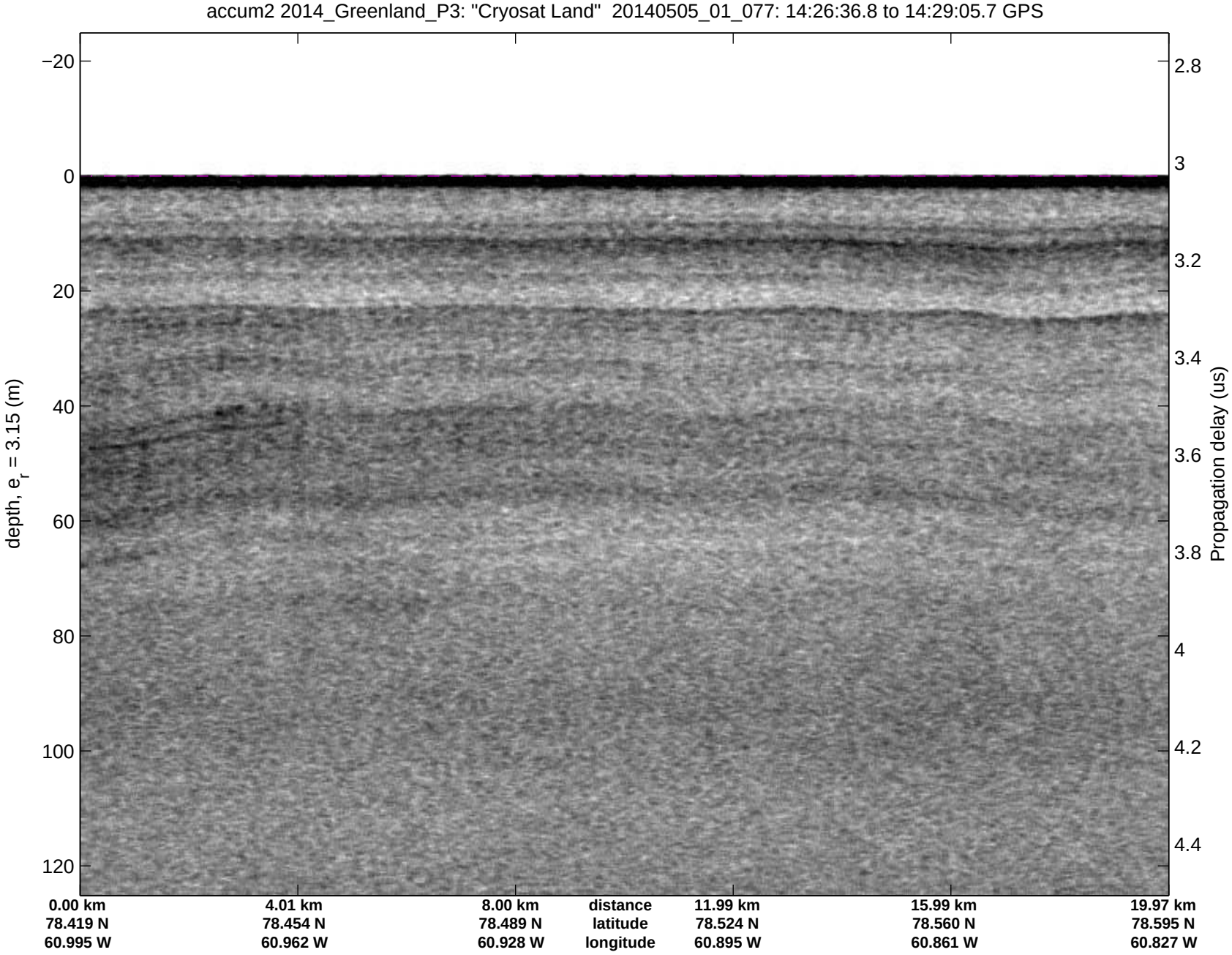

accum2 2014_Greenland_P3: "Cryosat Land" 20140505_01_076: 14:24:10.5 to 14:26:36.7 GPS
depth, e_r = 3.15 (m)
−20
0
20
40
60
80
100
120
Propagation delay (us)
2.8
3
3.2
3.4
3.6
3.8
4
4.2
4.4
0.00 km
78.243 N
61.159 W
4.00 km
78.278 N
61.126 W
8.00 km
78.313 N
61.094 W
distance
latitude
longitude
11.99 km
78.348 N
61.061 W
15.99 km
78.384 N
61.028 W
19.98 km
78.419 N
60.995 W

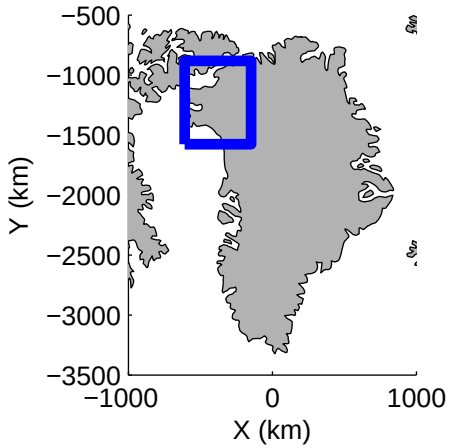

−500
−1000
−1500
−2000
−2500
−3000
−3500
Y (km)
−1000
0
1000
X (km)

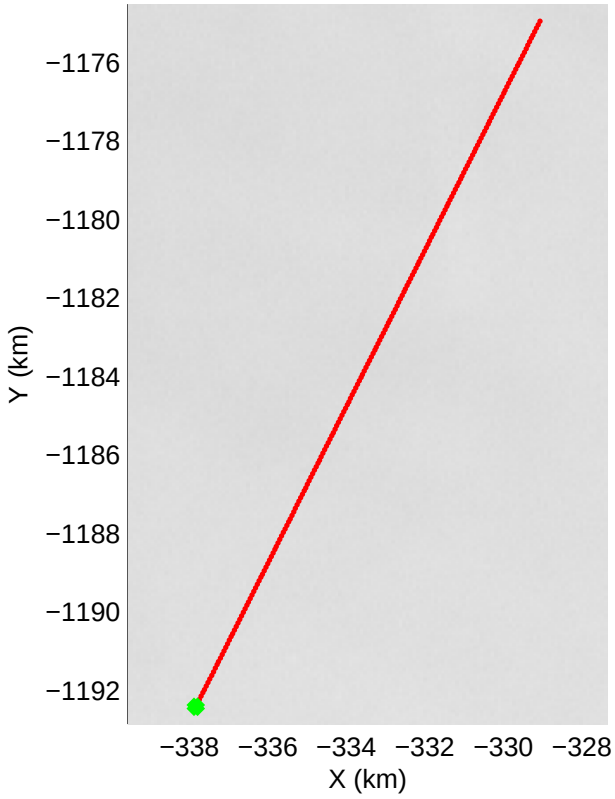

−1194
−1196
−1198
−1200
−1202
−1204
−1206
−1208
−1210
Y (km)
−348
−346
−344
−342
−340
−338
X (km)

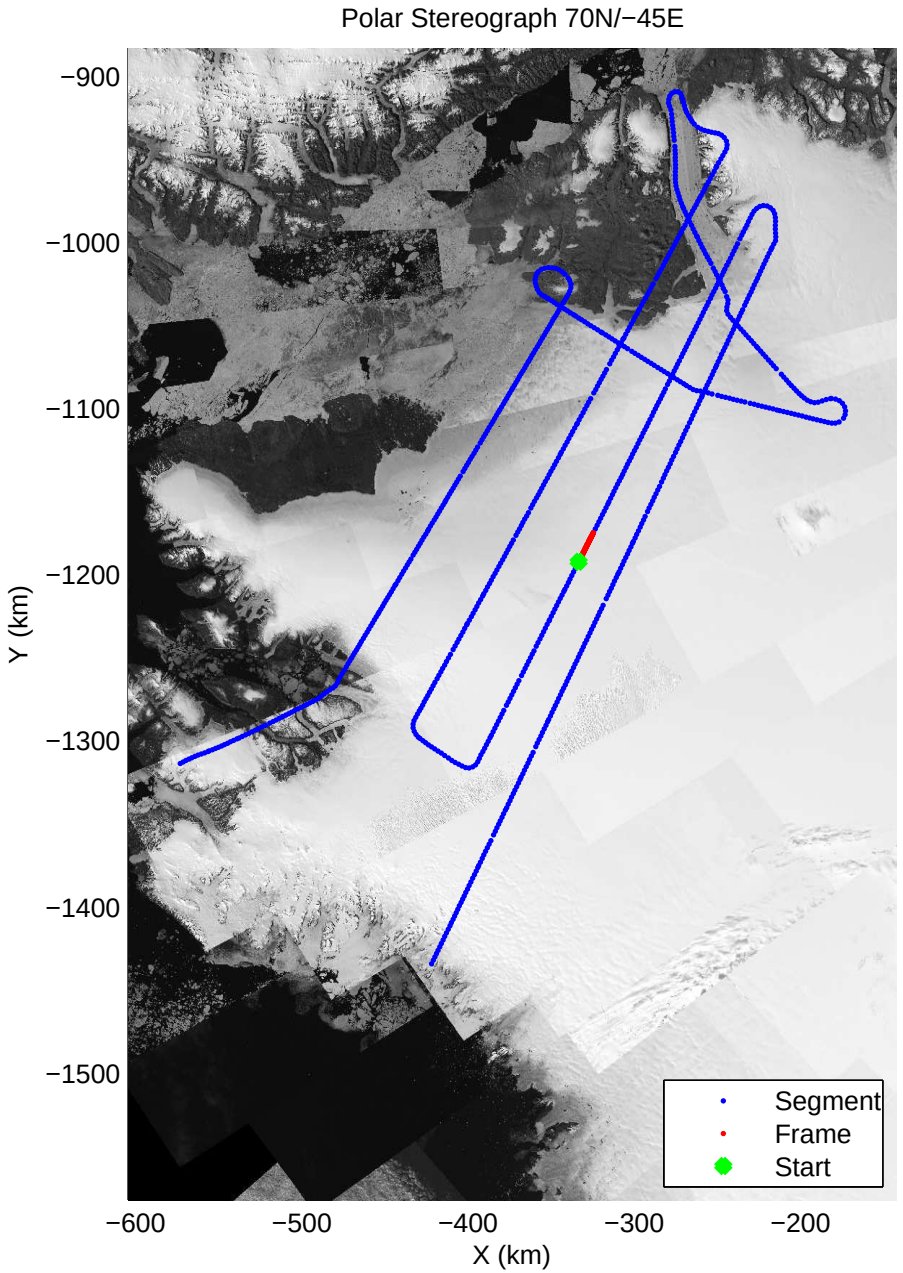

Polar Stereograph 70N/−45E
−900
−1000
−1100
−1200
−1300
−1400
−1500
Y (km)
−600
−500
−400
−300
−200
X (km)
Segment
Frame
Start

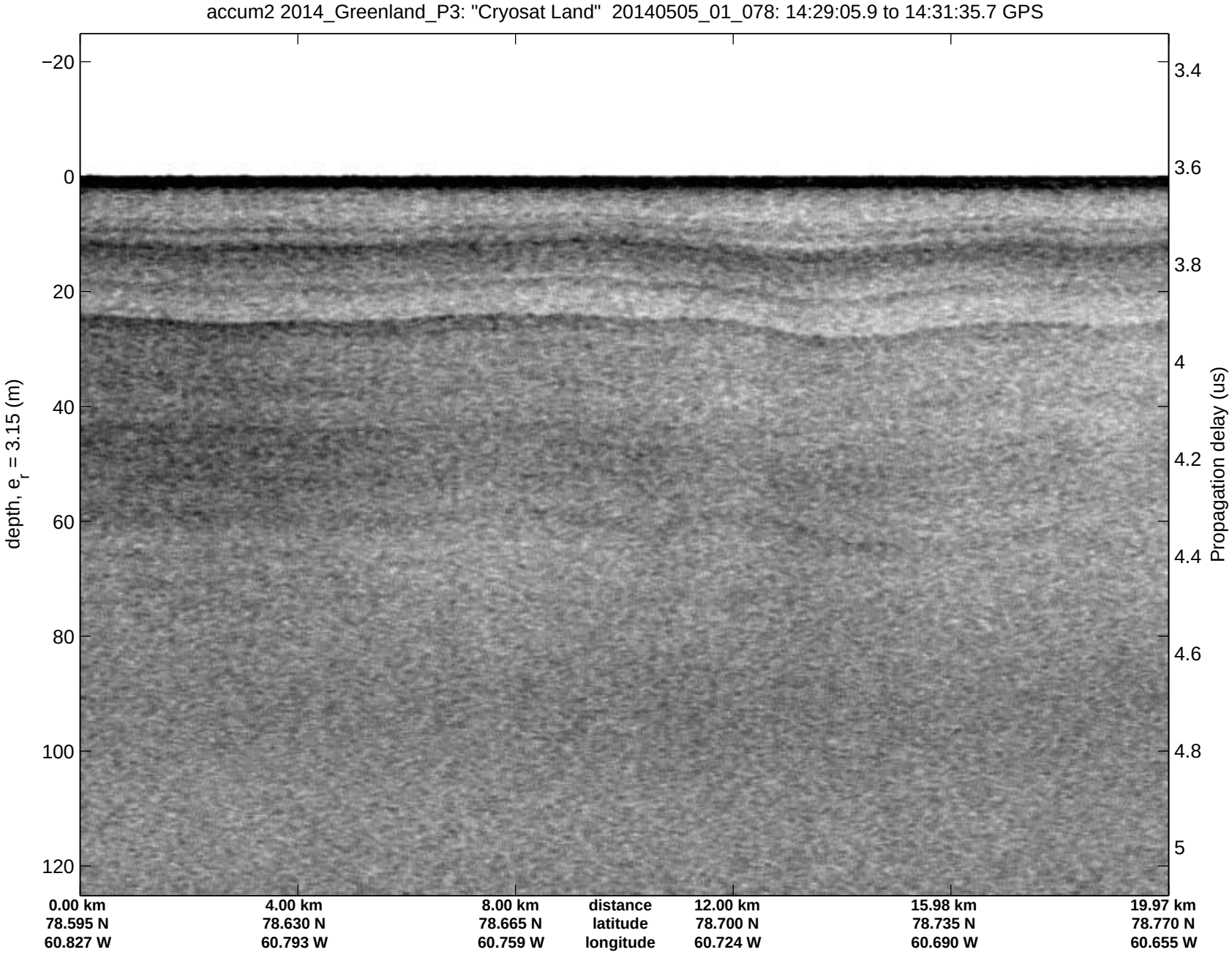

accum2 2014_Greenland_P3: "Cryosat Land" 20140505_01_077: 14:26:36.8 to 14:29:05.7 GPS
depth, e_r = 3.15 (m)
−20
0
20
40
60
80
100
120
Propagation delay (us)
2.8
3
3.2
3.4
3.6
3.8
4
4.2
4.4
0.00 km
78.419 N
60.995 W
4.01 km
78.454 N
60.962 W
8.00 km
78.489 N
60.928 W
distance
latitude
longitude
11.99 km
78.524 N
60.895 W
15.99 km
78.560 N
60.861 W
19.97 km
78.595 N
60.827 W

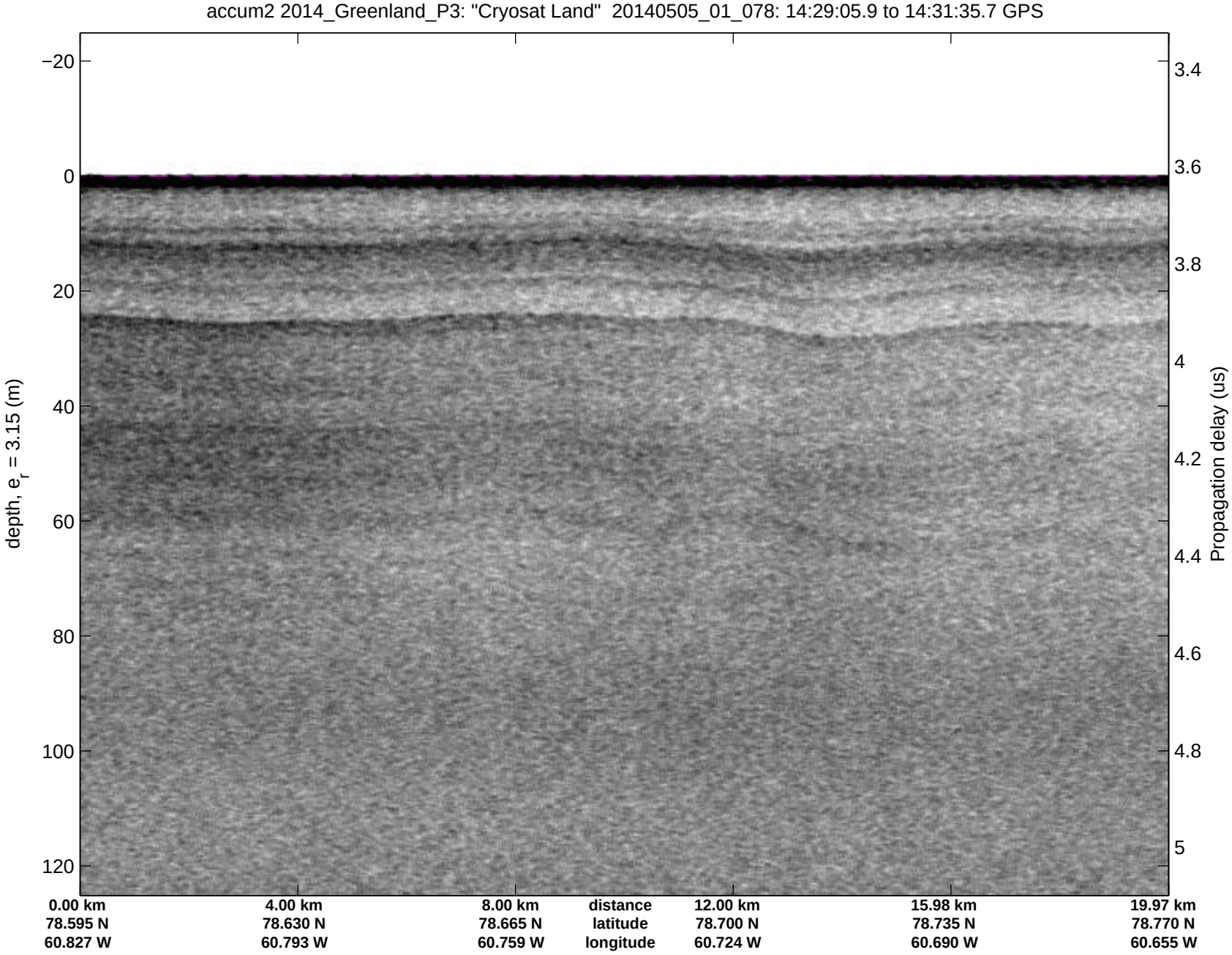

accum2 2014_Greenland_P3: "Cryosat Land" 20140505_01_077: 14:26:36.8 to 14:29:05.7 GPS
depth, e_r = 3.15 (m)
−20
0
20
40
60
80
100
120
Propagation delay (us)
2.8
3
3.2
3.4
3.6
3.8
4
4.2
4.4
0.00 km
78.419 N
60.995 W
4.01 km
78.454 N
60.962 W
8.00 km
78.489 N
60.928 W
distance
latitude
longitude
11.99 km
78.524 N
60.895 W
15.99 km
78.560 N
60.861 W
19.97 km
78.595 N
60.827 W

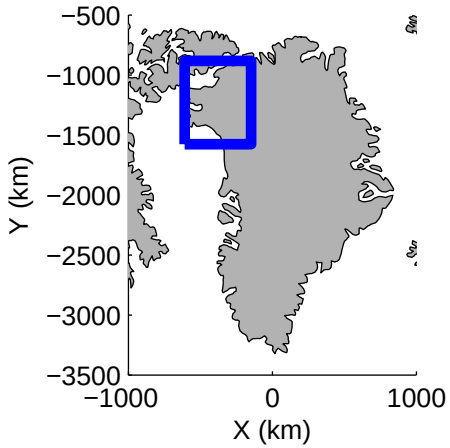

−500
−1000
−1500
−2000
−2500
−3000
−3500
Y (km)
−1000
0
1000
X (km)

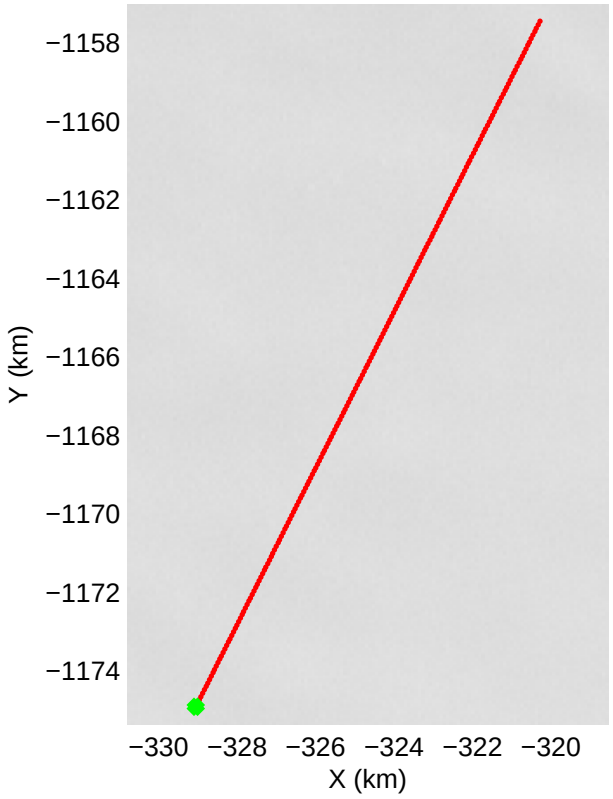

−1176
−1178
−1180
−1182
−1184
−1186
−1188
−1190
−1192
Y (km)
−338
−336
−334
−332
−330
−328
X (km)

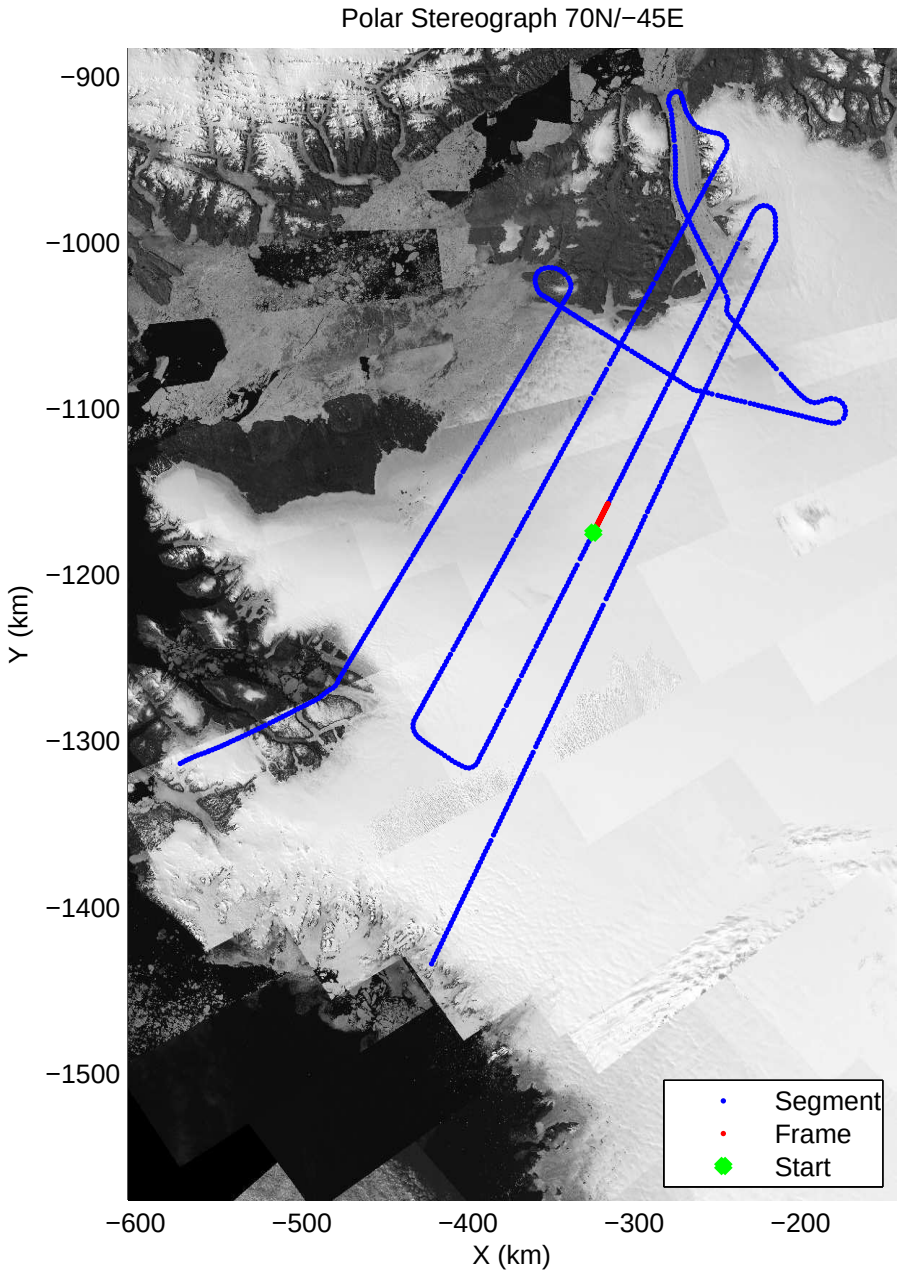

Polar Stereograph 70N/−45E
−900
−1000
−1100
−1200
−1300
−1400
−1500
Y (km)
−600
−500
−400
−300
−200
X (km)
Segment
Frame
Start

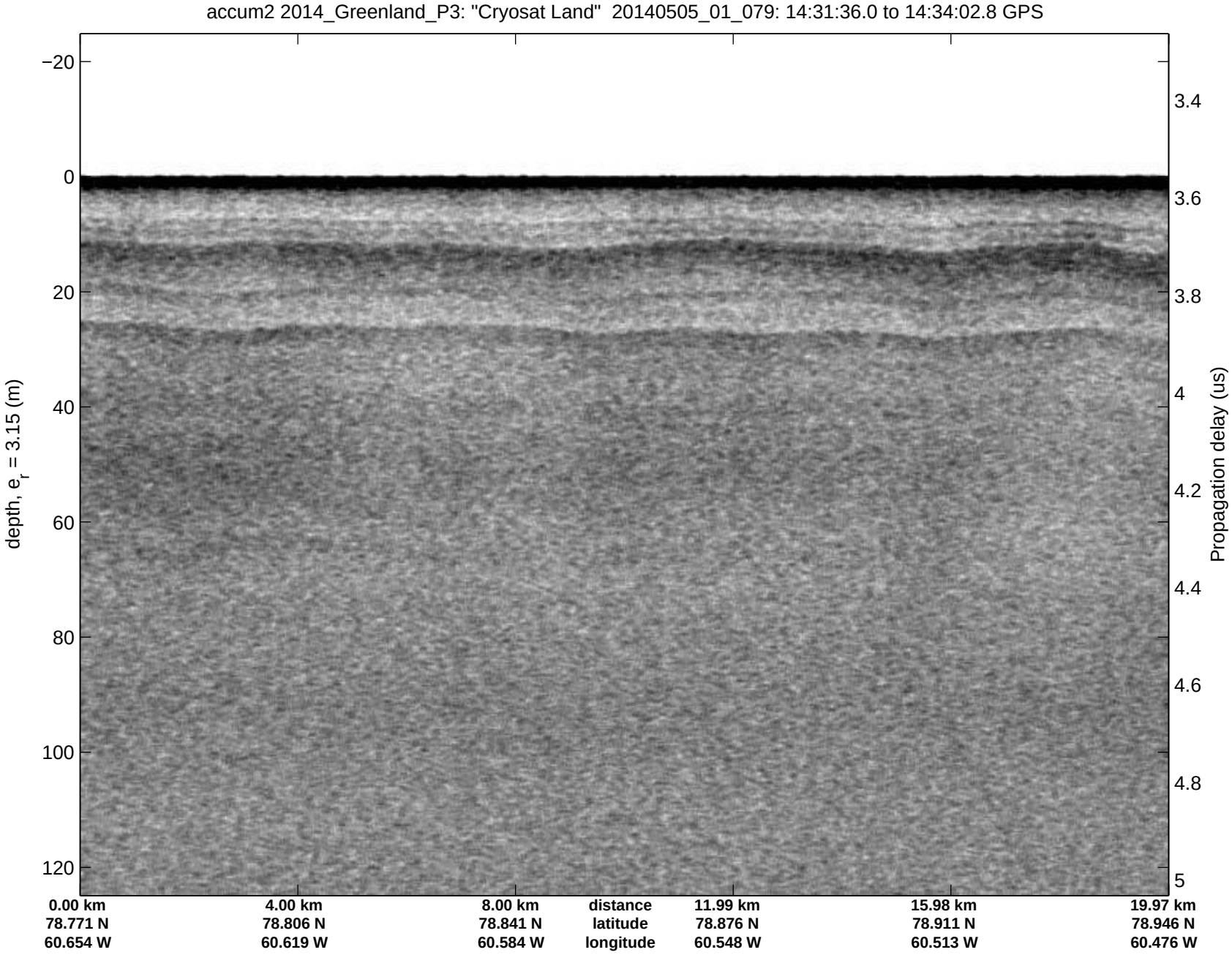

accum2 2014_Greenland_P3: "Cryosat Land" 20140505_01_078: 14:29:05.9 to 14:31:35.7 GPS
depth, e_r = 3.15 (m)
−20
0
20
40
60
80
100
120
Propagation delay (us)
3.4
3.6
3.8
4
4.2
4.4
4.6
4.8
5
0.00 km
78.595 N
60.827 W
4.00 km
78.630 N
60.793 W
8.00 km
78.665 N
60.759 W
distance
latitude
longitude
12.00 km
78.700 N
60.724 W
15.98 km
78.735 N
60.690 W
19.97 km
78.770 N
60.655 W

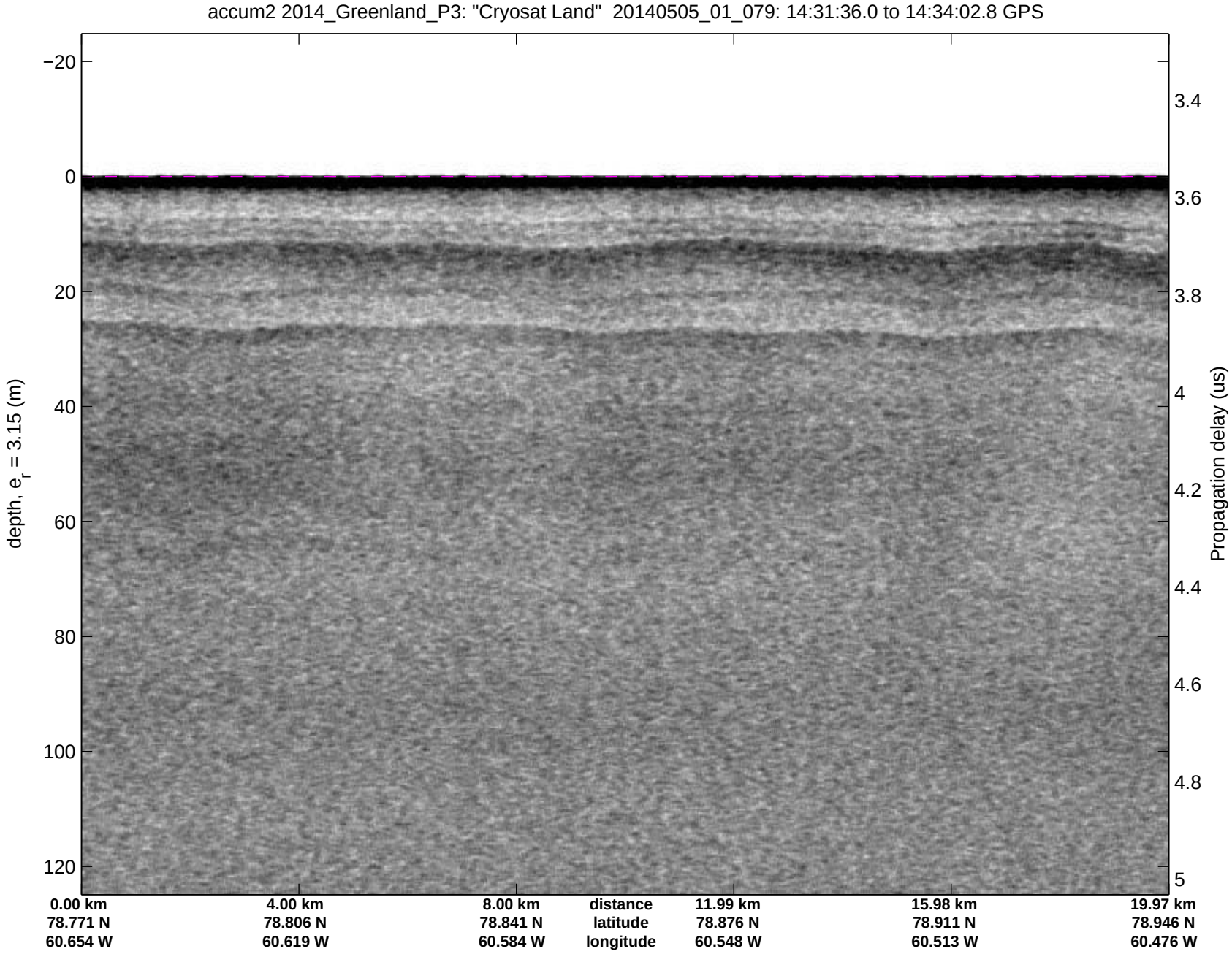

accum2 2014_Greenland_P3: "Cryosat Land" 20140505_01_078: 14:29:05.9 to 14:31:35.7 GPS
depth, e_r = 3.15 (m)
−20
0
20
40
60
80
100
120
Propagation delay (us)
3.4
3.6
3.8
4
4.2
4.4
4.6
4.8
5
0.00 km
78.595 N
60.827 W
4.00 km
78.630 N
60.793 W
8.00 km
78.665 N
60.759 W
distance
latitude
longitude
12.00 km
78.700 N
60.724 W
15.98 km
78.735 N
60.690 W
19.97 km
78.770 N
60.655 W

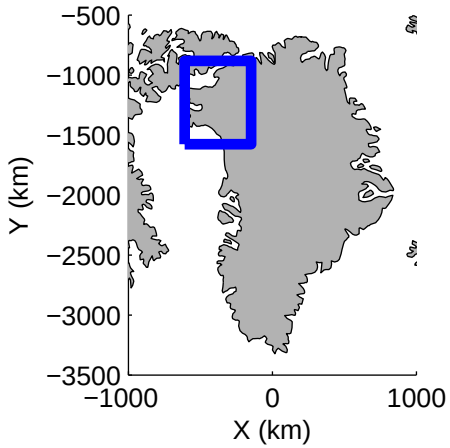

−500
−1000
−1500
−2000
−2500
−3000
−3500
Y (km)
−1000
0
1000
X (km)

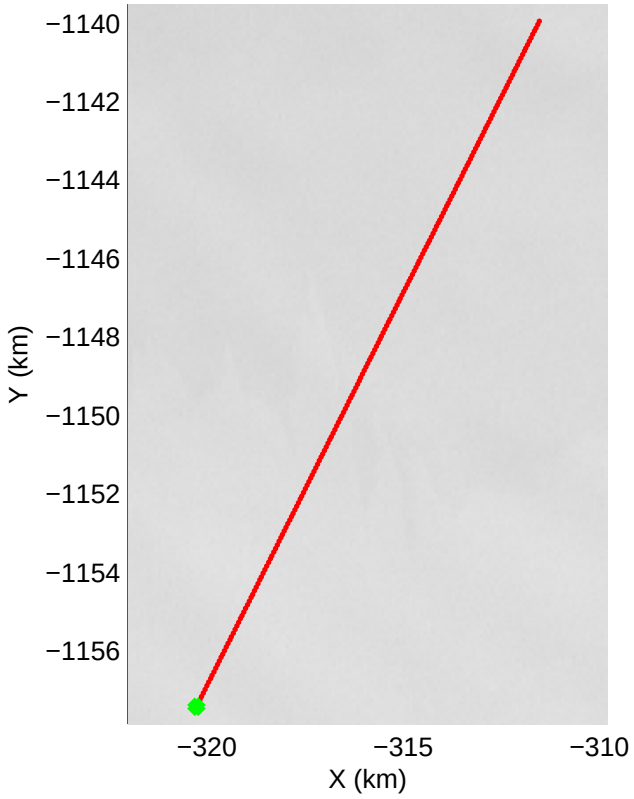

−1158
−1160
−1162
−1164
−1166
−1168
−1170
−1172
−1174
Y (km)
−330
−328
−326
−324
−322
−320
X (km)

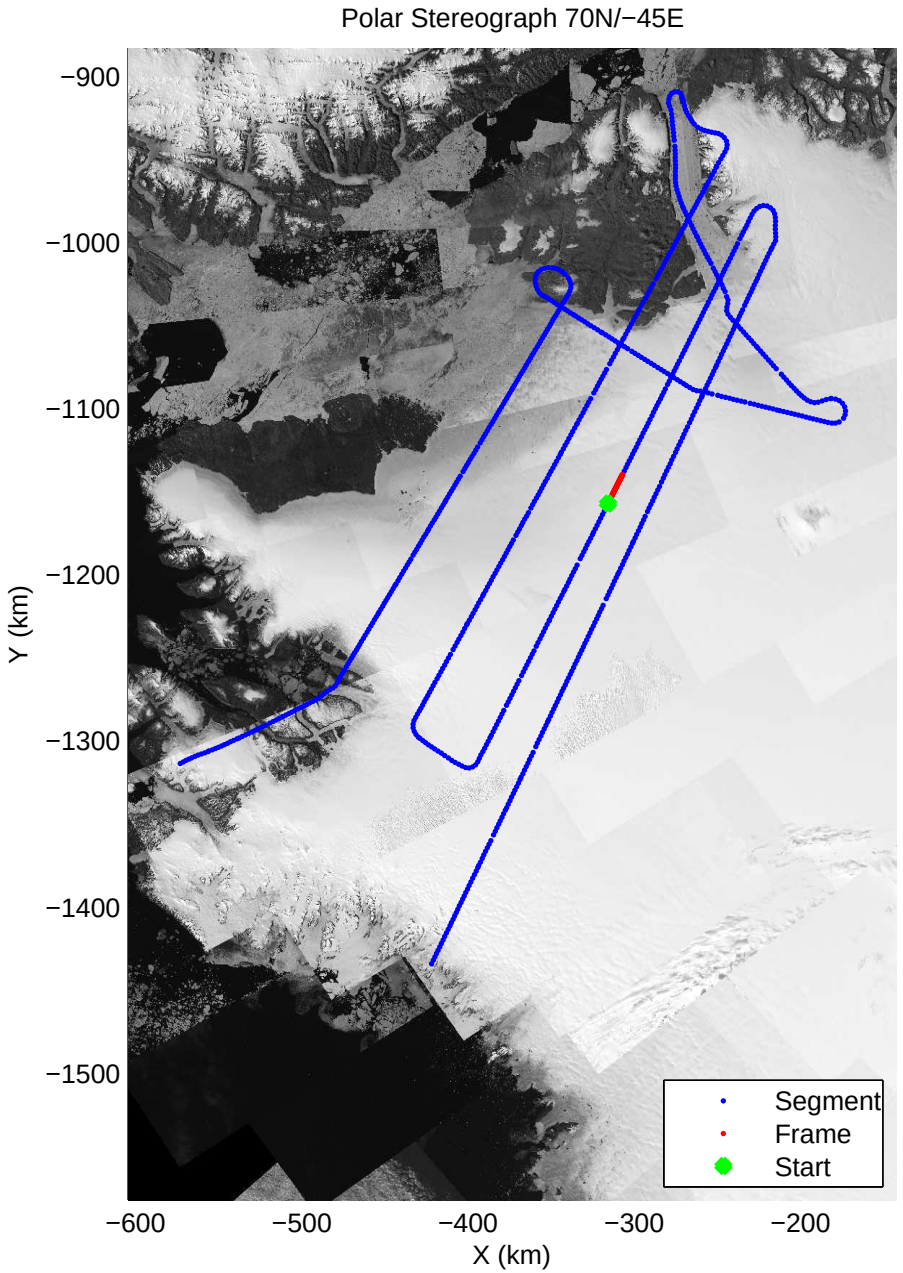

Polar Stereograph 70N/−45E
−900
−1000
−1100
−1200
−1300
−1400
−1500
Y (km)
−600
−500
−400
−300
−200
X (km)
Segment
Frame
Start

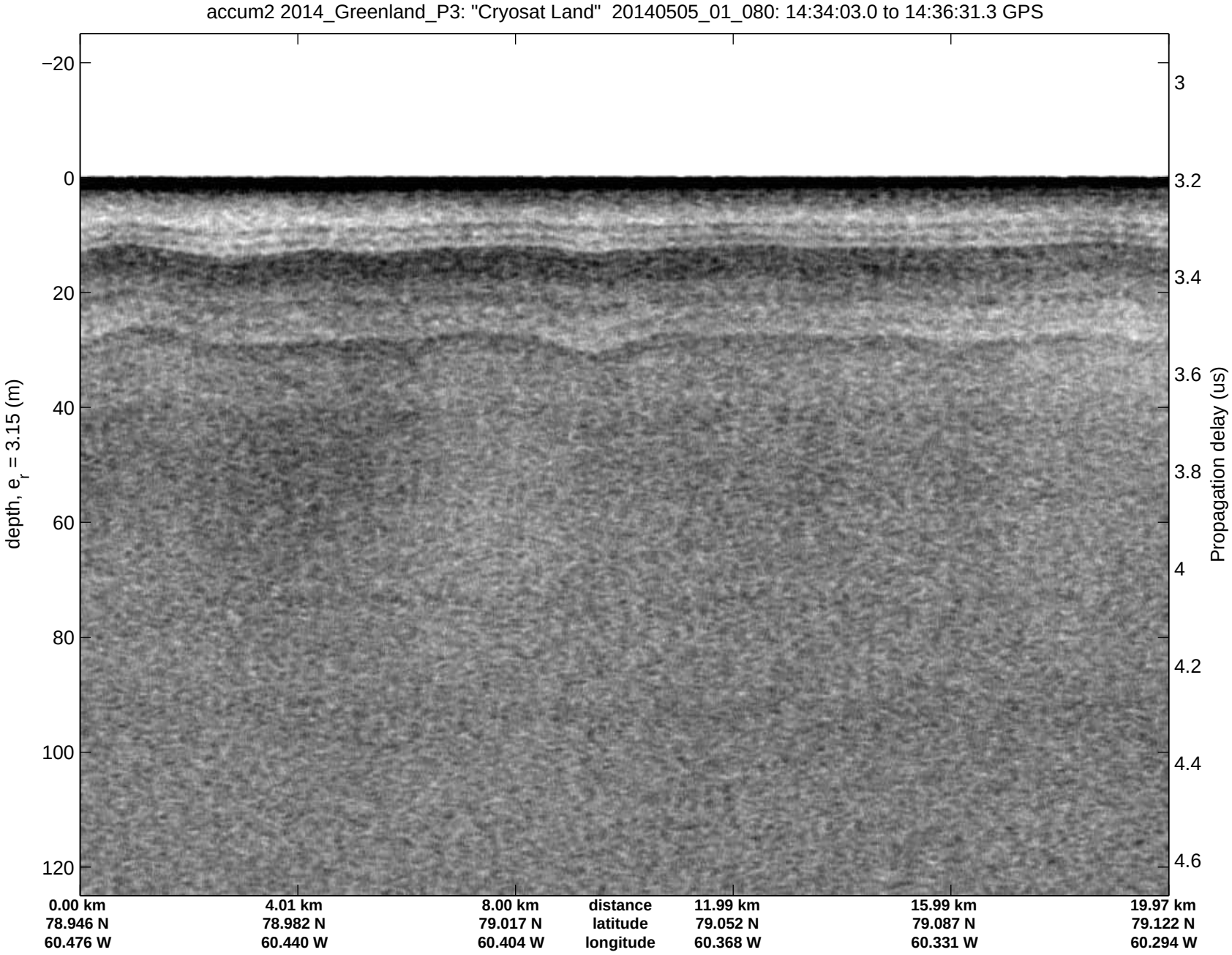

accum2 2014_Greenland_P3: "Cryosat Land" 20140505_01_079: 14:31:36.0 to 14:34:02.8 GPS
depth, e_r = 3.15 (m)
−20
0
20
40
60
80
100
120
Propagation delay (us)
3.4
3.6
3.8
4
4.2
4.4
4.6
4.8
5
0.00 km
78.771 N
60.654 W
4.00 km
78.806 N
60.619 W
8.00 km
78.841 N
60.584 W
distance
latitude
longitude
11.99 km
78.876 N
60.548 W
15.98 km
78.911 N
60.513 W
19.97 km
78.946 N
60.476 W

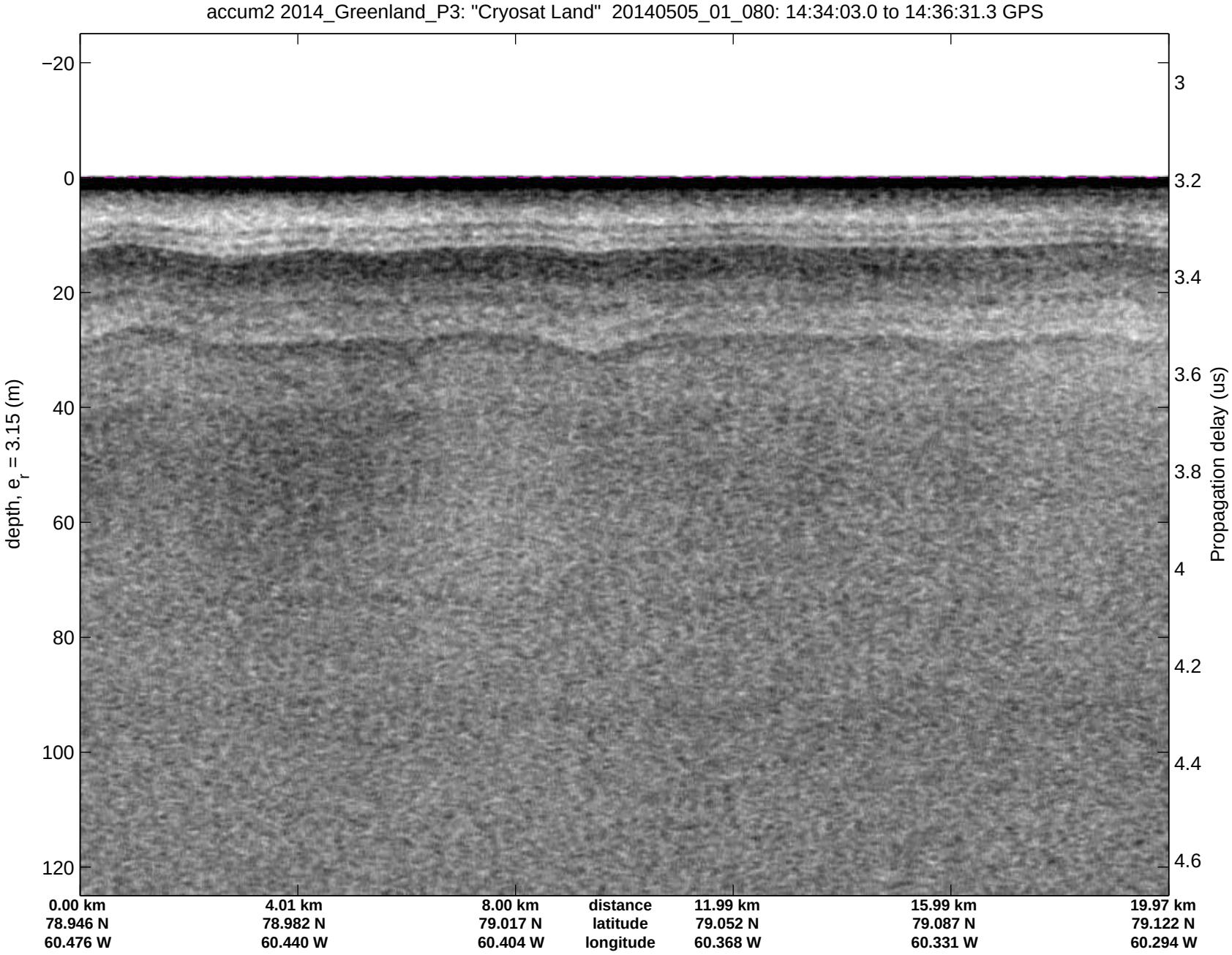

accum2 2014_Greenland_P3: "Cryosat Land" 20140505_01_079: 14:31:36.0 to 14:34:02.8 GPS
depth, e_r = 3.15 (m)
−20
0
20
40
60
80
100
120
Propagation delay (us)
3.4
3.6
3.8
4
4.2
4.4
4.6
4.8
5
0.00 km
78.771 N
60.654 W
4.00 km
78.806 N
60.619 W
8.00 km
78.841 N
60.584 W
distance
latitude
longitude
11.99 km
78.876 N
60.548 W
15.98 km
78.911 N
60.513 W
19.97 km
78.946 N
60.476 W

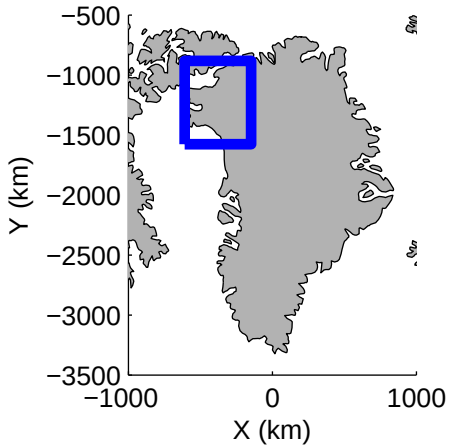

−500
−1000
−1500
−2000
−2500
−3000
−3500
Y (km)
−1000
0
1000
X (km)

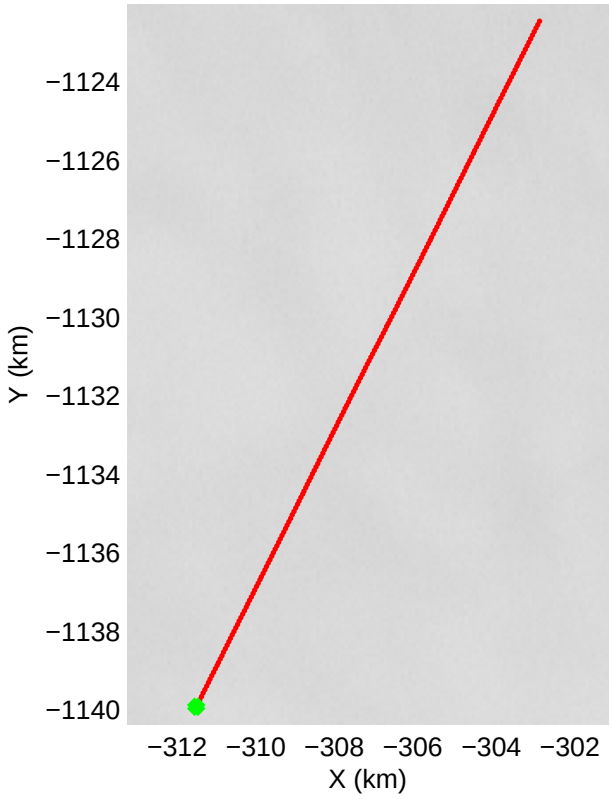

−1140
−1142
−1144
−1146
−1148
−1150
−1152
−1154
−1156
Y (km)
−320
−315
−310
X (km)

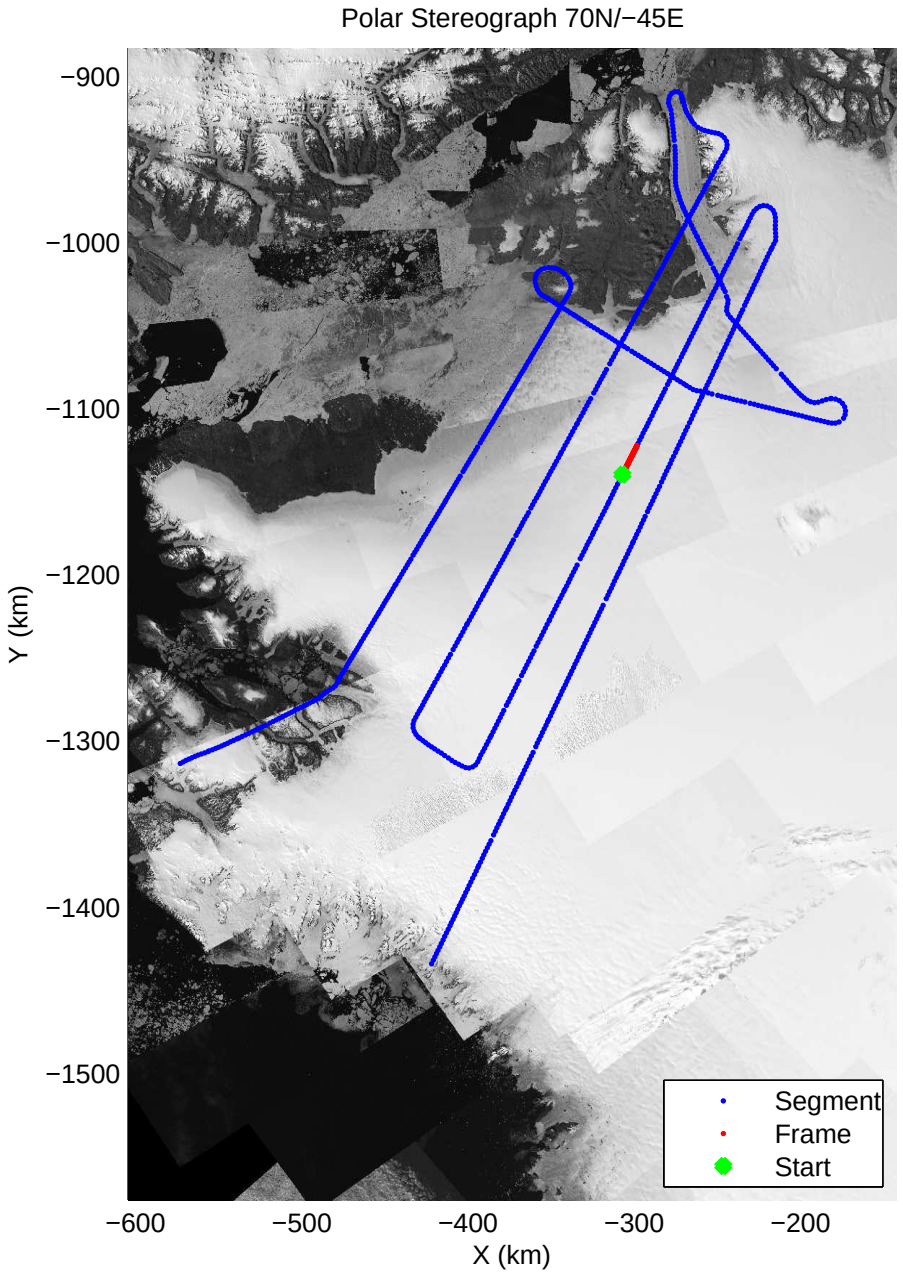

Polar Stereograph 70N/−45E
−900
−1000
−1100
−1200
−1300
−1400
−1500
Y (km)
−600
−500
−400
−300
−200
X (km)
Segment
Frame
Start

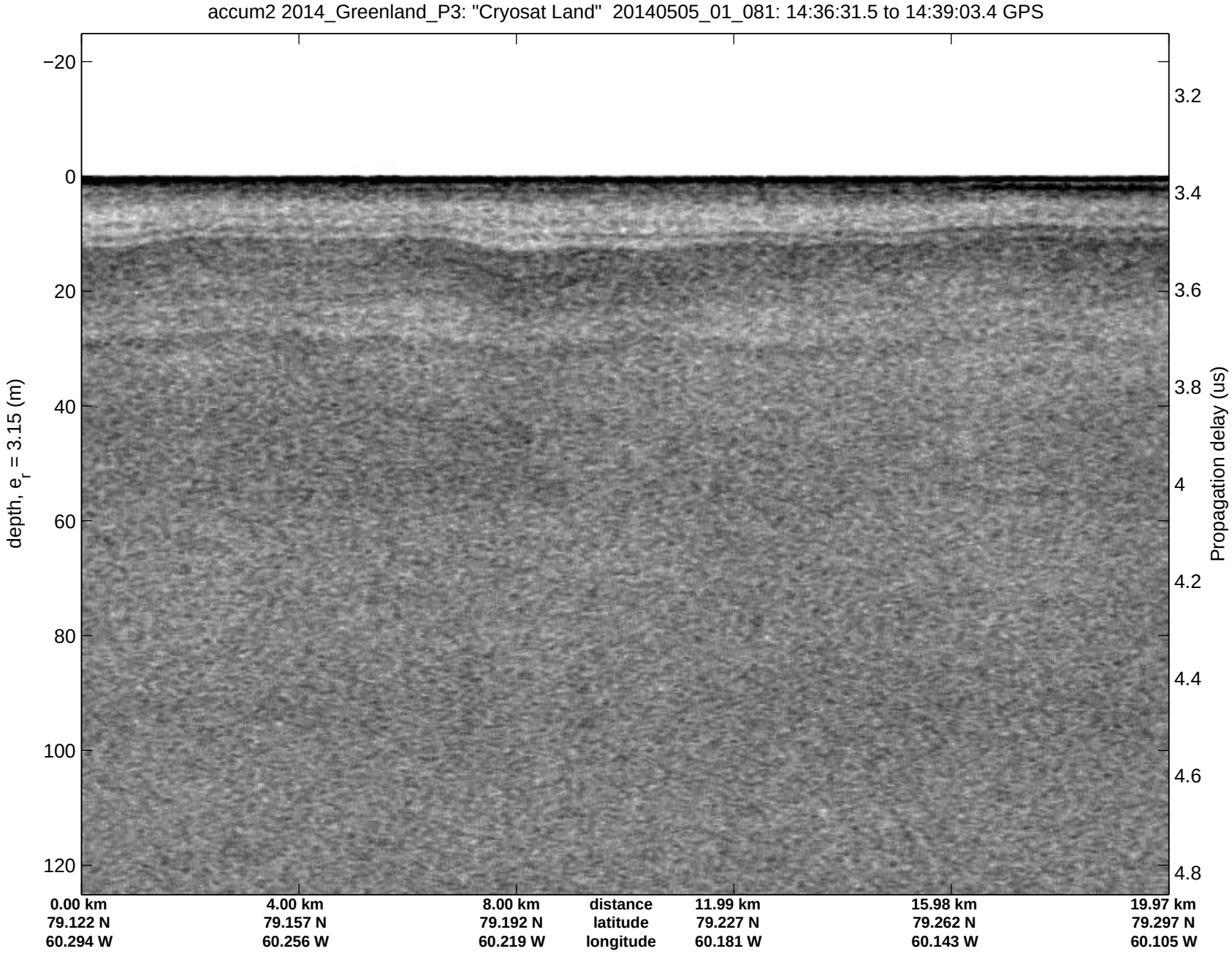

accum2 2014_Greenland_P3: "Cryosat Land" 20140505_01_080: 14:34:03.0 to 14:36:31.3 GPS
depth, e_r = 3.15 (m)
−20
0
20
40
60
80
100
120
Propagation delay (us)
3
3.2
3.4
3.6
3.8
4
4.2
4.4
4.6
0.00 km
78.946 N
60.476 W
4.01 km
78.982 N
60.440 W
8.00 km
79.017 N
60.404 W
distance
latitude
longitude
11.99 km
79.052 N
60.368 W
15.99 km
79.087 N
60.331 W
19.97 km
79.122 N
60.294 W

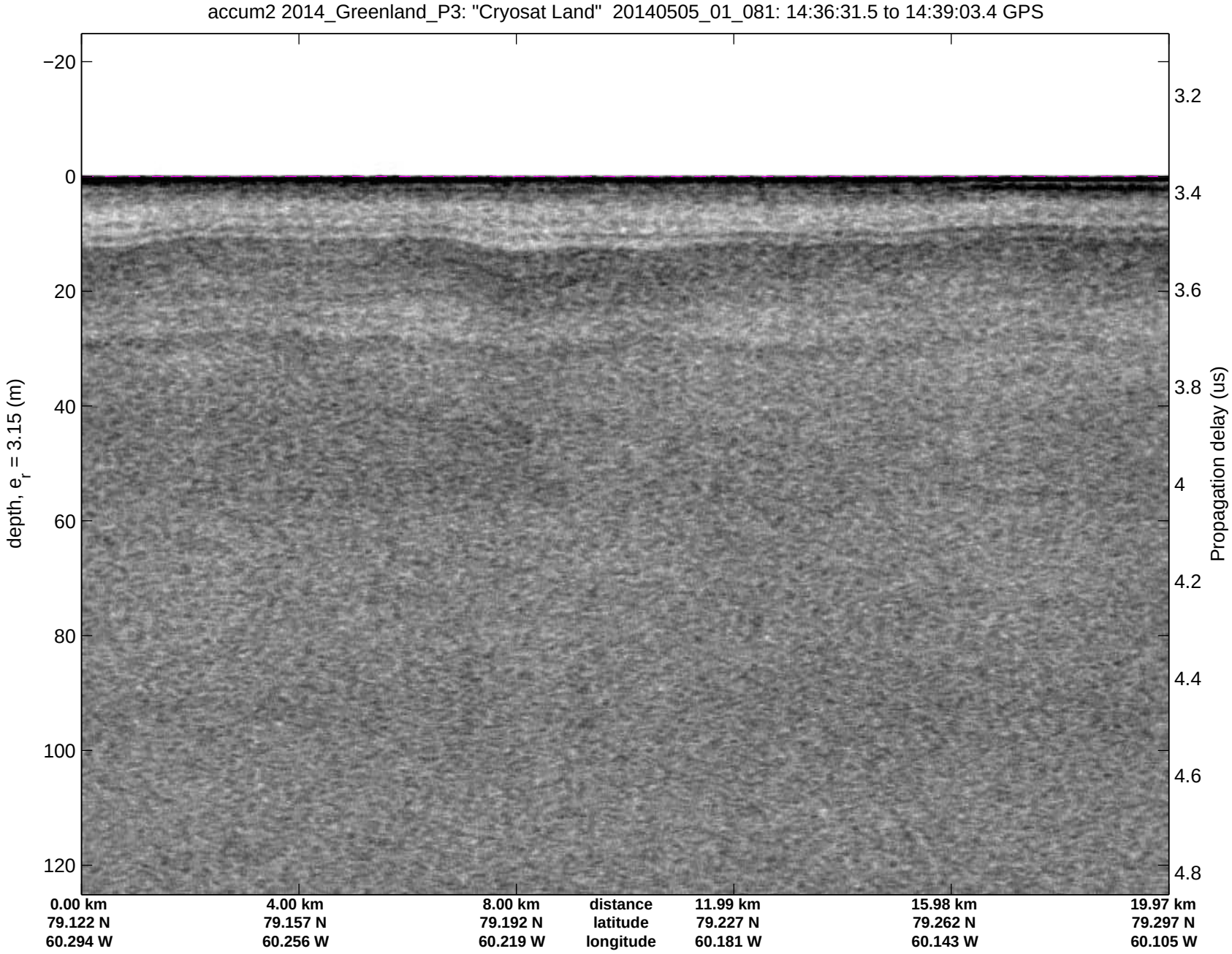

accum2 2014_Greenland_P3: "Cryosat Land" 20140505_01_080: 14:34:03.0 to 14:36:31.3 GPS
depth, e_r = 3.15 (m)
−20
0
20
40
60
80
100
120
Propagation delay (us)
3
3.2
3.4
3.6
3.8
4
4.2
4.4
4.6
0.00 km
78.946 N
60.476 W
4.01 km
78.982 N
60.440 W
8.00 km
79.017 N
60.404 W
distance
latitude
longitude
11.99 km
79.052 N
60.368 W
15.99 km
79.087 N
60.331 W
19.97 km
79.122 N
60.294 W

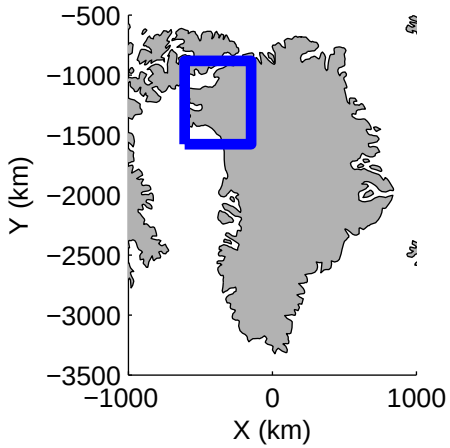

−500
−1000
−1500
−2000
−2500
−3000
−3500
Y (km)
−1000
0
1000
X (km)

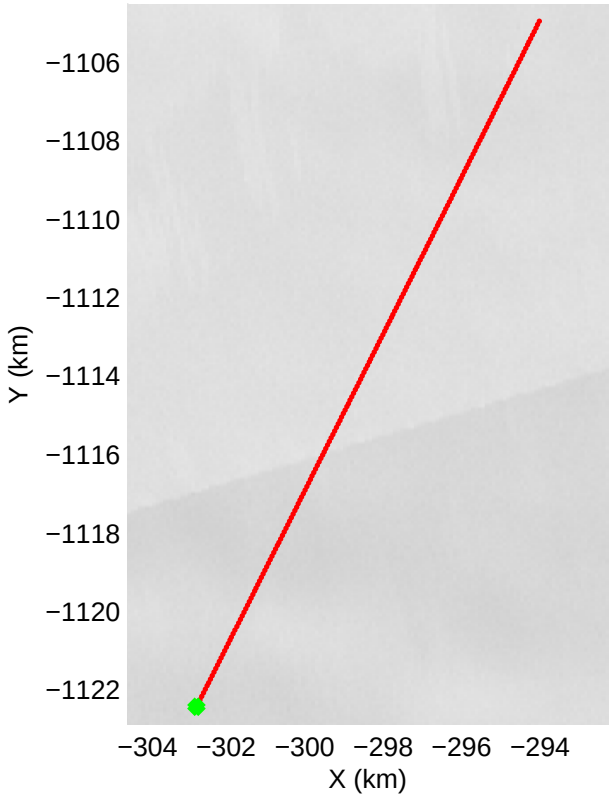

−1124
−1126
−1128
−1130
−1132
−1134
−1136
−1138
−1140
Y (km)
−312
−310
−308
−306
−304
−302
X (km)

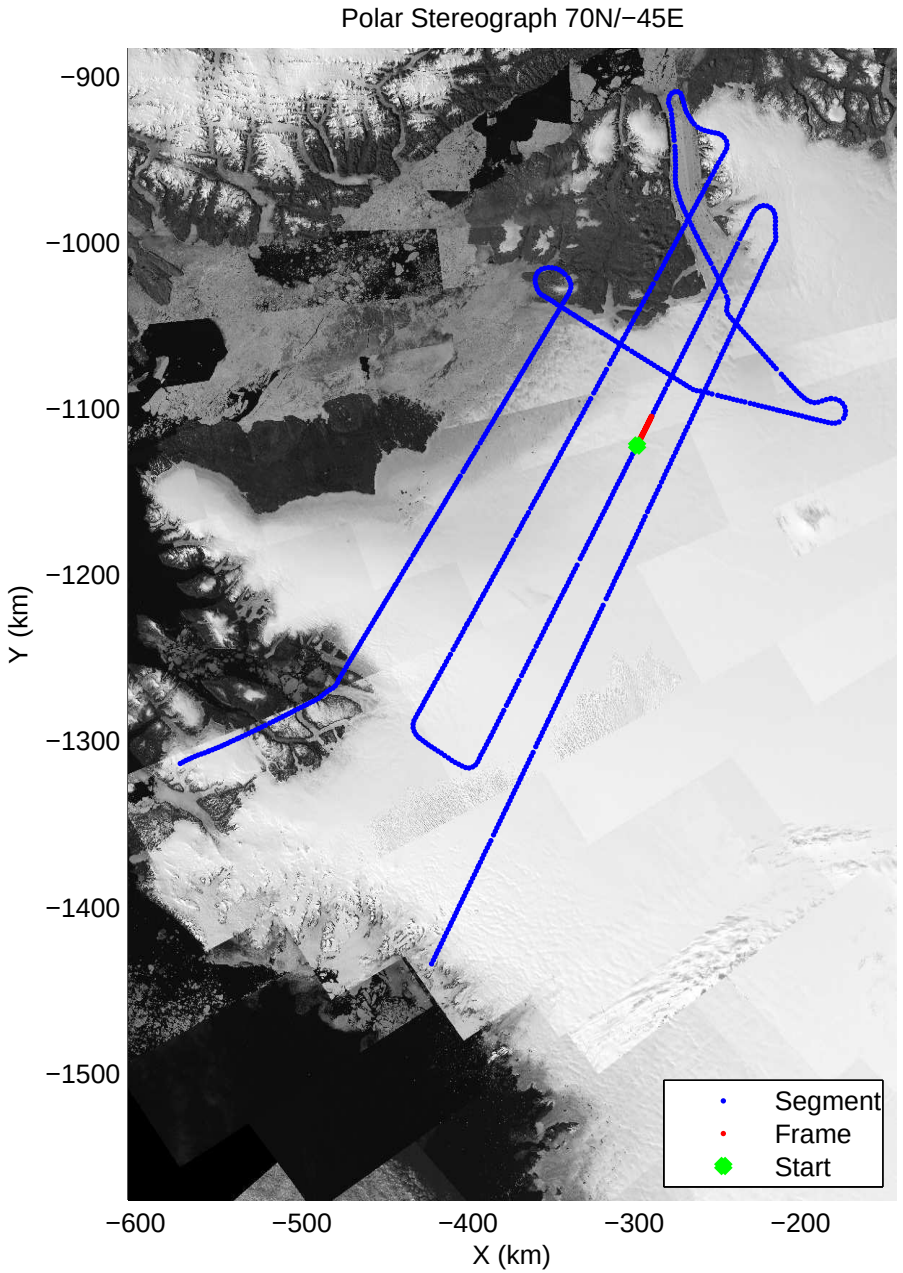

Polar Stereograph 70N/−45E
−900
−1000
−1100
−1200
−1300
−1400
−1500
Y (km)
−600
−500
−400
−300
−200
X (km)
Segment
Frame
Start

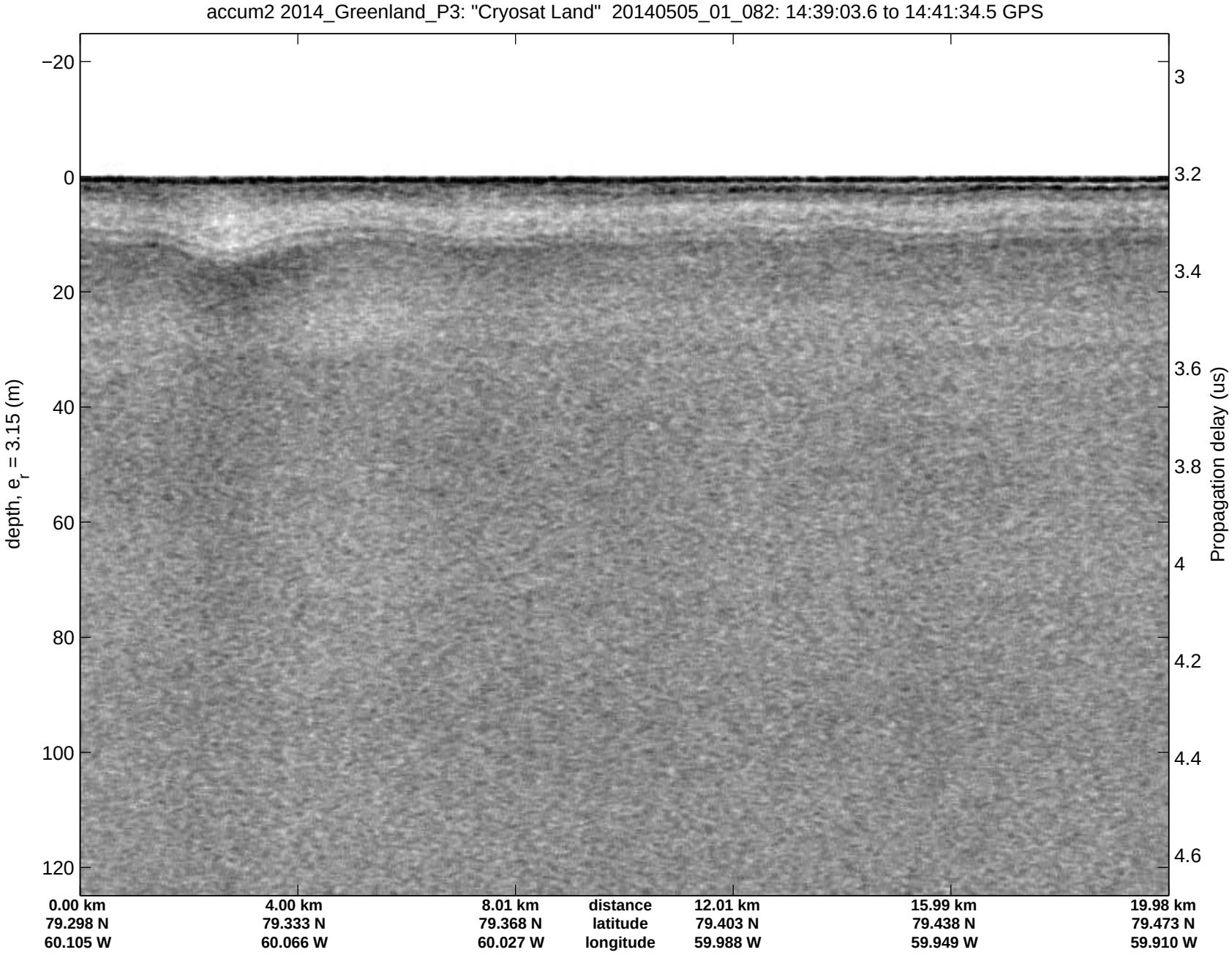

accum2 2014_Greenland_P3: "Cryosat Land" 20140505_01_081: 14:36:31.5 to 14:39:03.4 GPS
depth, e_r = 3.15 (m)
−20
0
20
40
60
80
100
120
Propagation delay (us)
3.2
3.4
3.6
3.8
4
4.2
4.4
4.6
4.8
0.00 km
79.122 N
60.294 W
4.00 km
79.157 N
60.256 W
8.00 km
79.192 N
60.219 W
distance
latitude
longitude
11.99 km
79.227 N
60.181 W
15.98 km
79.262 N
60.143 W
19.97 km
79.297 N
60.105 W

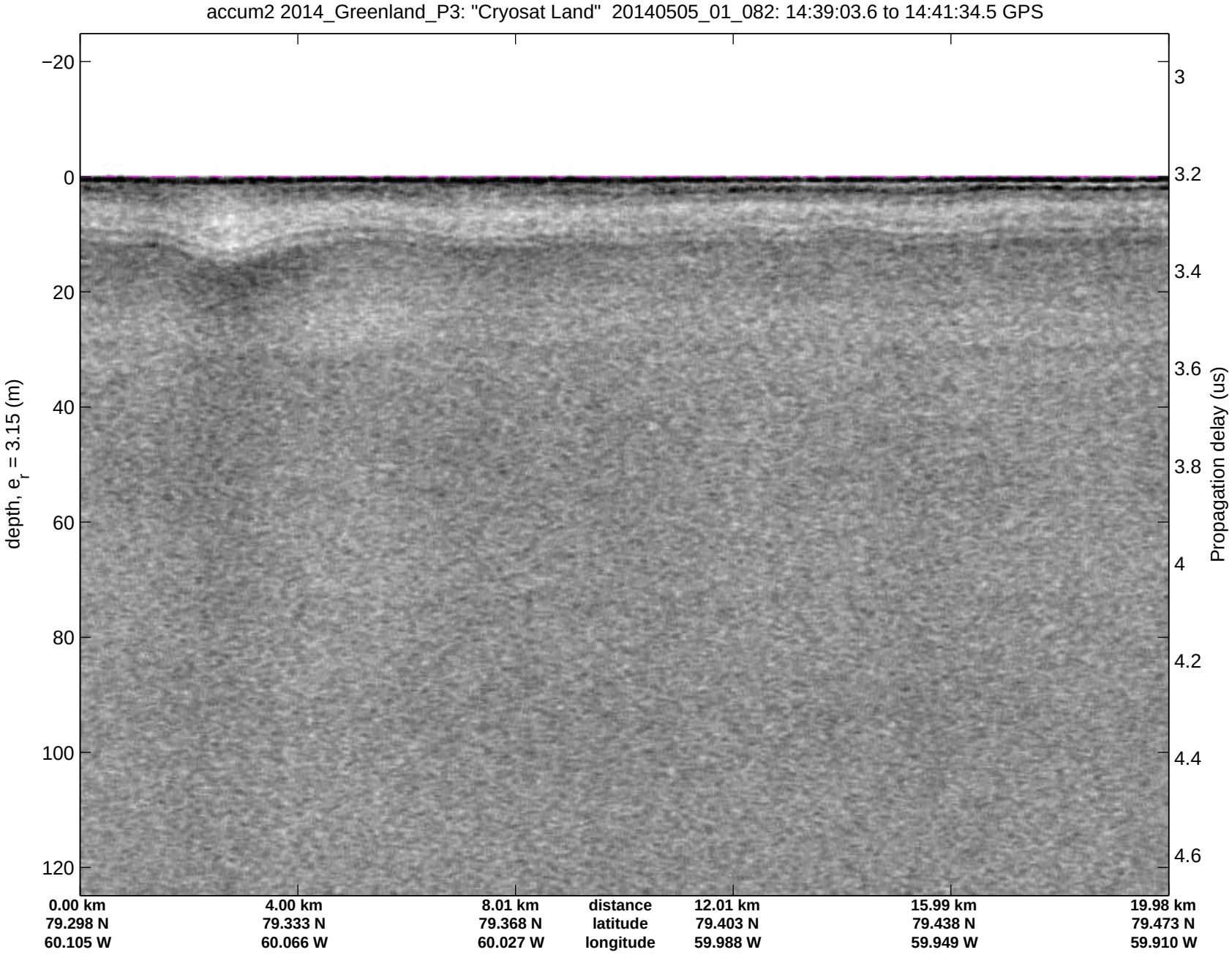

accum2 2014_Greenland_P3: "Cryosat Land" 20140505_01_081: 14:36:31.5 to 14:39:03.4 GPS
depth, e_r = 3.15 (m)
−20
0
20
40
60
80
100
120
Propagation delay (us)
3.2
3.4
3.6
3.8
4
4.2
4.4
4.6
4.8
0.00 km
79.122 N
60.294 W
4.00 km
79.157 N
60.256 W
8.00 km
79.192 N
60.219 W
distance
latitude
longitude
11.99 km
79.227 N
60.181 W
15.98 km
79.262 N
60.143 W
19.97 km
79.297 N
60.105 W

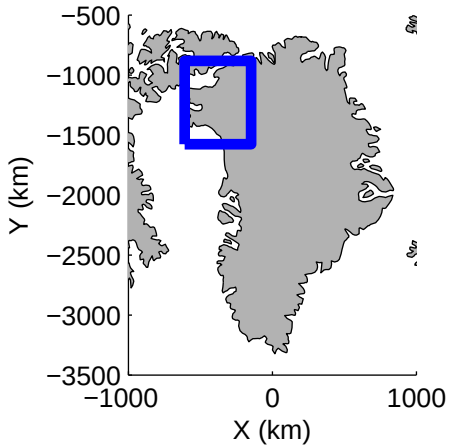

−500
−1000
−1500
−2000
−2500
−3000
−3500
Y (km)
−1000
0
1000
X (km)

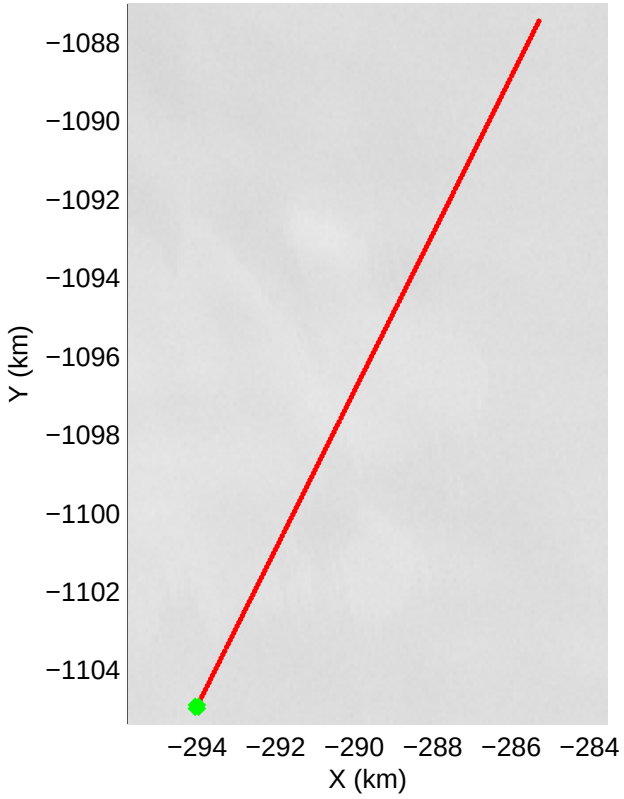

−1106
−1108
−1110
−1112
−1114
−1116
−1118
−1120
−1122
Y (km)
−304
−302
−300
−298
−296
−294
X (km)

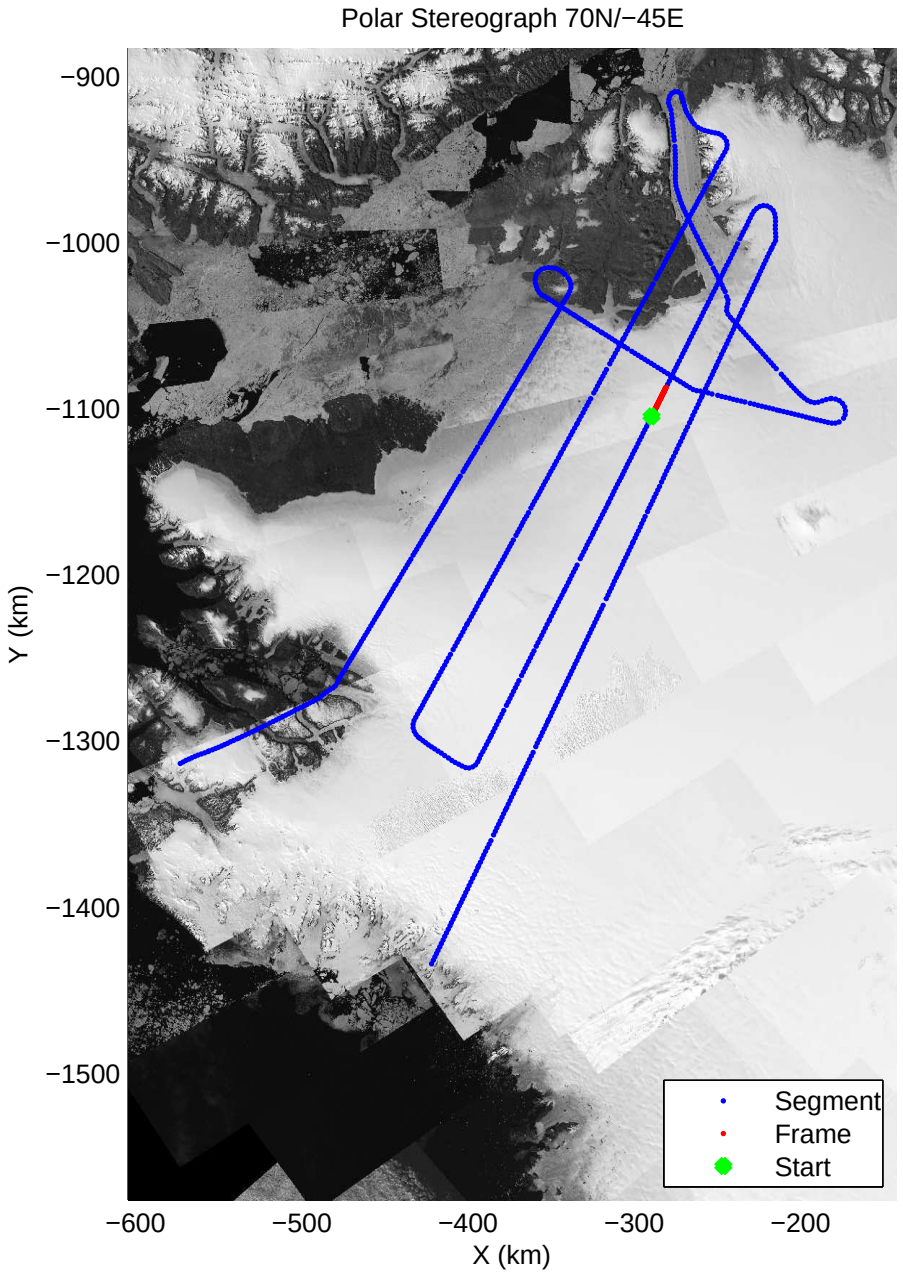

Polar Stereograph 70N/−45E
−900
−1000
−1100
−1200
−1300
−1400
−1500
Y (km)
−600
−500
−400
−300
−200
X (km)
Segment
Frame
Start

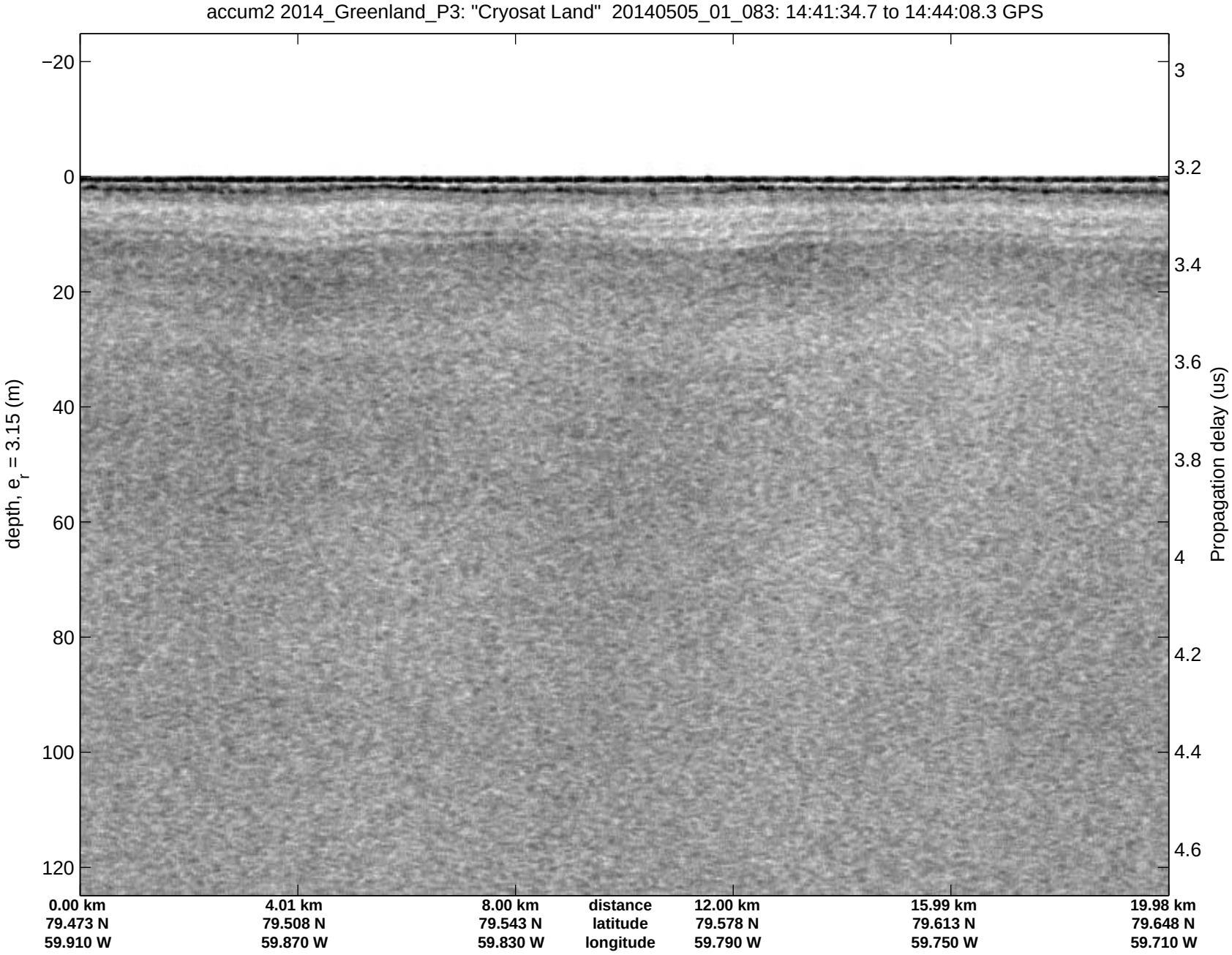

accum2 2014_Greenland_P3: "Cryosat Land" 20140505_01_082: 14:39:03.6 to 14:41:34.5 GPS
depth, e_r = 3.15 (m)
−20
0
20
40
60
80
100
120
Propagation delay (us)
3
3.2
3.4
3.6
3.8
4
4.2
4.4
4.6
0.00 km
79.298 N
60.105 W
4.00 km
79.333 N
60.066 W
8.01 km
79.368 N
60.027 W
distance
latitude
longitude
12.01 km
79.403 N
59.988 W
15.99 km
79.438 N
59.949 W
19.98 km
79.473 N
59.910 W

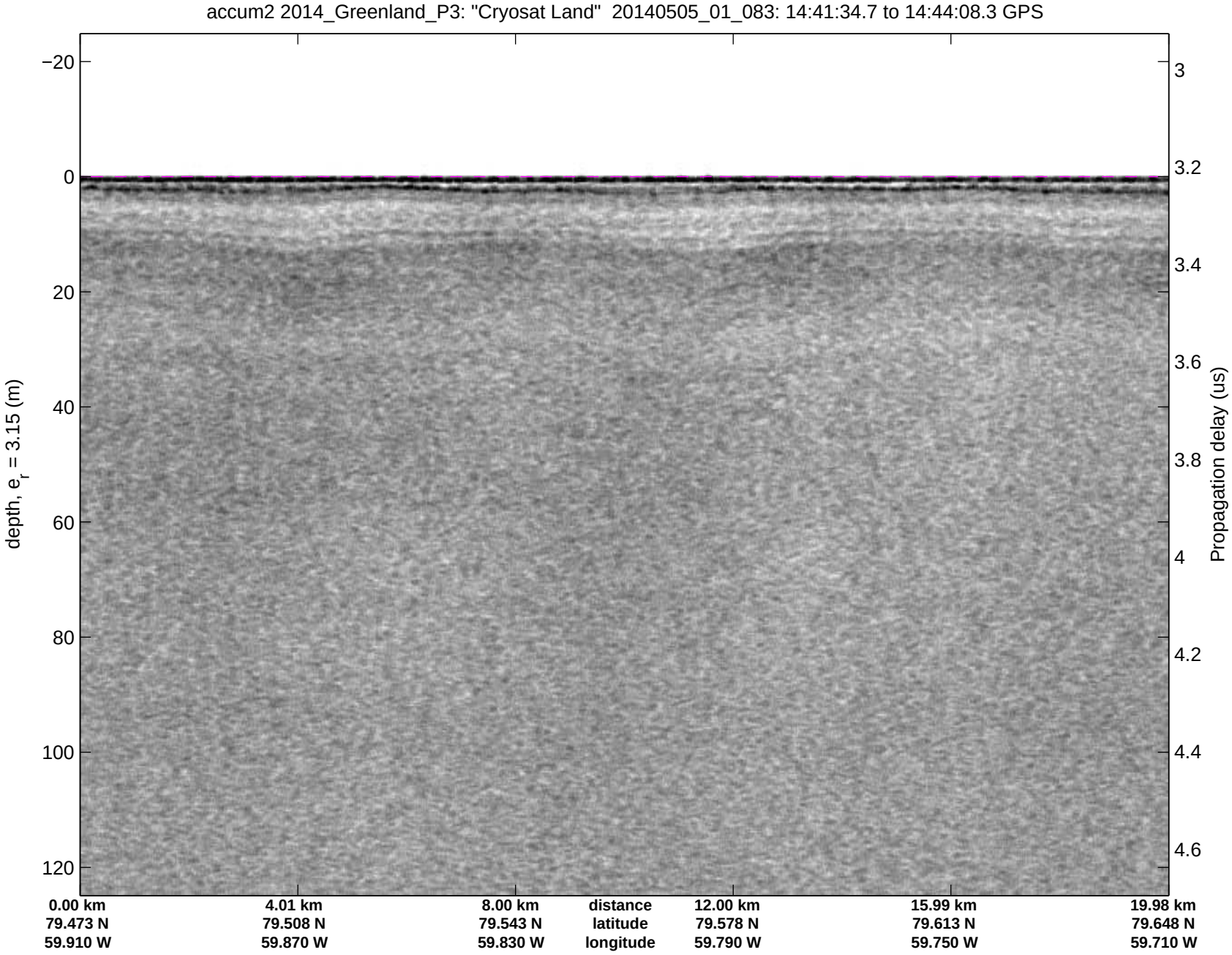

accum2 2014_Greenland_P3: "Cryosat Land" 20140505_01_082: 14:39:03.6 to 14:41:34.5 GPS
depth, e_r = 3.15 (m)
−20
0
20
40
60
80
100
120
Propagation delay (us)
3
3.2
3.4
3.6
3.8
4
4.2
4.4
4.6
0.00 km
79.298 N
60.105 W
4.00 km
79.333 N
60.066 W
8.01 km
79.368 N
60.027 W
distance
latitude
longitude
12.01 km
79.403 N
59.988 W
15.99 km
79.438 N
59.949 W
19.98 km
79.473 N
59.910 W

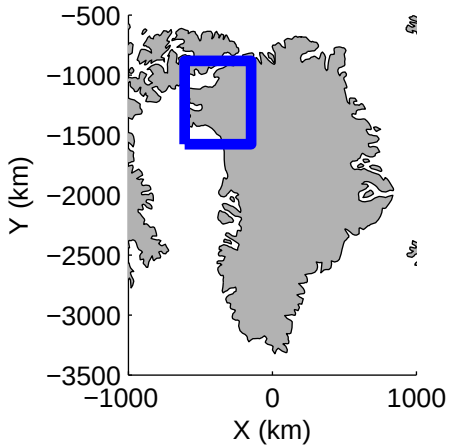

−500
−1000
−1500
−2000
−2500
−3000
−3500
Y (km)
−1000
0
1000
X (km)

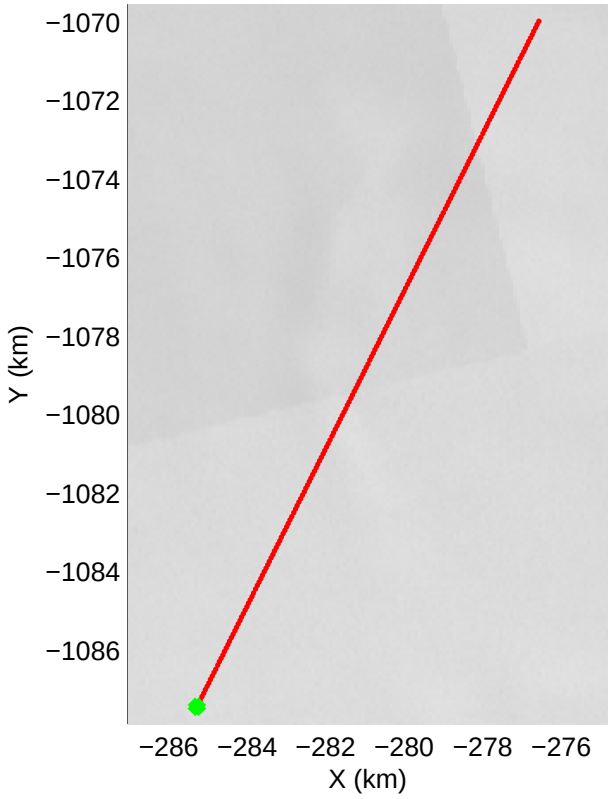

−1088
−1090
−1092
−1094
−1096
−1098
−1100
−1102
−1104
Y (km)
−294
−292
−290
−288
−286
−284
X (km)

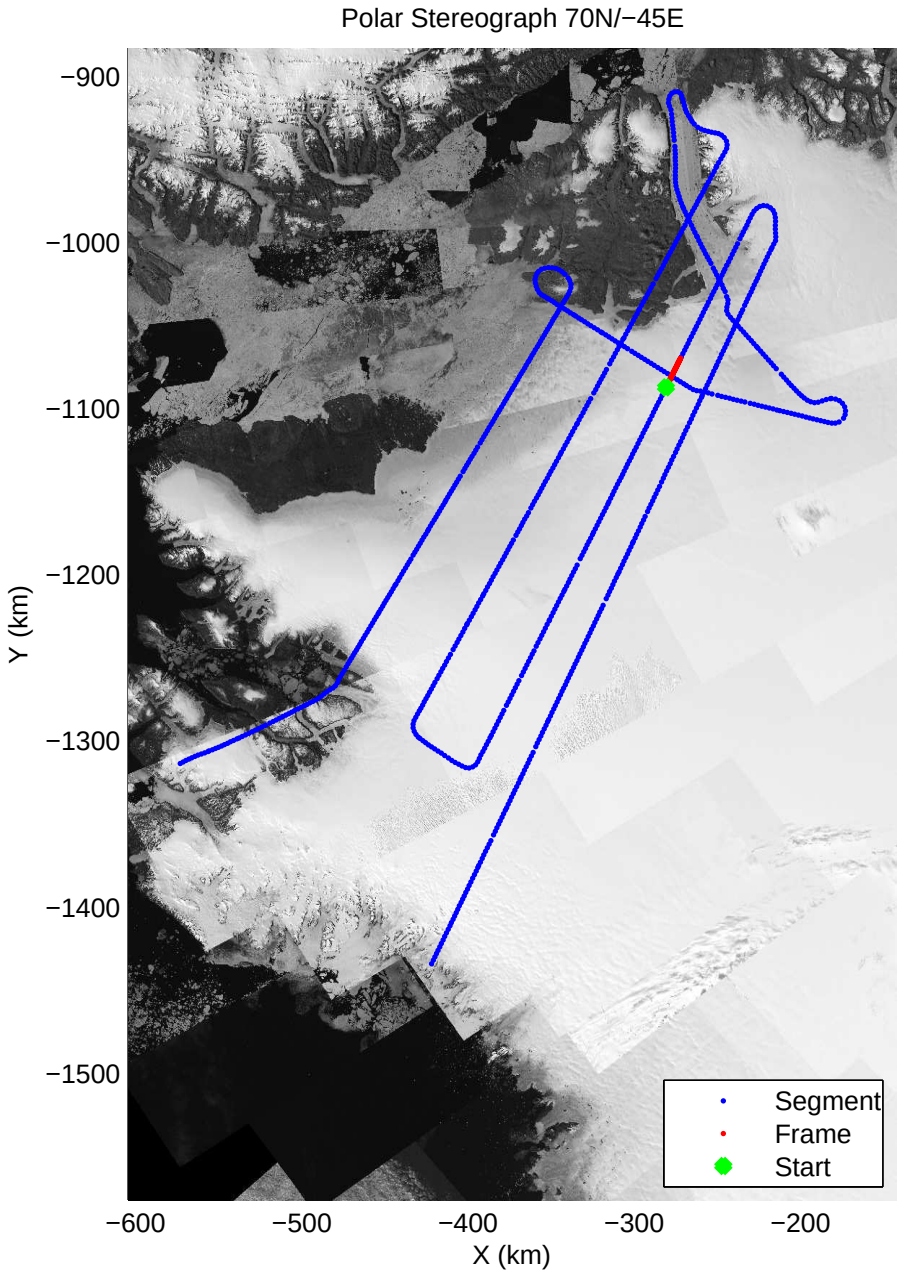

Polar Stereograph 70N/−45E
−900
−1000
−1100
−1200
−1300
−1400
−1500
Y (km)
−600
−500
−400
−300
−200
X (km)
Segment
Frame
Start

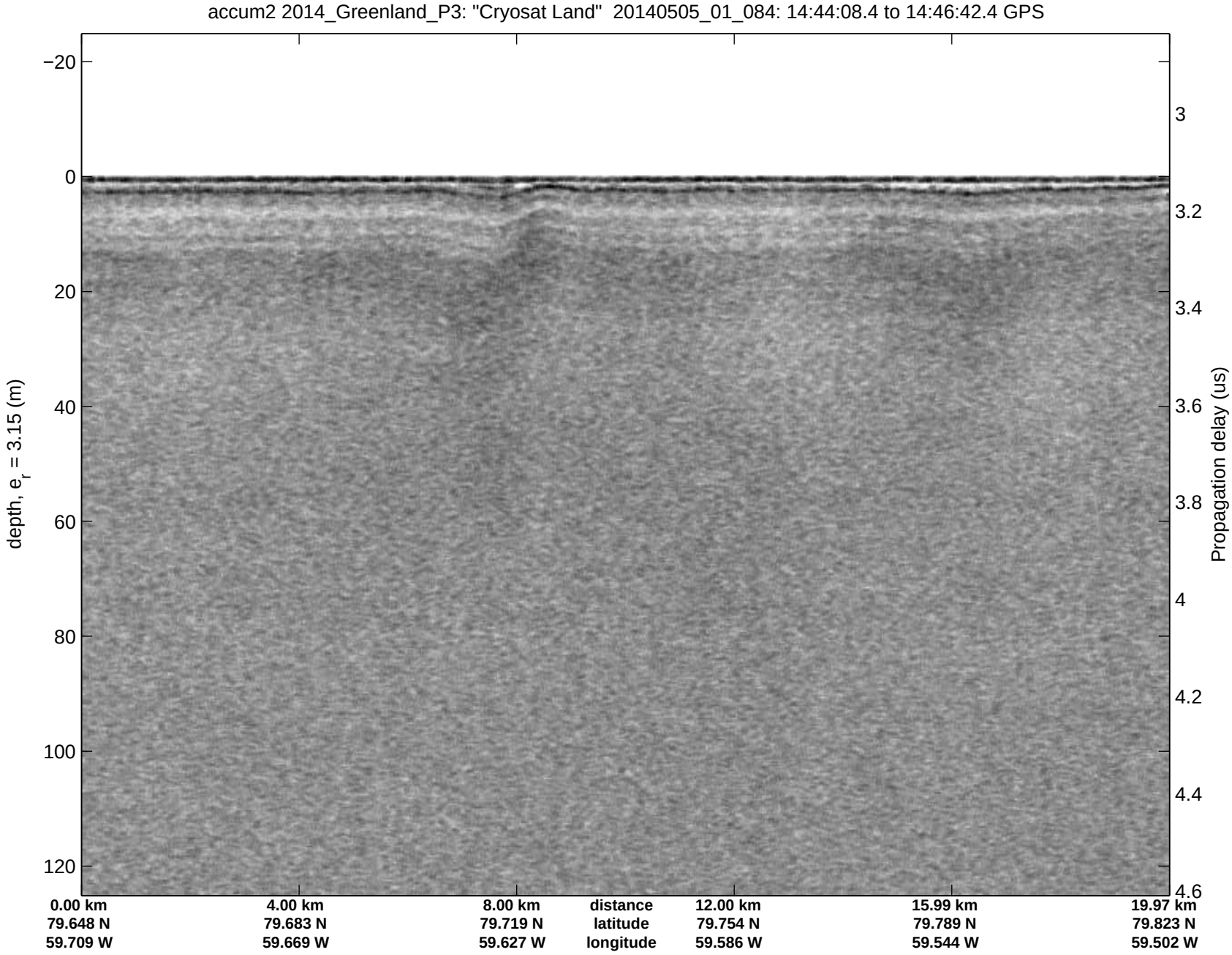

accum2 2014_Greenland_P3: "Cryosat Land" 20140505_01_083: 14:41:34.7 to 14:44:08.3 GPS
depth, e_r = 3.15 (m)
−20
0
20
40
60
80
100
120
Propagation delay (us)
3
3.2
3.4
3.6
3.8
4
4.2
4.4
4.6
0.00 km
79.473 N
59.910 W
4.01 km
79.508 N
59.870 W
8.00 km
79.543 N
59.830 W
distance
latitude
longitude
12.00 km
79.578 N
59.790 W
15.99 km
79.613 N
59.750 W
19.98 km
79.648 N
59.710 W

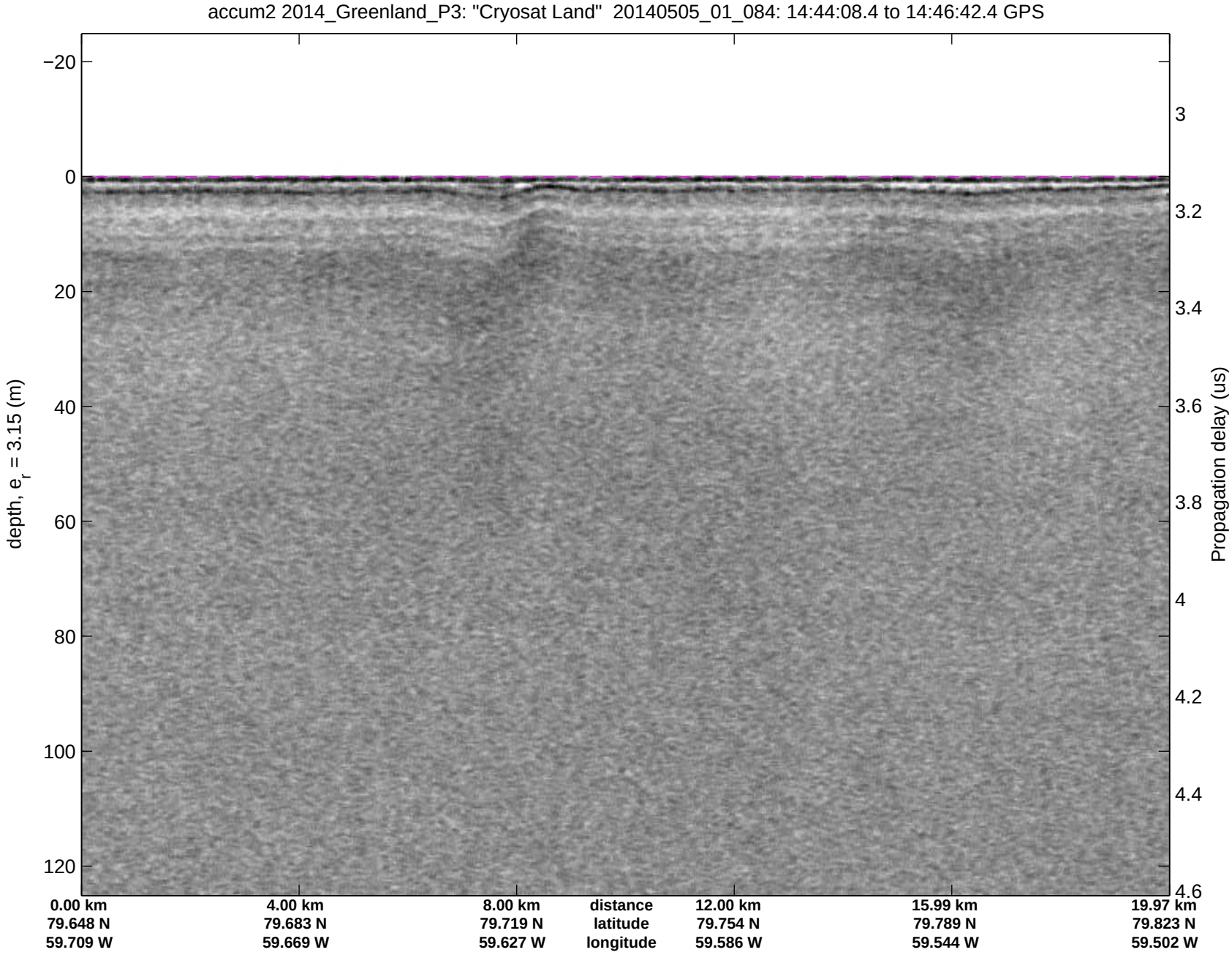

accum2 2014_Greenland_P3: "Cryosat Land" 20140505_01_083: 14:41:34.7 to 14:44:08.3 GPS
depth, e_r = 3.15 (m)
−20
0
20
40
60
80
100
120
Propagation delay (us)
3
3.2
3.4
3.6
3.8
4
4.2
4.4
4.6
0.00 km
79.473 N
59.910 W
4.01 km
79.508 N
59.870 W
8.00 km
79.543 N
59.830 W
distance
latitude
longitude
12.00 km
79.578 N
59.790 W
15.99 km
79.613 N
59.750 W
19.98 km
79.648 N
59.710 W

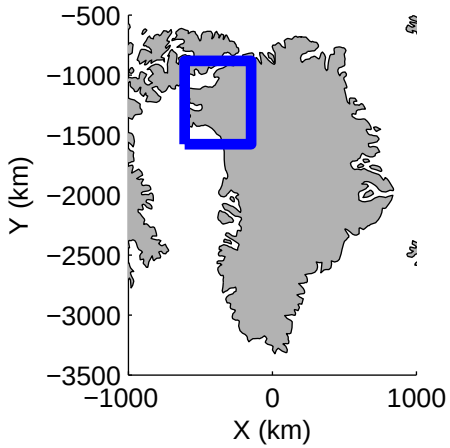

−500
−1000
−1500
−2000
−2500
−3000
−3500
Y (km)
−1000
0
1000
X (km)

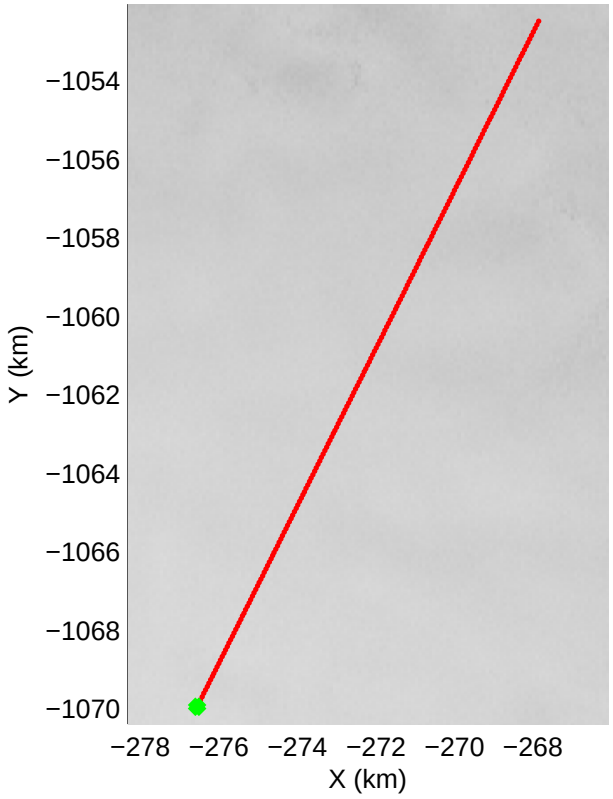

−1070
−1072
−1074
−1076
−1078
−1080
−1082
−1084
−1086
Y (km)
−286
−284
−282
−280
−278
−276
X (km)

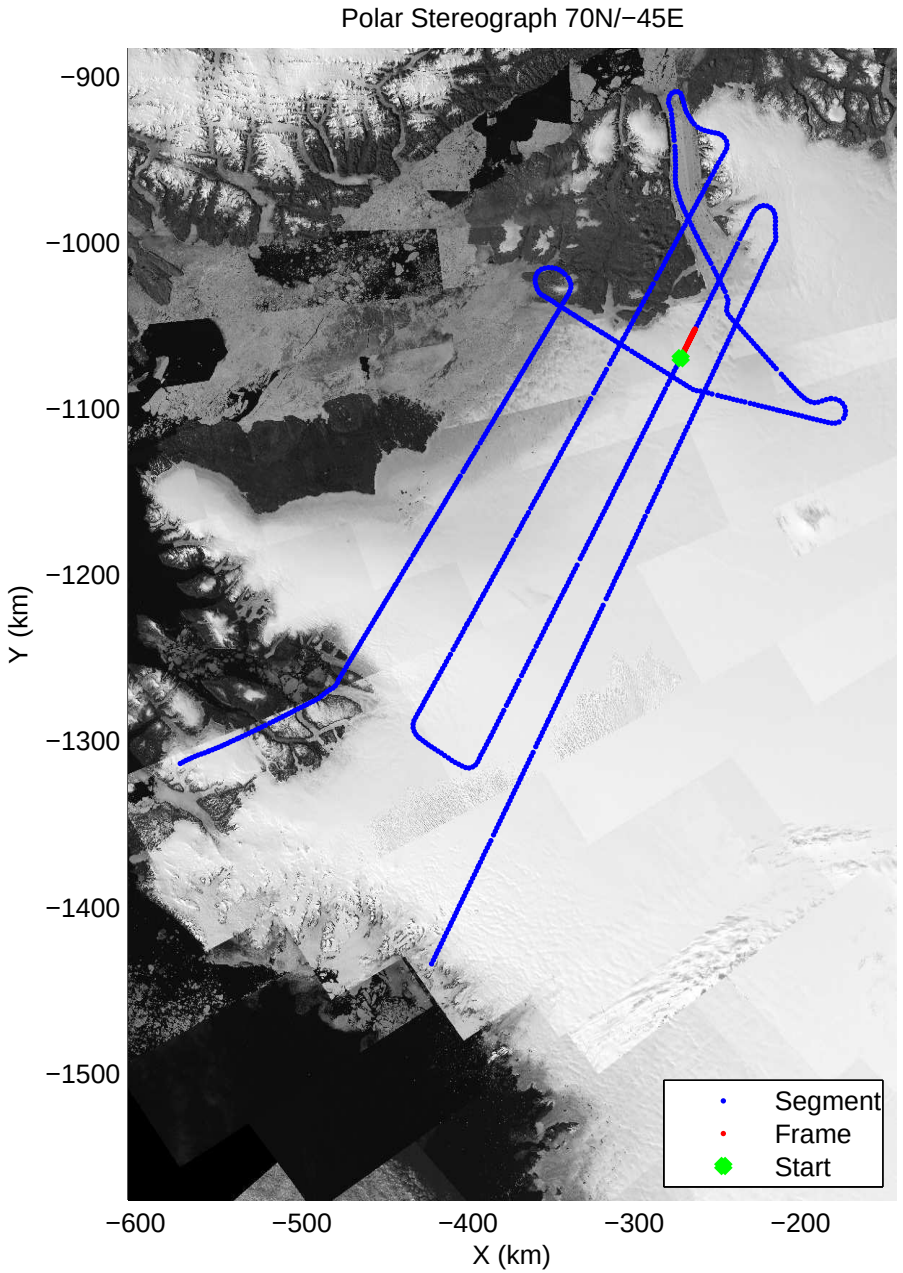

Polar Stereograph 70N/−45E
−900
−1000
−1100
−1200
−1300
−1400
−1500
Y (km)
−600
−500
−400
−300
−200
X (km)
Segment
Frame
Start

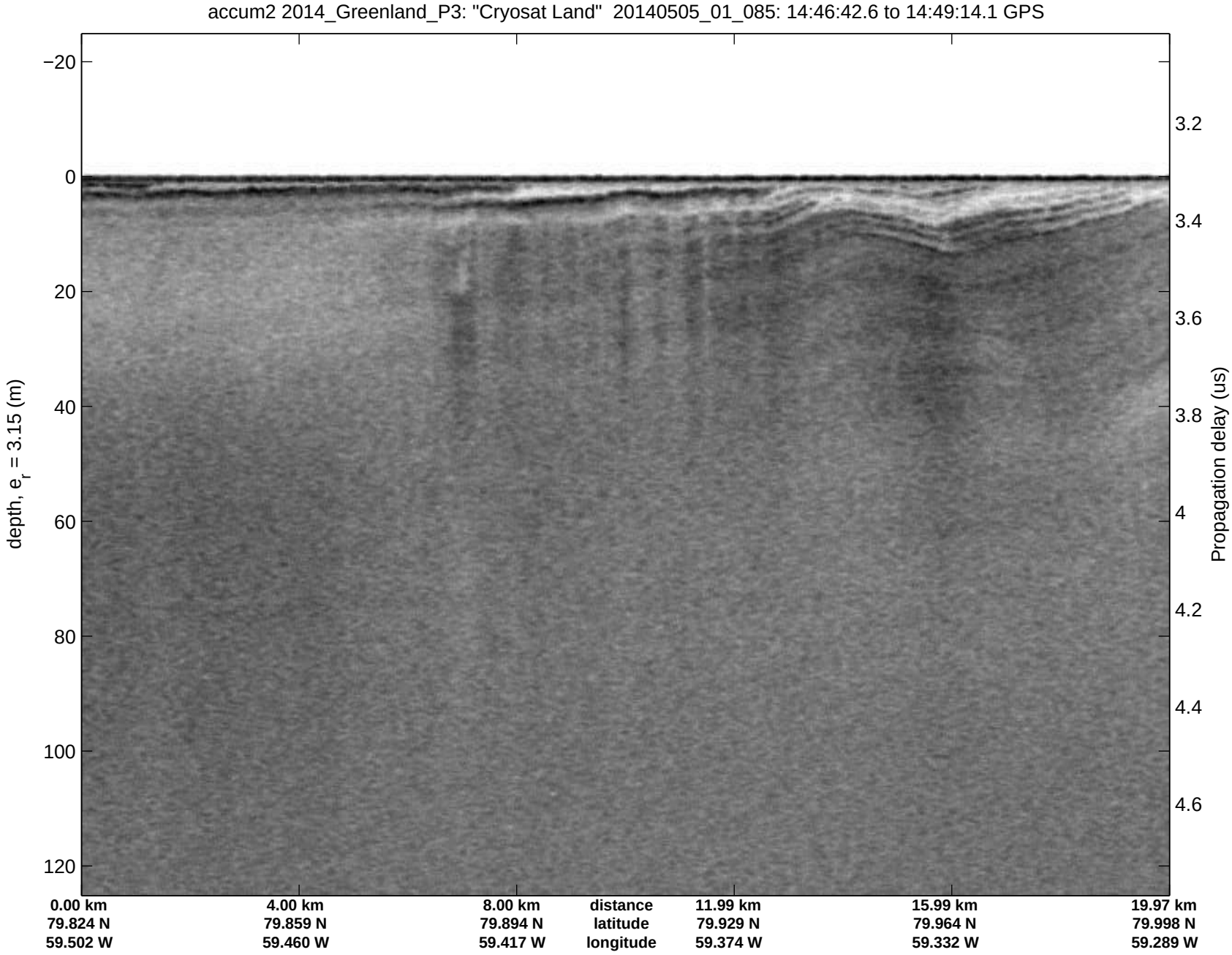

accum2 2014_Greenland_P3: "Cryosat Land" 20140505_01_084: 14:44:08.4 to 14:46:42.4 GPS
depth, e_r = 3.15 (m)
−20
0
20
40
60
80
100
120
Propagation delay (us)
3
3.2
3.4
3.6
3.8
4
4.2
4.4
4.6
0.00 km
79.648 N
59.709 W
4.00 km
79.683 N
59.669 W
8.00 km
79.719 N
59.627 W
distance
latitude
longitude
12.00 km
79.754 N
59.586 W
15.99 km
79.789 N
59.544 W
19.97 km
79.823 N
59.502 W

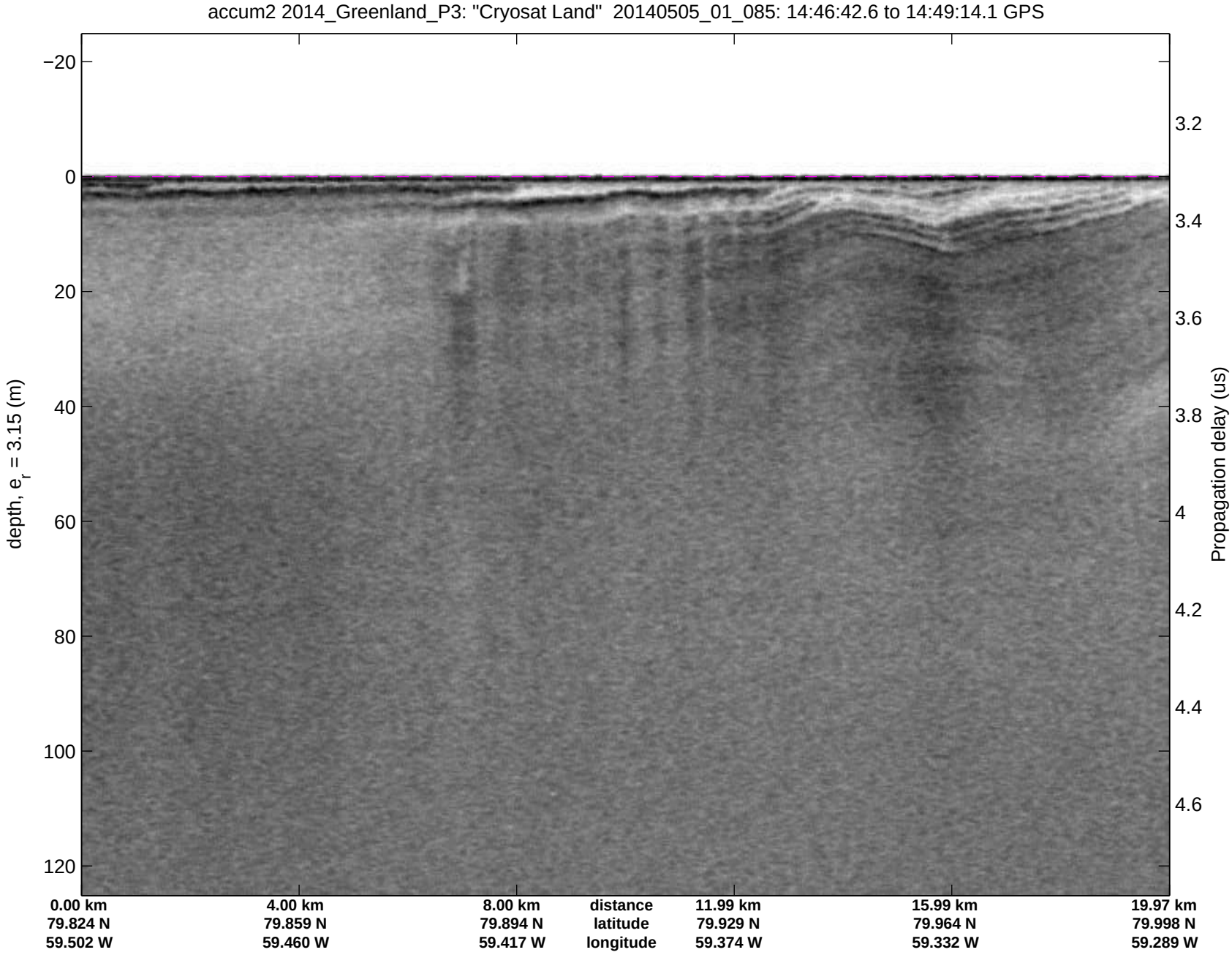

accum2 2014_Greenland_P3: "Cryosat Land" 20140505_01_084: 14:44:08.4 to 14:46:42.4 GPS
depth, e_r = 3.15 (m)
−20
0
20
40
60
80
100
120
Propagation delay (us)
3
3.2
3.4
3.6
3.8
4
4.2
4.4
4.6
0.00 km
79.648 N
59.709 W
4.00 km
79.683 N
59.669 W
8.00 km
79.719 N
59.627 W
distance
latitude
longitude
12.00 km
79.754 N
59.586 W
15.99 km
79.789 N
59.544 W
19.97 km
79.823 N
59.502 W

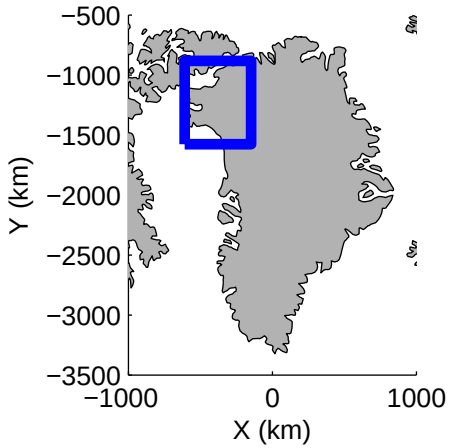

−500
−1000
−1500
−2000
−2500
−3000
−3500
Y (km)
−1000
0
1000
X (km)

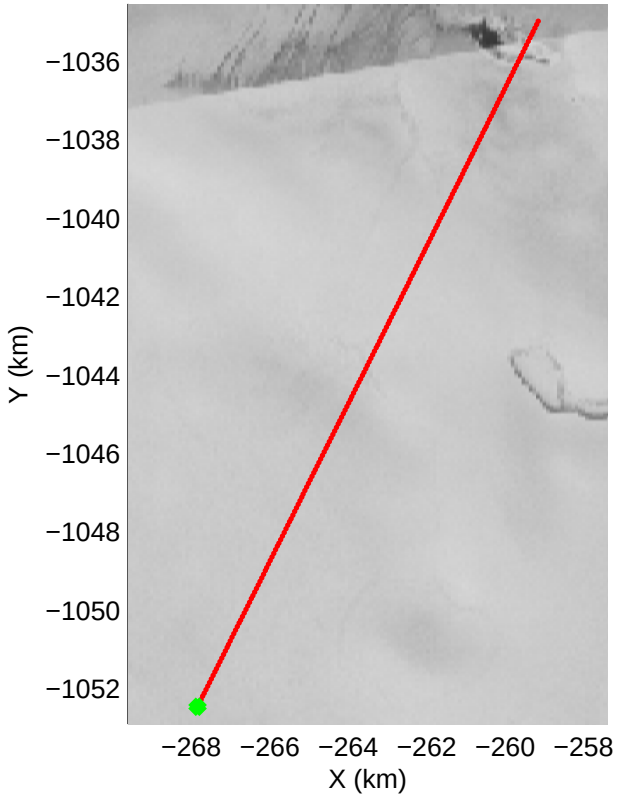

−1054
−1056
−1058
−1060
−1062
−1064
−1066
−1068
−1070
Y (km)
−278
−276
−274
−272
−270
−268
X (km)

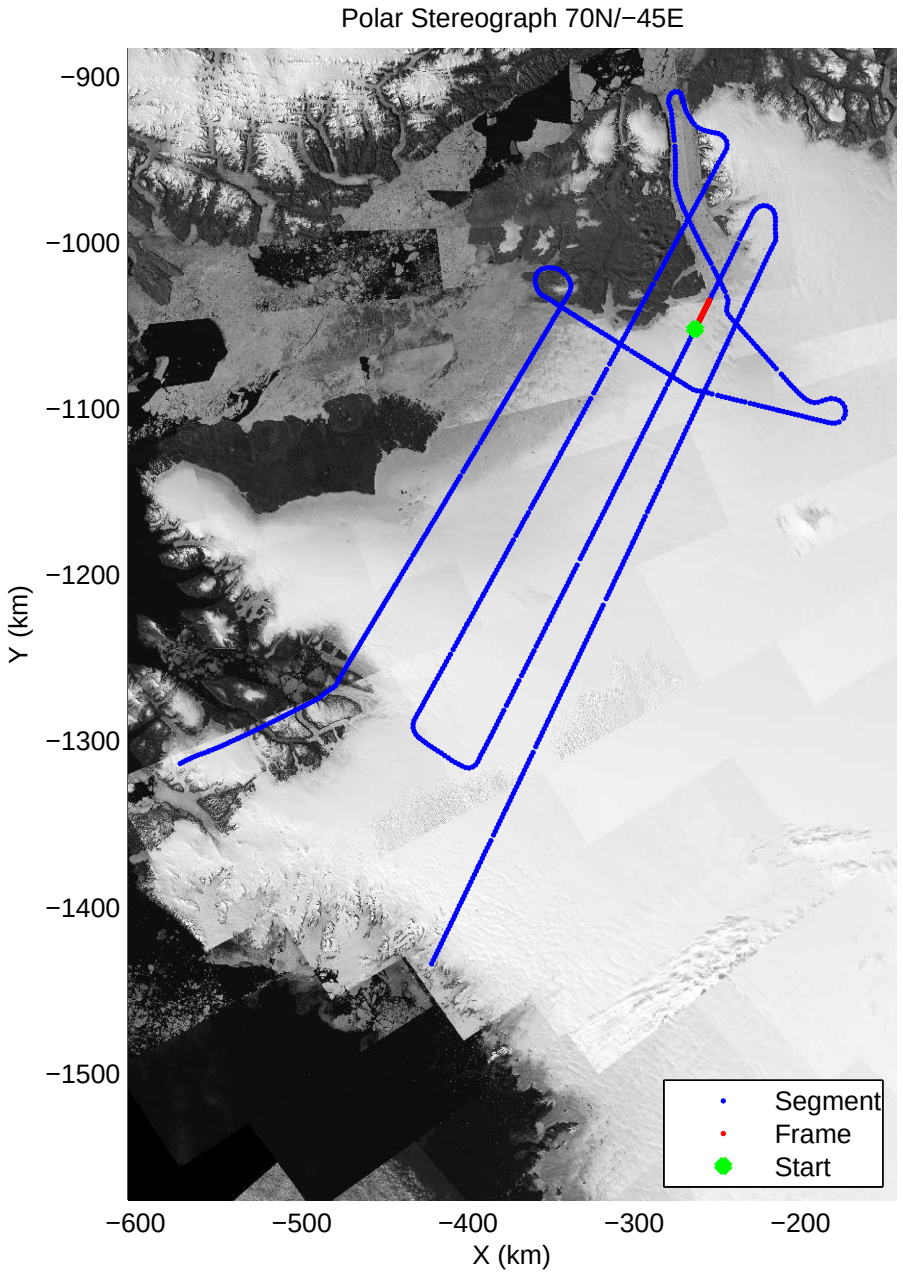

Polar Stereograph 70N/−45E
−900
−1000
−1100
−1200
−1300
−1400
−1500
Y (km)
−600
−500
−400
−300
−200
X (km)
Segment
Frame
Start

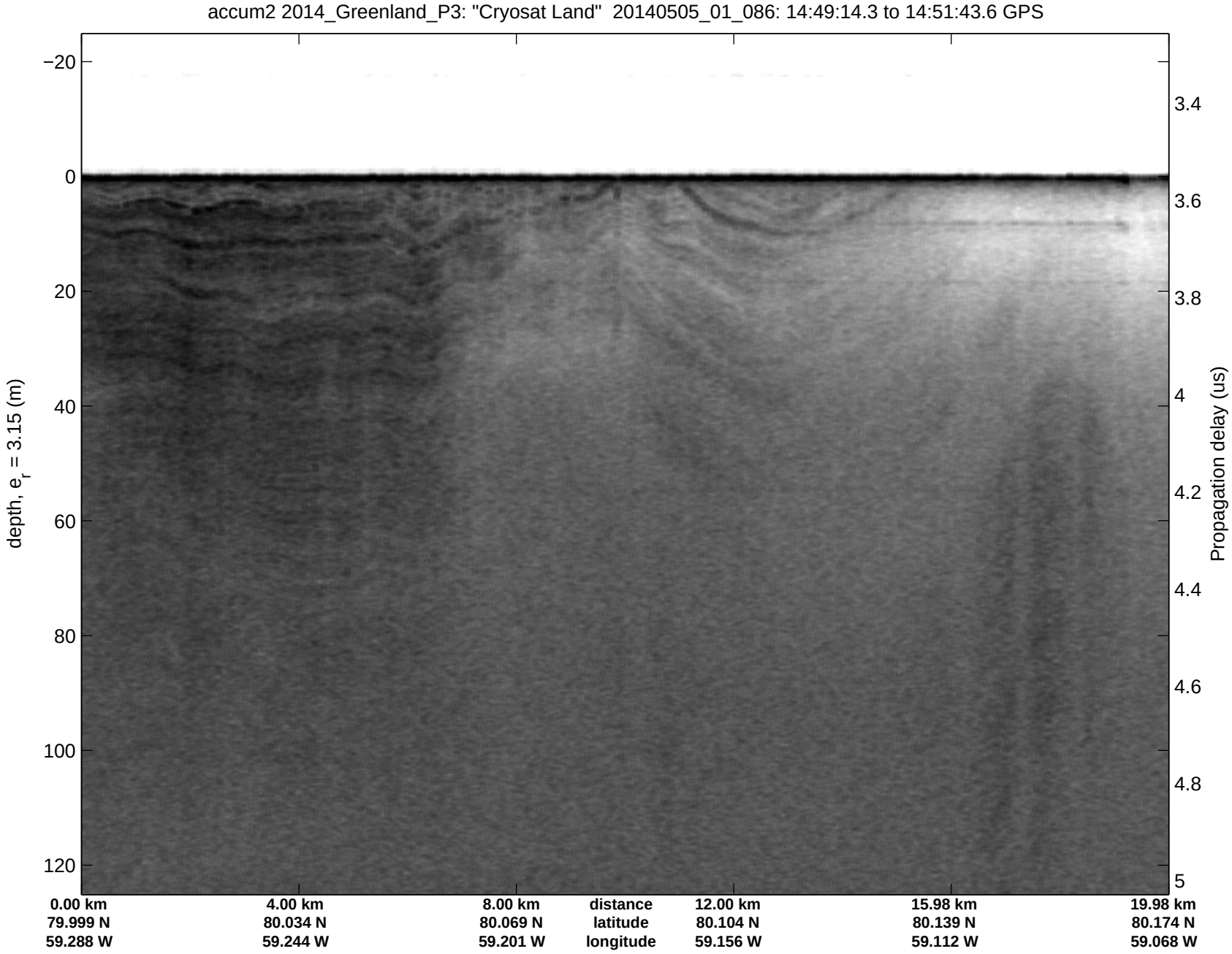

accum2 2014_Greenland_P3: "Cryosat Land" 20140505_01_085: 14:46:42.6 to 14:49:14.1 GPS
depth, e_r = 3.15 (m)
−20
0
20
40
60
80
100
120
Propagation delay (us)
3.2
3.4
3.6
3.8
4
4.2
4.4
4.6
0.00 km
79.824 N
59.502 W
4.00 km
79.859 N
59.460 W
8.00 km
79.894 N
59.417 W
distance
latitude
longitude
11.99 km
79.929 N
59.374 W
15.99 km
79.964 N
59.332 W
19.97 km
79.998 N
59.289 W

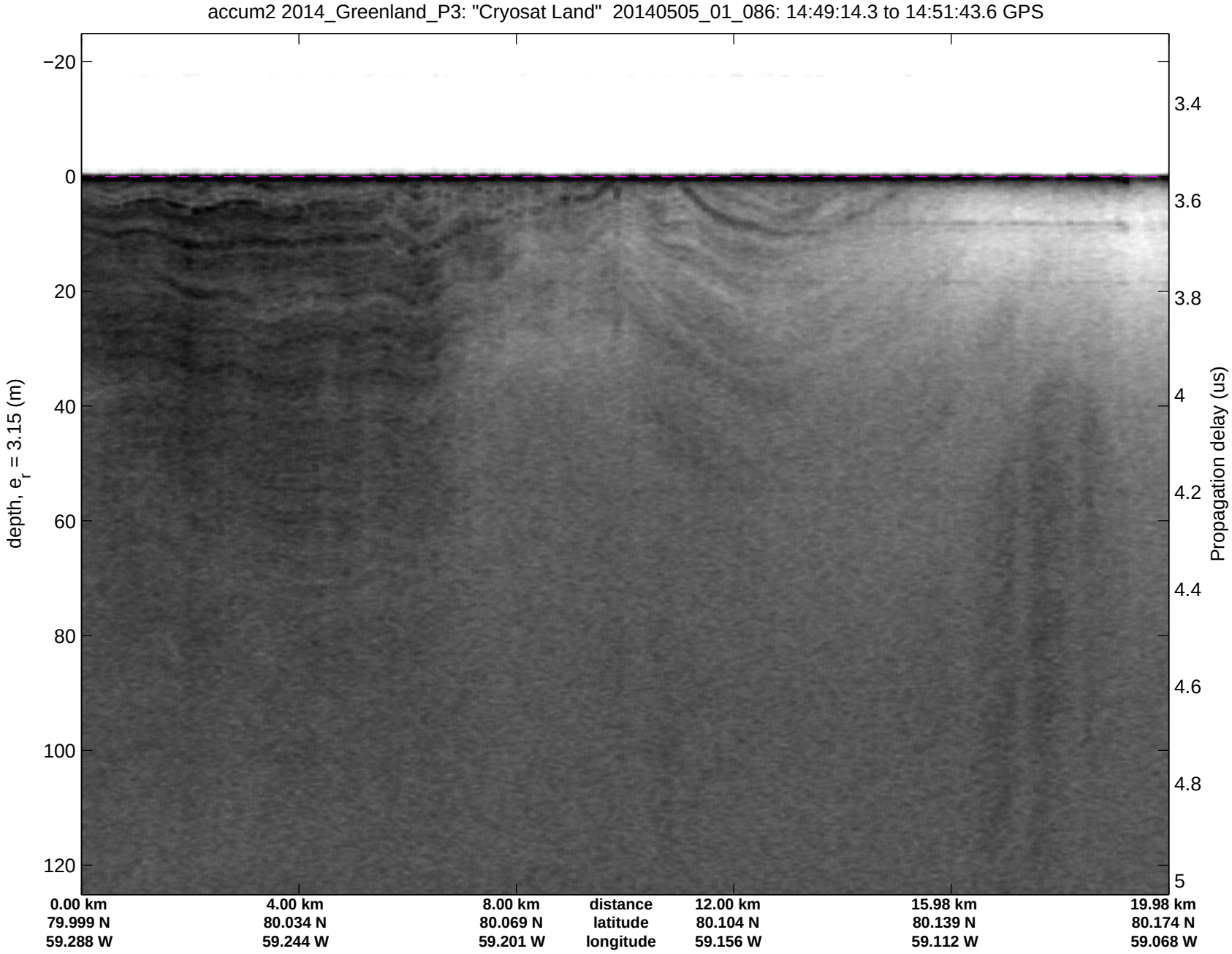

accum2 2014_Greenland_P3: "Cryosat Land" 20140505_01_085: 14:46:42.6 to 14:49:14.1 GPS
depth, e_r = 3.15 (m)
−20
0
20
40
60
80
100
120
Propagation delay (us)
3.2
3.4
3.6
3.8
4
4.2
4.4
4.6
0.00 km
79.824 N
59.502 W
4.00 km
79.859 N
59.460 W
8.00 km
79.894 N
59.417 W
distance
latitude
longitude
11.99 km
79.929 N
59.374 W
15.99 km
79.964 N
59.332 W
19.97 km
79.998 N
59.289 W

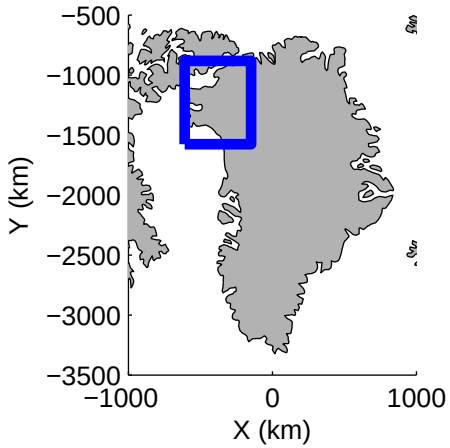

−500
−1000
−1500
−2000
−2500
−3000
−3500
Y (km)
−1000
0
1000
X (km)

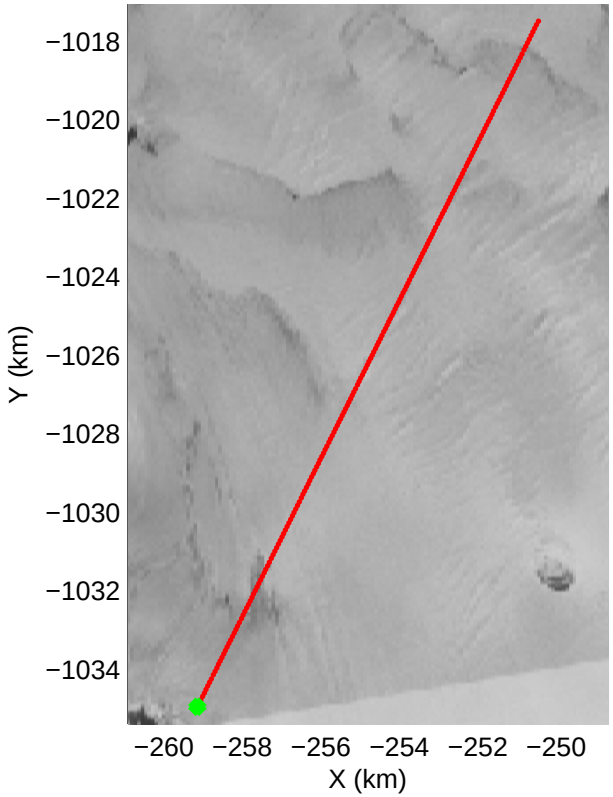

−1036
−1038
−1040
−1042
−1044
−1046
−1048
−1050
−1052
Y (km)
−268
−266
−264
−262
−260
−258
X (km)

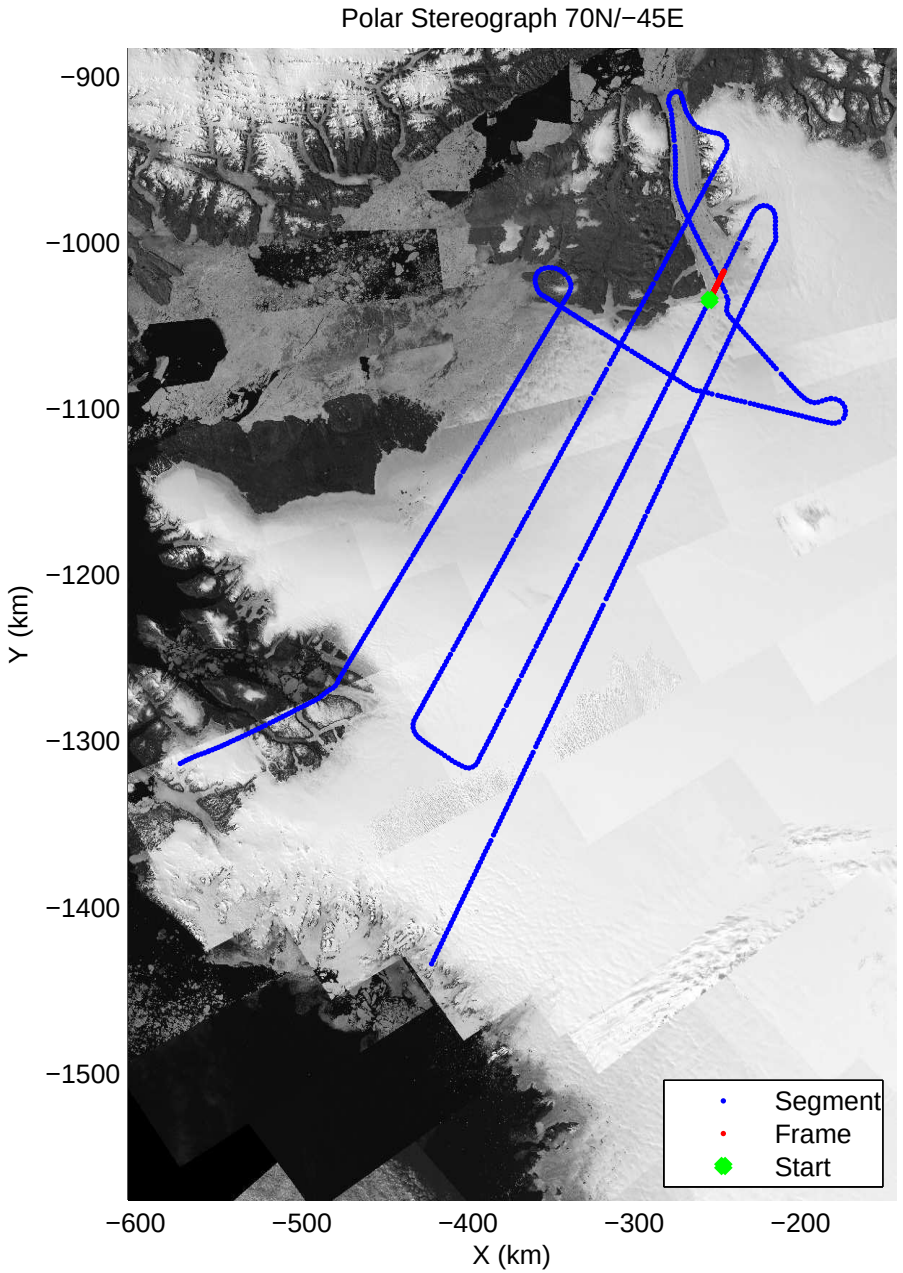

Polar Stereograph 70N/−45E
−900
−1000
−1100
−1200
−1300
−1400
−1500
Y (km)
−600
−500
−400
−300
−200
X (km)
Segment
Frame
Start

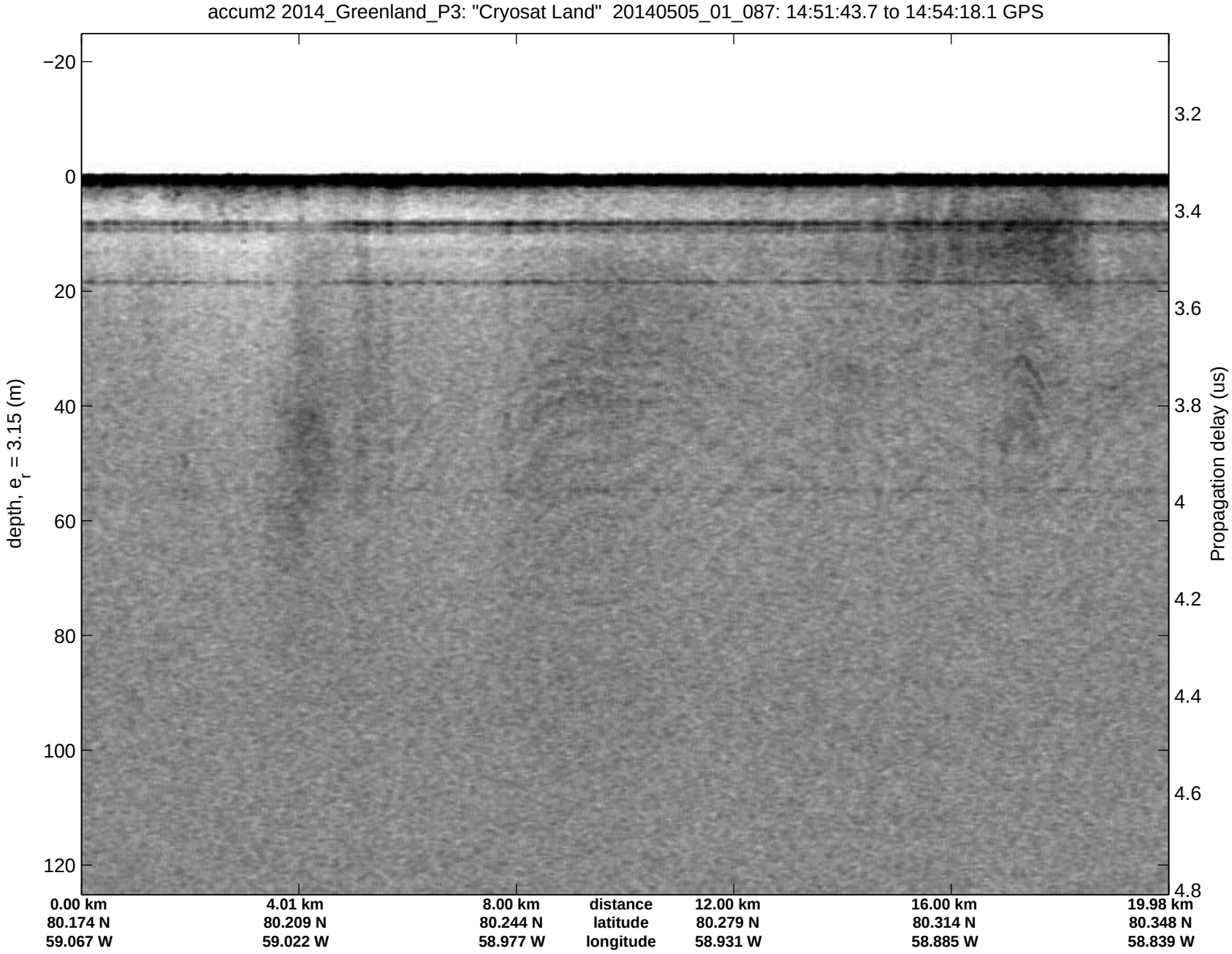

accum2 2014_Greenland_P3: "Cryosat Land" 20140505_01_086: 14:49:14.3 to 14:51:43.6 GPS
depth, e_r = 3.15 (m)
−20
0
20
40
60
80
100
120
Propagation delay (us)
3.4
3.6
3.8
4
4.2
4.4
4.6
4.8
5
0.00 km
79.999 N
59.288 W
4.00 km
80.034 N
59.244 W
8.00 km
80.069 N
59.201 W
distance
latitude
longitude
12.00 km
80.104 N
59.156 W
15.98 km
80.139 N
59.112 W
19.98 km
80.174 N
59.068 W

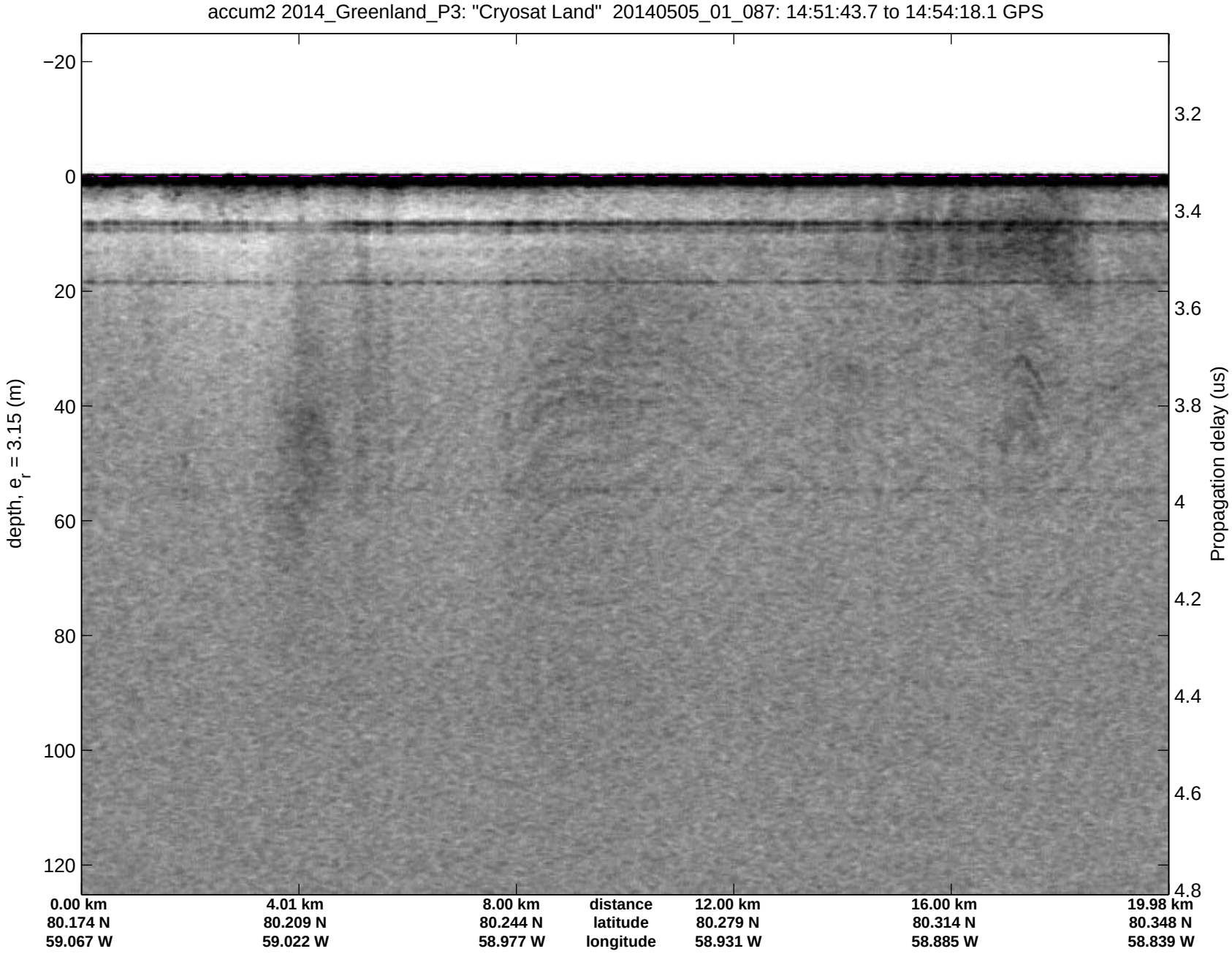

accum2 2014_Greenland_P3: "Cryosat Land" 20140505_01_086: 14:49:14.3 to 14:51:43.6 GPS
depth, e_r = 3.15 (m)
−20
0
20
40
60
80
100
120
Propagation delay (us)
3.4
3.6
3.8
4
4.2
4.4
4.6
4.8
5
0.00 km
79.999 N
59.288 W
4.00 km
80.034 N
59.244 W
8.00 km
80.069 N
59.201 W
distance
latitude
longitude
12.00 km
80.104 N
59.156 W
15.98 km
80.139 N
59.112 W
19.98 km
80.174 N
59.068 W

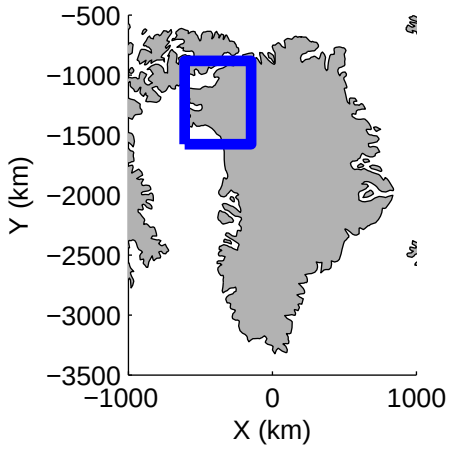

−500
−1000
−1500
−2000
−2500
−3000
−3500
Y (km)
−1000
0
1000
X (km)

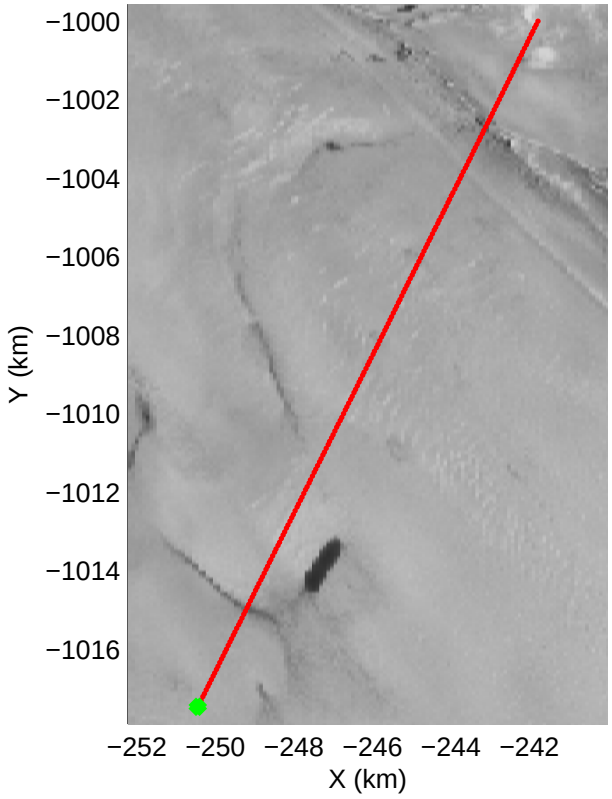

−1018
−1020
−1022
−1024
−1026
−1028
−1030
−1032
−1034
Y (km)
−260
−258
−256
−254
−252
−250
X (km)

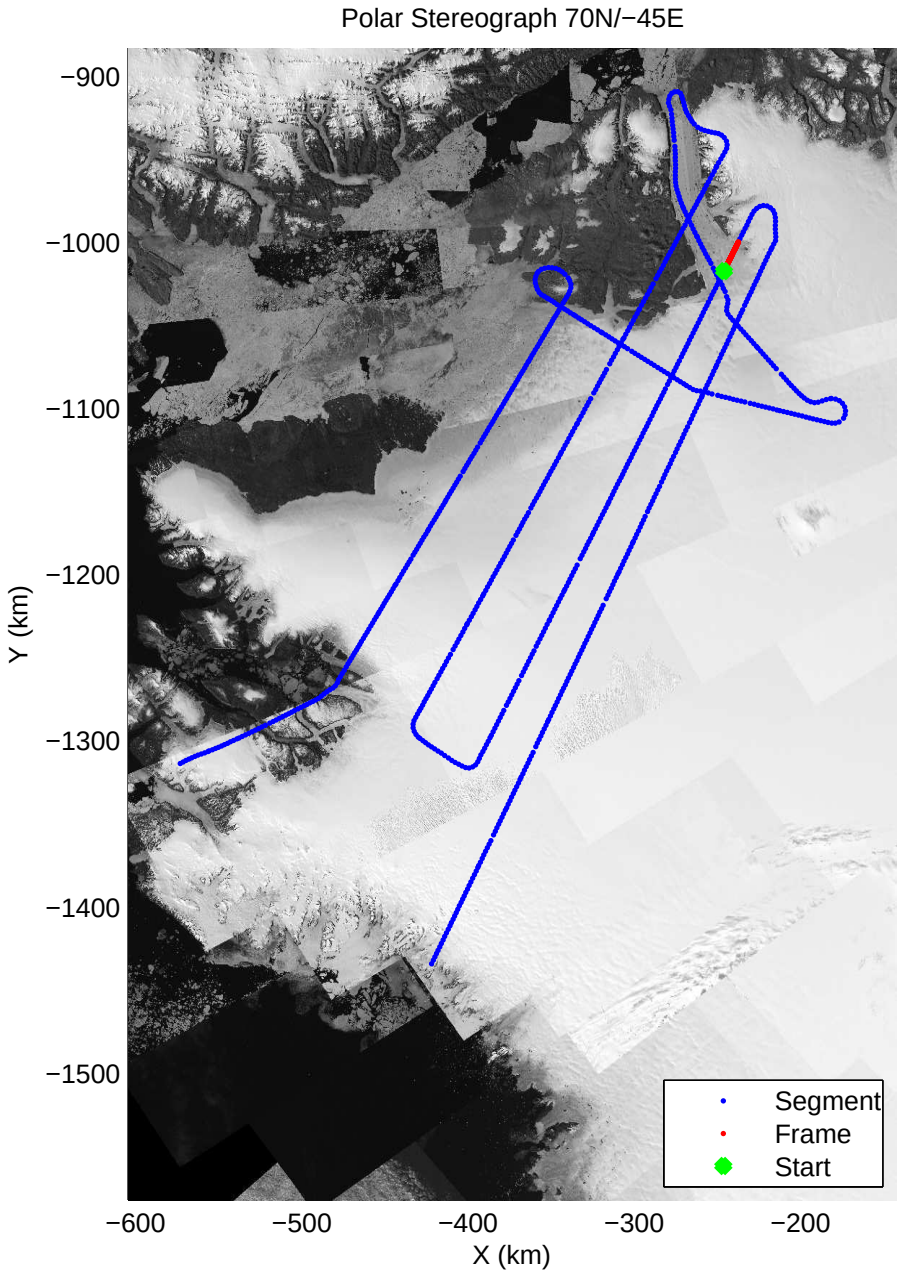

Polar Stereograph 70N/−45E
−900
−1000
−1100
−1200
−1300
−1400
−1500
Y (km)
−600
−500
−400
−300
−200
X (km)
Segment
Frame
Start

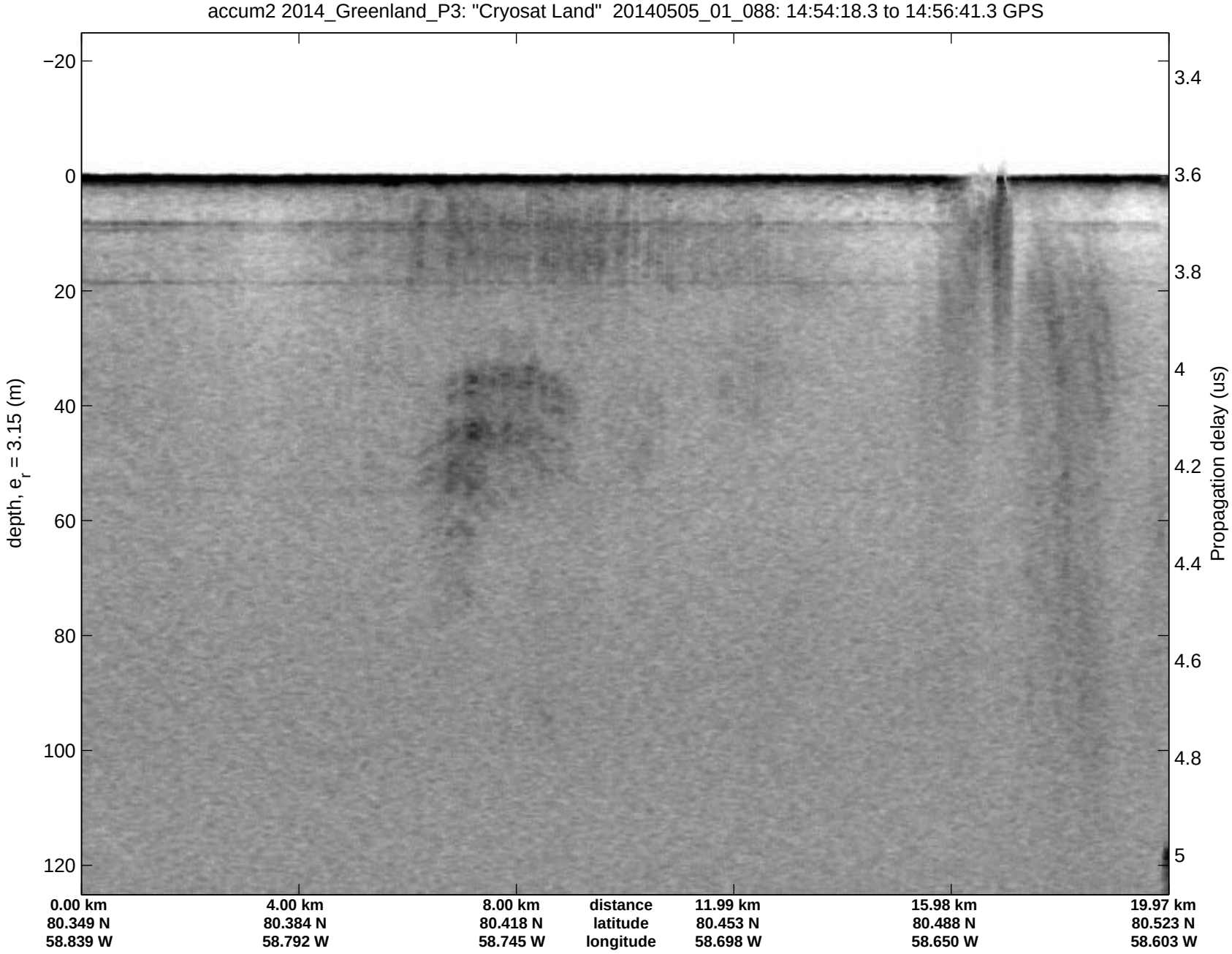

accum2 2014_Greenland_P3: "Cryosat Land" 20140505_01_087: 14:51:43.7 to 14:54:18.1 GPS
depth, e_r = 3.15 (m)
−20
0
20
40
60
80
100
120
Propagation delay (us)
3.2
3.4
3.6
3.8
4
4.2
4.4
4.6
4.8
0.00 km
80.174 N
59.067 W
4.01 km
80.209 N
59.022 W
8.00 km
80.244 N
58.977 W
distance
latitude
longitude
12.00 km
80.279 N
58.931 W
16.00 km
80.314 N
58.885 W
19.98 km
80.348 N
58.839 W

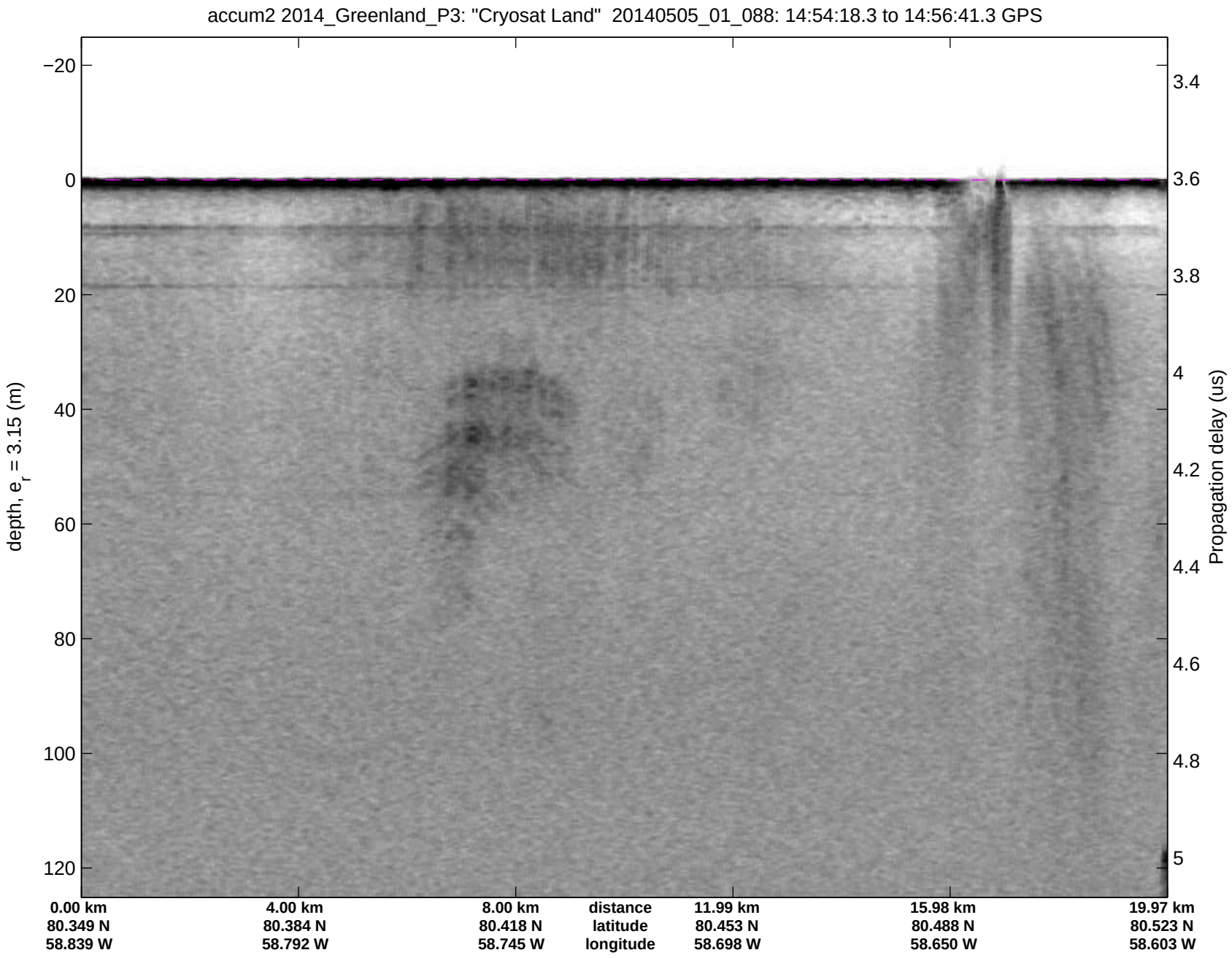

accum2 2014_Greenland_P3: "Cryosat Land" 20140505_01_087: 14:51:43.7 to 14:54:18.1 GPS
depth, e_r = 3.15 (m)
−20
0
20
40
60
80
100
120
Propagation delay (us)
3.2
3.4
3.6
3.8
4
4.2
4.4
4.6
4.8
0.00 km
80.174 N
59.067 W
4.01 km
80.209 N
59.022 W
8.00 km
80.244 N
58.977 W
distance
latitude
longitude
12.00 km
80.279 N
58.931 W
16.00 km
80.314 N
58.885 W
19.98 km
80.348 N
58.839 W

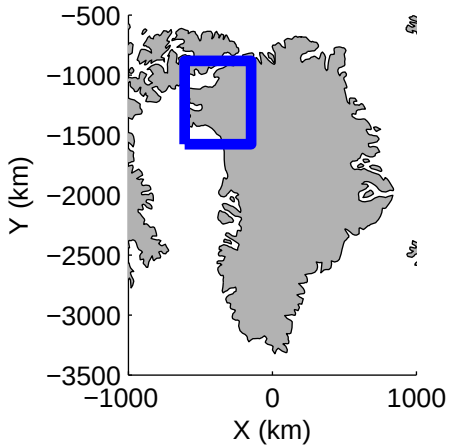

−500
−1000
−1500
−2000
−2500
−3000
−3500
Y (km)
−1000
0
1000
X (km)

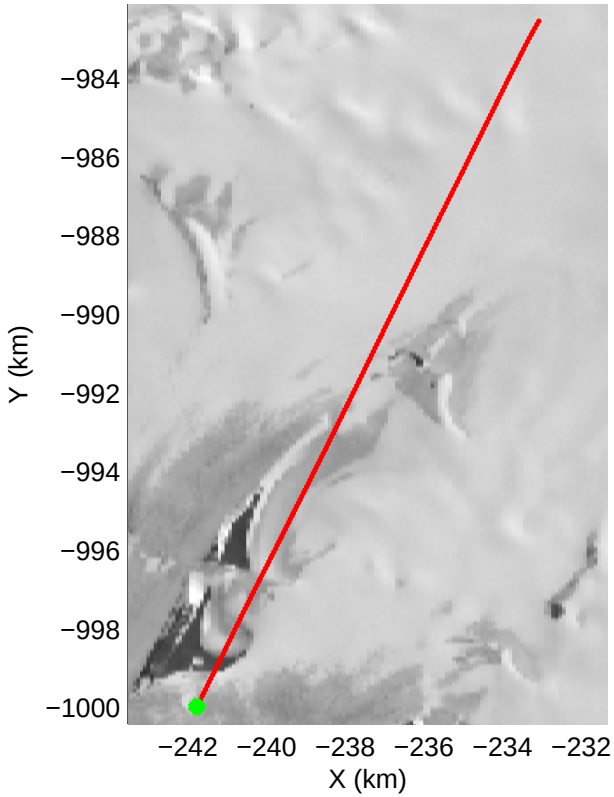

−1000
−1002
−1004
−1006
−1008
−1010
−1012
−1014
−1016
Y (km)
−252
−250
−248
−246
−244
−242
X (km)

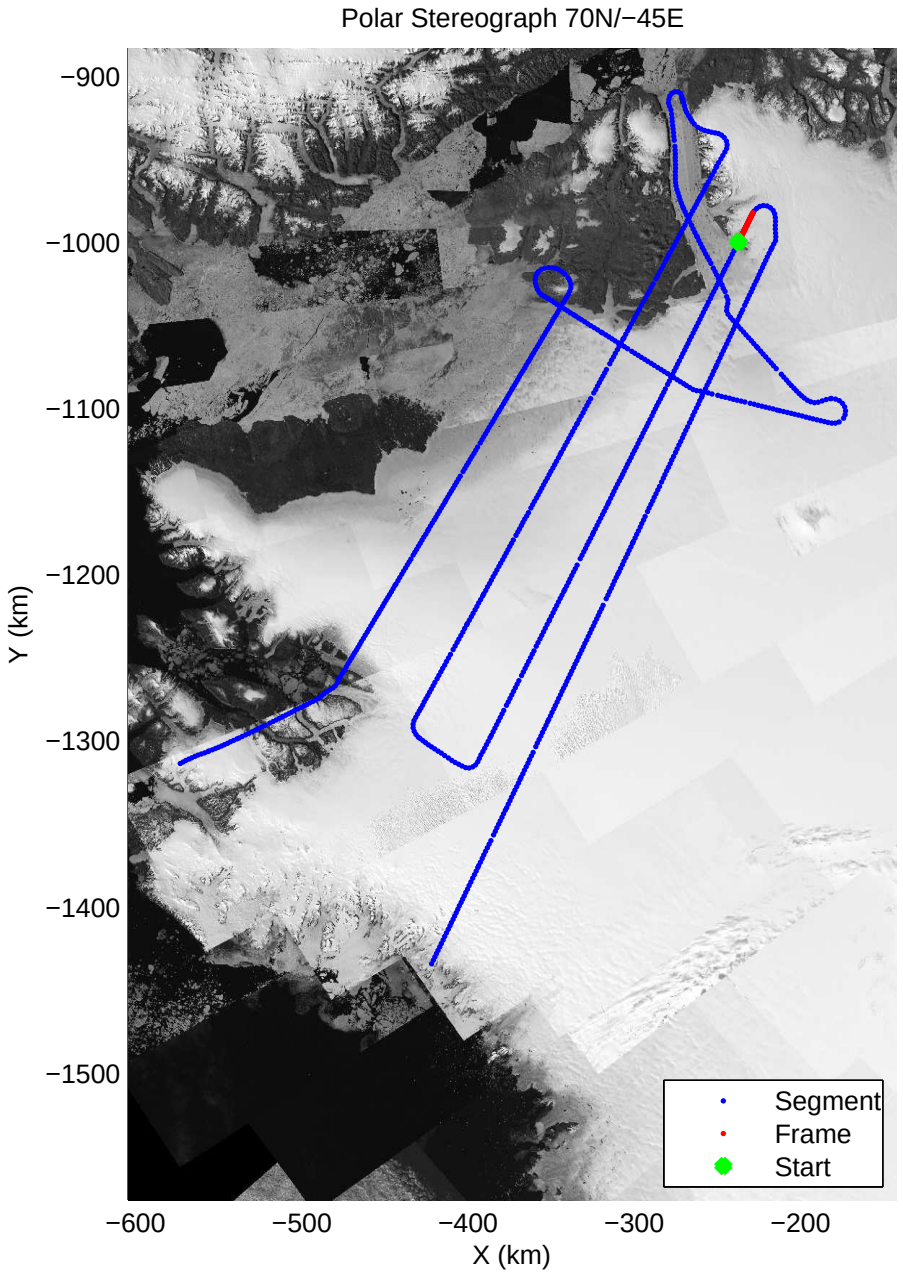

Polar Stereograph 70N/−45E
−900
−1000
−1100
−1200
−1300
−1400
−1500
Y (km)
−600
−500
−400
−300
−200
X (km)
Segment
Frame
Start

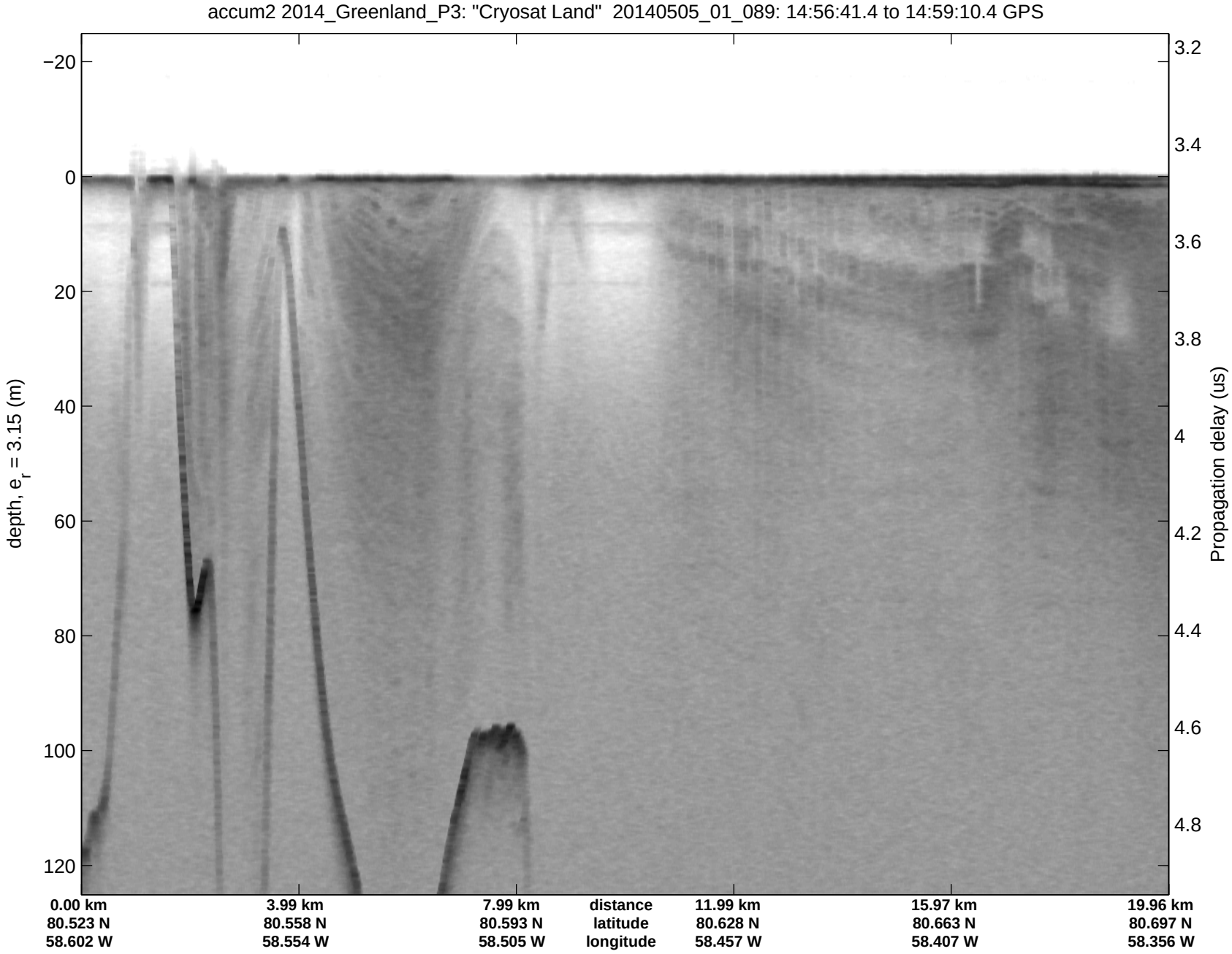

accum2 2014_Greenland_P3: "Cryosat Land" 20140505_01_088: 14:54:18.3 to 14:56:41.3 GPS
depth, e_r = 3.15 (m)
−20
0
20
40
60
80
100
120
Propagation delay (us)
3.4
3.6
3.8
4
4.2
4.4
4.6
4.8
5
0.00 km
80.349 N
58.839 W
4.00 km
80.384 N
58.792 W
8.00 km
80.418 N
58.745 W
distance
latitude
longitude
11.99 km
80.453 N
58.698 W
15.98 km
80.488 N
58.650 W
19.97 km
80.523 N
58.603 W

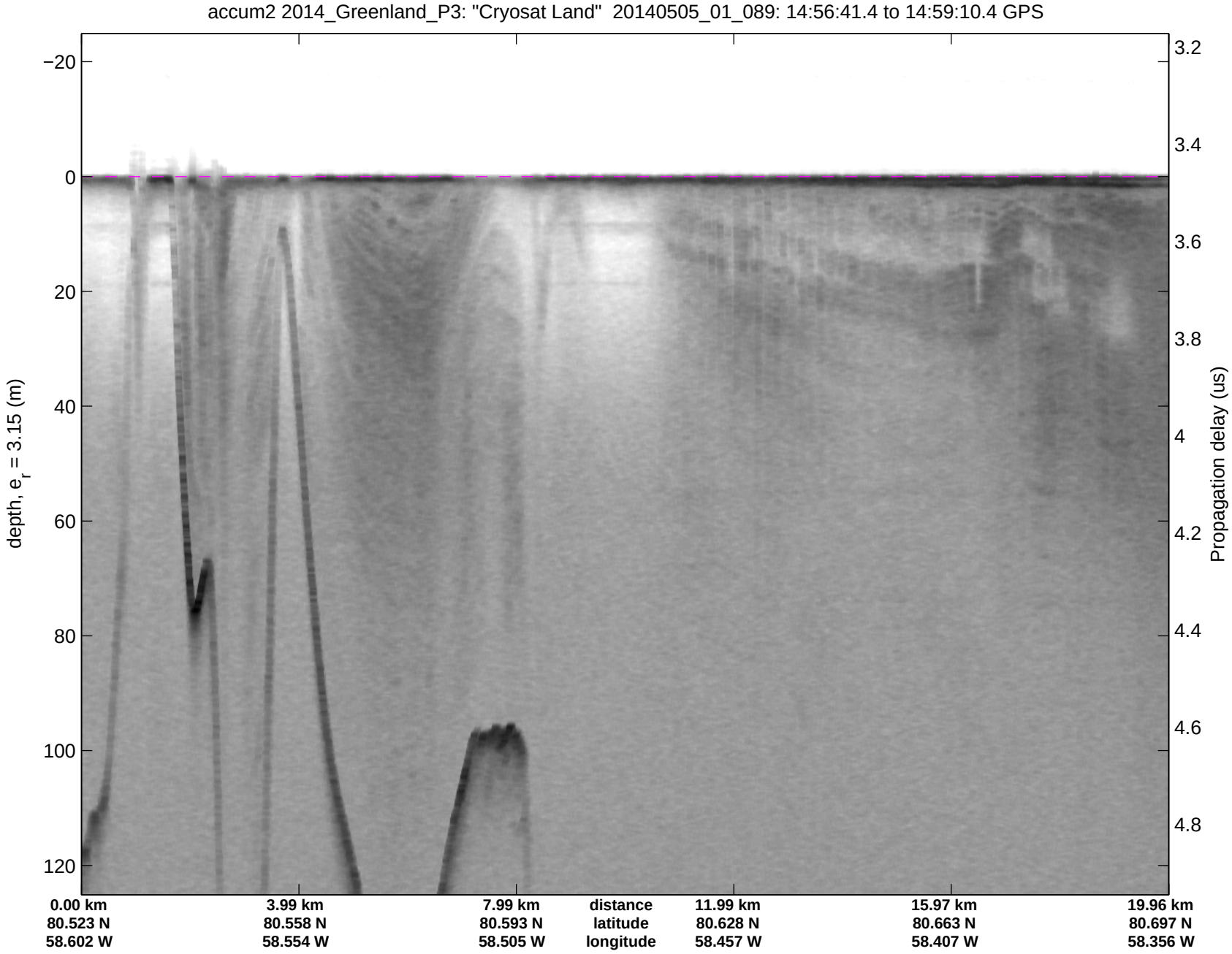

accum2 2014_Greenland_P3: "Cryosat Land" 20140505_01_088: 14:54:18.3 to 14:56:41.3 GPS
depth, e_r = 3.15 (m)
−20
0
20
40
60
80
100
120
Propagation delay (us)
3.4
3.6
3.8
4
4.2
4.4
4.6
4.8
5
0.00 km
80.349 N
58.839 W
4.00 km
80.384 N
58.792 W
8.00 km
80.418 N
58.745 W
distance
latitude
longitude
11.99 km
80.453 N
58.698 W
15.98 km
80.488 N
58.650 W
19.97 km
80.523 N
58.603 W

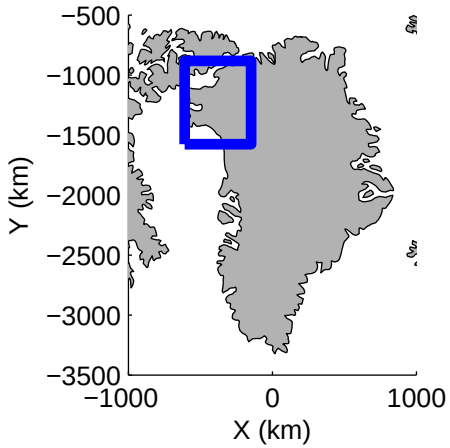

−500
−1000
−1500
−2000
−2500
−3000
−3500
Y (km)
−1000
0
1000
X (km)

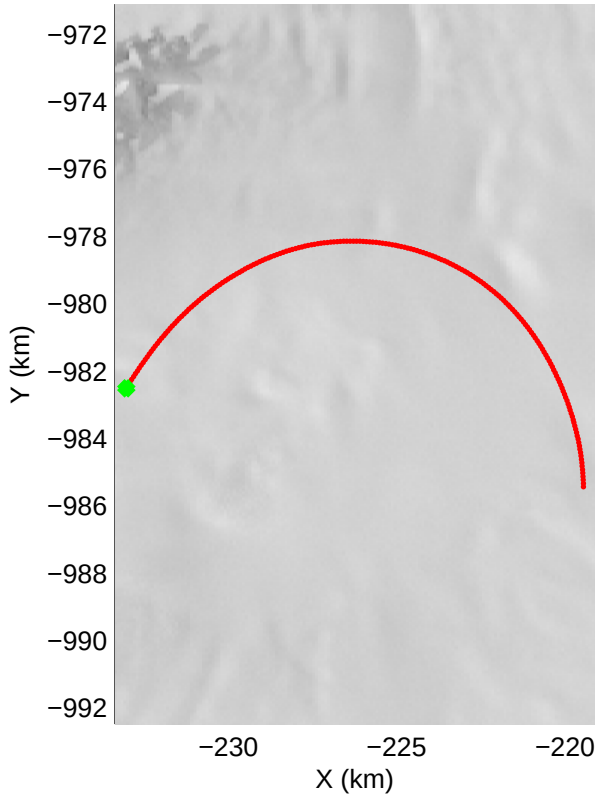

−984
−986
−988
−990
−992
−994
−996
−998
−1000
Y (km)
−242
−240
−238
−236
−234
−232
X (km)

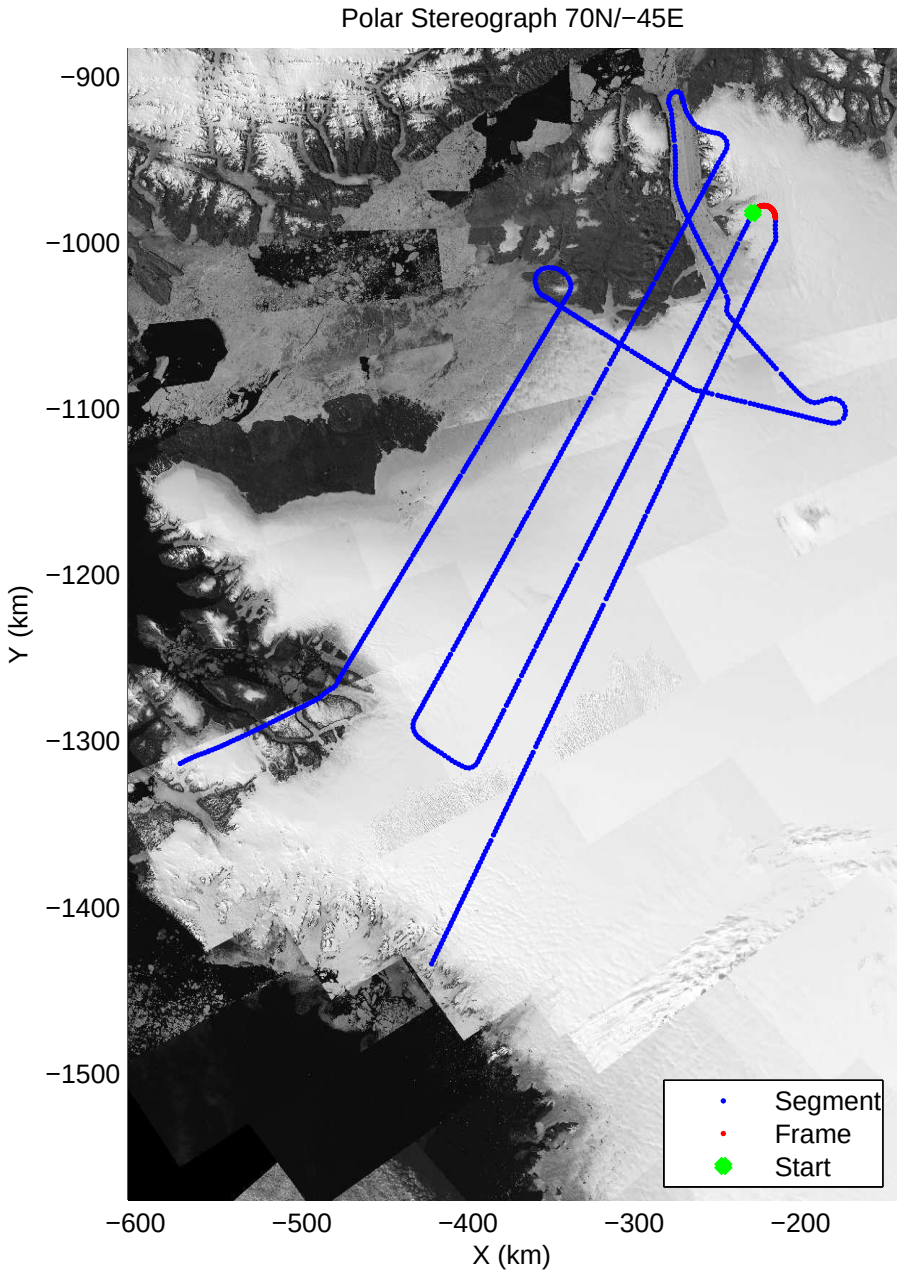

Polar Stereograph 70N/−45E
−900
−1000
−1100
−1200
−1300
−1400
−1500
Y (km)
−600
−500
−400
−300
−200
X (km)
Segment
Frame
Start

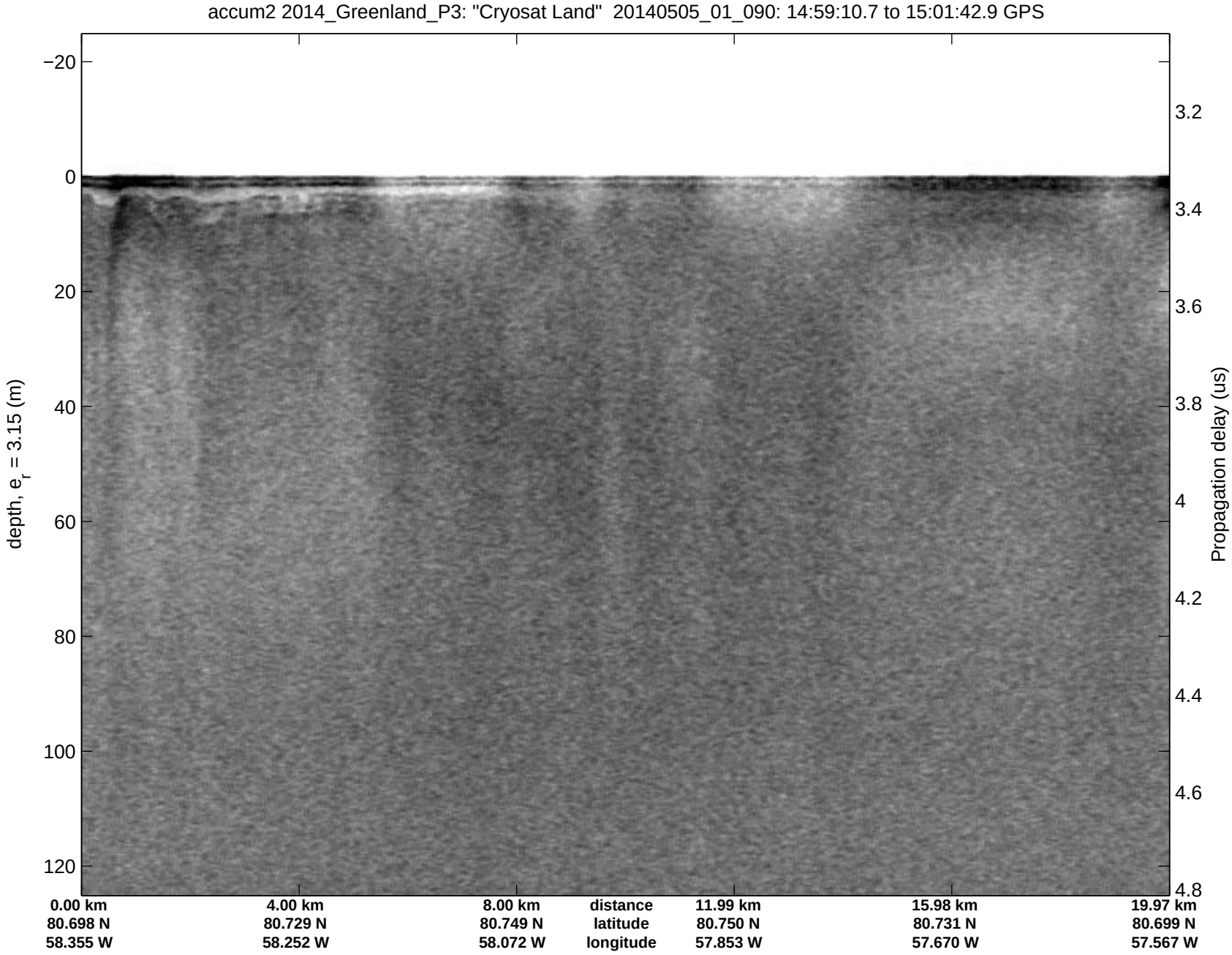

accum2 2014_Greenland_P3: "Cryosat Land" 20140505_01_089: 14:56:41.4 to 14:59:10.4 GPS
depth, e_r = 3.15 (m)
−20
0
20
40
60
80
100
120
Propagation delay (us)
3.2
3.4
3.6
3.8
4
4.2
4.4
4.6
4.8
0.00 km
80.523 N
58.602 W
3.99 km
80.558 N
58.554 W
7.99 km
80.593 N
58.505 W
distance
latitude
longitude
11.99 km
80.628 N
58.457 W
15.97 km
80.663 N
58.407 W
19.96 km
80.697 N
58.356 W

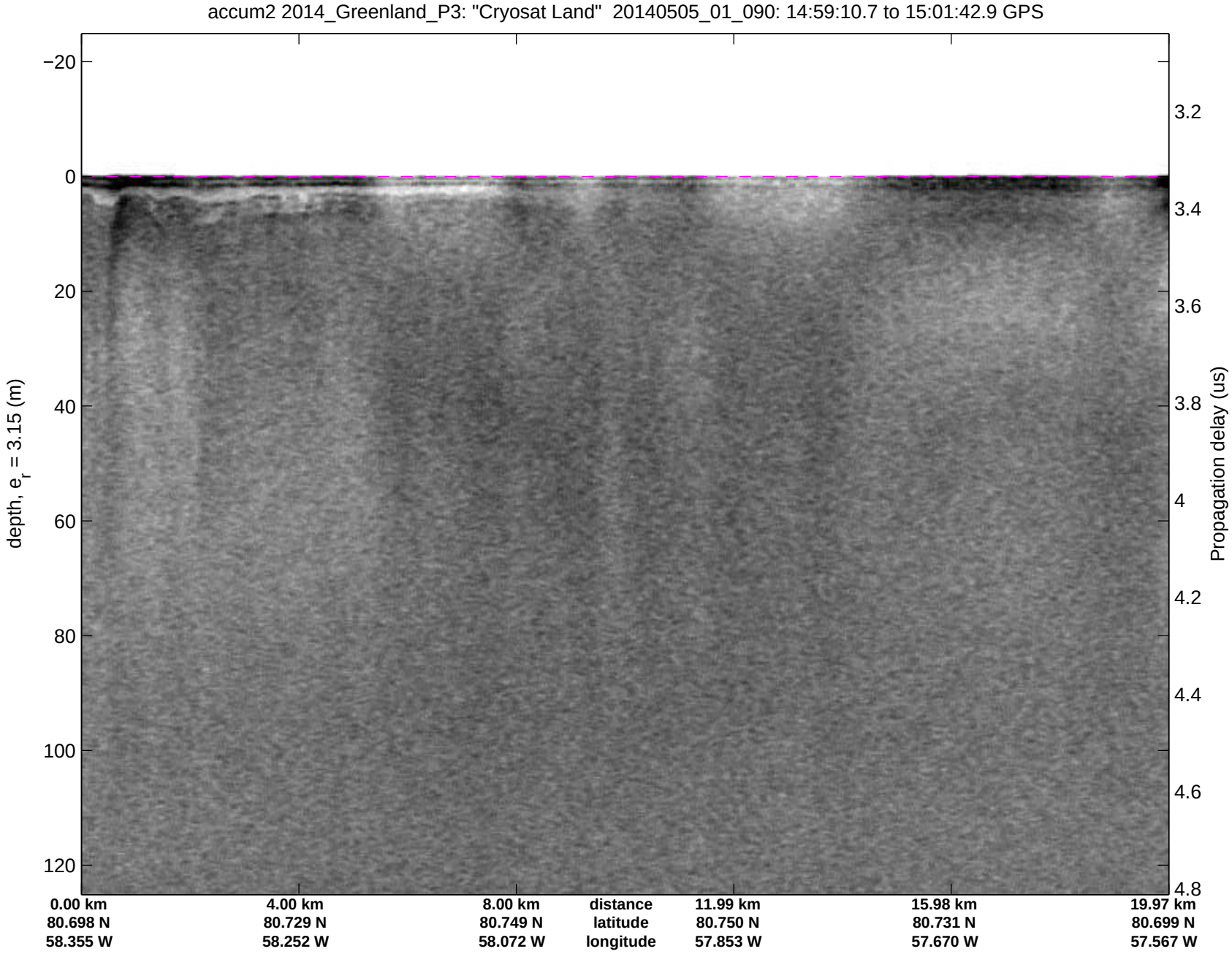

accum2 2014_Greenland_P3: "Cryosat Land" 20140505_01_089: 14:56:41.4 to 14:59:10.4 GPS
depth, e_r = 3.15 (m)
−20
0
20
40
60
80
100
120
Propagation delay (us)
3.2
3.4
3.6
3.8
4
4.2
4.4
4.6
4.8
0.00 km
80.523 N
58.602 W
3.99 km
80.558 N
58.554 W
7.99 km
80.593 N
58.505 W
distance
latitude
longitude
11.99 km
80.628 N
58.457 W
15.97 km
80.663 N
58.407 W
19.96 km
80.697 N
58.356 W

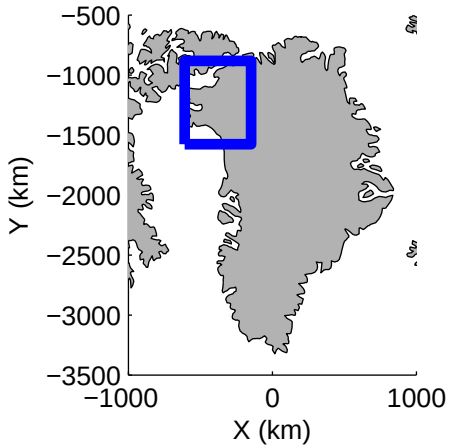

−500
−1000
−1500
−2000
−2500
−3000
−3500
Y (km)
−1000
0
1000
X (km)

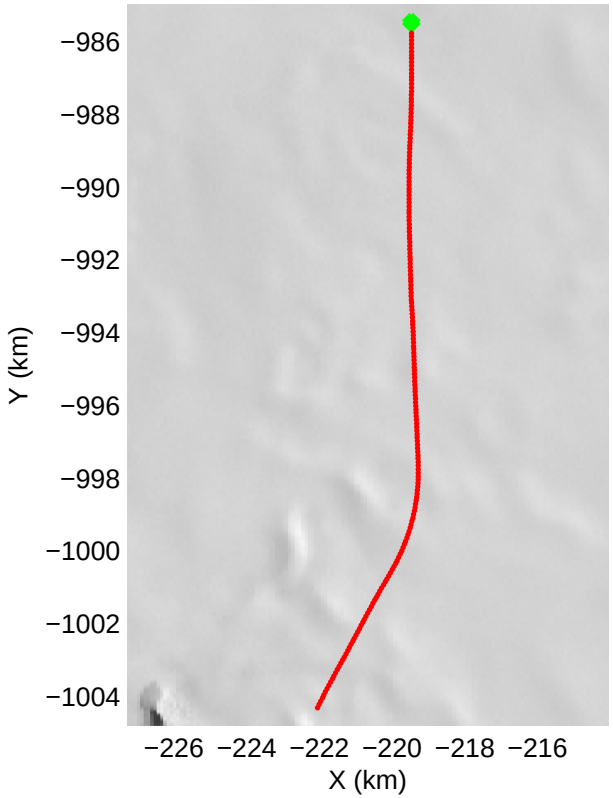

−972
−974
−976
−978
−980
−982
−984
−986
−988
−990
−992
Y (km)
−230
−225
−220
X (km)

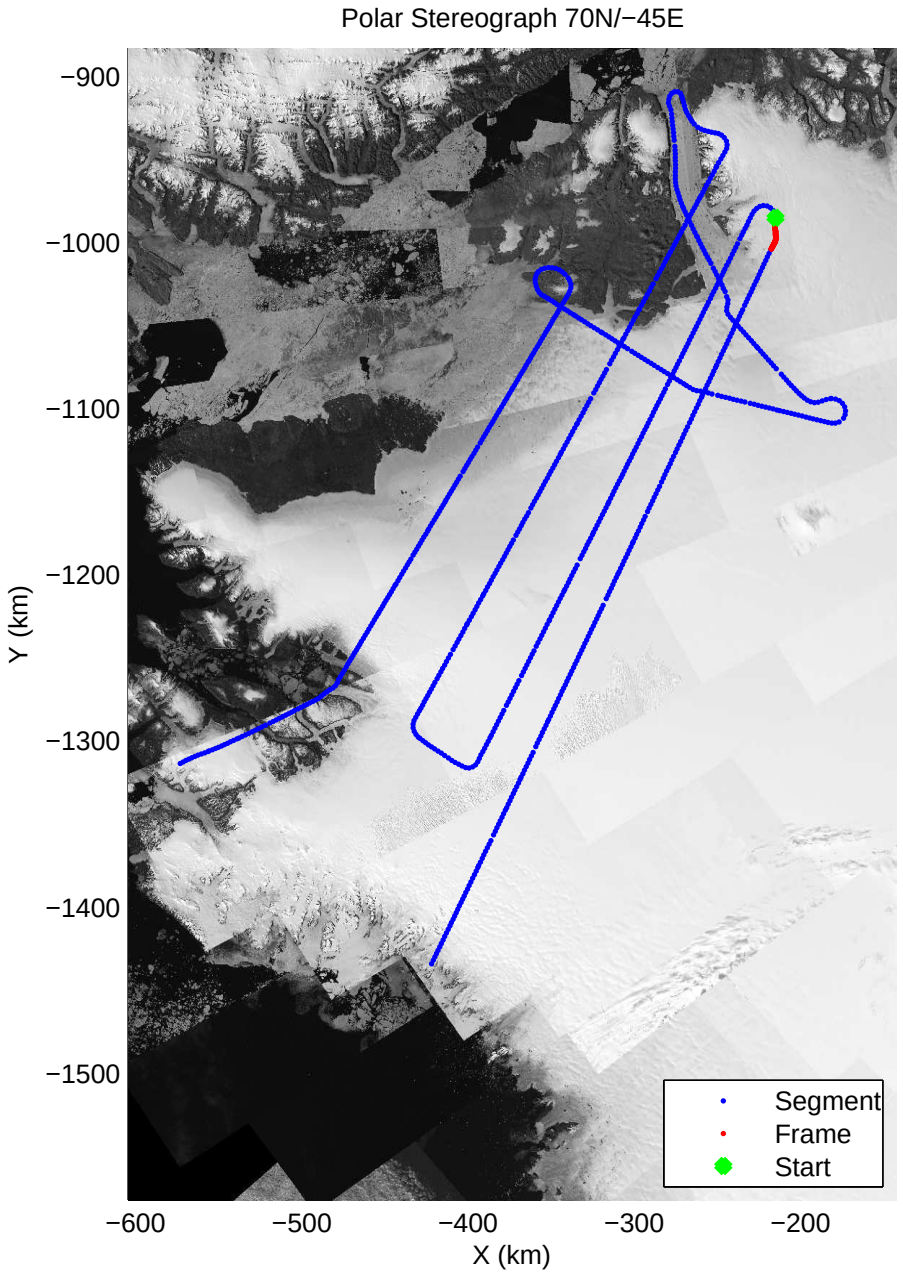

Polar Stereograph 70N/−45E
−900
−1000
−1100
−1200
−1300
−1400
−1500
Y (km)
−600
−500
−400
−300
−200
X (km)
Segment
Frame
Start

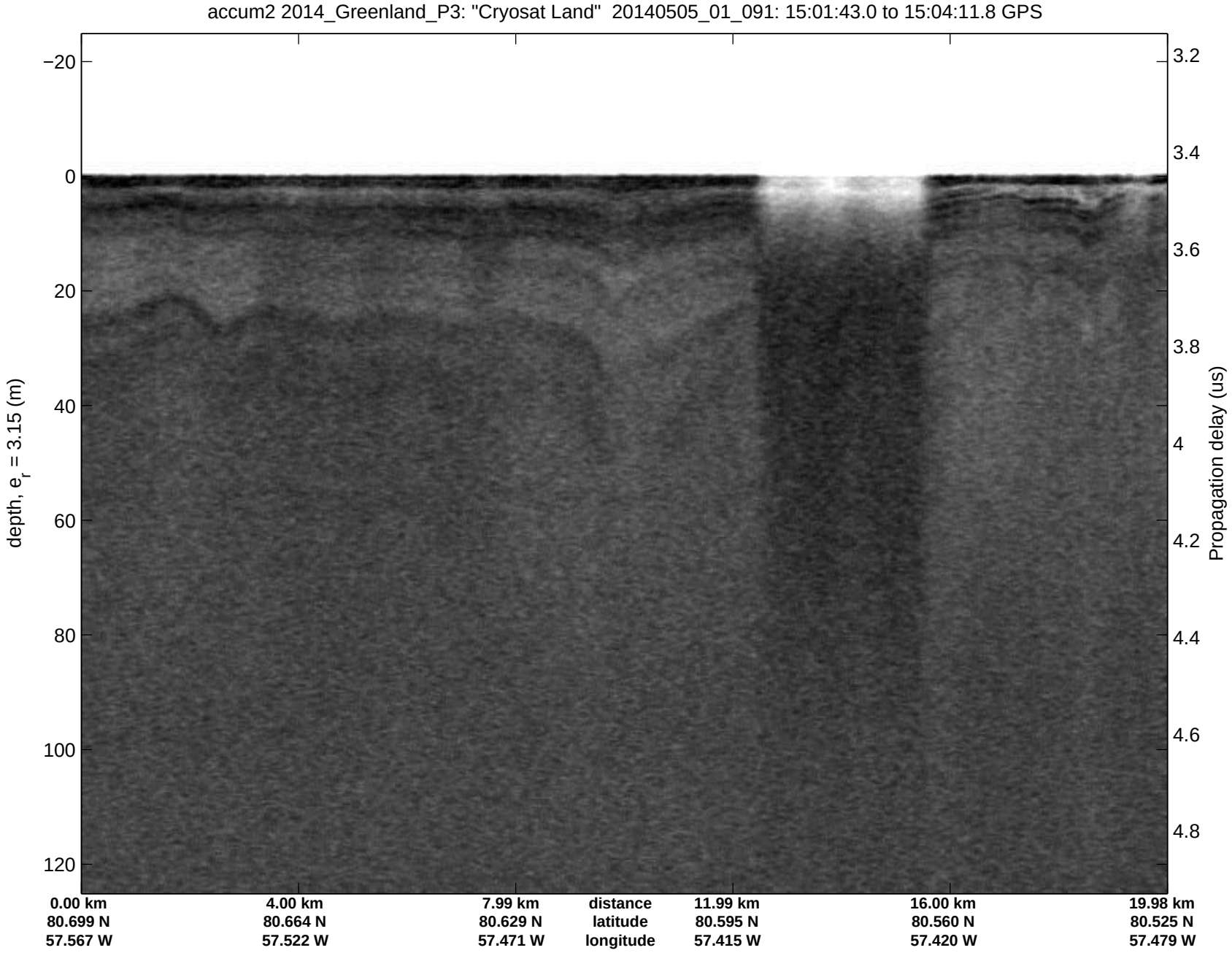

accum2 2014_Greenland_P3: "Cryosat Land" 20140505_01_090: 14:59:10.7 to 15:01:42.9 GPS
depth, e_r = 3.15 (m)
−20
0
20
40
60
80
100
120
Propagation delay (us)
3.2
3.4
3.6
3.8
4
4.2
4.4
4.6
4.8
0.00 km
80.698 N
58.355 W
4.00 km
80.729 N
58.252 W
8.00 km
80.749 N
58.072 W
distance
latitude
longitude
11.99 km
80.750 N
57.853 W
15.98 km
80.731 N
57.670 W
19.97 km
80.699 N
57.567 W

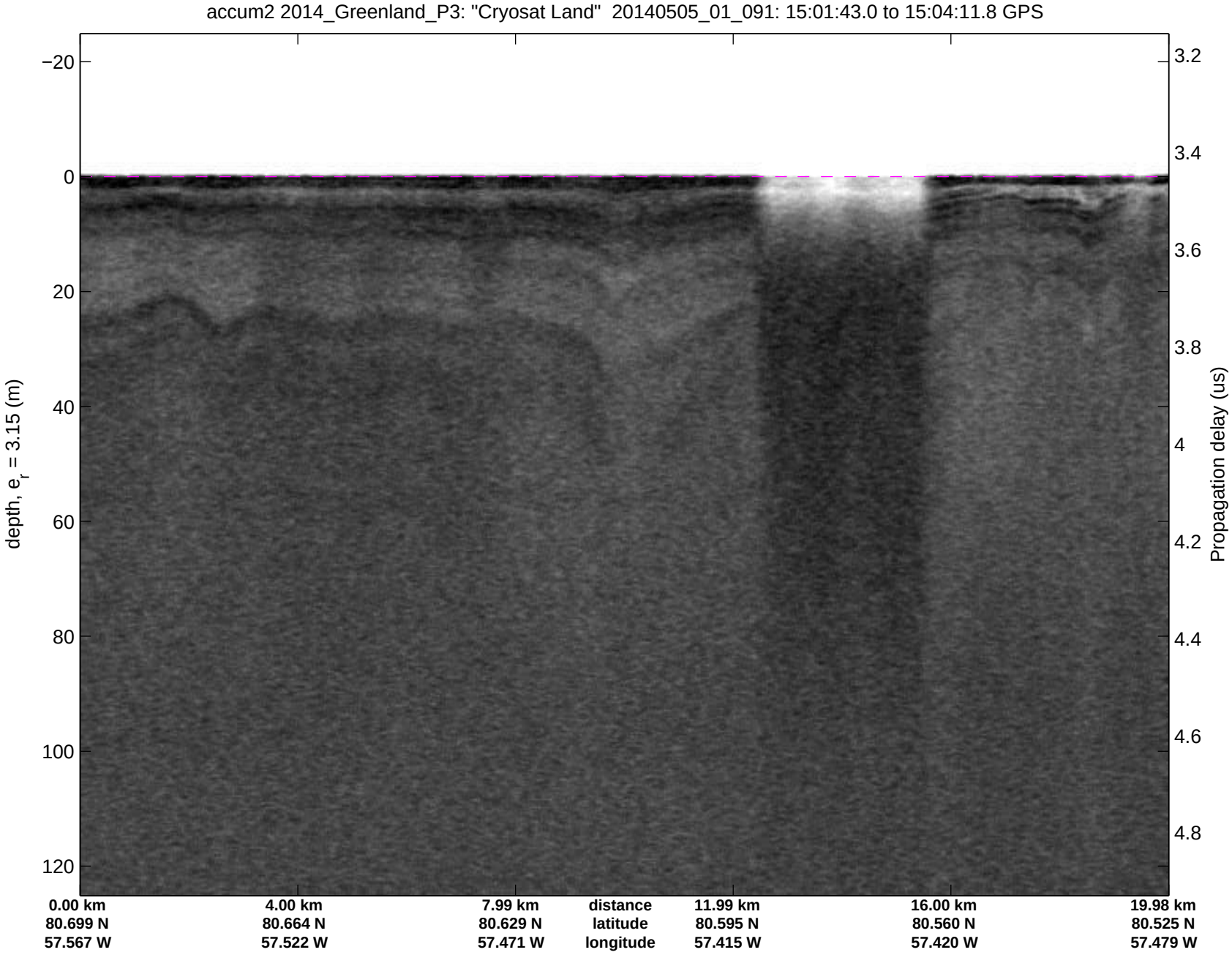

accum2 2014_Greenland_P3: "Cryosat Land" 20140505_01_090: 14:59:10.7 to 15:01:42.9 GPS
−20
0
20
40
60
80
100
120
depth, e_r = 3.15 (m)
3.2
3.4
3.6
3.8
4
4.2
4.4
4.6
4.8
Propagation delay (us)
0.00 km
80.698 N
58.355 W
4.00 km
80.729 N
58.252 W
8.00 km
80.749 N
58.072 W
distance
latitude
longitude
11.99 km
80.750 N
57.853 W
15.98 km
80.731 N
57.670 W
19.97 km
80.699 N
57.567 W

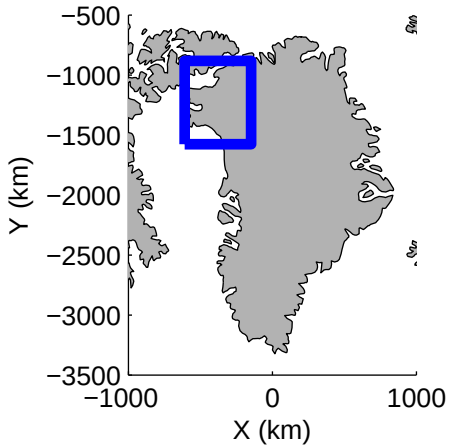

−500
−1000
−1500
−2000
−2500
−3000
−3500
Y (km)
−1000
0
1000
X (km)

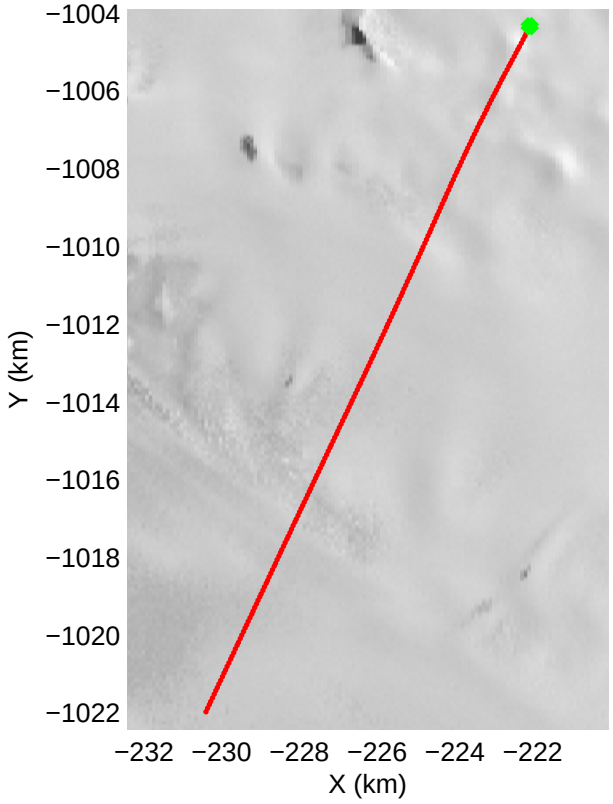

−986
−988
−990
−992
−994
−996
−998
−1000
−1002
−1004
Y (km)
−226
−224
−222
−220
−218
−216
X (km)

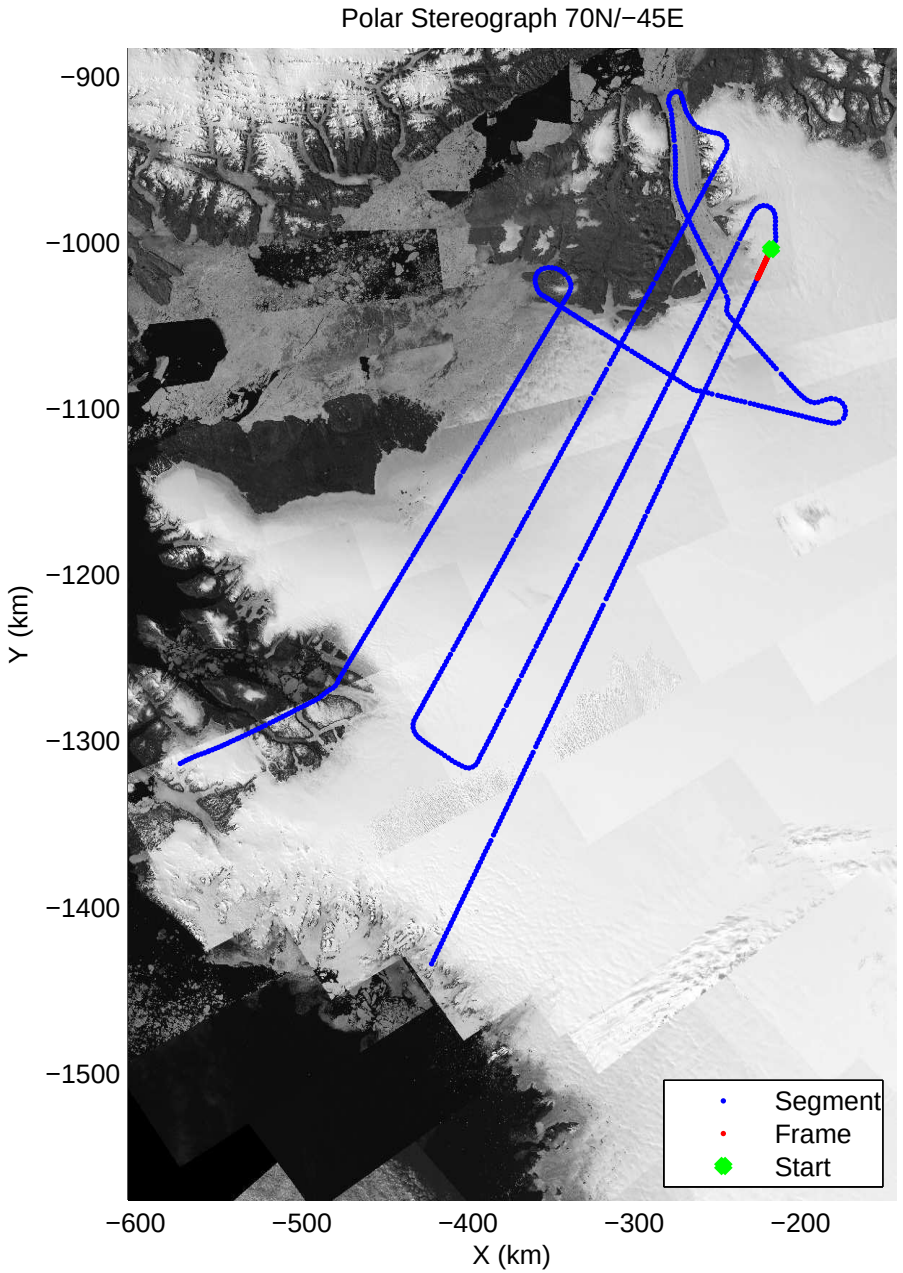

Polar Stereograph 70N/−45E
−900
−1000
−1100
−1200
−1300
−1400
−1500
Y (km)
−600
−500
−400
−300
−200
X (km)
Segment
Frame
Start

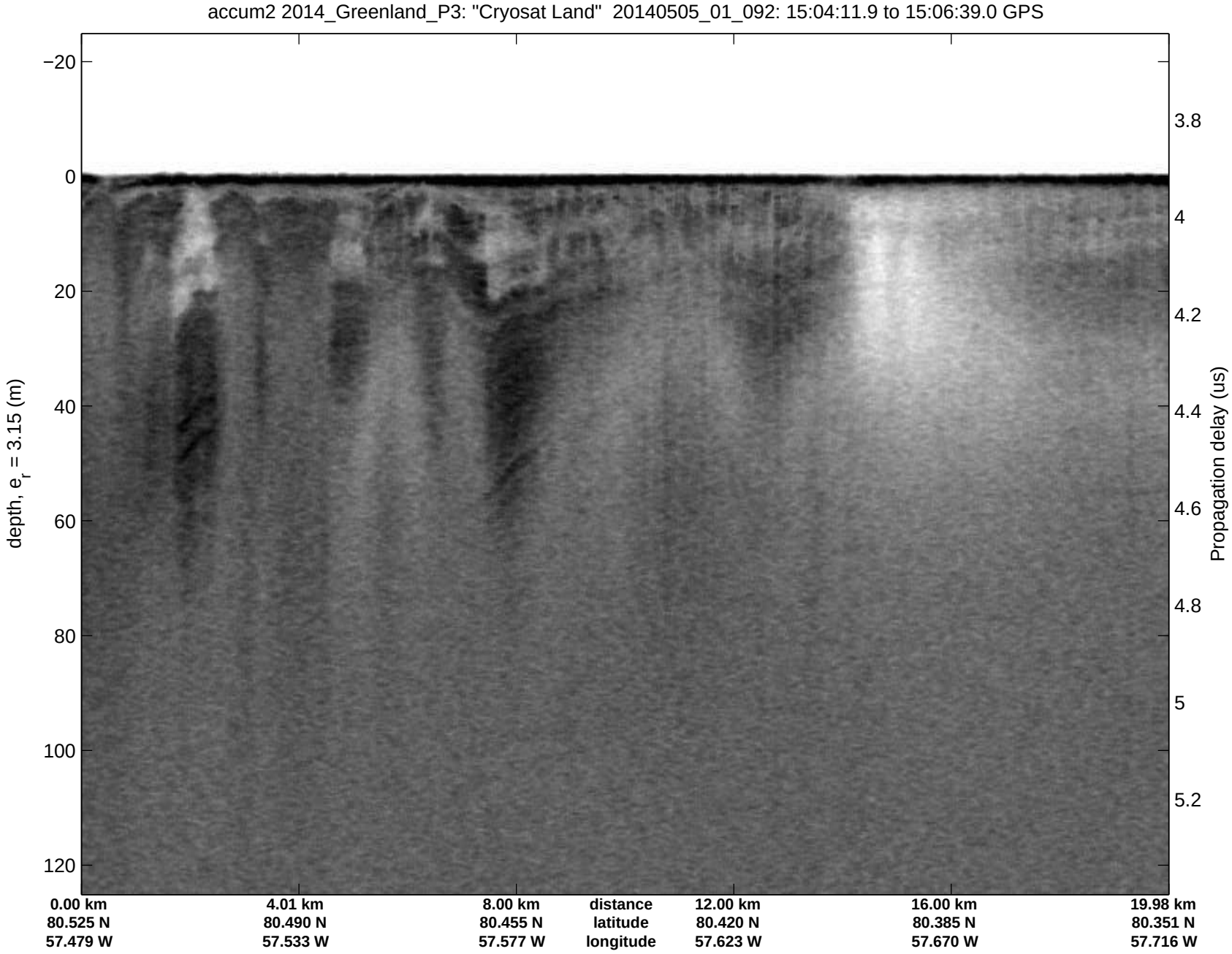

accum2 2014_Greenland_P3: "Cryosat Land" 20140505_01_091: 15:01:43.0 to 15:04:11.8 GPS
depth, e_r = 3.15 (m)
−20
0
20
40
60
80
100
120
Propagation delay (us)
3.2
3.4
3.6
3.8
4
4.2
4.4
4.6
4.8
0.00 km
80.699 N
57.567 W
4.00 km
80.664 N
57.522 W
7.99 km
80.629 N
57.471 W
distance
latitude
longitude
11.99 km
80.595 N
57.415 W
16.00 km
80.560 N
57.420 W
19.98 km
80.525 N
57.479 W

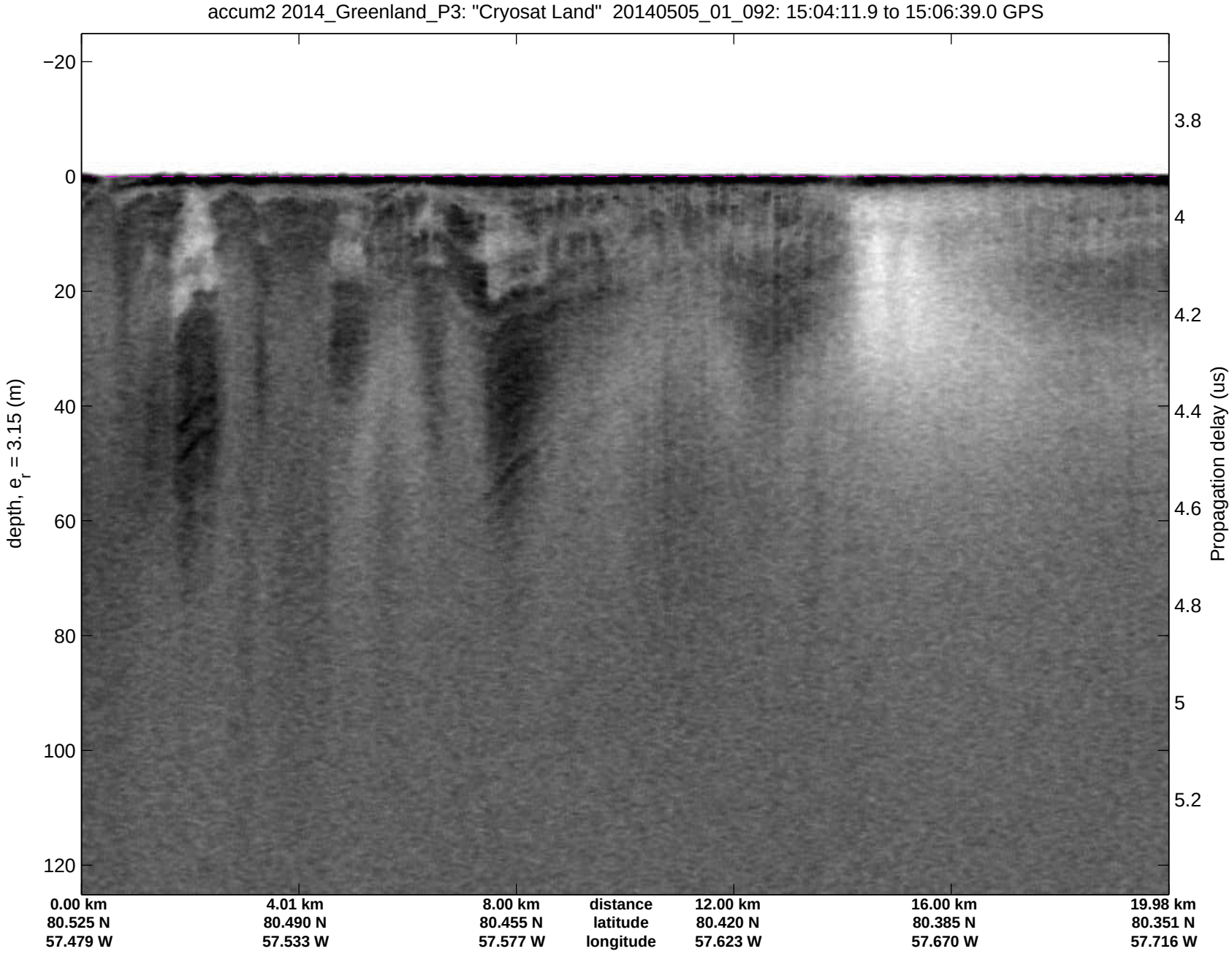

accum2 2014_Greenland_P3: "Cryosat Land" 20140505_01_091: 15:01:43.0 to 15:04:11.8 GPS
depth, e_r = 3.15 (m)
−20
0
20
40
60
80
100
120
Propagation delay (us)
3.2
3.4
3.6
3.8
4
4.2
4.4
4.6
4.8
0.00 km
80.699 N
57.567 W
4.00 km
80.664 N
57.522 W
7.99 km
80.629 N
57.471 W
distance
latitude
longitude
11.99 km
80.595 N
57.415 W
16.00 km
80.560 N
57.420 W
19.98 km
80.525 N
57.479 W

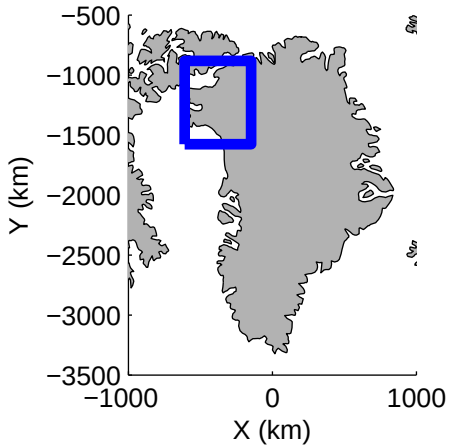

−500
−1000
−1500
−2000
−2500
−3000
−3500
Y (km)
−1000
0
1000
X (km)

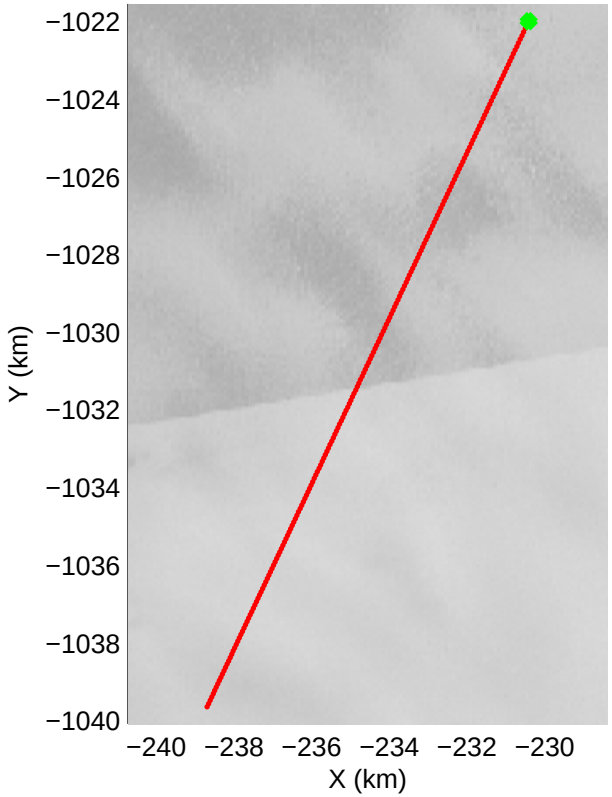

−1004
−1006
−1008
−1010
−1012
−1014
−1016
−1018
−1020
−1022
Y (km)
−232
−230
−228
−226
−224
−222
X (km)

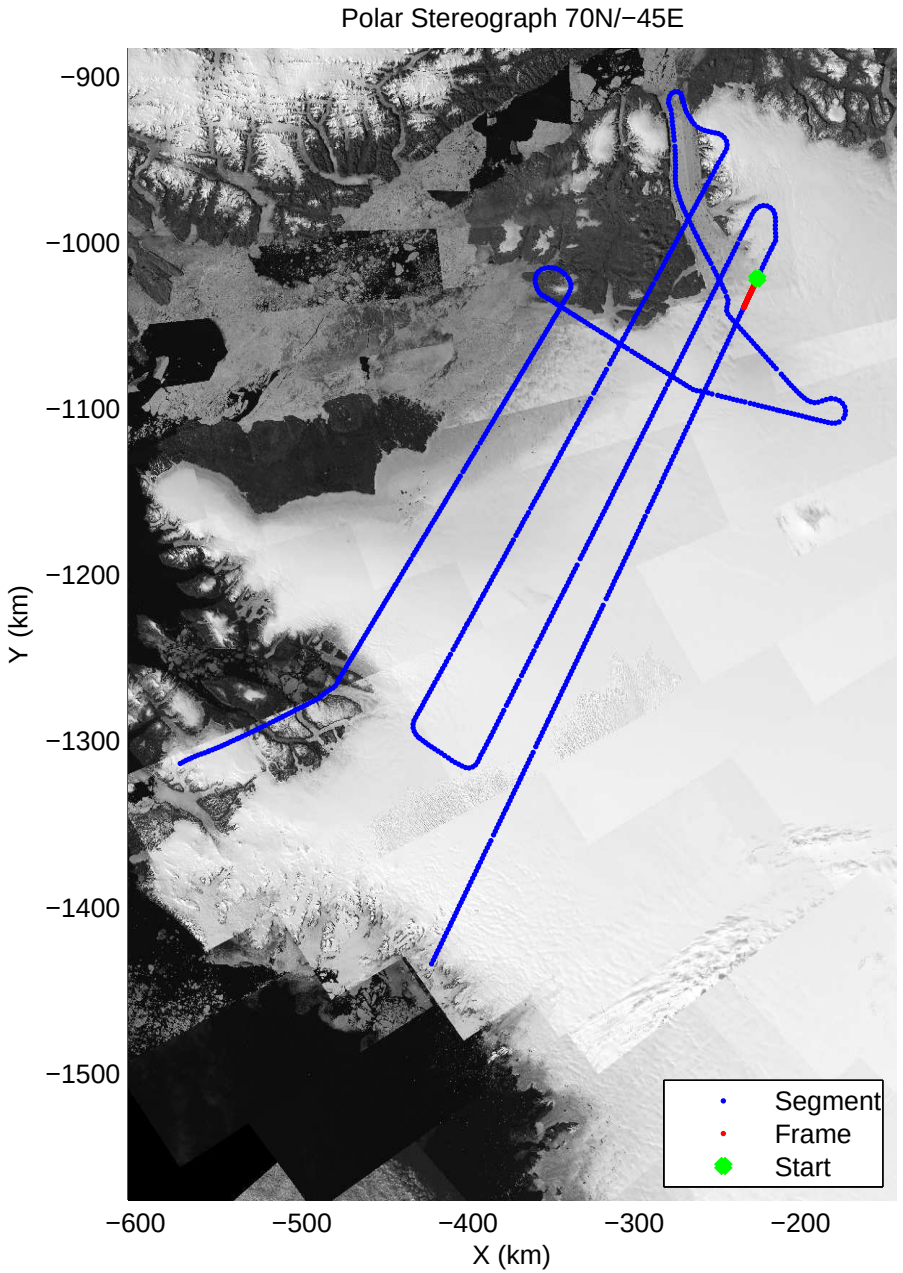

Polar Stereograph 70N/−45E
−900
−1000
−1100
−1200
−1300
−1400
−1500
Y (km)
−600
−500
−400
−300
−200
X (km)
Segment
Frame
Start

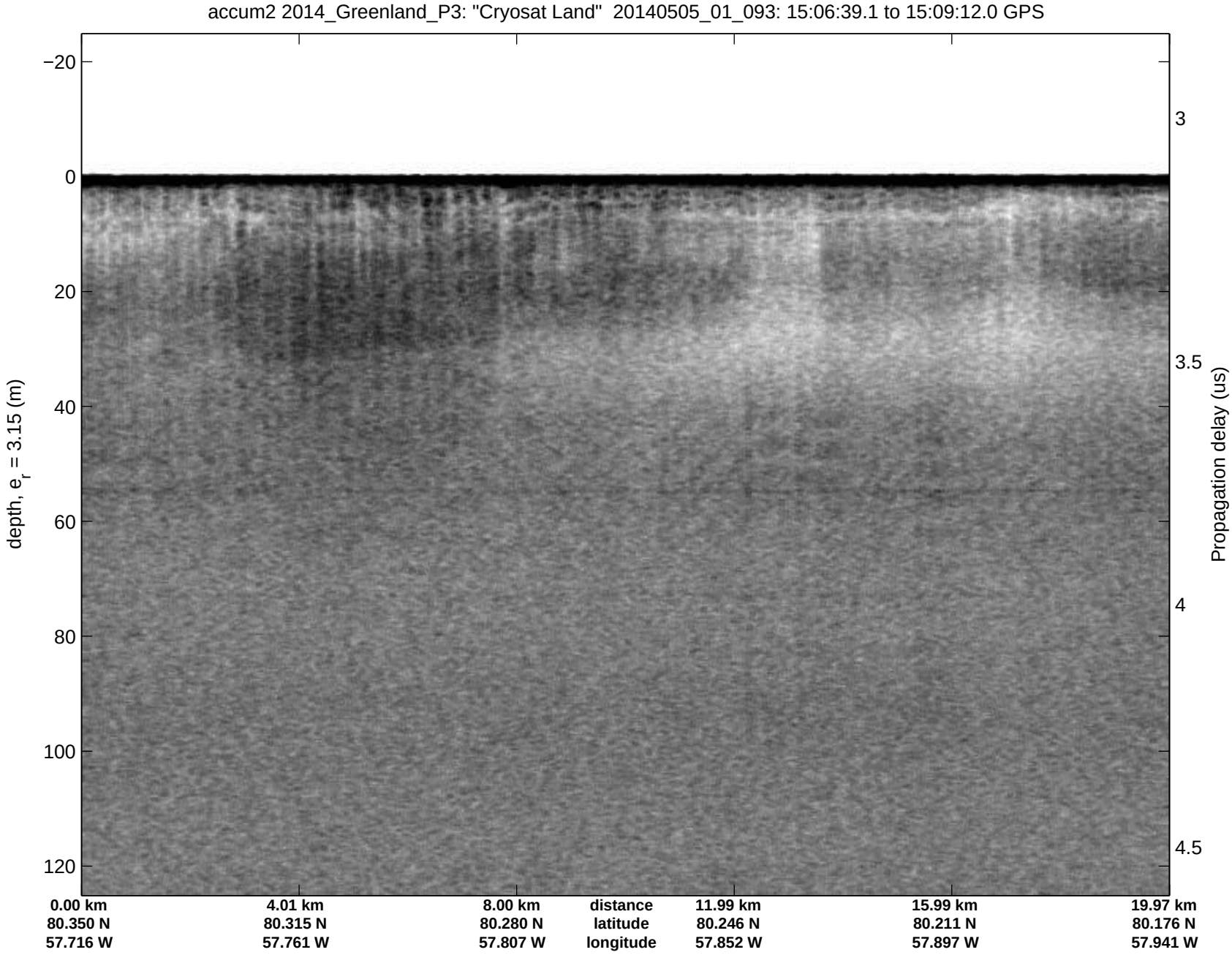

accum2 2014_Greenland_P3: "Cryosat Land" 20140505_01_092: 15:04:11.9 to 15:06:39.0 GPS
depth, e_r = 3.15 (m)
−20
0
20
40
60
80
100
120
Propagation delay (us)
3.8
4
4.2
4.4
4.6
4.8
5
5.2
0.00 km
80.525 N
57.479 W
4.01 km
80.490 N
57.533 W
8.00 km
80.455 N
57.577 W
distance
latitude
longitude
12.00 km
80.420 N
57.623 W
16.00 km
80.385 N
57.670 W
19.98 km
80.351 N
57.716 W

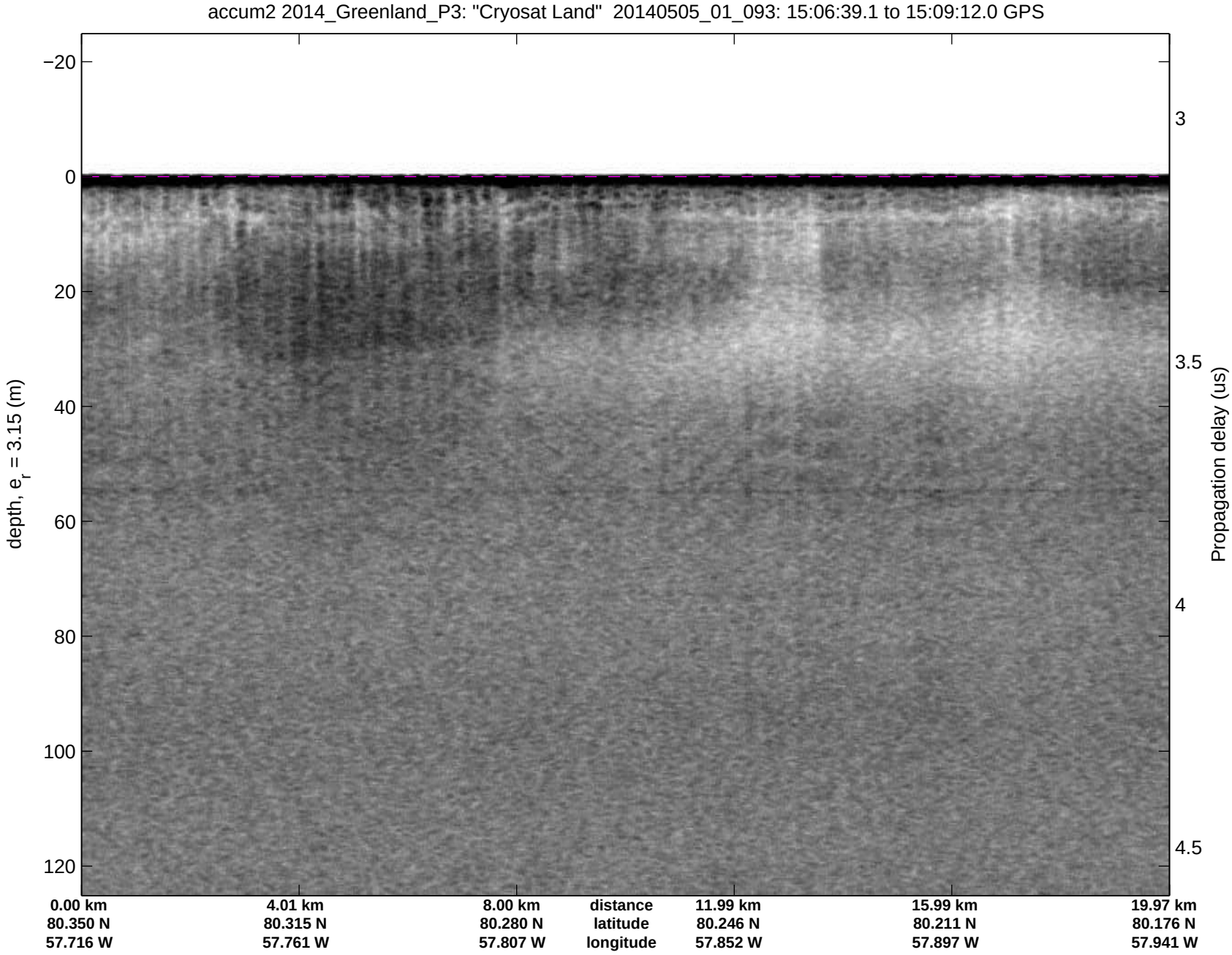

accum2 2014_Greenland_P3: "Cryosat Land" 20140505_01_092: 15:04:11.9 to 15:06:39.0 GPS
depth, e_r = 3.15 (m)
−20
0
20
40
60
80
100
120
Propagation delay (us)
3.8
4
4.2
4.4
4.6
4.8
5
5.2
0.00 km
80.525 N
57.479 W
4.01 km
80.490 N
57.533 W
8.00 km
80.455 N
57.577 W
distance
latitude
longitude
12.00 km
80.420 N
57.623 W
16.00 km
80.385 N
57.670 W
19.98 km
80.351 N
57.716 W

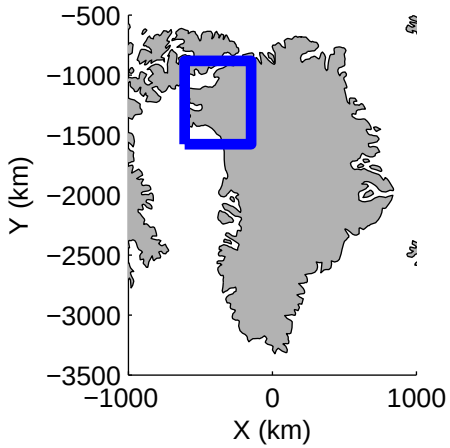

−500
−1000
−1500
−2000
−2500
−3000
−3500
Y (km)
−1000
0
1000
X (km)

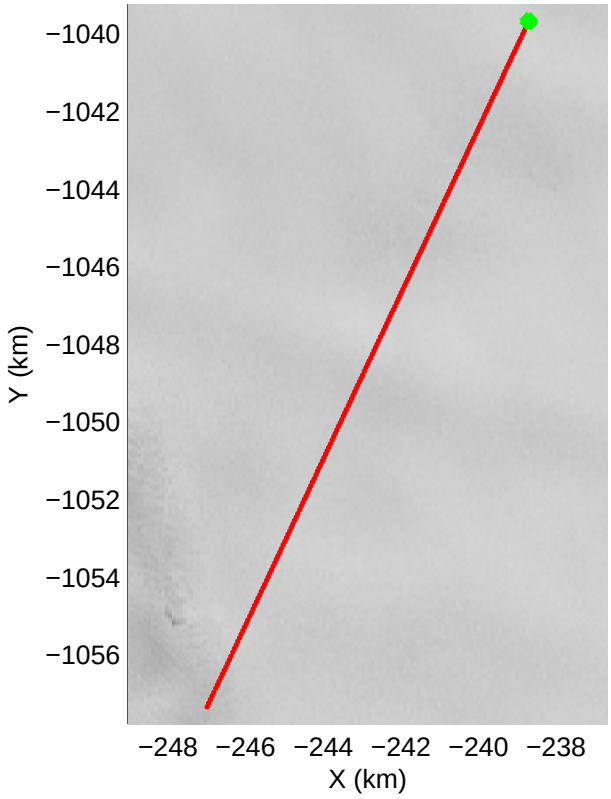

−1022
−1024
−1026
−1028
−1030
−1032
−1034
−1036
−1038
−1040
Y (km)
−240
−238
−236
−234
−232
−230
X (km)

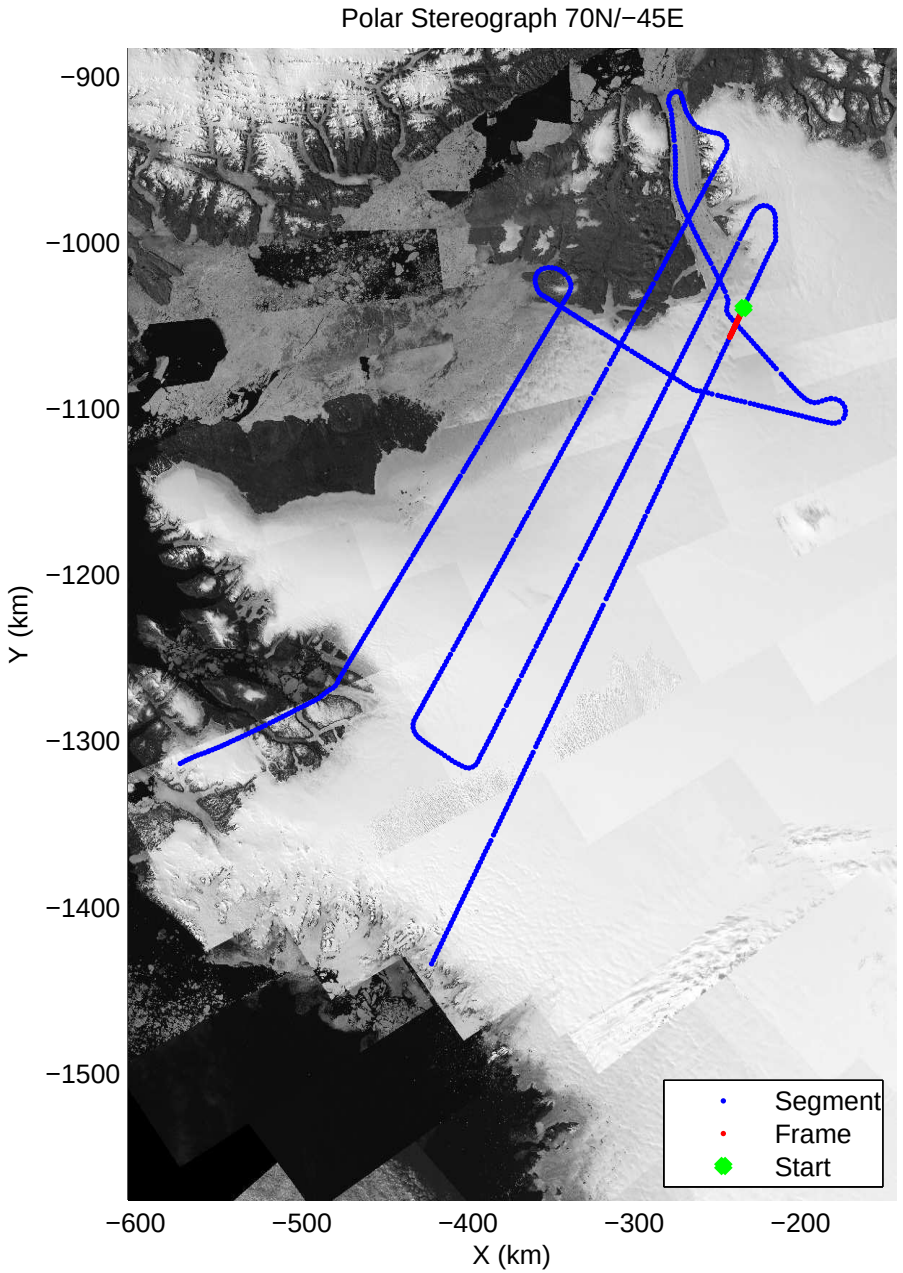

Polar Stereograph 70N/−45E
−900
−1000
−1100
−1200
−1300
−1400
−1500
Y (km)
−600
−500
−400
−300
−200
X (km)
Segment
Frame
Start

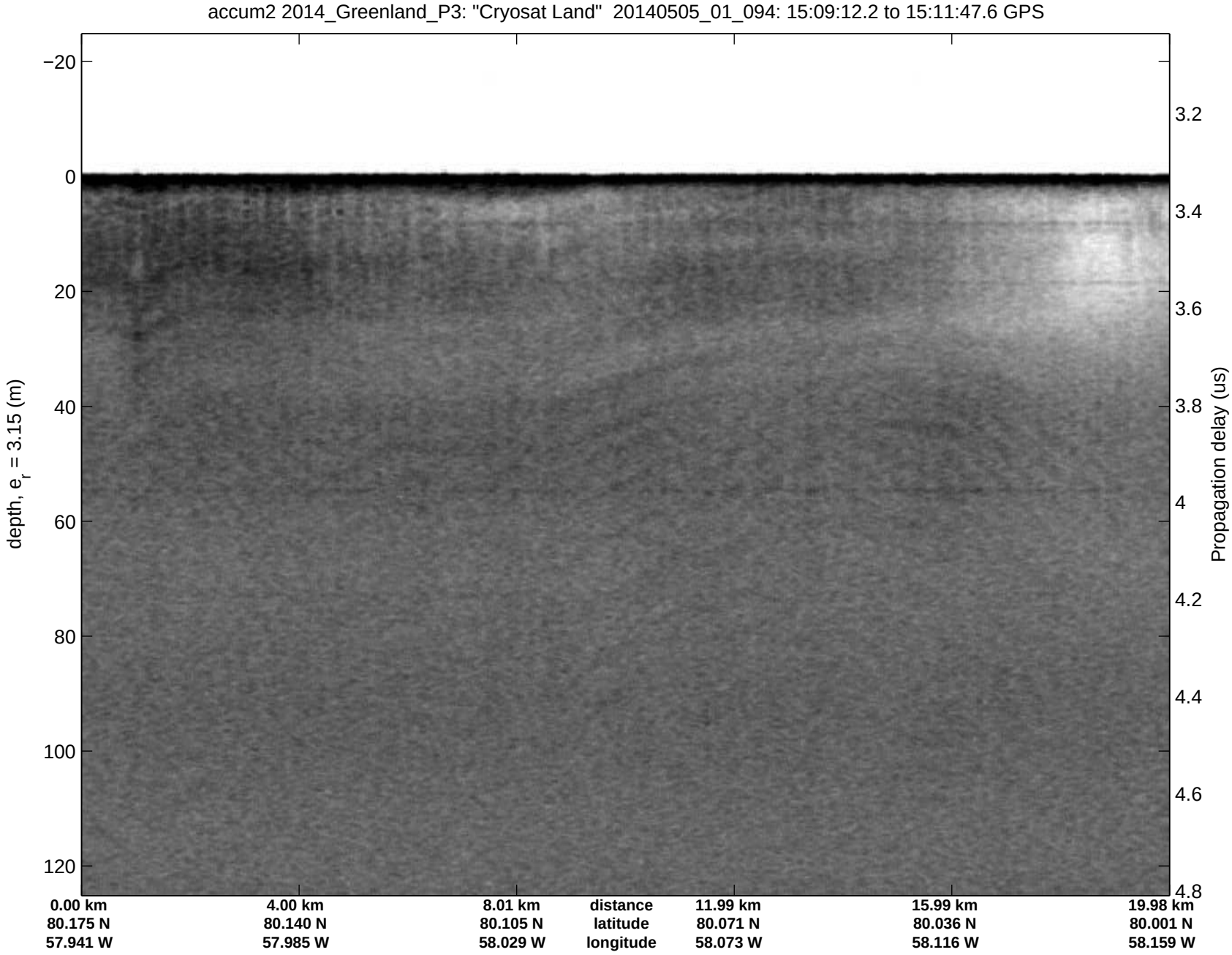

accum2 2014_Greenland_P3: "Cryosat Land" 20140505_01_093: 15:06:39.1 to 15:09:12.0 GPS
depth, e_r = 3.15 (m)
−20
0
20
40
60
80
100
120
Propagation delay (us)
3
3.5
4
4.5
0.00 km
80.350 N
57.716 W
4.01 km
80.315 N
57.761 W
8.00 km
80.280 N
57.807 W
distance
latitude
longitude
11.99 km
80.246 N
57.852 W
15.99 km
80.211 N
57.897 W
19.97 km
80.176 N
57.941 W

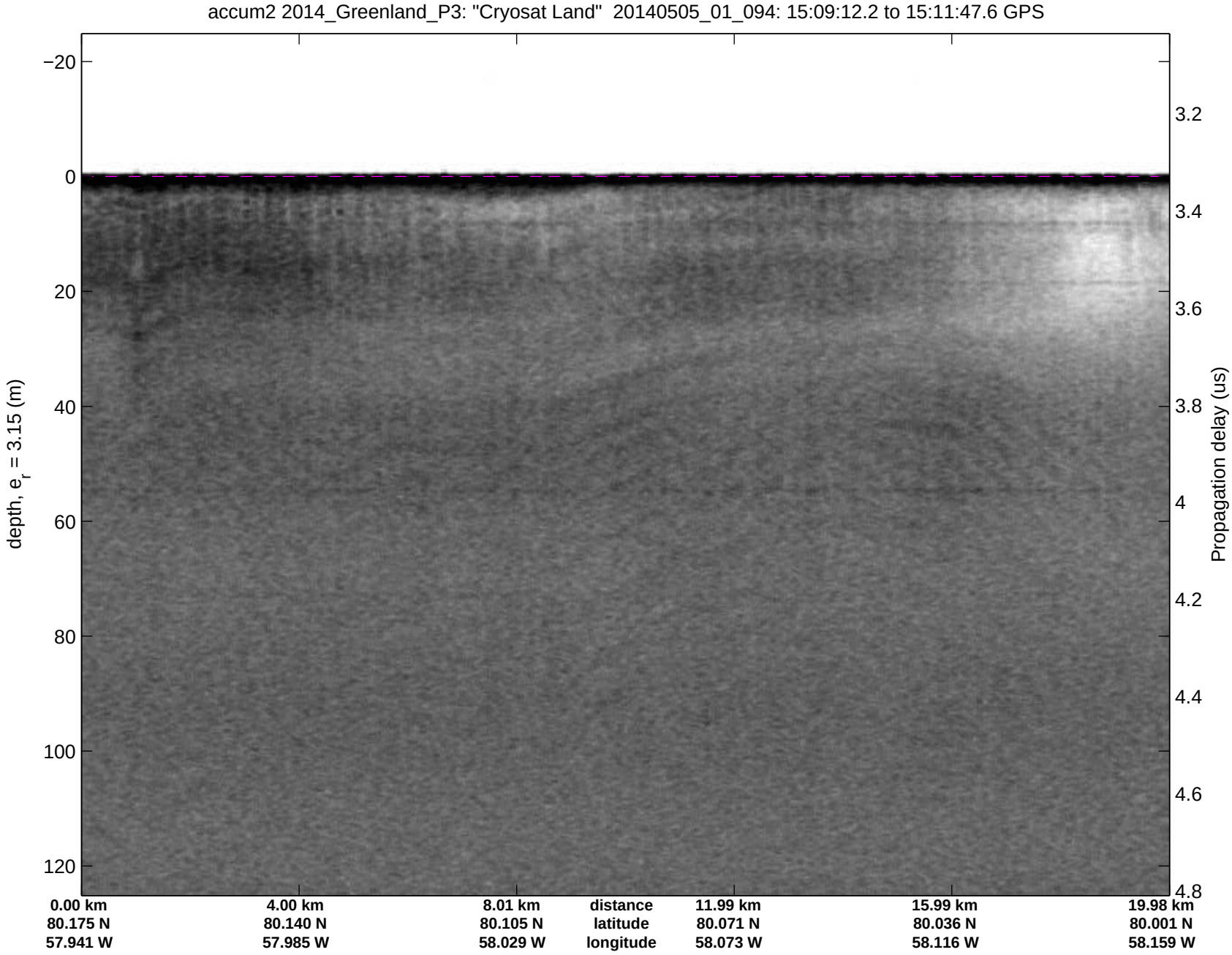

accum2 2014_Greenland_P3: "Cryosat Land" 20140505_01_093: 15:06:39.1 to 15:09:12.0 GPS
depth, e_r = 3.15 (m)
−20
0
20
40
60
80
100
120
Propagation delay (us)
3
3.5
4
4.5
0.00 km
80.350 N
57.716 W
4.01 km
80.315 N
57.761 W
8.00 km
80.280 N
57.807 W
distance
latitude
longitude
11.99 km
80.246 N
57.852 W
15.99 km
80.211 N
57.897 W
19.97 km
80.176 N
57.941 W

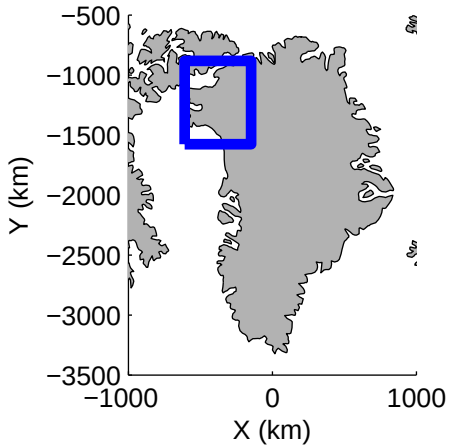

−500
−1000
−1500
−2000
−2500
−3000
−3500
Y (km)
−1000
0
1000
X (km)

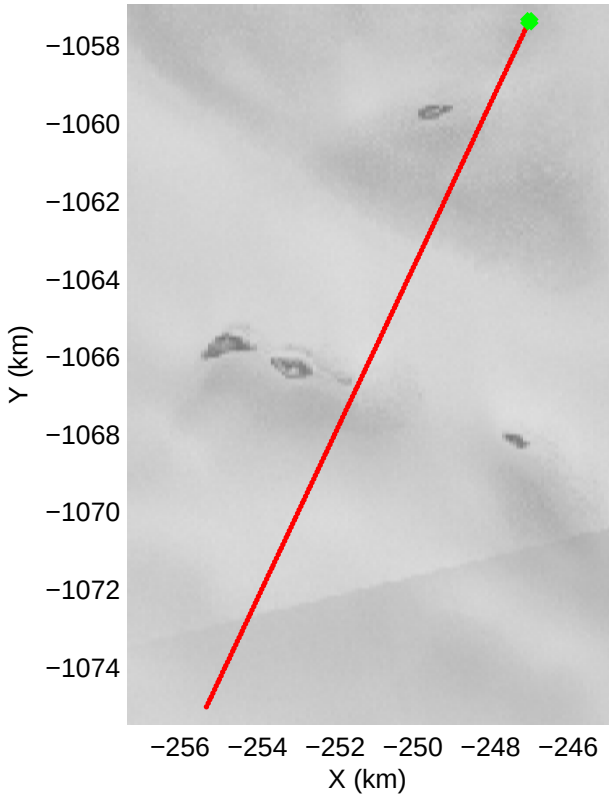

−1040
−1042
−1044
−1046
−1048
−1050
−1052
−1054
−1056
Y (km)
−248
−246
−244
−242
−240
−238
X (km)

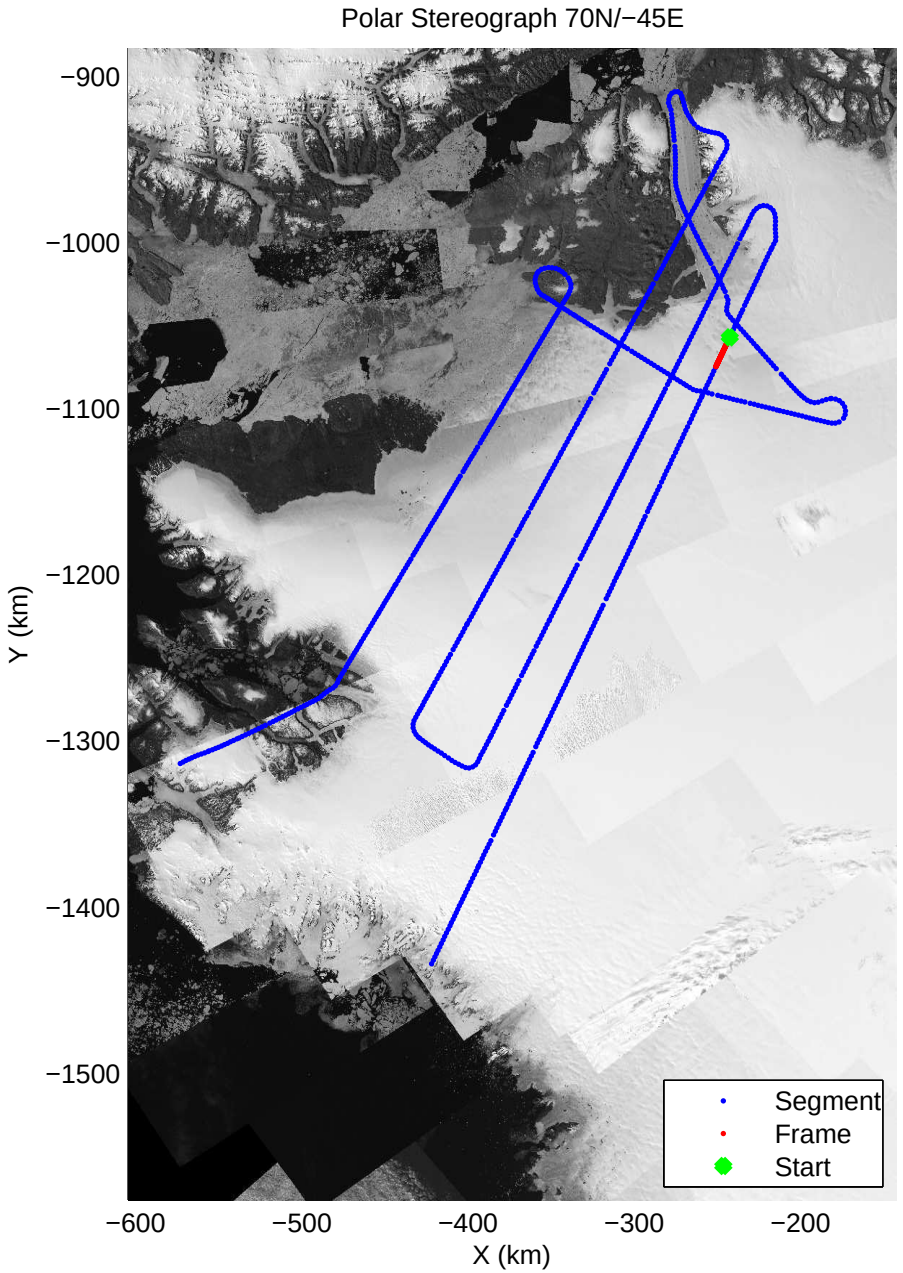

Polar Stereograph 70N/−45E
−900
−1000
−1100
−1200
−1300
−1400
−1500
Y (km)
−600
−500
−400
−300
−200
X (km)
Segment
Frame
Start

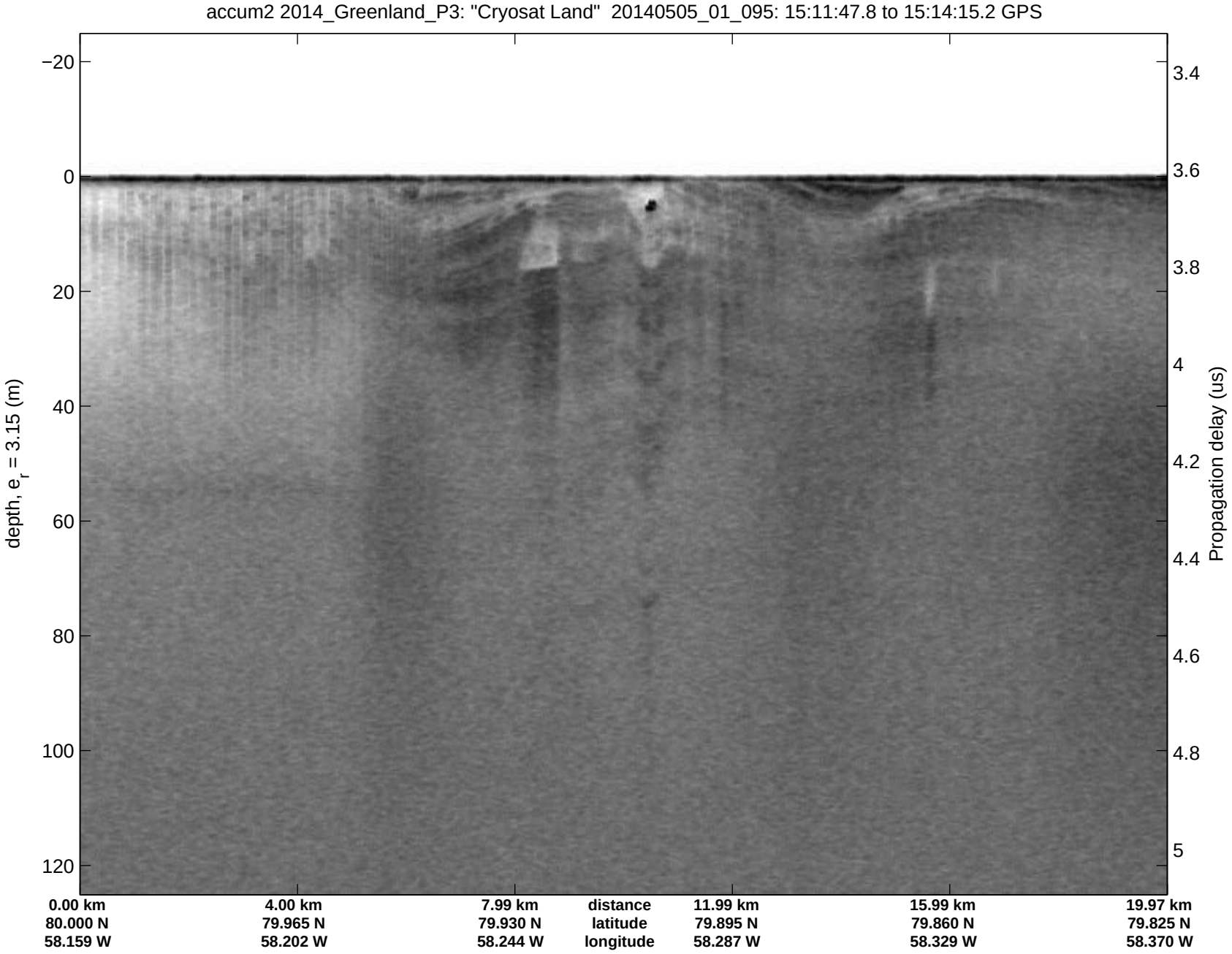

accum2 2014_Greenland_P3: "Cryosat Land" 20140505_01_094: 15:09:12.2 to 15:11:47.6 GPS
depth, e_r = 3.15 (m)
−20
0
20
40
60
80
100
120
Propagation delay (us)
3.2
3.4
3.6
3.8
4
4.2
4.4
4.6
4.8
0.00 km
80.175 N
57.941 W
4.00 km
80.140 N
57.985 W
8.01 km
80.105 N
58.029 W
distance
latitude
longitude
11.99 km
80.071 N
58.073 W
15.99 km
80.036 N
58.116 W
19.98 km
80.001 N
58.159 W

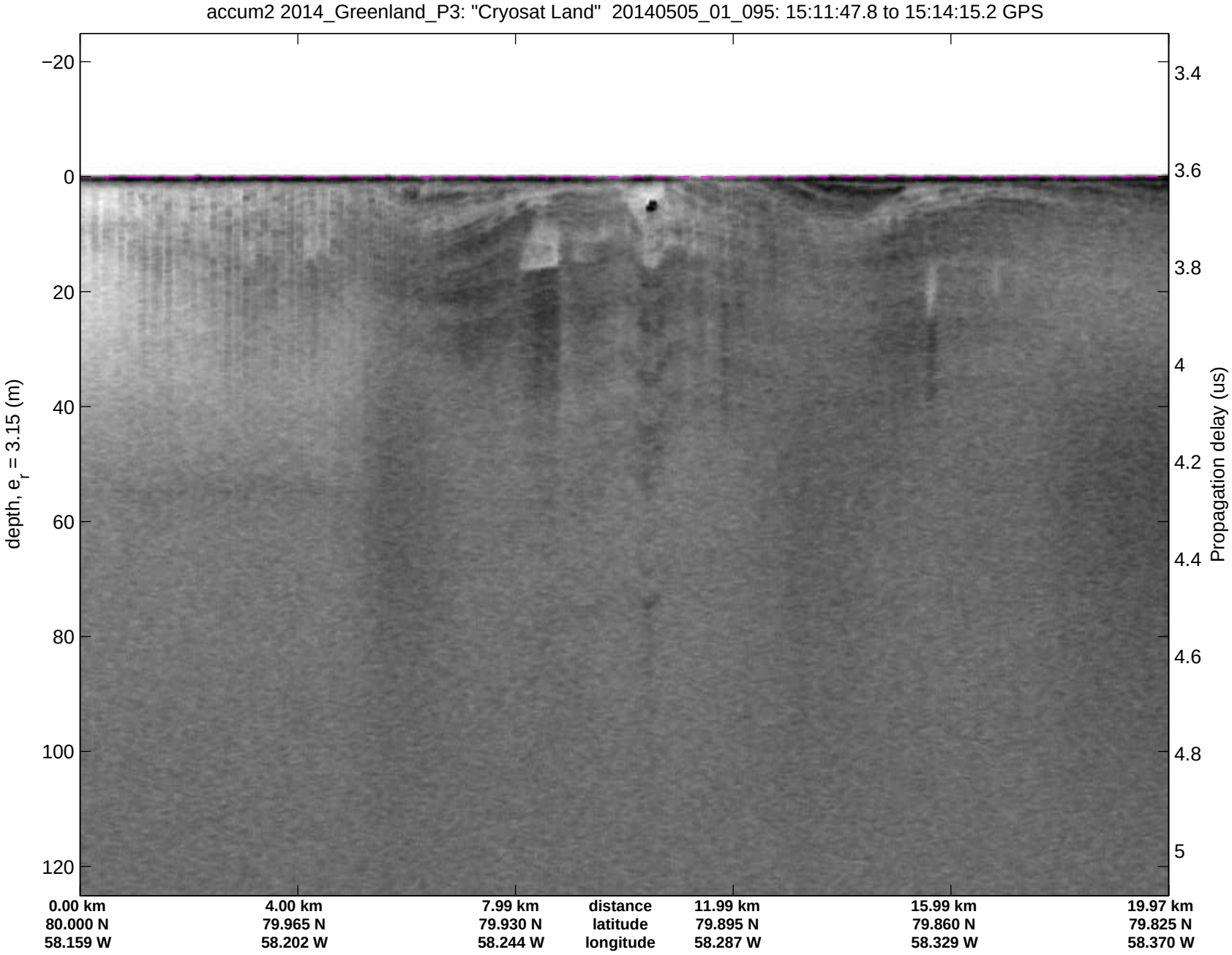

accum2 2014_Greenland_P3: "Cryosat Land" 20140505_01_094: 15:09:12.2 to 15:11:47.6 GPS
depth, e_r = 3.15 (m)
−20
0
20
40
60
80
100
120
Propagation delay (us)
3.2
3.4
3.6
3.8
4
4.2
4.4
4.6
4.8
0.00 km
80.175 N
57.941 W
4.00 km
80.140 N
57.985 W
8.01 km
80.105 N
58.029 W
distance
latitude
longitude
11.99 km
80.071 N
58.073 W
15.99 km
80.036 N
58.116 W
19.98 km
80.001 N
58.159 W

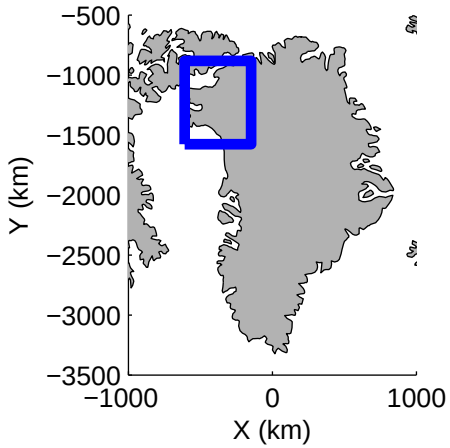

−500
−1000
−1500
−2000
−2500
−3000
−3500
Y (km)
−1000
0
1000
X (km)

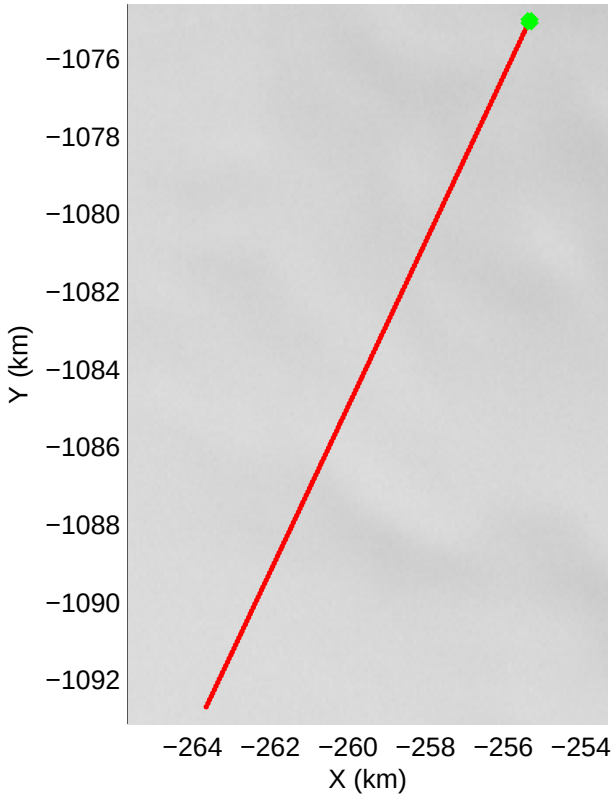

−1058
−1060
−1062
−1064
−1066
−1068
−1070
−1072
−1074
Y (km)
−256
−254
−252
−250
−248
−246
X (km)

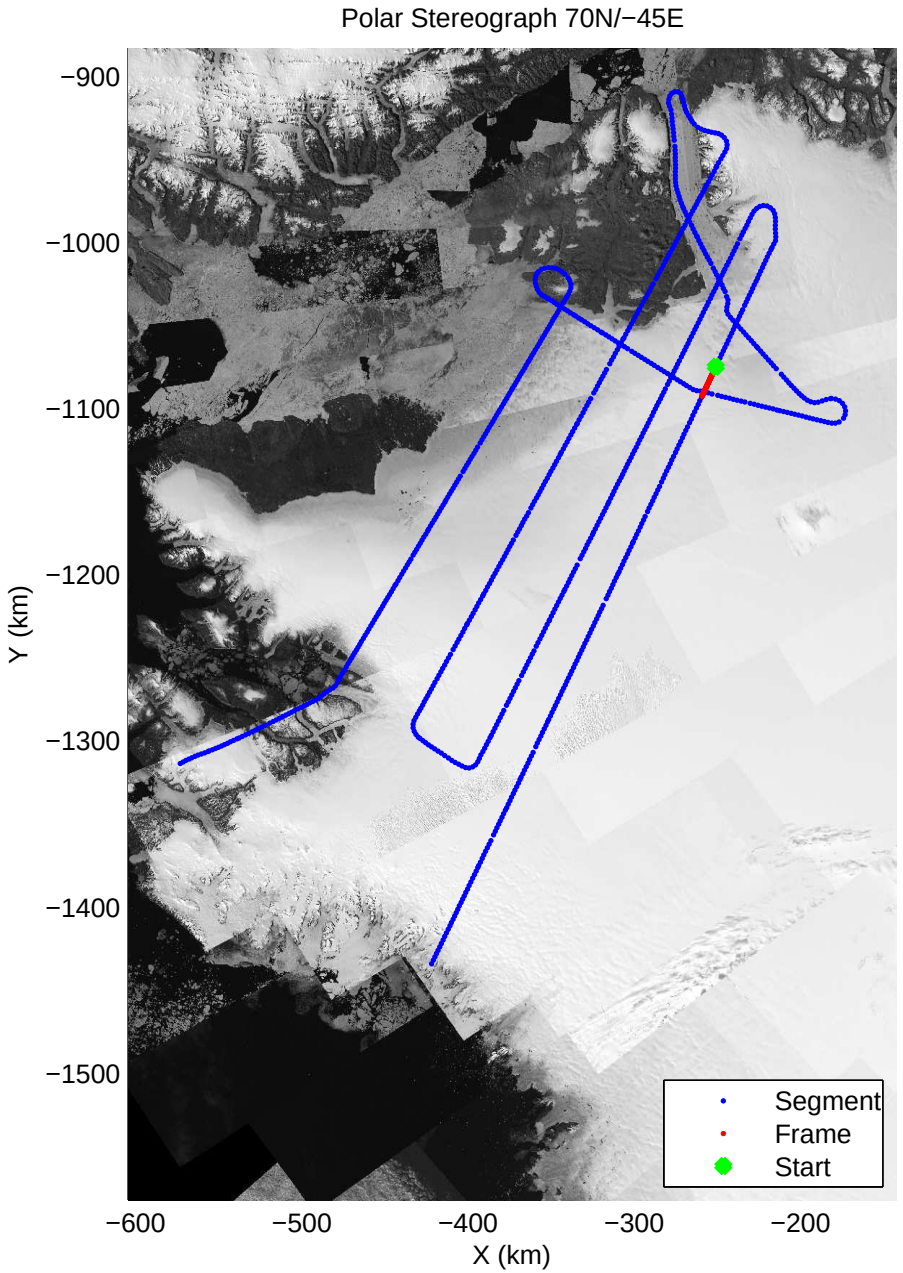

Polar Stereograph 70N/−45E
−900
−1000
−1100
−1200
−1300
−1400
−1500
Y (km)
−600
−500
−400
−300
−200
X (km)
Segment
Frame
Start

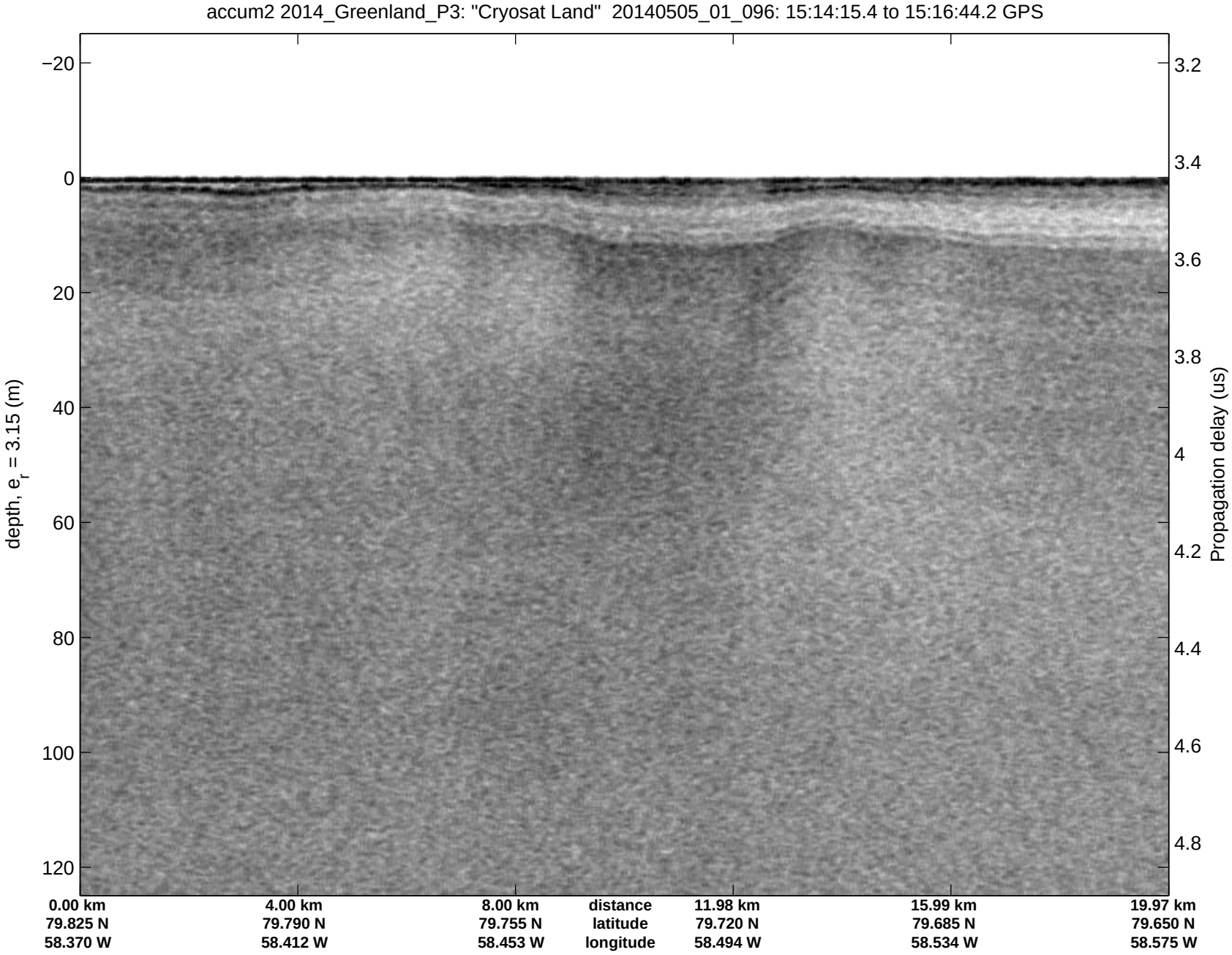

accum2 2014_Greenland_P3: "Cryosat Land" 20140505_01_095: 15:11:47.8 to 15:14:15.2 GPS
depth, e_r = 3.15 (m)
−20
0
20
40
60
80
100
120
Propagation delay (us)
3.4
3.6
3.8
4
4.2
4.4
4.6
4.8
5
0.00 km
80.000 N
58.159 W
4.00 km
79.965 N
58.202 W
7.99 km
79.930 N
58.244 W
distance
latitude
longitude
11.99 km
79.895 N
58.287 W
15.99 km
79.860 N
58.329 W
19.97 km
79.825 N
58.370 W

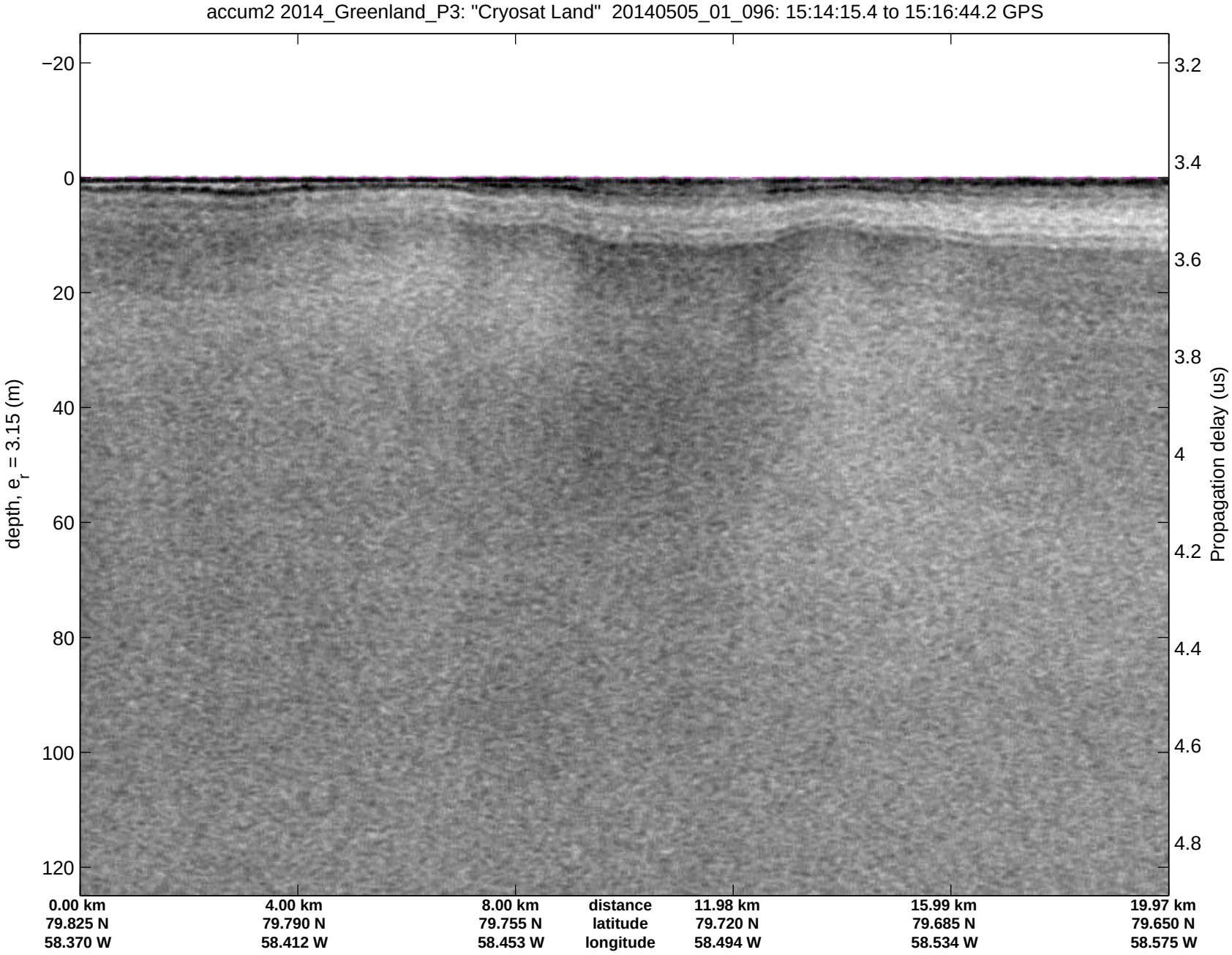

accum2 2014_Greenland_P3: "Cryosat Land" 20140505_01_095: 15:11:47.8 to 15:14:15.2 GPS
depth, e_r = 3.15 (m)
−20
0
20
40
60
80
100
120
Propagation delay (us)
3.4
3.6
3.8
4
4.2
4.4
4.6
4.8
5
0.00 km
80.000 N
58.159 W
4.00 km
79.965 N
58.202 W
7.99 km
79.930 N
58.244 W
distance
latitude
longitude
11.99 km
79.895 N
58.287 W
15.99 km
79.860 N
58.329 W
19.97 km
79.825 N
58.370 W

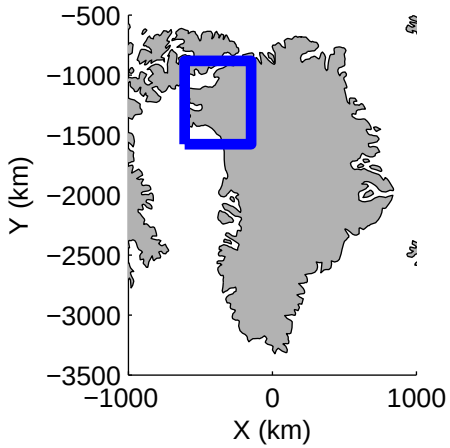

−500
−1000
−1500
−2000
−2500
−3000
−3500
Y (km)
−1000
0
1000
X (km)

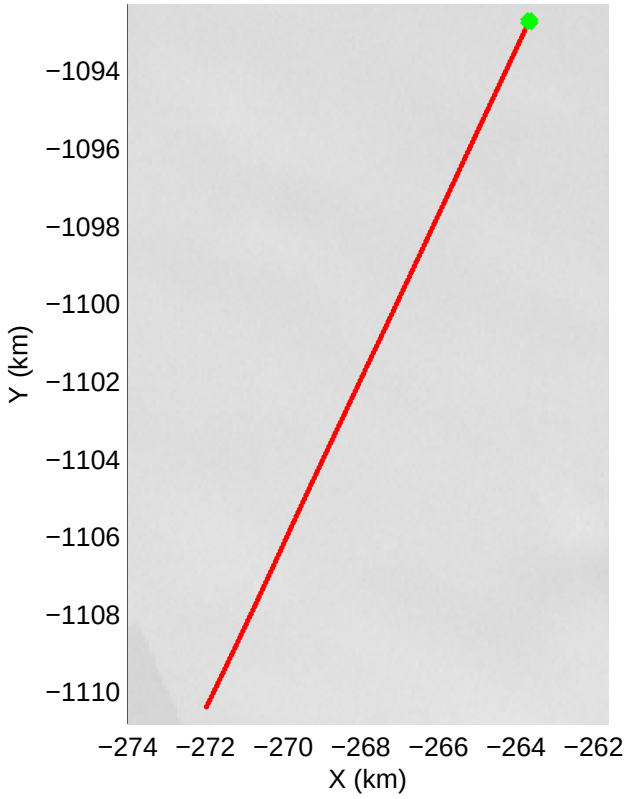

−1076
−1078
−1080
−1082
−1084
−1086
−1088
−1090
−1092
Y (km)
−264
−262
−260
−258
−256
−254
X (km)

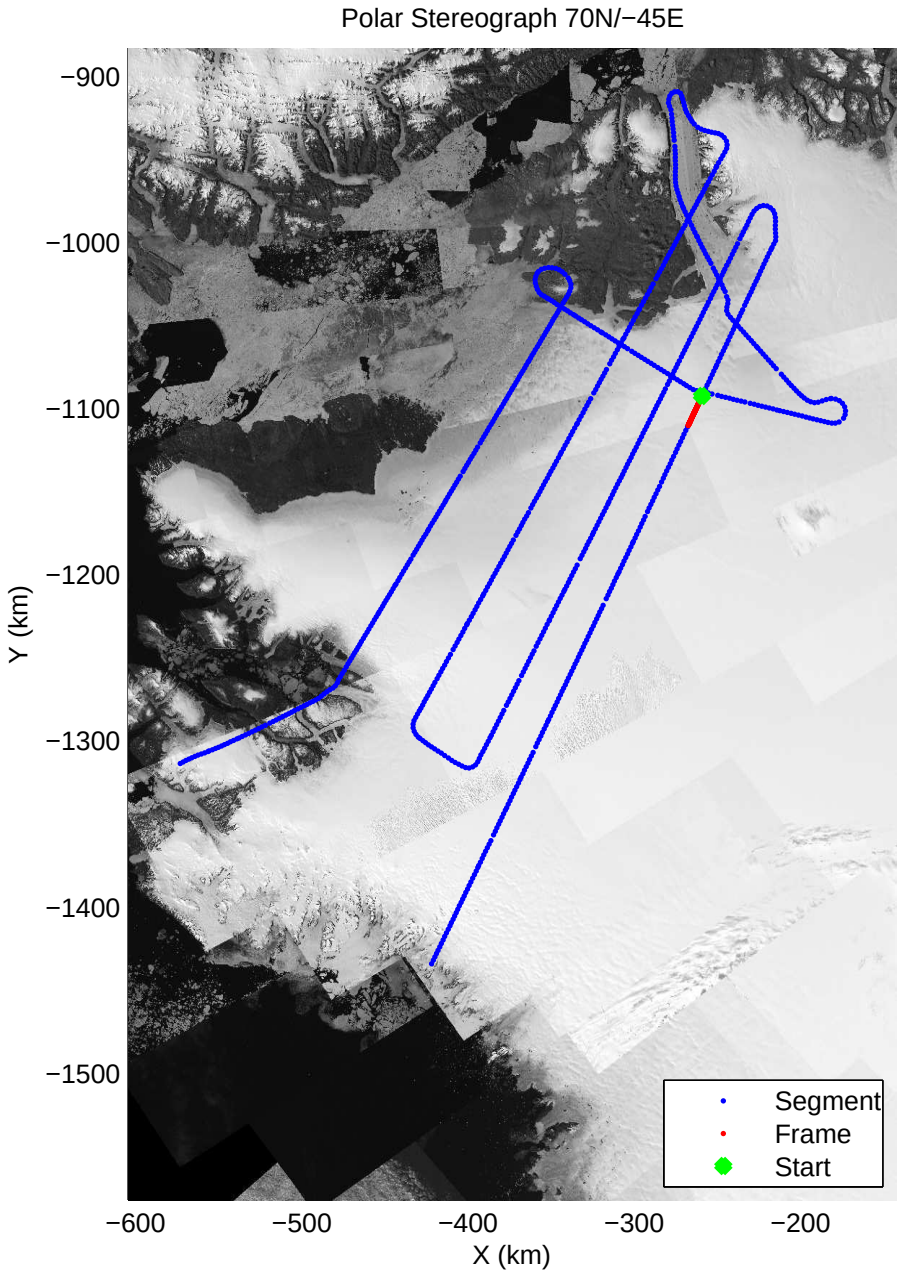

Polar Stereograph 70N/−45E
−900
−1000
−1100
−1200
−1300
−1400
−1500
Y (km)
−600
−500
−400
−300
−200
X (km)
Segment
Frame
Start

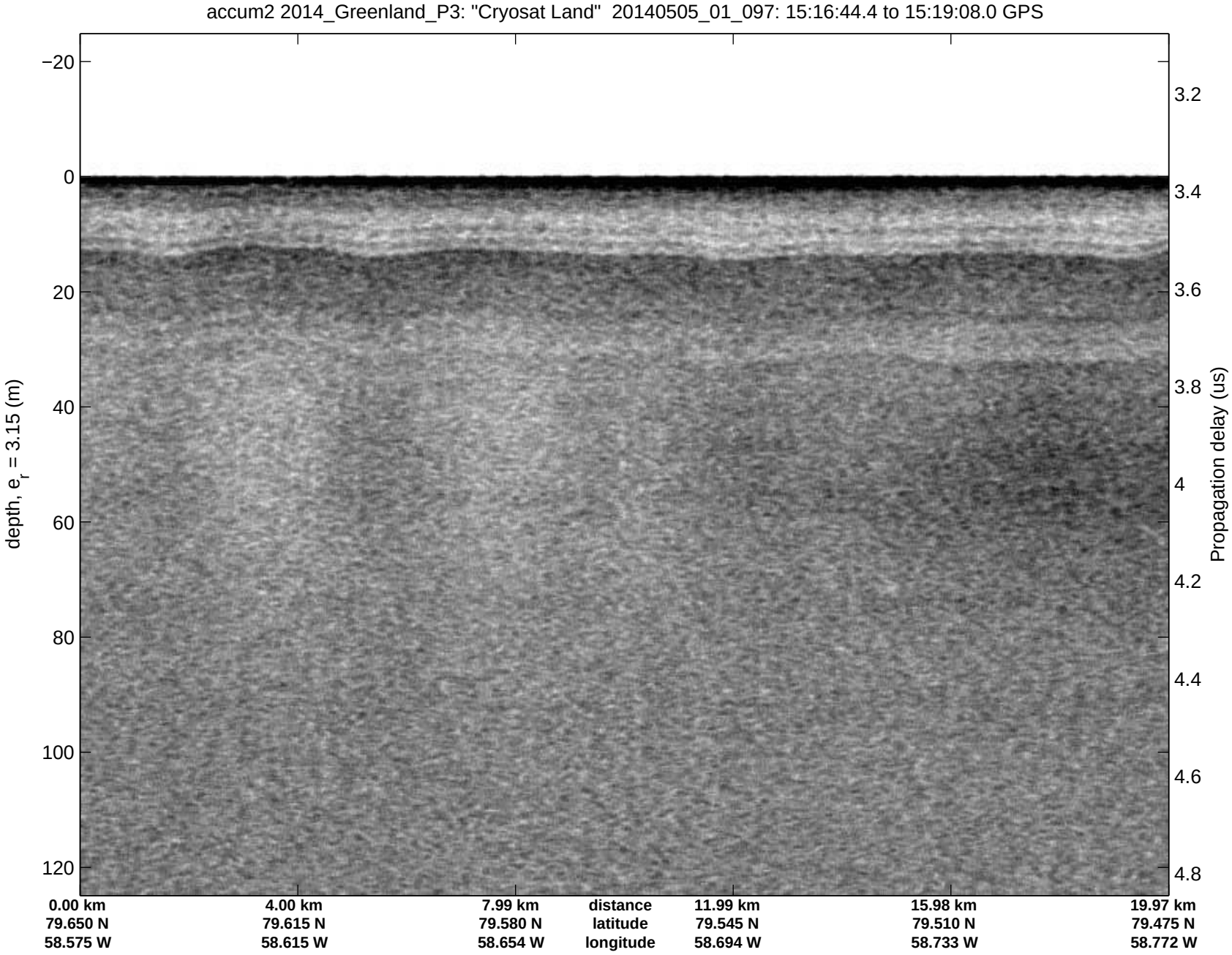

accum2 2014_Greenland_P3: "Cryosat Land" 20140505_01_096: 15:14:15.4 to 15:16:44.2 GPS
depth, e_r = 3.15 (m)
−20
0
20
40
60
80
100
120
Propagation delay (us)
3.2
3.4
3.6
3.8
4
4.2
4.4
4.6
4.8
0.00 km
79.825 N
58.370 W
4.00 km
79.790 N
58.412 W
8.00 km
79.755 N
58.453 W
distance
latitude
longitude
11.98 km
79.720 N
58.494 W
15.99 km
79.685 N
58.534 W
19.97 km
79.650 N
58.575 W

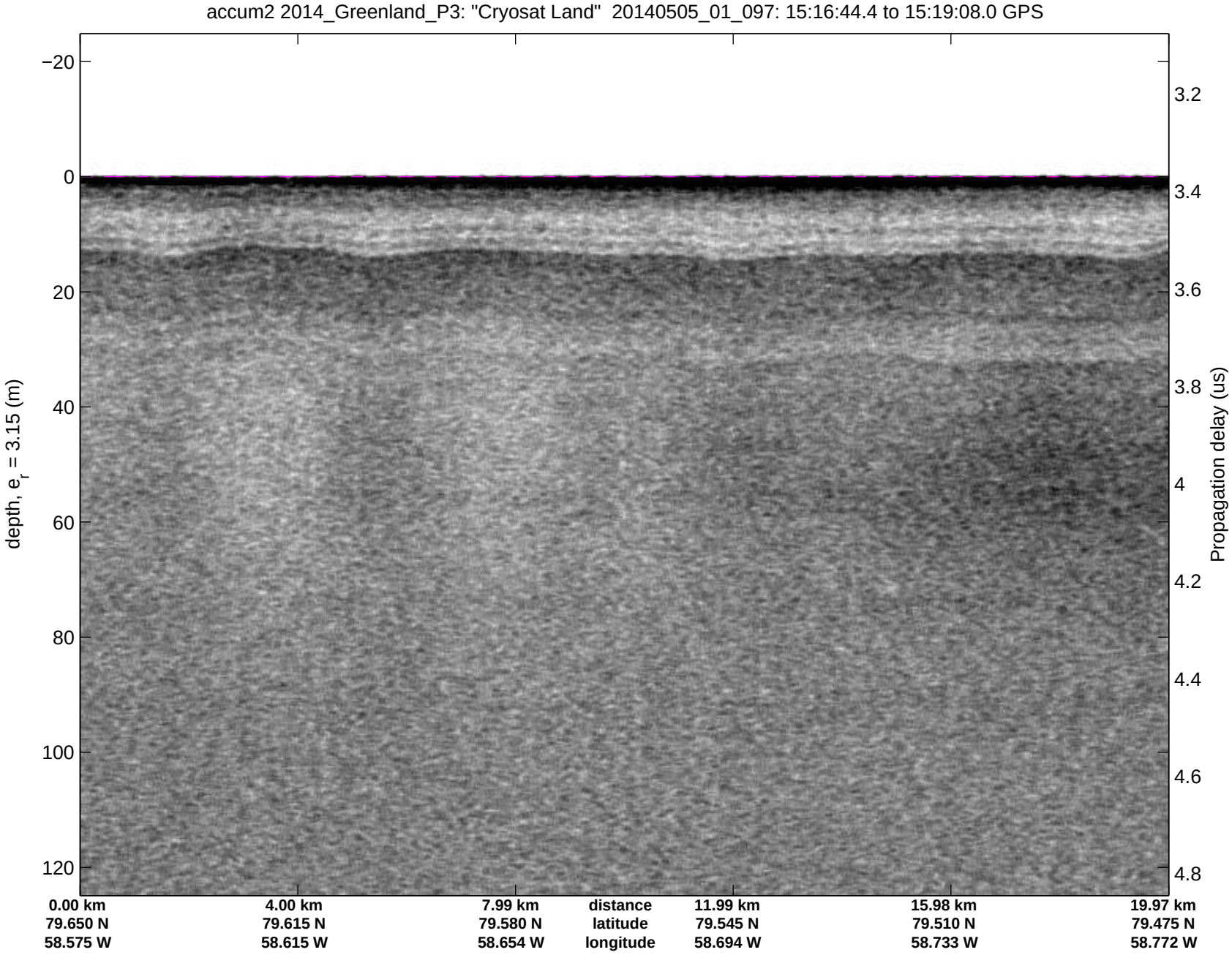

accum2 2014_Greenland_P3: "Cryosat Land" 20140505_01_096: 15:14:15.4 to 15:16:44.2 GPS
depth, e_r = 3.15 (m)
−20
0
20
40
60
80
100
120
Propagation delay (us)
3.2
3.4
3.6
3.8
4
4.2
4.4
4.6
4.8
0.00 km
79.825 N
58.370 W
4.00 km
79.790 N
58.412 W
8.00 km
79.755 N
58.453 W
distance
latitude
longitude
11.98 km
79.720 N
58.494 W
15.99 km
79.685 N
58.534 W
19.97 km
79.650 N
58.575 W

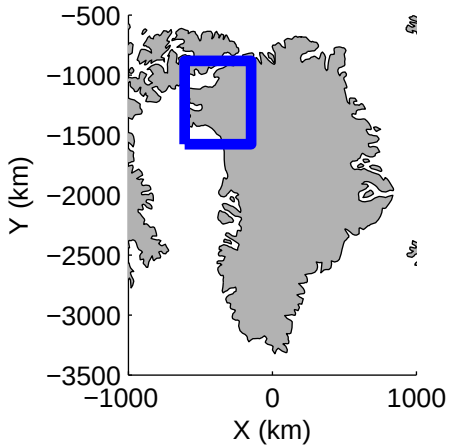

−500
−1000
−1500
−2000
−2500
−3000
−3500
Y (km)
−1000
0
1000
X (km)

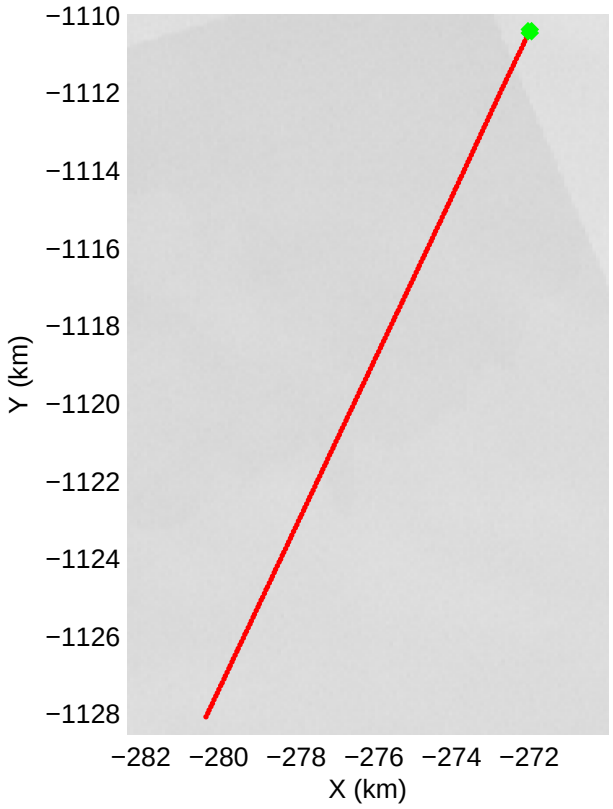

−1094
−1096
−1098
−1100
−1102
−1104
−1106
−1108
−1110
Y (km)
−274
−272
−270
−268
−266
−264
−262
X (km)

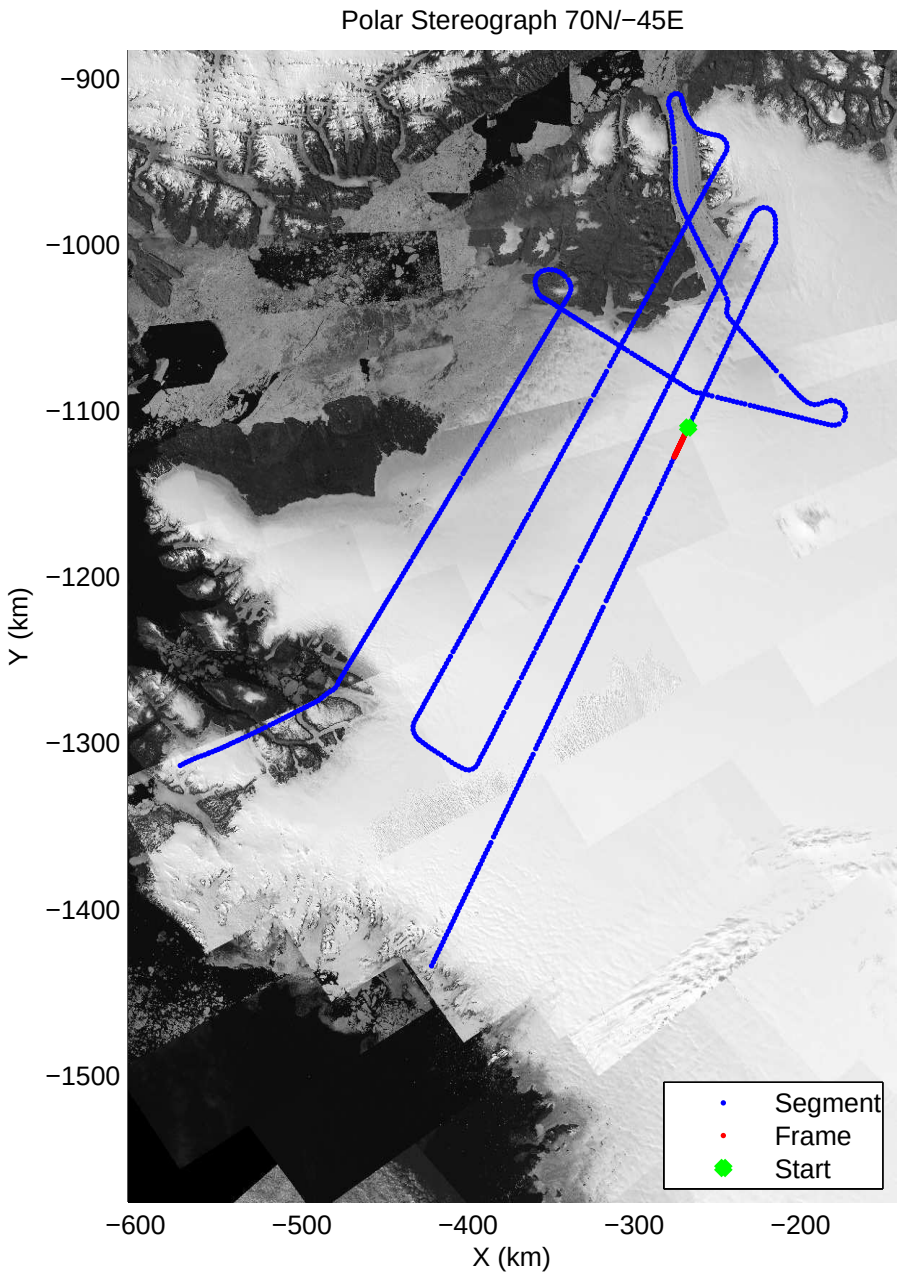

Polar Stereograph 70N/−45E
−900
−1000
−1100
−1200
−1300
−1400
−1500
Y (km)
−600
−500
−400
−300
−200
X (km)
Segment
Frame
Start

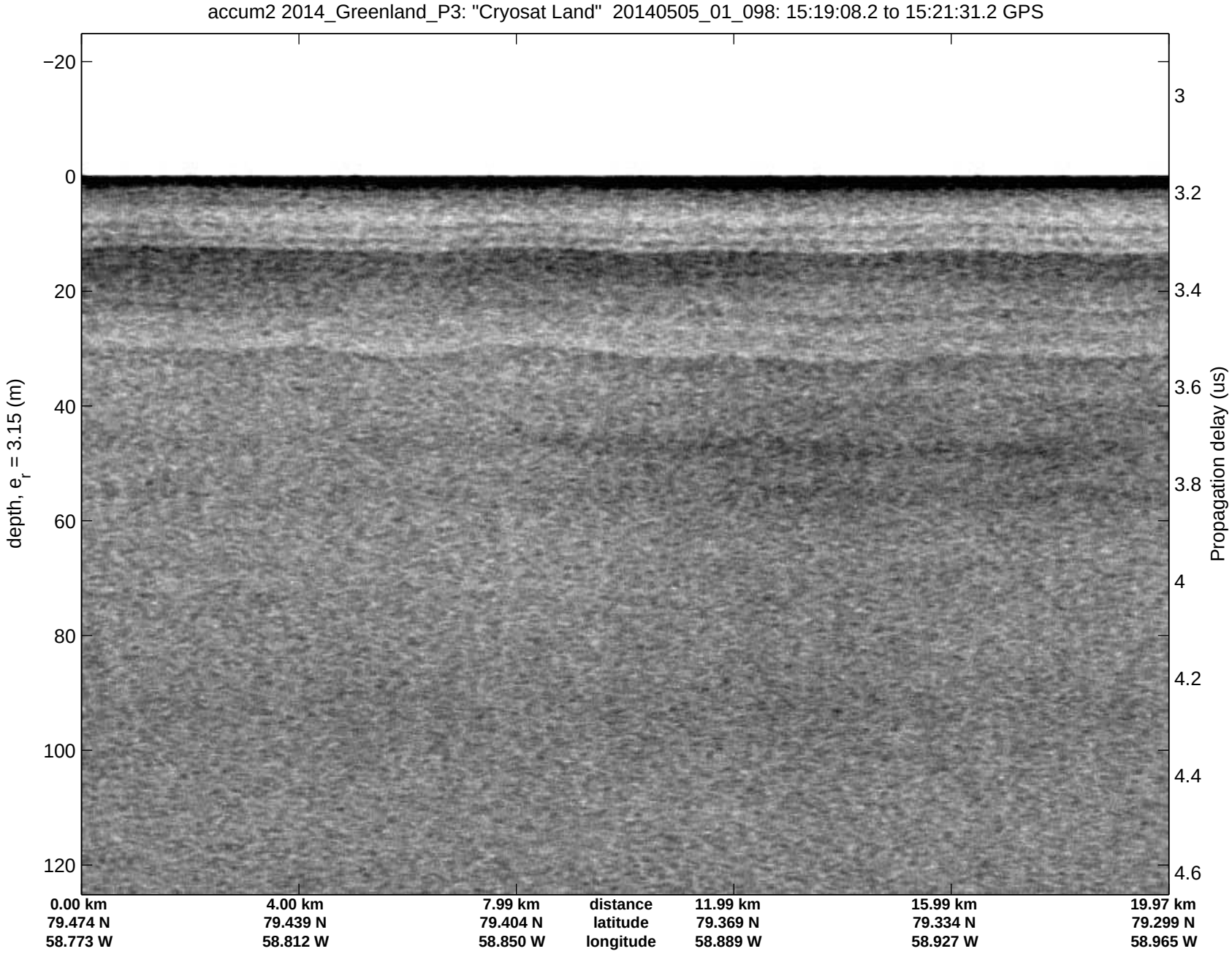

accum2 2014_Greenland_P3: "Cryosat Land" 20140505_01_097: 15:16:44.4 to 15:19:08.0 GPS
depth, e_r = 3.15 (m)
−20
0
20
40
60
80
100
120
Propagation delay (us)
3.2
3.4
3.6
3.8
4
4.2
4.4
4.6
4.8
0.00 km
79.650 N
58.575 W
4.00 km
79.615 N
58.615 W
7.99 km
79.580 N
58.654 W
distance
latitude
longitude
11.99 km
79.545 N
58.694 W
15.98 km
79.510 N
58.733 W
19.97 km
79.475 N
58.772 W

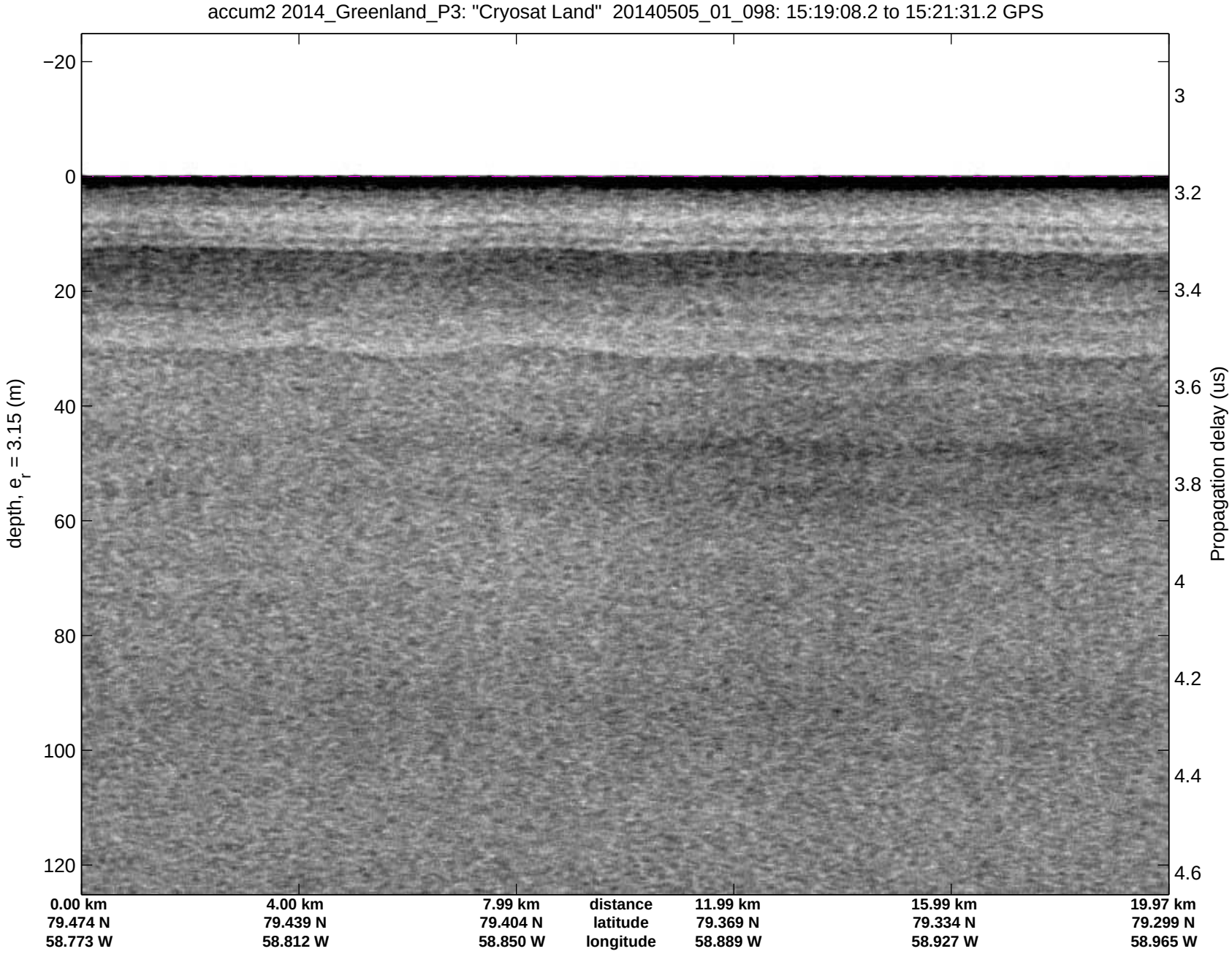

accum2 2014_Greenland_P3: "Cryosat Land" 20140505_01_097: 15:16:44.4 to 15:19:08.0 GPS
depth, e_r = 3.15 (m)
−20
0
20
40
60
80
100
120
Propagation delay (us)
3.2
3.4
3.6
3.8
4
4.2
4.4
4.6
4.8
0.00 km
79.650 N
58.575 W
4.00 km
79.615 N
58.615 W
7.99 km
79.580 N
58.654 W
distance
latitude
longitude
11.99 km
79.545 N
58.694 W
15.98 km
79.510 N
58.733 W
19.97 km
79.475 N
58.772 W

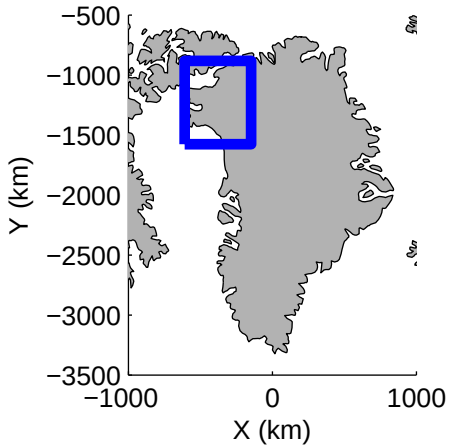

−500
−1000
−1500
−2000
−2500
−3000
−3500
Y (km)
−1000
0
1000
X (km)

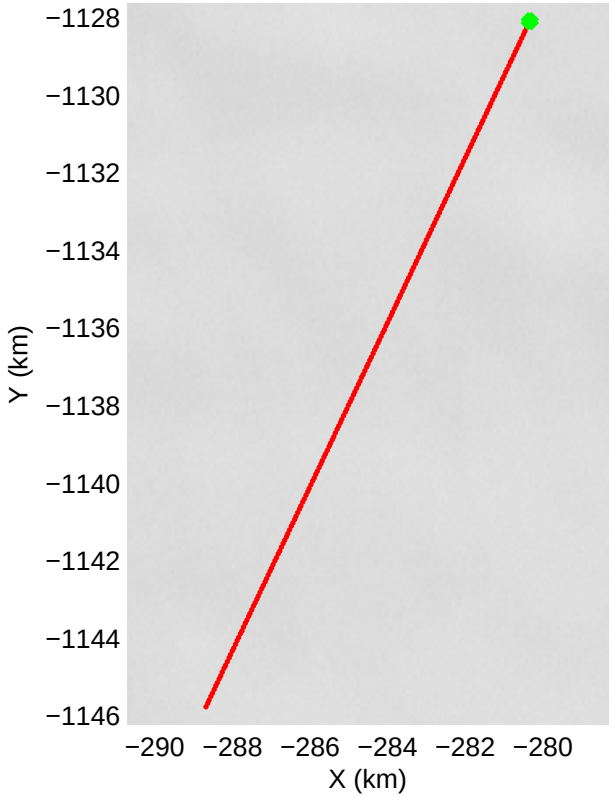

−1110
−1112
−1114
−1116
−1118
−1120
−1122
−1124
−1126
−1128
Y (km)
−282
−280
−278
−276
−274
−272
X (km)

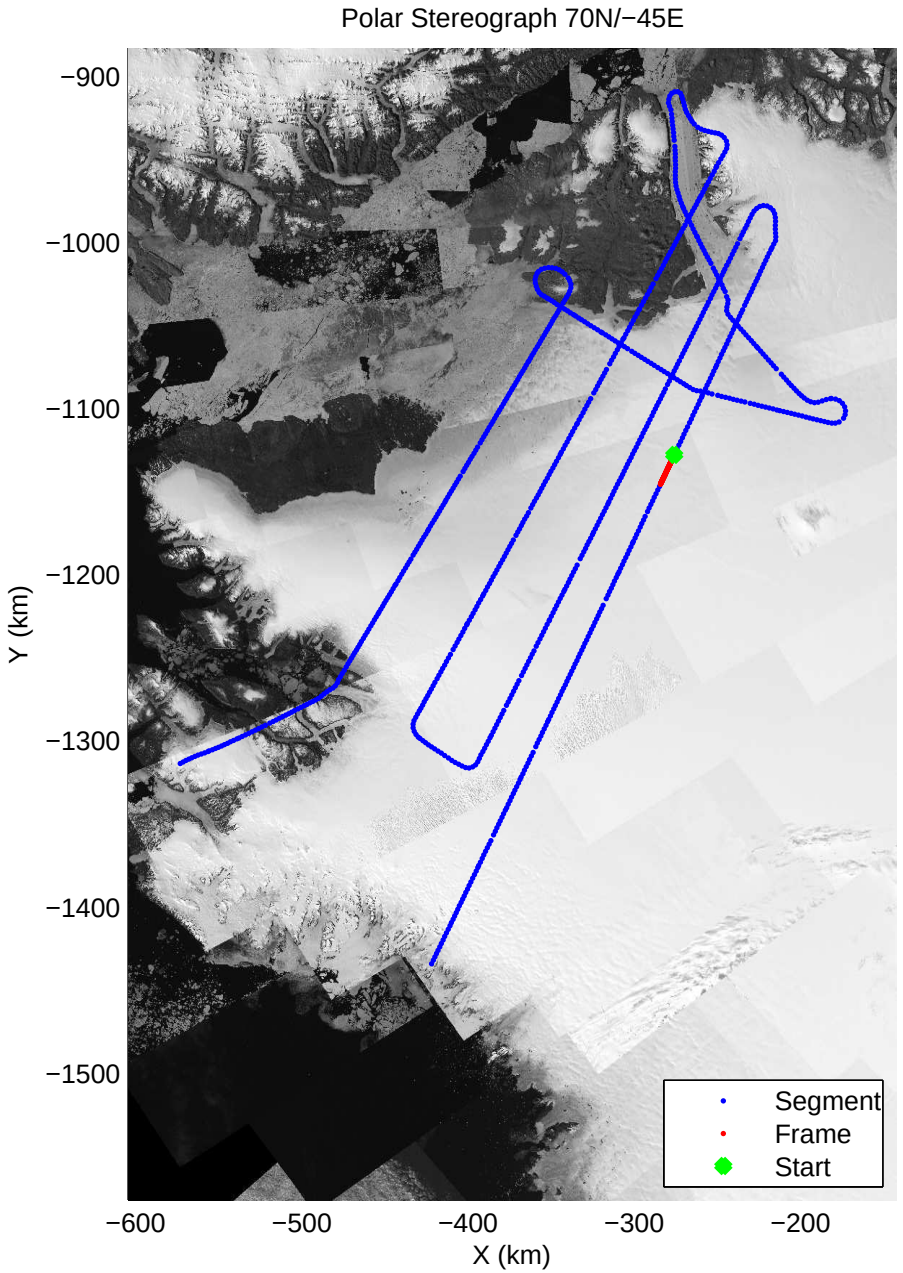

Polar Stereograph 70N/−45E
−900
−1000
−1100
−1200
−1300
−1400
−1500
Y (km)
−600
−500
−400
−300
−200
X (km)
Segment
Frame
Start

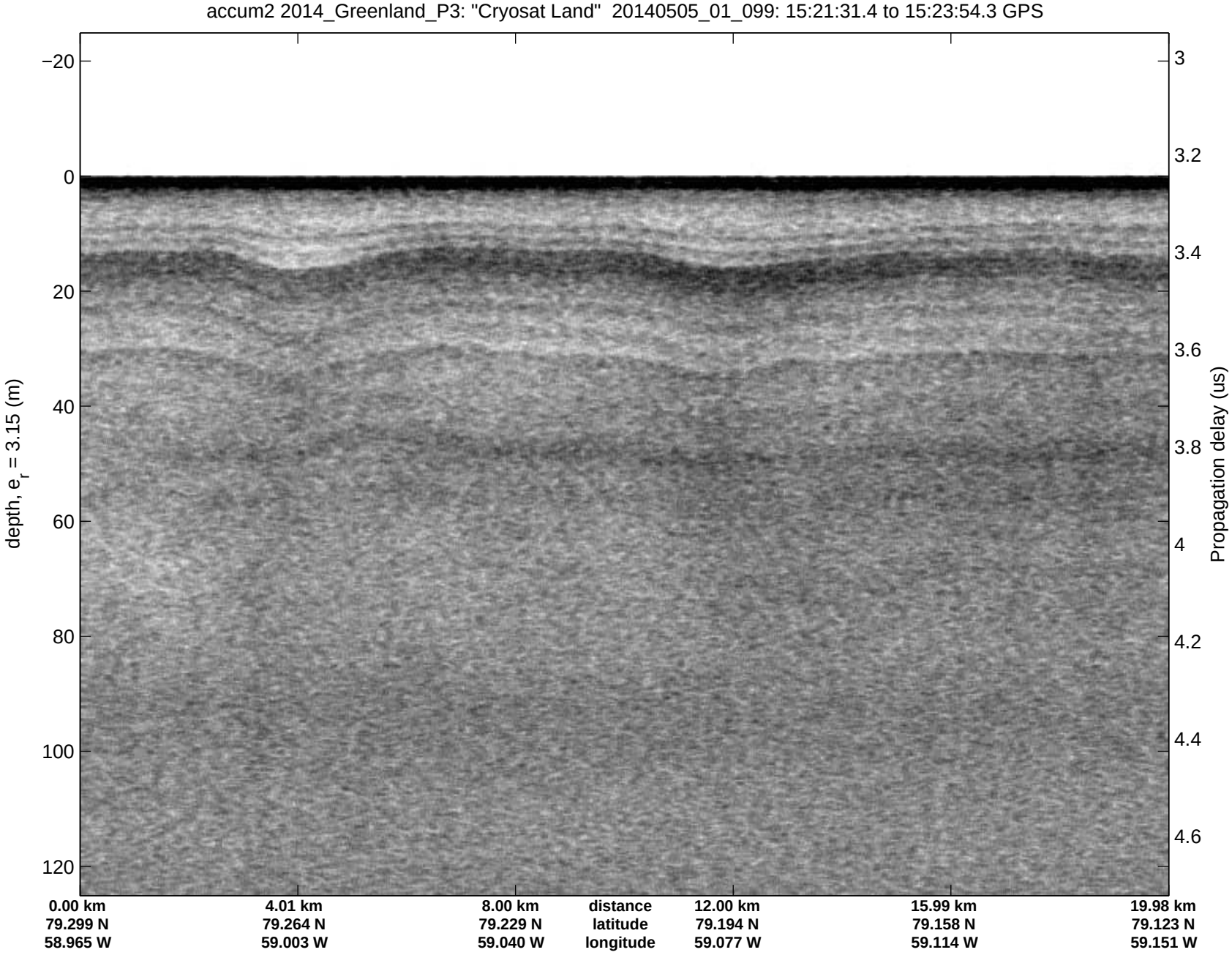

accum2 2014_Greenland_P3: "Cryosat Land" 20140505_01_098: 15:19:08.2 to 15:21:31.2 GPS
depth, e_r = 3.15 (m)
−20
0
20
40
60
80
100
120
Propagation delay (us)
3
3.2
3.4
3.6
3.8
4
4.2
4.4
4.6
0.00 km
79.474 N
58.773 W
4.00 km
79.439 N
58.812 W
7.99 km
79.404 N
58.850 W
distance
latitude
longitude
11.99 km
79.369 N
58.889 W
15.99 km
79.334 N
58.927 W
19.97 km
79.299 N
58.965 W

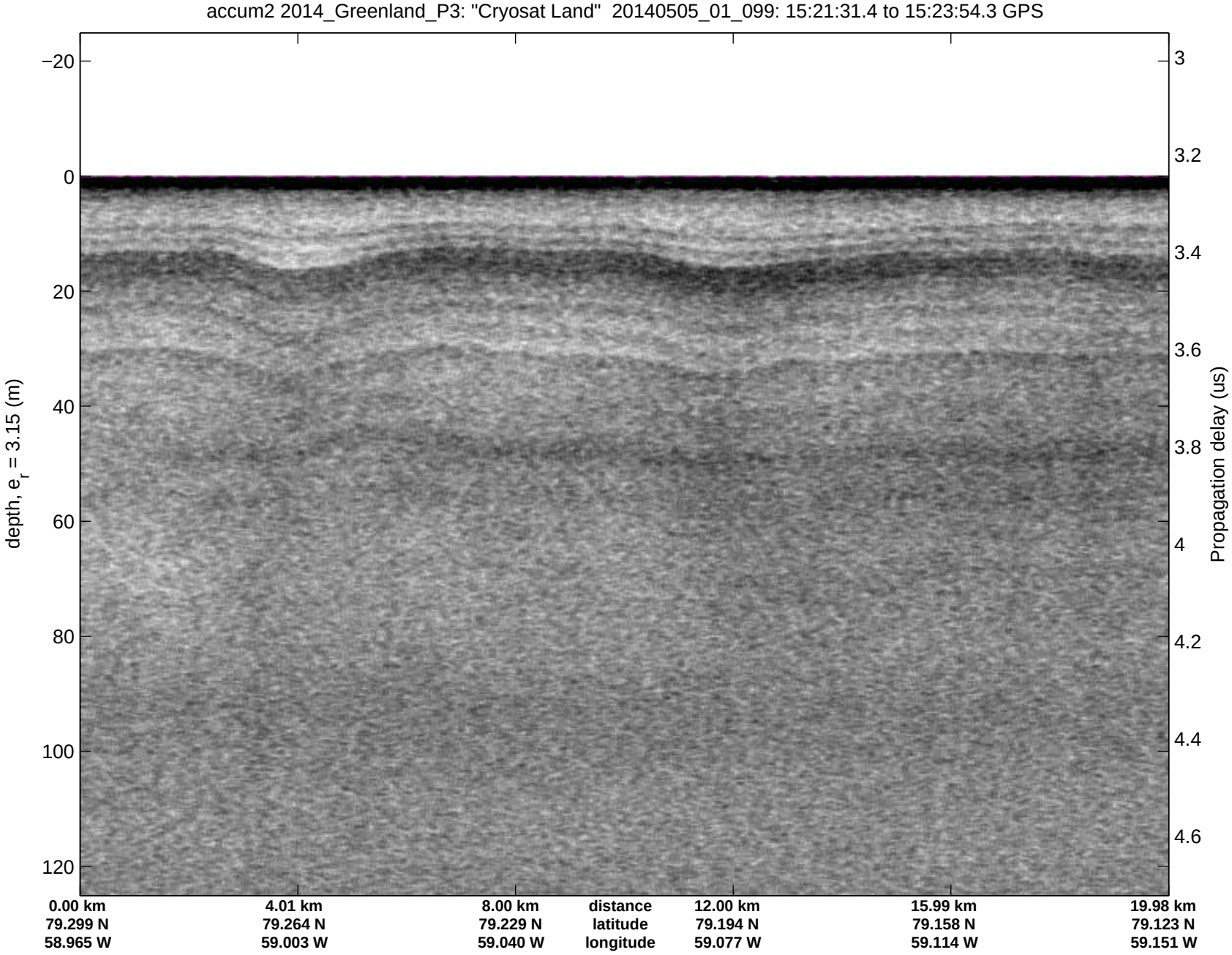

accum2 2014_Greenland_P3: "Cryosat Land" 20140505_01_098: 15:19:08.2 to 15:21:31.2 GPS
depth, e_r = 3.15 (m)
−20
0
20
40
60
80
100
120
3
3.2
3.4
3.6
3.8
4
4.2
4.4
4.6
Propagation delay (us)
0.00 km
79.474 N
58.773 W
4.00 km
79.439 N
58.812 W
7.99 km
79.404 N
58.850 W
distance
latitude
longitude
11.99 km
79.369 N
58.889 W
15.99 km
79.334 N
58.927 W
19.97 km
79.299 N
58.965 W

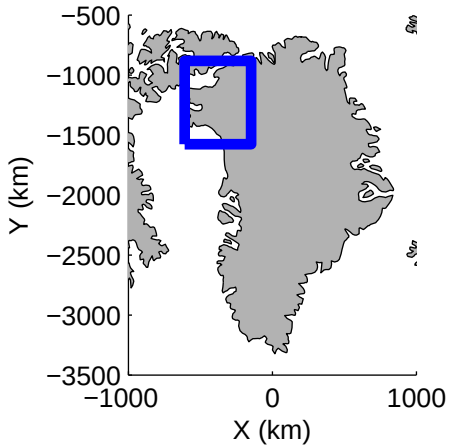

−500
−1000
−1500
−2000
−2500
−3000
−3500
Y (km)
−1000
0
1000
X (km)

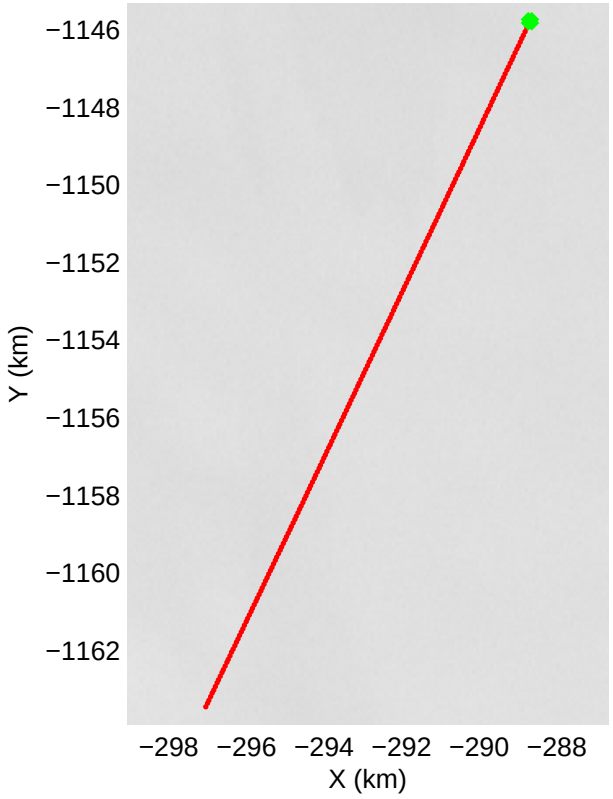

−1128
−1130
−1132
−1134
−1136
−1138
−1140
−1142
−1144
−1146
Y (km)
−290
−288
−286
−284
−282
−280
X (km)

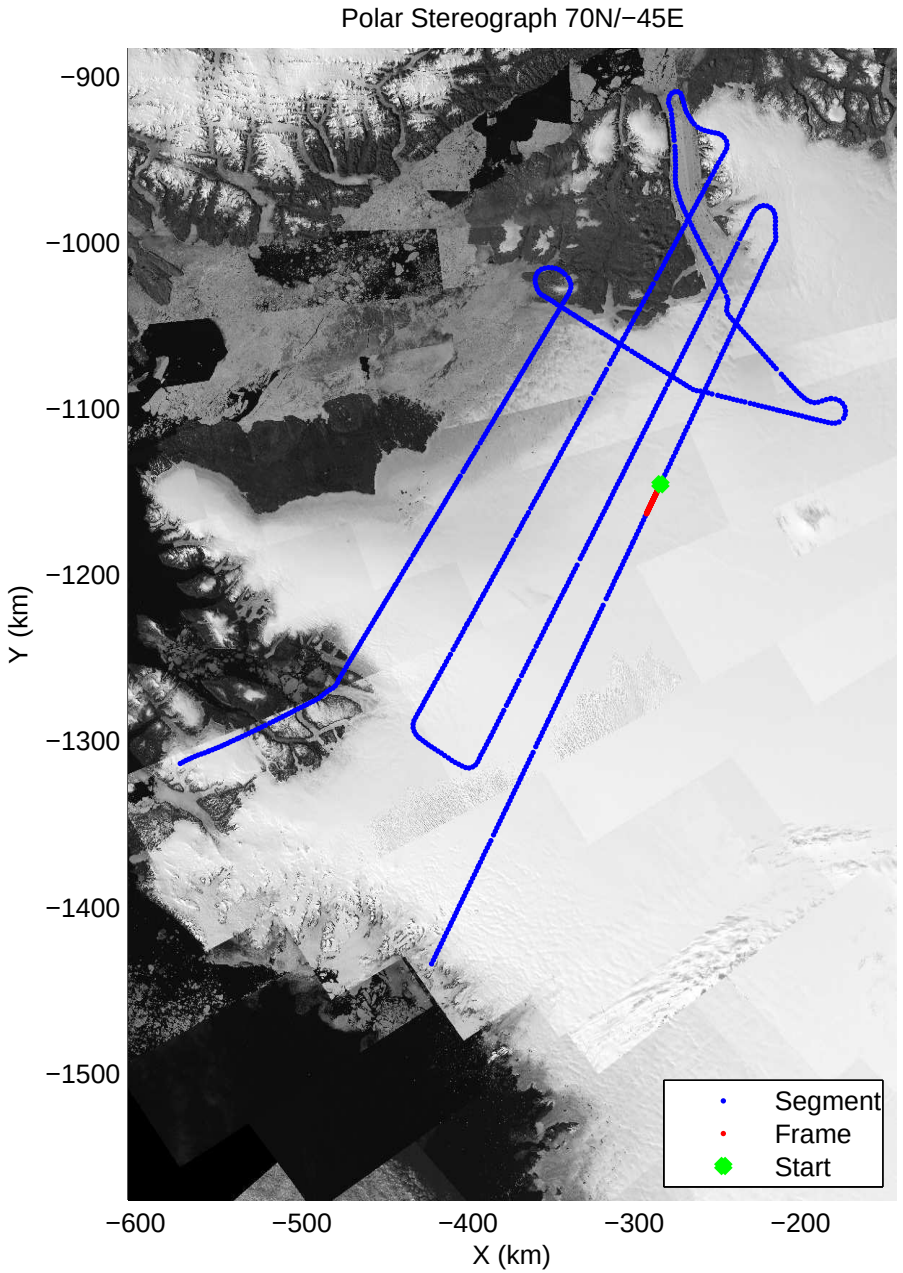

Polar Stereograph 70N/−45E
−900
−1000
−1100
−1200
−1300
−1400
−1500
Y (km)
−600
−500
−400
−300
−200
X (km)
Segment
Frame
Start

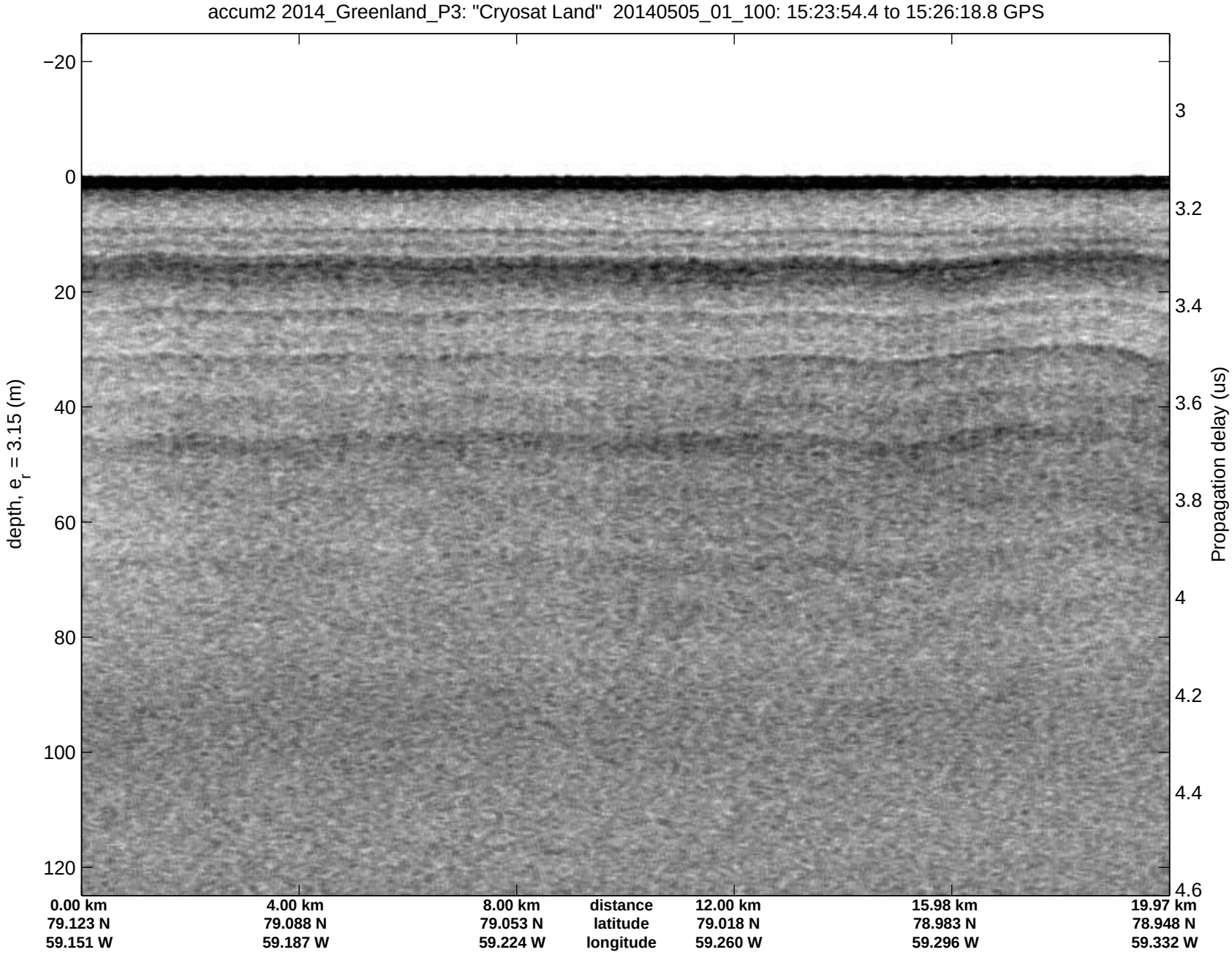

accum2 2014_Greenland_P3: "Cryosat Land" 20140505_01_099: 15:21:31.4 to 15:23:54.3 GPS
depth, e_r = 3.15 (m)
−20
0
20
40
60
80
100
120
Propagation delay (us)
3
3.2
3.4
3.6
3.8
4
4.2
4.4
4.6
0.00 km
79.299 N
58.965 W
4.01 km
79.264 N
59.003 W
8.00 km
79.229 N
59.040 W
distance
latitude
longitude
12.00 km
79.194 N
59.077 W
15.99 km
79.158 N
59.114 W
19.98 km
79.123 N
59.151 W

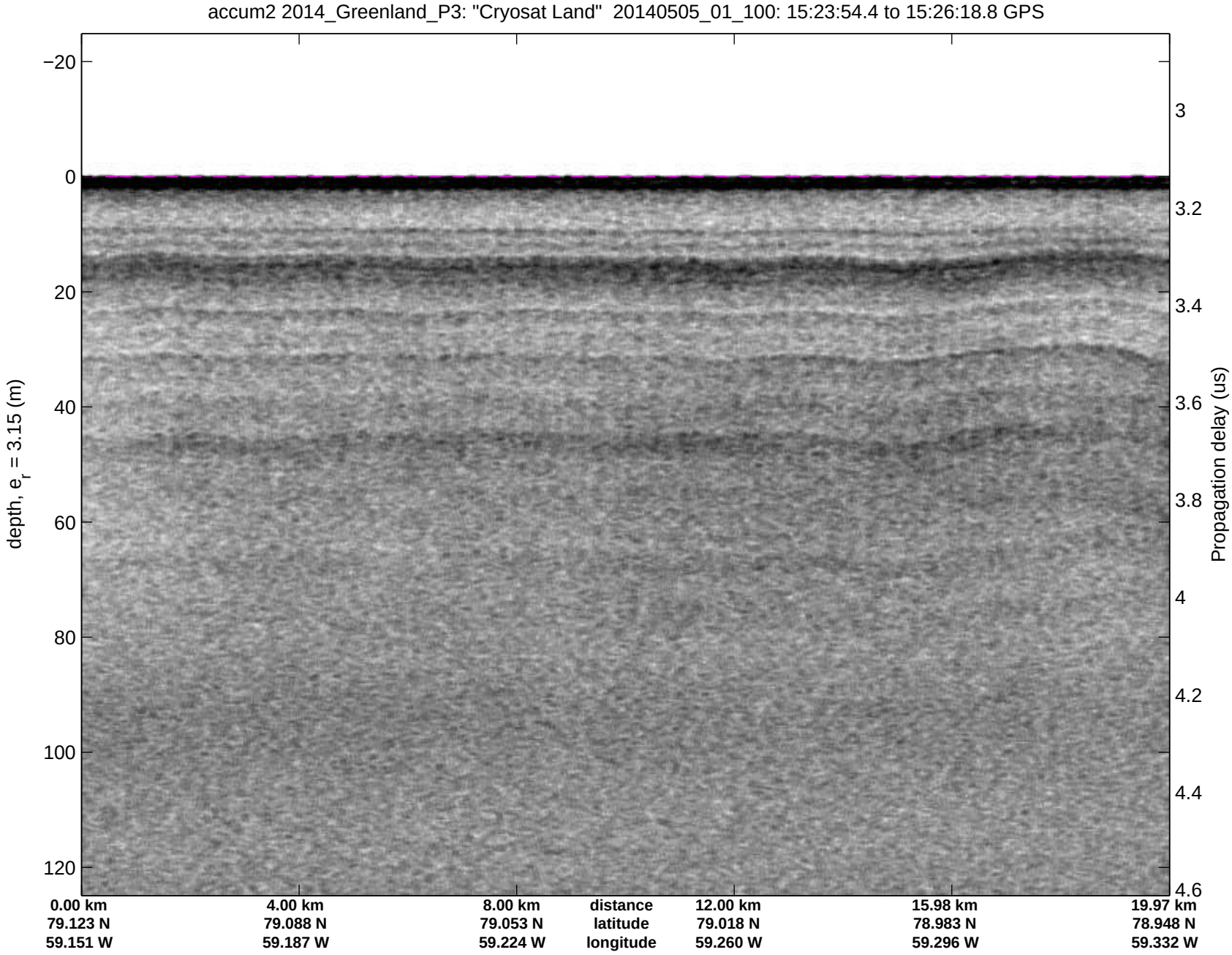

accum2 2014_Greenland_P3: "Cryosat Land" 20140505_01_099: 15:21:31.4 to 15:23:54.3 GPS
depth, e_r = 3.15 (m)
−20
0
20
40
60
80
100
120
3
3.2
3.4
3.6
3.8
4
4.2
4.4
4.6
Propagation delay (us)
0.00 km
79.299 N
58.965 W
4.01 km
79.264 N
59.003 W
8.00 km
79.229 N
59.040 W
distance
latitude
longitude
12.00 km
79.194 N
59.077 W
15.99 km
79.158 N
59.114 W
19.98 km
79.123 N
59.151 W

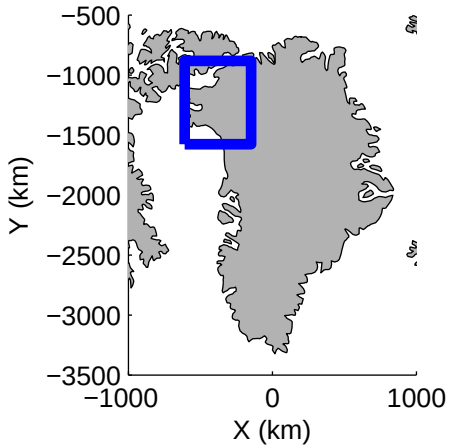

−500
−1000
−1500
−2000
−2500
−3000
−3500
Y (km)
−1000
0
1000
X (km)

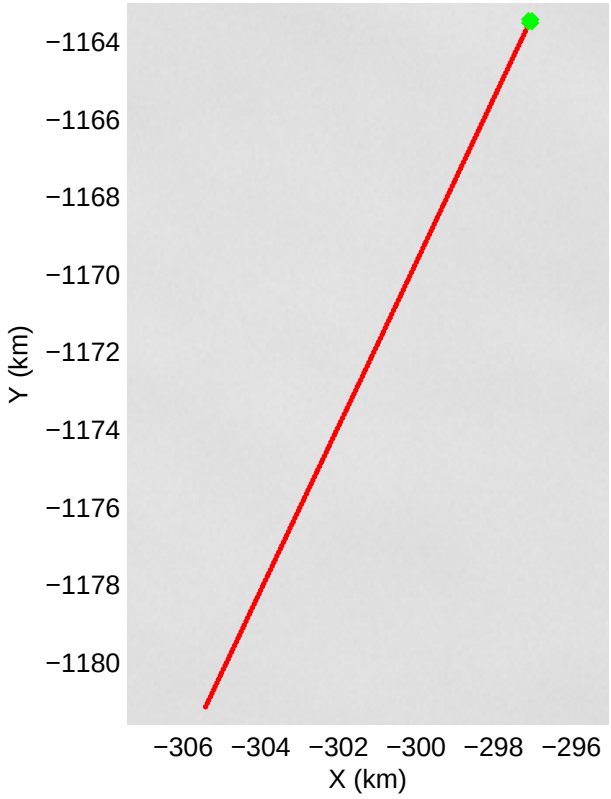

−1146
−1148
−1150
−1152
−1154
−1156
−1158
−1160
−1162
Y (km)
−298
−296
−294
−292
−290
−288
X (km)

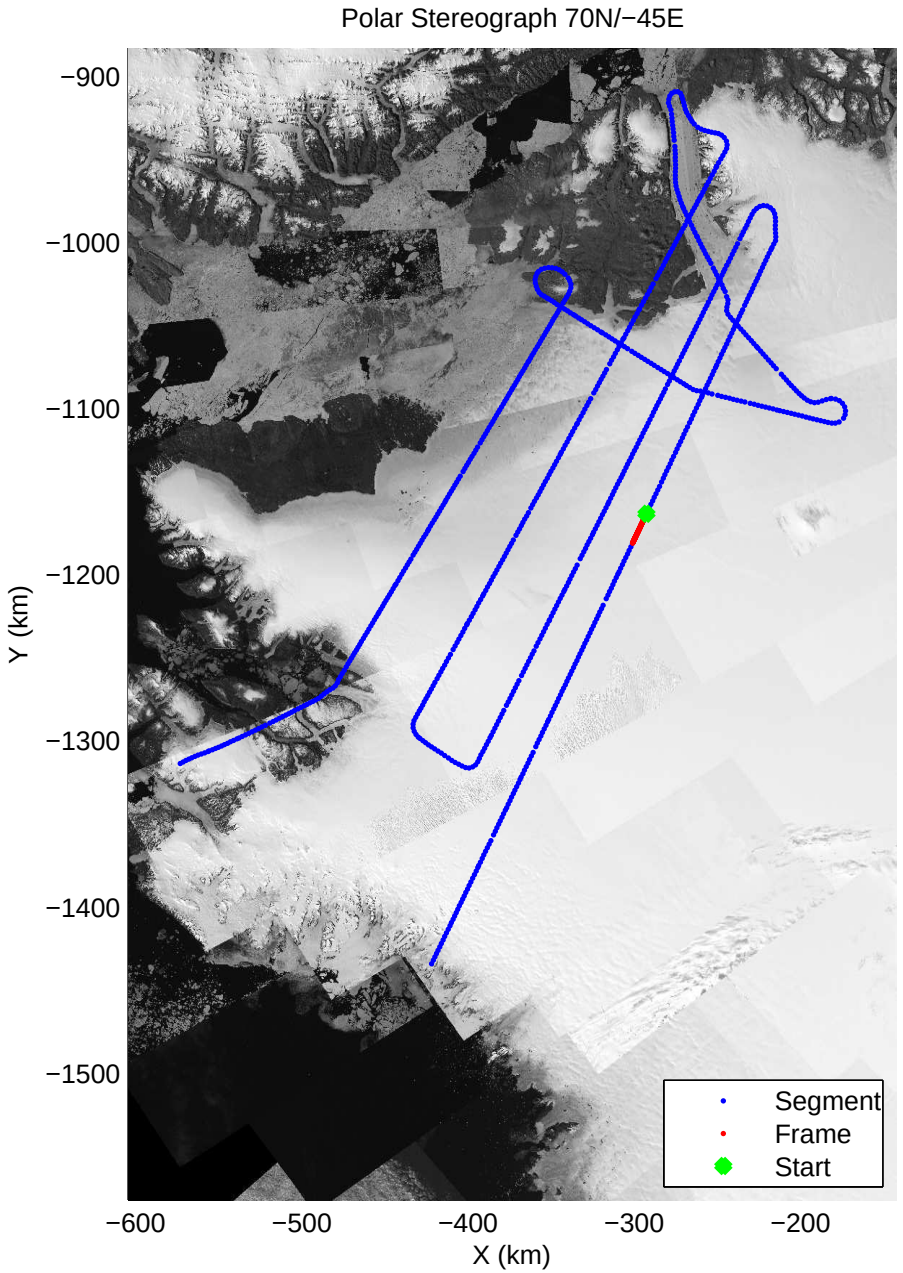

Polar Stereograph 70N/−45E
−900
−1000
−1100
−1200
−1300
−1400
−1500
Y (km)
−600
−500
−400
−300
−200
X (km)
Segment
Frame
Start

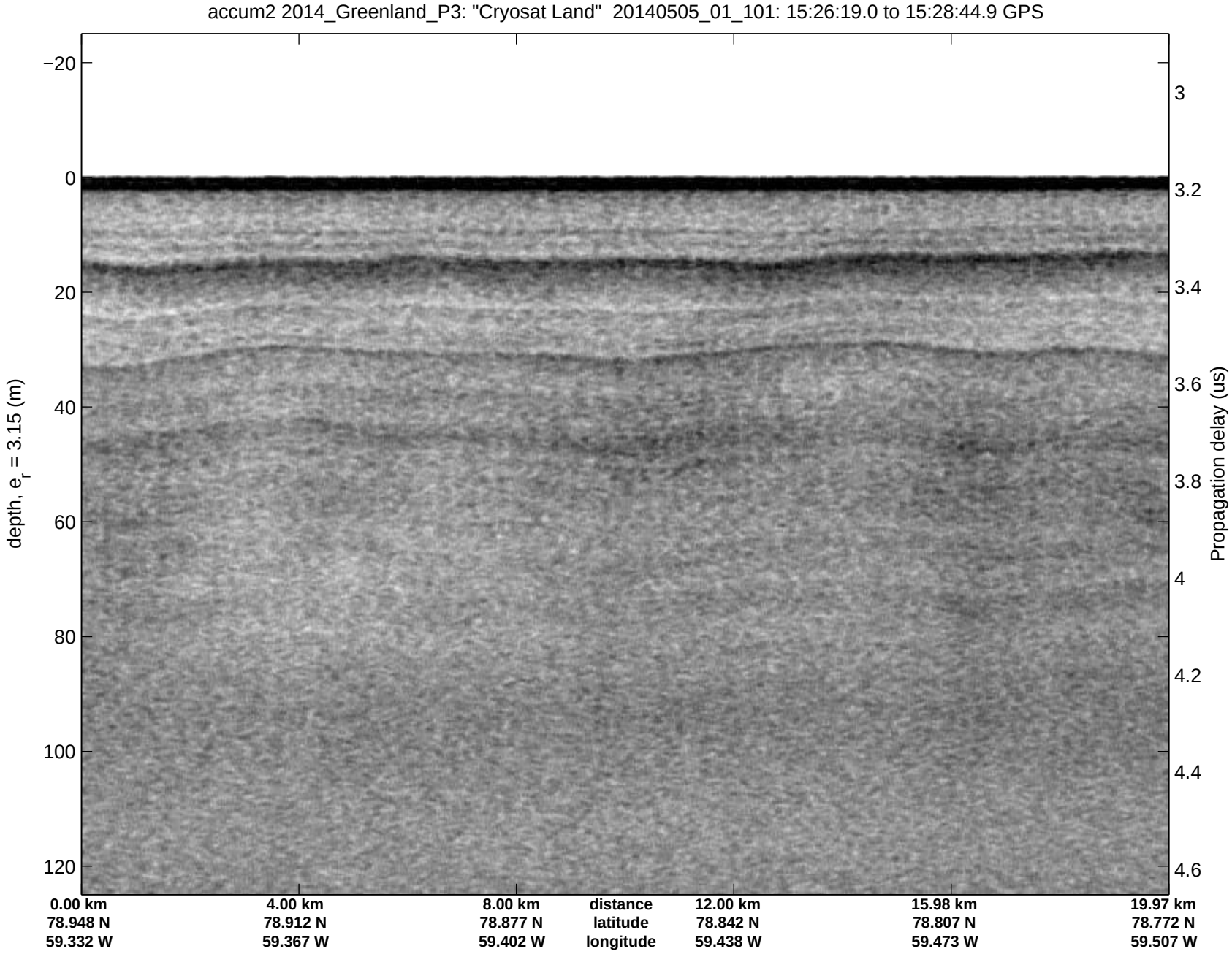

accum2 2014_Greenland_P3: "Cryosat Land" 20140505_01_100: 15:23:54.4 to 15:26:18.8 GPS
depth, e_r = 3.15 (m)
−20
0
20
40
60
80
100
120
Propagation delay (us)
3
3.2
3.4
3.6
3.8
4
4.2
4.4
4.6
0.00 km
79.123 N
59.151 W
4.00 km
79.088 N
59.187 W
8.00 km
79.053 N
59.224 W
distance
latitude
longitude
12.00 km
79.018 N
59.260 W
15.98 km
78.983 N
59.296 W
19.97 km
78.948 N
59.332 W

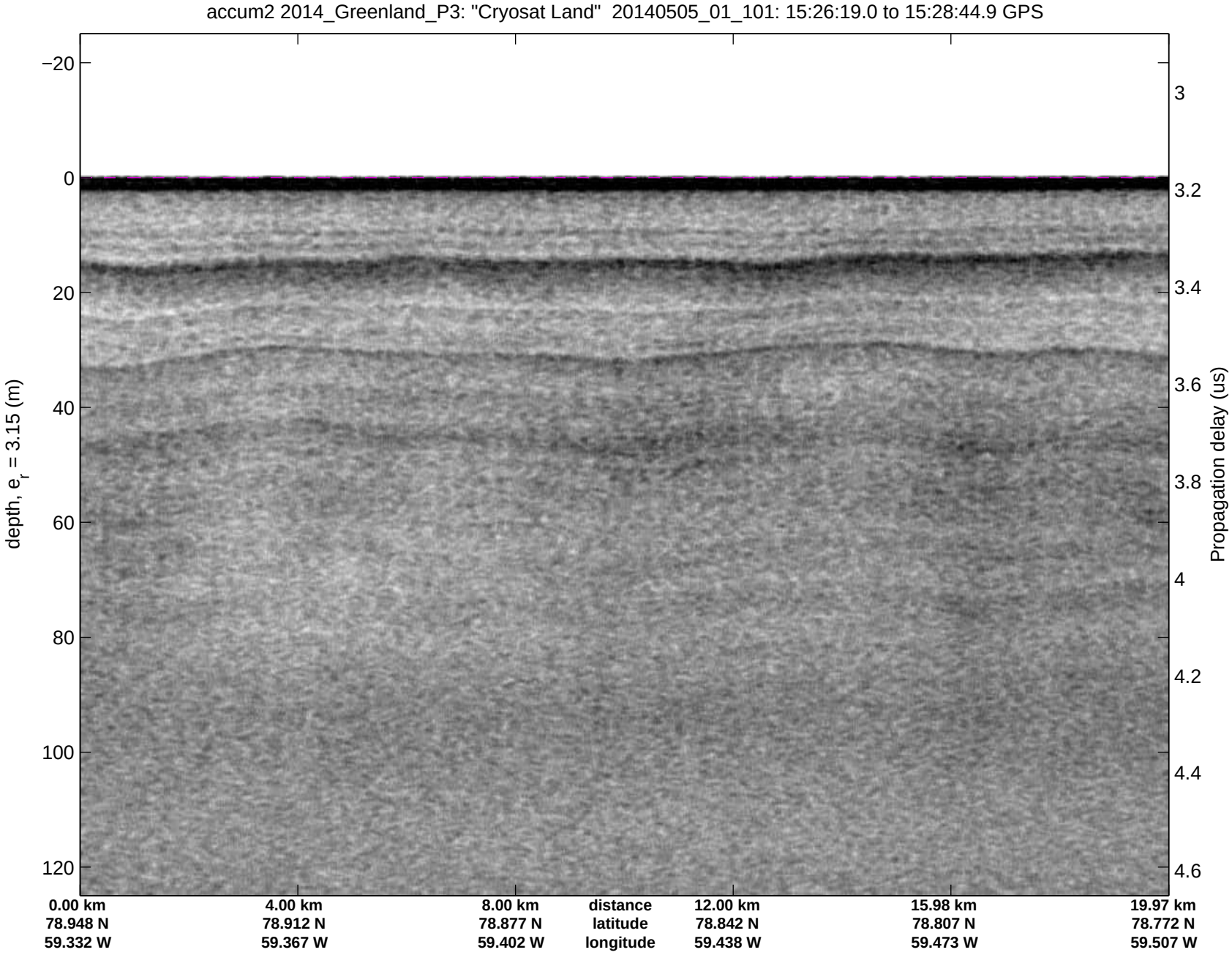

accum2 2014_Greenland_P3: "Cryosat Land" 20140505_01_100: 15:23:54.4 to 15:26:18.8 GPS
depth, e_r = 3.15 (m)
−20
0
20
40
60
80
100
120
Propagation delay (us)
3
3.2
3.4
3.6
3.8
4
4.2
4.4
4.6
0.00 km
79.123 N
59.151 W
4.00 km
79.088 N
59.187 W
8.00 km
79.053 N
59.224 W
distance
latitude
longitude
12.00 km
79.018 N
59.260 W
15.98 km
78.983 N
59.296 W
19.97 km
78.948 N
59.332 W

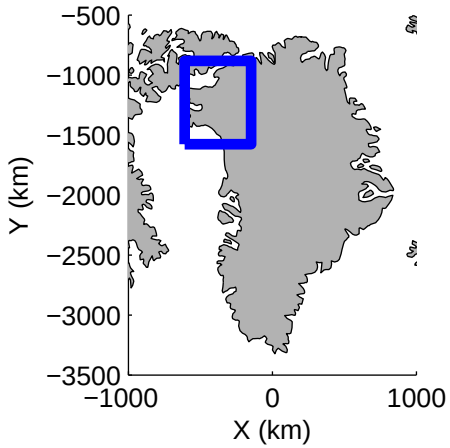

−500
−1000
−1500
−2000
−2500
−3000
−3500
Y (km)
−1000
0
1000
X (km)

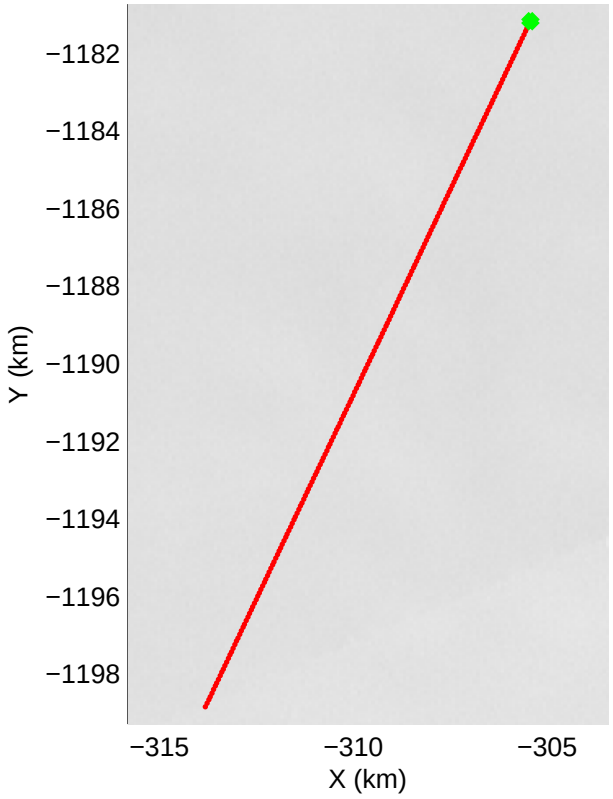

−1164
−1166
−1168
−1170
−1172
−1174
−1176
−1178
−1180
Y (km)
−306
−304
−302
−300
−298
−296
X (km)

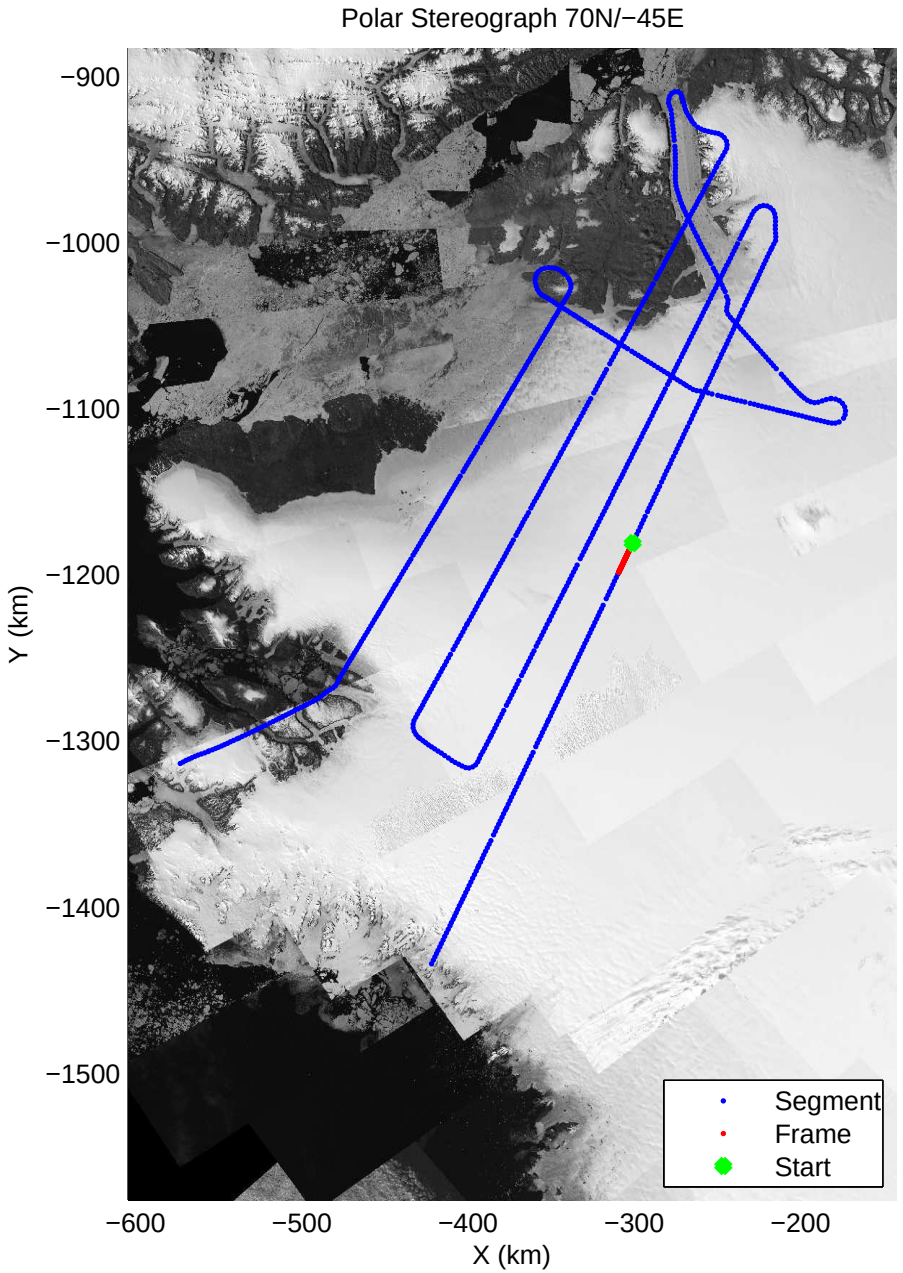

Polar Stereograph 70N/−45E
−900
−1000
−1100
−1200
−1300
−1400
−1500
Y (km)
−600
−500
−400
−300
−200
X (km)
Segment
Frame
Start

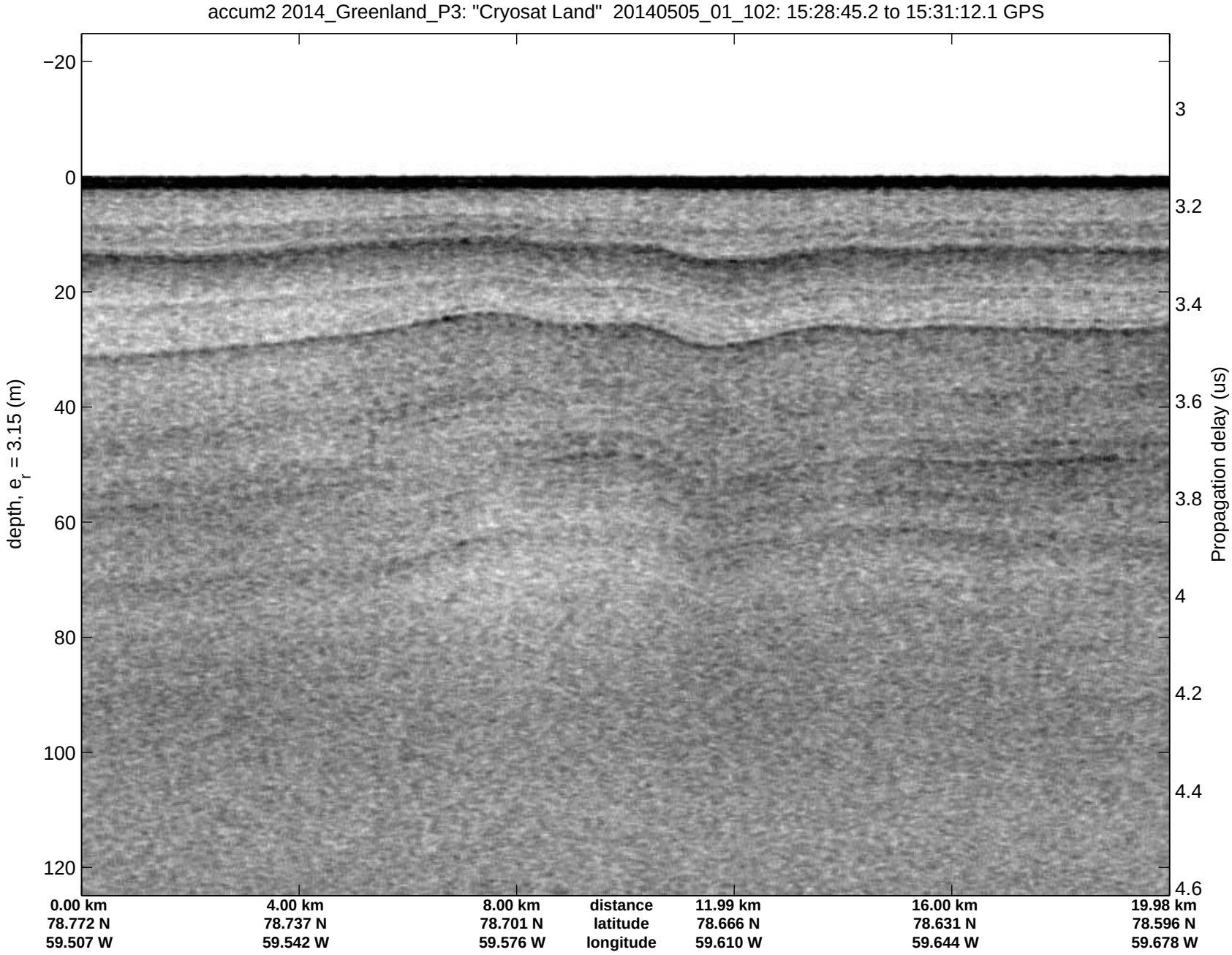

accum2 2014_Greenland_P3: "Cryosat Land" 20140505_01_101: 15:26:19.0 to 15:28:44.9 GPS
depth, e_r = 3.15 (m)
−20
0
20
40
60
80
100
120
Propagation delay (us)
3
3.2
3.4
3.6
3.8
4
4.2
4.4
4.6
0.00 km
78.948 N
59.332 W
4.00 km
78.912 N
59.367 W
8.00 km
78.877 N
59.402 W
distance
latitude
longitude
12.00 km
78.842 N
59.438 W
15.98 km
78.807 N
59.473 W
19.97 km
78.772 N
59.507 W

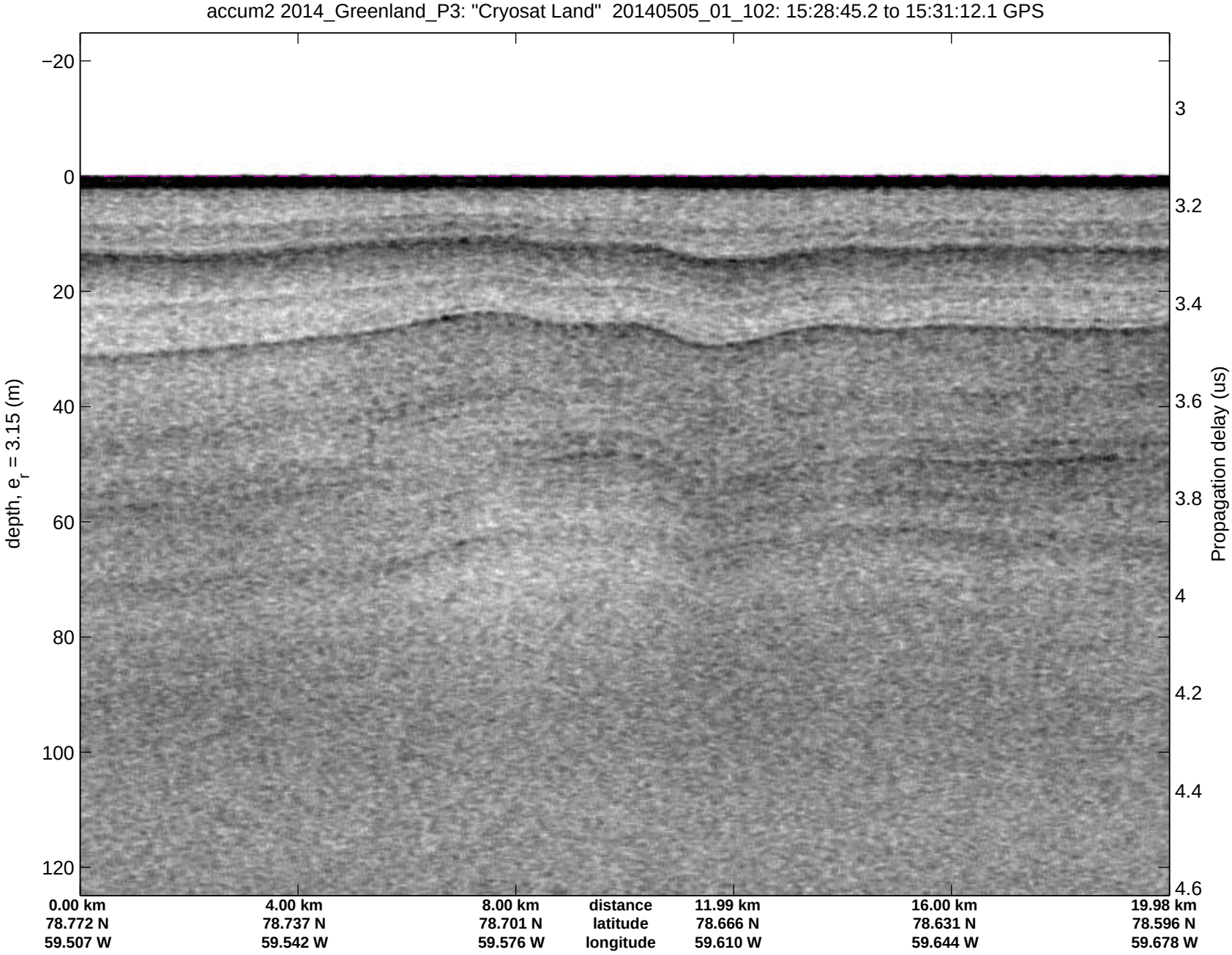

accum2 2014_Greenland_P3: "Cryosat Land" 20140505_01_101: 15:26:19.0 to 15:28:44.9 GPS
depth, e_r = 3.15 (m)
−20
0
20
40
60
80
100
120
Propagation delay (us)
3
3.2
3.4
3.6
3.8
4
4.2
4.4
4.6
0.00 km
78.948 N
59.332 W
4.00 km
78.912 N
59.367 W
8.00 km
78.877 N
59.402 W
distance
latitude
longitude
12.00 km
78.842 N
59.438 W
15.98 km
78.807 N
59.473 W
19.97 km
78.772 N
59.507 W

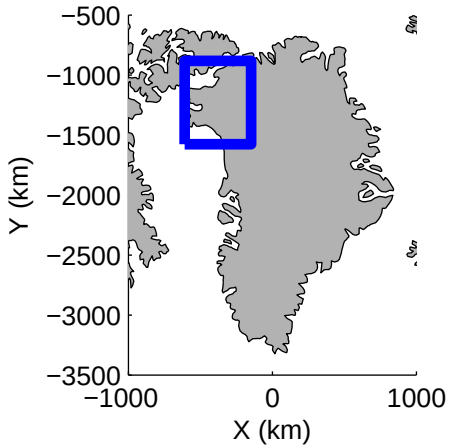

−500
−1000
−1500
−2000
−2500
−3000
−3500
Y (km)
−1000
0
1000
X (km)

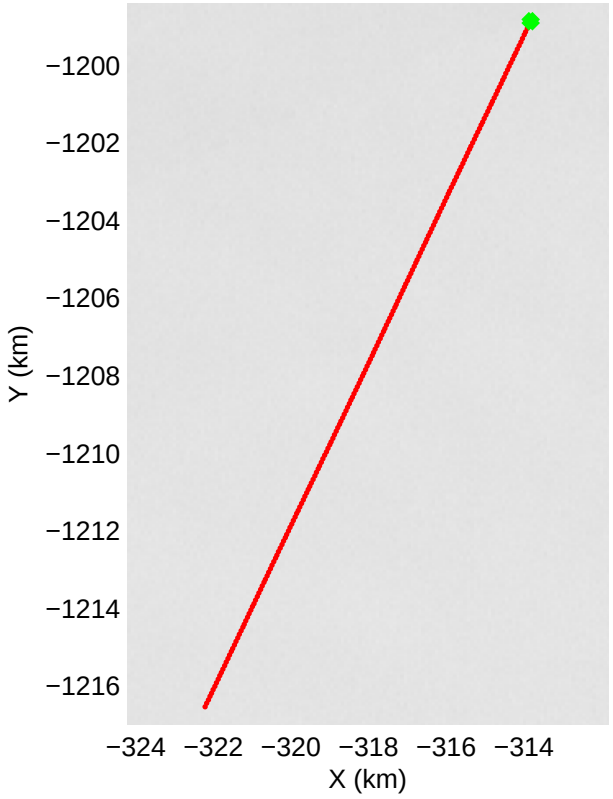

−1182
−1184
−1186
−1188
−1190
−1192
−1194
−1196
−1198
Y (km)
−315
−310
−305
X (km)

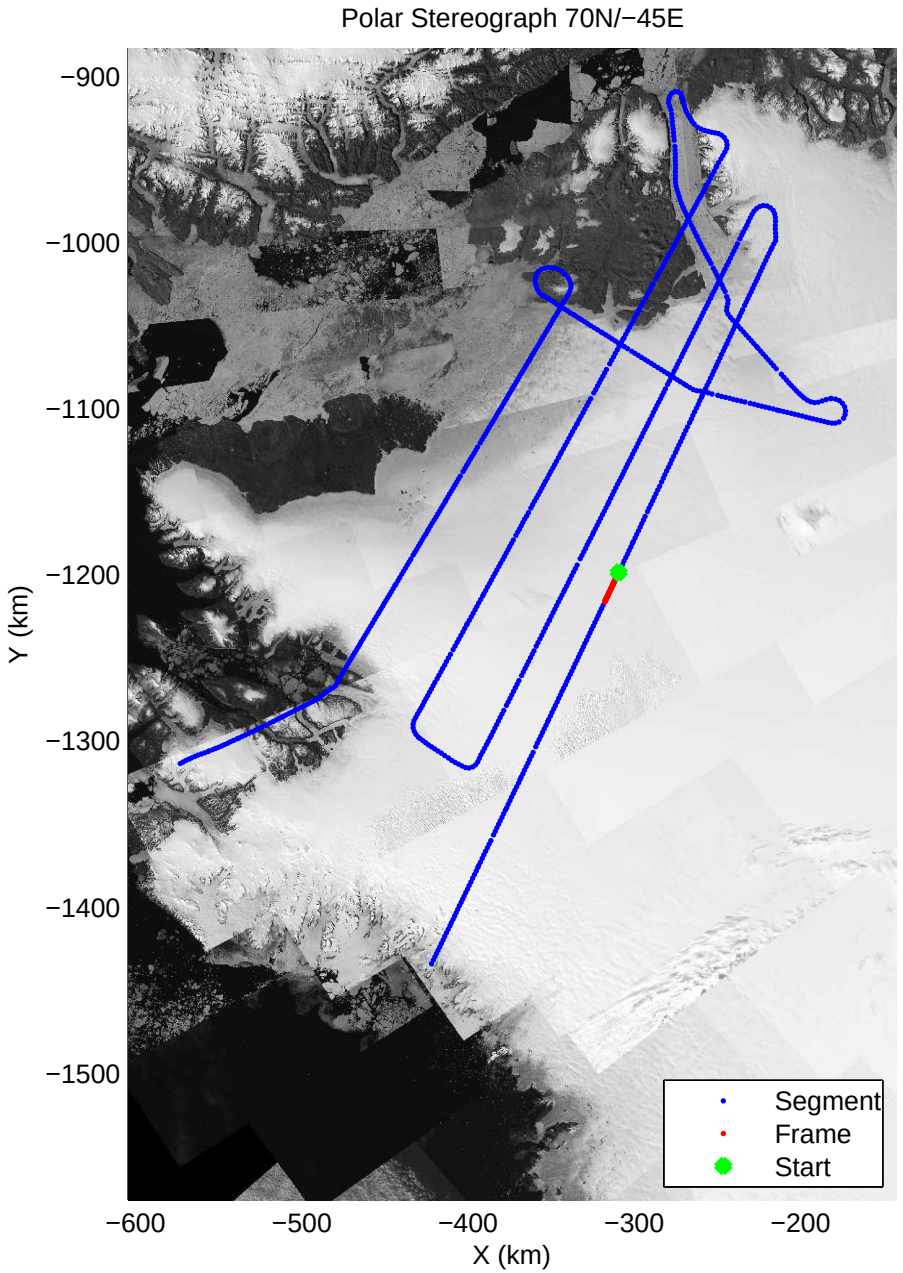

Polar Stereograph 70N/−45E
−900
−1000
−1100
−1200
−1300
−1400
−1500
Y (km)
−600
−500
−400
−300
−200
X (km)
Segment
Frame
Start

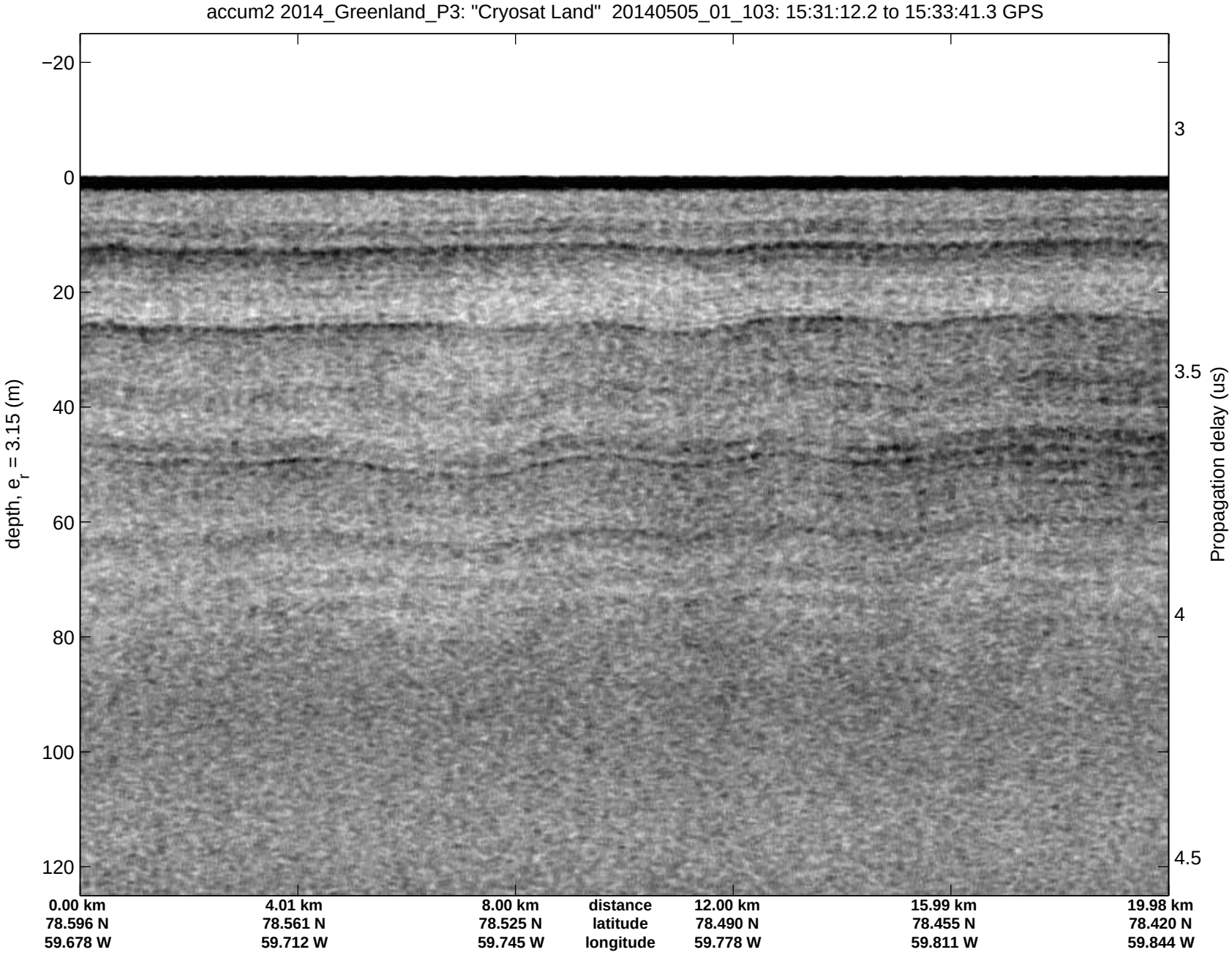

accum2 2014_Greenland_P3: "Cryosat Land" 20140505_01_102: 15:28:45.2 to 15:31:12.1 GPS
depth, e_r = 3.15 (m)
−20
0
20
40
60
80
100
120
Propagation delay (us)
3
3.2
3.4
3.6
3.8
4
4.2
4.4
4.6
0.00 km
78.772 N
59.507 W
4.00 km
78.737 N
59.542 W
8.00 km
78.701 N
59.576 W
distance
latitude
longitude
11.99 km
78.666 N
59.610 W
16.00 km
78.631 N
59.644 W
19.98 km
78.596 N
59.678 W

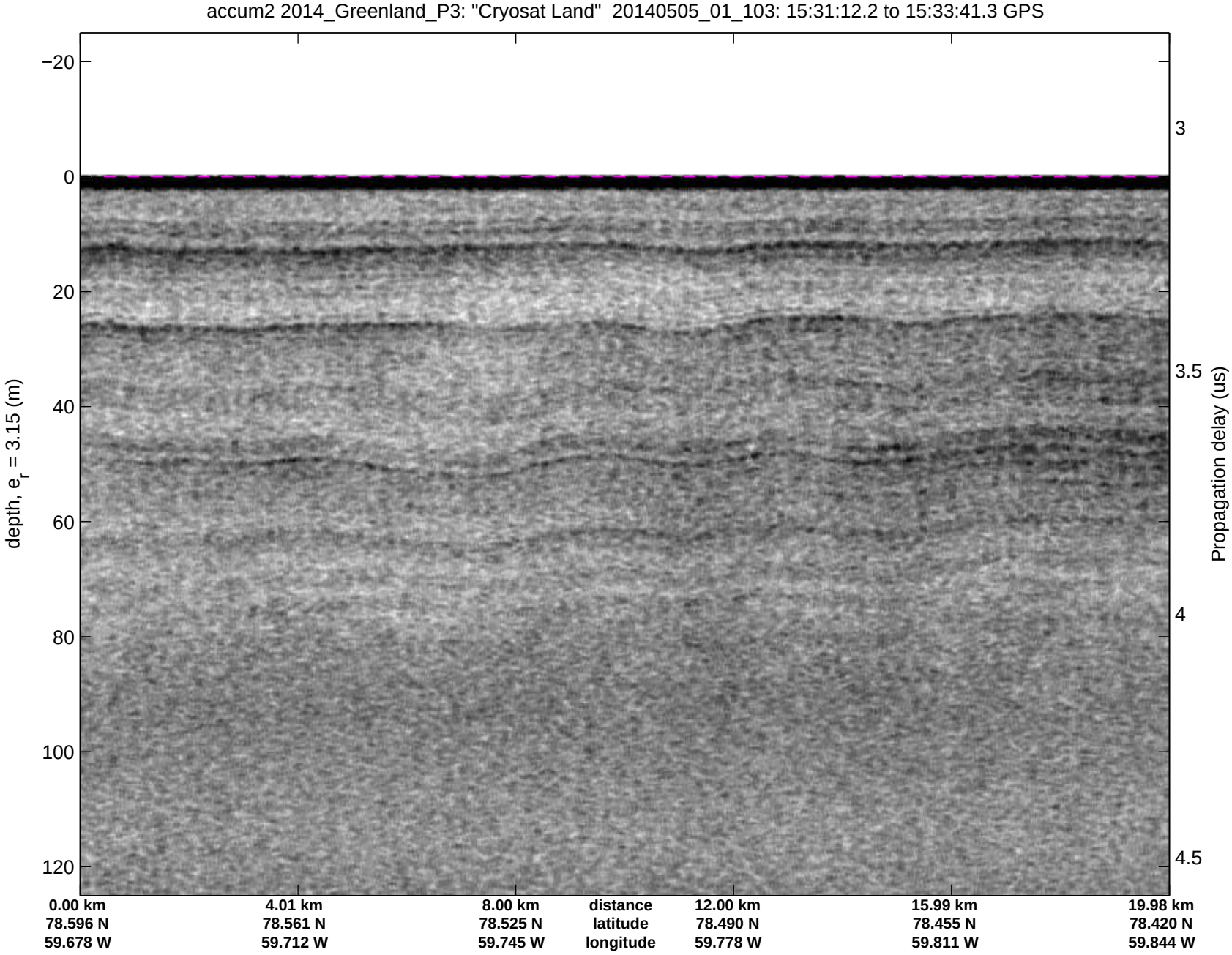

accum2 2014_Greenland_P3: "Cryosat Land" 20140505_01_102: 15:28:45.2 to 15:31:12.1 GPS
depth, e_r = 3.15 (m)
−20
0
20
40
60
80
100
120
Propagation delay (us)
3
3.2
3.4
3.6
3.8
4
4.2
4.4
4.6
0.00 km
78.772 N
59.507 W
4.00 km
78.737 N
59.542 W
8.00 km
78.701 N
59.576 W
distance
latitude
longitude
11.99 km
78.666 N
59.610 W
16.00 km
78.631 N
59.644 W
19.98 km
78.596 N
59.678 W

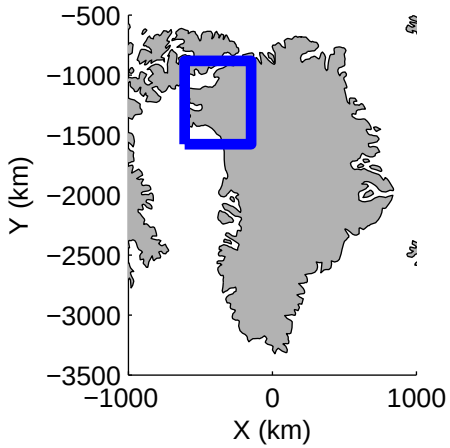

−500
−1000
−1500
−2000
−2500
−3000
−3500
Y (km)
−1000
0
1000
X (km)

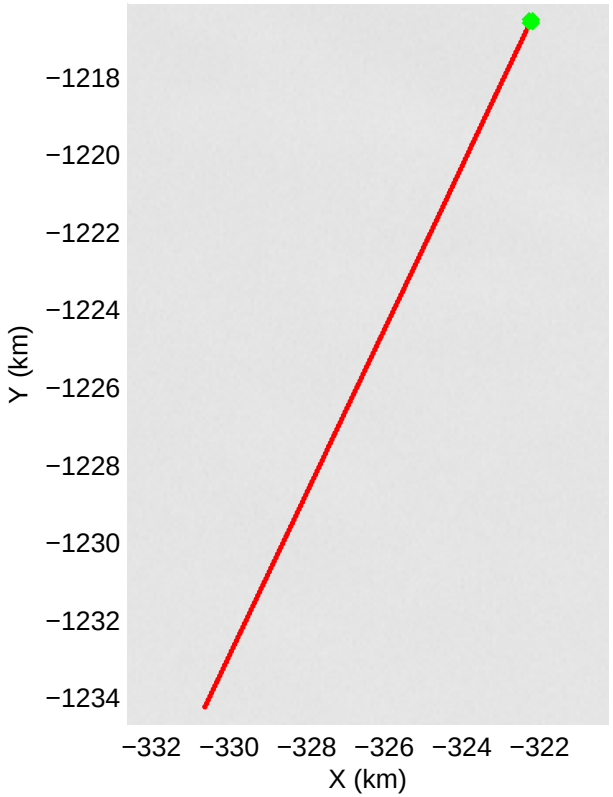

−1200
−1202
−1204
−1206
−1208
−1210
−1212
−1214
−1216
Y (km)
−324
−322
−320
−318
−316
−314
X (km)

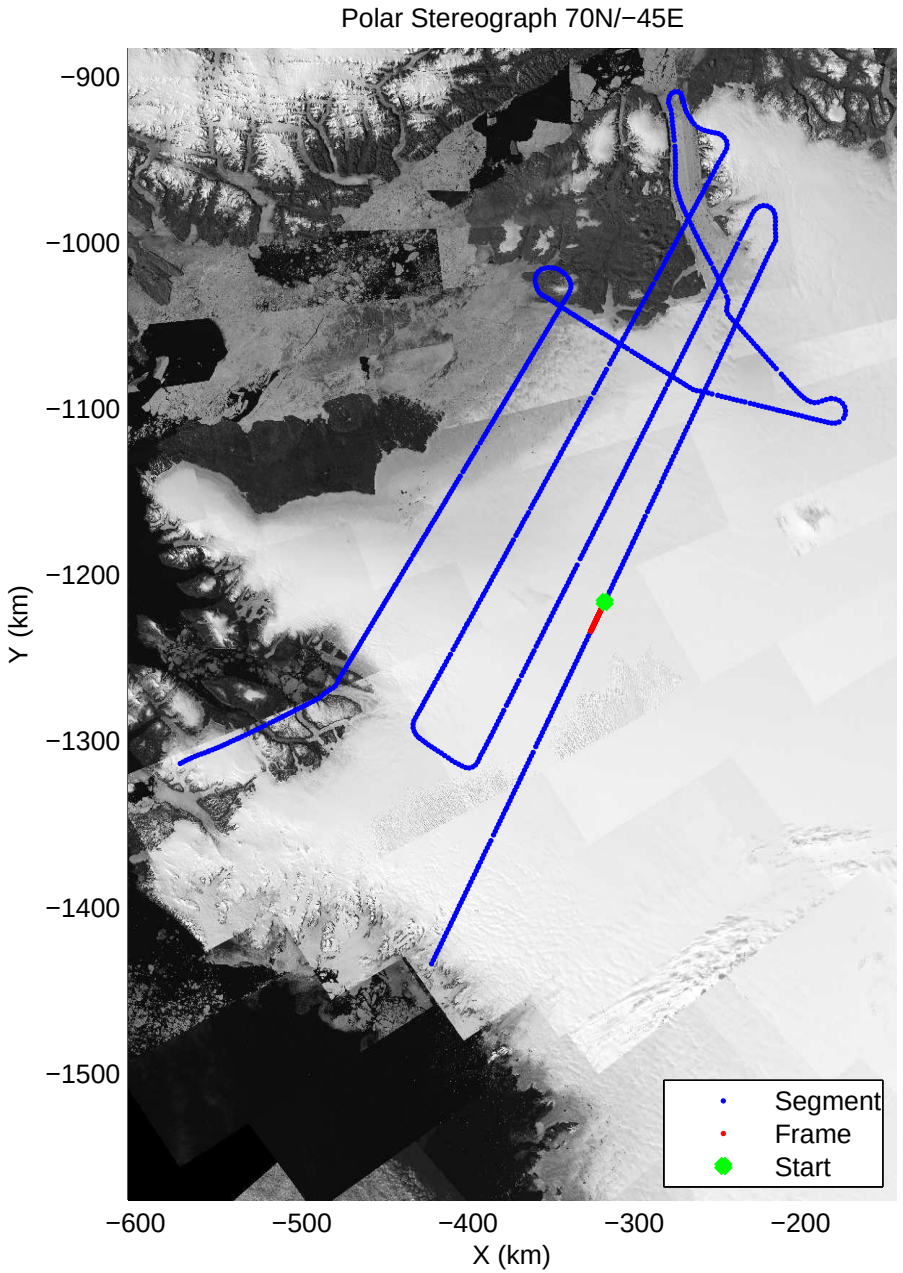

Polar Stereograph 70N/−45E
−900
−1000
−1100
−1200
−1300
−1400
−1500
Y (km)
−600
−500
−400
−300
−200
X (km)
Segment
Frame
Start

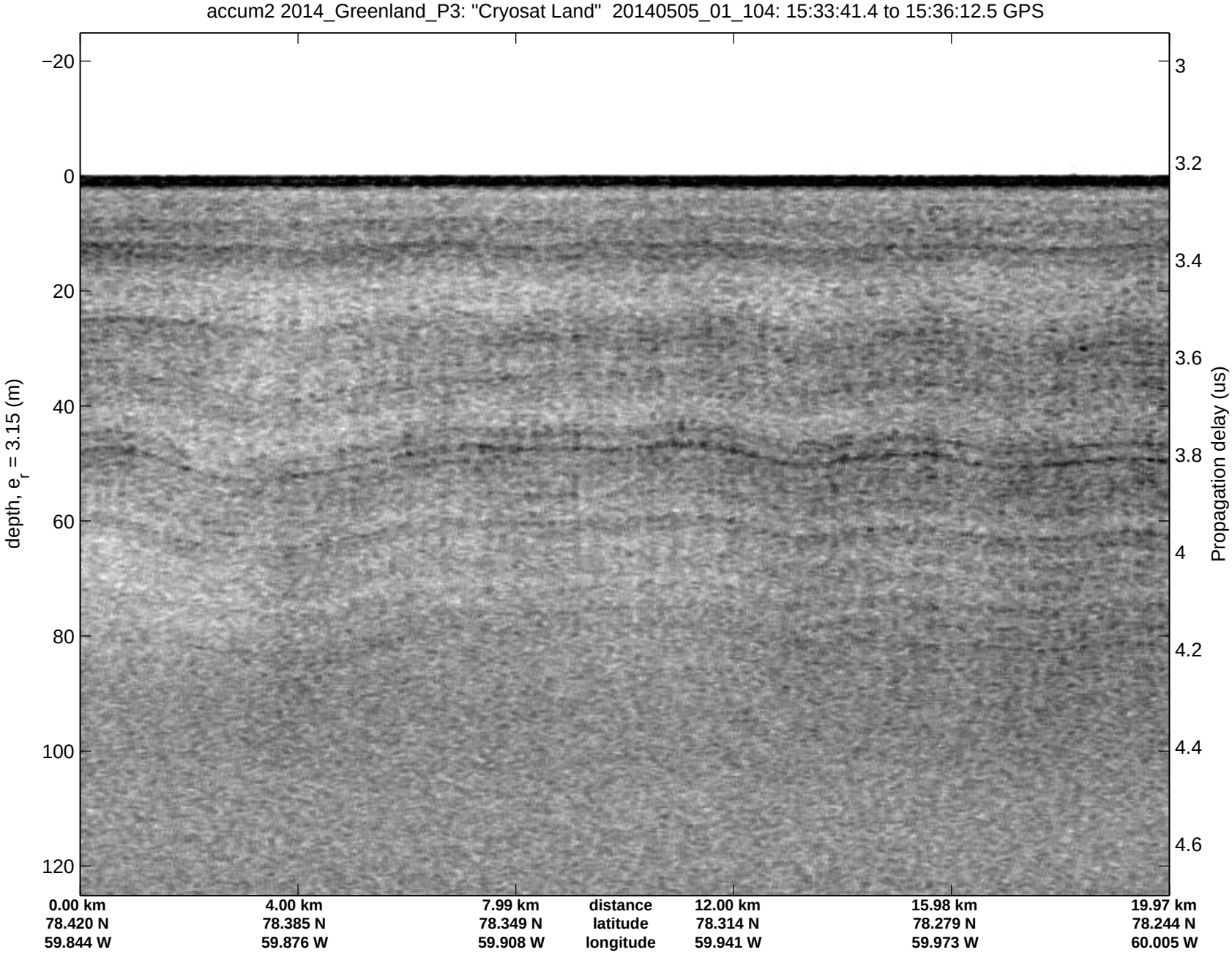

accum2 2014_Greenland_P3: "Cryosat Land" 20140505_01_103: 15:31:12.2 to 15:33:41.3 GPS
−20
0
20
40
60
80
100
120
depth, e_r = 3.15 (m)
3
3.5
4
4.5
Propagation delay (us)
0.00 km
78.596 N
59.678 W
4.01 km
78.561 N
59.712 W
8.00 km
78.525 N
59.745 W
distance
latitude
longitude
12.00 km
78.490 N
59.778 W
15.99 km
78.455 N
59.811 W
19.98 km
78.420 N
59.844 W

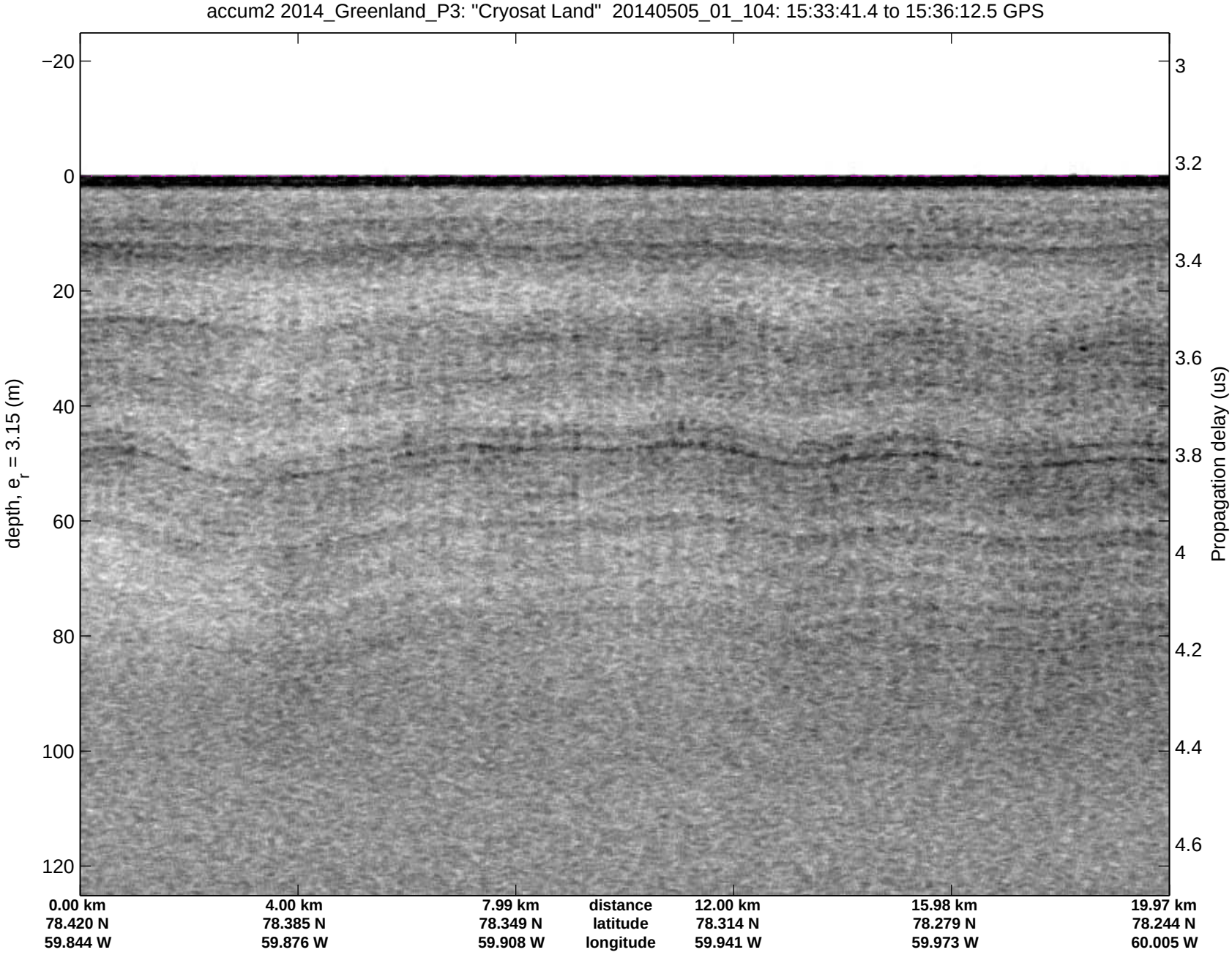

accum2 2014_Greenland_P3: "Cryosat Land" 20140505_01_103: 15:31:12.2 to 15:33:41.3 GPS
−20
0
20
40
60
80
100
120
depth, e_r = 3.15 (m)
3
3.5
4
4.5
Propagation delay (us)
0.00 km
78.596 N
59.678 W
4.01 km
78.561 N
59.712 W
8.00 km
78.525 N
59.745 W
distance
latitude
longitude
12.00 km
78.490 N
59.778 W
15.99 km
78.455 N
59.811 W
19.98 km
78.420 N
59.844 W

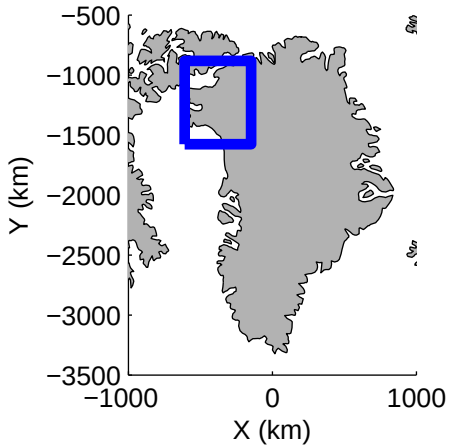

−500
−1000
−1500
−2000
−2500
−3000
−3500
Y (km)
−1000
0
1000
X (km)

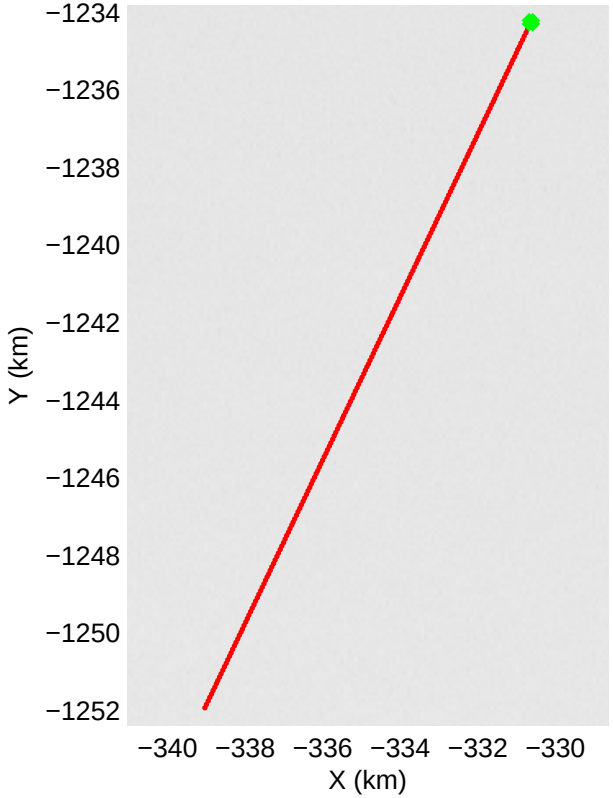

−1218
−1220
−1222
−1224
−1226
−1228
−1230
−1232
−1234
Y (km)
−332
−330
−328
−326
−324
−322
X (km)

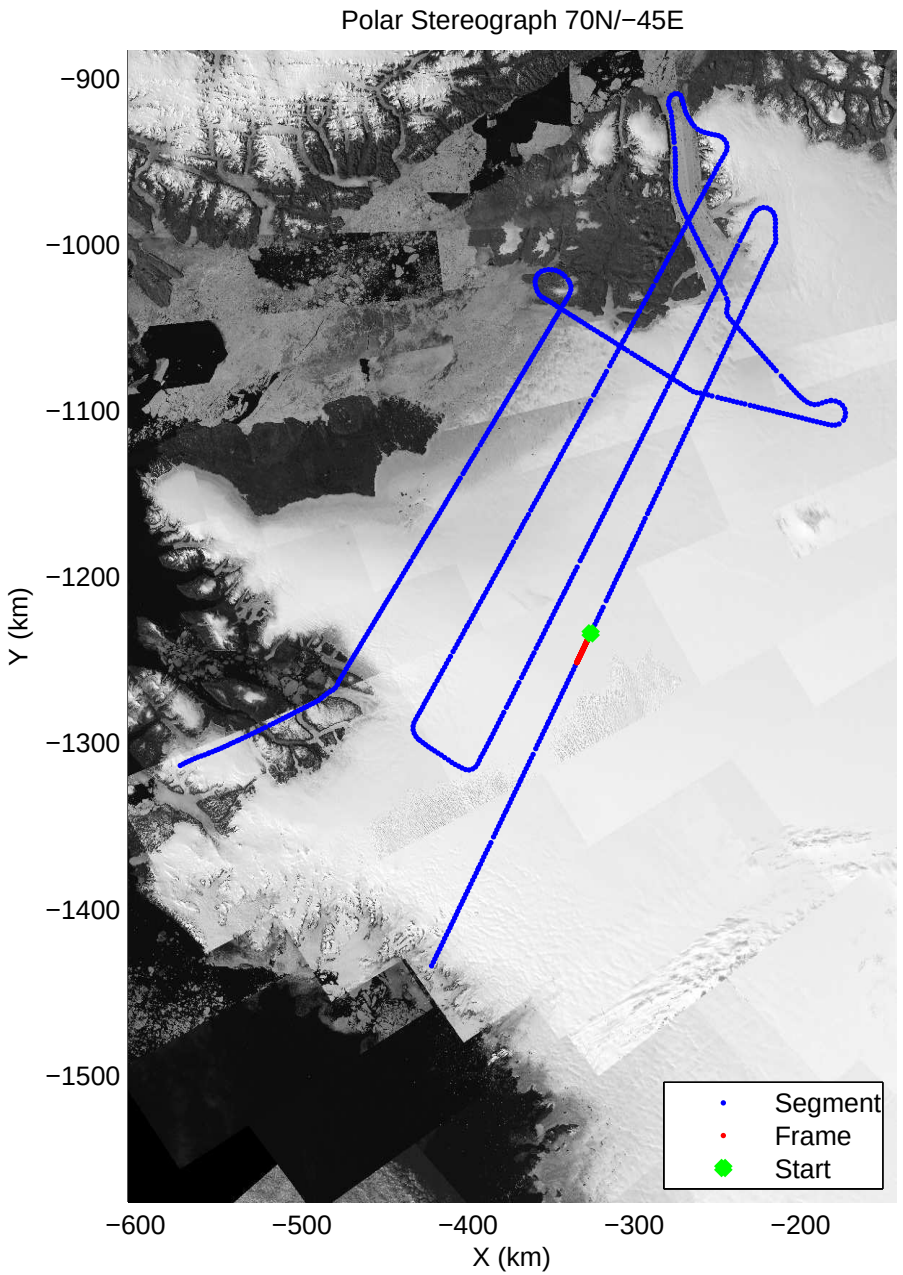

Polar Stereograph 70N/−45E
−900
−1000
−1100
−1200
−1300
−1400
−1500
Y (km)
−600
−500
−400
−300
−200
X (km)
Segment
Frame
Start

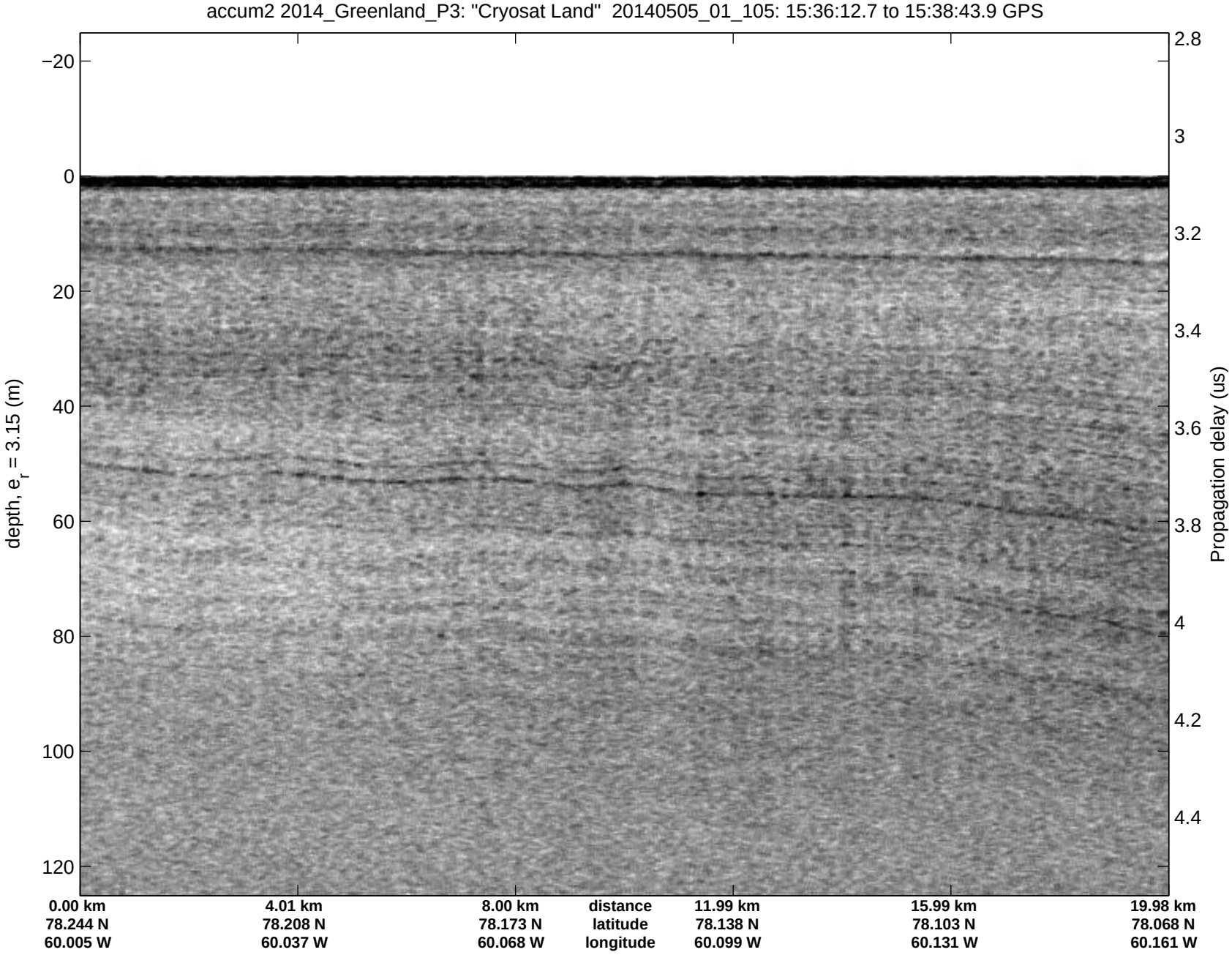

accum2 2014_Greenland_P3: "Cryosat Land" 20140505_01_104: 15:33:41.4 to 15:36:12.5 GPS
depth, e_r = 3.15 (m)
−20
0
20
40
60
80
100
120
3
3.2
3.4
3.6
3.8
4
4.2
4.4
4.6
Propagation delay (us)
0.00 km
78.420 N
59.844 W
4.00 km
78.385 N
59.876 W
7.99 km
78.349 N
59.908 W
distance
latitude
longitude
12.00 km
78.314 N
59.941 W
15.98 km
78.279 N
59.973 W
19.97 km
78.244 N
60.005 W

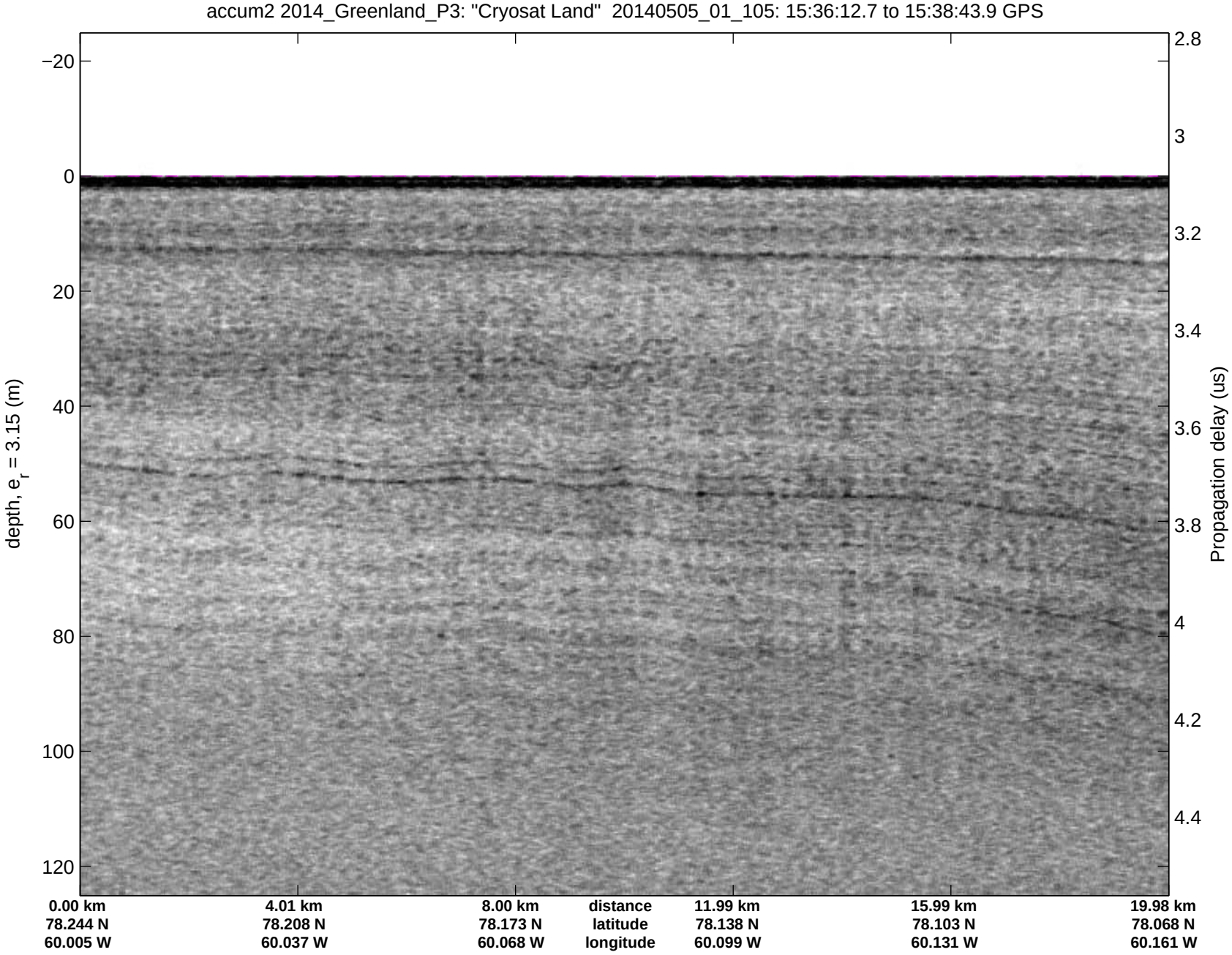

accum2 2014_Greenland_P3: "Cryosat Land" 20140505_01_104: 15:33:41.4 to 15:36:12.5 GPS
depth, e_r = 3.15 (m)
−20
0
20
40
60
80
100
120
3
3.2
3.4
3.6
3.8
4
4.2
4.4
4.6
Propagation delay (us)
0.00 km
78.420 N
59.844 W
4.00 km
78.385 N
59.876 W
7.99 km
78.349 N
59.908 W
distance
latitude
longitude
12.00 km
78.314 N
59.941 W
15.98 km
78.279 N
59.973 W
19.97 km
78.244 N
60.005 W

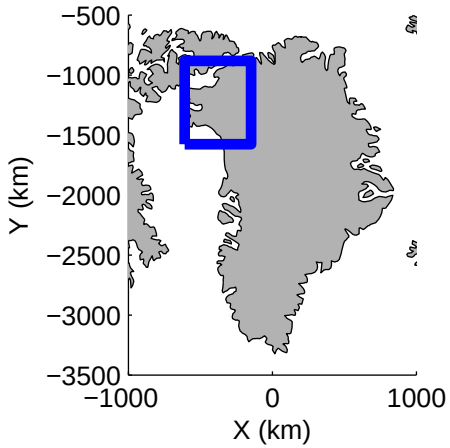

−500
−1000
−1500
−2000
−2500
−3000
−3500
Y (km)
−1000
0
1000
X (km)

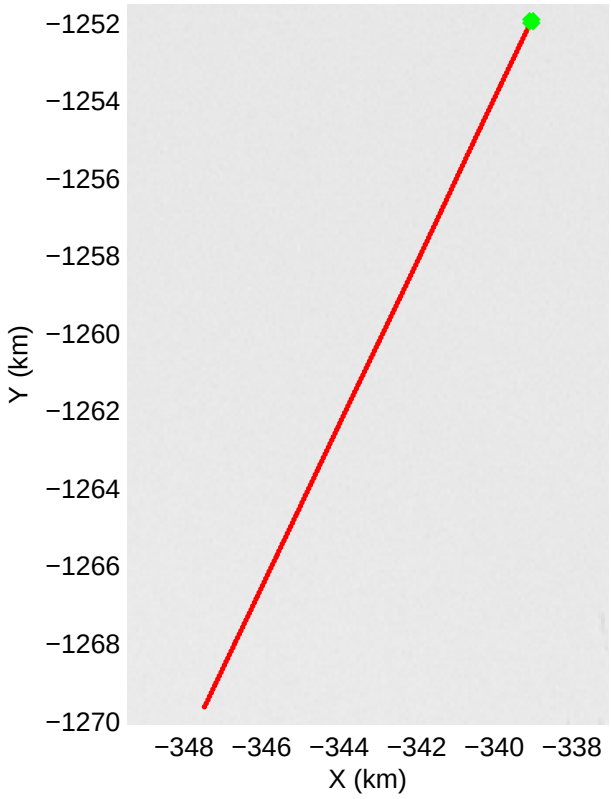

−1234
−1236
−1238
−1240
−1242
−1244
−1246
−1248
−1250
−1252
Y (km)
−340
−338
−336
−334
−332
−330
X (km)

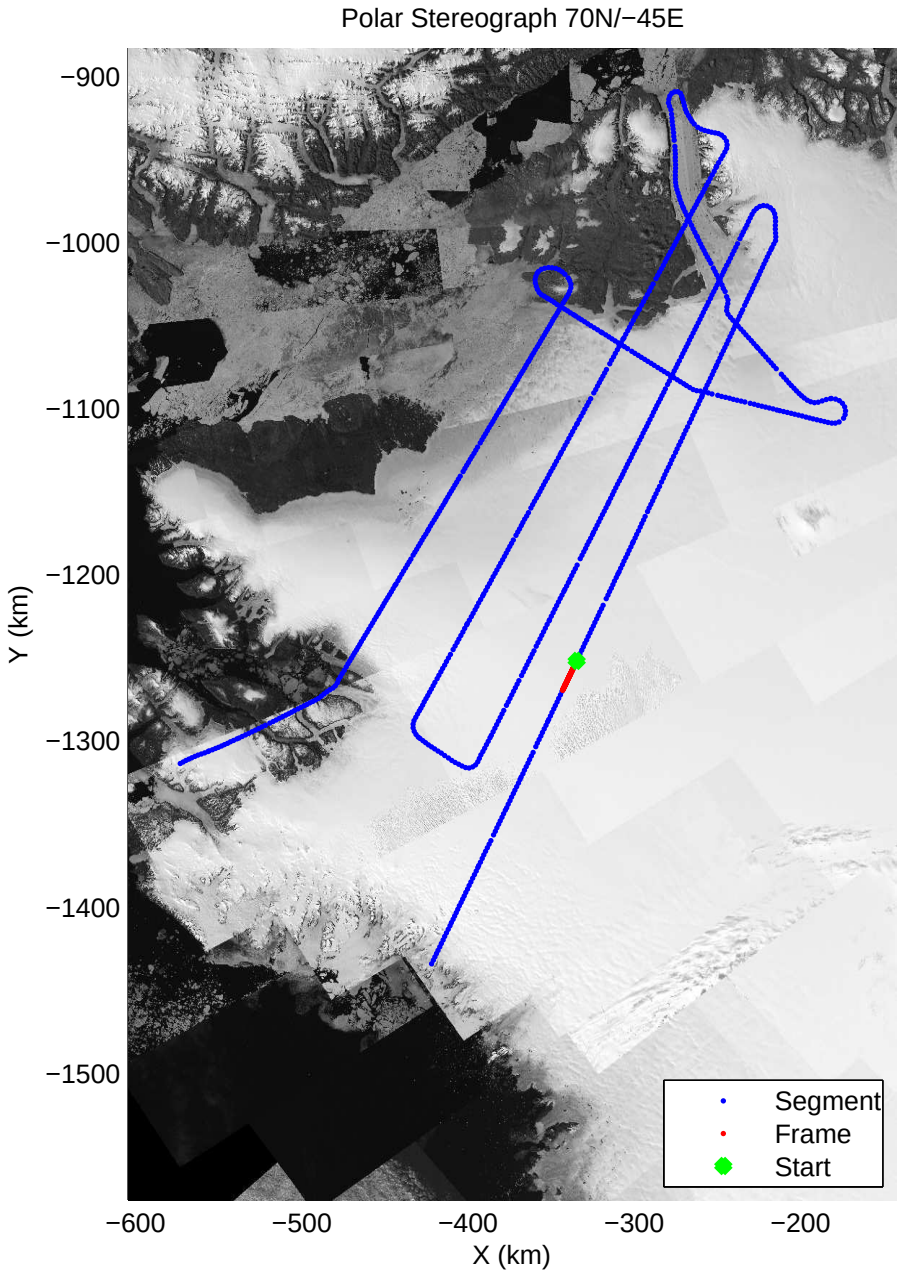

Polar Stereograph 70N/−45E
−900
−1000
−1100
−1200
−1300
−1400
−1500
Y (km)
−600
−500
−400
−300
−200
X (km)
Segment
Frame
Start

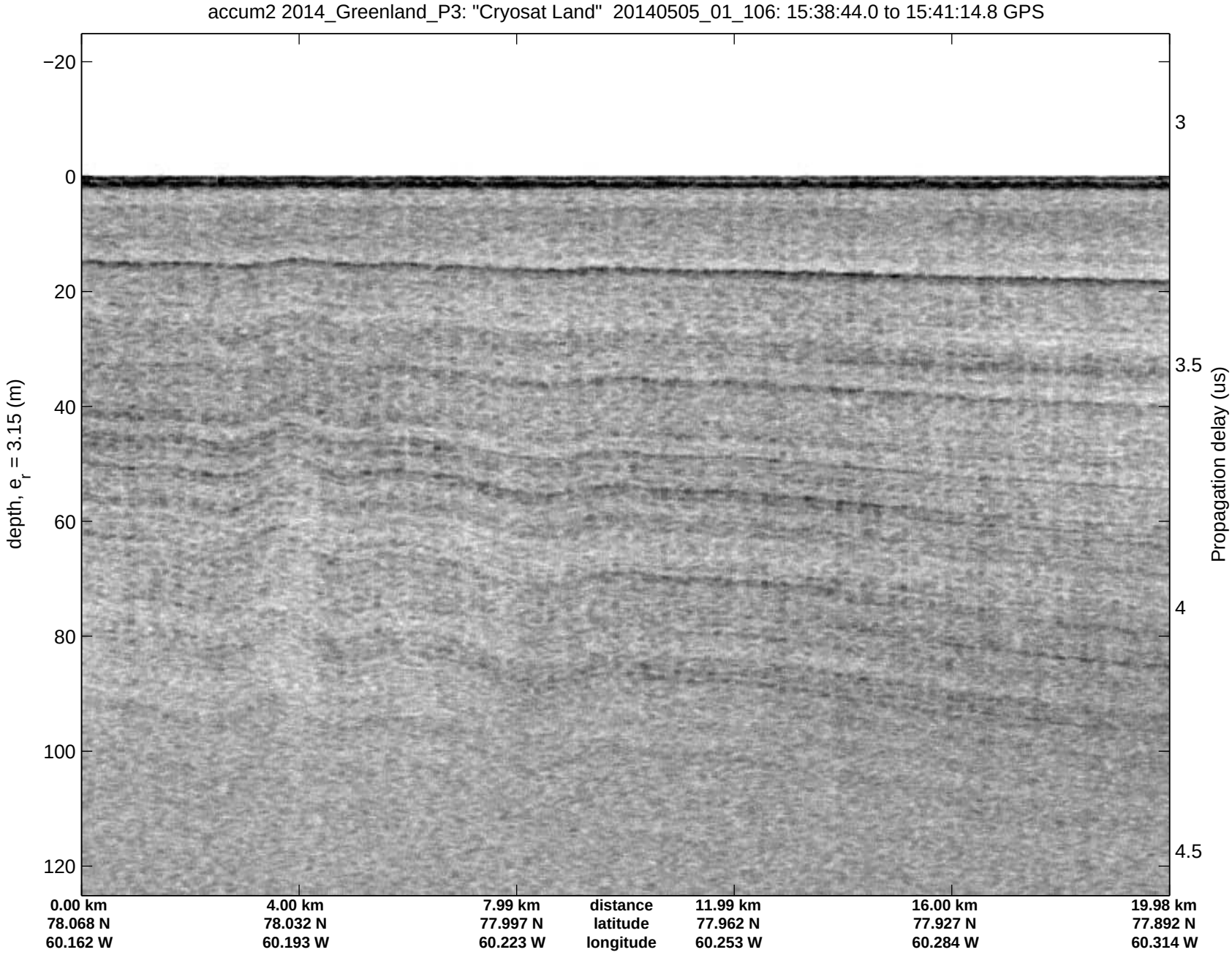

accum2 2014_Greenland_P3: "Cryosat Land" 20140505_01_105: 15:36:12.7 to 15:38:43.9 GPS
depth, e_r = 3.15 (m)
−20
0
20
40
60
80
100
120
Propagation delay (us)
2.8
3
3.2
3.4
3.6
3.8
4
4.2
4.4
0.00 km
78.244 N
60.005 W
4.01 km
78.208 N
60.037 W
8.00 km
78.173 N
60.068 W
distance
latitude
longitude
11.99 km
78.138 N
60.099 W
15.99 km
78.103 N
60.131 W
19.98 km
78.068 N
60.161 W

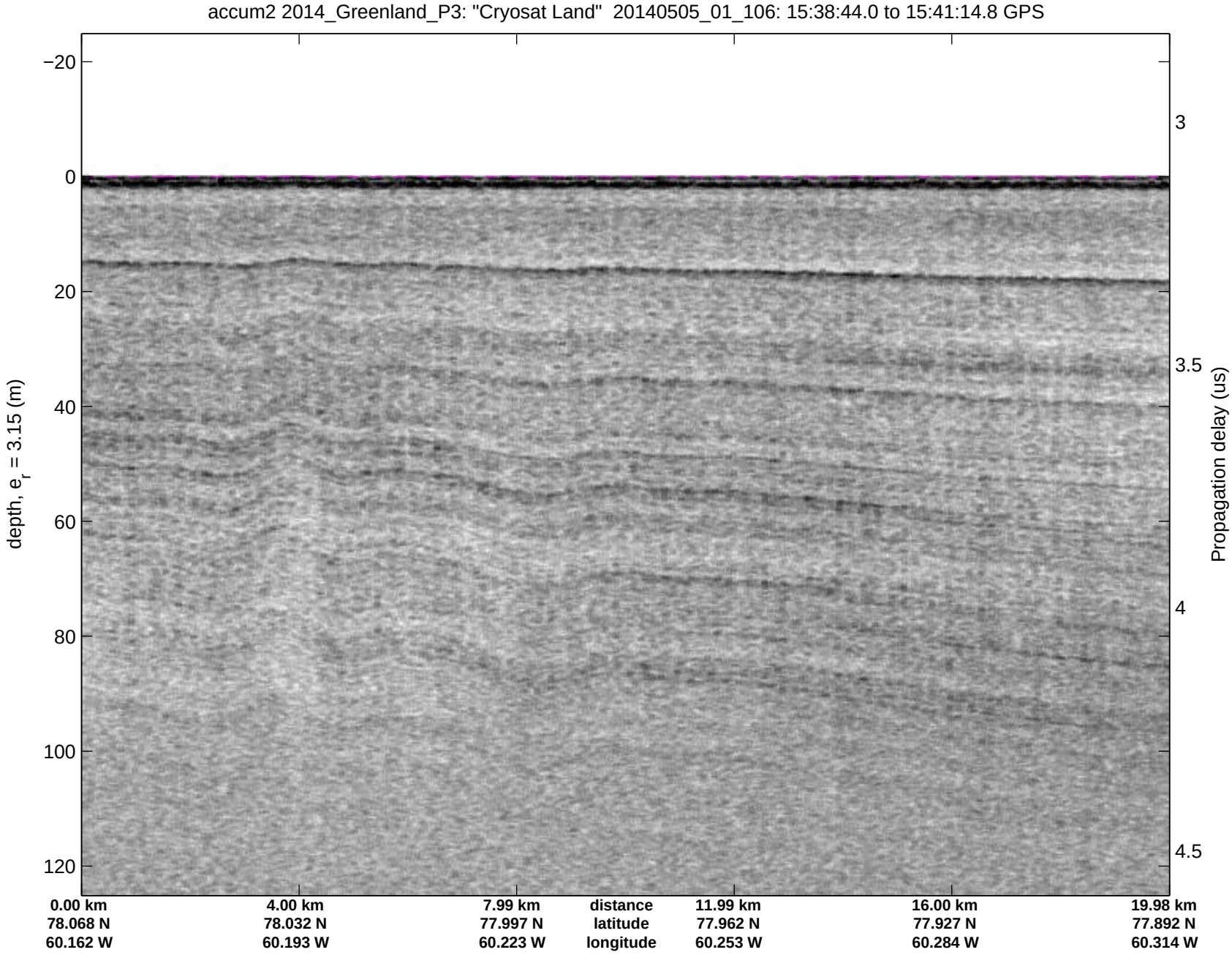

accum2 2014_Greenland_P3: "Cryosat Land" 20140505_01_105: 15:36:12.7 to 15:38:43.9 GPS
depth, e_r = 3.15 (m)
−20
0
20
40
60
80
100
120
2.8
3
3.2
3.4
3.6
3.8
4
4.2
4.4
Propagation delay (us)
0.00 km
78.244 N
60.005 W
4.01 km
78.208 N
60.037 W
8.00 km
78.173 N
60.068 W
distance
latitude
longitude
11.99 km
78.138 N
60.099 W
15.99 km
78.103 N
60.131 W
19.98 km
78.068 N
60.161 W

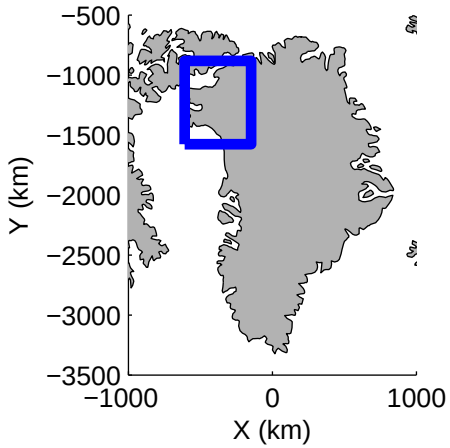

−500
−1000
−1500
−2000
−2500
−3000
−3500
Y (km)
−1000
0
1000
X (km)

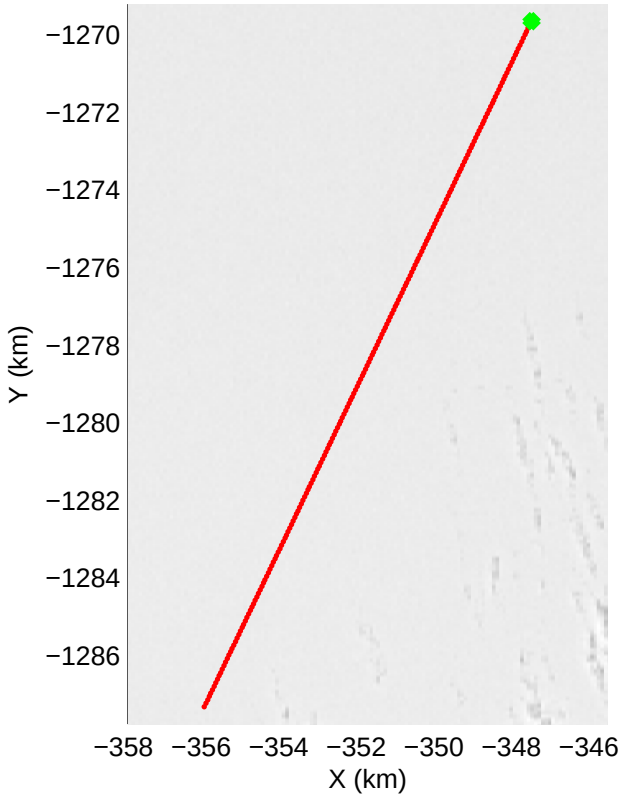

−1252
−1254
−1256
−1258
−1260
−1262
−1264
−1266
−1268
−1270
Y (km)
−348
−346
−344
−342
−340
−338
X (km)

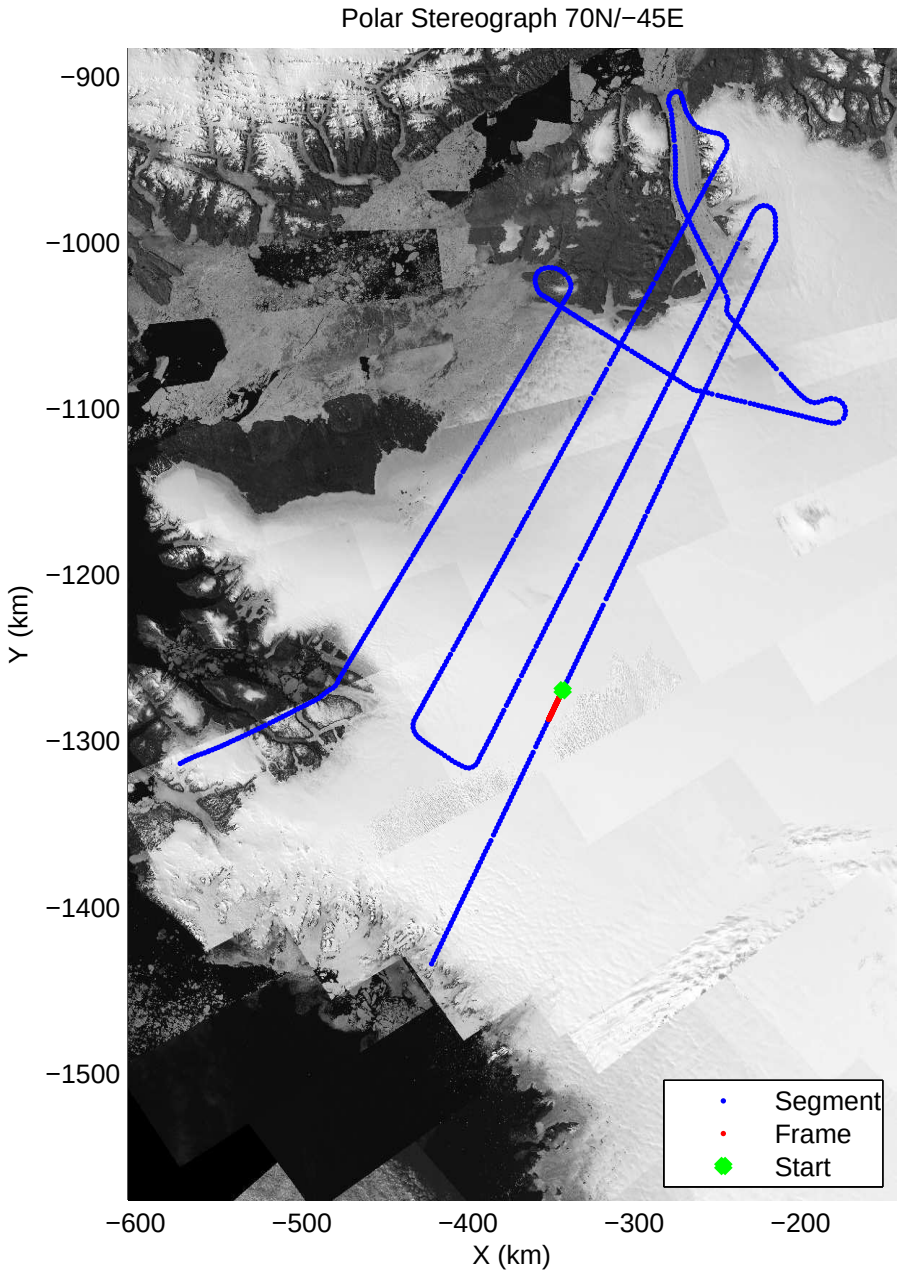

Polar Stereograph 70N/−45E
−900
−1000
−1100
−1200
−1300
−1400
−1500
Y (km)
−600
−500
−400
−300
−200
X (km)
Segment
Frame
Start

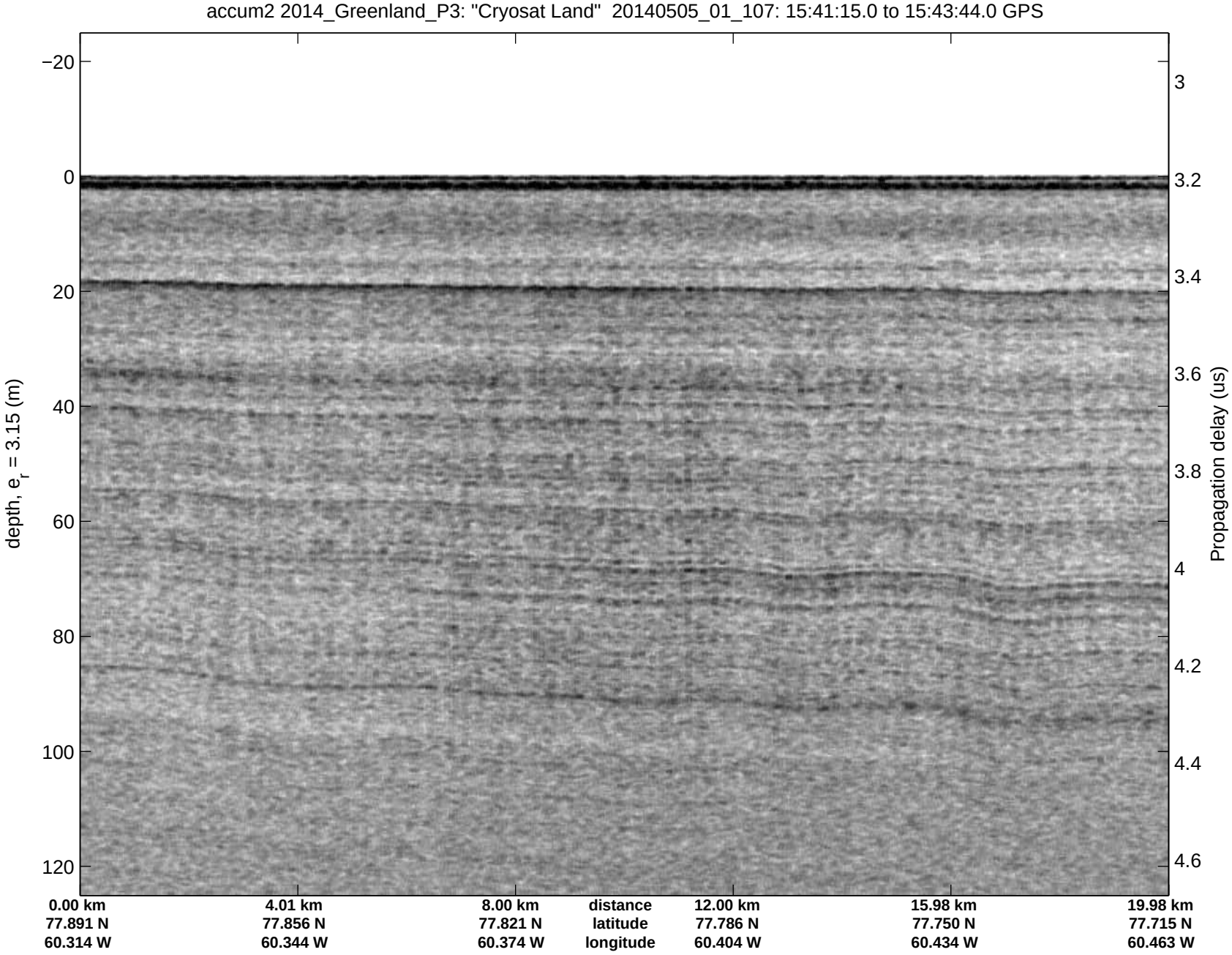

accum2 2014_Greenland_P3: "Cryosat Land" 20140505_01_106: 15:38:44.0 to 15:41:14.8 GPS
depth, e_r = 3.15 (m)
−20
0
20
40
60
80
100
120
Propagation delay (us)
3
3.5
4
4.5
0.00 km
78.068 N
60.162 W
4.00 km
78.032 N
60.193 W
7.99 km
77.997 N
60.223 W
distance
latitude
longitude
11.99 km
77.962 N
60.253 W
16.00 km
77.927 N
60.284 W
19.98 km
77.892 N
60.314 W

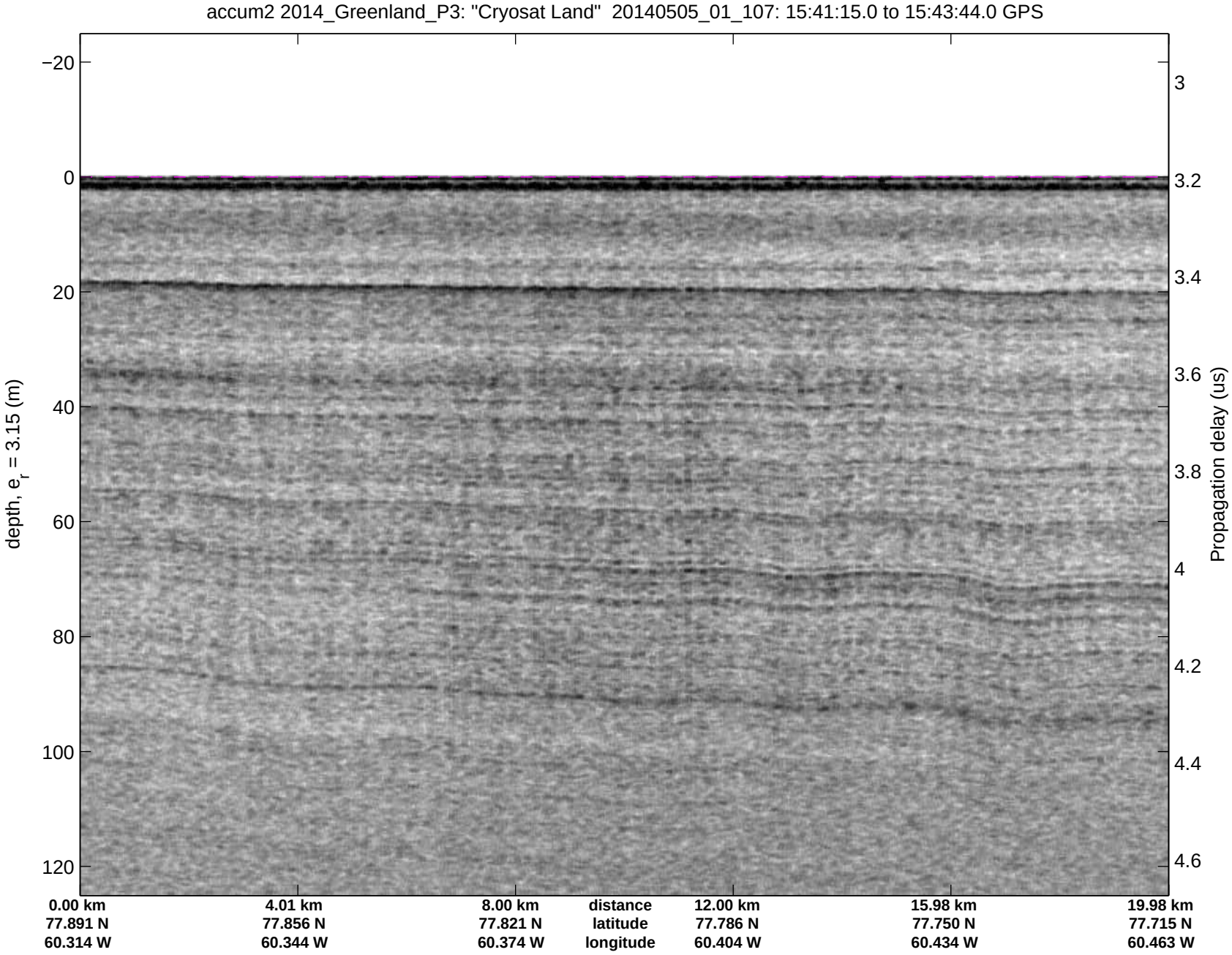

accum2 2014_Greenland_P3: "Cryosat Land" 20140505_01_106: 15:38:44.0 to 15:41:14.8 GPS
depth, e_r = 3.15 (m)
−20
0
20
40
60
80
100
120
Propagation delay (us)
3
3.5
4
4.5
0.00 km
78.068 N
60.162 W
4.00 km
78.032 N
60.193 W
7.99 km
77.997 N
60.223 W
distance
latitude
longitude
11.99 km
77.962 N
60.253 W
16.00 km
77.927 N
60.284 W
19.98 km
77.892 N
60.314 W

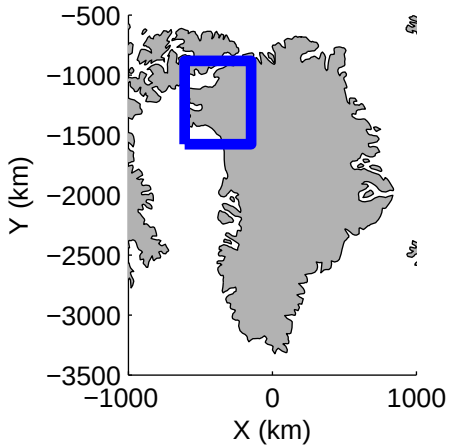

−500
−1000
−1500
−2000
−2500
−3000
−3500
Y (km)
−1000
0
1000
X (km)

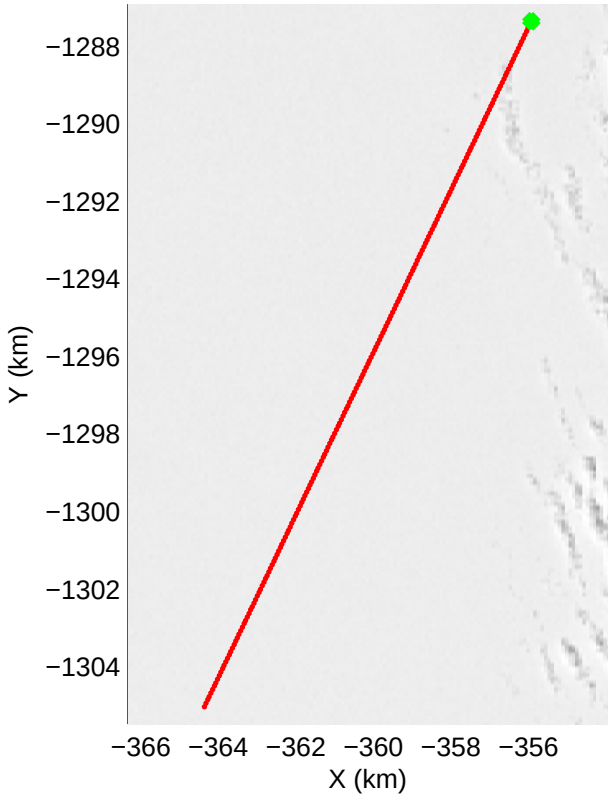

−1270
−1272
−1274
−1276
−1278
−1280
−1282
−1284
−1286
Y (km)
−358
−356
−354
−352
−350
−348
−346
X (km)

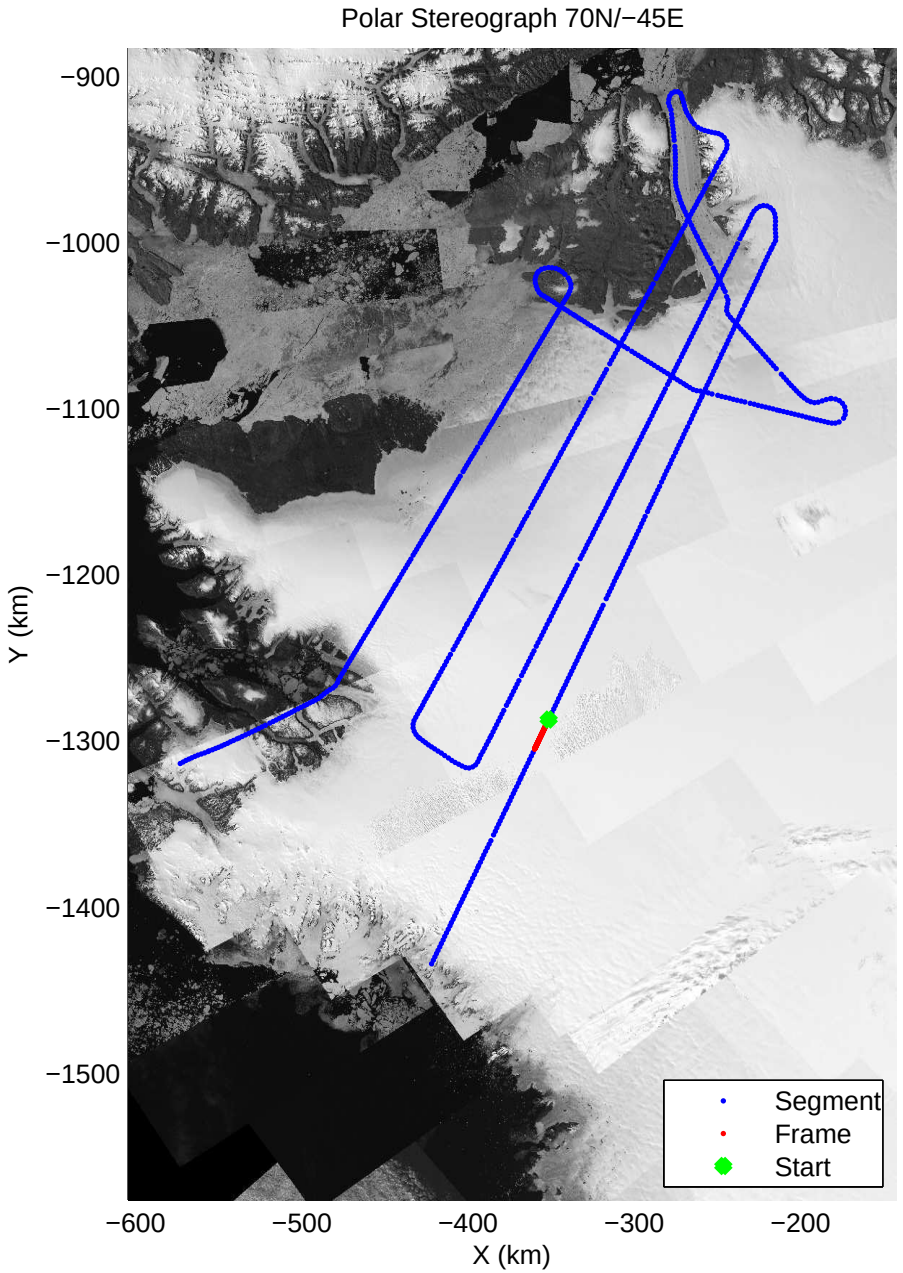

Polar Stereograph 70N/−45E
−900
−1000
−1100
−1200
−1300
−1400
−1500
Y (km)
−600
−500
−400
−300
−200
X (km)
Segment
Frame
Start

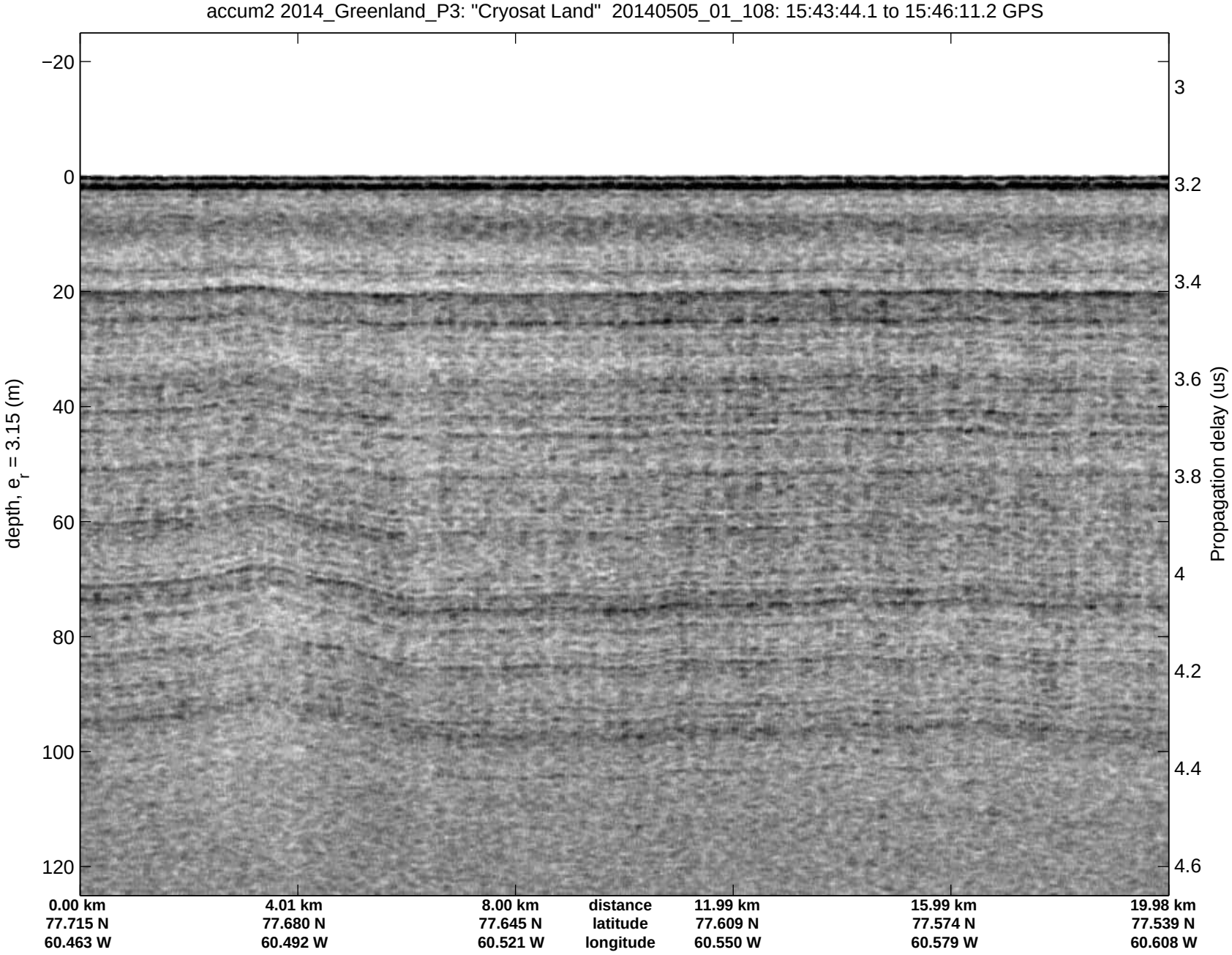

accum2 2014_Greenland_P3: "Cryosat Land" 20140505_01_107: 15:41:15.0 to 15:43:44.0 GPS
depth, e_r = 3.15 (m)
−20
0
20
40
60
80
100
120
Propagation delay (us)
3
3.2
3.4
3.6
3.8
4
4.2
4.4
4.6
0.00 km
77.891 N
60.314 W
4.01 km
77.856 N
60.344 W
8.00 km
77.821 N
60.374 W
distance
latitude
longitude
12.00 km
77.786 N
60.404 W
15.98 km
77.750 N
60.434 W
19.98 km
77.715 N
60.463 W

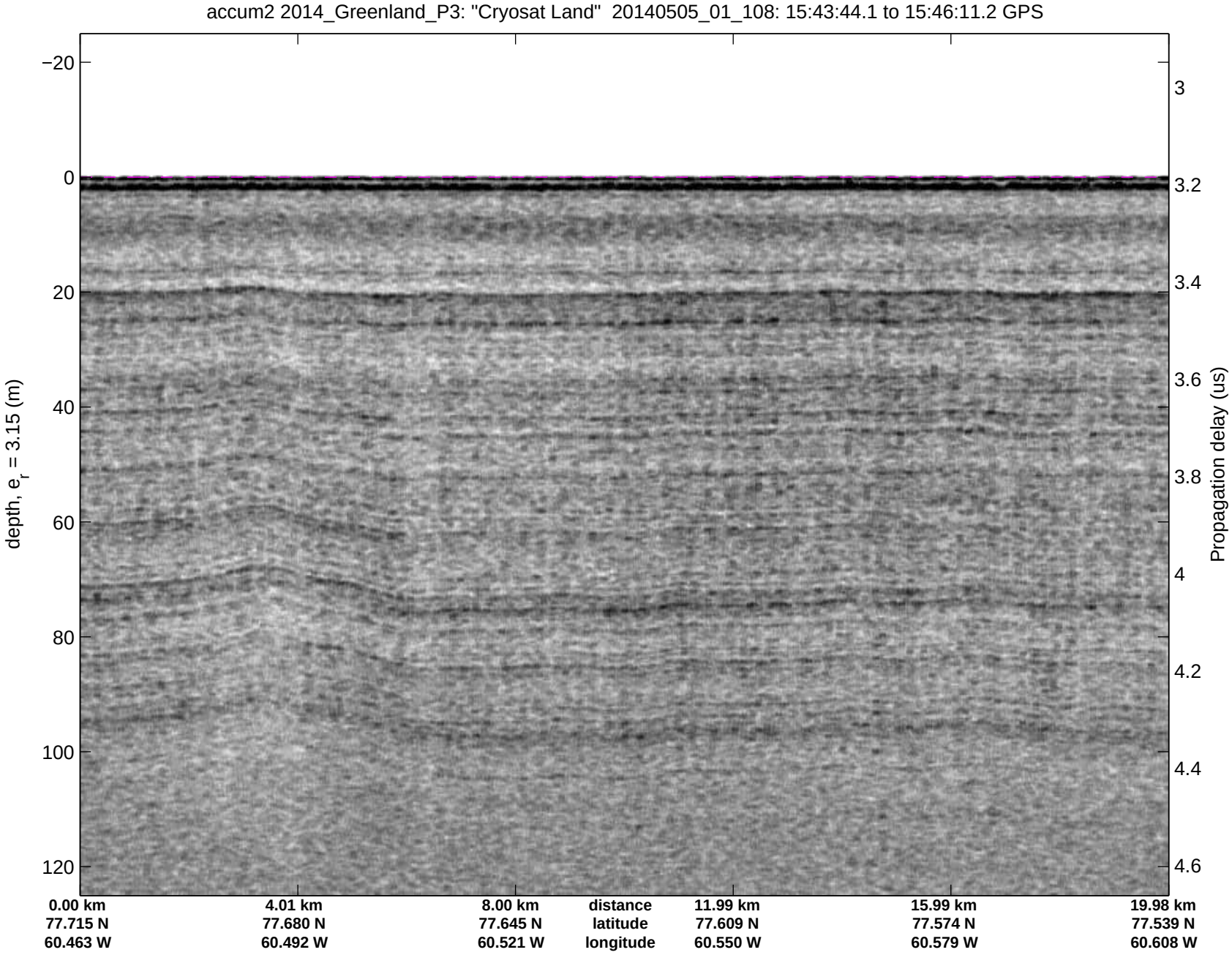

accum2 2014_Greenland_P3: "Cryosat Land" 20140505_01_107: 15:41:15.0 to 15:43:44.0 GPS
depth, e_r = 3.15 (m)
Propagation delay (us)
−20
0
20
40
60
80
100
120
3
3.2
3.4
3.6
3.8
4
4.2
4.4
4.6
0.00 km
77.891 N
60.314 W
4.01 km
77.856 N
60.344 W
8.00 km
77.821 N
60.374 W
distance
latitude
longitude
12.00 km
77.786 N
60.404 W
15.98 km
77.750 N
60.434 W
19.98 km
77.715 N
60.463 W

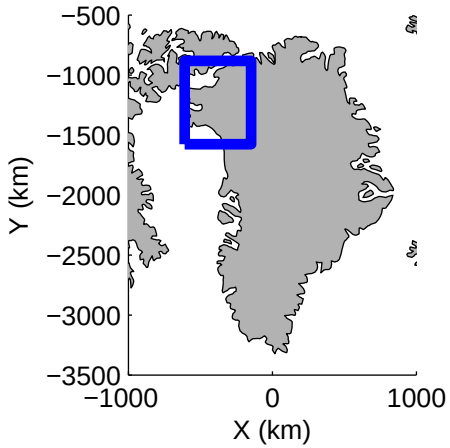

−500
−1000
−1500
−2000
−2500
−3000
−3500
Y (km)
−1000
0
1000
X (km)

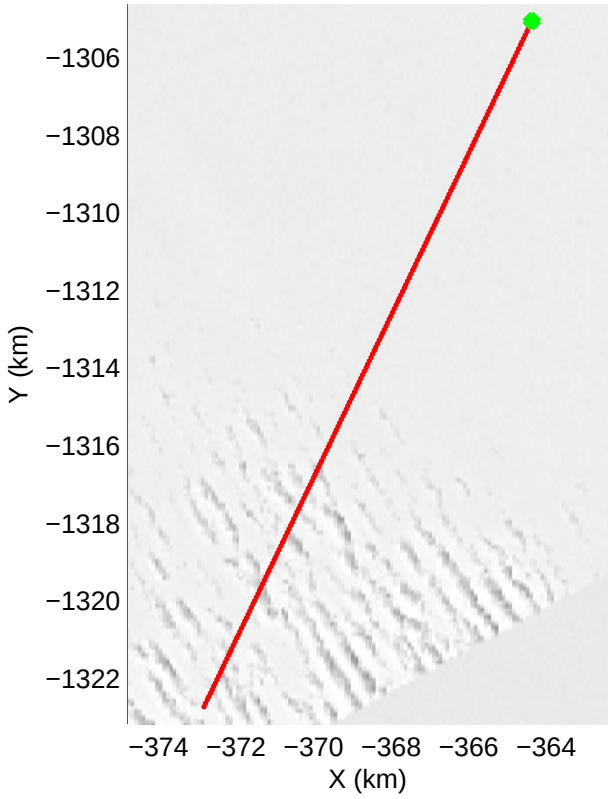

−1288
−1290
−1292
−1294
−1296
−1298
−1300
−1302
−1304
Y (km)
−366
−364
−362
−360
−358
−356
X (km)

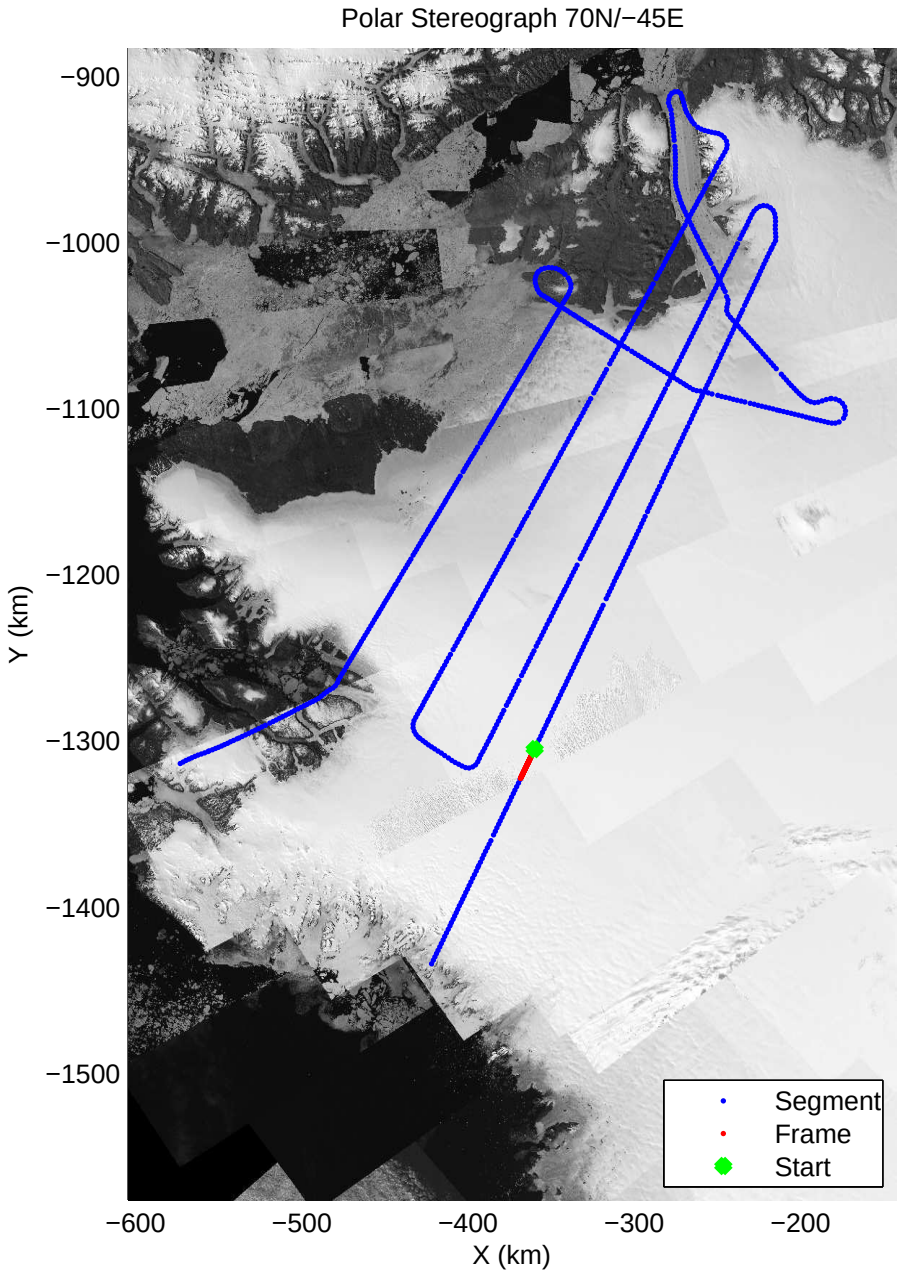

Polar Stereograph 70N/−45E
−900
−1000
−1100
−1200
−1300
−1400
−1500
Y (km)
−600
−500
−400
−300
−200
X (km)
Segment
Frame
Start

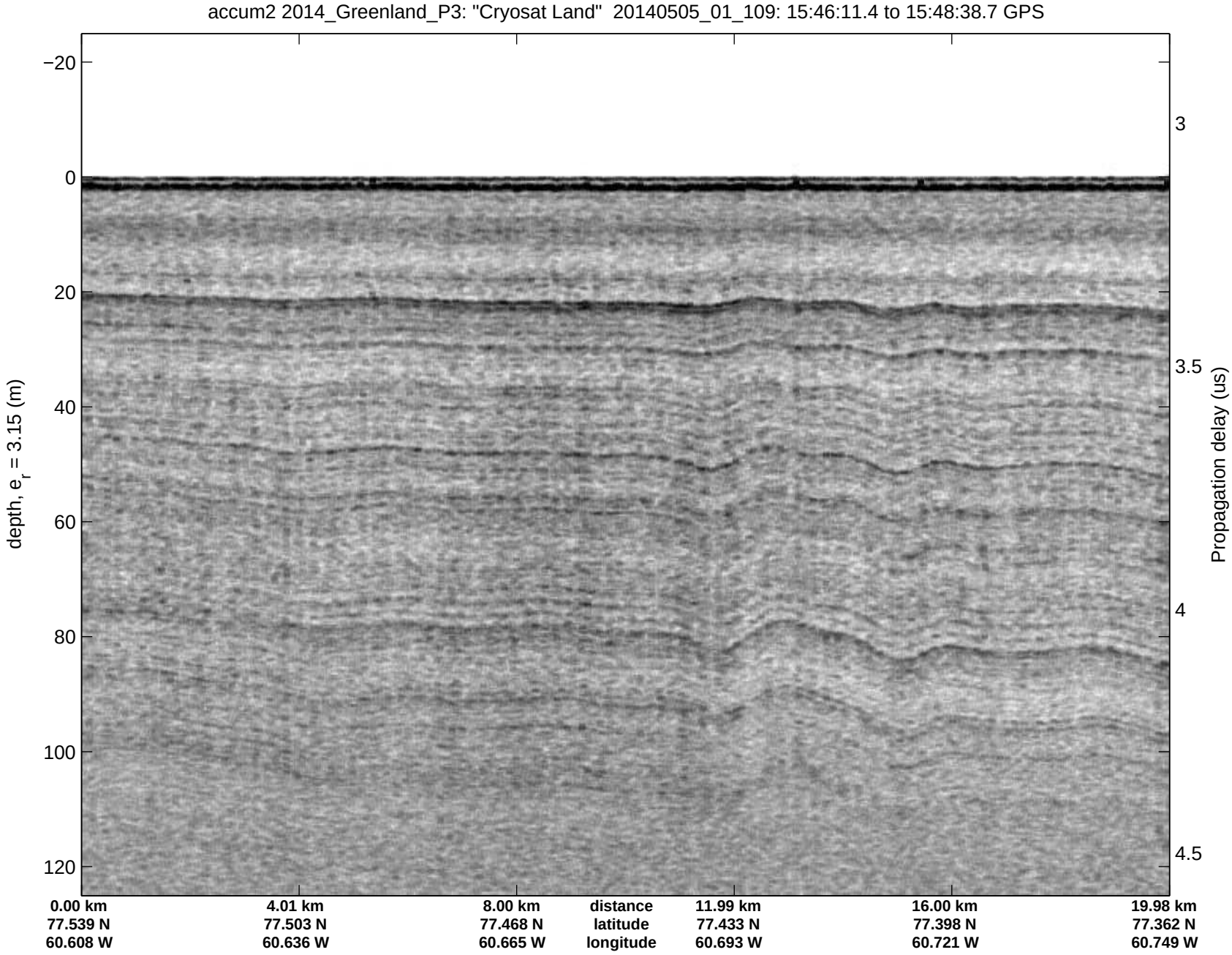

accum2 2014_Greenland_P3: "Cryosat Land" 20140505_01_108: 15:43:44.1 to 15:46:11.2 GPS
depth, e_r = 3.15 (m)
−20
0
20
40
60
80
100
120
Propagation delay (us)
3
3.2
3.4
3.6
3.8
4
4.2
4.4
4.6
0.00 km
77.715 N
60.463 W
4.01 km
77.680 N
60.492 W
8.00 km
77.645 N
60.521 W
distance
latitude
longitude
11.99 km
77.609 N
60.550 W
15.99 km
77.574 N
60.579 W
19.98 km
77.539 N
60.608 W

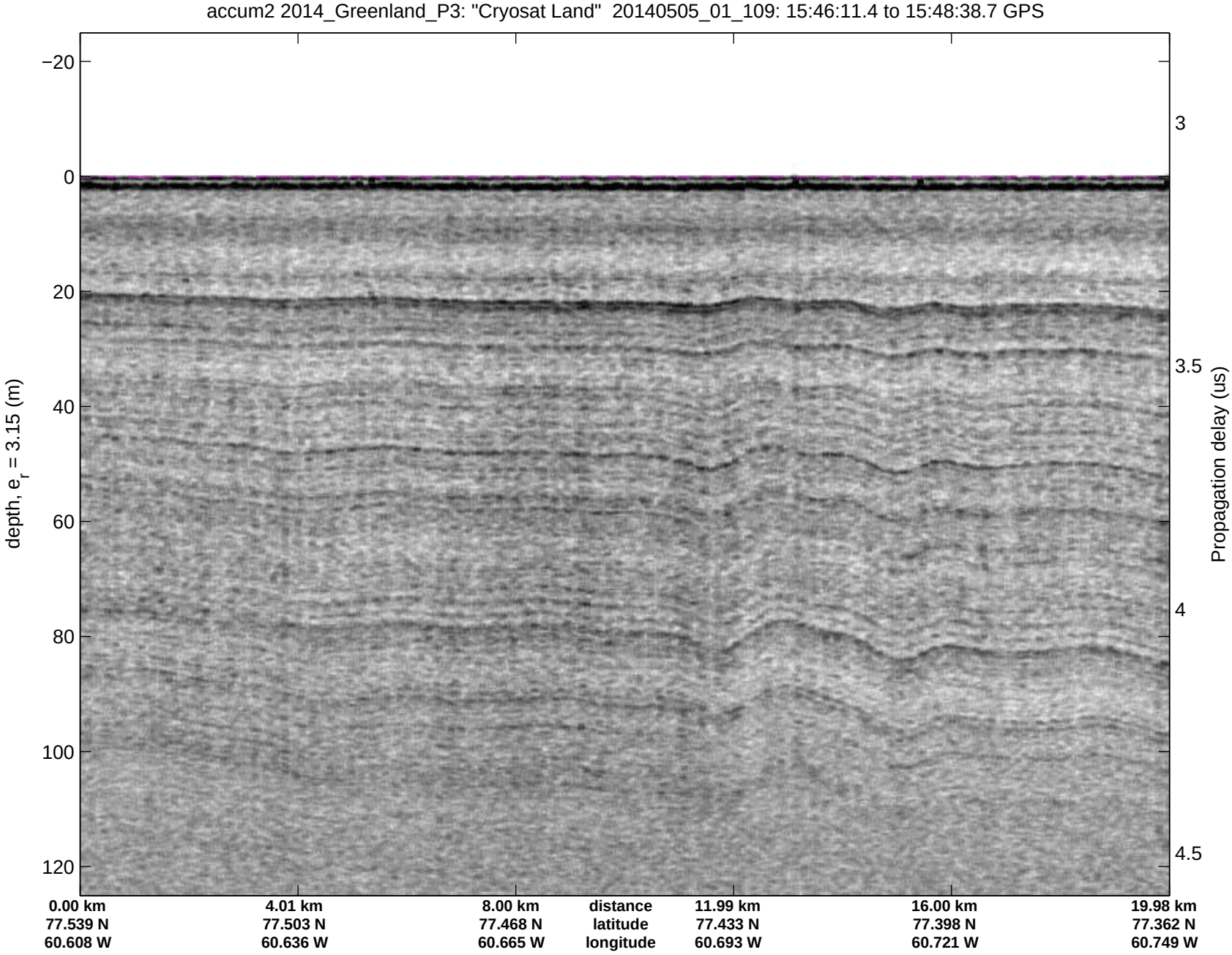

accum2 2014_Greenland_P3: "Cryosat Land" 20140505_01_108: 15:43:44.1 to 15:46:11.2 GPS
depth, e_r = 3.15 (m)
−20
0
20
40
60
80
100
120
Propagation delay (us)
3
3.2
3.4
3.6
3.8
4
4.2
4.4
4.6
0.00 km
77.715 N
60.463 W
4.01 km
77.680 N
60.492 W
8.00 km
77.645 N
60.521 W
distance
latitude
longitude
11.99 km
77.609 N
60.550 W
15.99 km
77.574 N
60.579 W
19.98 km
77.539 N
60.608 W

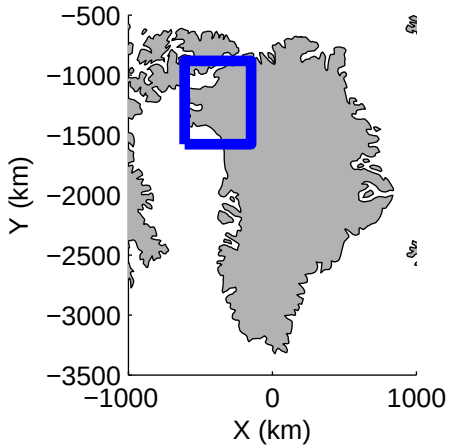

−500
−1000
−1500
−2000
−2500
−3000
−3500
Y (km)
−1000
0
1000
X (km)

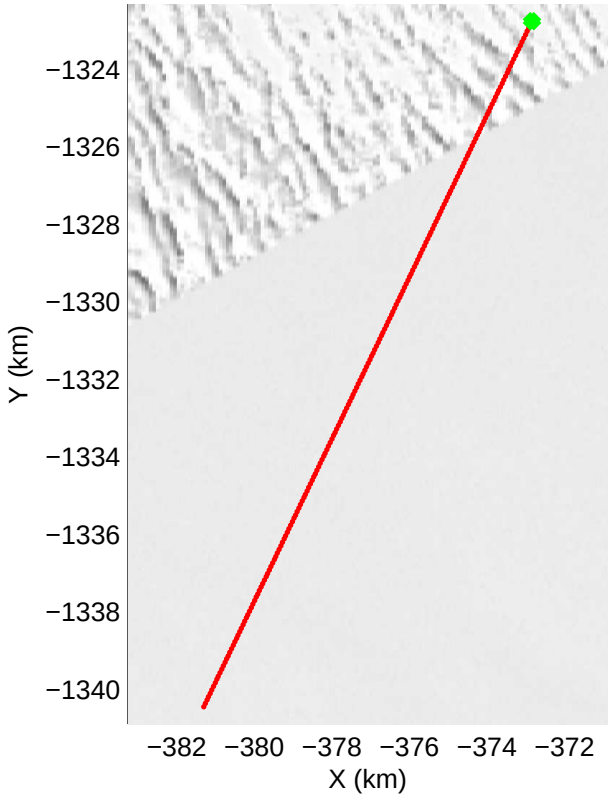

−1306
−1308
−1310
−1312
−1314
−1316
−1318
−1320
−1322
Y (km)
−374
−372
−370
−368
−366
−364
X (km)

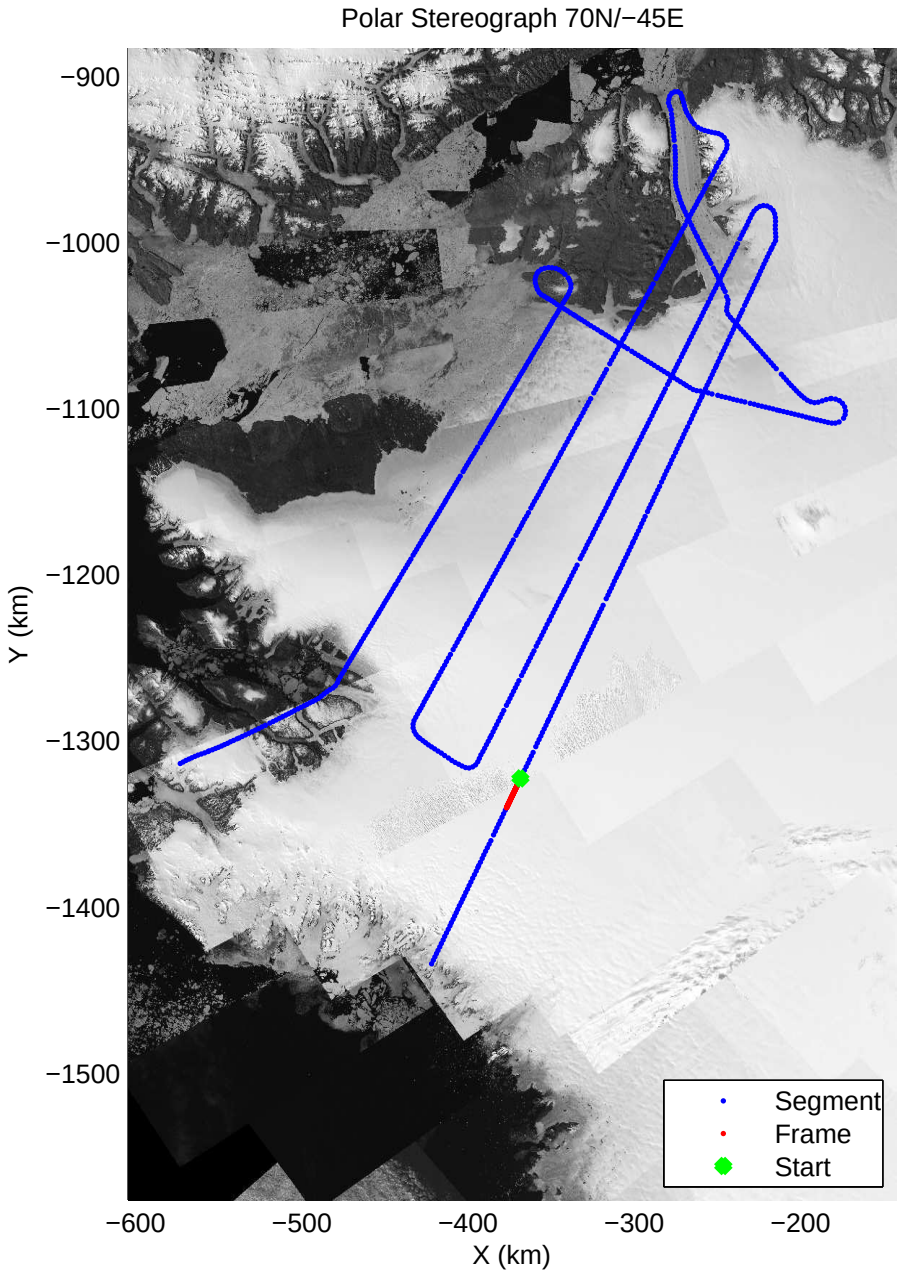

Polar Stereograph 70N/−45E
−900
−1000
−1100
−1200
−1300
−1400
−1500
Y (km)
−600
−500
−400
−300
−200
X (km)
Segment
Frame
Start

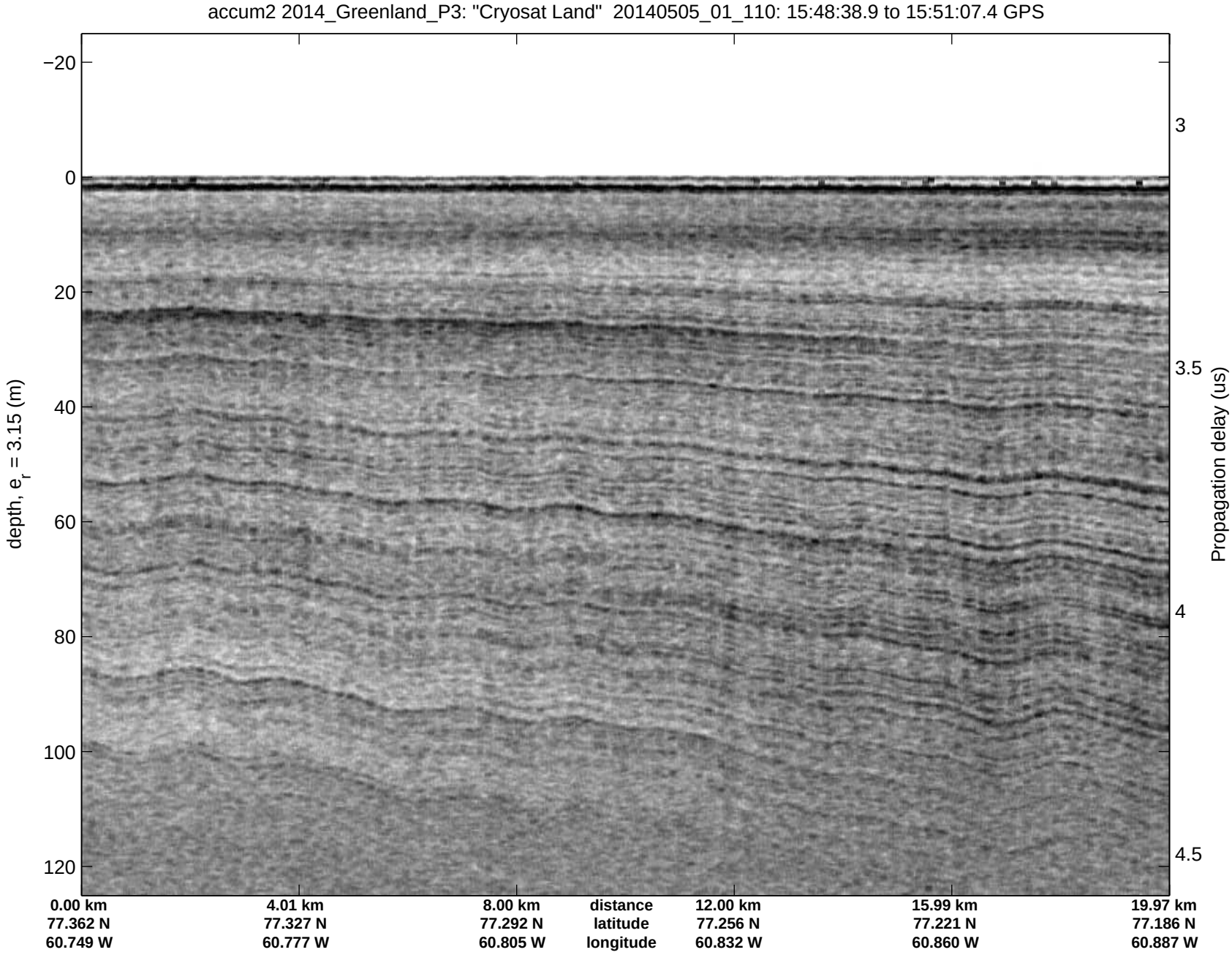

accum2 2014_Greenland_P3: "Cryosat Land" 20140505_01_109: 15:46:11.4 to 15:48:38.7 GPS
depth, e_r = 3.15 (m)
−20
0
20
40
60
80
100
120
Propagation delay (us)
3
3.5
4
4.5
0.00 km
77.539 N
60.608 W
4.01 km
77.503 N
60.636 W
8.00 km
77.468 N
60.665 W
distance
latitude
longitude
11.99 km
77.433 N
60.693 W
16.00 km
77.398 N
60.721 W
19.98 km
77.362 N
60.749 W

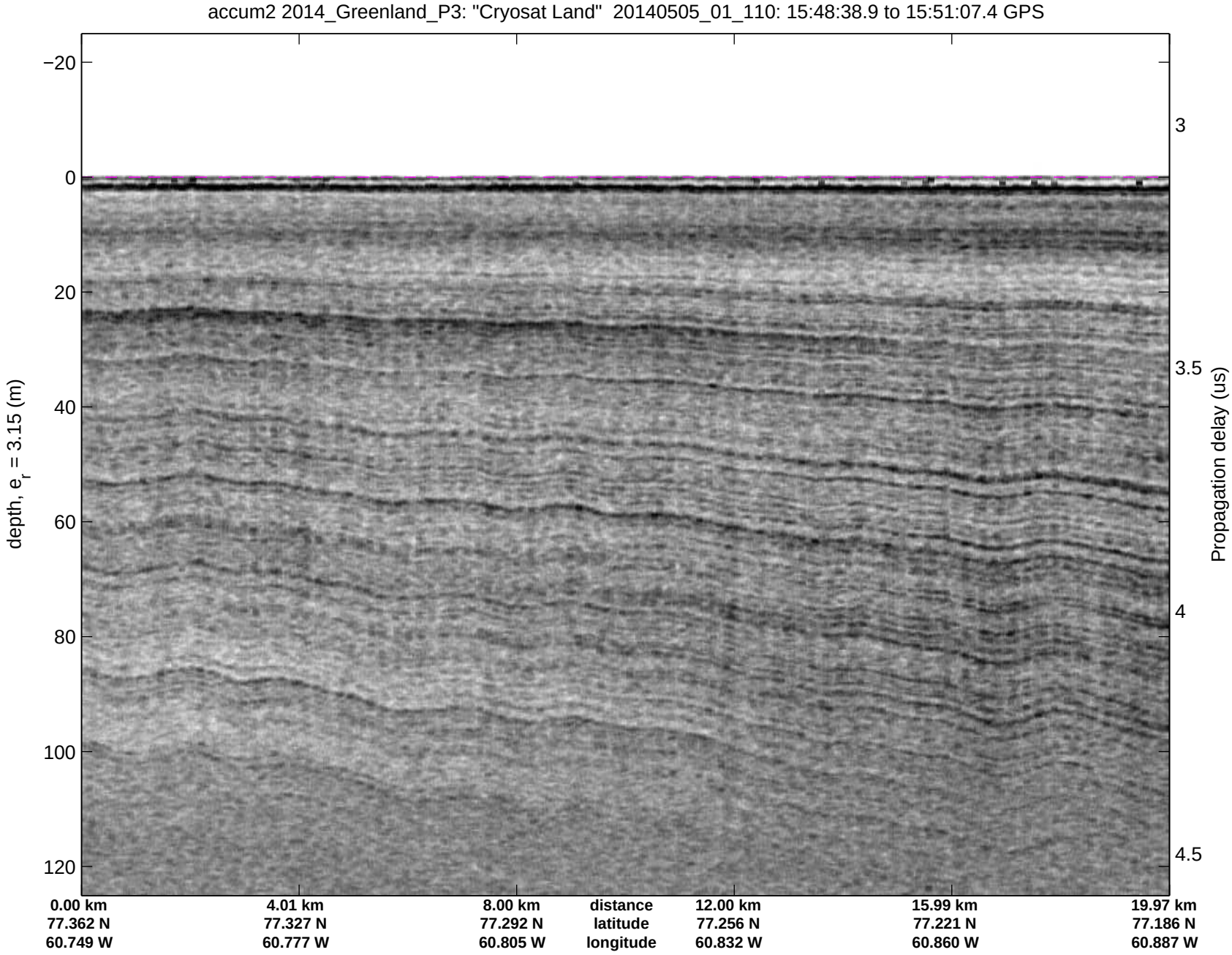

accum2 2014_Greenland_P3: "Cryosat Land" 20140505_01_109: 15:46:11.4 to 15:48:38.7 GPS
depth, e_r = 3.15 (m)
−20
0
20
40
60
80
100
120
Propagation delay (us)
3
3.5
4
4.5
0.00 km
77.539 N
60.608 W
4.01 km
77.503 N
60.636 W
8.00 km
77.468 N
60.665 W
distance
latitude
longitude
11.99 km
77.433 N
60.693 W
16.00 km
77.398 N
60.721 W
19.98 km
77.362 N
60.749 W

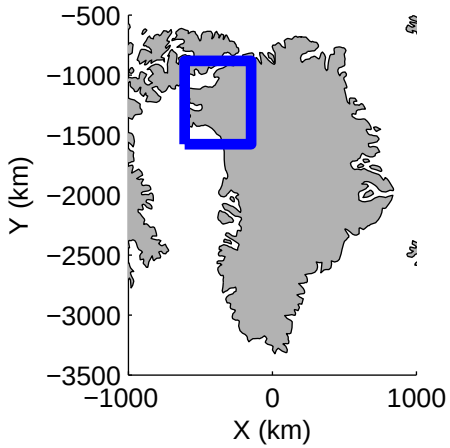

−500
−1000
−1500
−2000
−2500
−3000
−3500
Y (km)
−1000
0
1000
X (km)

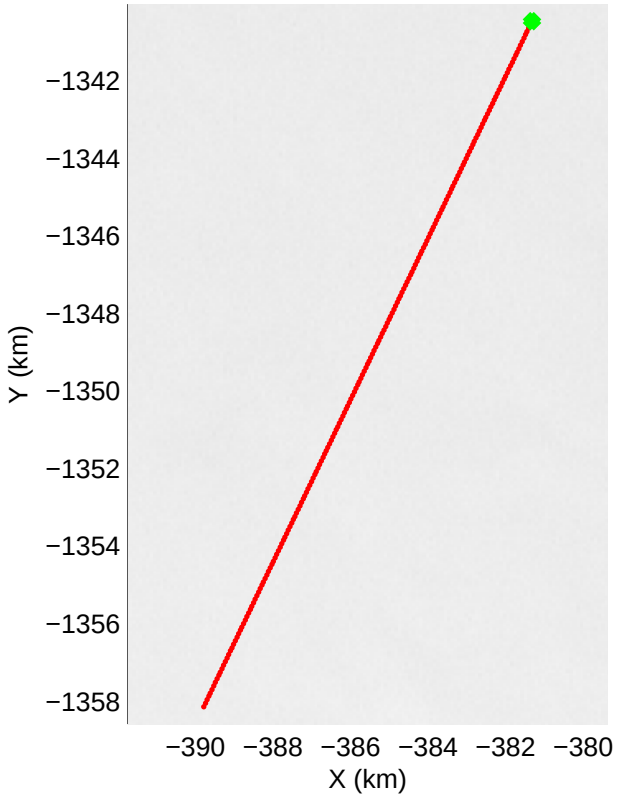

−1324
−1326
−1328
−1330
−1332
−1334
−1336
−1338
−1340
Y (km)
−382
−380
−378
−376
−374
−372
X (km)

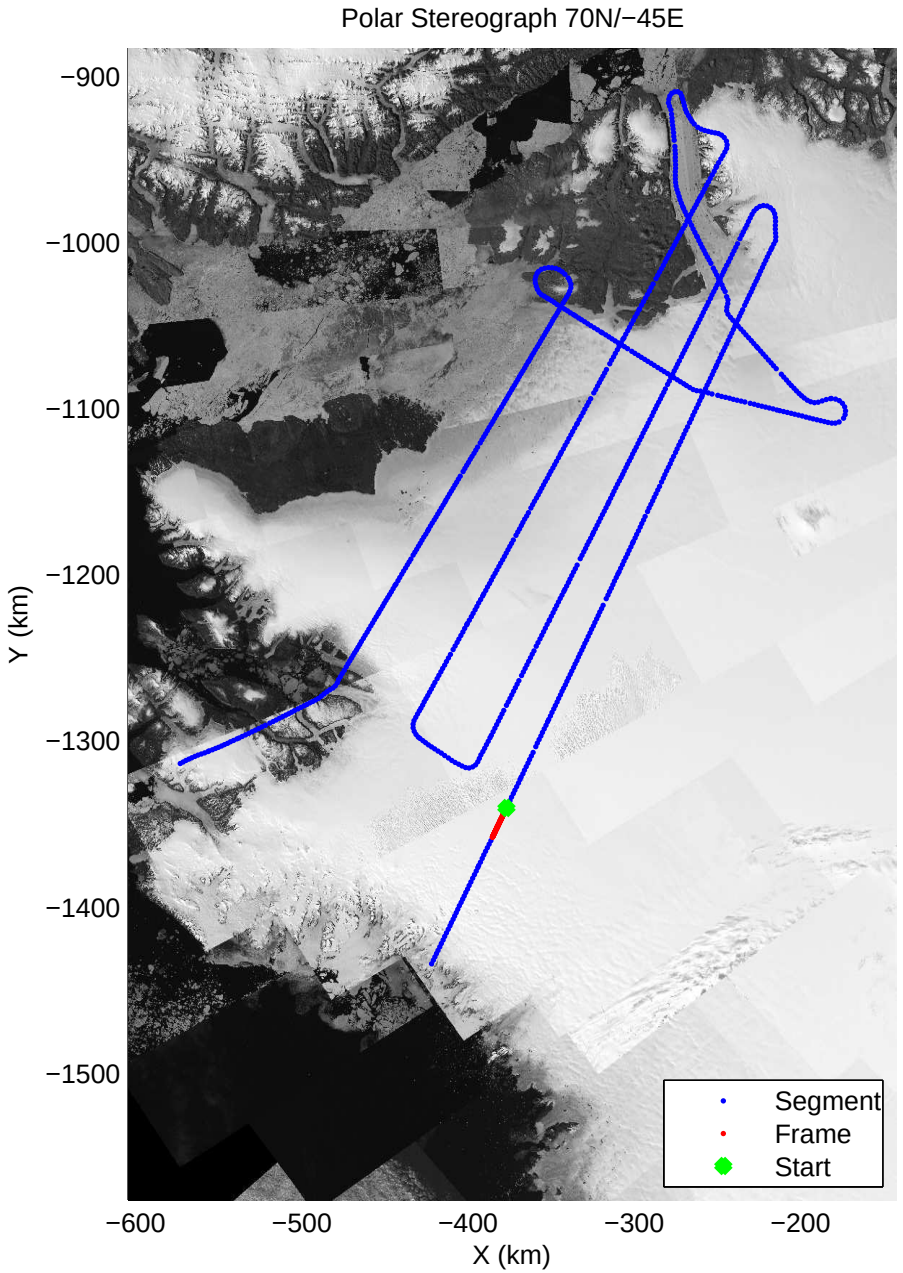

Polar Stereograph 70N/−45E
−900
−1000
−1100
−1200
−1300
−1400
−1500
Y (km)
−600
−500
−400
−300
−200
X (km)
Segment
Frame
Start

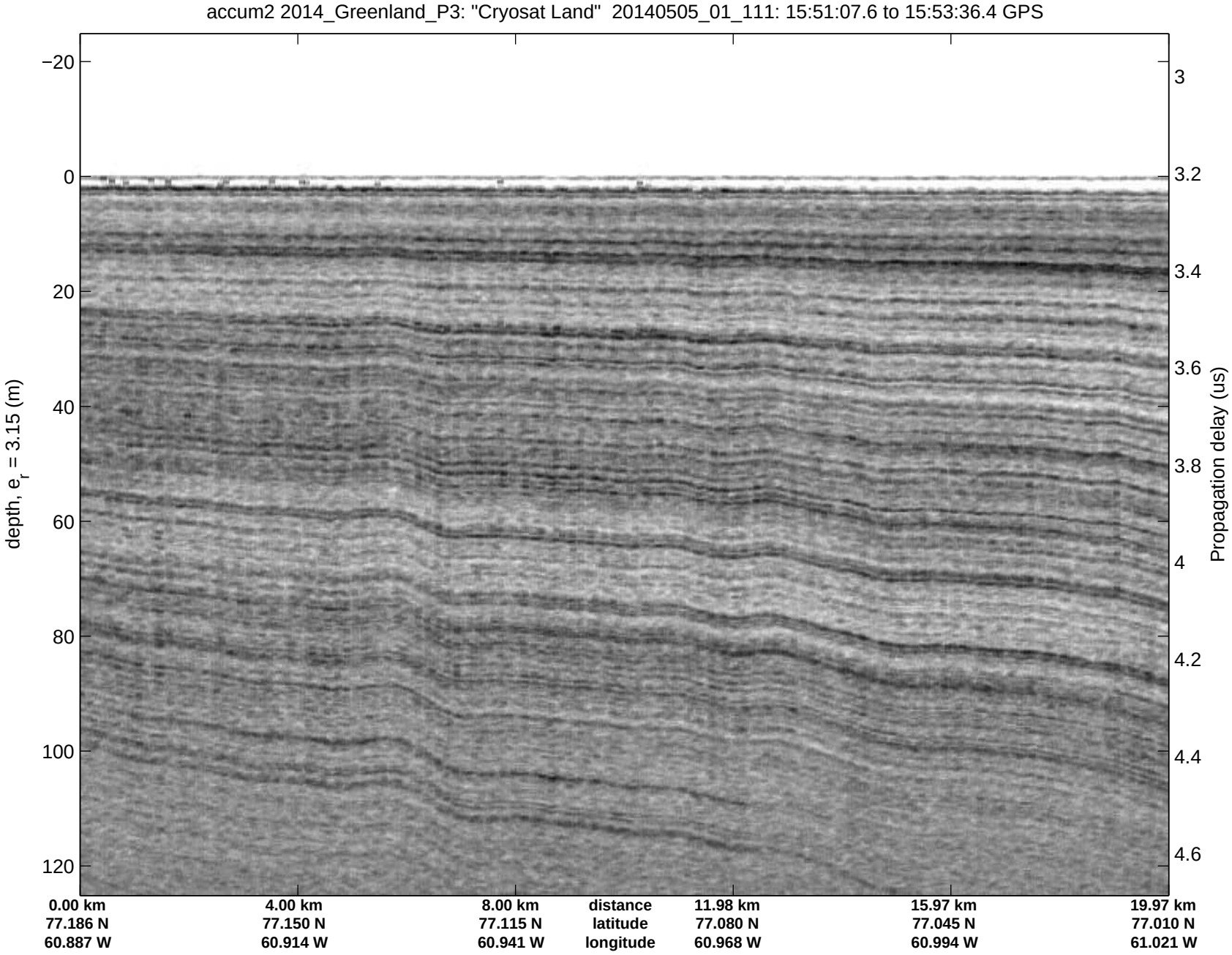

accum2 2014_Greenland_P3: "Cryosat Land" 20140505_01_110: 15:48:38.9 to 15:51:07.4 GPS
depth, e_r = 3.15 (m)
−20
0
20
40
60
80
100
120
Propagation delay (us)
3
3.5
4
4.5
0.00 km
77.362 N
60.749 W
4.01 km
77.327 N
60.777 W
8.00 km
77.292 N
60.805 W
distance
latitude
longitude
12.00 km
77.256 N
60.832 W
15.99 km
77.221 N
60.860 W
19.97 km
77.186 N
60.887 W

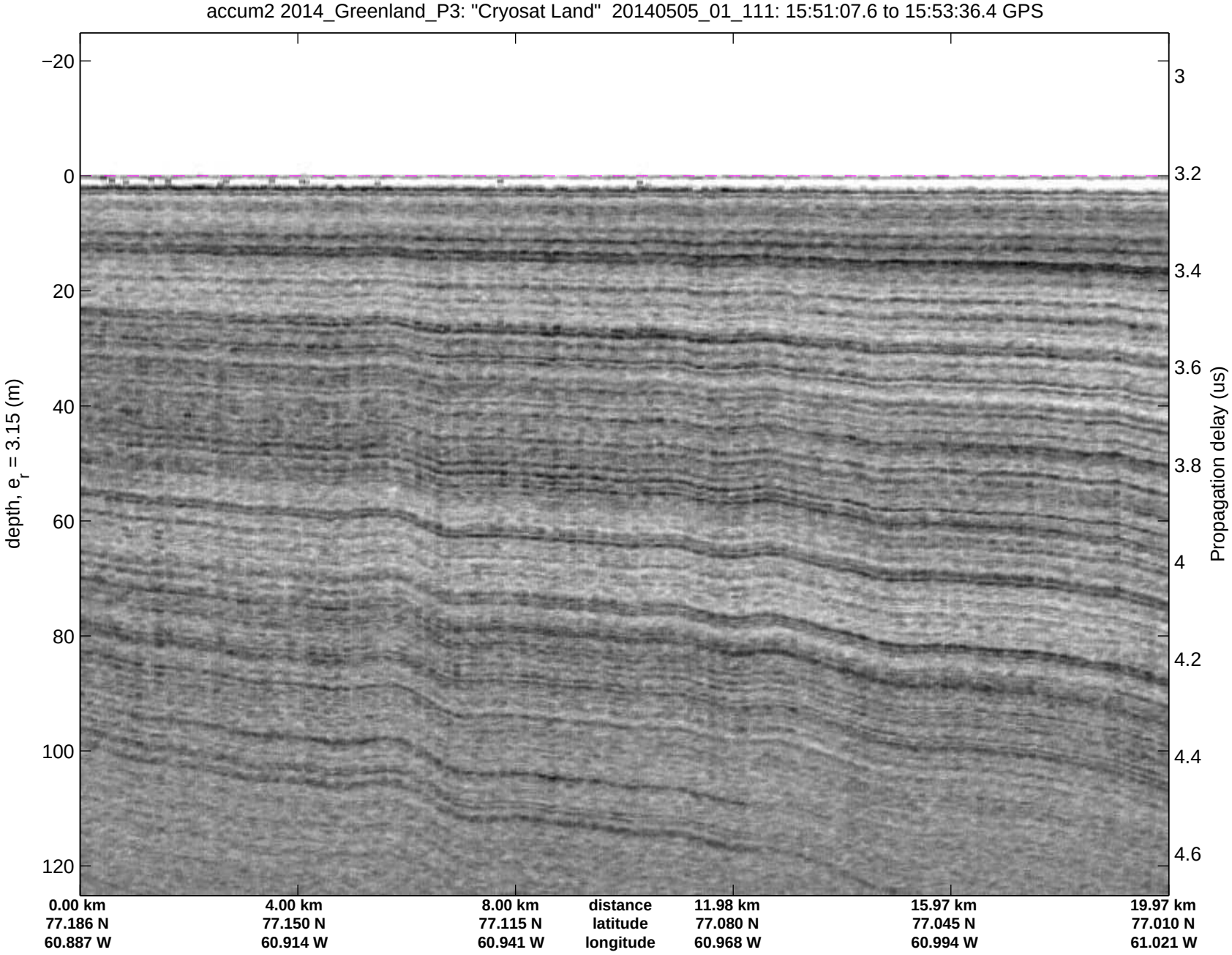

accum2 2014_Greenland_P3: "Cryosat Land" 20140505_01_110: 15:48:38.9 to 15:51:07.4 GPS
depth, e_r = 3.15 (m)
−20
0
20
40
60
80
100
120
Propagation delay (us)
3
3.5
4
4.5
0.00 km
77.362 N
60.749 W
4.01 km
77.327 N
60.777 W
8.00 km
77.292 N
60.805 W
distance
latitude
longitude
12.00 km
77.256 N
60.832 W
15.99 km
77.221 N
60.860 W
19.97 km
77.186 N
60.887 W

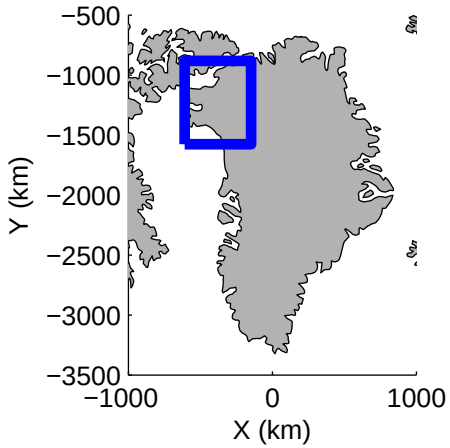

−500
−1000
−1500
−2000
−2500
−3000
−3500
Y (km)
−1000
0
1000
X (km)

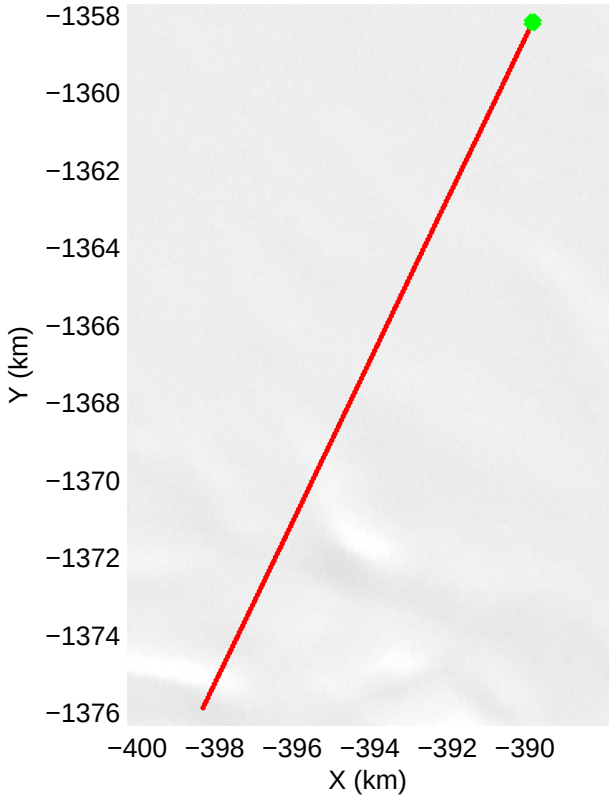

−1342
−1344
−1346
−1348
−1350
−1352
−1354
−1356
−1358
Y (km)
−390
−388
−386
−384
−382
−380
X (km)

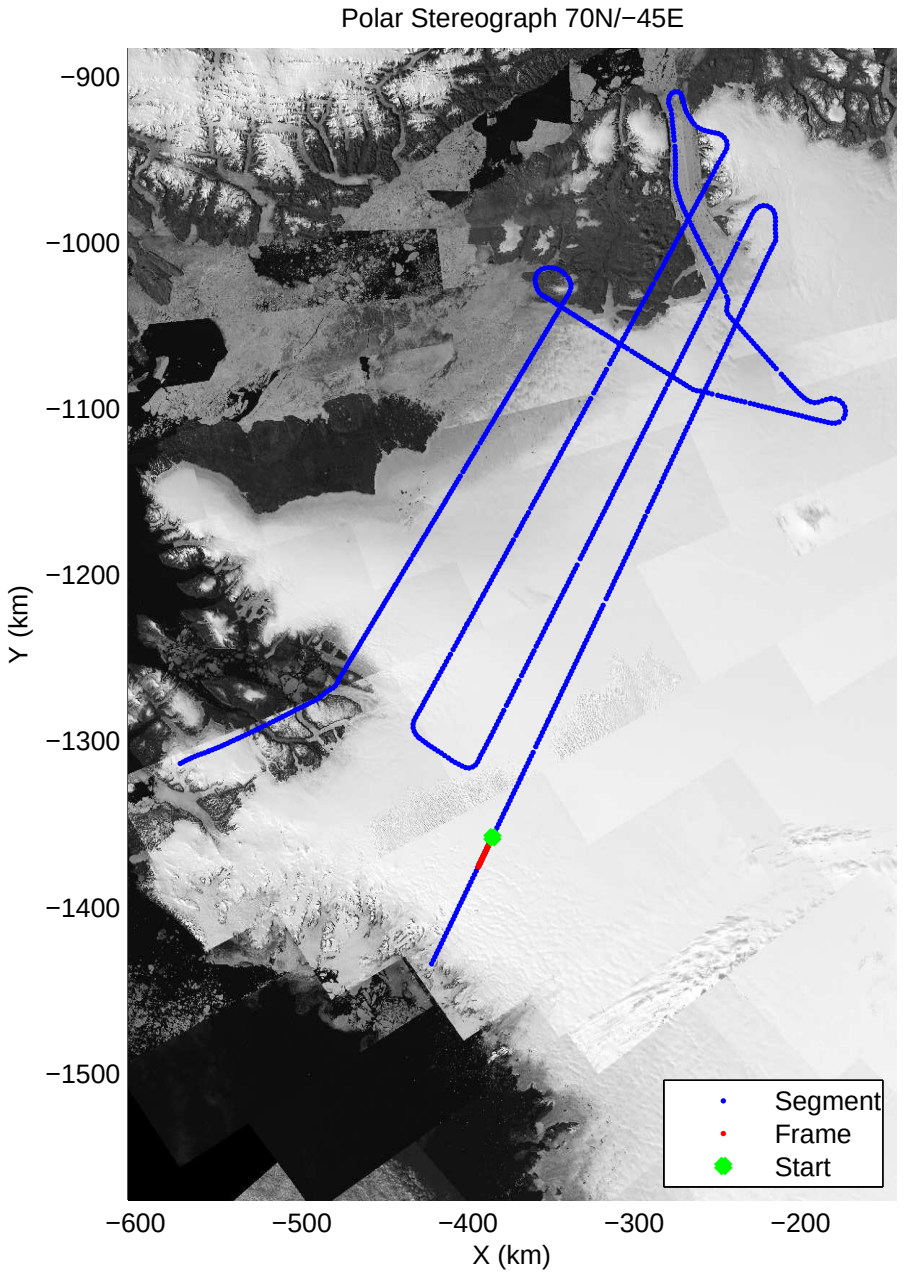

Polar Stereograph 70N/−45E
−900
−1000
−1100
−1200
−1300
−1400
−1500
Y (km)
−600
−500
−400
−300
−200
X (km)
Segment
Frame
Start

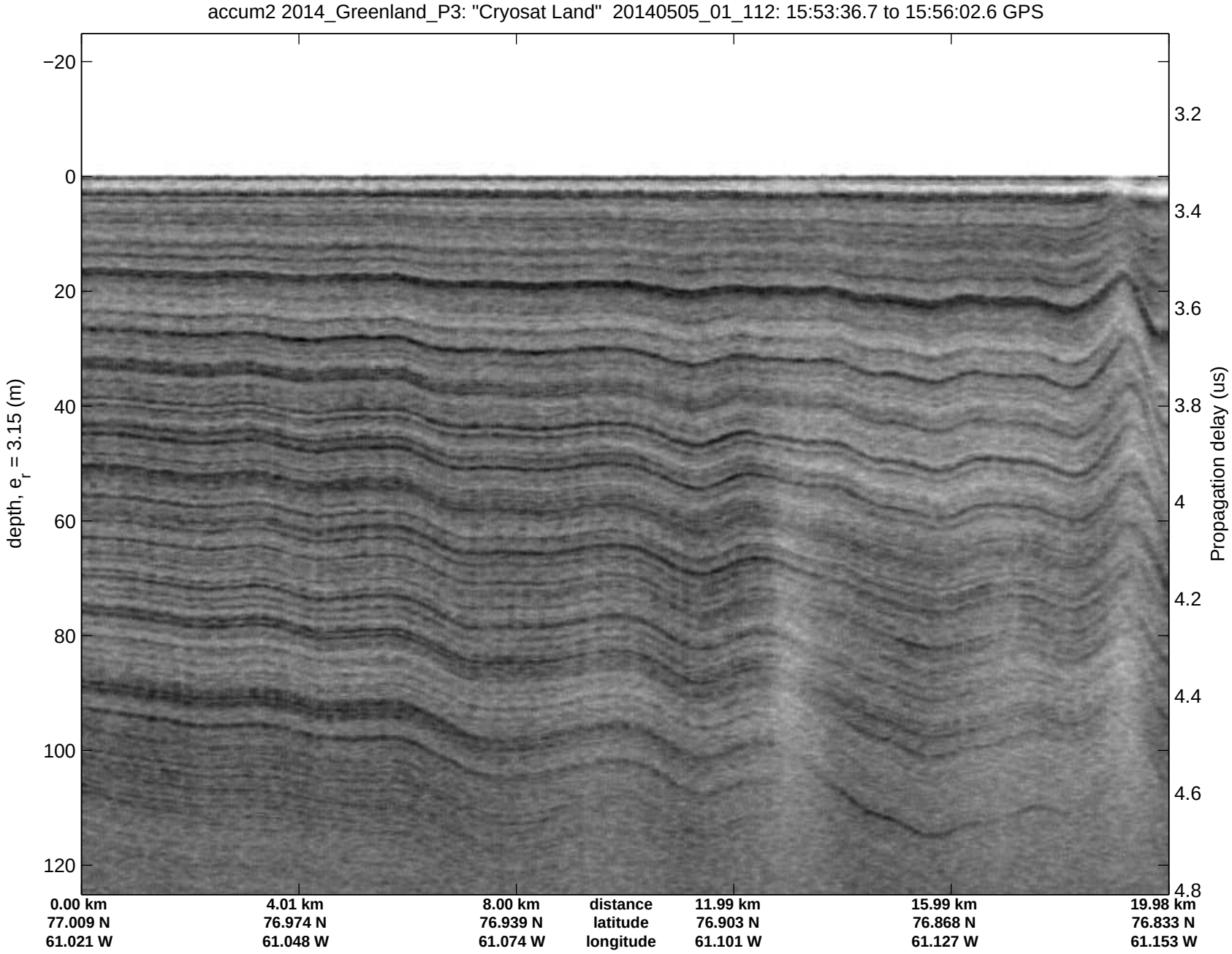

accum2 2014_Greenland_P3: "Cryosat Land" 20140505_01_111: 15:51:07.6 to 15:53:36.4 GPS
depth, e_r = 3.15 (m)
−20
0
20
40
60
80
100
120
Propagation delay (us)
3
3.2
3.4
3.6
3.8
4
4.2
4.4
4.6
0.00 km
77.186 N
60.887 W
4.00 km
77.150 N
60.914 W
8.00 km
77.115 N
60.941 W
distance
latitude
longitude
11.98 km
77.080 N
60.968 W
15.97 km
77.045 N
60.994 W
19.97 km
77.010 N
61.021 W

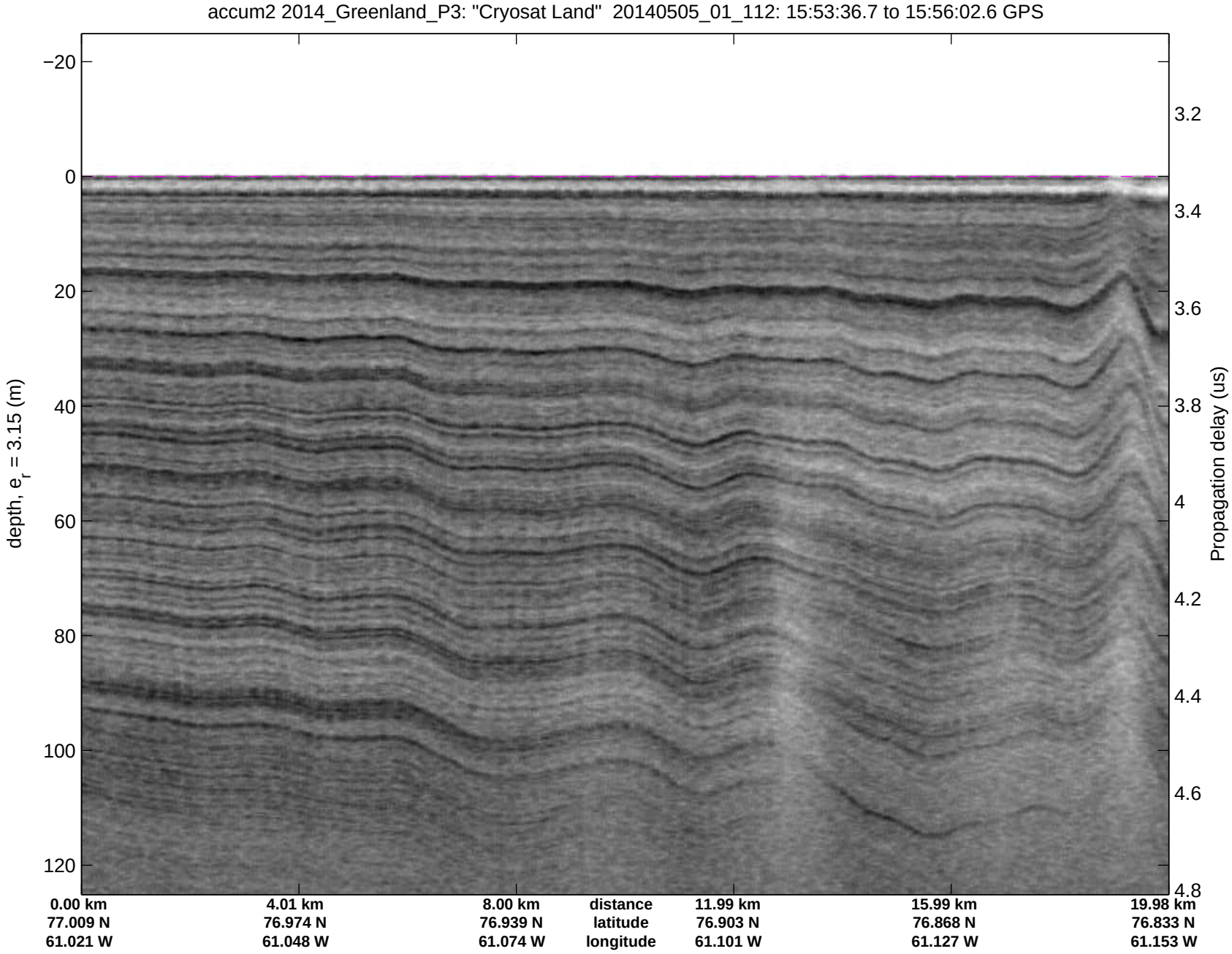

accum2 2014_Greenland_P3: "Cryosat Land" 20140505_01_111: 15:51:07.6 to 15:53:36.4 GPS
depth, e_r = 3.15 (m)
−20
0
20
40
60
80
100
120
Propagation delay (us)
3
3.2
3.4
3.6
3.8
4
4.2
4.4
4.6
0.00 km
77.186 N
60.887 W
4.00 km
77.150 N
60.914 W
8.00 km
77.115 N
60.941 W
distance
latitude
longitude
11.98 km
77.080 N
60.968 W
15.97 km
77.045 N
60.994 W
19.97 km
77.010 N
61.021 W

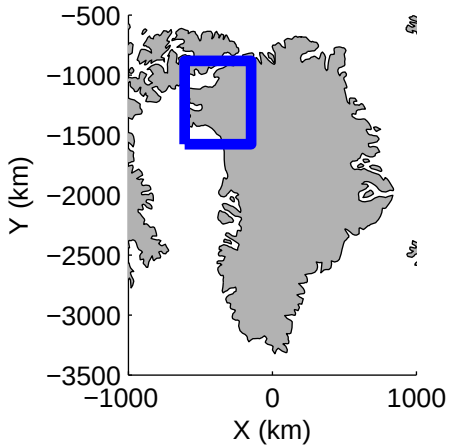

−500
−1000
−1500
−2000
−2500
−3000
−3500
Y (km)
−1000
0
1000
X (km)

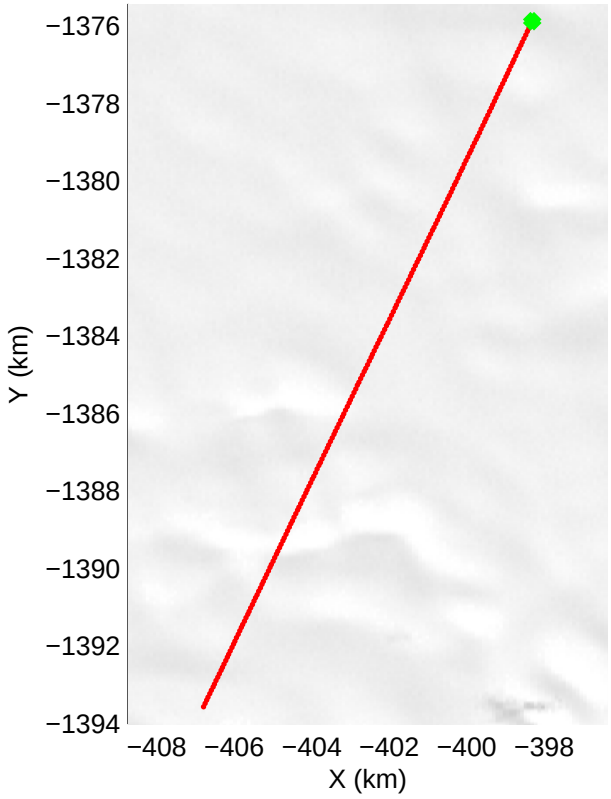

−1358
−1360
−1362
−1364
−1366
−1368
−1370
−1372
−1374
−1376
Y (km)
−400
−398
−396
−394
−392
−390
X (km)

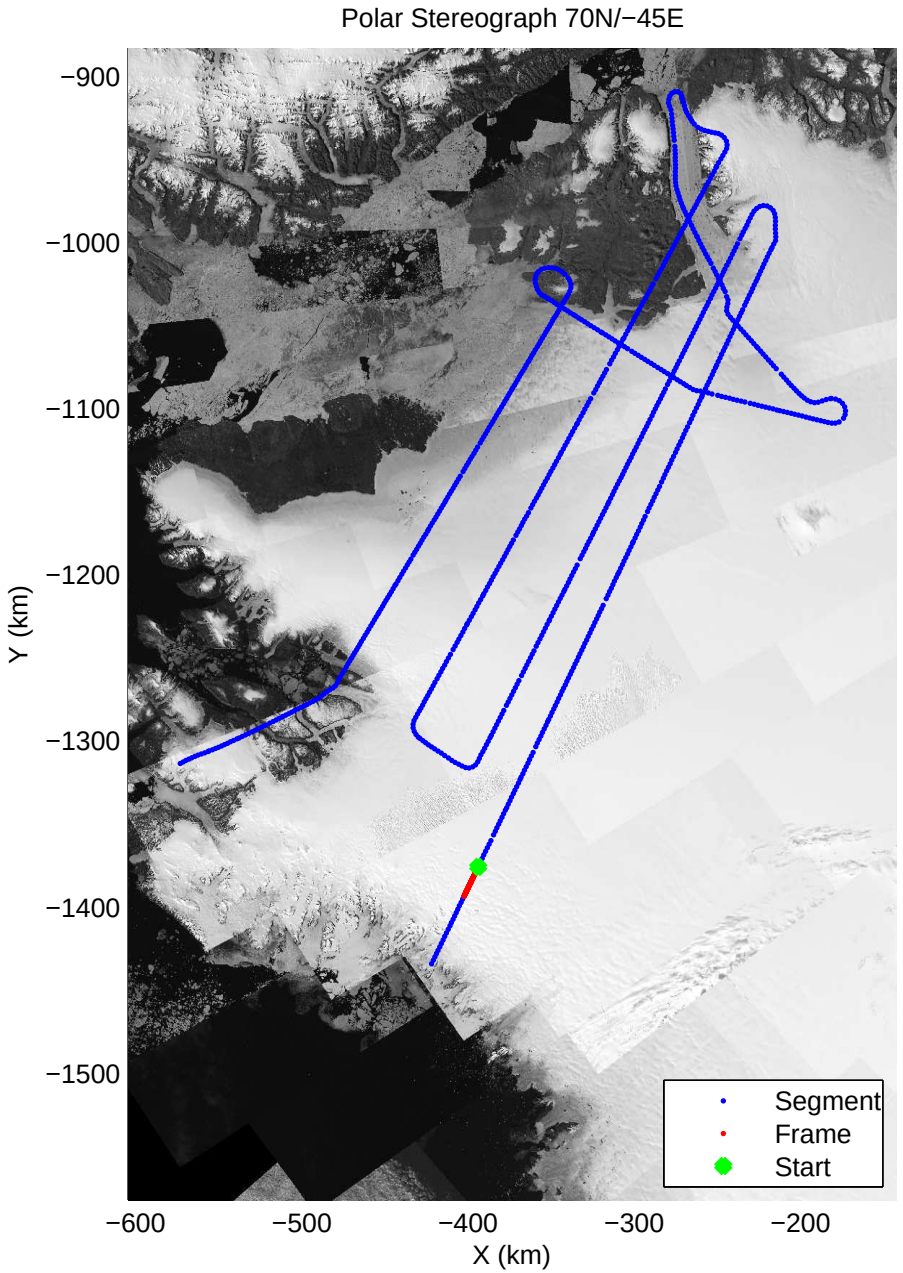

Polar Stereograph 70N/−45E
−900
−1000
−1100
−1200
−1300
−1400
−1500
Y (km)
−600
−500
−400
−300
−200
X (km)
Segment
Frame
Start

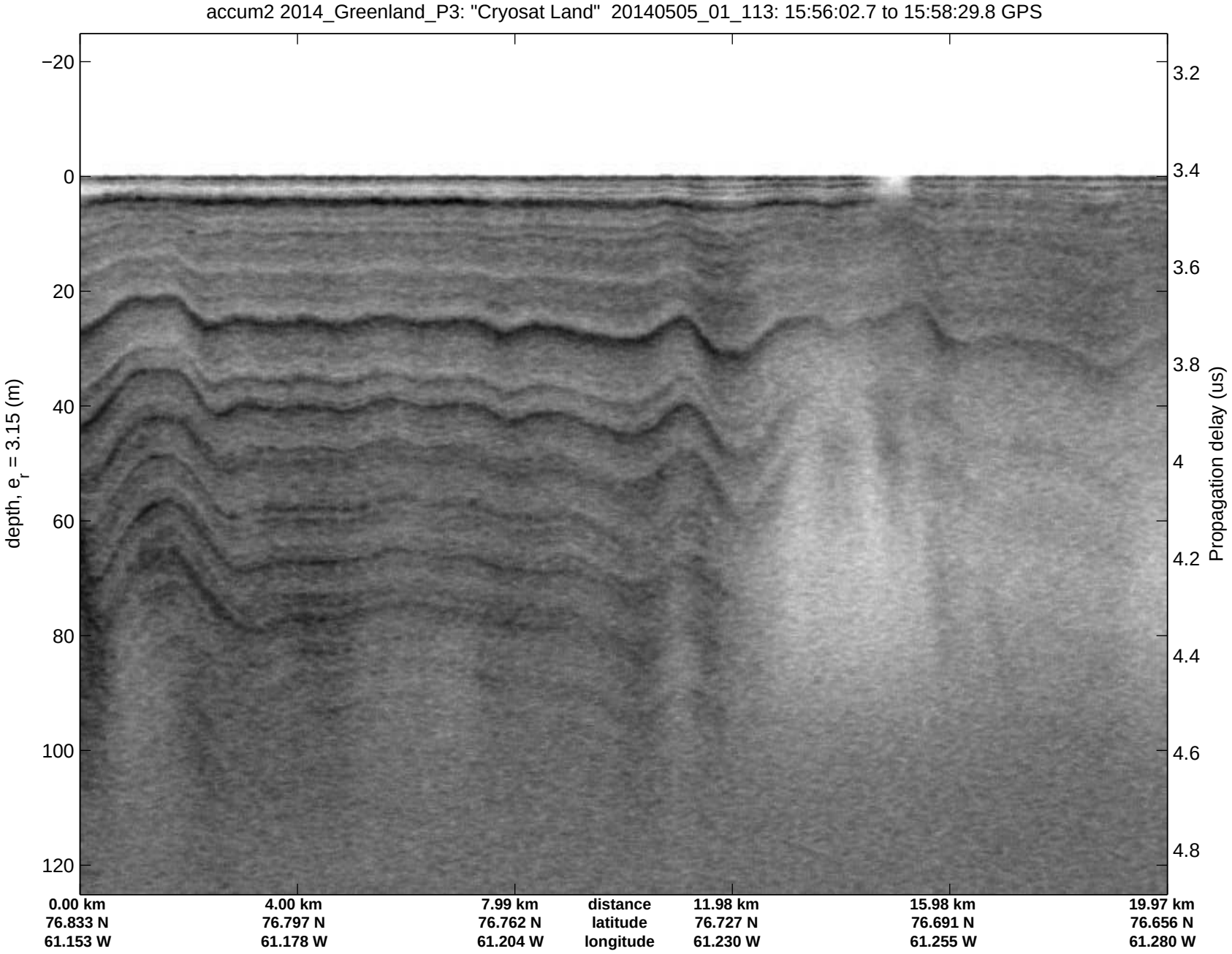

accum2 2014_Greenland_P3: "Cryosat Land" 20140505_01_112: 15:53:36.7 to 15:56:02.6 GPS
depth, e_r = 3.15 (m)
−20
0
20
40
60
80
100
120
Propagation delay (us)
3.2
3.4
3.6
3.8
4
4.2
4.4
4.6
4.8
0.00 km
77.009 N
61.021 W
4.01 km
76.974 N
61.048 W
8.00 km
76.939 N
61.074 W
distance
latitude
longitude
11.99 km
76.903 N
61.101 W
15.99 km
76.868 N
61.127 W
19.98 km
76.833 N
61.153 W

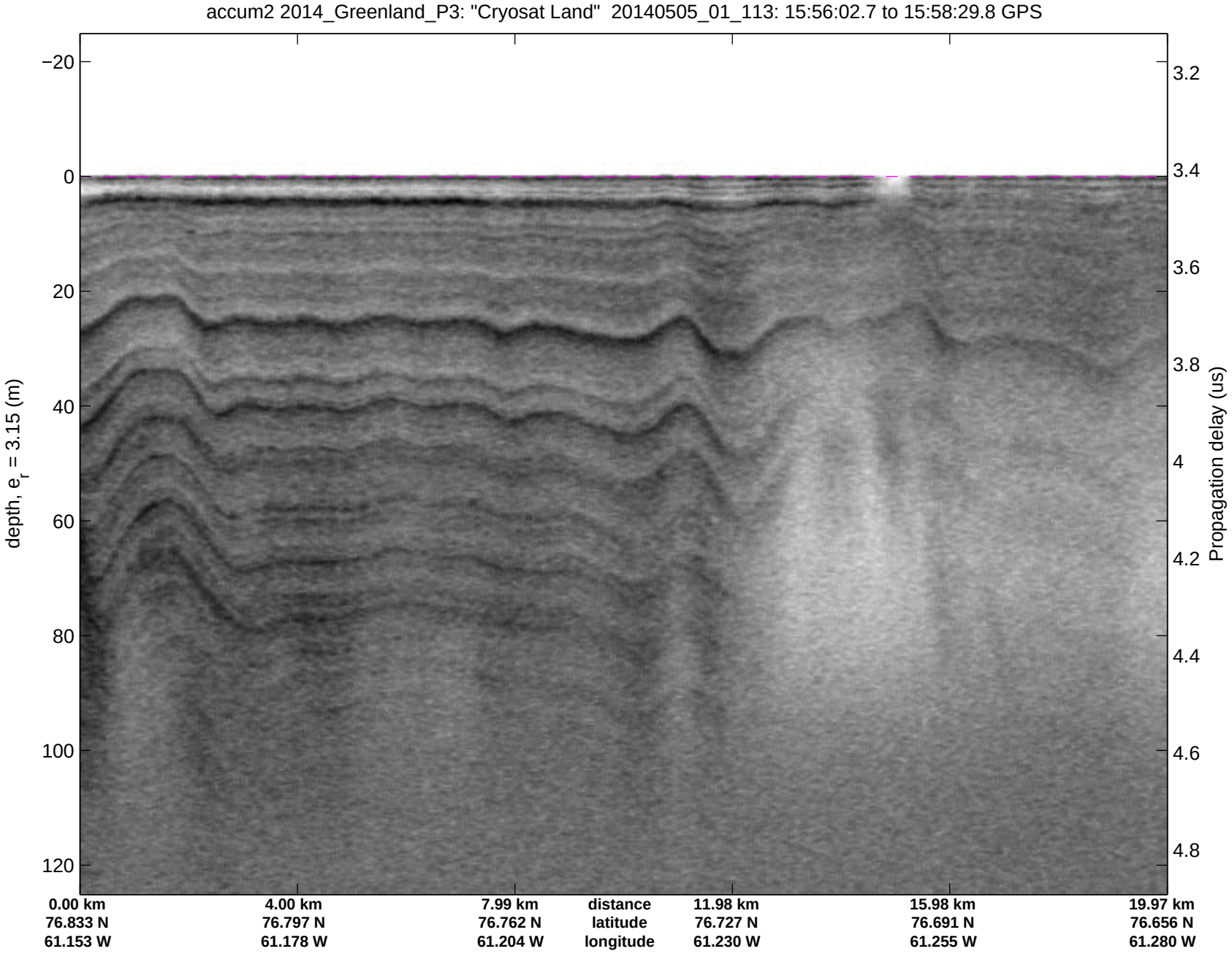

accum2 2014_Greenland_P3: "Cryosat Land" 20140505_01_112: 15:53:36.7 to 15:56:02.6 GPS
depth, e_r = 3.15 (m)
−20
0
20
40
60
80
100
120
Propagation delay (us)
3.2
3.4
3.6
3.8
4
4.2
4.4
4.6
4.8
0.00 km
77.009 N
61.021 W
4.01 km
76.974 N
61.048 W
8.00 km
76.939 N
61.074 W
distance
latitude
longitude
11.99 km
76.903 N
61.101 W
15.99 km
76.868 N
61.127 W
19.98 km
76.833 N
61.153 W

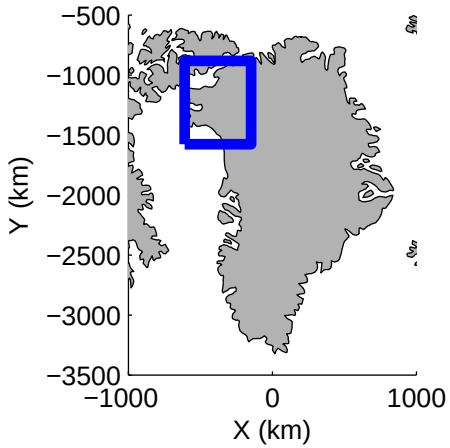

−500
−1000
−1500
−2000
−2500
−3000
−3500
Y (km)
−1000
0
1000
X (km)

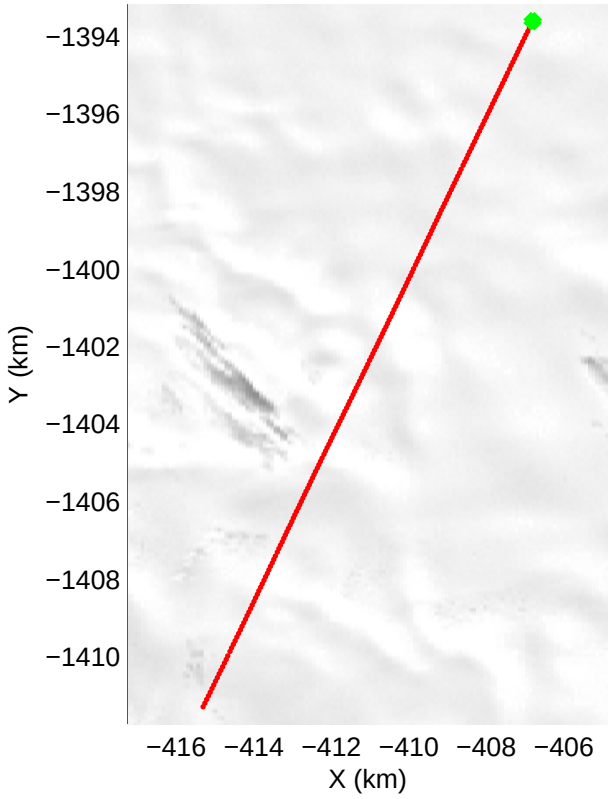

−1376
−1378
−1380
−1382
−1384
−1386
−1388
−1390
−1392
−1394
Y (km)
−408
−406
−404
−402
−400
−398
X (km)

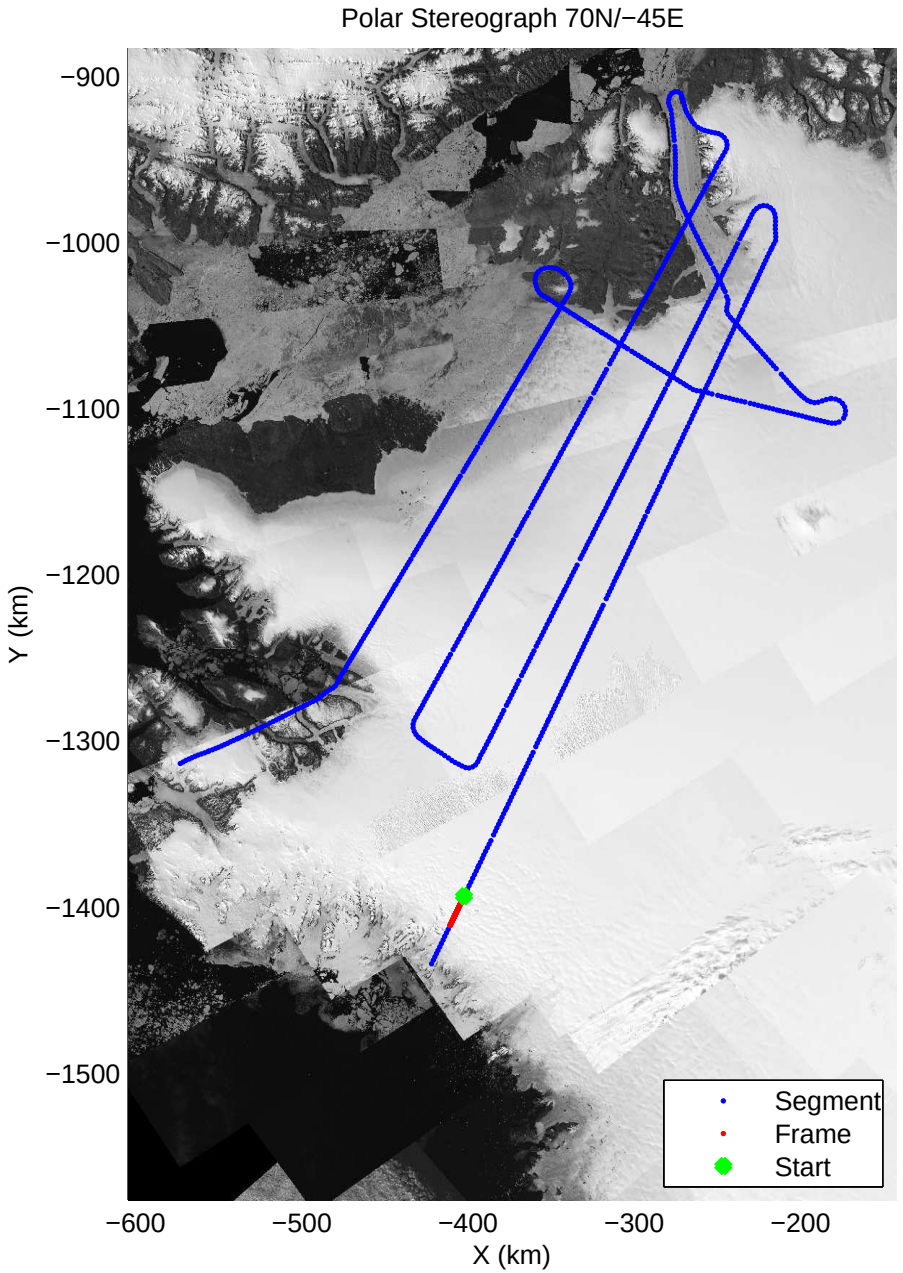

Polar Stereograph 70N/−45E
−900
−1000
−1100
−1200
−1300
−1400
−1500
Y (km)
−600
−500
−400
−300
−200
X (km)
Segment
Frame
Start


accum2 2014_Greenland_P3: "Cryosat Land" 20140505_01_113: 15:56:02.7 to 15:58:29.8 GPS
depth, e_r = 3.15 (m)
−20
0
20
40
60
80
100
120
Propagation delay (us)
3.2
3.4
3.6
3.8
4
4.2
4.4
4.6
4.8
0.00 km
76.833 N
61.153 W
4.00 km
76.797 N
61.178 W
7.99 km
76.762 N
61.204 W
distance
latitude
longitude
11.98 km
76.727 N
61.230 W
15.98 km
76.691 N
61.255 W
19.97 km
76.656 N
61.280 W


accum2 2014_Greenland_P3: "Cryosat Land" 20140505_01_113: 15:56:02.7 to 15:58:29.8 GPS
depth, e_r = 3.15 (m)
−20
0
20
40
60
80
100
120
Propagation delay (us)
3.2
3.4
3.6
3.8
4
4.2
4.4
4.6
4.8
0.00 km
76.833 N
61.153 W
4.00 km
76.797 N
61.178 W
7.99 km
76.762 N
61.204 W
distance
latitude
longitude
11.98 km
76.727 N
61.230 W
15.98 km
76.691 N
61.255 W
19.97 km
76.656 N
61.280 W

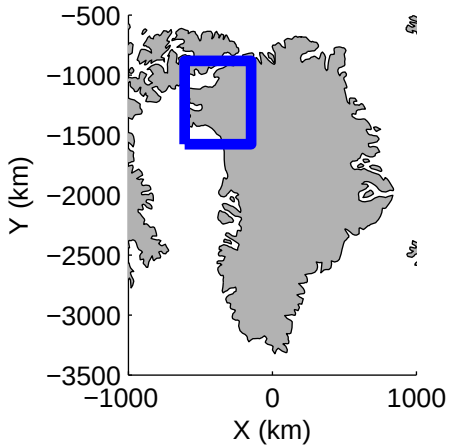

−500
−1000
−1500
−2000
−2500
−3000
−3500
Y (km)
−1000
0
1000
X (km)

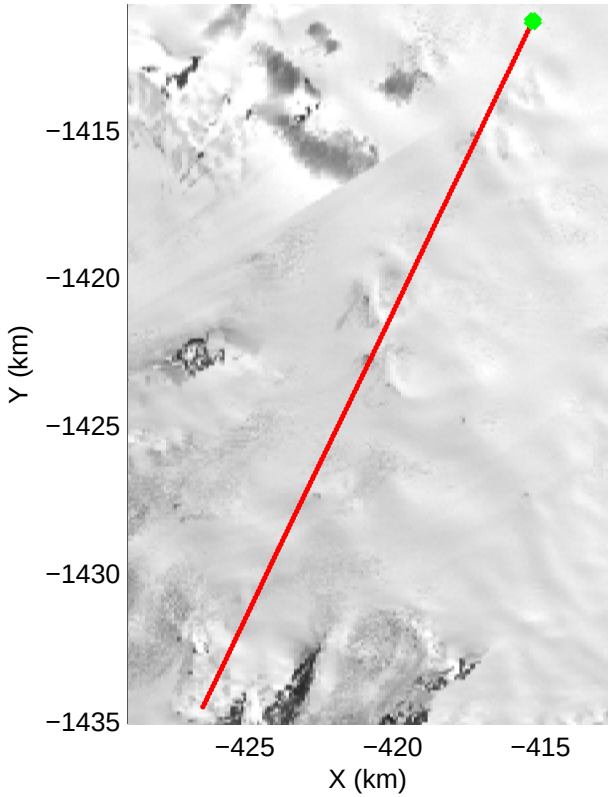

−1394
−1396
−1398
−1400
−1402
−1404
−1406
−1408
−1410
Y (km)
−416
−414
−412
−410
−408
−406
X (km)

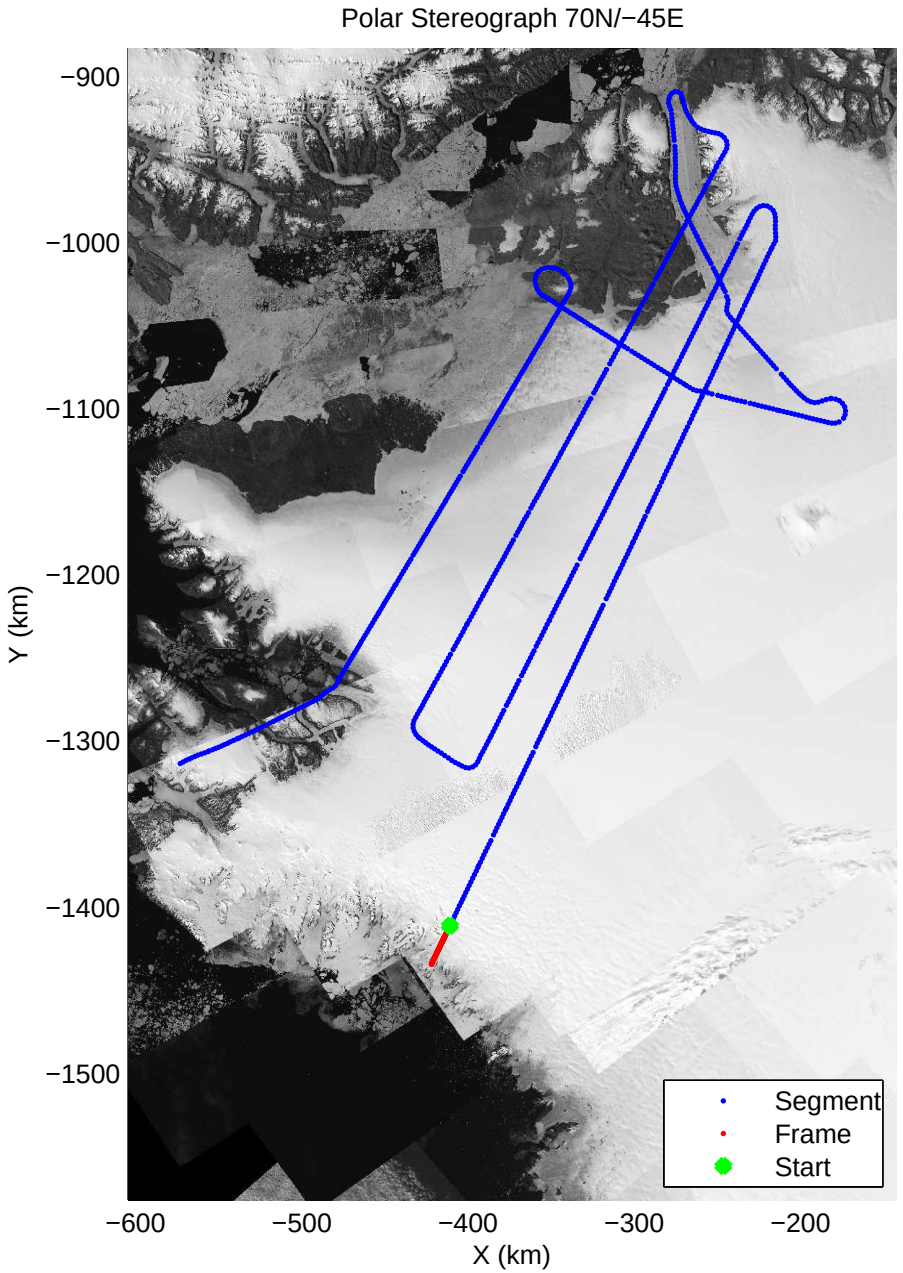

Polar Stereograph 70N/−45E
−900
−1000
−1100
−1200
−1300
−1400
−1500
Y (km)
−600
−500
−400
−300
−200
X (km)
Segment
Frame
Start

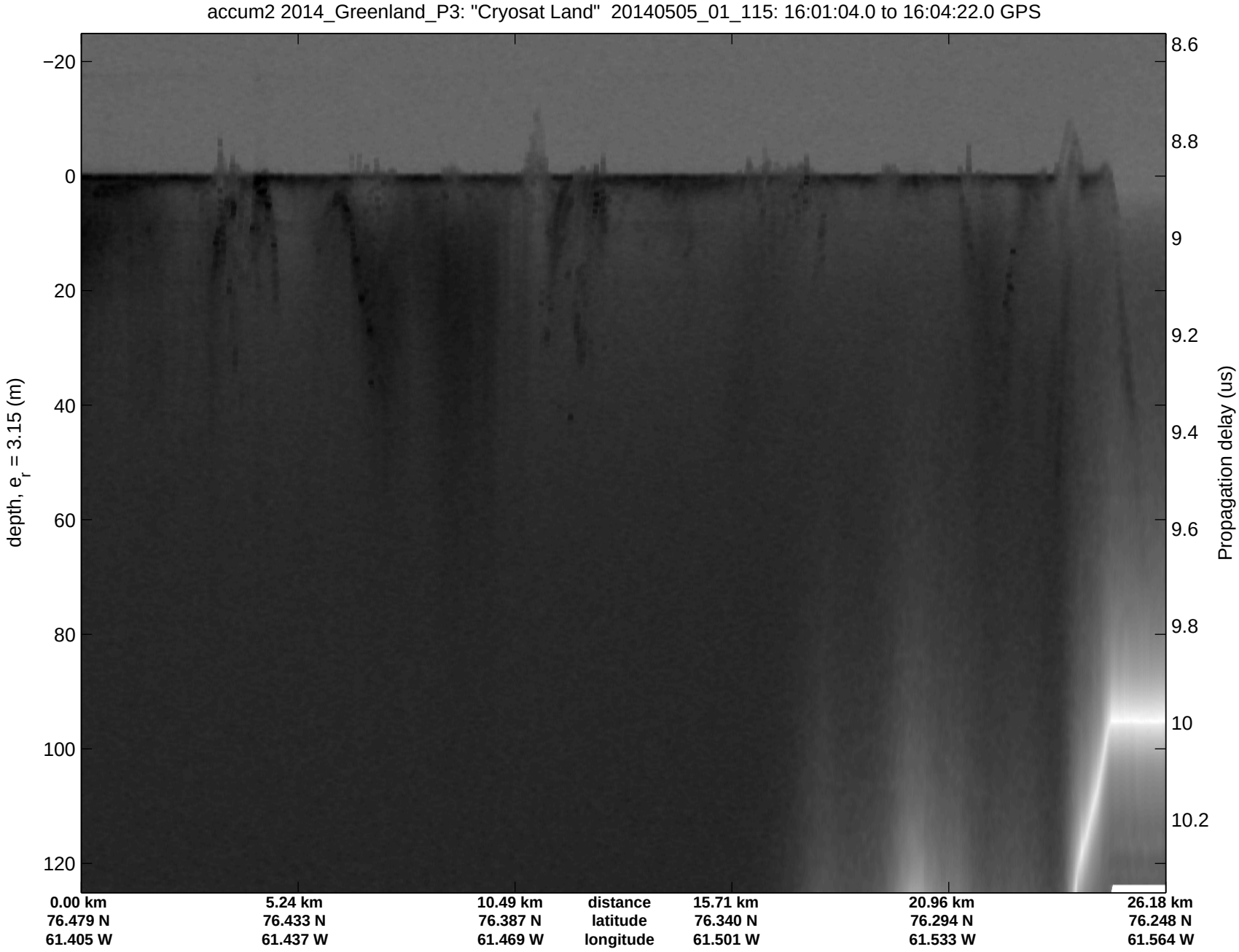

accum2 2014_Greenland_P3: "Cryosat Land" 20140505_01_114: 15:58:30.1 to 16:01:03.8 GPS
depth, e_r = 3.15 (m)
−20
0
20
40
60
80
100
120
Propagation delay (us)
3.8
4
4.2
4.4
4.6
4.8
5
5.2
5.4
0.00 km
76.656 N
61.281 W
4.00 km
76.621 N
61.306 W
7.99 km
76.585 N
61.331 W
distance
latitude
longitude
11.99 km
76.550 N
61.356 W
15.98 km
76.515 N
61.381 W
19.97 km
76.479 N
61.405 W

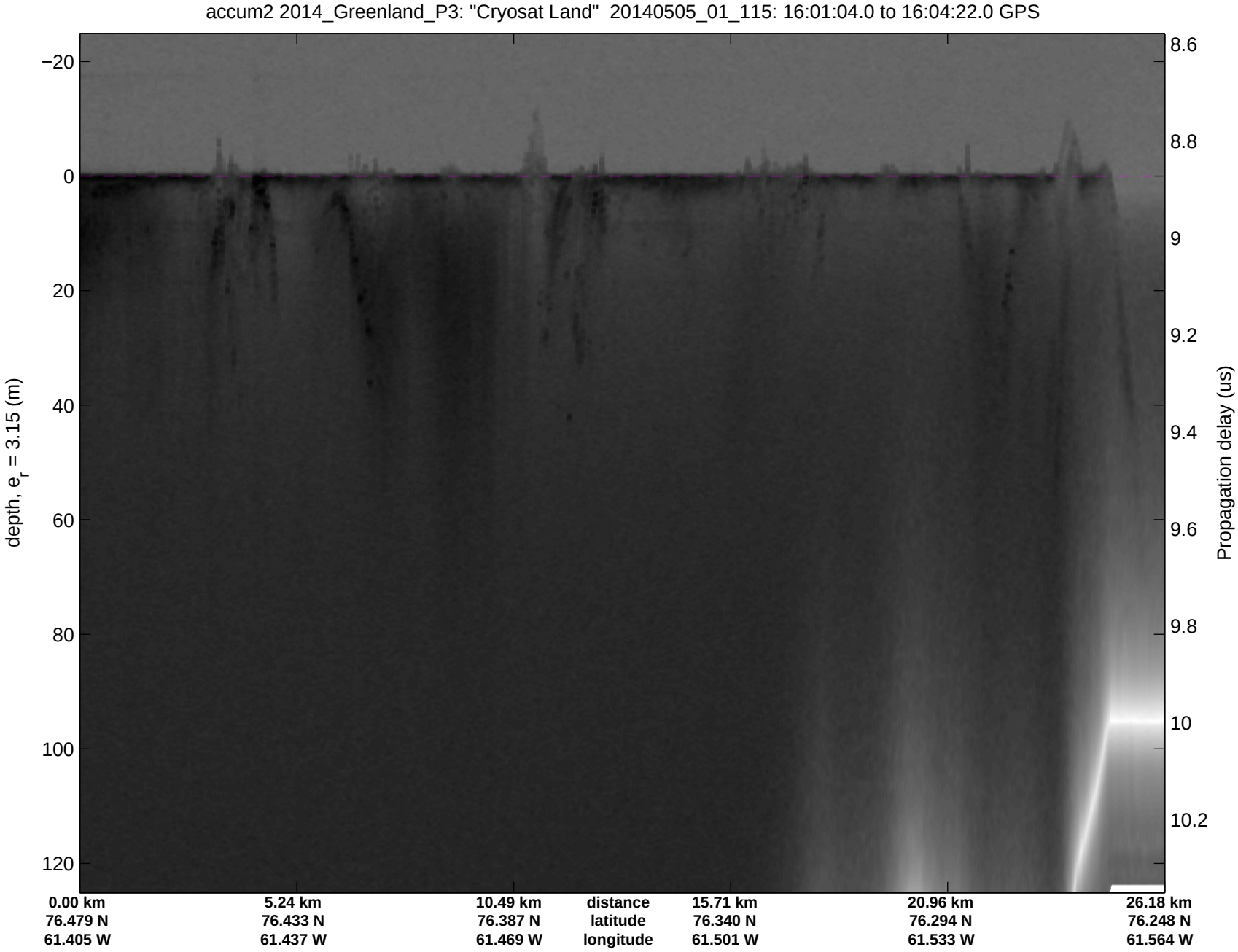

accum2 2014_Greenland_P3: "Cryosat Land" 20140505_01_114: 15:58:30.1 to 16:01:03.8 GPS
depth, e_r = 3.15 (m)
−20
0
20
40
60
80
100
120
Propagation delay (us)
3.8
4
4.2
4.4
4.6
4.8
5
5.2
5.4
0.00 km
76.656 N
61.281 W
4.00 km
76.621 N
61.306 W
7.99 km
76.585 N
61.331 W
distance
latitude
longitude
11.99 km
76.550 N
61.356 W
15.98 km
76.515 N
61.381 W
19.97 km
76.479 N
61.405 W


−500
−1000
−1500
−2000
−2500
−3000
−3500
Y (km)
−1000
0
1000
X (km)


−1415
−1420
−1425
−1430
−1435
Y (km)
−425
−420
−415
X (km)


Polar Stereograph 70N/−45E
−900
−1000
−1100
−1200
−1300
−1400
−1500
Y (km)
−600
−500
−400
−300
−200
X (km)
Segment
Frame
Start


accum2 2014_Greenland_P3: "Cryosat Land" 20140505_01_115: 16:01:04.0 to 16:04:22.0 GPS
depth, e_r = 3.15 (m)
−20
0
20
40
60
80
100
120
Propagation delay (us)
8.6
8.8
9
9.2
9.4
9.6
9.8
10
10.2
0.00 km
76.479 N
61.405 W
5.24 km
76.433 N
61.437 W
10.49 km
76.387 N
61.469 W
distance
latitude
longitude
15.71 km
76.340 N
61.501 W
20.96 km
76.294 N
61.533 W
26.18 km
76.248 N
61.564 W


accum2 2014_Greenland_P3: "Cryosat Land" 20140505_01_115: 16:01:04.0 to 16:04:22.0 GPS
depth, e_r = 3.15 (m)
−20
0
20
40
60
80
100
120
Propagation delay (us)
8.6
8.8
9
9.2
9.4
9.6
9.8
10
10.2
0.00 km
76.479 N
61.405 W
5.24 km
76.433 N
61.437 W
10.49 km
76.387 N
61.469 W
distance
latitude
longitude
15.71 km
76.340 N
61.501 W
20.96 km
76.294 N
61.533 W
26.18 km
76.248 N
61.564 W