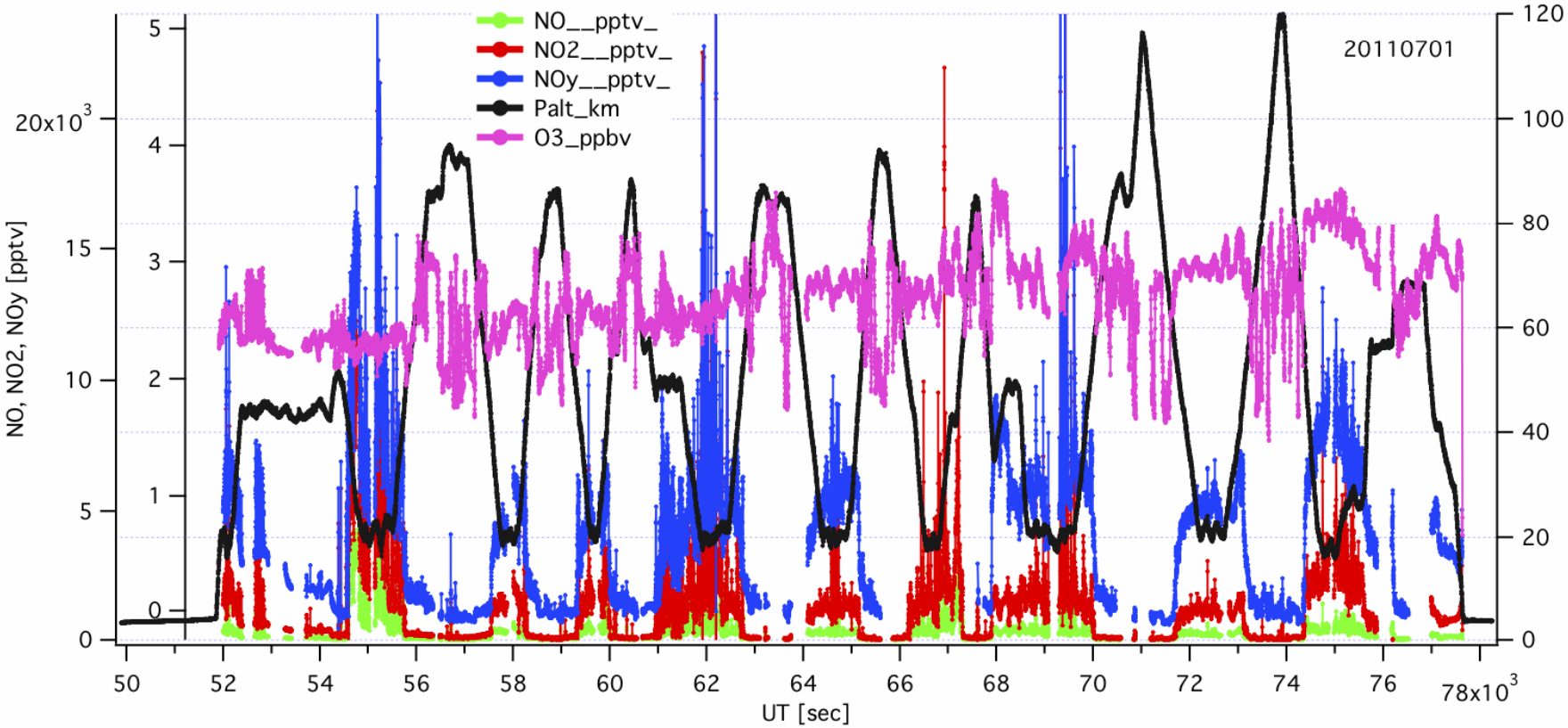
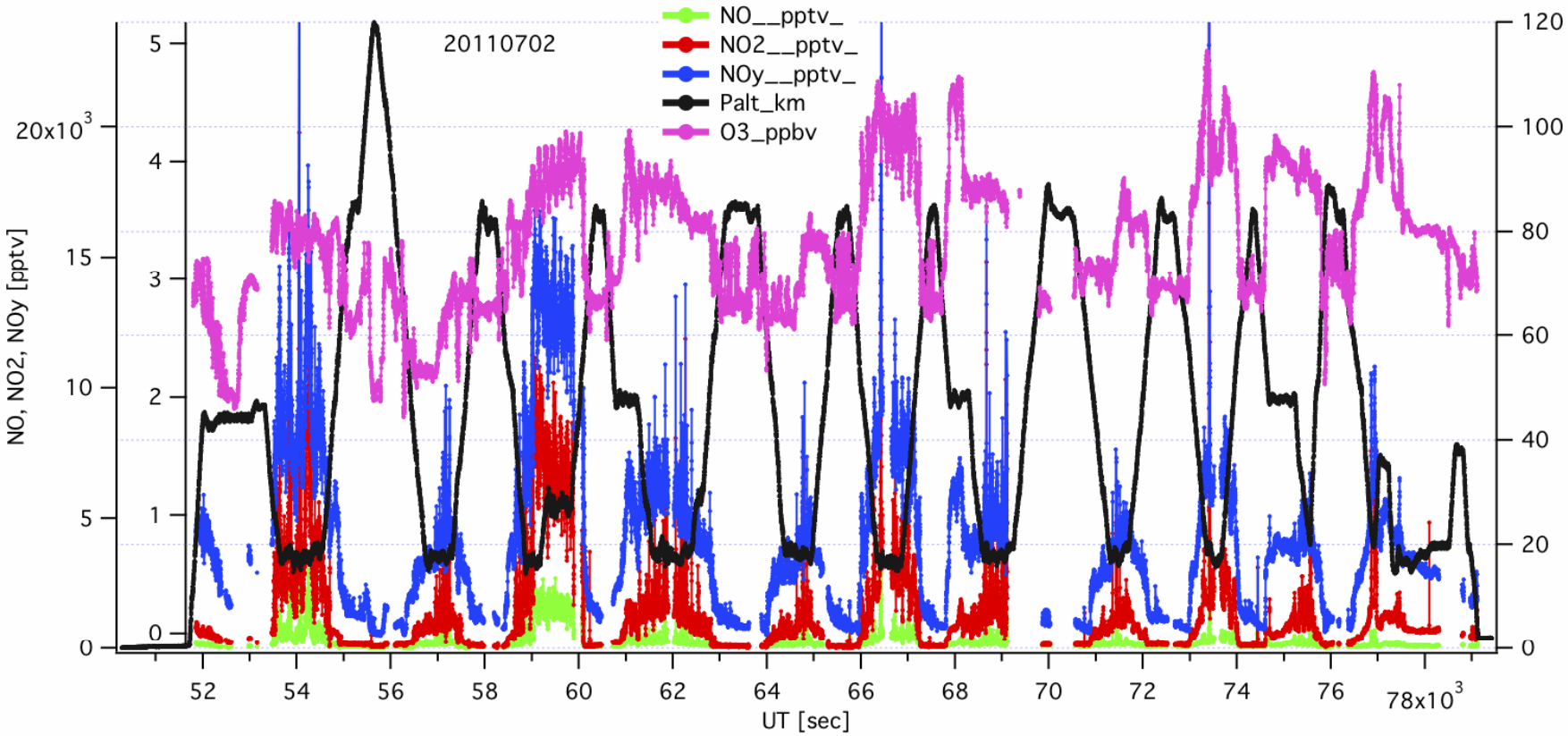
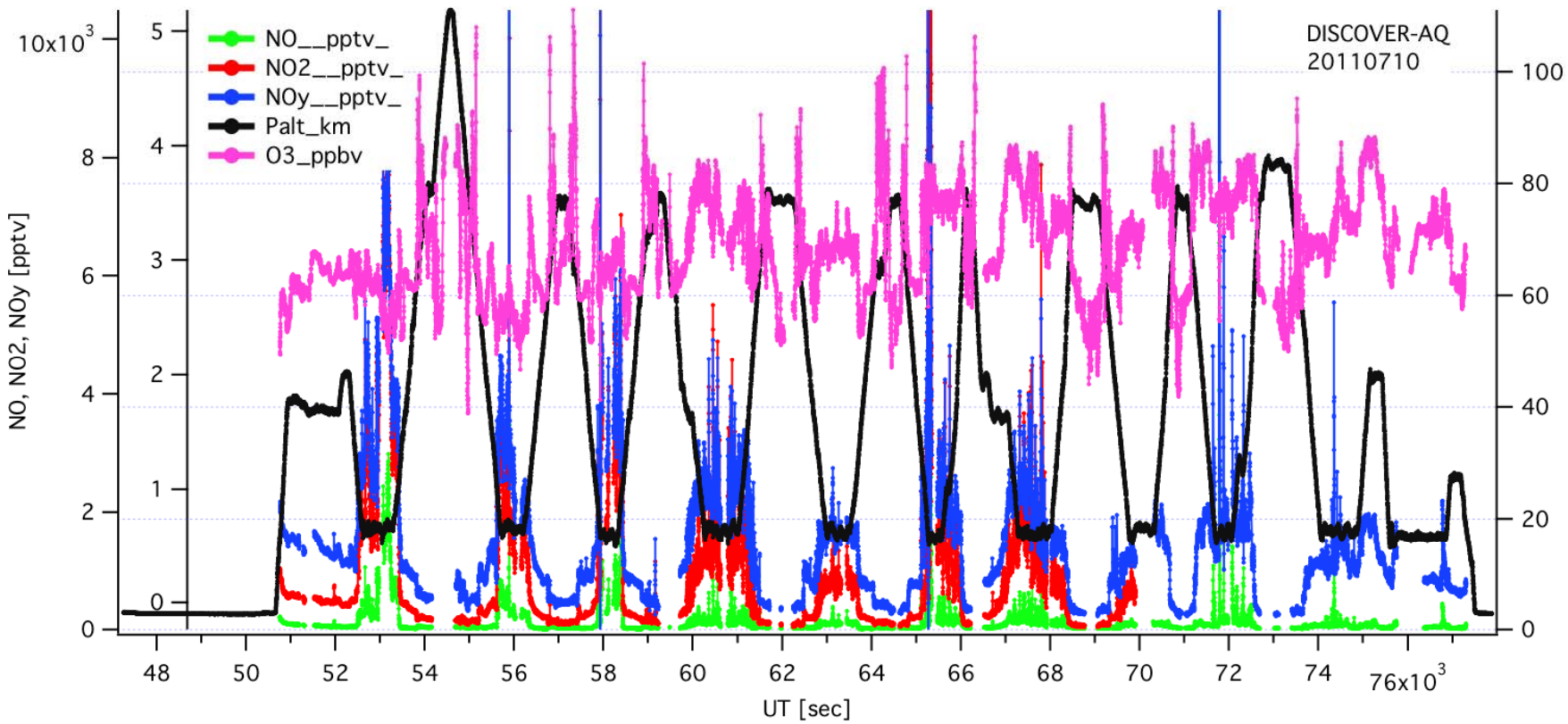
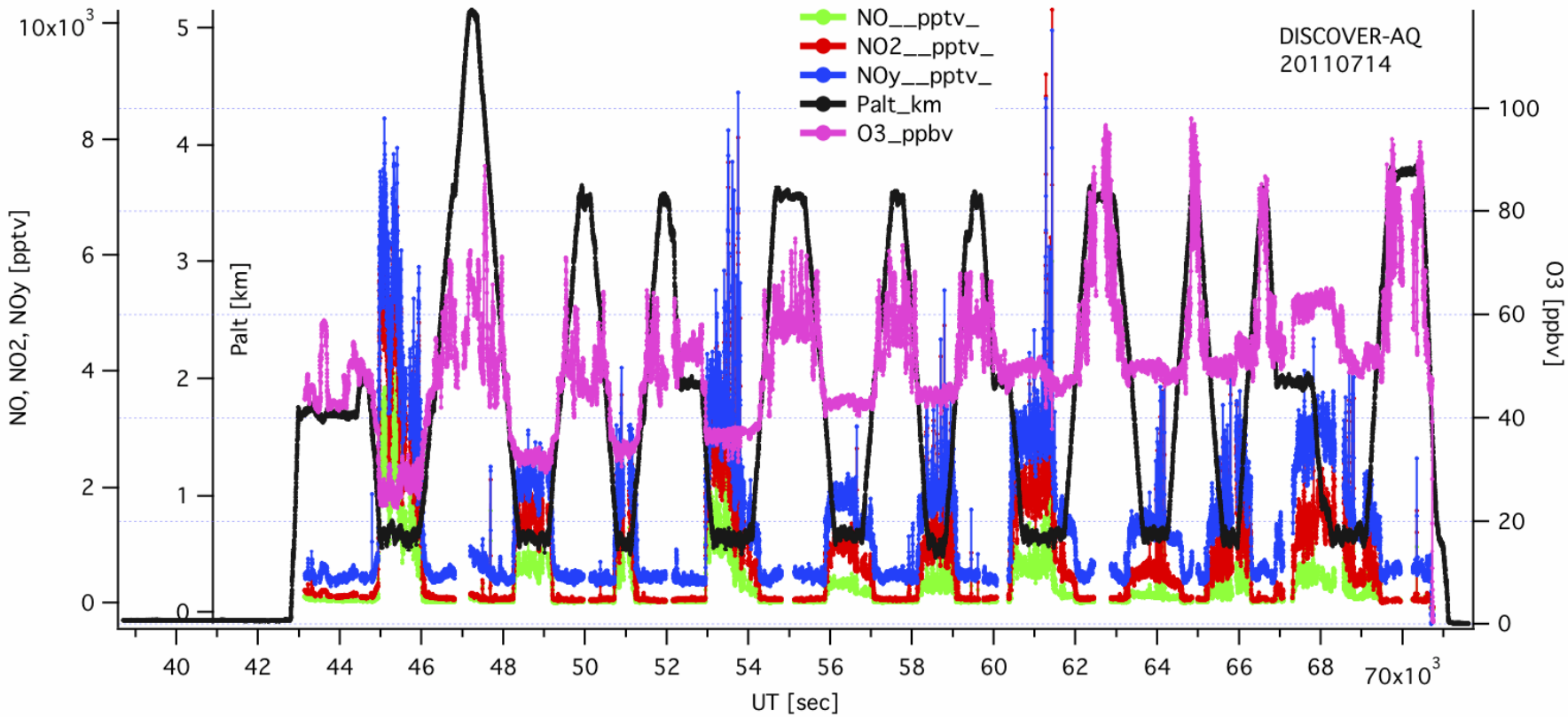

NO__pptv_
NO2__pptv_
NOy__pptv_
Palt_km
O3_ppbv
20110701
NO, NO2, NOy [pptv]
UT [sec]
20x10^3
78x10^3
0
5
10
15
1
2
3
4
20
40
60
80
100
120
50
52
54
56
58
60
62
64
66
68
70
72
74
76


20110702
NO__pptv_
NO2__pptv_
NOy__pptv_
Palt_km
O3_ppbv
NO, NO2, NOy [pptv]
UT [sec]
20x10^3
78x10^3
0
5
10
15
20
1
2
3
4
52
54
56
58
60
62
64
66
68
70
72
74
76
40
60
80
100
120

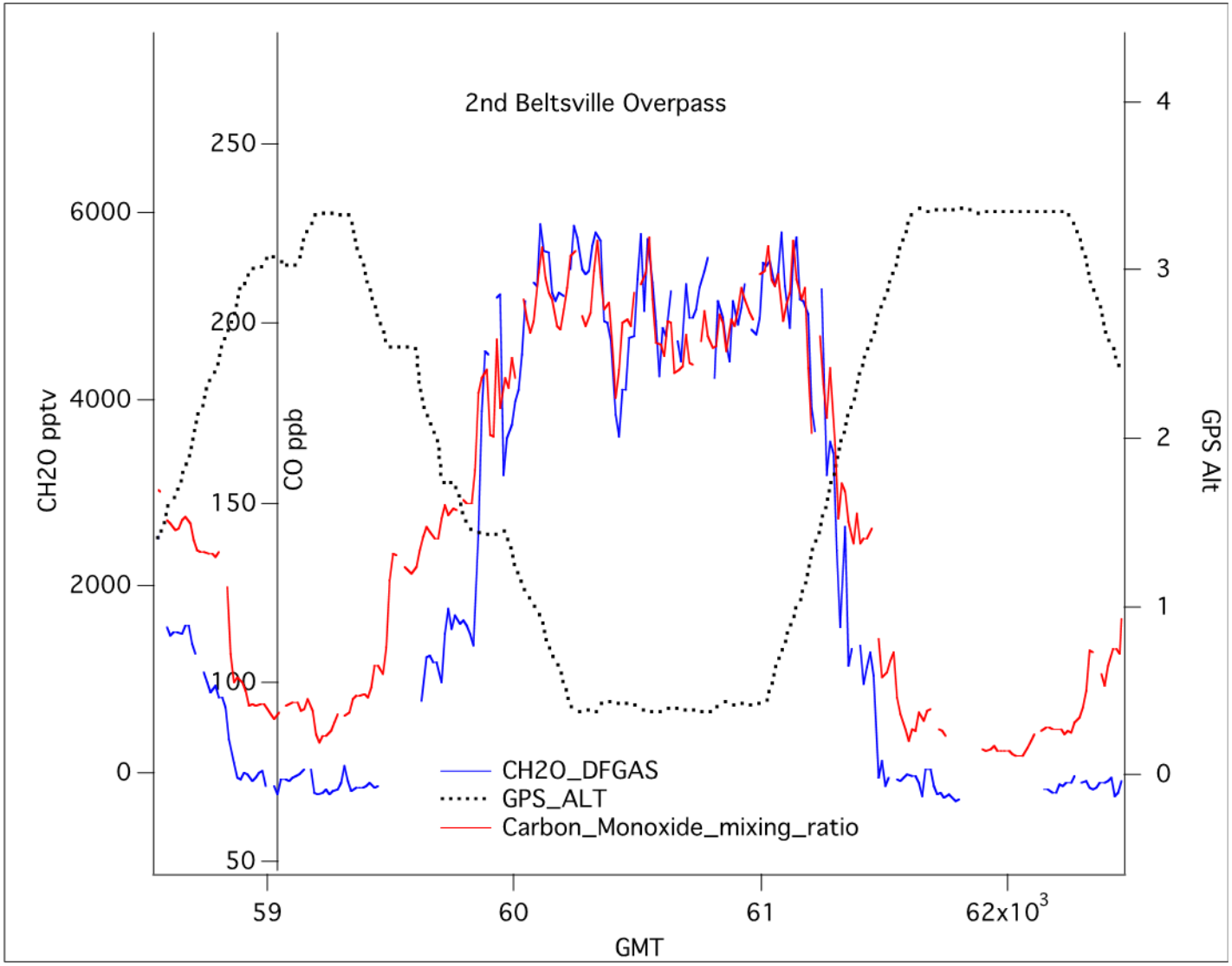

NO__pptv_
NO2__pptv_
NOy__pptv_
Palt_km
O3_ppbv
DISCOVER-AQ
20110710
NO, NO2, NOy [pptv]
UT [sec]
10x10^3
76x10^3


NO__pptv_
NO2__pptv_
NOy__pptv_
Palt_km
O3_ppbv
DISCOVER-AQ
20110714
NO, NO2, NOy [pptv]
Palt [km]
O3 [ppbv]
UT [sec]
10x10^3
70x10^3

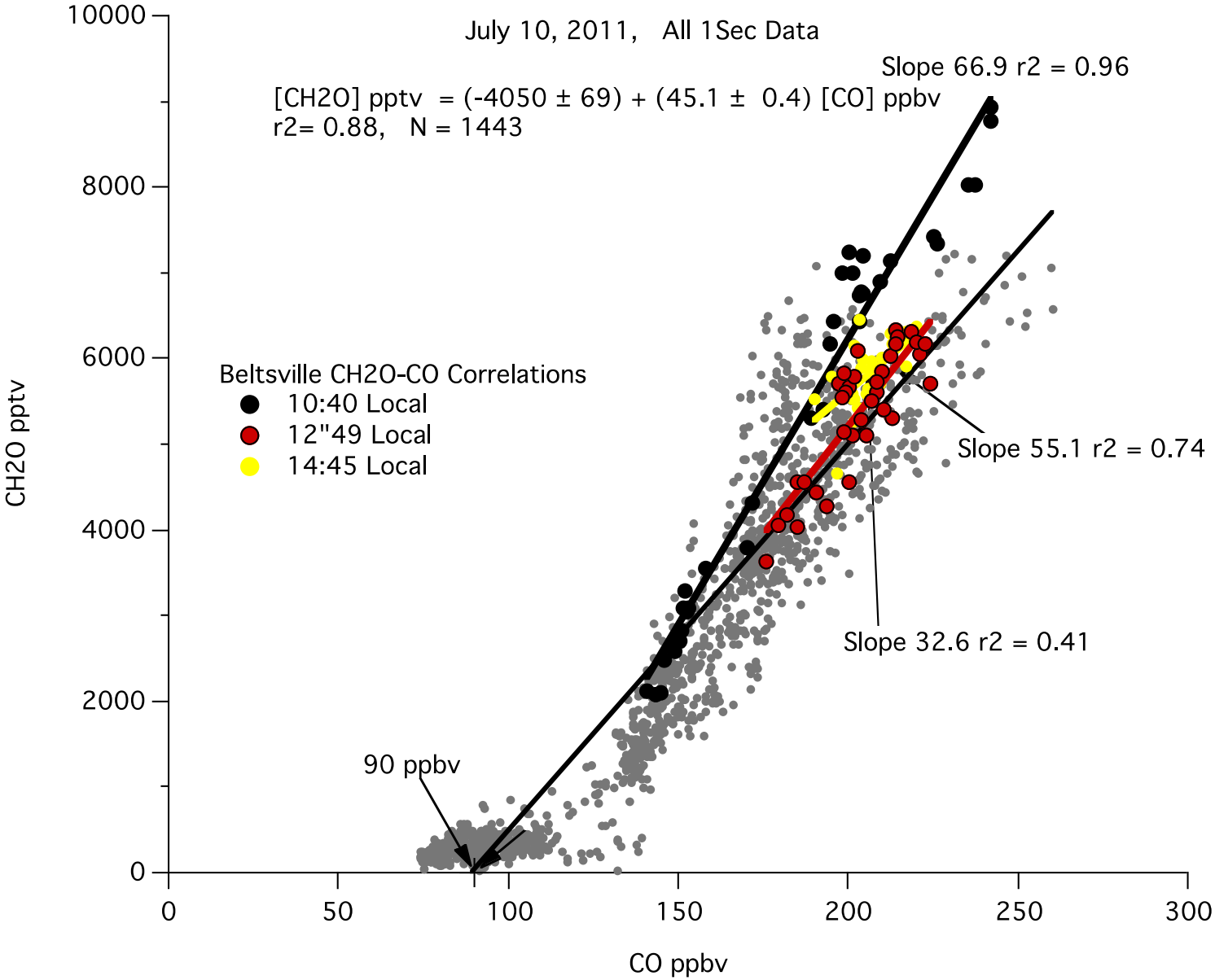
CH2O-CO Correlations

- Common sources of both gases (combustion) and slope provides information about
  - Hydrocarbons precursors
  - Processing time
  - Direct CH2O emissions vs PC produced

CH2O-CO Time Series



CH2O-CO Correlations



RF04 (July 10, 2011)

10:30am-12:30pm

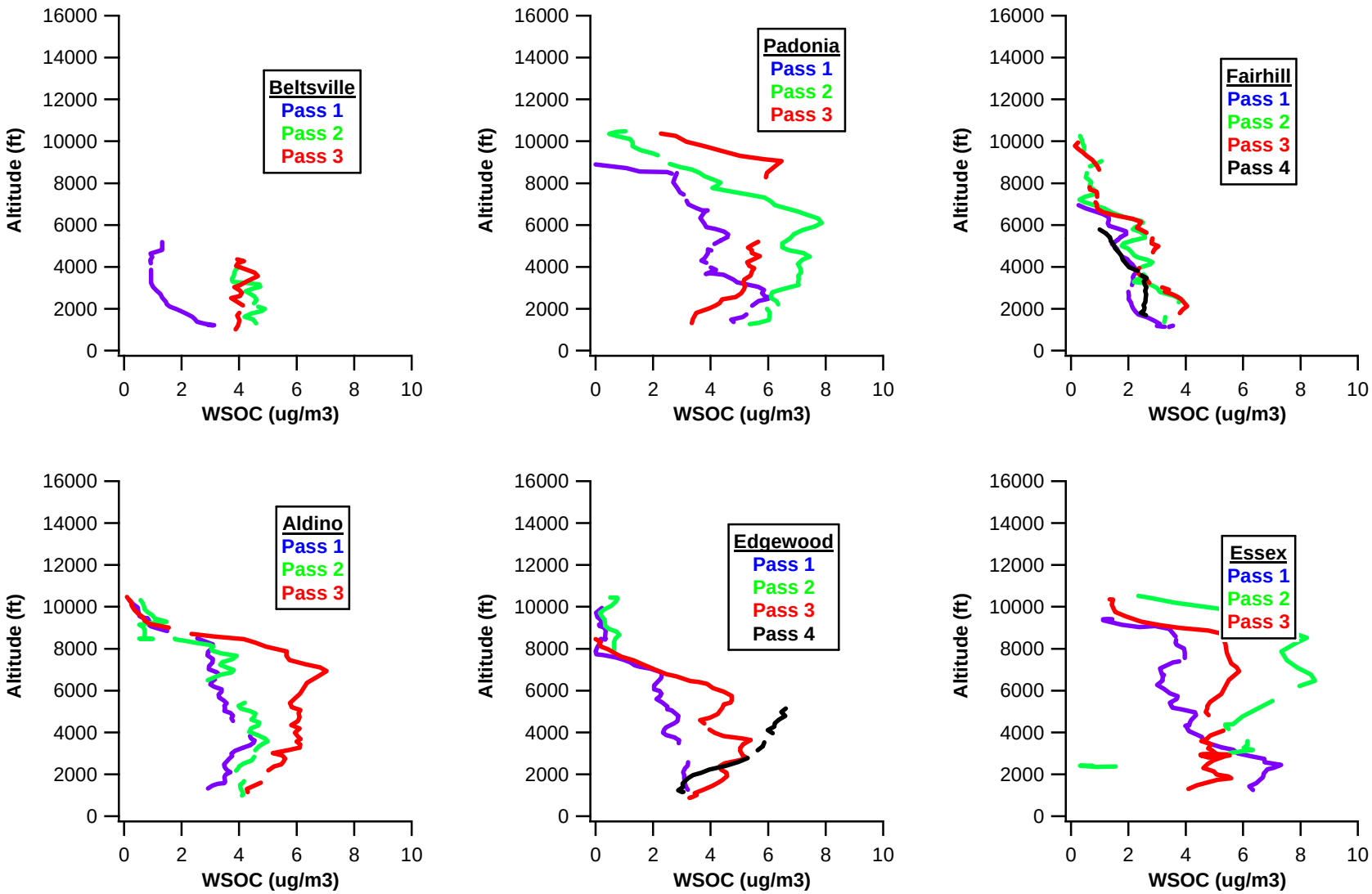
12:30-2:30pm

2:30-4:30pm

4:30-5pm

Water-Soluble Organic Carbon (WSOC)

- inorganic composition to follow



RF04 (July 10, 2011)

10:30am-12:30pm

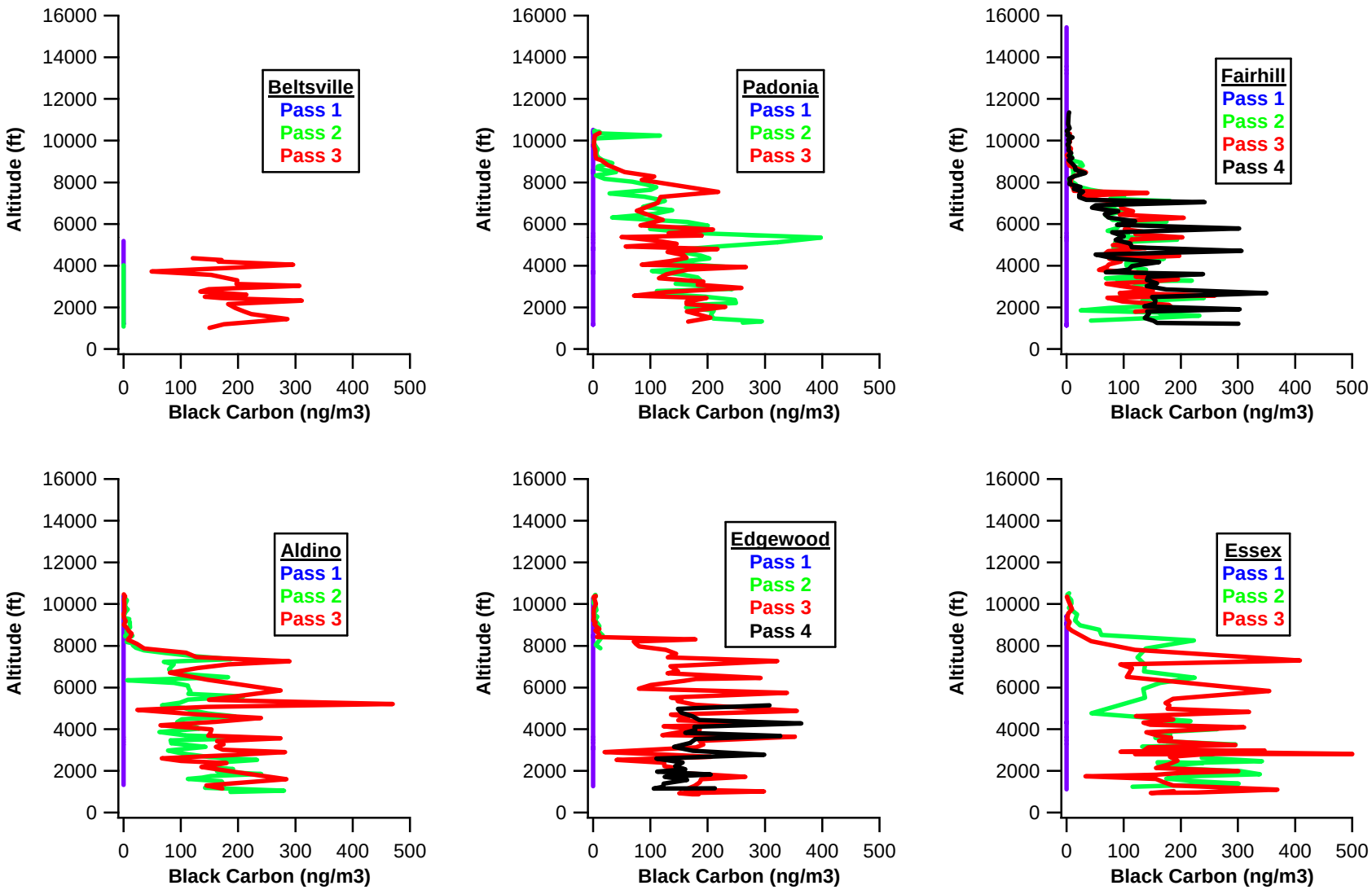
12:30-2:30pm

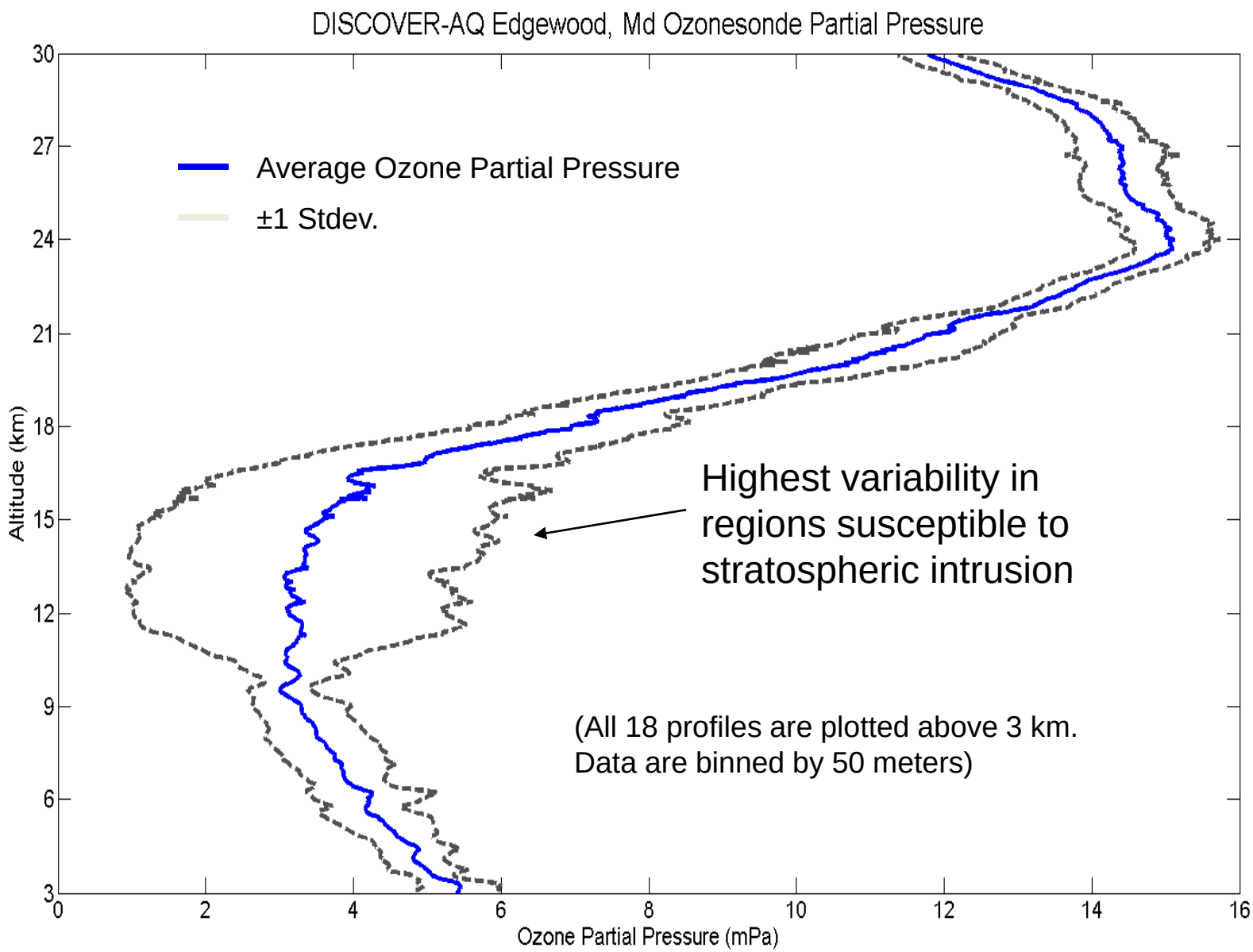
2:30-4:30pm

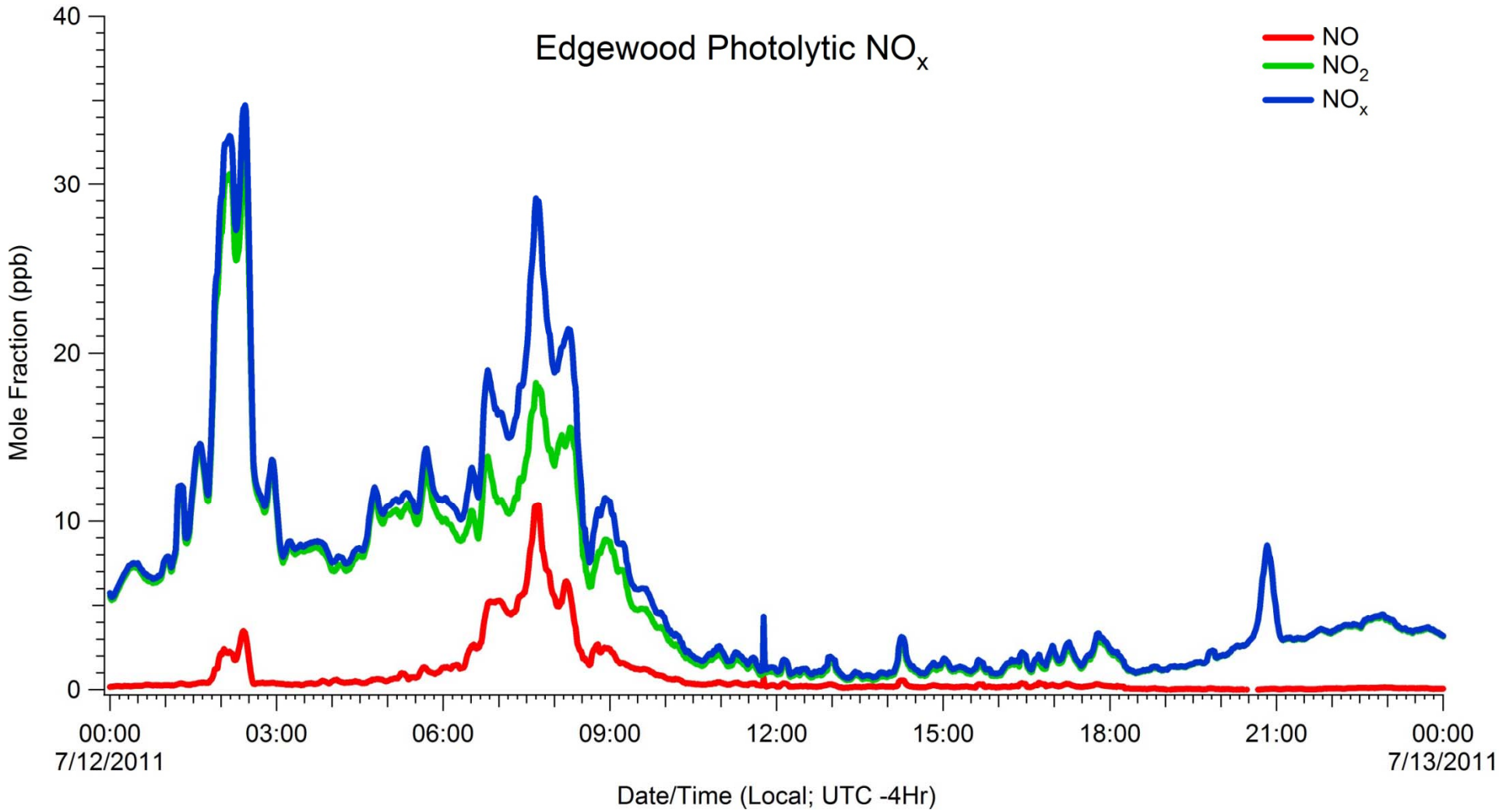
4:30-5pm

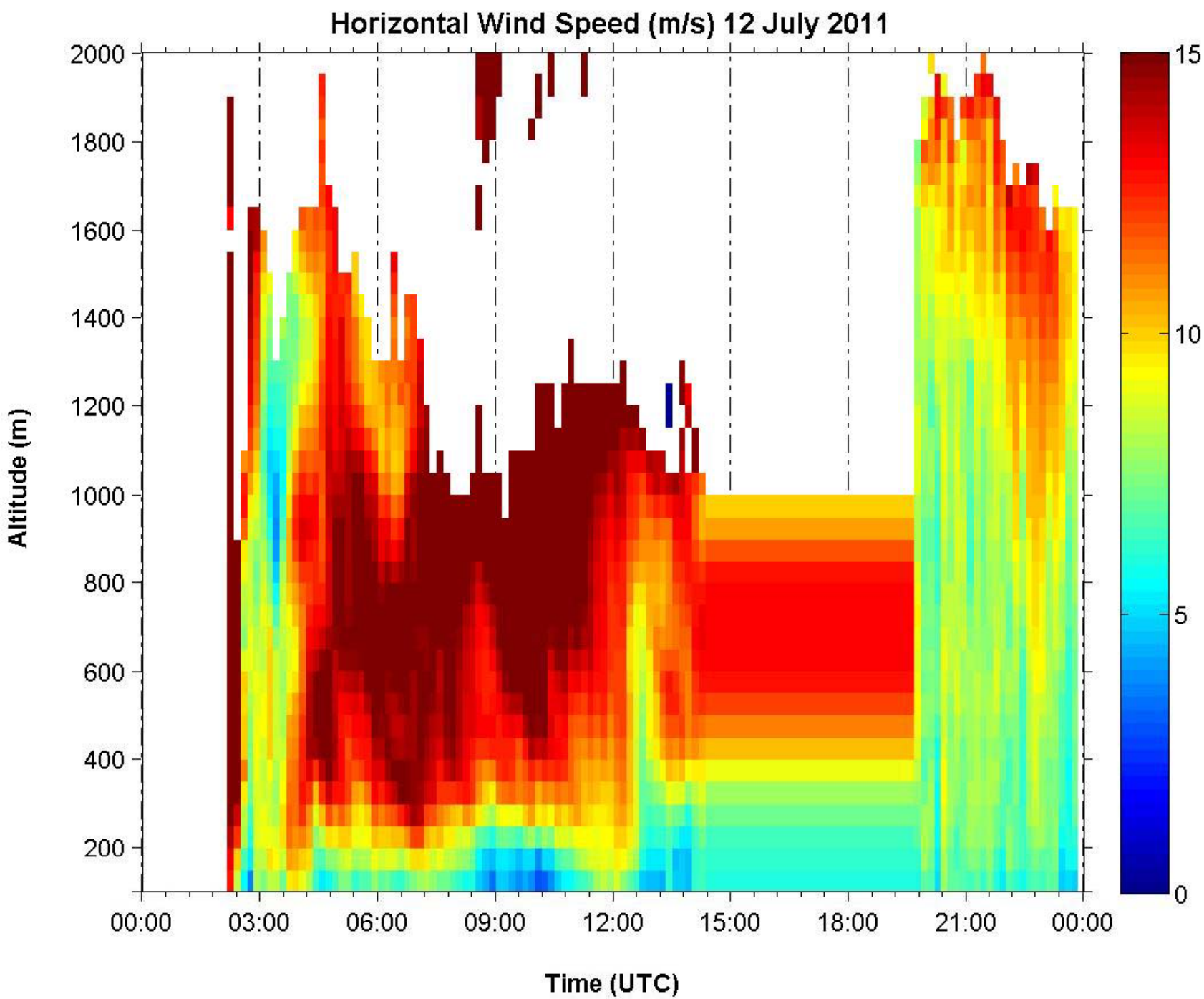
Black Carbon Mass

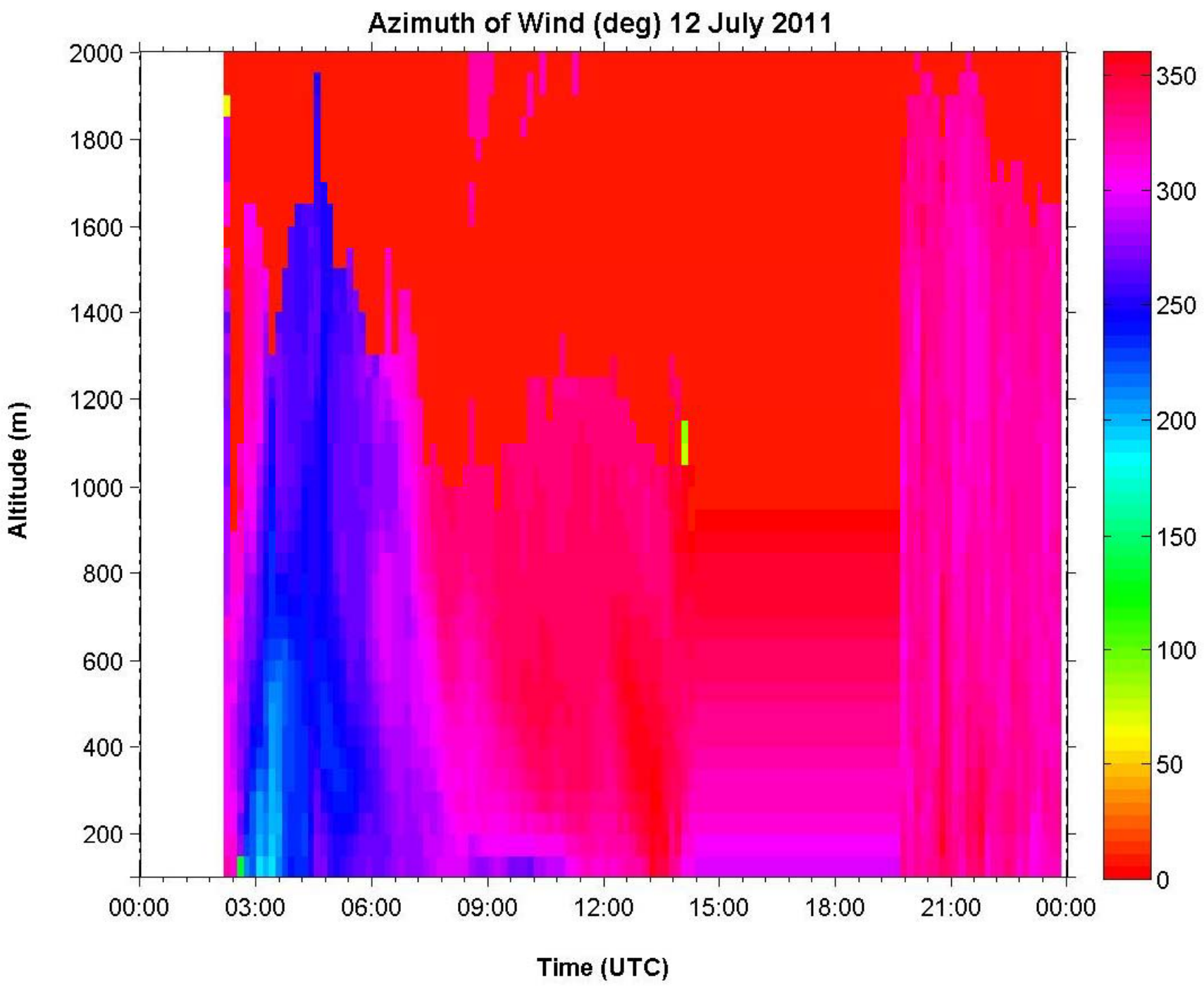
- Pass 1 analysis will be completed later

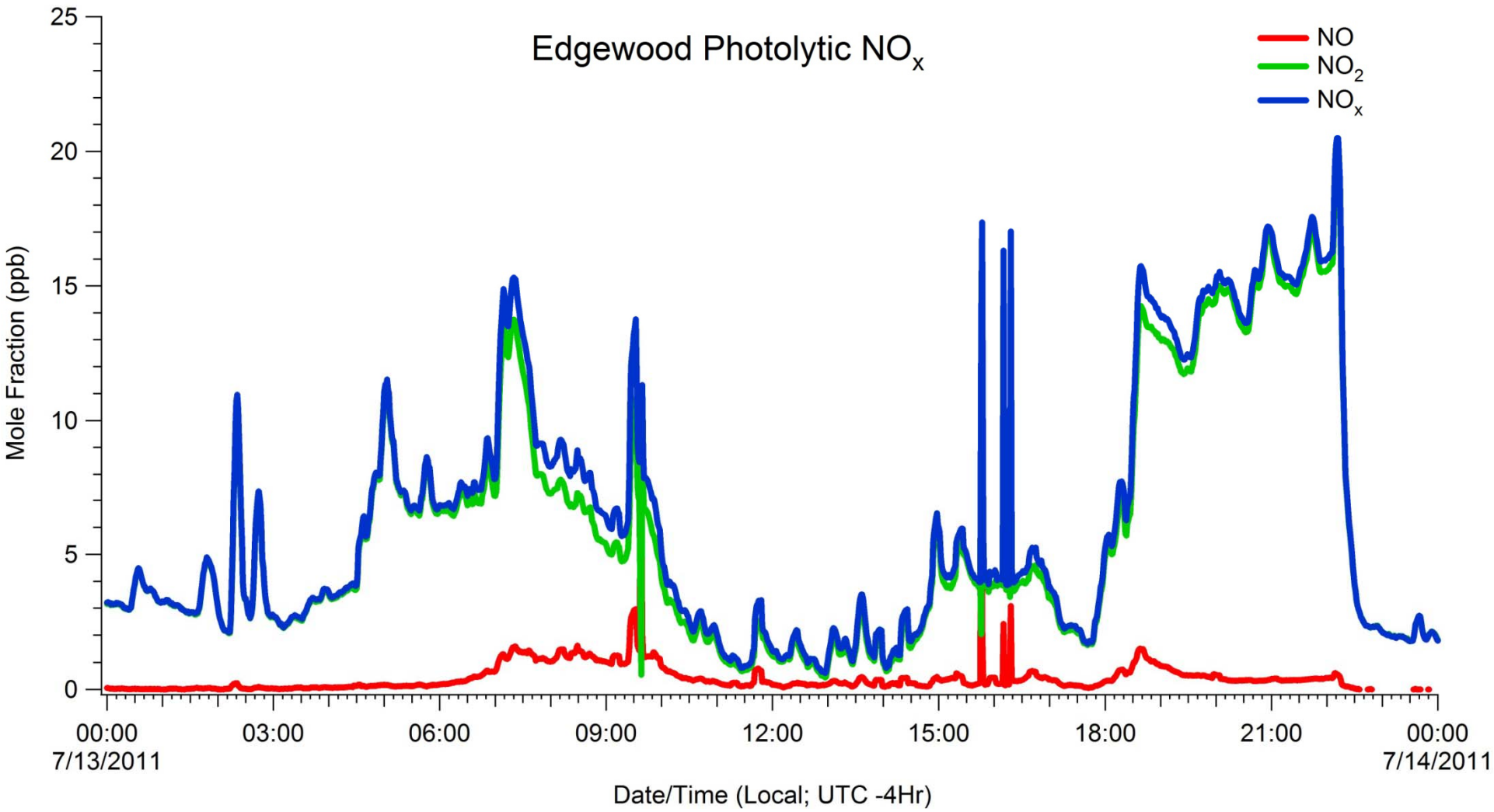


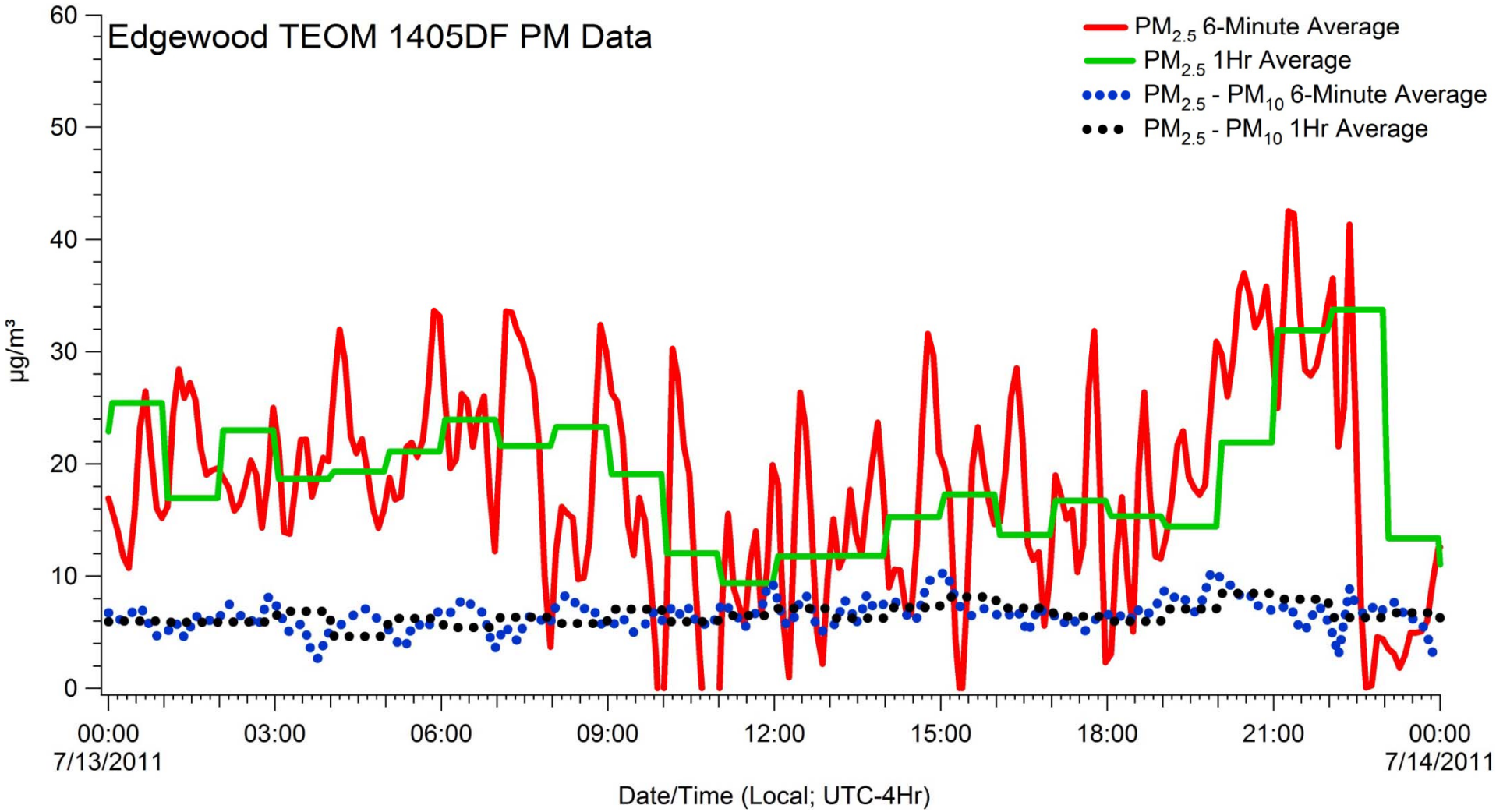

DISCOVER-AQ Edgewood, Md Ozonesonde Partial Pressure
Average Ozone Partial Pressure
±1 Stdev.
Highest variability in regions susceptible to stratospheric intrusion
(All 18 profiles are plotted above 3 km.
Data are binned by 50 meters)
Altitude (km)
Ozone Partial Pressure (mPa)
30
27
24
21
18
15
12
9
6
3
0
2
4
6
8
10
12
14
16

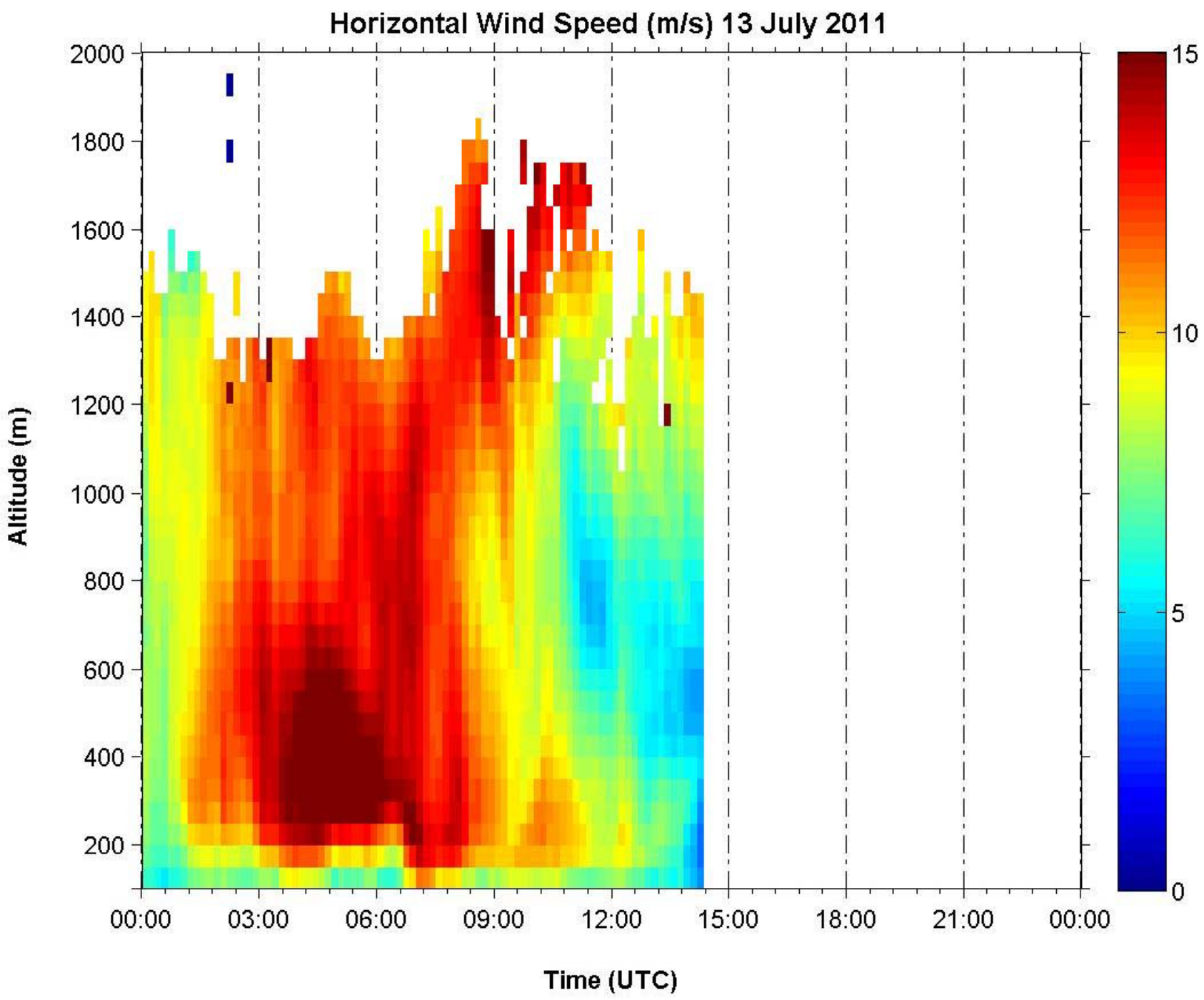

Edgewood Photolytic NO_x
NO
NO_2
NO_x
Mole Fraction (ppb)
40
30
20
10
0
00:00
7/12/2011
03:00
06:00
09:00
12:00
15:00
18:00
21:00
00:00
7/13/2011
Date/Time (Local; UTC -4Hr)

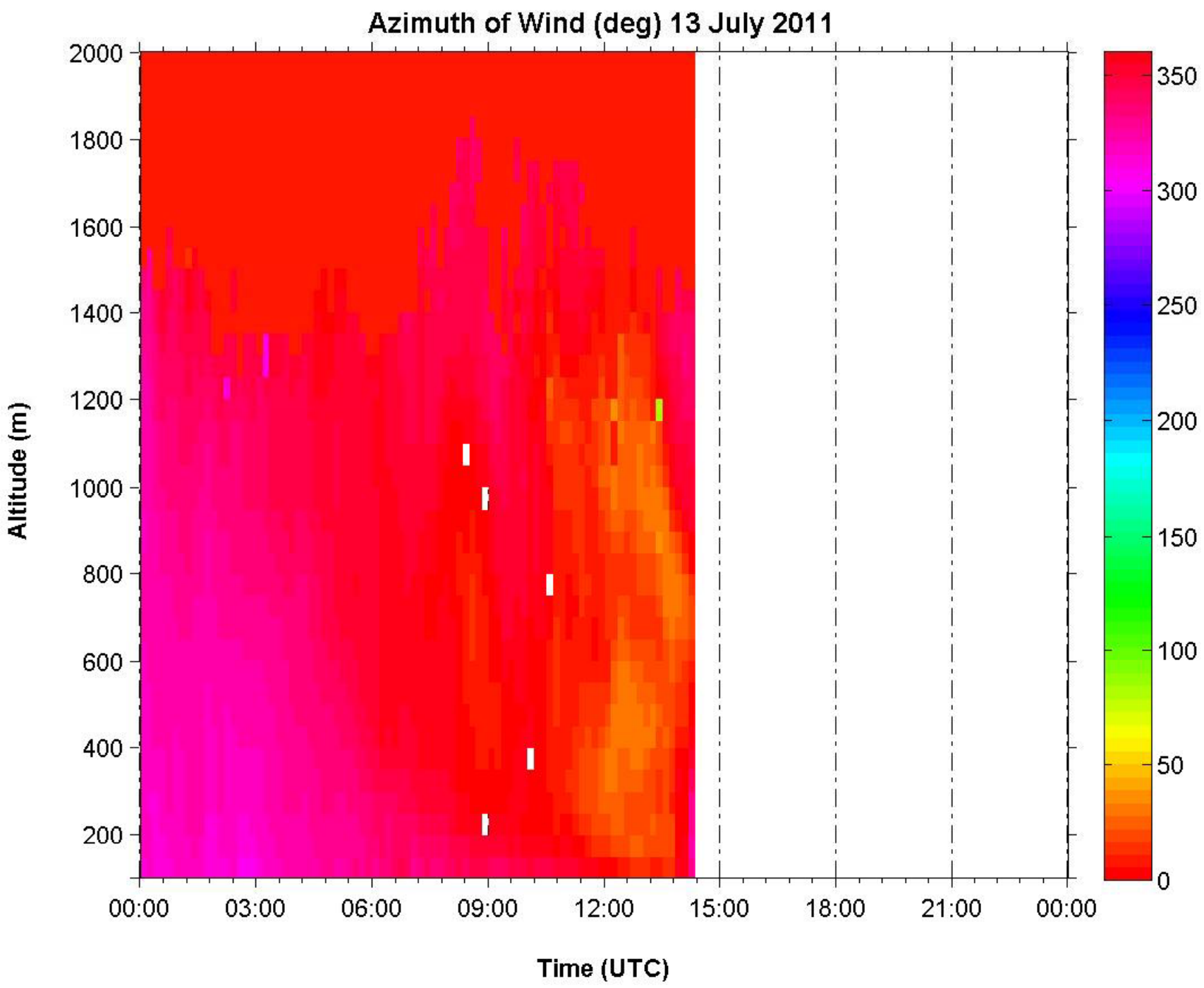

Horizontal Wind Speed (m/s) 12 July 2011
Altitude (m)
2000
1800
1600
1400
1200
1000
800
600
400
200
00:00
03:00
06:00
09:00
12:00
15:00
18:00
21:00
00:00
Time (UTC)
15
10
5
0

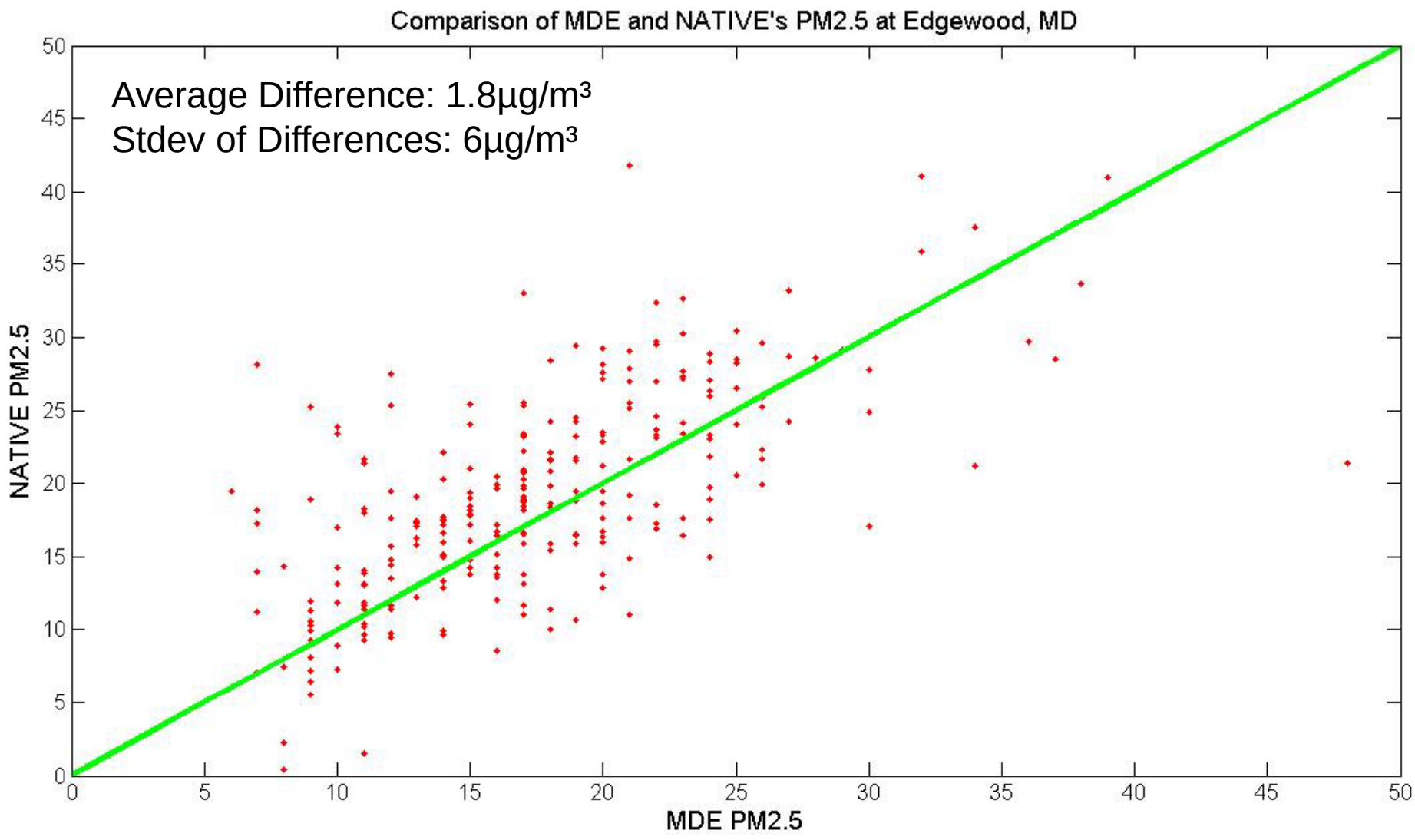

Azimuth of Wind (deg) 12 July 2011
Altitude (m)
2000
1800
1600
1400
1200
1000
800
600
400
200
00:00
03:00
06:00
09:00
12:00
15:00
18:00
21:00
00:00
Time (UTC)
350
300
250
200
150
100
50
0

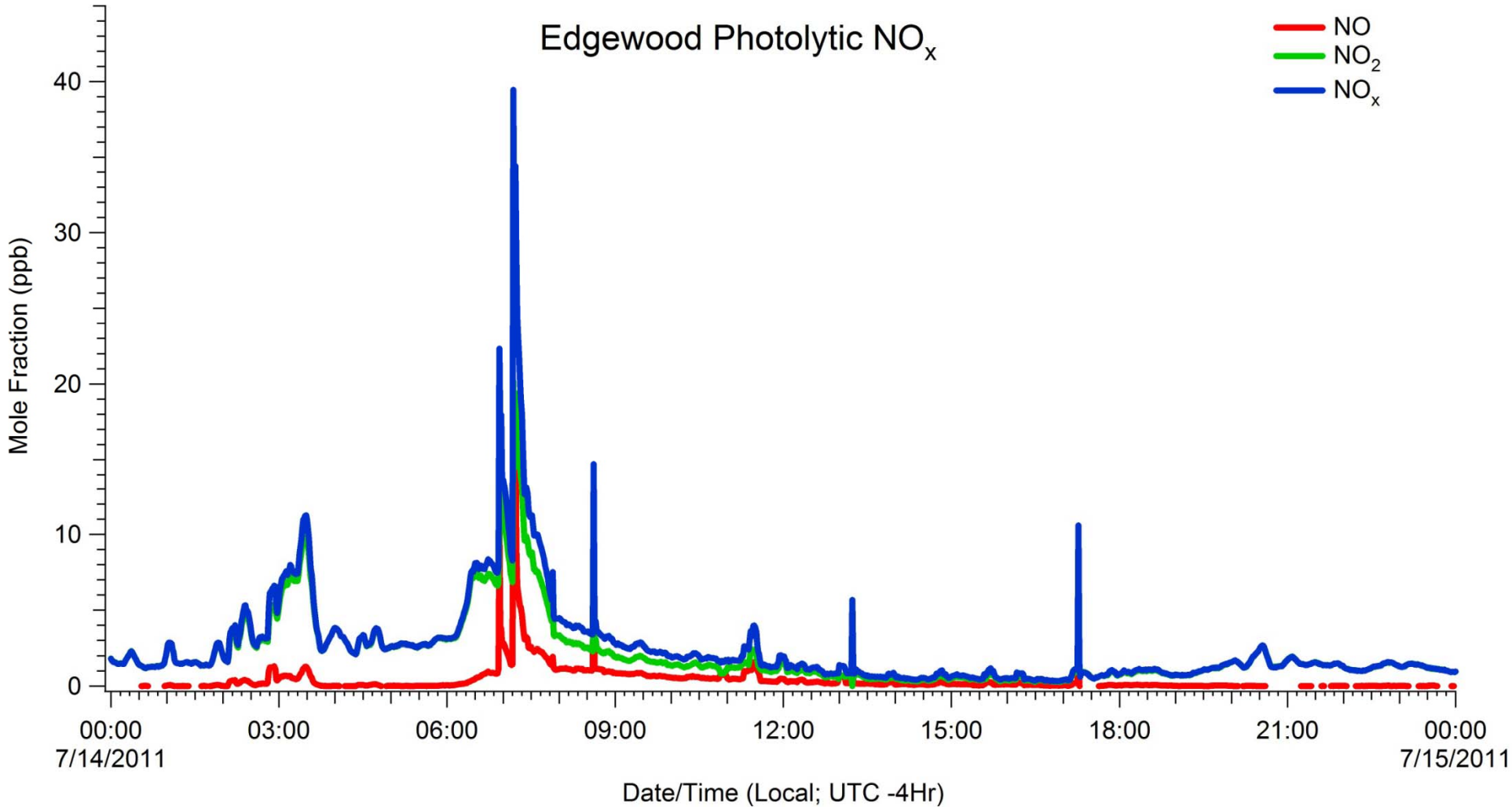

Edgewood Photolytic NO_x
NO
NO_2
NO_x
Mole Fraction (ppb)
25
20
15
10
5
0
00:00
7/13/2011
03:00
06:00
09:00
12:00
15:00
18:00
21:00
00:00
7/14/2011
Date/Time (Local; UTC -4Hr)

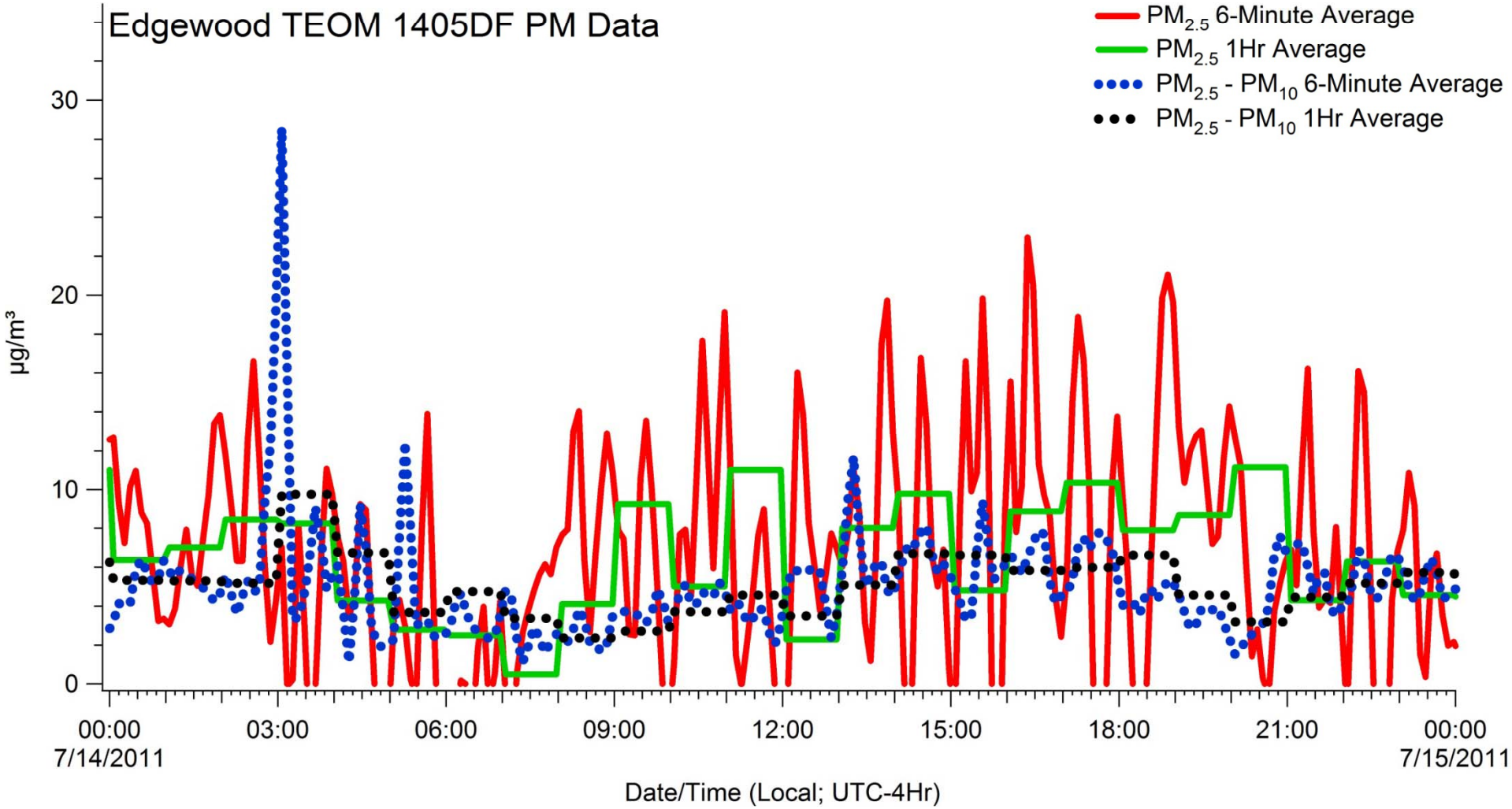

Edgewood TEOM 1405DF PM Data
PM2.5 6-Minute Average
PM2.5 1Hr Average
PM2.5 - PM10 6-Minute Average
PM2.5 - PM10 1Hr Average
µg/m³
60
50
40
30
20
10
0
00:00
7/13/2011
03:00
06:00
09:00
12:00
15:00
18:00
21:00
00:00
7/14/2011
Date/Time (Local; UTC-4Hr)

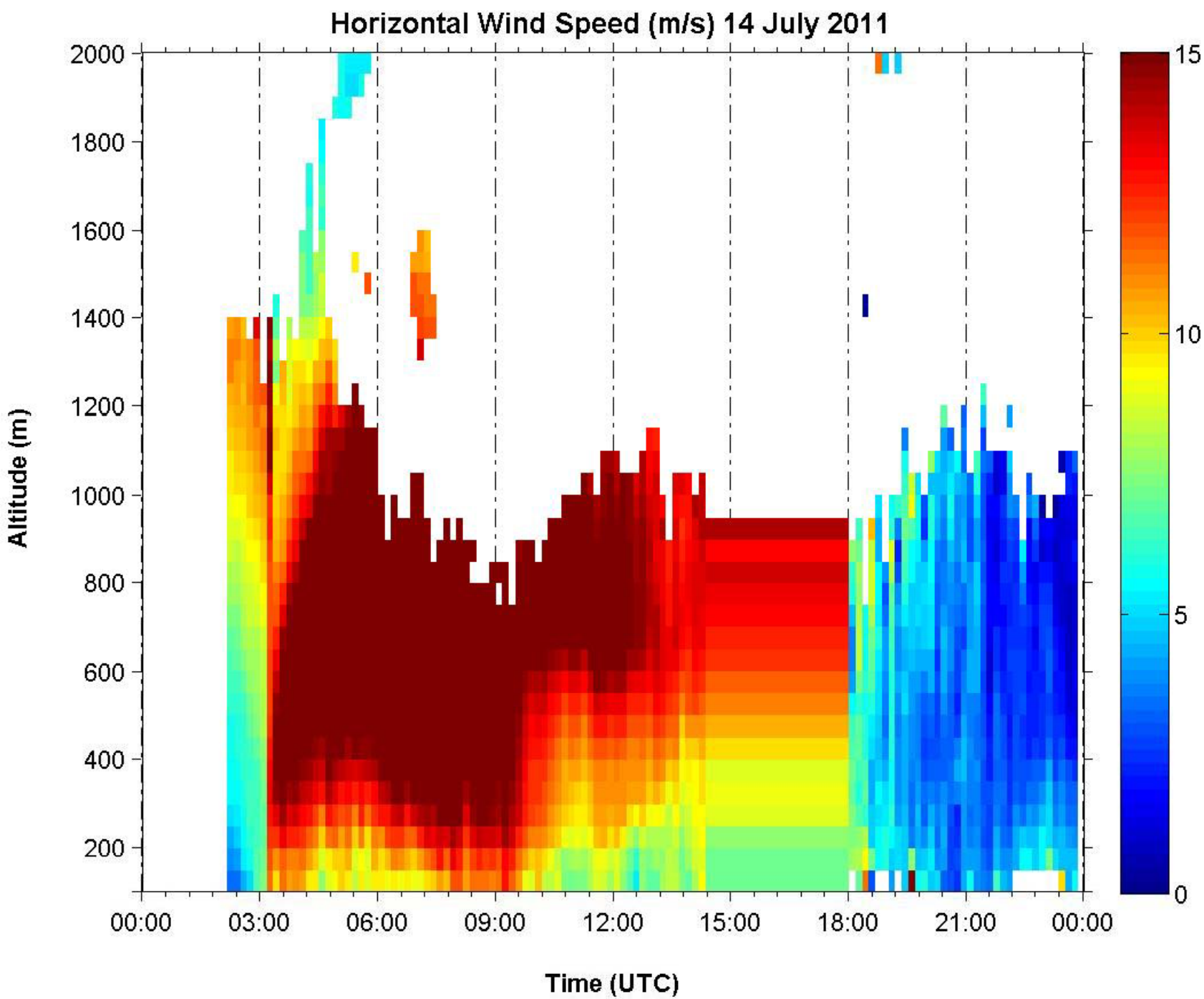

Horizontal Wind Speed (m/s) 13 July 2011
Altitude (m)
2000
1800
1600
1400
1200
1000
800
600
400
200
00:00
03:00
06:00
09:00
12:00
15:00
18:00
21:00
00:00
Time (UTC)
15
10
5
0

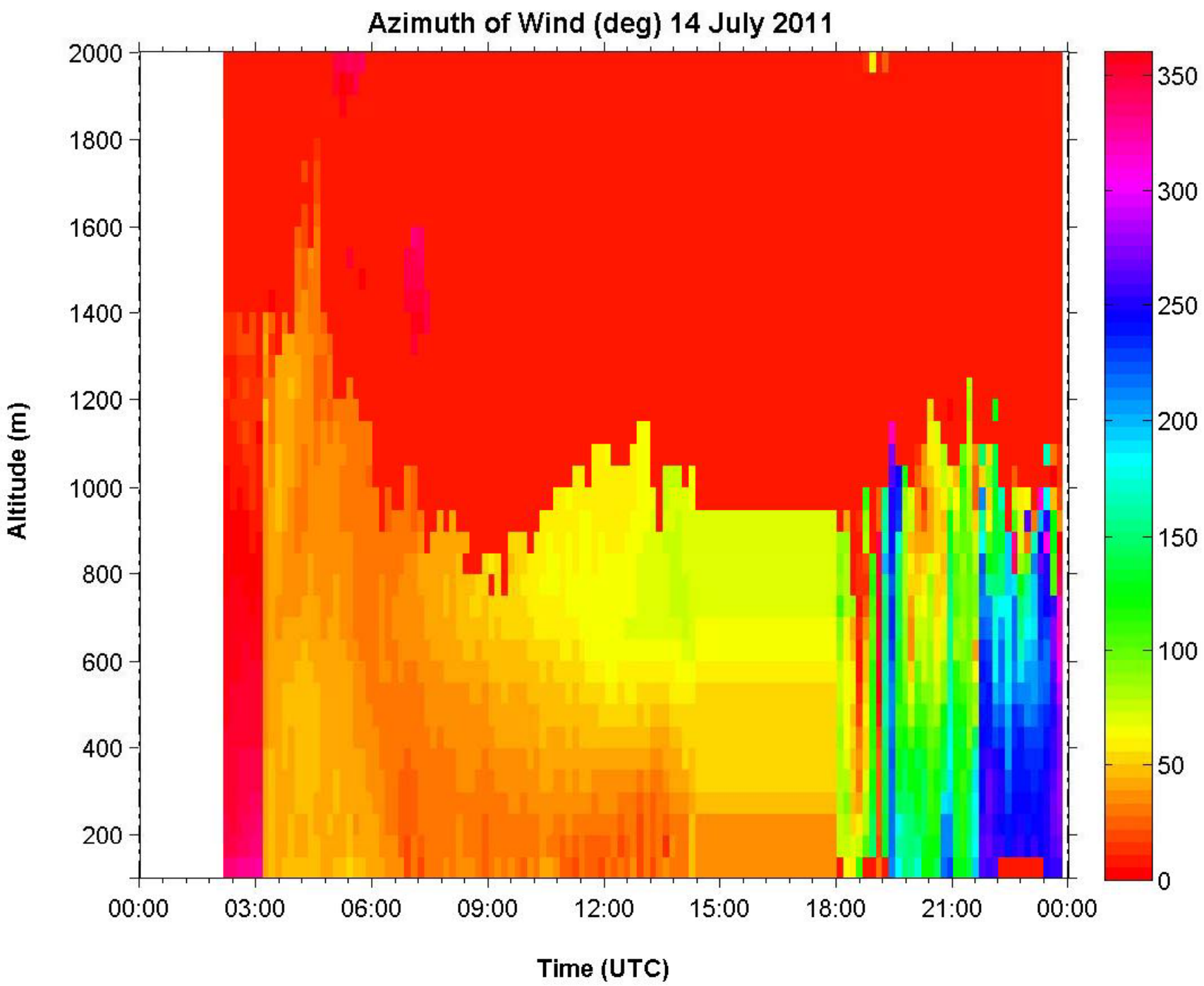

Azimuth of Wind (deg) 13 July 2011
Altitude (m)
2000
1800
1600
1400
1200
1000
800
600
400
200
00:00
03:00
06:00
09:00
12:00
15:00
18:00
21:00
00:00
Time (UTC)
350
300
250
200
150
100
50
0


Comparison of MDE and NATIVE's PM2.5 at Edgewood, MD
Average Difference: 1.8µg/m³
Stdev of Differences: 6µg/m³
NATIVE PM2.5
MDE PM2.5
0
5
10
15
20
25
30
35
40
45
50


Edgewood Photolytic NO_x
NO
NO_2
NO_x
Mole Fraction (ppb)
0
10
20
30
40
00:00
7/14/2011
03:00
06:00
09:00
12:00
15:00
18:00
21:00
00:00
7/15/2011
Date/Time (Local; UTC -4Hr)


Edgewood TEOM 1405DF PM Data
PM2.5 6-Minute Average
PM2.5 1Hr Average
PM2.5 - PM10 6-Minute Average
PM2.5 - PM10 1Hr Average
µg/m³
0
10
20
30
00:00
7/14/2011
03:00
06:00
09:00
12:00
15:00
18:00
21:00
00:00
7/15/2011
Date/Time (Local; UTC-4Hr)


Horizontal Wind Speed (m/s) 14 July 2011
Altitude (m)
2000
1800
1600
1400
1200
1000
800
600
400
200
00:00
03:00
06:00
09:00
12:00
15:00
18:00
21:00
00:00
Time (UTC)
15
10
5
0


Azimuth of Wind (deg) 14 July 2011
Altitude (m)
2000
1800
1600
1400
1200
1000
800
600
400
200
00:00
03:00
06:00
09:00
12:00
15:00
18:00
21:00
00:00
Time (UTC)
350
300
250
200
150
100
50
0