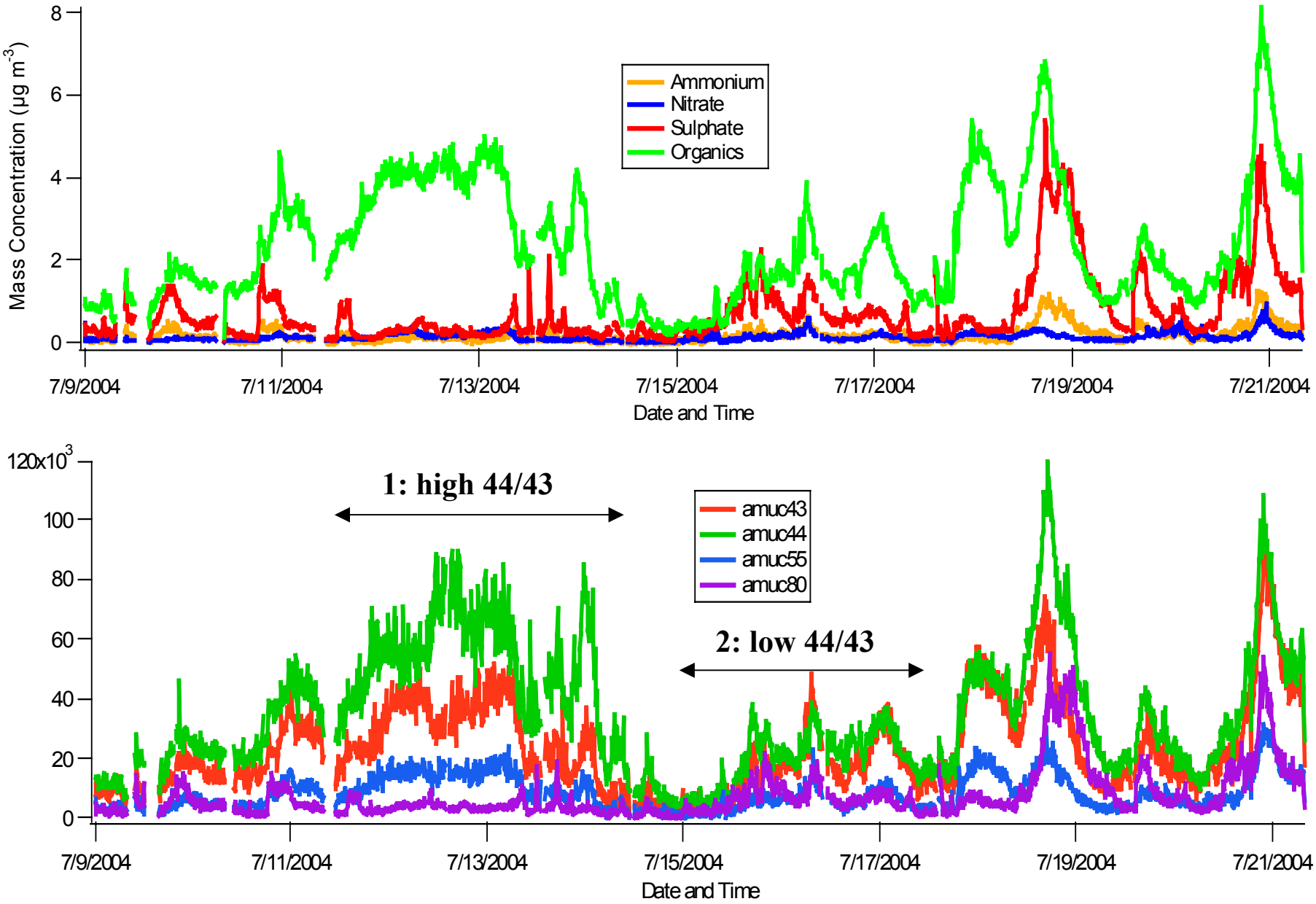
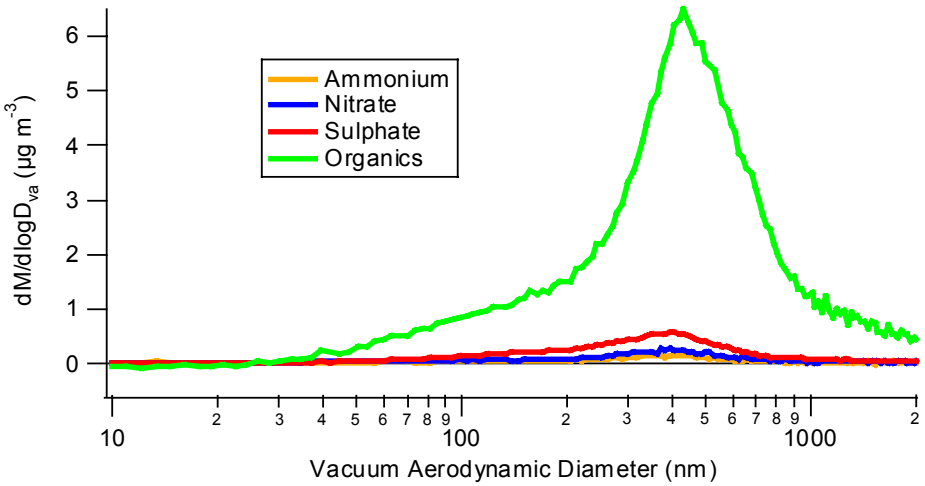
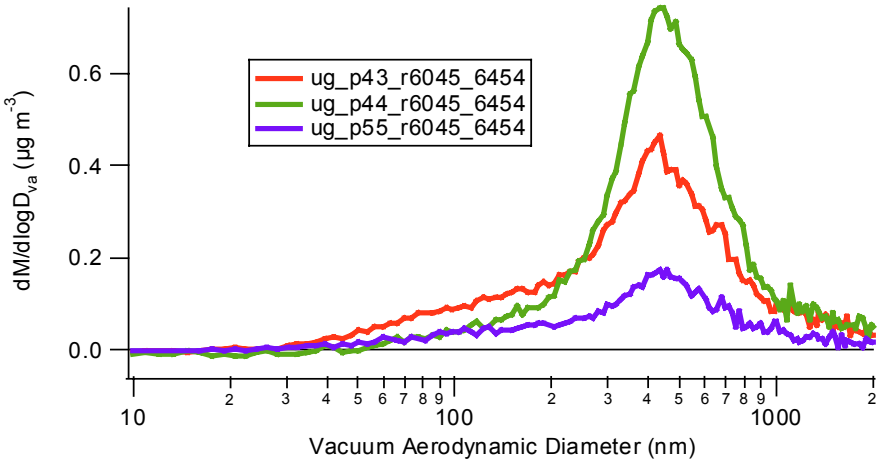
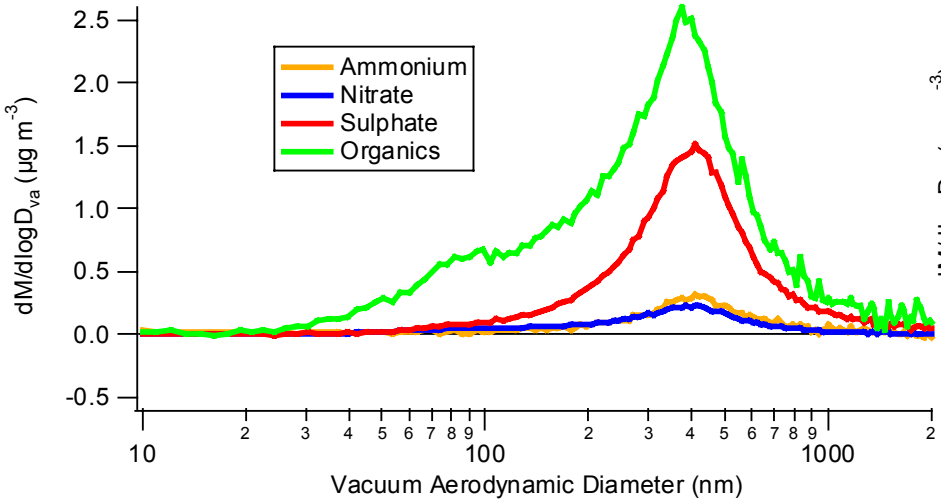

Mass Concentration (µg m-3)
8
6
4
2
0
Ammonium
Nitrate
Sulphate
Organics
7/9/2004
7/11/2004
7/13/2004
7/15/2004
7/17/2004
7/19/2004
7/21/2004
Date and Time
120x10^3
100
80
60
40
20
0
Ion Rate (Hz)
1: high 44/43
2: low 44/43
amuc43
amuc44
amuc55
amuc80
7/9/2004
7/11/2004
7/13/2004
7/15/2004
7/17/2004
7/19/2004
7/21/2004
Date and Time

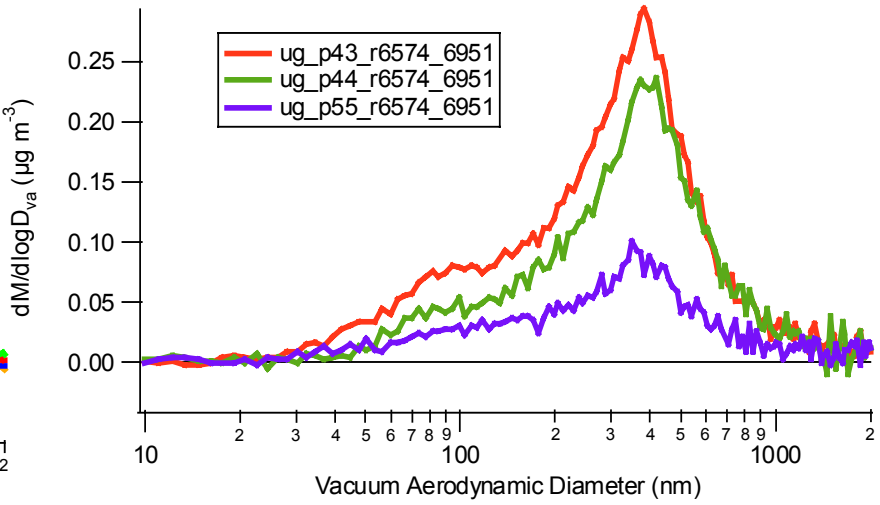
1: High 44/43

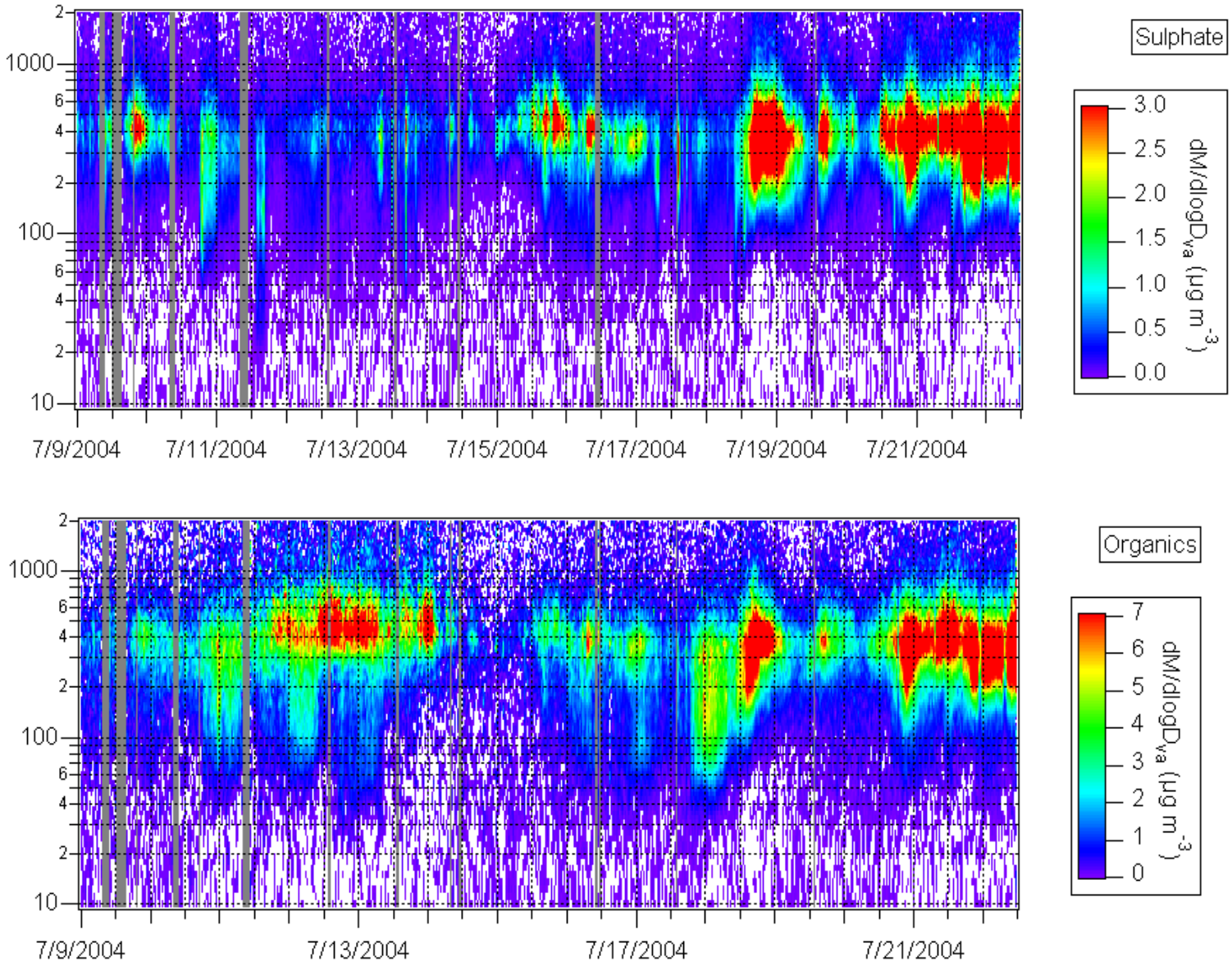


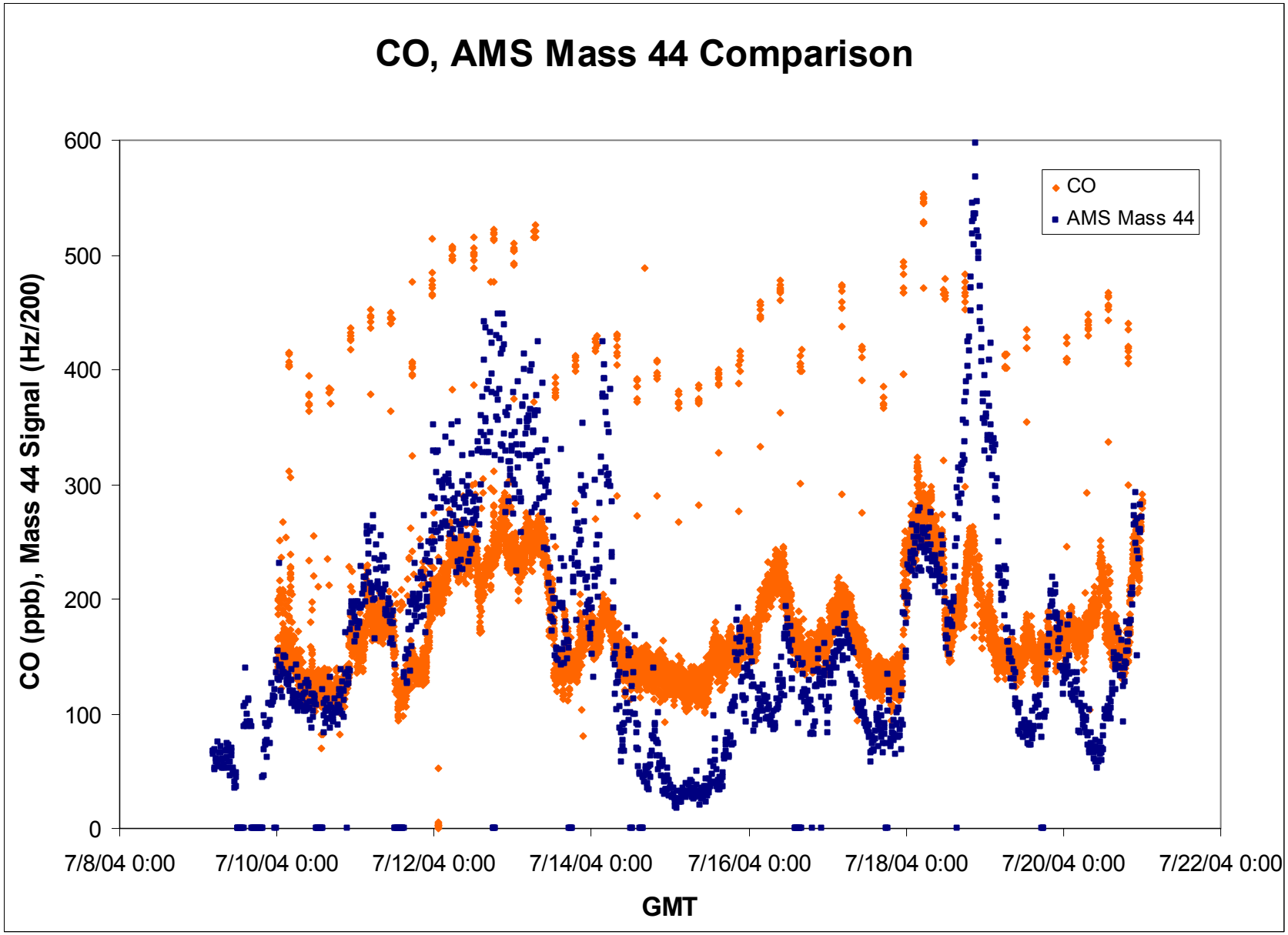


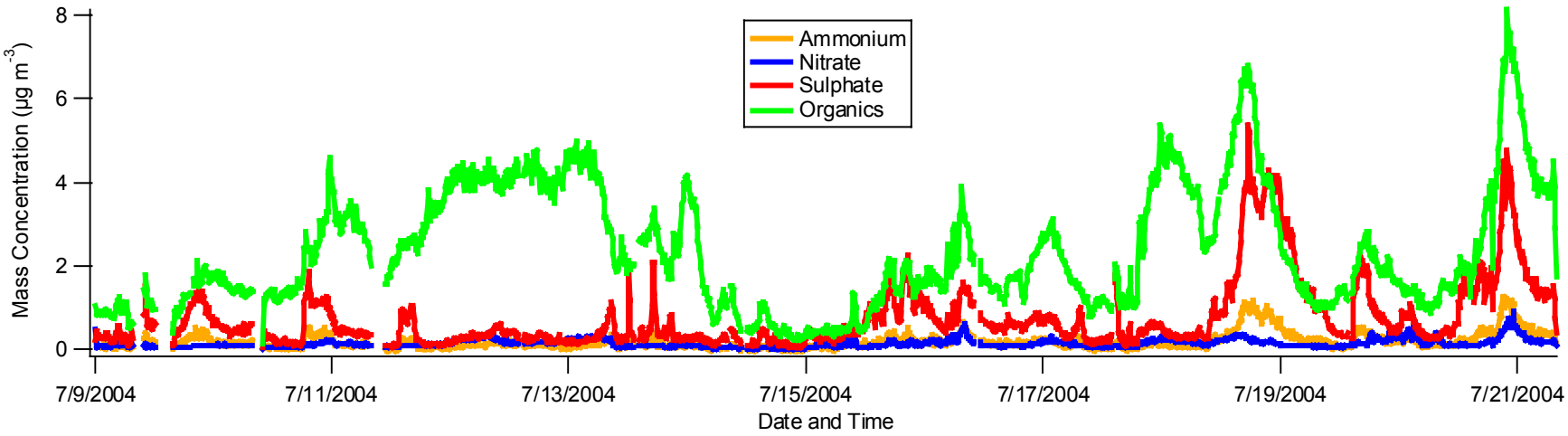
2: Low 44/43

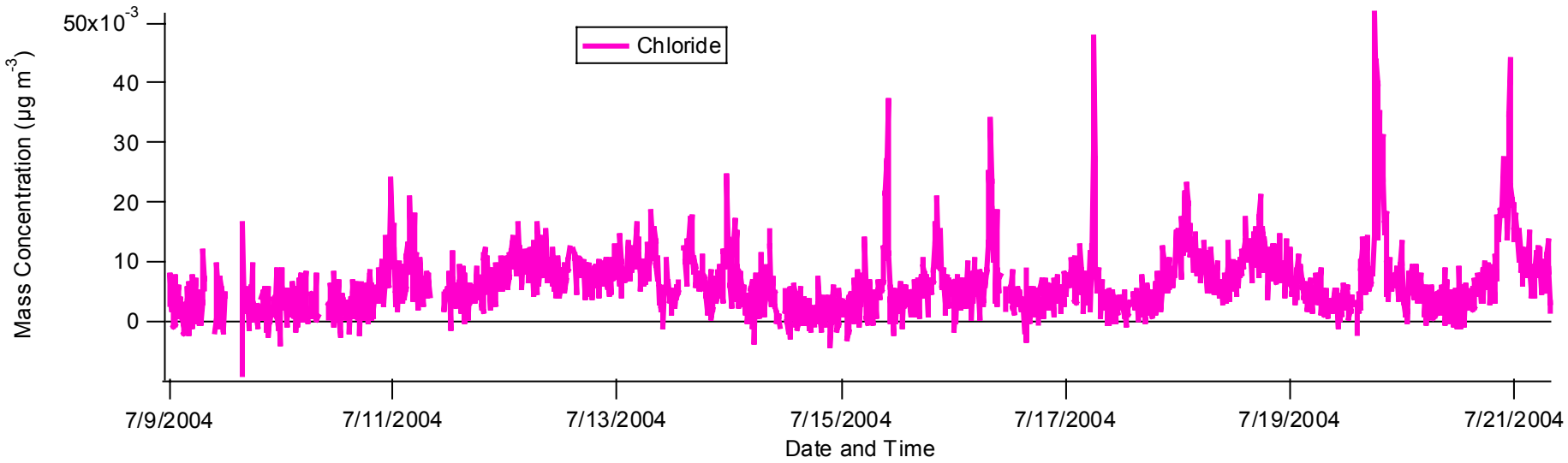





Sulphate
2
1000
6
4
2
100
6
4
2
10
7/9/2004
7/11/2004
7/13/2004
7/15/2004
7/17/2004
7/19/2004
7/21/2004
3.0
2.5
2.0
1.5
1.0
0.5
0.0
dM/dlogD$_{va}$ (µg m^{-3})
Organics
2
1000
6
4
2
100
6
4
2
10
7/9/2004
7/13/2004
7/17/2004
7/21/2004
7
6
5
4
3
2
1
0
dM/dlogD$_{va}$ (µg m^{-3})


CO, AMS Mass 44 Comparison
CO (ppb), Mass 44 Signal (Hz/200)
600
500
400
300
200
100
0
7/8/04 0:00
7/10/04 0:00
7/12/04 0:00
7/14/04 0:00
7/16/04 0:00
7/18/04 0:00
7/20/04 0:00
7/22/04 0:00
GMT
CO
AMS Mass 44


Ammonium
Nitrate
Sulphate
Organics
Mass Concentration (µg m-3)
8
6
4
2
0
7/9/2004
7/11/2004
7/13/2004
7/15/2004
7/17/2004
7/19/2004
7/21/2004
Date and Time


Chloride
Mass Concentration (µg m-3)
50x10-3
40
30
20
10
0
7/9/2004
7/11/2004
7/13/2004
7/15/2004
7/17/2004
7/19/2004
7/21/2004
Date and Time

Targeted WIND Sensing

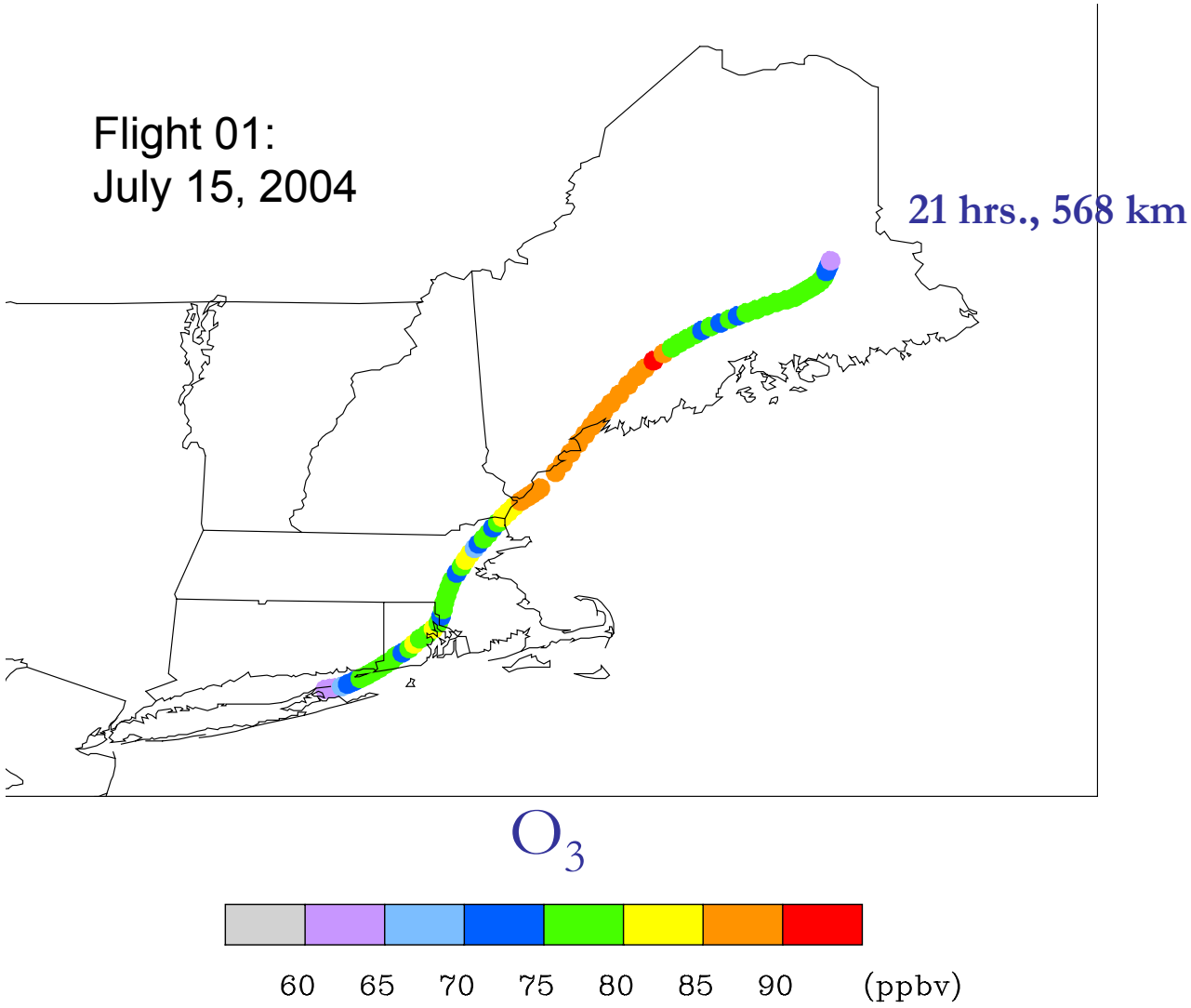
SMART BALLOON

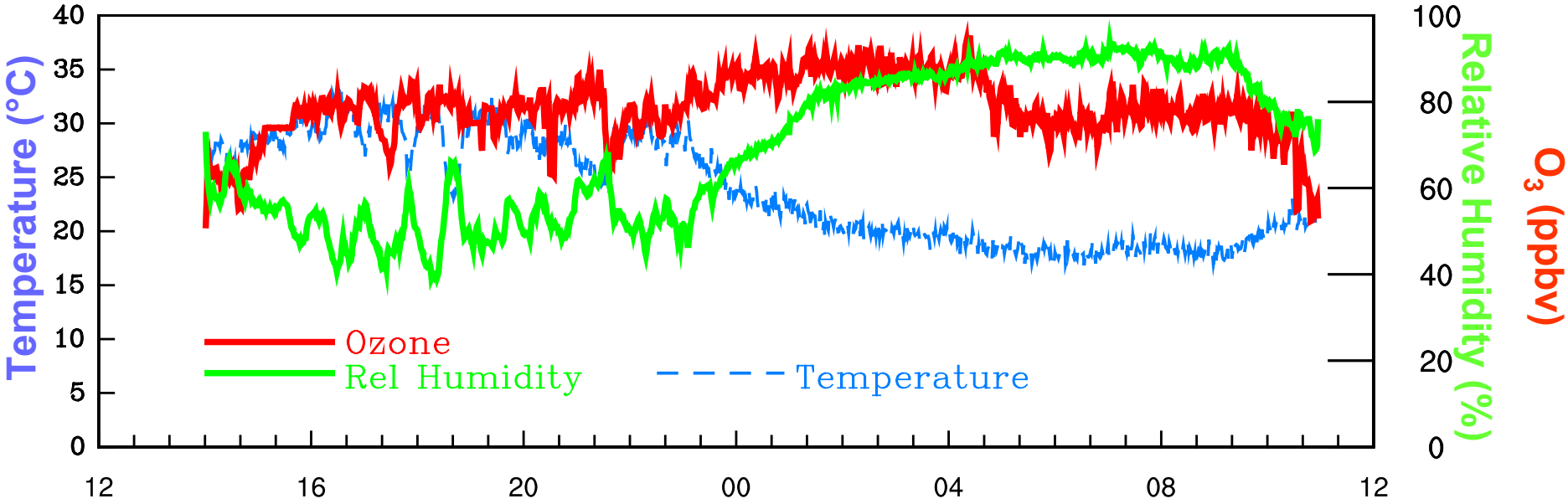
University of Hawaii –
Steven Businger

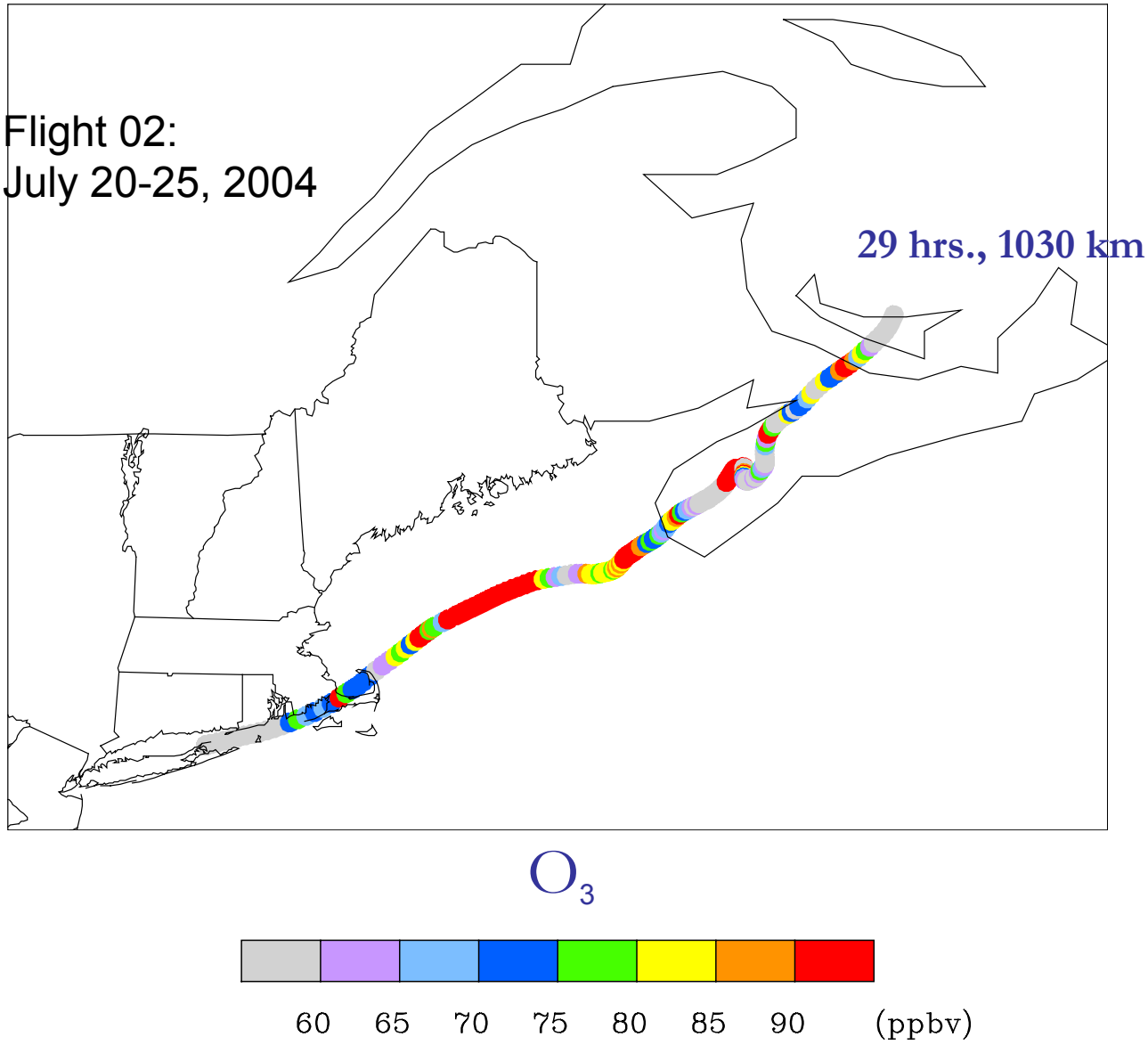
NOAA FRD/ARL –
Randy Johnson

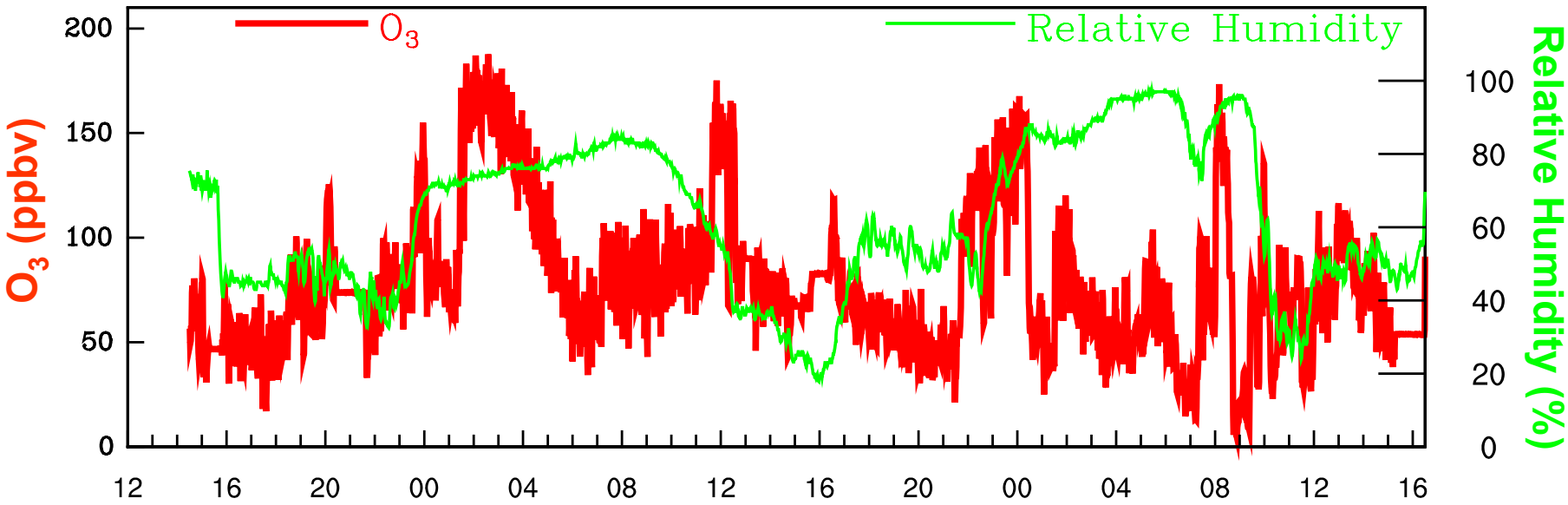
Ozone Sensor

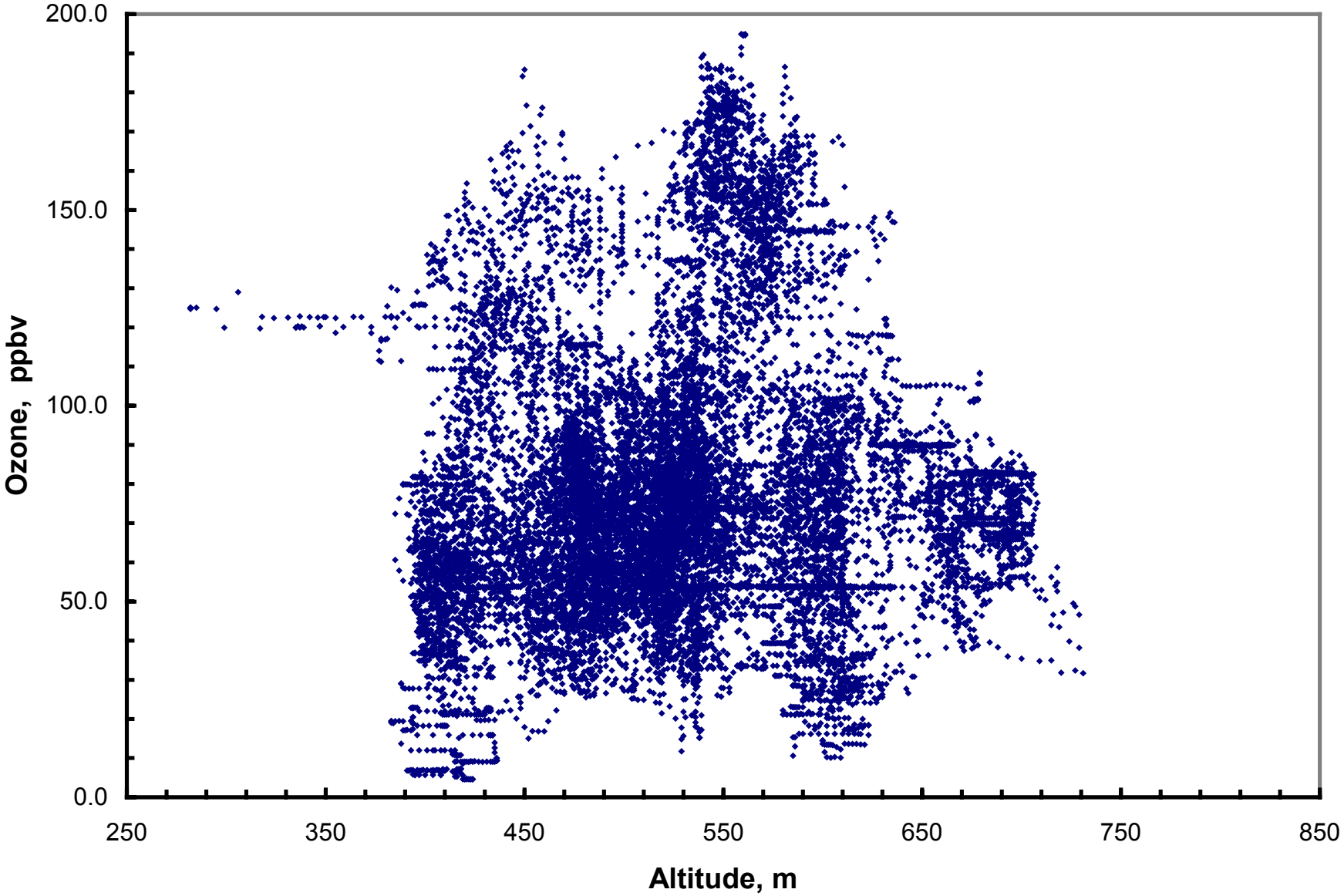
University of
New Hampshire –
Robert Talbot
Don Troop

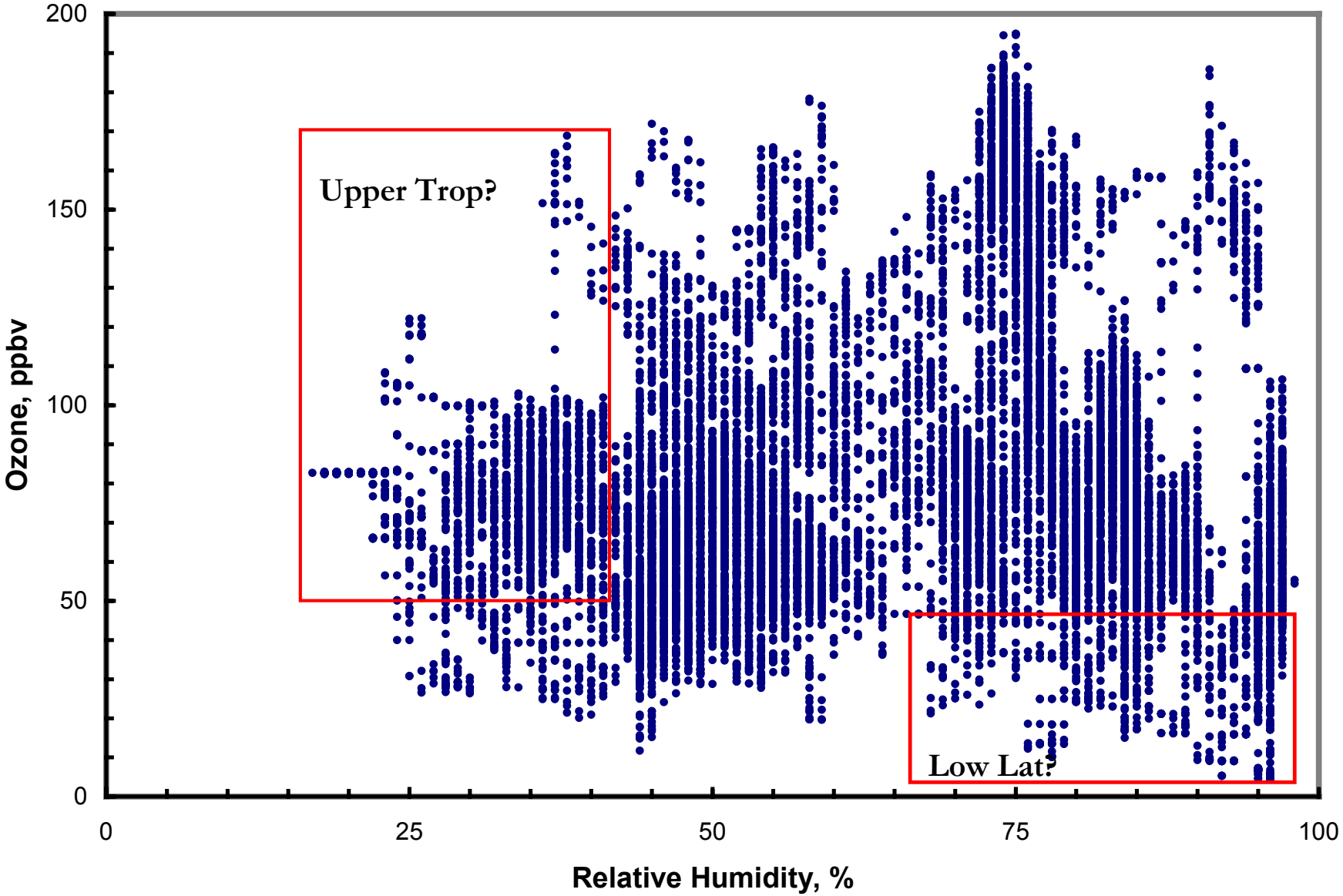

Flight 01:
July 15, 2004
21 hrs., 568 km
O_3
60 65 70 75 80 85 90 (ppbv)


Temperature (°C)
40
35
30
25
20
15
10
5
0
100
80
60
40
20
0
Relative Humidity (%)
O3 (ppbv)
12
16
20
00
04
08
12
Ozone
Rel Humidity
Temperature


Flight 02:
July 20-25, 2004
29 hrs., 1030 km
O_3
60 65 70 75 80 85 90 (ppbv)


O3
Relative Humidity
O3 (ppbv)
Relative Humidity (%)
200
150
100
50
0
100
80
60
40
20
0
12
16
20
00
04
08
12
16
20
00
04
08
12
16


200.0
150.0
100.0
50.0
0.0
Ozone, ppbv
250
350
450
550
650
750
850
Altitude, m


Upper Trop?
Low Lat?
Ozone, ppbv
Relative Humidity, %
0
50
100
150
200
0
25
50
75
100