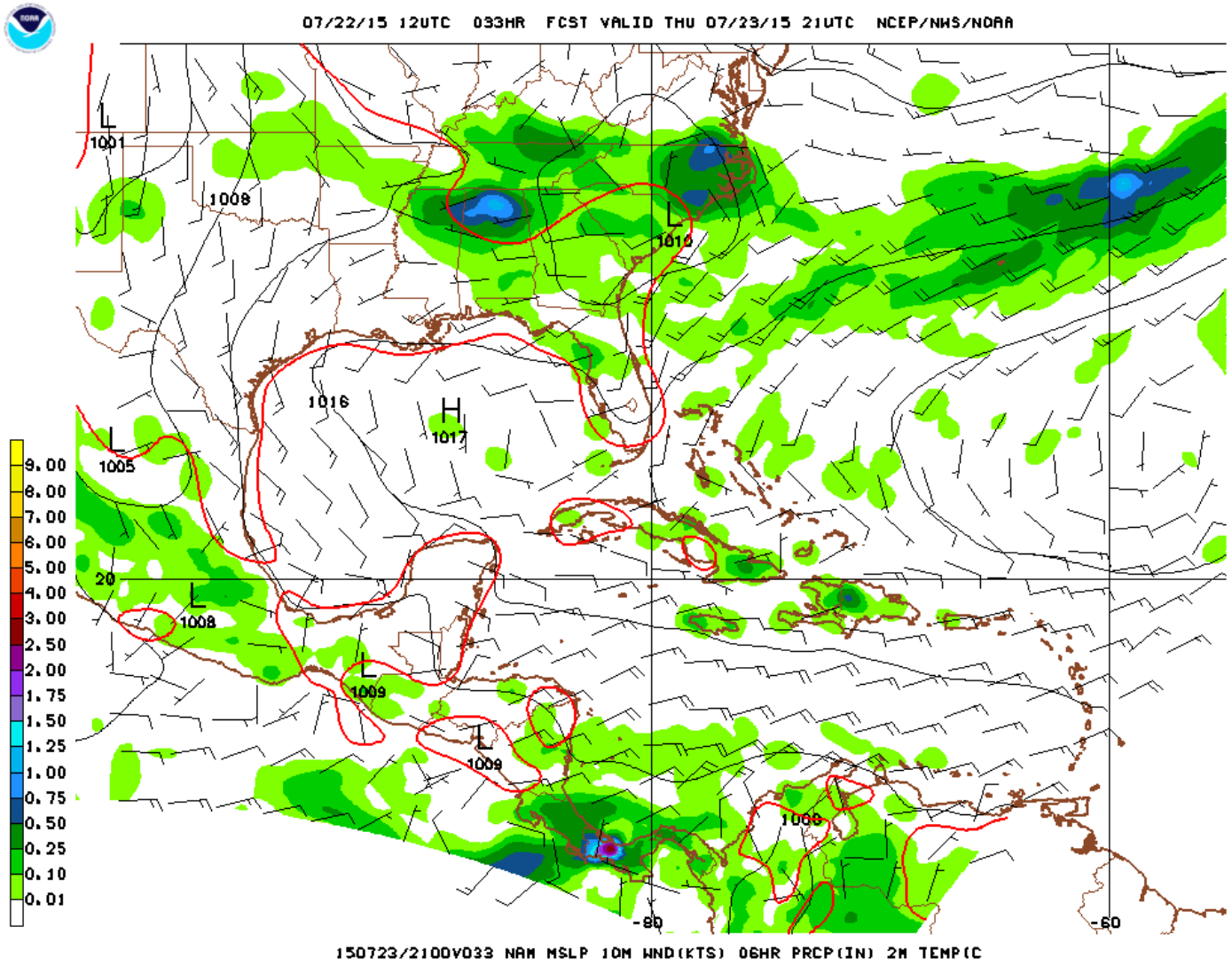
National Air Quality Focus Group Workshop

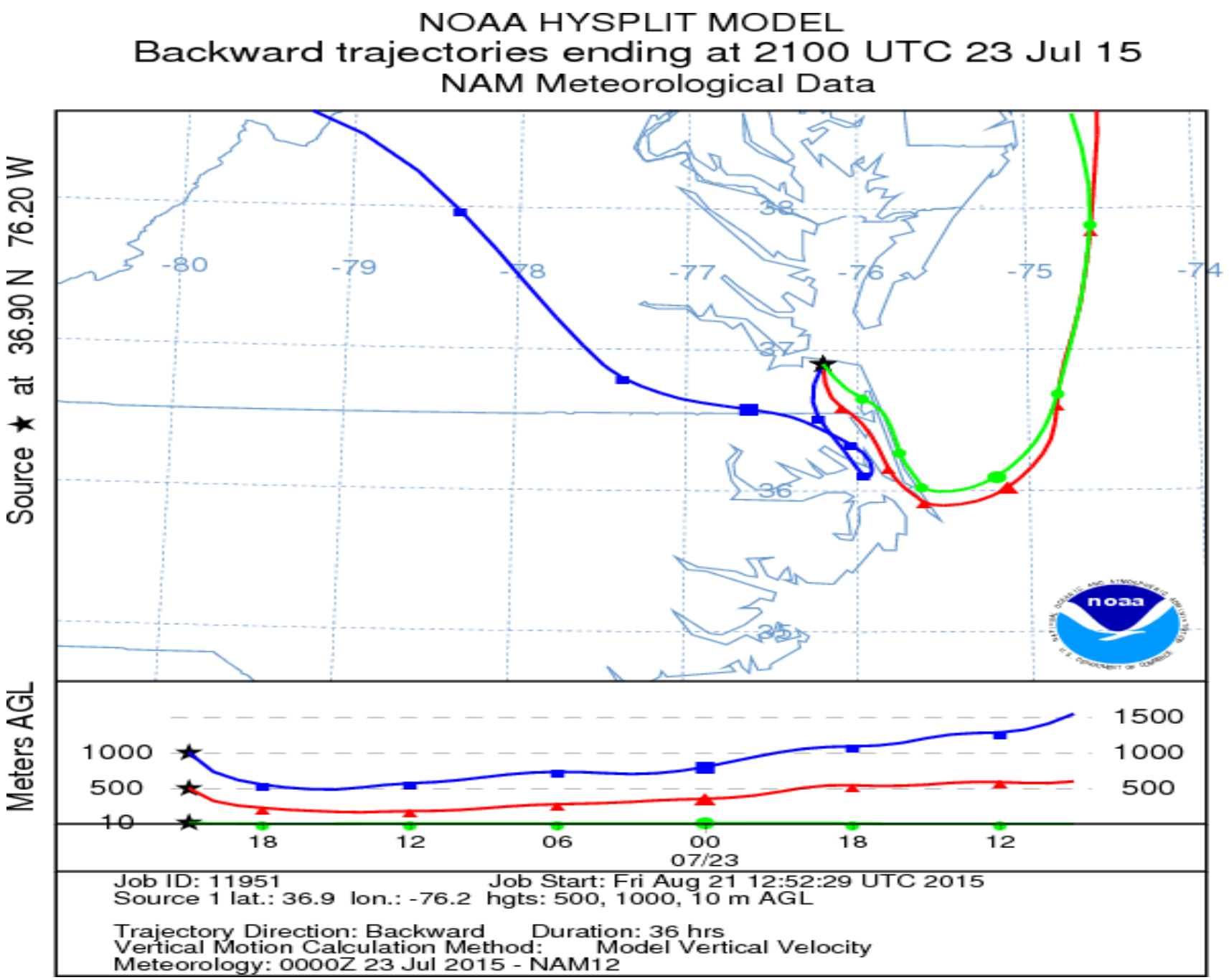
Dan Salkovitz

Virginia Department of Environmental Quality

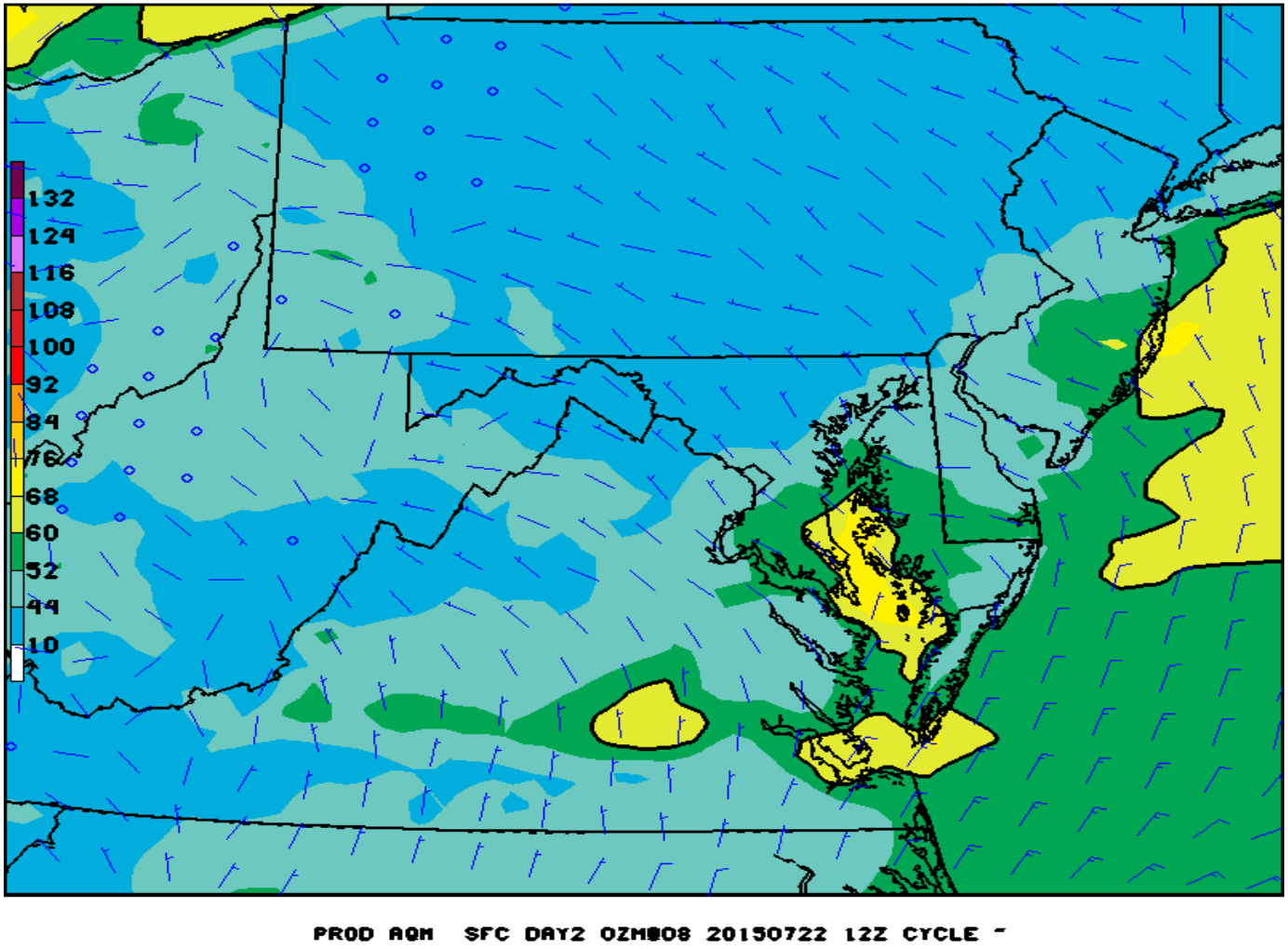
July 23, 2015


07/22/15 12UTC 033HR FCST VALID THU 07/23/15 21UTC NCEP/NWS/NOAA
1001
1008
1012
1016
1017
1005
1008
1009
1009
1008
9.00
8.00
7.00
6.00
5.00
4.00
3.00
2.50
2.00
1.75
1.50
1.25
1.00
0.75
0.50
0.25
0.10
0.01
20
-80
-60
150723/2100V033 NAM MSLP 10M WND(KTS) 06HR PRCP(IN) 2M TEMP(C

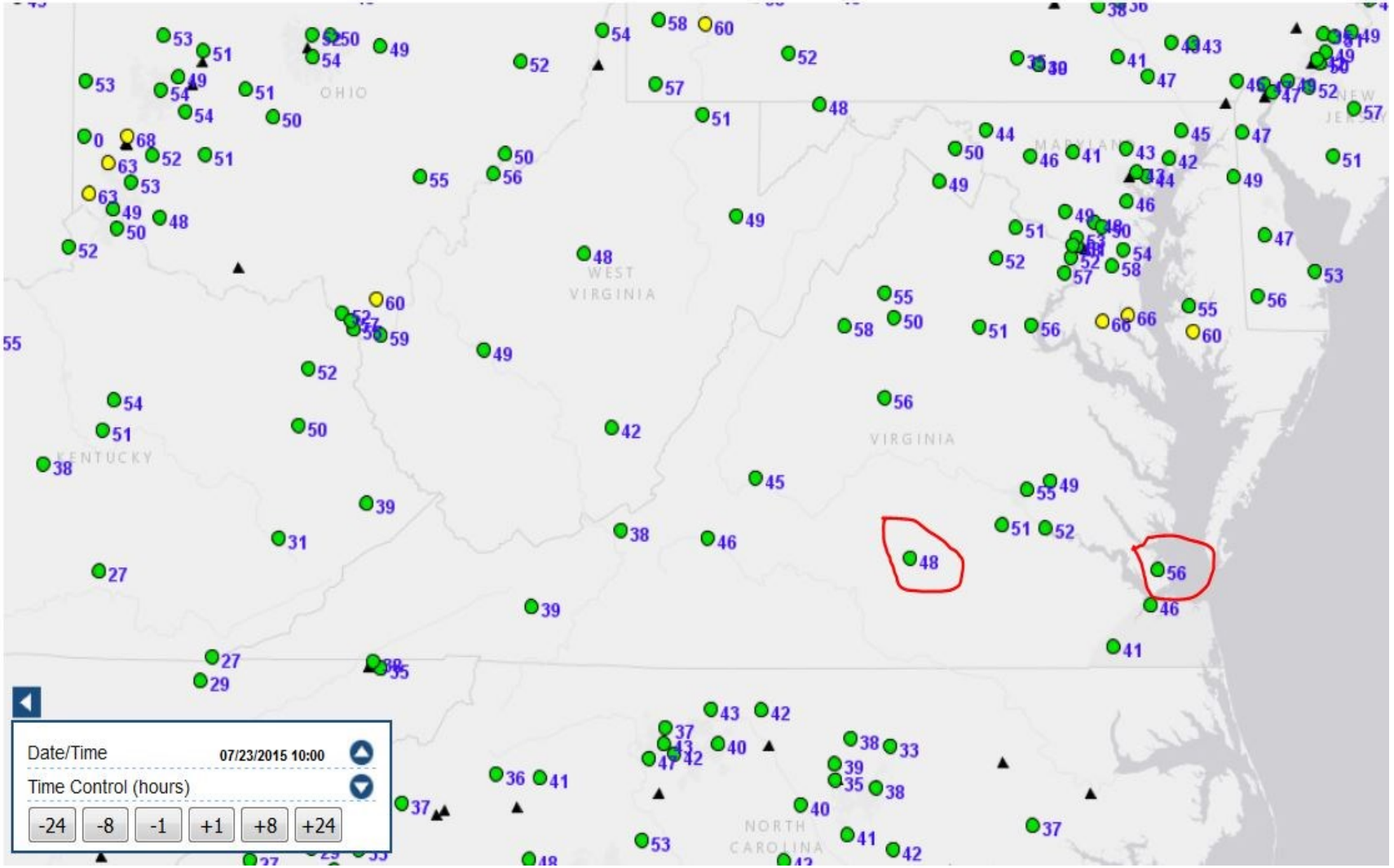
```
KORF   NAM MOS GUIDANCE    7/22/2015  1200 UTC
DT /JULY 22/JULY 23                 /JULY 24                 /JULY 25
HR   18 21 00 03 06 09 12 15 18 21 00 03 06 09 12 15 18 21 00 06 12
N/X                    72             85             71          89    71
TMP  85 85 80 76 74 73 76 82 83 81 77 75 73 72 76 82 87 87 81 74 76
DPT  64 63 64 66 67 68 69 68 67 67 68 68 67 65 64 60 59 59 61 64 64
CLD  CL CL CL CL SC BK OV OV OV OV OV OV OV OV FW CL FW FW CL CL CL
WDR  03 04 13 20 21 22 24 04 06 12 15 15 08 06 05 04 05 05 12 16 03
WSP  06 05 03 03 02 03 02 04 07 06 04 01 02 05 09 11 08 06 04 01 05
P06         2     3     4     11     46     23     5     1     6  1  2
P12                     10           48           26           6     3
Q06         0     0     0     0      3     0      0     0     0  0  0
Q12                     0            1           0            0     0
T06      0/ 0  0/ 1  5/ 1 17/ 3 35/ 7 18/ 3  4/ 1  0/ 1  2/ 4  2/ 1
T12            0/ 1       17/ 3       37/ 8       5/ 1       3/ 5
CIG   8  8  8  8  8  8  7  7  6  6  6  4  4  5  8  8  8  8  8  8  8
VIS   7  7  7  7  7  7  7  7  6  6  7  7  7  7  7  7  7  7  7  7  7
OBV   N  N  N  N  N  N  N  N HZ HZ  N  N  N  N  N  N  N  N  N  N  N

KORF   GFS MOS GUIDANCE    7/22/2015  1200 UTC
DT /JULY 22/JULY 23                 /JULY 24                 /JULY 25
HR   18 21 00 03 06 09 12 15 18 21 00 03 06 09 12 15 18 21 00 06 12
N/X                    72             82             71          84    71
TMP  85 85 80 76 74 73 76 79 80 77 74 74 73 73 75 80 82 82 78 73 75
DPT  65 63 63 64 65 67 70 70 69 69 69 69 70 70 70 68 66 65 65 66 66
CLD  FW FW FW CL CL BK OV BK OV OV OV OV OV OV SC SC FW FW CL CL CL
WDR  02 02 12 17 18 18 13 09 08 13 15 18 16 11 07 03 04 06 11 05 03
WSP  08 05 03 04 05 03 04 06 07 09 06 05 03 02 03 07 09 08 04 02 05
P06         2     2     24     48     52     45     24     3     0  0  4
P12                     24           89           59           3     4
Q06         0     0     0      2     4      4     0      0     0  0  0
Q12                     0            5           3            0     0
T06      0/ 0  4/ 0  5/ 0 20/ 1 45/10 28/ 1  8/ 0  1/ 0  4/ 0  0/ 0
T12            4/ 0       25/ 2       46/10       8/ 0       4/ 0
CIG   8  8  8  8  8  8  7  7  6  6  6  6  6  7  7  8  8  8  8  8  8
VIS   5  5  6  6  7  5  5  5  7  7  7  7  7  7  5  7  7  7  7  7  7
OBV  HZ HZ HZ HZ  N BR BR BR  N  N  N  N  N  N HZ  N  N  N  N  N  N
```

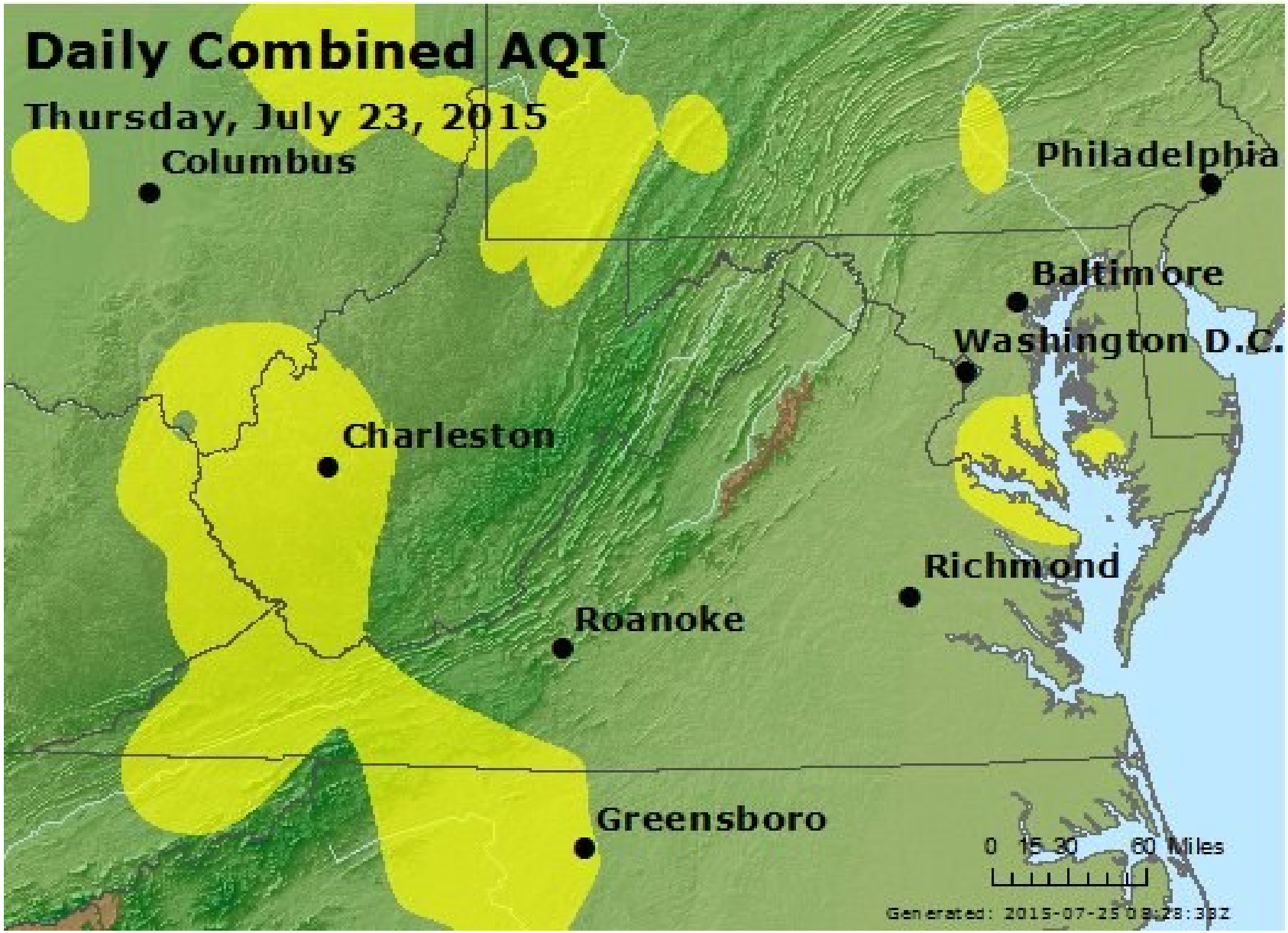

NOAA HYSPLIT MODEL
Backward trajectories ending at 2100 UTC 23 Jul 15
NAM Meteorological Data
Source ★ at 36.90 N 76.20 W
-80
-79
-78
-77
-76
-75
-74
38
37
36
35
noaa
Meters AGL
1000
500
10
1500
1000
500
18
12
06
00
18
12
07/23
Job ID: 11951
Job Start: Fri Aug 21 12:52:29 UTC 2015
Source 1 lat.: 36.9 lon.: -76.2 hgts: 500, 1000, 10 m AGL
Trajectory Direction: Backward
Duration: 36 hrs
Vertical Motion Calculation Method:
Model Vertical Velocity
Meteorology: 0000Z 23 Jul 2015 - NAM12

NOAA 12z Prod



July 23, 2015 8-hour ozone concentrations




Daily Combined AQI
Thursday, July 23, 2015
Columbus
Philadelphia
Baltimore
Washington D.C.
Charleston
Richmond
Roanoke
Greensboro
0 15 30 60 Miles
Generated: 2015-07-25 08:28:38Z

12z NOAA Ozone Model and Observed Ozone, Richmond, Virginia