

Availability of regional air quality forecast model results for Chebogue Point during the summer of 2004

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▪ Background of models available

Real-time model verification product:

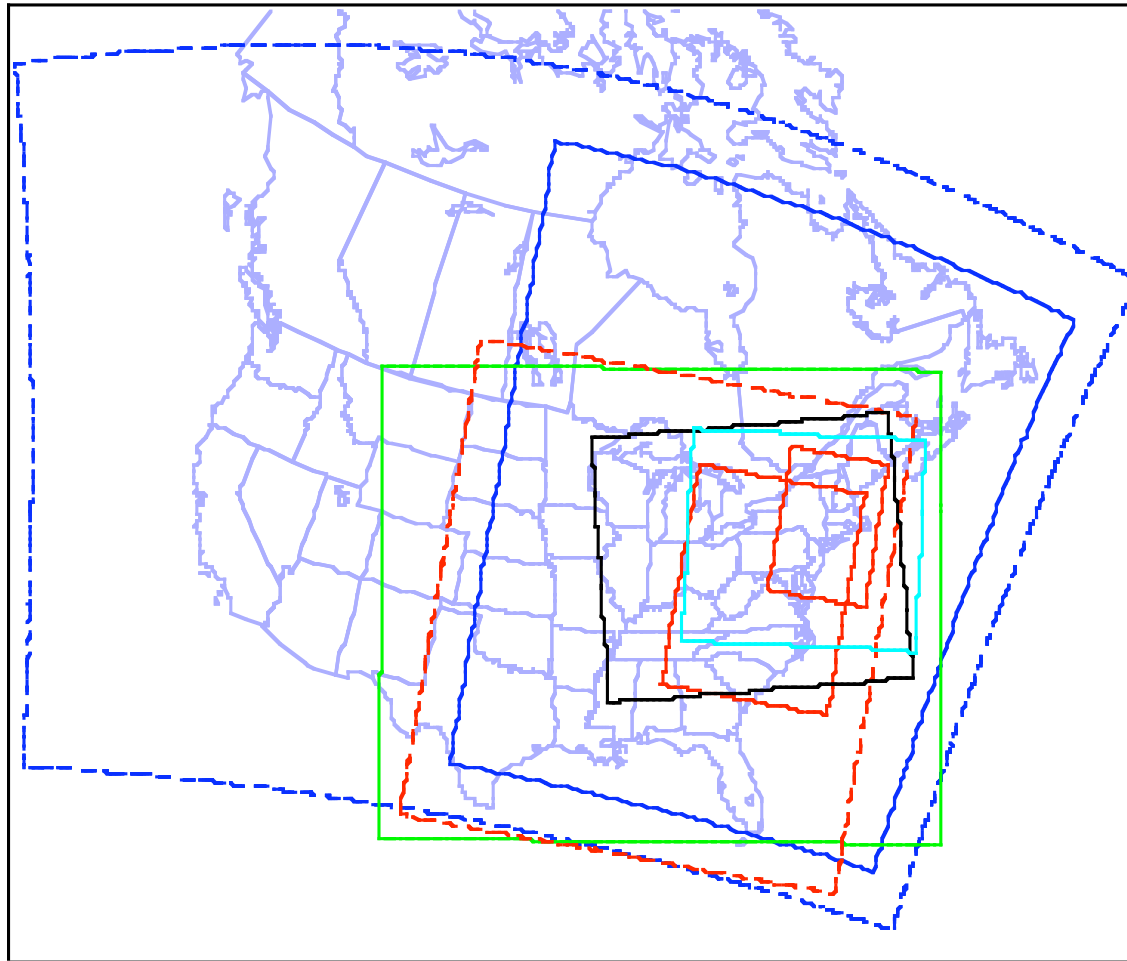
www.etl.noaa.gov/programs/2004/neaqs/verification

15 surface stations (surface and upper air) forecasts and comparisons

Ensemble O₃ forecast (also bias-corrected)

Ron Brown (ship and upper air)

Domains of models available during 2004



Models available
For Chebogue Point:

AURAMS (42 km)
CHRONOS (21 km)
STEM (12 km)
WRF/CHEM (27 km)

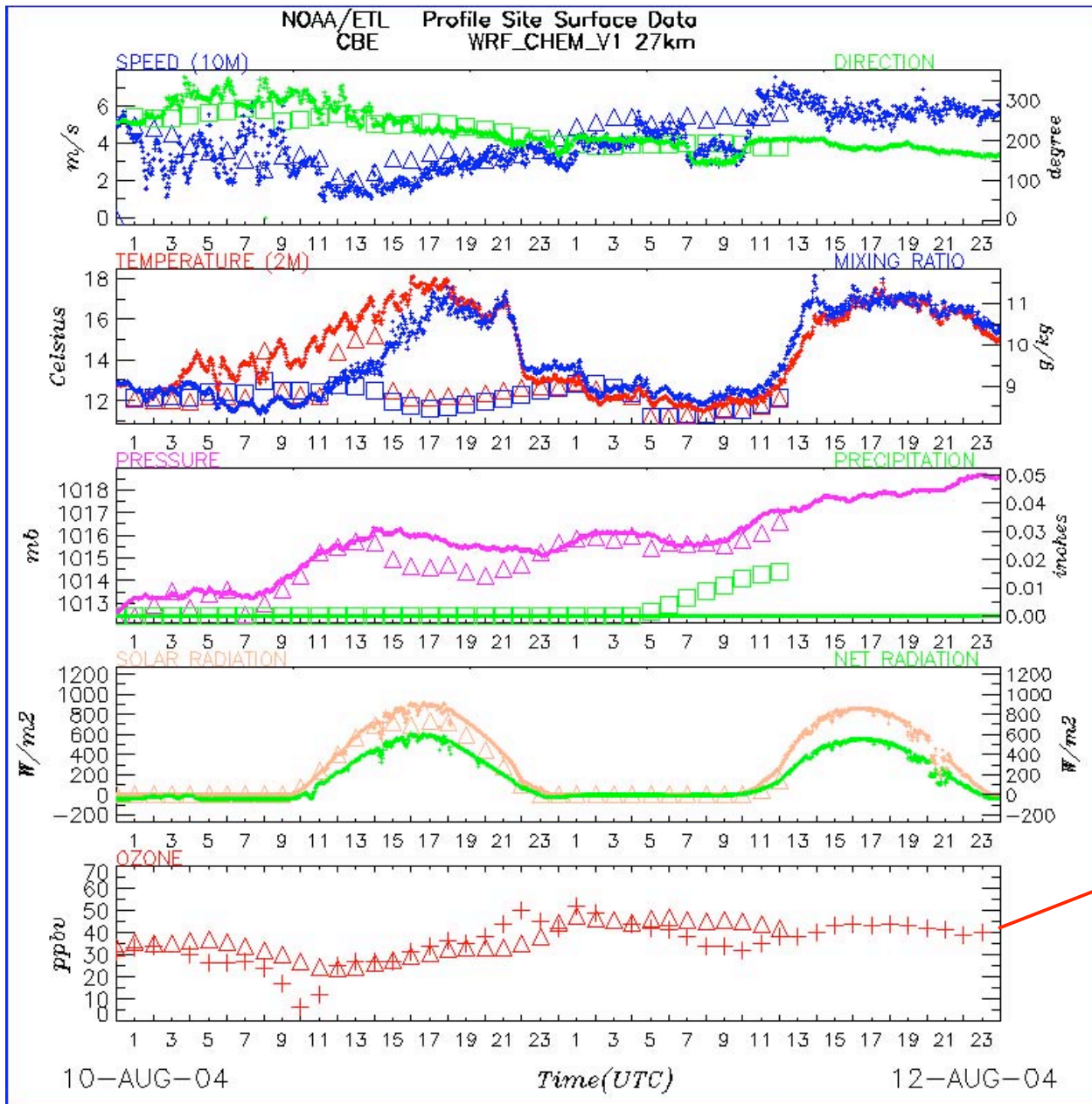
In a month or two:
CMAQ/ETA (12km)
(3x developmental)

- | | |
|------------------------------------------|---------------------------------------|
| — NCEP/NWS, CMAQ/ETA, 12km res. | — U of Iowa, STEM-2K3, 12km res. |
| - - - Can. Met. Srv., CHRONOS, 21km res. | - - - Baron AMS, MAQSIP-RT, 45km res. |
| — Can. Met. Srv., AURAMS, 42km res. | — Baron AMS, MAQSIP-RT, 15km res. |
| — NOAA/FSL, WRF_CHEM, 27km res. | |

Example of Real-time forecast/comparison product - surface

Aug 10, 2004

WR/CHEM-1
model

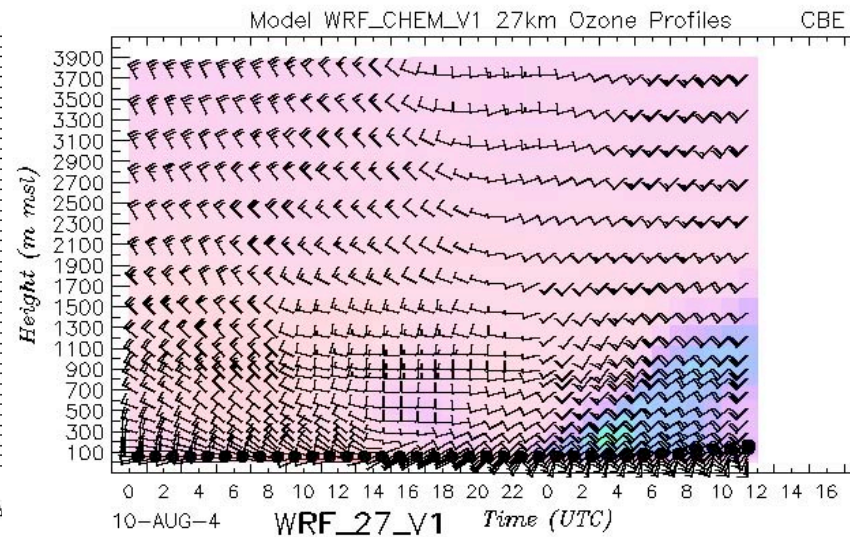
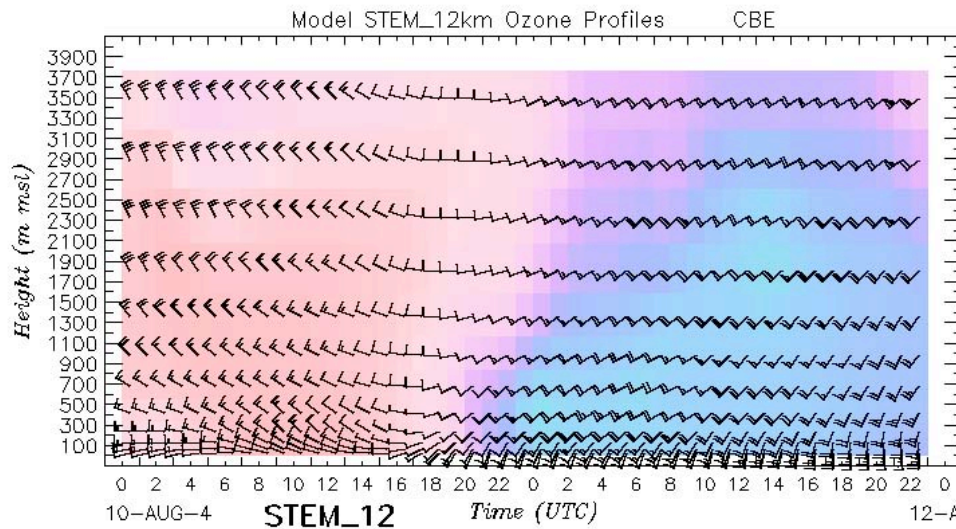
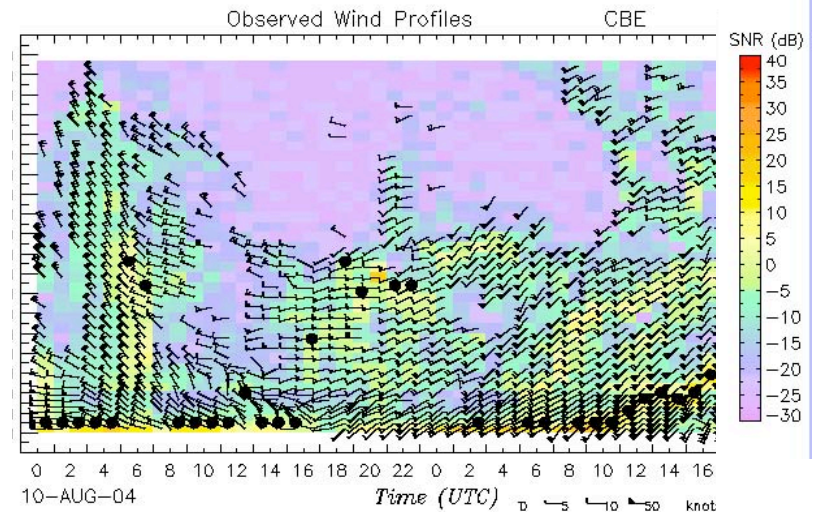
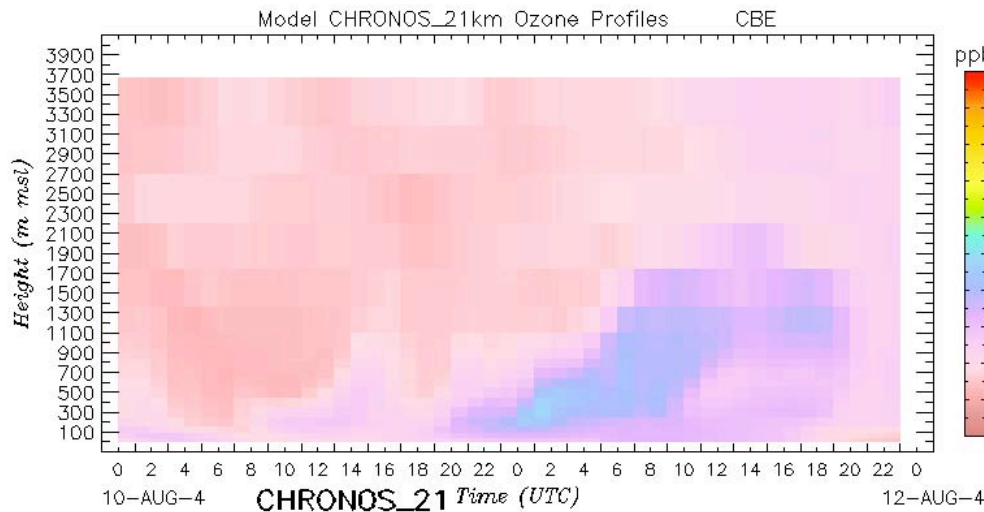


O₃ from AIRNow
Network (real-time)

Open symbols - model

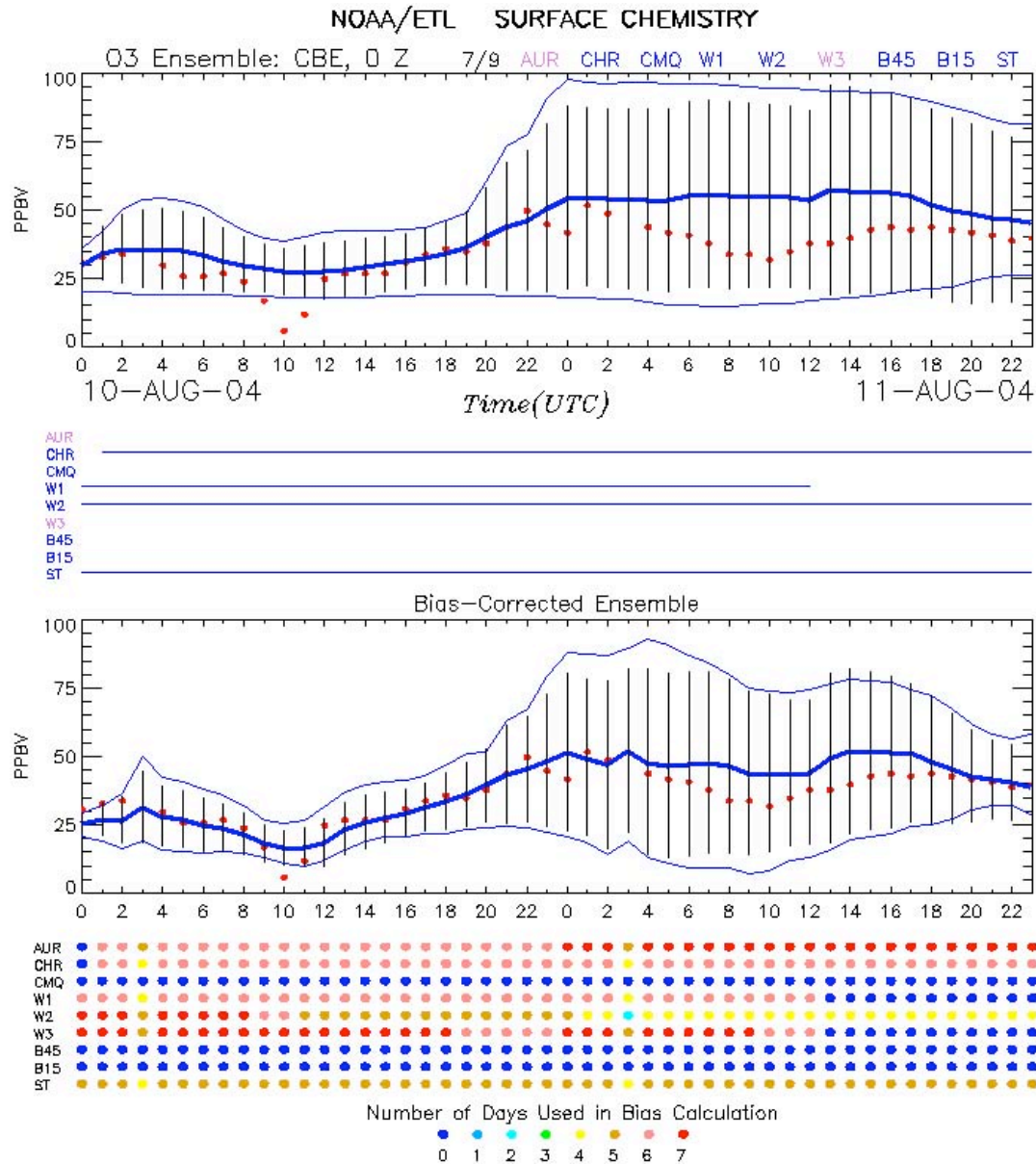
Example of Real-time forecast/comparison product - upper air

August 10, 2004

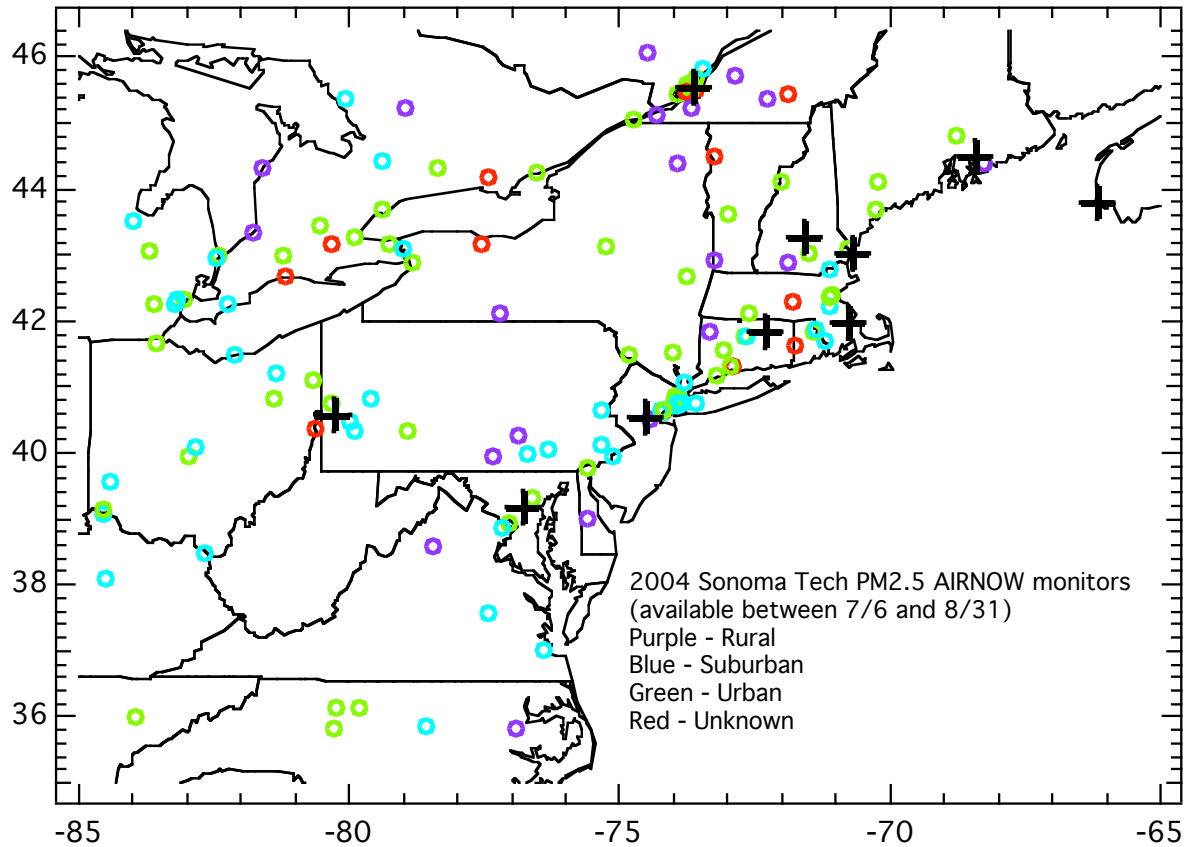


Example of Real-time forecast/comparison product - Ensemble O₃

Aug 10, 2004

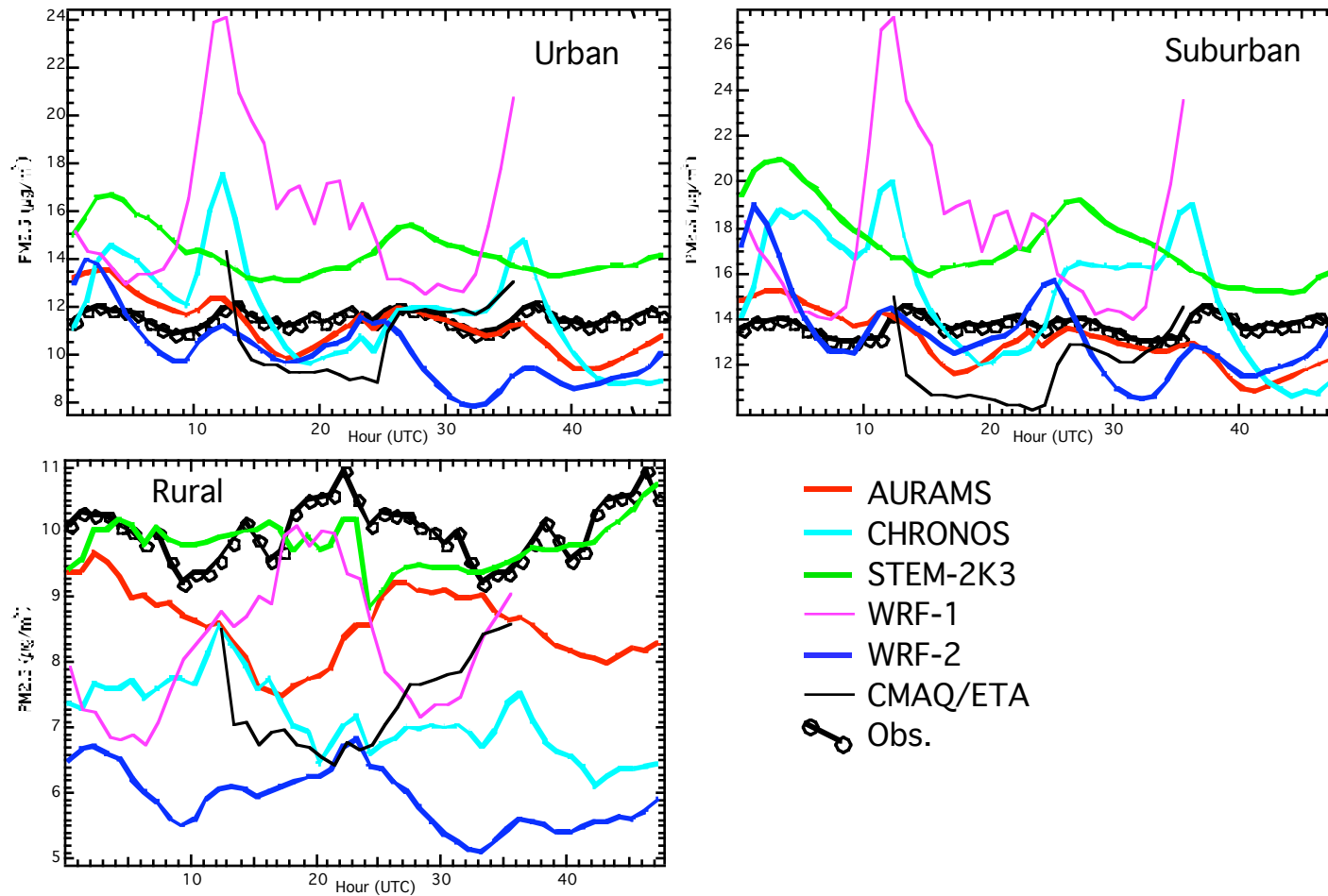


AIRNow network PM2.5 monitors



Crosses show the location
of wind profilers

PM2.5 Average Diurnal Profiles, summer 2004, in NE U.S.



STEM and WRF-2 have same emissions inventory: Why are they so different?

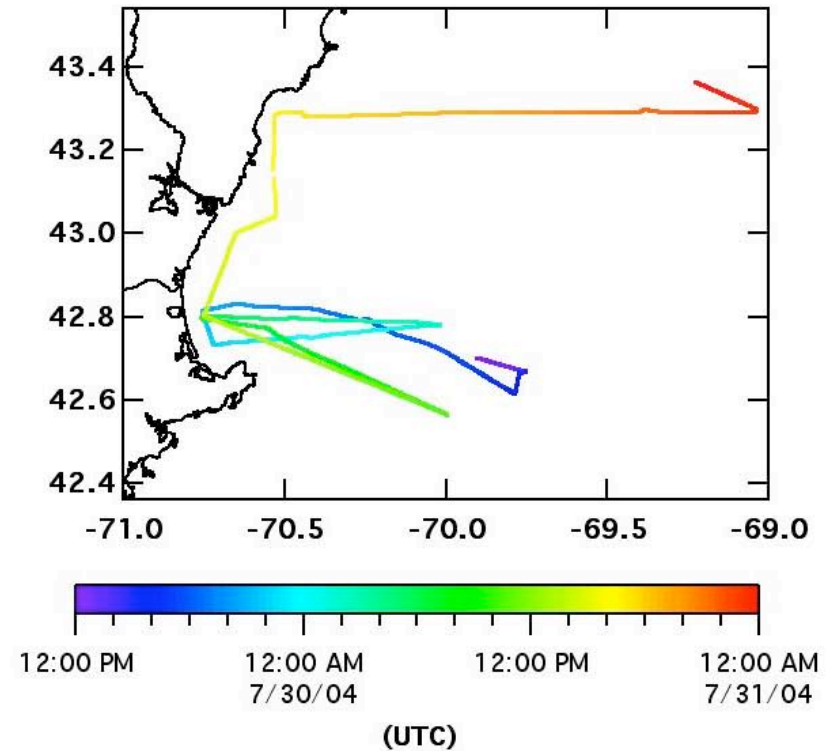
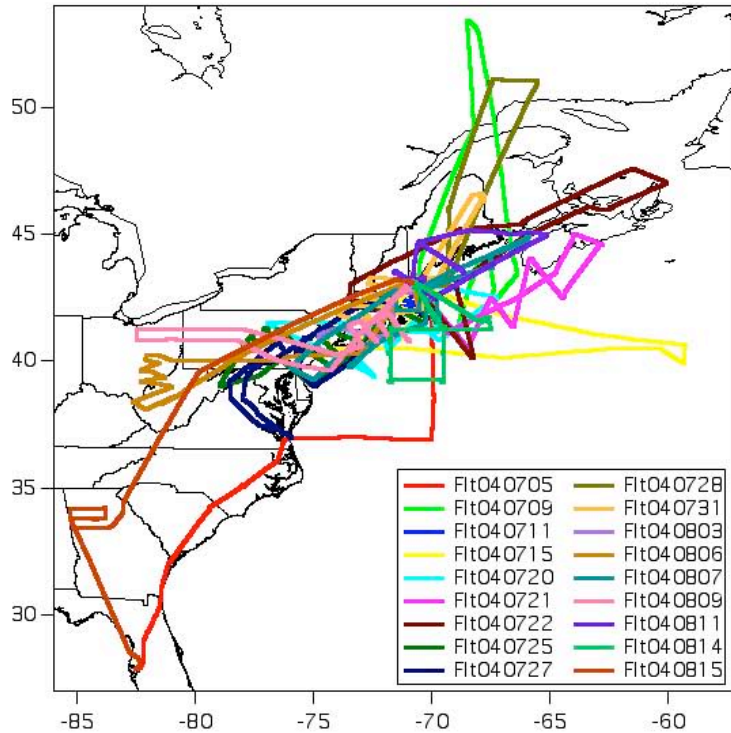
Web-page for Ron Brown and NOAA P3 model comparisons: <http://niwot.al.noaa.gov:8088/~stu>

NOAA Aeronomy Lab, Theoretical Aeronomy Division

ICARTT/NEAQS 2004 - Air Quality Forecast Model Verification Project (Stu McKeen)

[NOAA P3 Summary Statistics](#)

[Ron Brown, 7/07/04 - 7/23/04](#)
[Ron Brown, 7/27/04 - 8/12/04](#)



This page maintained by: [Stu McKeen](#)
NOAA AERONOMY LABORATORY

Model variables available for Comparison with Chebogue Pt. data

gas phase chemistry

	AURAMS	CHRONOS	SIEM	WRF-2
O ₃	X	X	X	X
CO	O	O	X	X
NO	X	X	X	X
NO _x	X	X	X	X
NO _y	X	X	X	X
PAN	X	X	X	X
Isoprene	X	X	X	X
SO ₂	X	X	X	X
NO ₃	X	X	O	X
N ₂ O ₅	X	X	O	X
CH ₃ CHO	X	O	O	X
Toluene	O	X	O	X

aerosols and radiation

	AURAMS	CHRONOS	SIEM	WRF-2
Asol SO ₄	X	X	X	X
Asol NH ₄	X	O	O	X
Asol OC	X	X	X	X
Asol EC	X	O	X	X
Asol NO ₃	X	O	O	X
JNO ₂	O	O	O	X
T	X	X	X	X
P	X	O	X	X
H ₂ O	X	X	X	X
winds	X	X	X	X
SST	X	O	O	X
Radiation	O	O	O	X

Model Products to be placed on Web:

AIRMAP and Chebogue Pt. results
Summary Statistics for all available variables

Additional products available by request:

Model Film loops
Text output of model data