

Air Quality Forecast Models...

**What Do State & Local Forecasters
Need?**

**NOAA – EPA Air Quality Forecast Model Discussion
San Antonio, Texas
February 2, 2003**

Panel

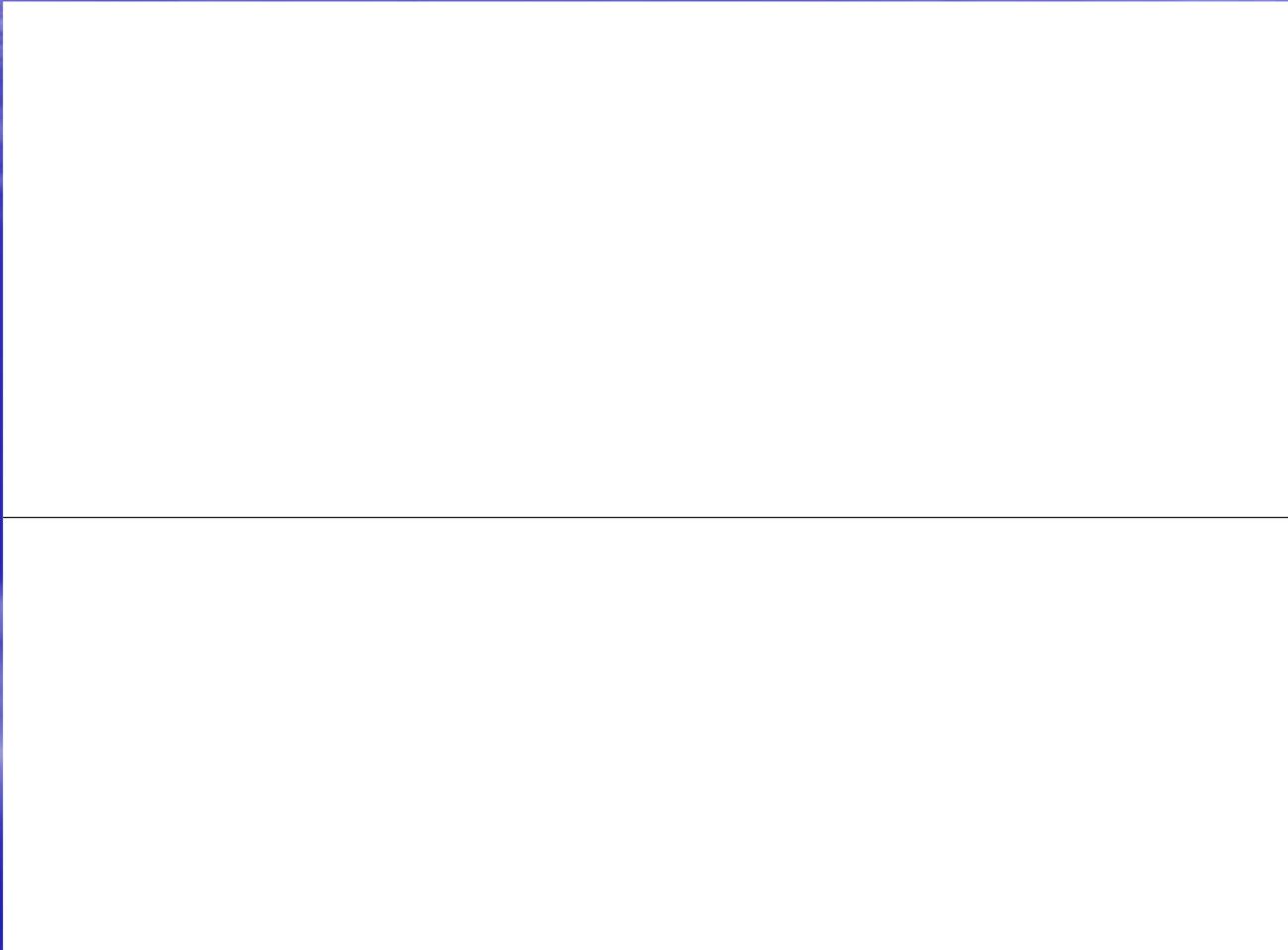
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 - **Paula Davidson**
 - **Nelson Seaman**
 - **Paul Stokols**
- **EPA**
 - **Chet Wayland**
 - **John White**

Draft AQ Forecast Product Requirements

- **To be used in Summer 2003 for development, testing & evaluation**
- **Options testing by 6/1/04**
- **Operational Summer 2004 (experimental product leading to operational deployment in FY-04)**
- **Forecast system (CMAQ linked to Eta-12)**
 - **1-day time-resolved ozone levels**
 - **1x day, next day forecast for NE Domain**

Forecast Domain

Northeast US (north of 36.5N and east of -82.5W)



Horizontal resolution: NCEP's mesoscale NWP model resolution 12km)

Experimental Products Distribution

- Pushed to EPA's AIRNOW website for further distribution by EPA
- Posted on an NWS/NCEP server where they will be available for research use
- Posted on a server at NWSTOC from which external users can pull data

Experimental Products Delivery Times / Forecast Range

- **Provided in gridded format to EPA by 1730 UTC for the forecast interval extending through the next calendar day (4UTC); optionally available through 12 UTC**
- **Optional update: delivered by 1300 UTC for the forecast interval extending through the next calendar day (4UTC); optionally available through 12 UTC.**

Customer Test Products

- **NWSTOC server (GRIB format)**
 - Forecasted 1-hour and 8-hour ozone (forward) averages, in hourly intervals; for forecast range indicated previously. Optional 3-hourly intervals – showing max values only. Optional 2 additional vertical levels.
- **EPA server (GRIB format)**
 - Provide in categorical form: Eight categories, with binning structure
 - Predicted hourly-average ozone levels for each hour
 - Predicted 8-hour average (avg. stated for 8 forecast hours forward) for each hour

Proposed Bins

	1	2	3	4	5	6	7	8	9	10
1-hr (ppb)	<60	61- 84	85- 99	100- 114	115- 124	125- 144	145- 164	165- 184	185- 204	>205
AQI						125		165		205
8-hr (ppb)	<50	51- 64	65- 74	75-84	85- 94	95- 104	105- 114	115- 124	125- 134	>135
AQI			65		85		105		125	

Summary

Domain	Northeast U.S.
Resolution	12km
Delivery Times	1730 UTC primary next-day forecast valid through 4UTC (next day) Optional 1300 UTC update forecast through 4UTC (next day)
Products	Forecasted surface 1-hr & 8-hr averages Optional 3-hourly intervals Optional 2 vertical layers
Distribution	GRIB format on NWSTOC servers GRIB format on EPA servers in bin structure