

RTMA Displays from NDFD

NDFD Fields at Times Prior to Current Now Populated with RTMA

<http://www.weather.gov/forecasts/graphical/sectors/>

Warnings & Forecasts | Graphical Forecasts | National Maps | Radar | Water | Air Quality | Satellite | Climate

Graphical Forecasts - Upper Mississippi Valley

Public Marine Fire Weather Tropical Hazardous

Daily View | Weekly View | Loops

Image List | Page Help | Metric Units | Key

Go to Region | Zoom In | Get Text Forecast

Mouse over the table below to change the forecast image.

Today	[-12Hrs] [+12Hrs]			
Max/Min Temperature	High			
Probability of Precip.	12 hr. probability			
Weather	8am	11am	2pm	5pm
Temperature	8am	11am	2pm	5pm
Dewpoint	8am	11am	2pm	5pm
Wind Speed & Direction	8am	11am	2pm	5pm
Wind Gust	8am	11am	2pm	5pm
Sky Cover	8am	11am	2pm	5pm
Amount of Precip.	QPF		QPF	
Snow Amount	Snow Amount		Snow Amount	
Wave Height	Wave Height			
Apparent Temperature	8am	11am	2pm	5pm
Relative Humidity	8am	11am	2pm	5pm
Next Image	[Left Arrow] [Right Arrow]			

Table MouseOver Effect On

Temperature(F) Mon Aug 27 2007 8AM EDT
Experimental (Mon Aug 27 2007 12Z)
Real-Time Mesoscale Analysis
Graphic created-Aug 27 9:06AM EDT

Upper Mississippi Valley

Air Quality | Satellite | Climate

Great Lakes

Public Marine Fire Weather Tropical Hazardous

Go to Region | Zoom In | Get Text Forecast

Temperature(F) Mon Aug 27 2007 8AM EDT
Experimental (Mon Aug 27 2007 12Z)
Real-Time Mesoscale Analysis
Graphic created-Aug 27 9:06AM EDT

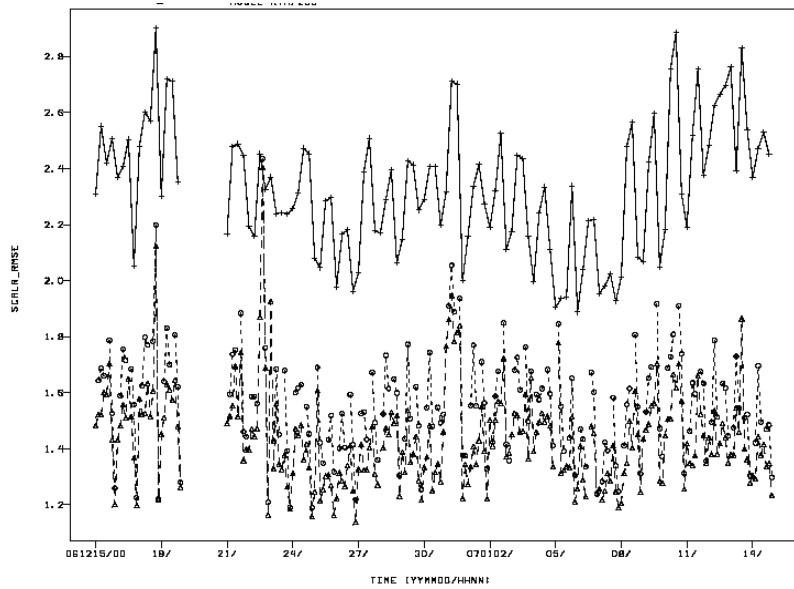
Eastern Great Lakes

RTMA Analysis Fit-to-Obs Is ALWAYS Better Than RUC (+NAM)

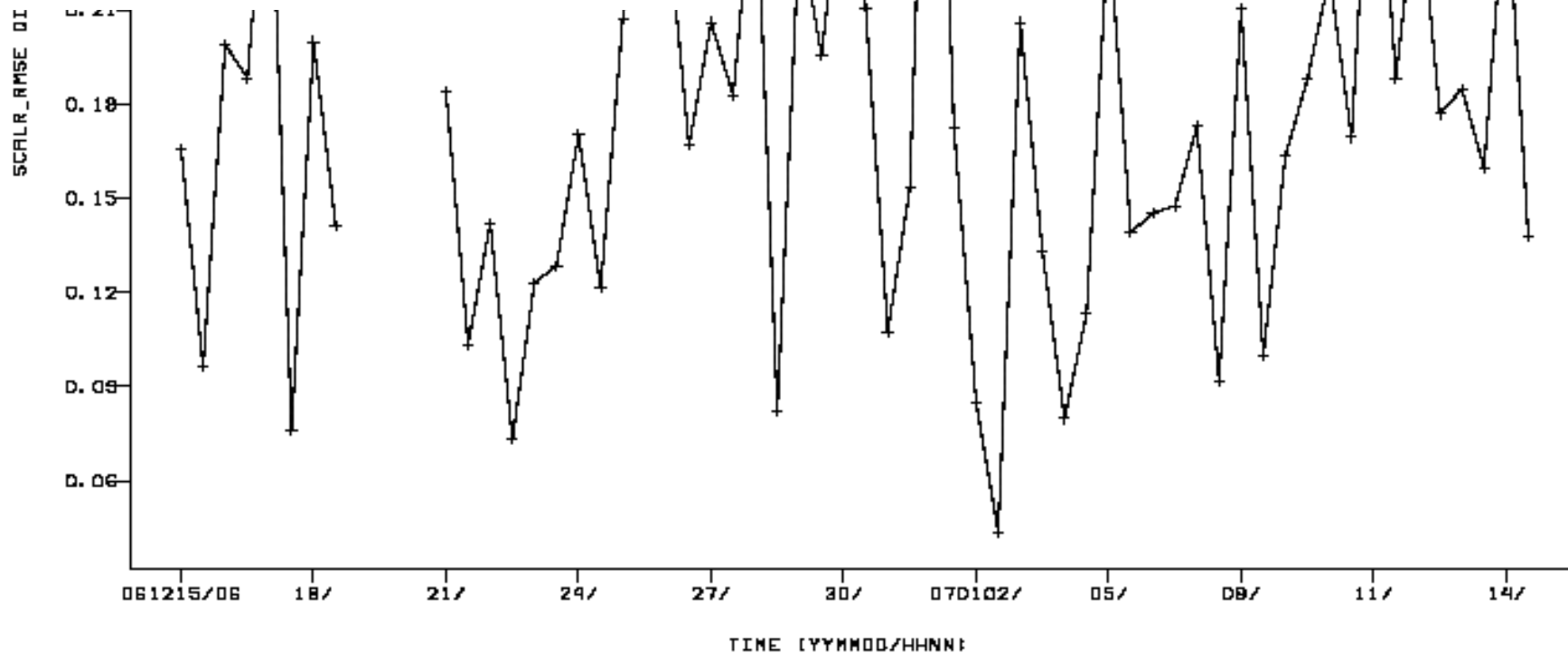
- Note complete absence of any negative values in next three plots of RUCfit - RTMAfit
- Inset displays actual fits for NAM (solid), RUC (dotted) and RTMA (dashed)

Temperature (NAM, RUC, RTMA)

00 V_PNL=ONLYSF V_RBN=0236 LEVEL=SFC
.=RTM/255

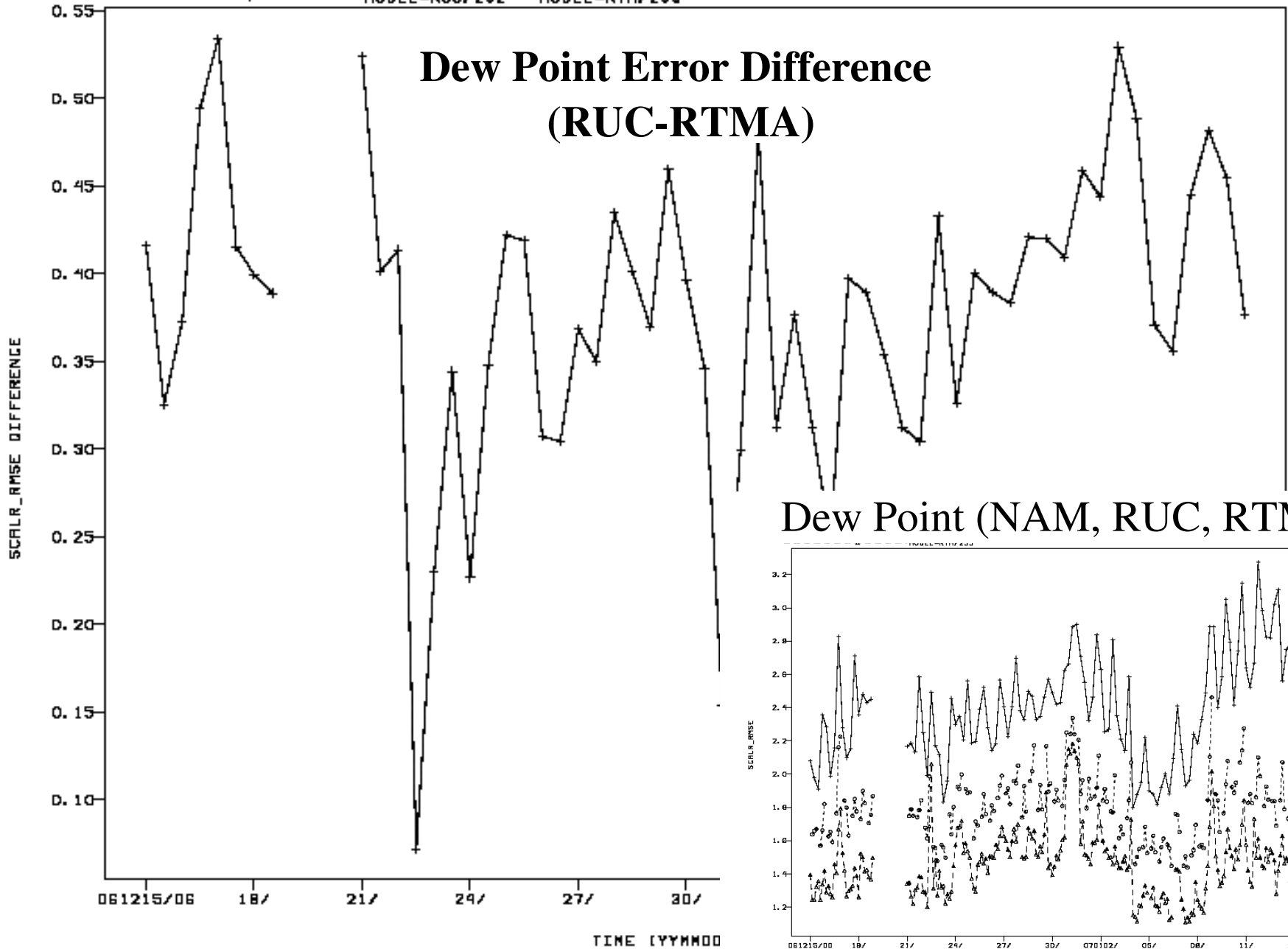


Temperature Error Difference (RUC-RTMA)

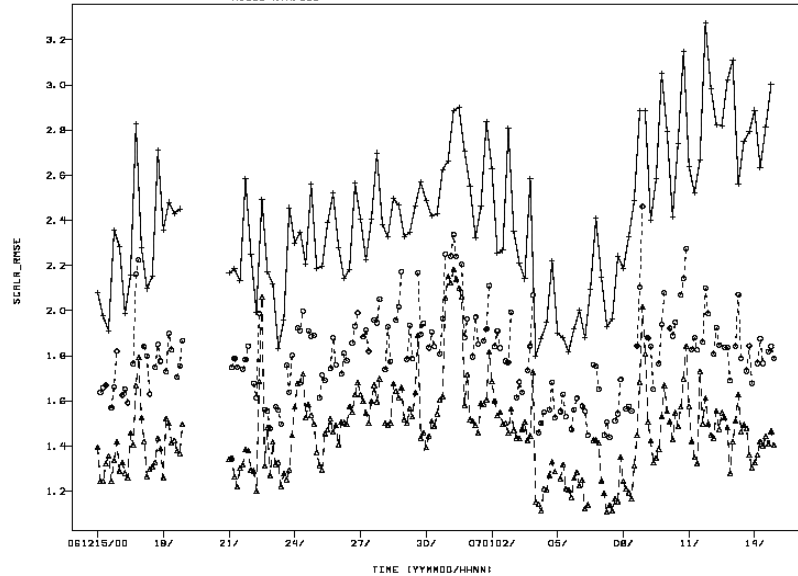


MODEL=RUC/252 - MODEL=RTM/255

Dew Point Error Difference (RUC-RTMA)

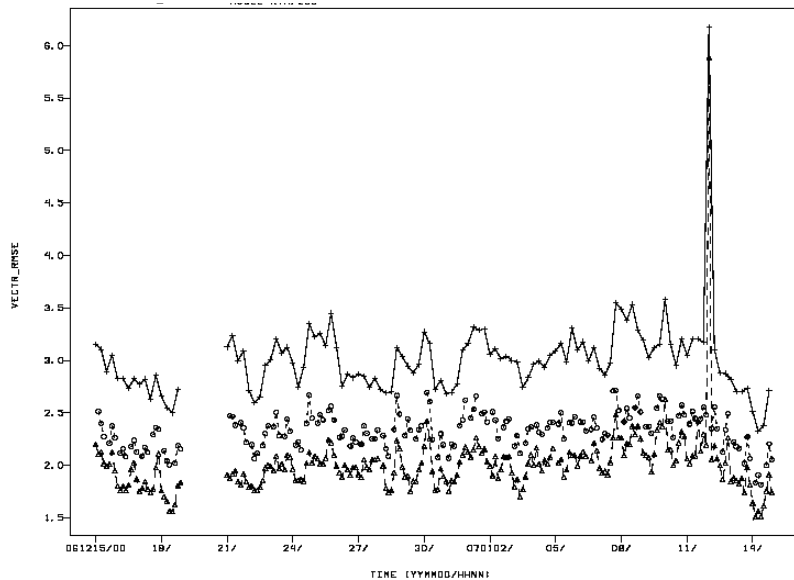


Dew Point (NAM, RUC, RTMA)

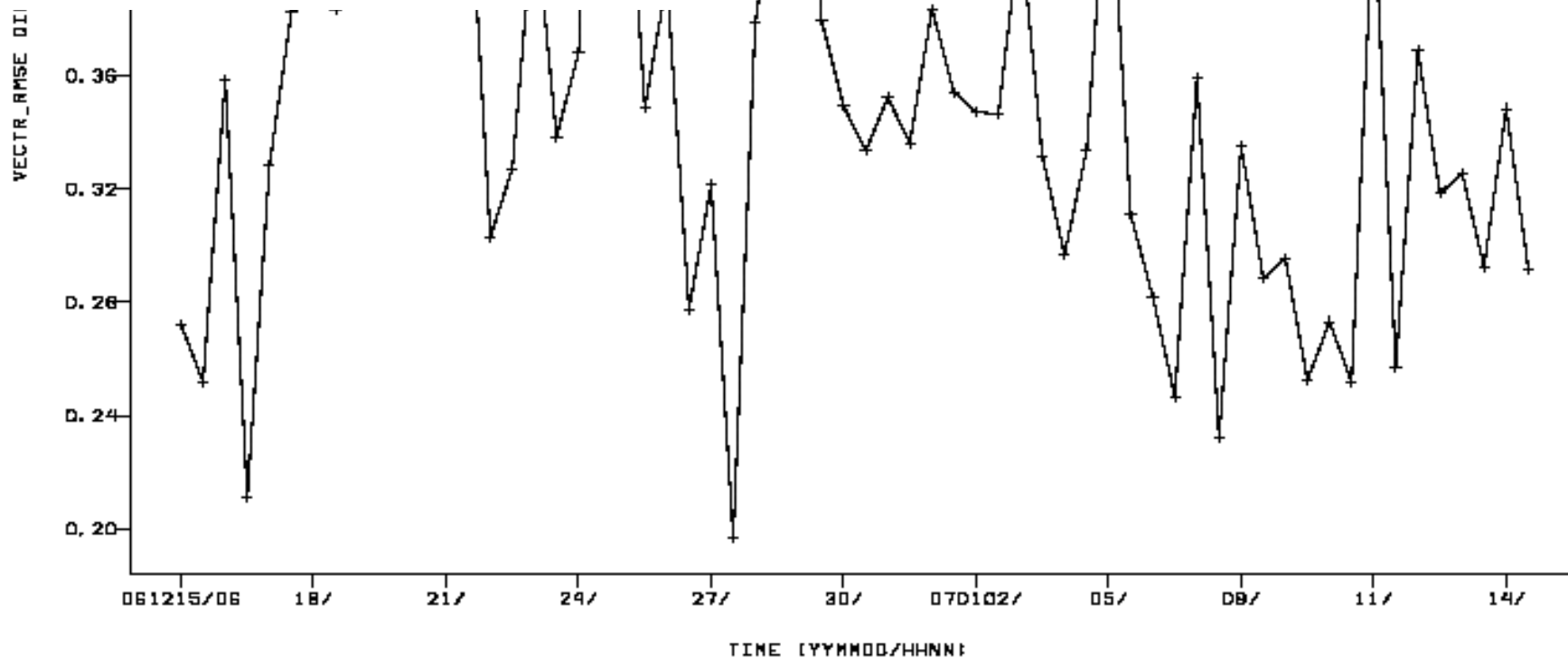


Vector Wind (NAM, RUC, RTMA)

T=00 V_RNL=ONLY9F V_RBN=0236 LEVEL=5FC
.=RTM/255

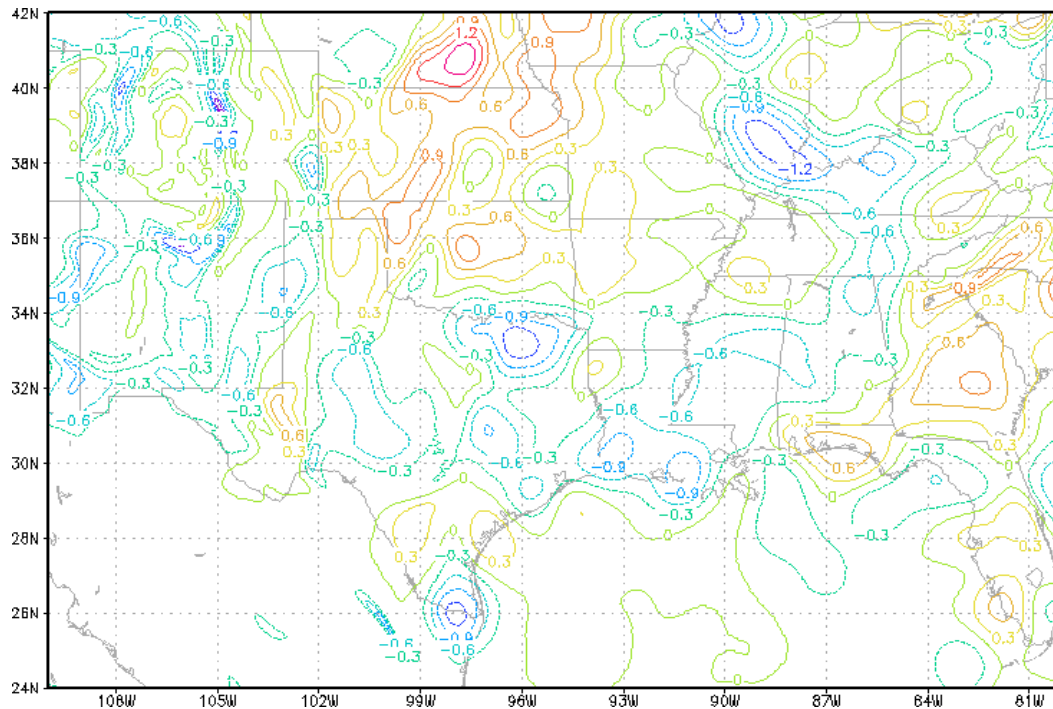


Vector Wind Error Difference (RUC-RTMA)



26 June 2007 RTMA Upgrades

- <http://www.emc.ncep.noaa.gov/mmb/rtma/para>
- Fine-tuned obs and background errors → Analysis is now drawing much closer to the observations
- Reduced spatial scales of the anisotropic filter → more fine scales resolved in the analysis
- **Improved handling of analysis near coasts: Elevation gradient made artificially large in order to obtain sharp background error covariances → Reduced influence of coastal-land temperatures on over-water temperatures**
- Recalibrated observation gross error check
- Dynamic 'reject lists' of observations (especially mesonets) based on gross error checks from previous analyses
- Improved observation operators near coasts so that interpolation uses only grid points of one type (land or water)
- Run-time observation buddy check

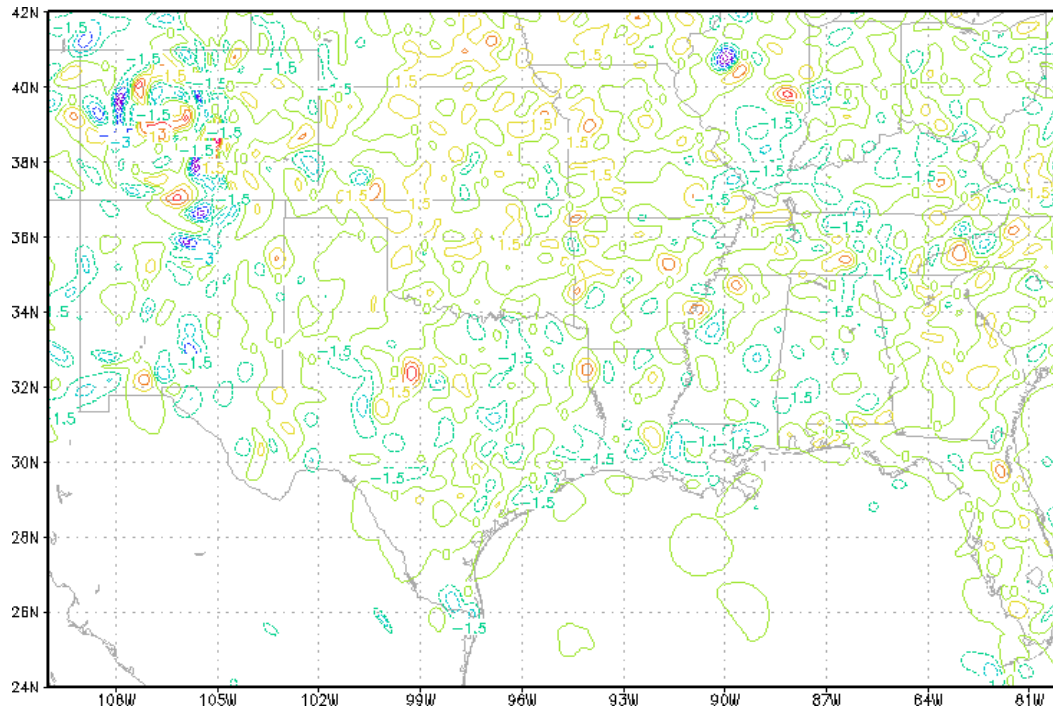


ANALYSIS INCREMENTS OF TEMPERATURE (K) 17z 16 April 2007

Operational RTMA

(cint=0.75 K)

Scales are relatively broad and fit
to obs is looser

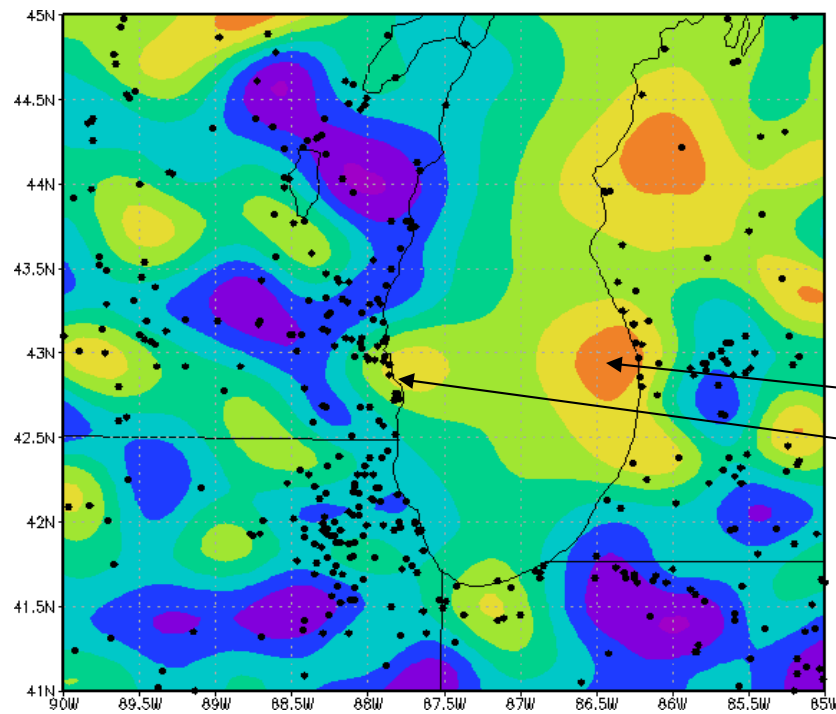


Parallel RTMA

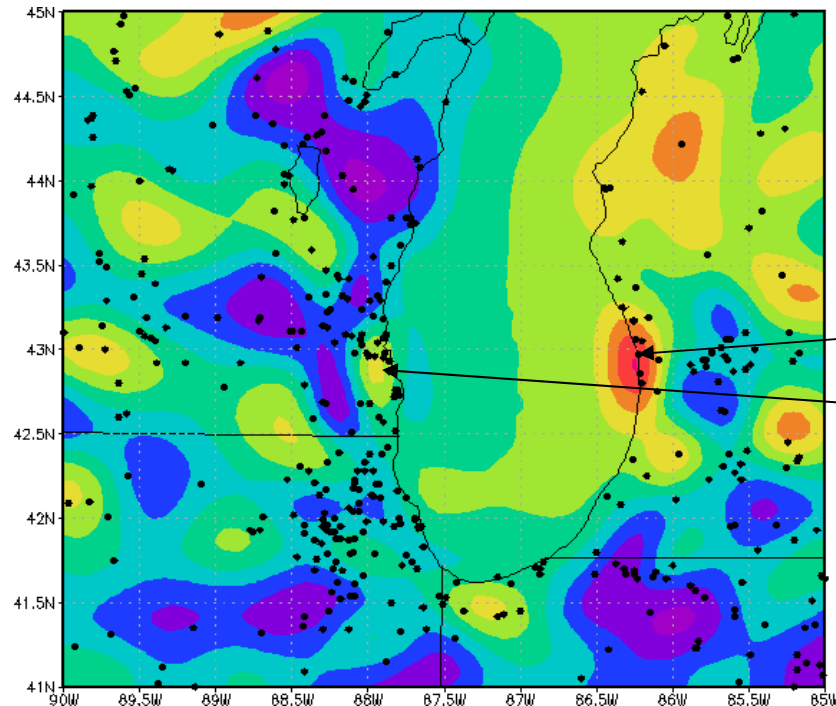
(cint=1.5 K)

Smaller scales and tighter fit to
obs compared with the
operational RTMA

Example of improved treatment of T-analysis near boundaries of land/water



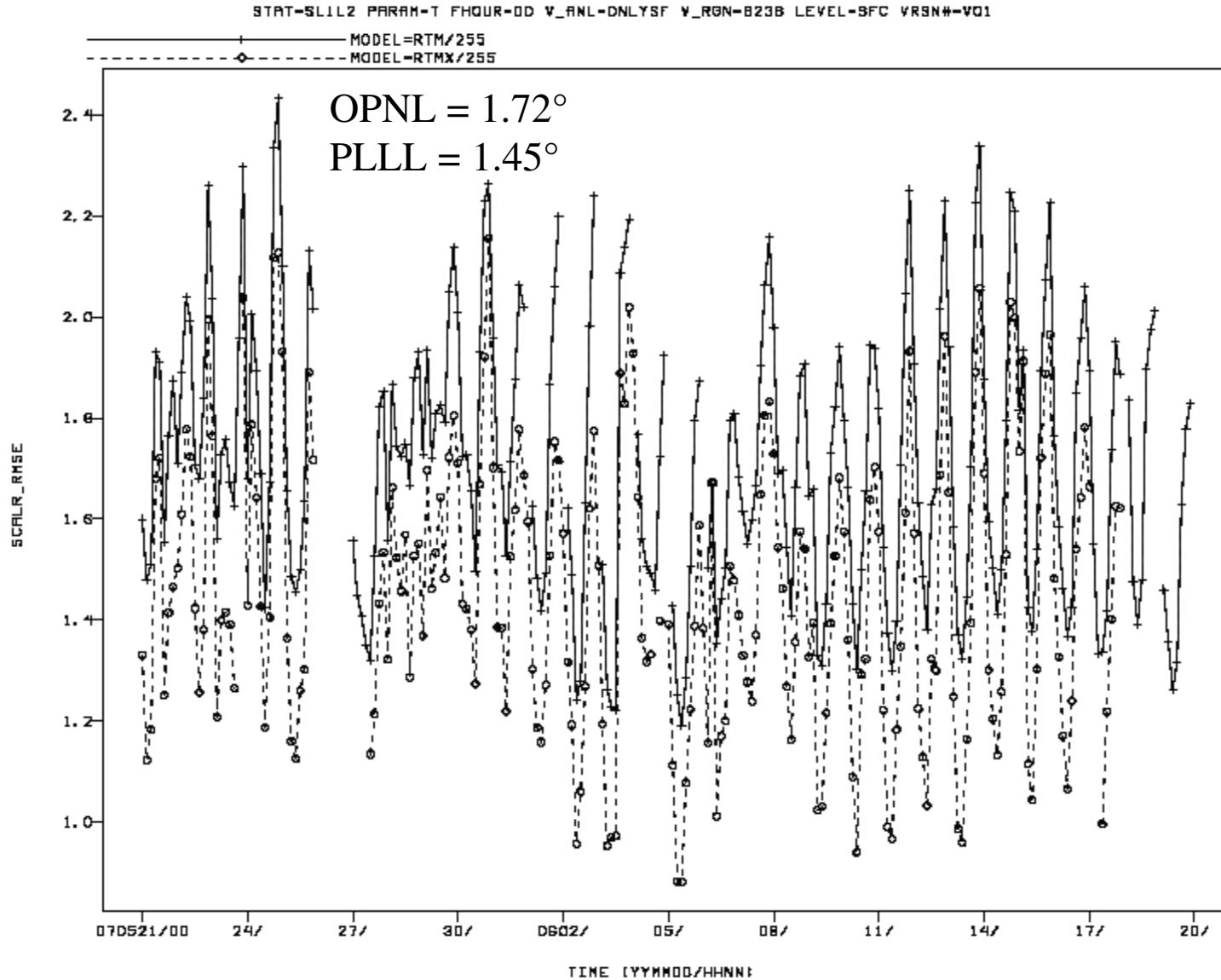
T-increments (K) from Opr-RTMA:
Land T-obs influence large area over water



T-increments (K) from Parallel RTMA:
Land T- obs influence smaller area over water

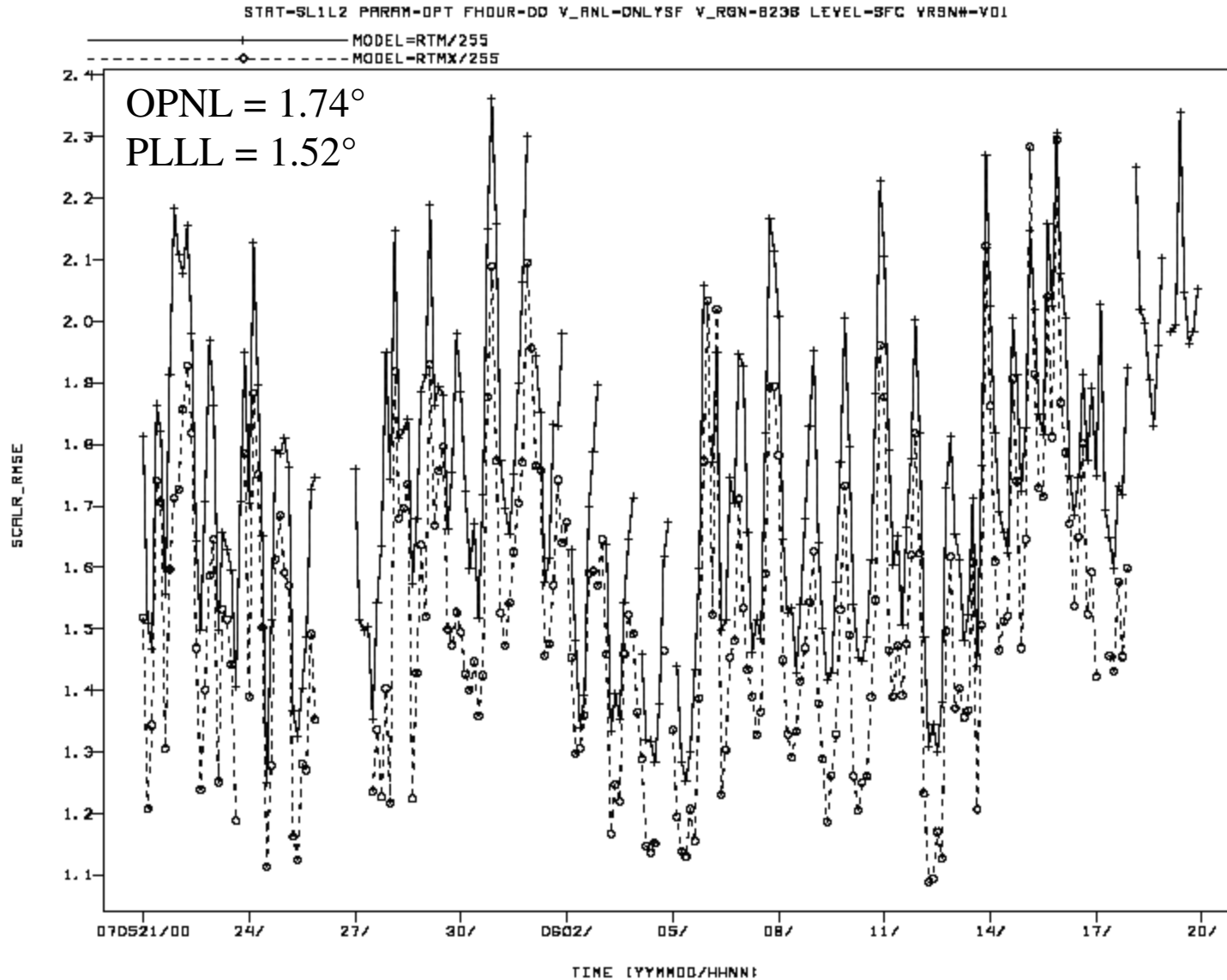
Fit-to-Obs: RMS Temperature

Operational RTMA - solid vs Parallel RTMA - dashed



Fit-to-Obs: RMS Dew Point

Operational RTMA - solid vs Parallel RTMA - dashed



Fit-to-Obs: RMS Vector Wind

Operational RTMA - solid vs Parallel RTMA - dashed

