

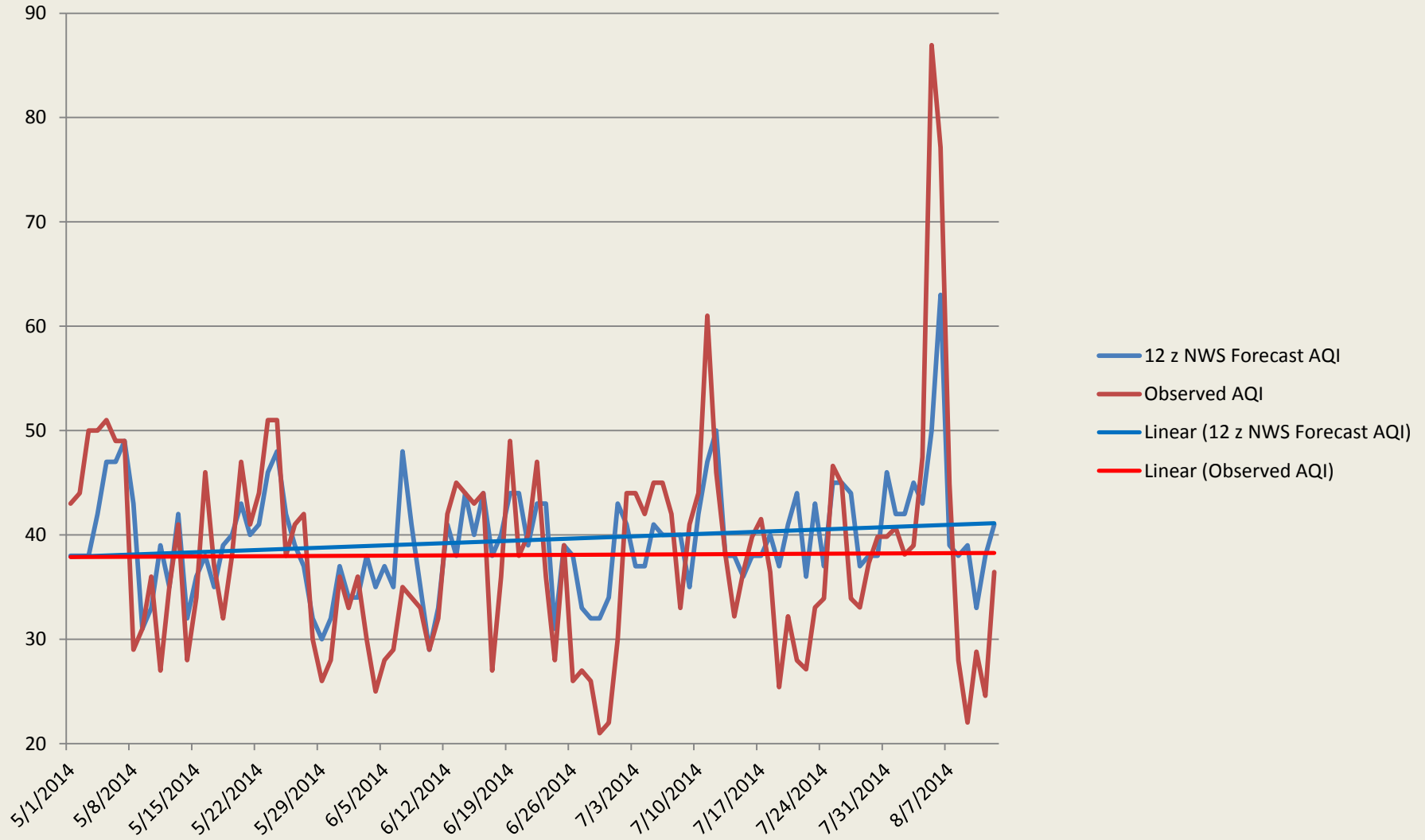
# 2014 NOAA Model Performance in Alabama

Geoff Healan  
Michael Leach  
Scott Southwick



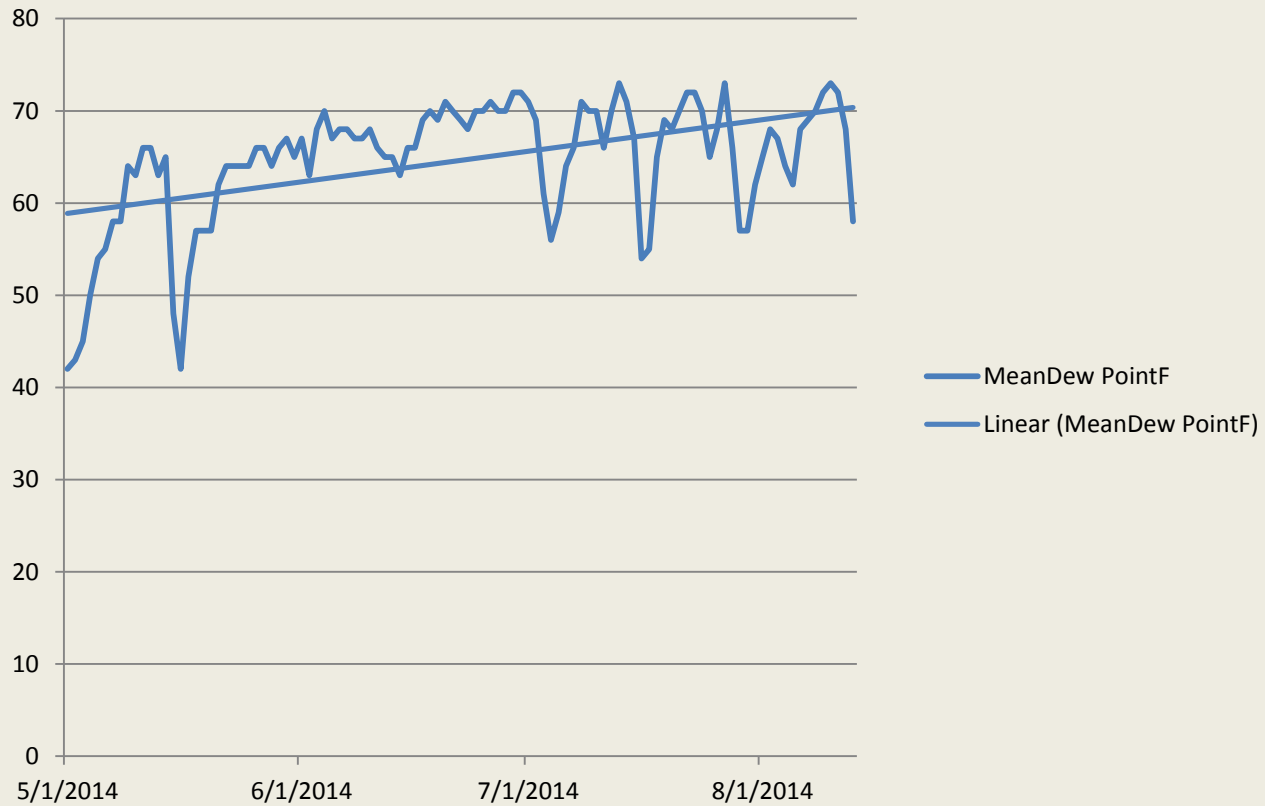
Alabama Department of Environmental Management

# Huntsville Forecast vs. Observed

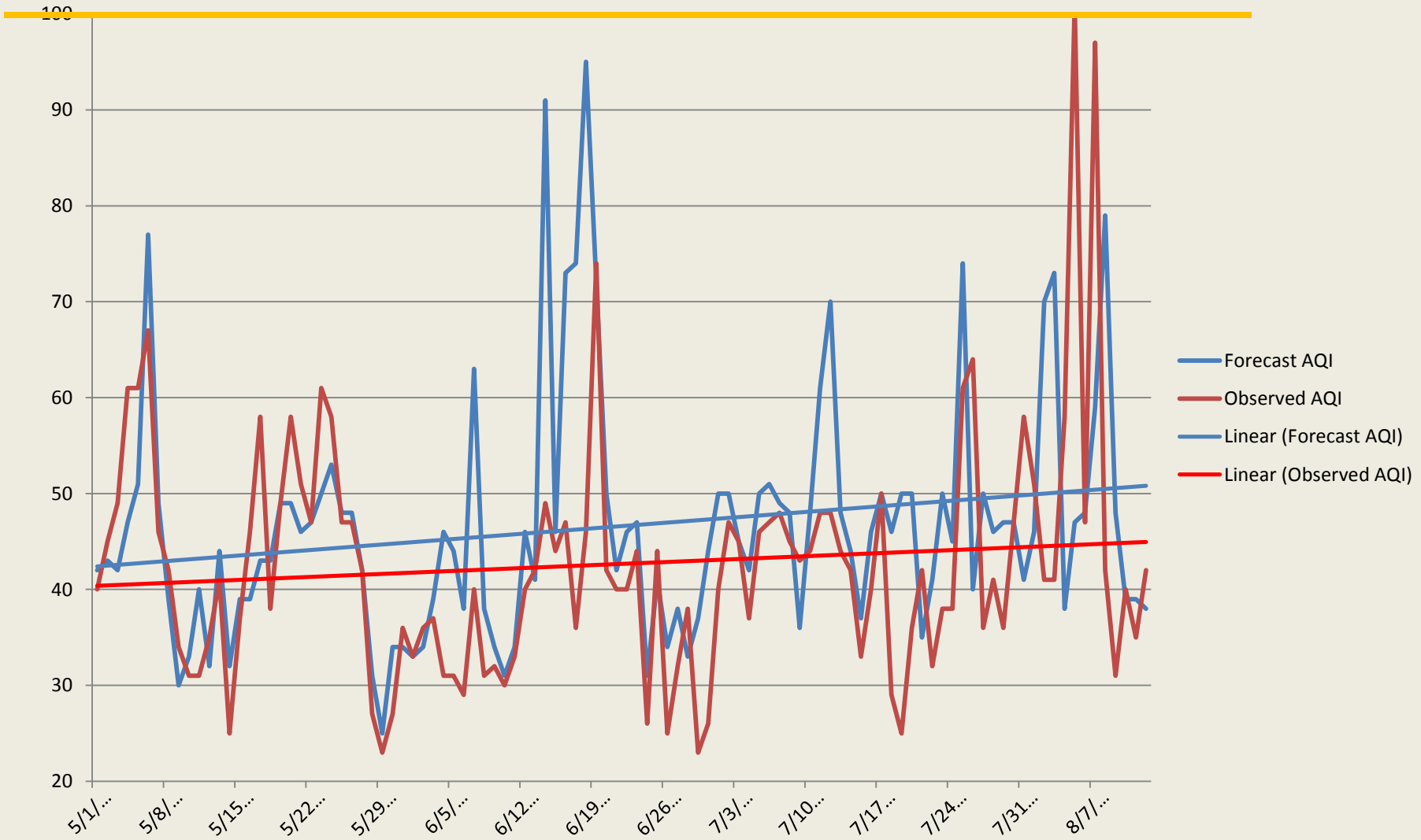


# Huntsville Mean Dew Point

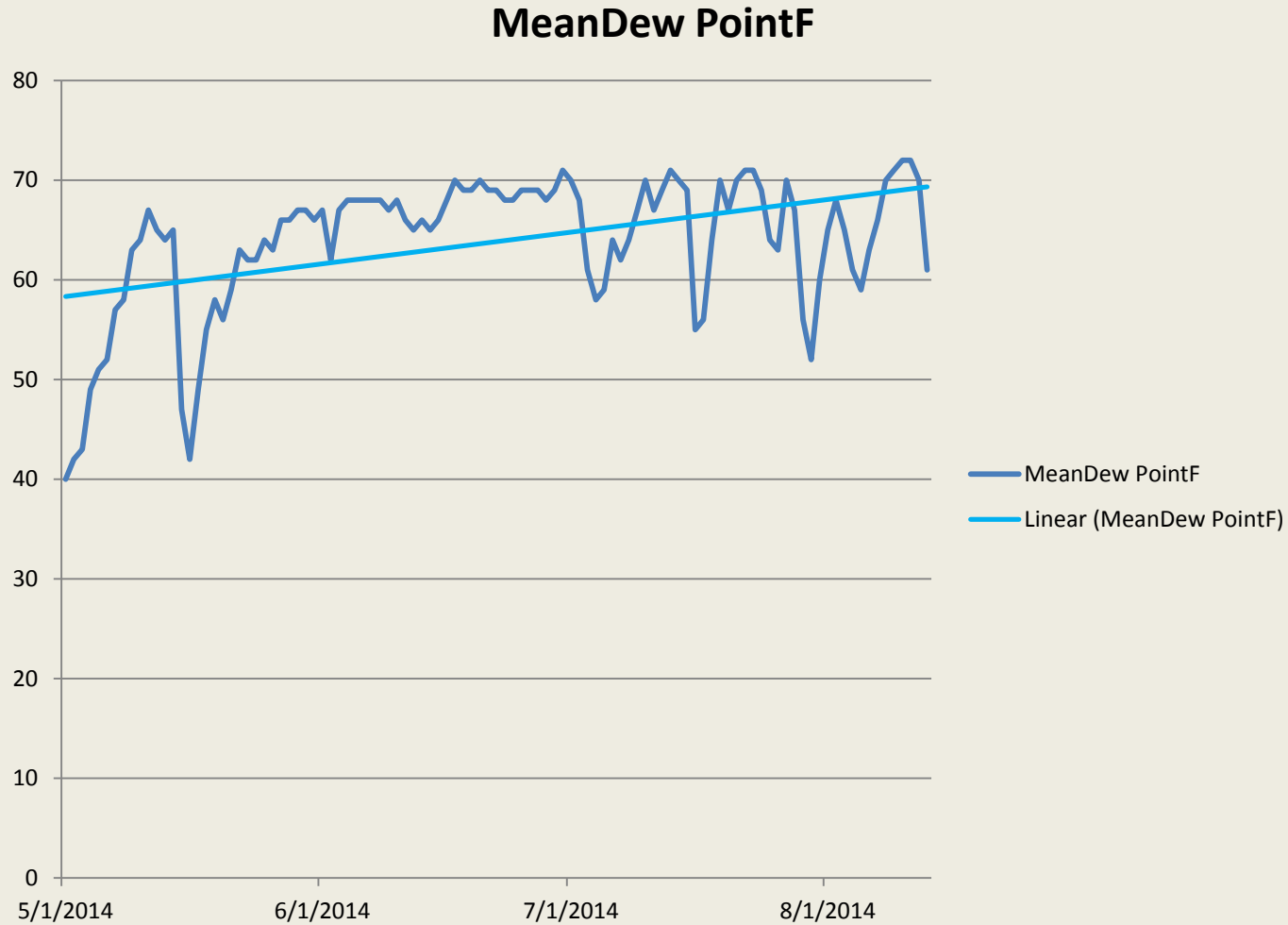
MeanDew PointF



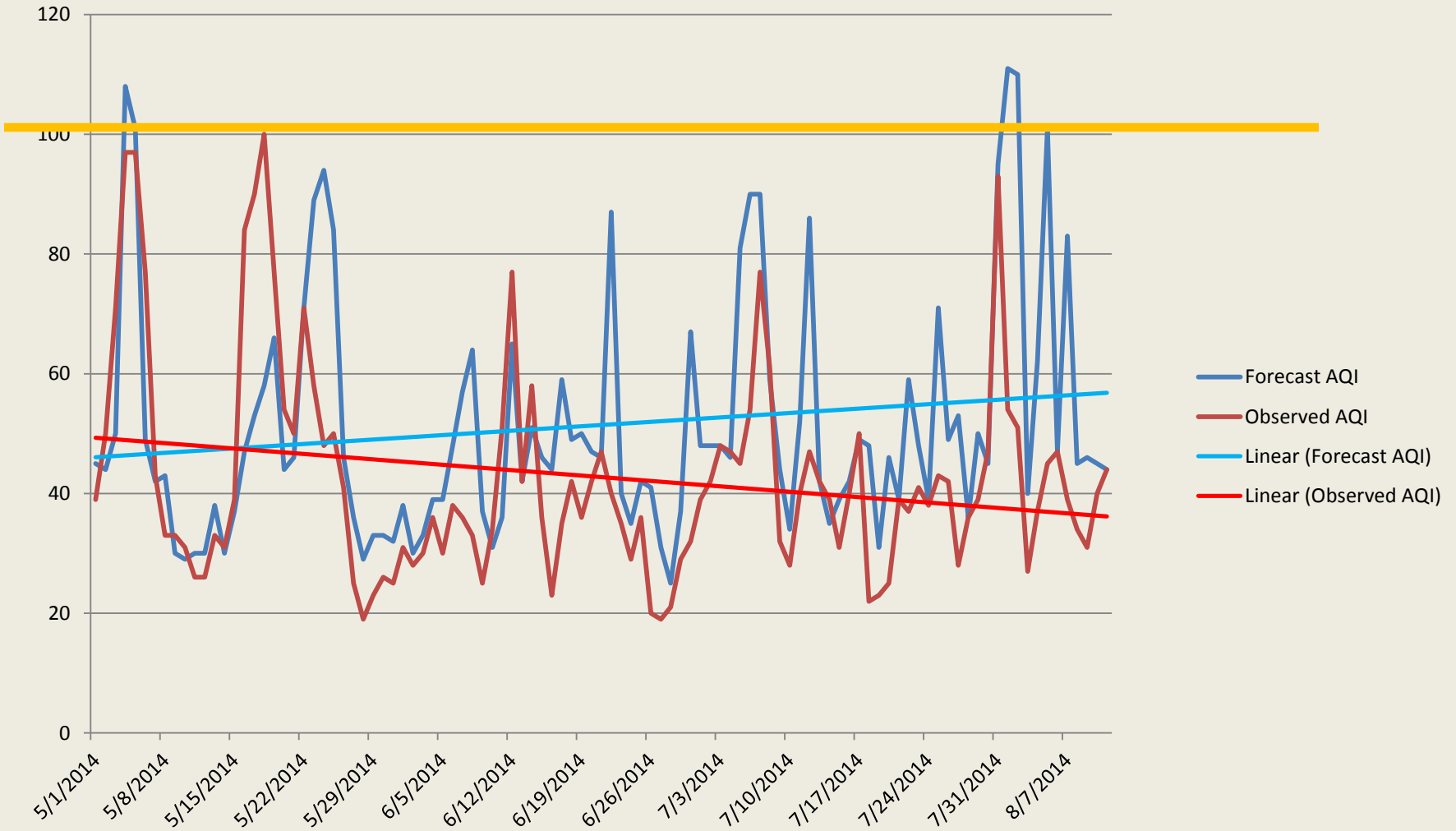
# Birmingham Forecast vs. Observed



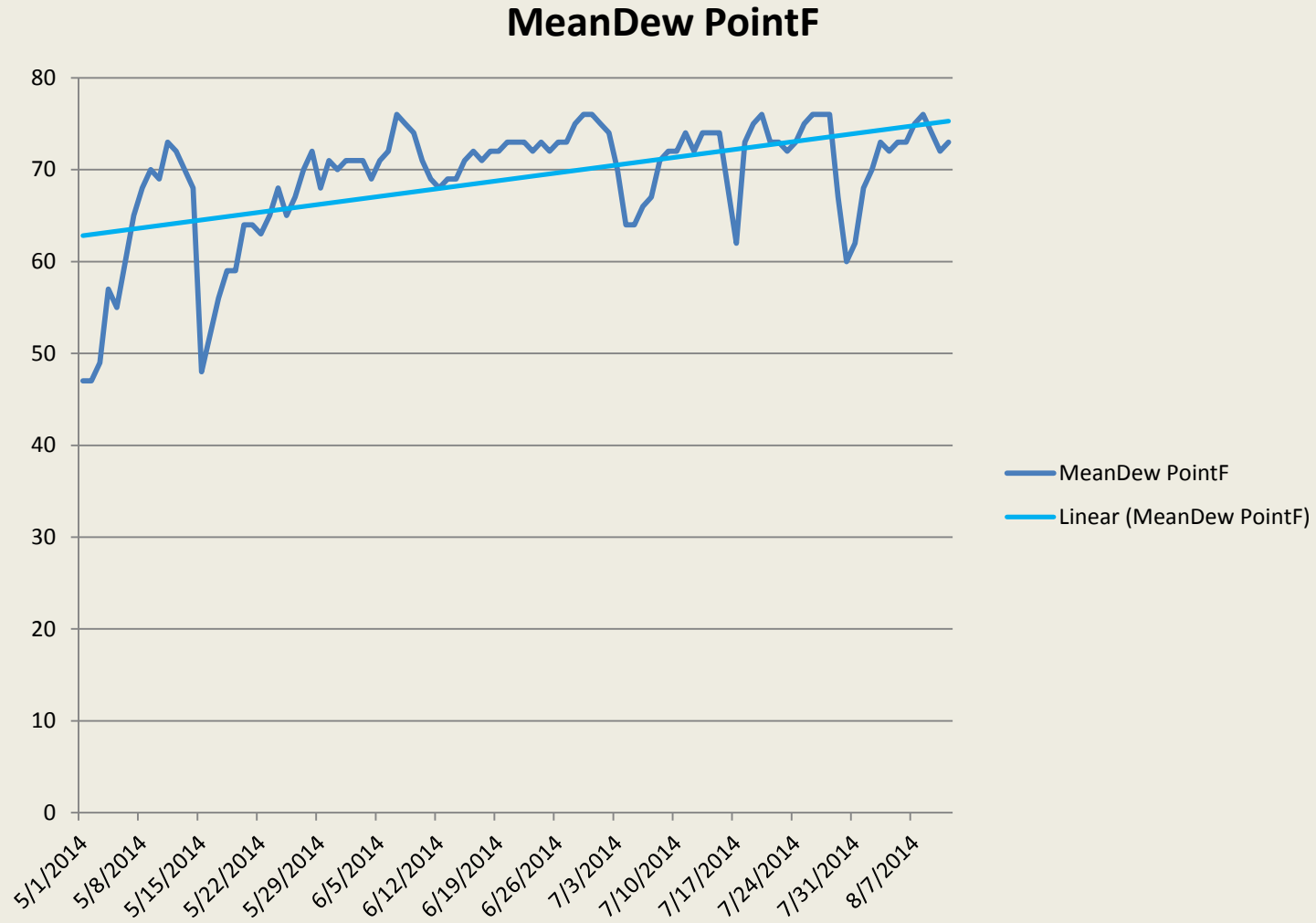
# Birmingham Mean Dew Point



# Mobile Forecast vs. Observed



# Mobile Mean Dew Point



# Model Statistics

Forecast City	NOAA Model Percent Correct (Color Code)	NOAA Model Bias (AQI)	NOAA FAR
Huntsville	95%	1.44	0%
Birmingham	80%	3.94	0%
Mobile	76%	8.71	100%*

\* NOAA forecasted 5 oranges with no observed USG days



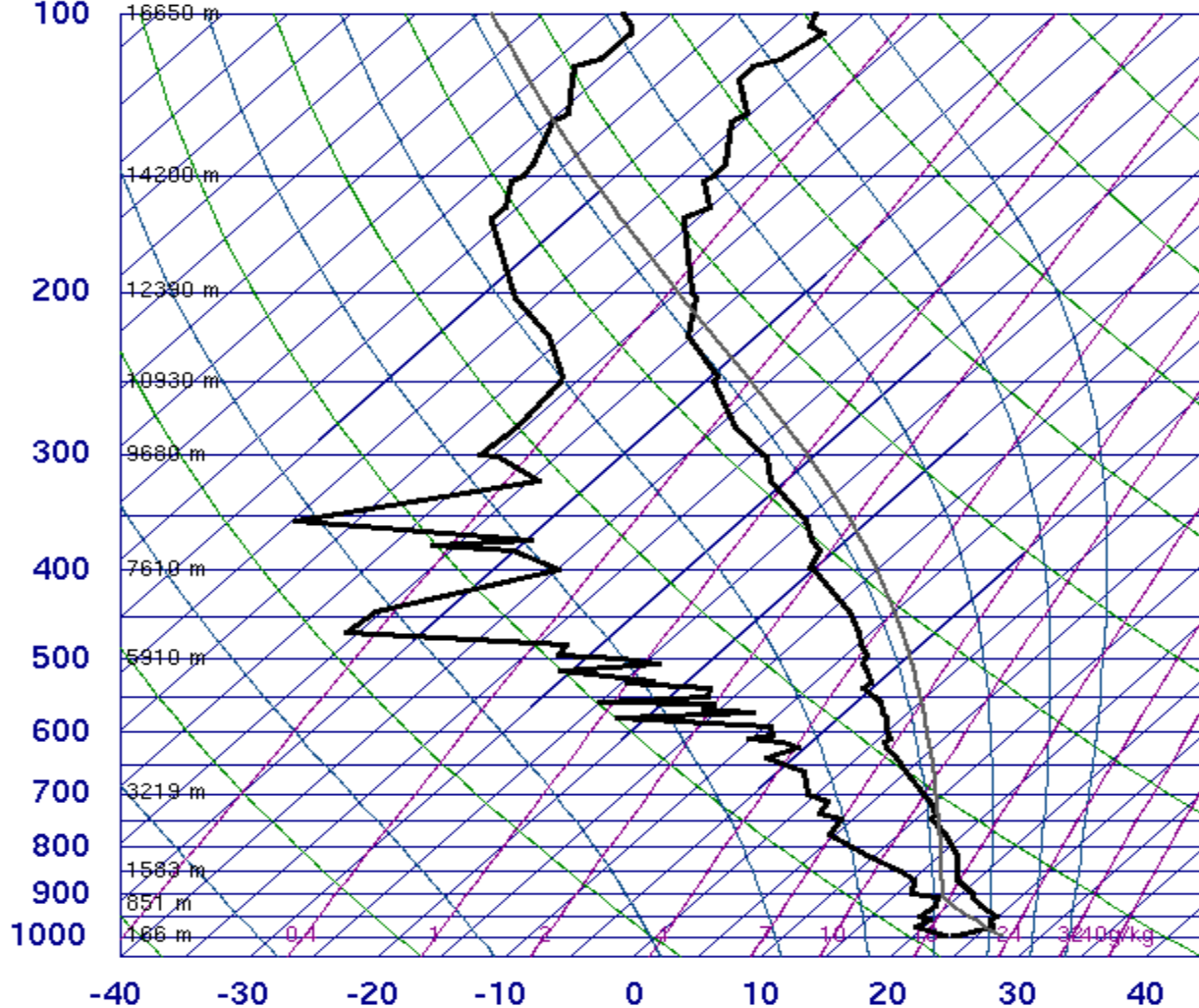
# Case Study June 18, 2014

## Birmingham, Alabama



# NOAA Forecast AQI for June 18 was 95

## 72230 BMX Shelby County Airport

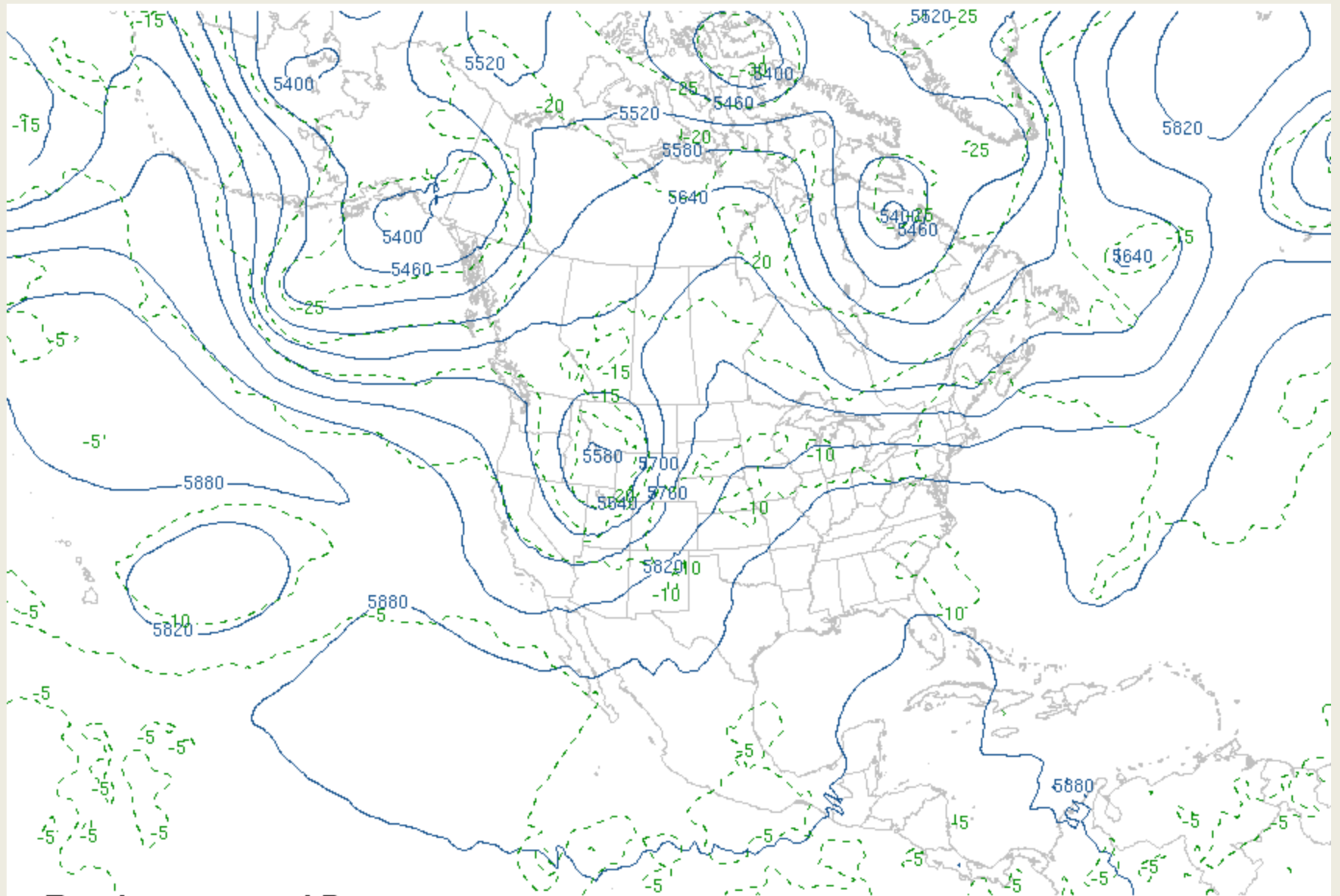


SLAT	33.16
SLON	-86.76
SELV	178.0
SHOW	-0.95
LIFT	-3.60
LFTV	-4.36
SWET	175.8
KINX	30.30
CTOT	21.50
VTOT	25.90
TOTL	47.40
CAPE	1147.
CAPV	1325.
CINS	-84.1
CINV	-57.6
EQLV	209.5
EQTV	209.4
LFCT	761.3
LFCV	797.5
BRCH	1954.
BRCV	2258.
LCLT	292.2
LCLP	910.2
MLTH	300.2
MLMR	15.61
THCK	5744.
PWAT	40.17



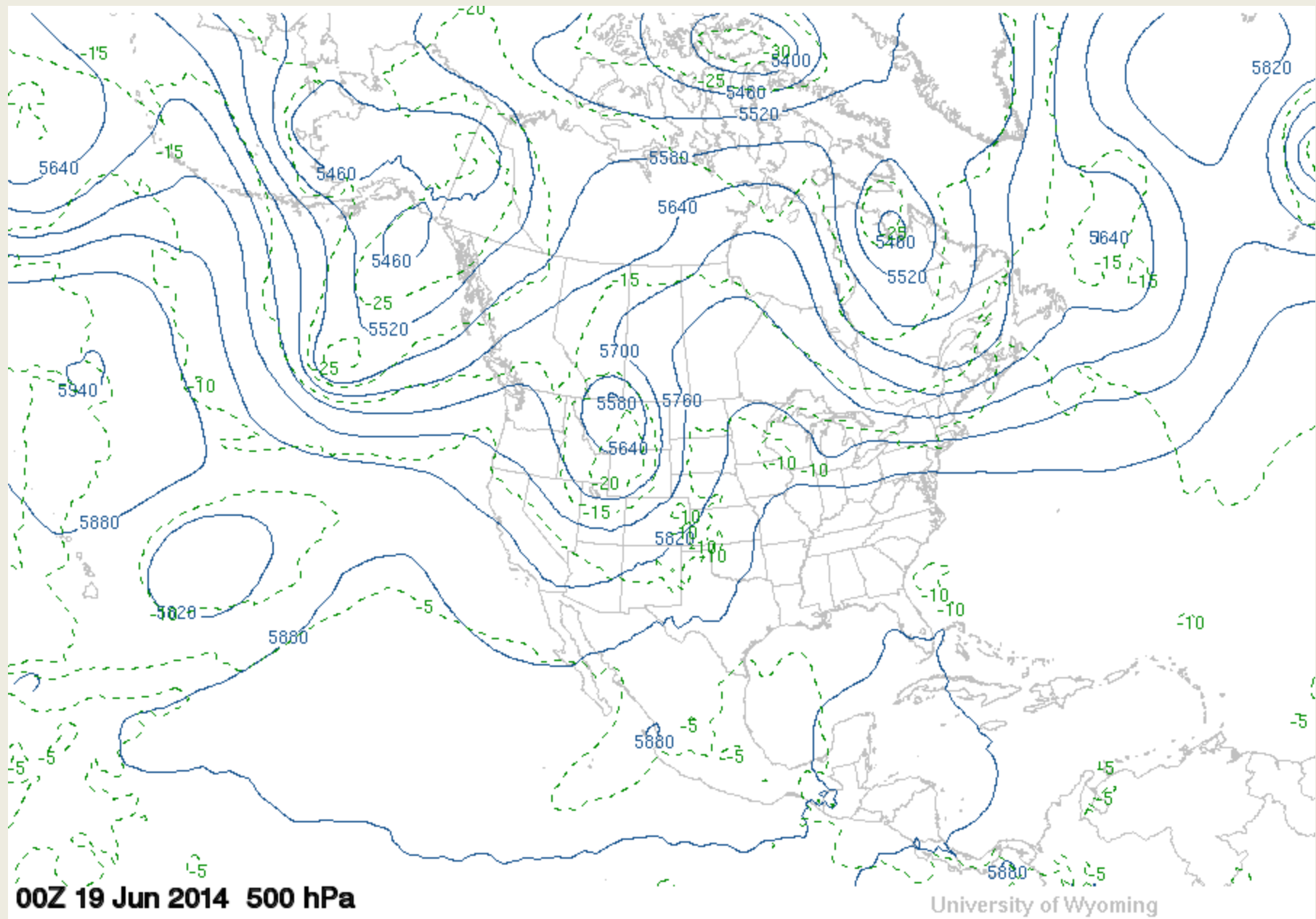
12Z 18 Jun 2014

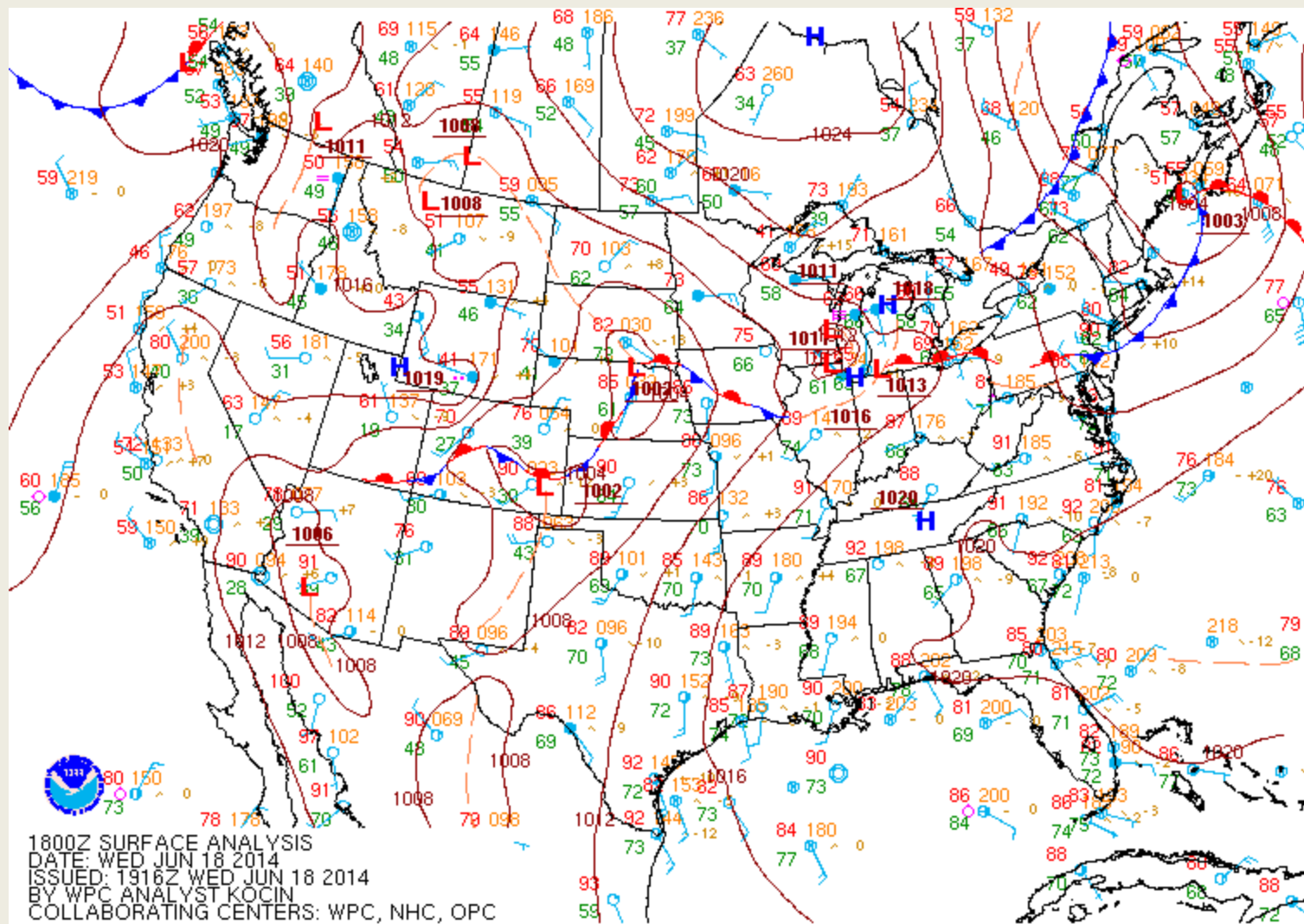
University of Wyoming

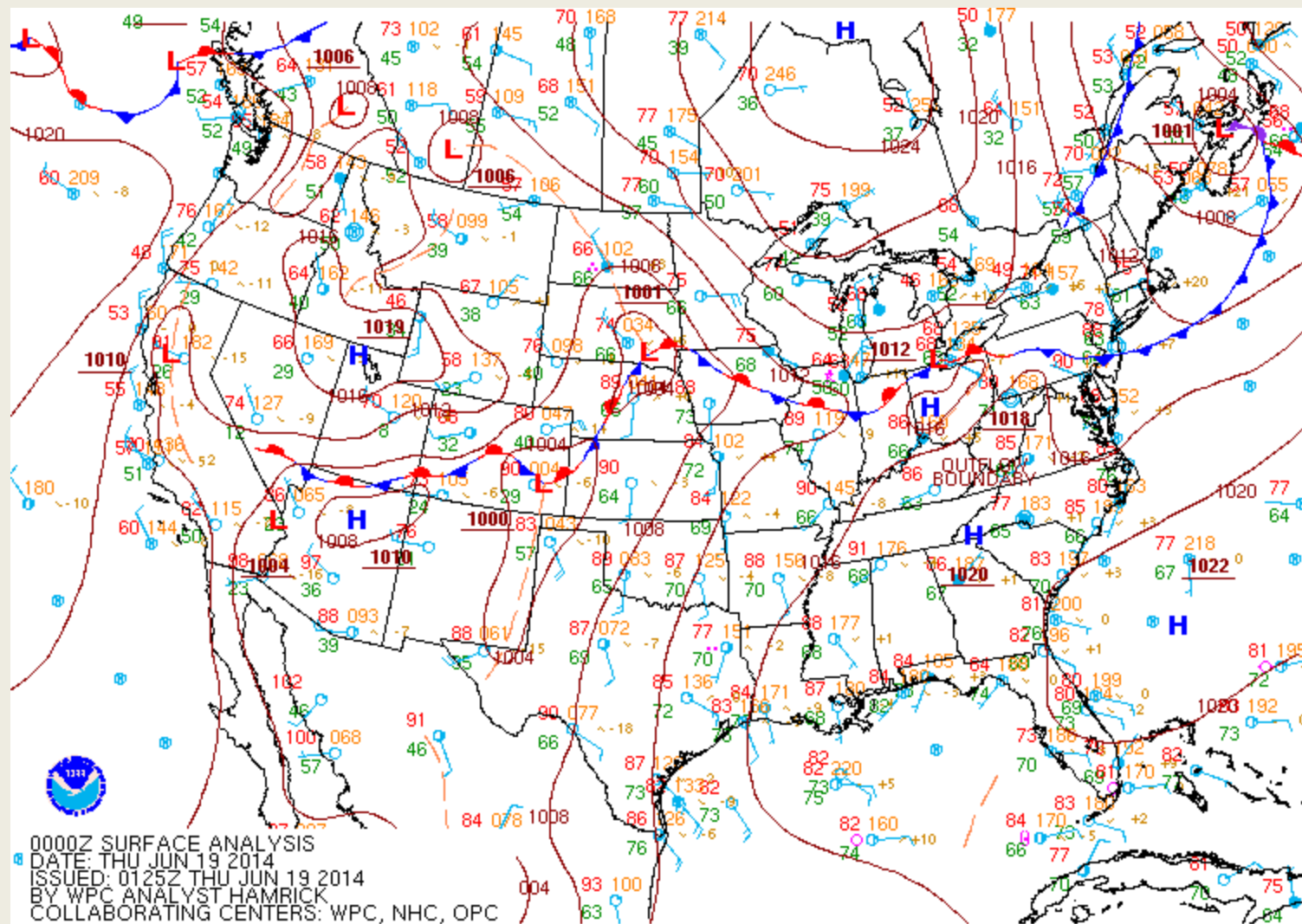


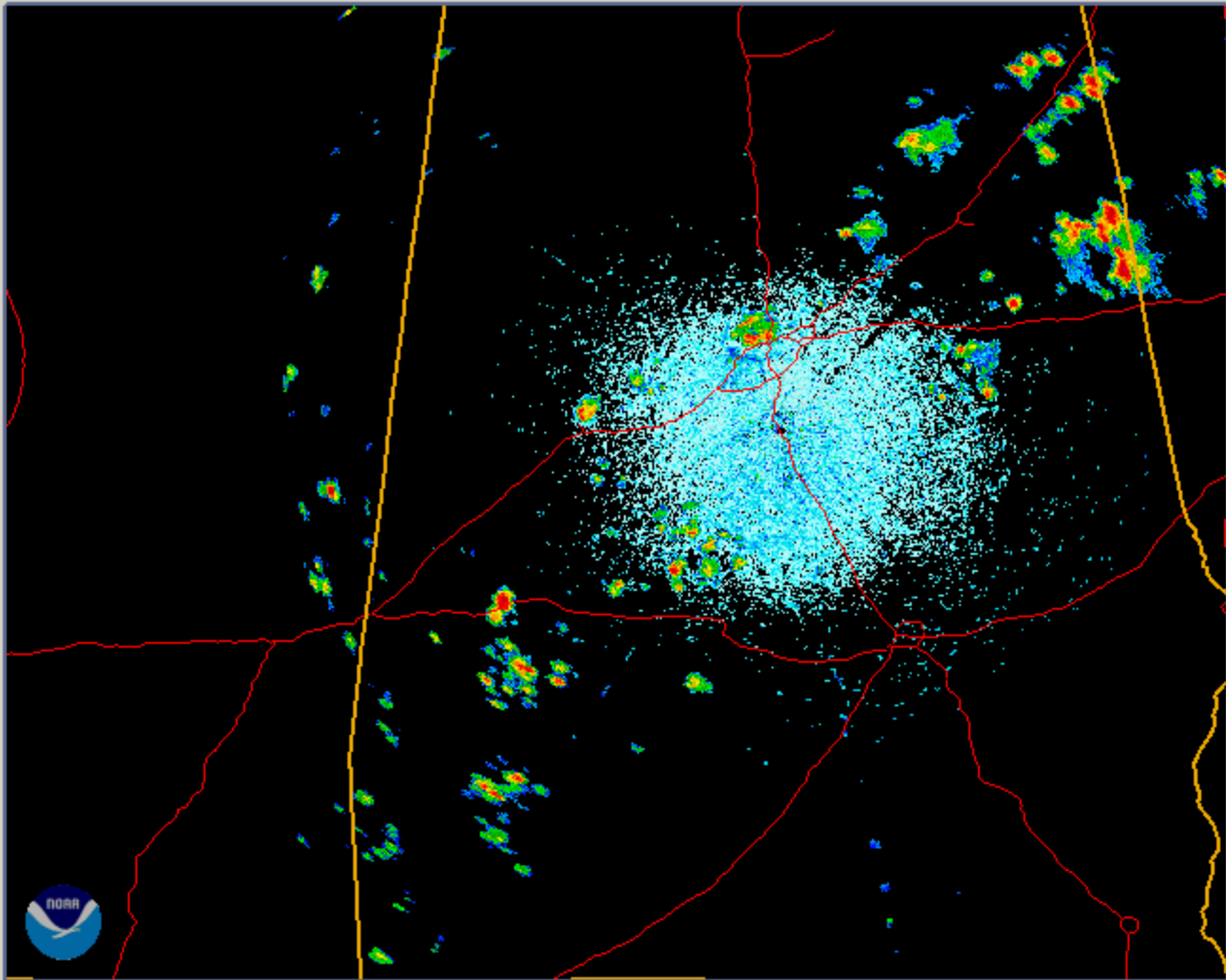
12Z 18 Jun 2014 500 hPa

University of Wyoming





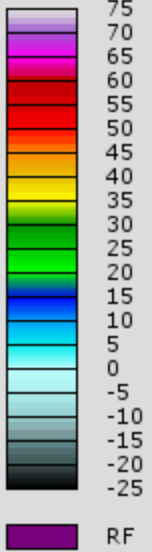




NEXRAD LEVEL-II  
KBMX - BIRMINGHAM, AL  
06/18/2014 18:25:33 GMT  
LAT: 33/10/20 N  
LON: 86/46/11 W  
ELEV: 645 FT  
VCP: 21

REFLECTIVITY  
ELEV ANGLE: 0.47  
SWEEP TIME: 18:25:38 GMT

Legend: dBZ





**Daily Ozone AQI**  
Wednesday, June 18, 2014



Observed for June 18 was an AQI of 46



# Conclusions

- The NOAA model did a decent job of forecasting for Alabama over the summer of 2014.
- As you progress farther south in Alabama, the forecast tends to be less accurate as you approach the Gulf of Mexico.
- We believe there needs to be more emphasis placed on dew point and land/sea breeze interaction along the coast.