Comments from

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http://www.clarkcountynv.gov/airquality/monitoring/Pages/Monitoring_ContactInformation.aspx

AQ Forecasting Challenges in Clark County (mostly Las Vegas)

AIR QUALITY

- Frequent ozone exceedances – more with now with 70 ppb daily 8-hr NAAQS
- Occasional blowing dust as PM10 from “exceptional” weather events such as frontal passages, thunderstorm outflow
- Infrequent PM2.5 issues from fireworks

METEOROLOGY AND SOURCE TERMS

- Complex terrain with mountain/valley airflow complicates local scale
- Regional scale transport from Southern and Central California
- Regional and local wildfires

Helpful Tools

EPA AirNow

- Current and recent air quality data and smoke plumes
- HYSPLIT trajectories – backward and forward
- Archived AQI displays

NOAA

- NWS Las Vegas Forecast Discussion
- Digital forecast presentations (do not over-think the spatial scale)
- Observations
- Forecast graphics: surface winds, smoke products

Less Helpful Tools

NWS Hourly Air Quality Forecasts

- Both the NOAA 06Z AQI forecast (Forecast page in AirNow Tech) and the regional maps of AQI levels - quantitative predictions will irregularly over and under predict ☹
- The Dust predictions seem less accurate than the Smoke predictions

FIRE INFORMATION

- Time lag to view morning fire status and visualizations do not meet morning forecasting needs well

Monitoring – notably good stuff

- Forecasting and media contact response
- Network of 15+ ambient air quality stations, mostly include 10-meter wind and temperature
- Continuous upper-air system with microwave radiometer for temperature/humidity profile and Doppler radar wind profiler for wind structure aloft
- Two sets of automatic visibility cameras in opposite sides of the valley assist in viewing and documenting present and incoming visible air quality – good for forecasters and the interested public

So now what…

- While some of the ozone effort involves local short-term factors, better regional predictions would provide a stronger base for decisions
- We are working to develop “rules of thumb” to be followed by empirical relationships or better
- Intrigued by evolving satellite information to fill data voids in sparse surface data regions
- These workshops are valuable for networking with other forecasters and those developing the support information