

# Air Quality Forecasting

Team: *Daniel Tong (PI), Gregory Carmichael, Pius Lee, Daven Henze, Lok Lamsal, and Robert Levy*

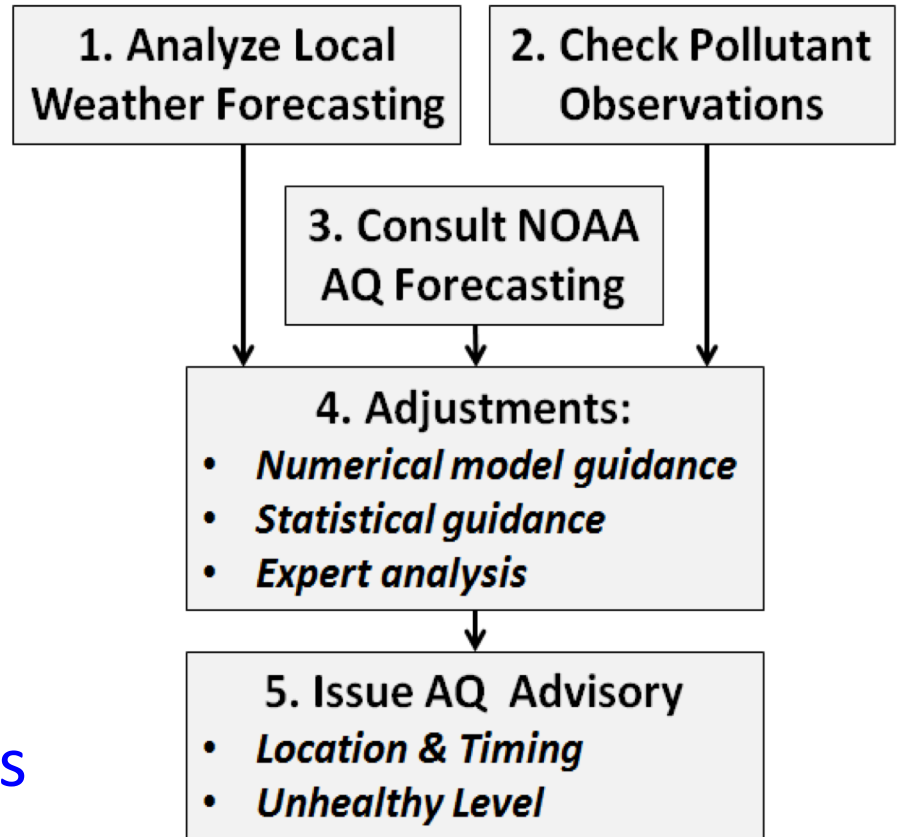
“Ozone Orange Day”

**AIR QUALITY ALERT**



**Forecasting Principals:**  
Anchoring and Adjustments

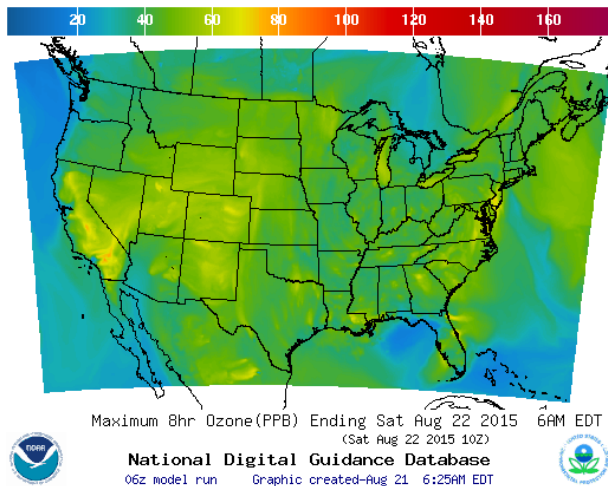
## Decision-making Processes



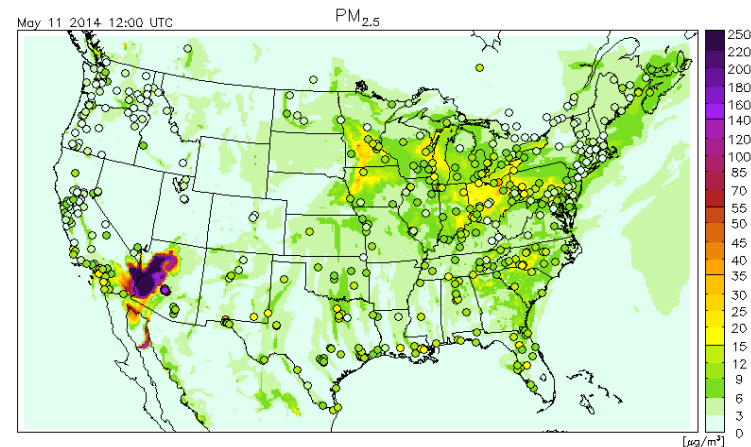
# National Air Quality Forecast Capability (NAQFC)

- ❖ Operated by National Weather Service (NWS).
- ❖ Provides national numerical air quality guidance for ozone and PM<sub>2.5</sub> (particulate matter with diameter < 2.5 μm);

## O<sub>3</sub> Forecasting



## PM<sub>2.5</sub> Forecasting



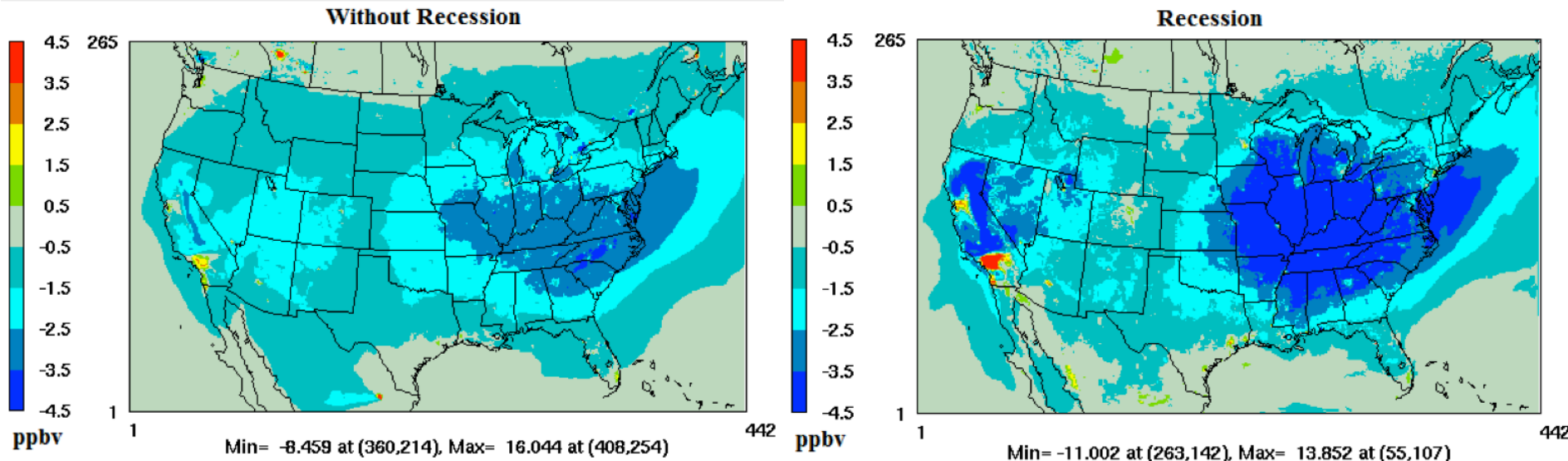
<http://airquality.weather.gov/>

NAQFC is one of the major gateways to disseminate satellite observations and model prediction of air quality to the public.

# HAQAST Contribution to NAQFC

- ❖ Improve emission inputs;
- ❖ Improve initialization and deterministic prediction;
- ❖ Evaluate forecasting accuracy;
- ❖ Regional air quality reanalysis: long-term data records

## Impact of the 2008 Great Recession on Air Quality in the US



(Tong et al., GRL, 2016)