

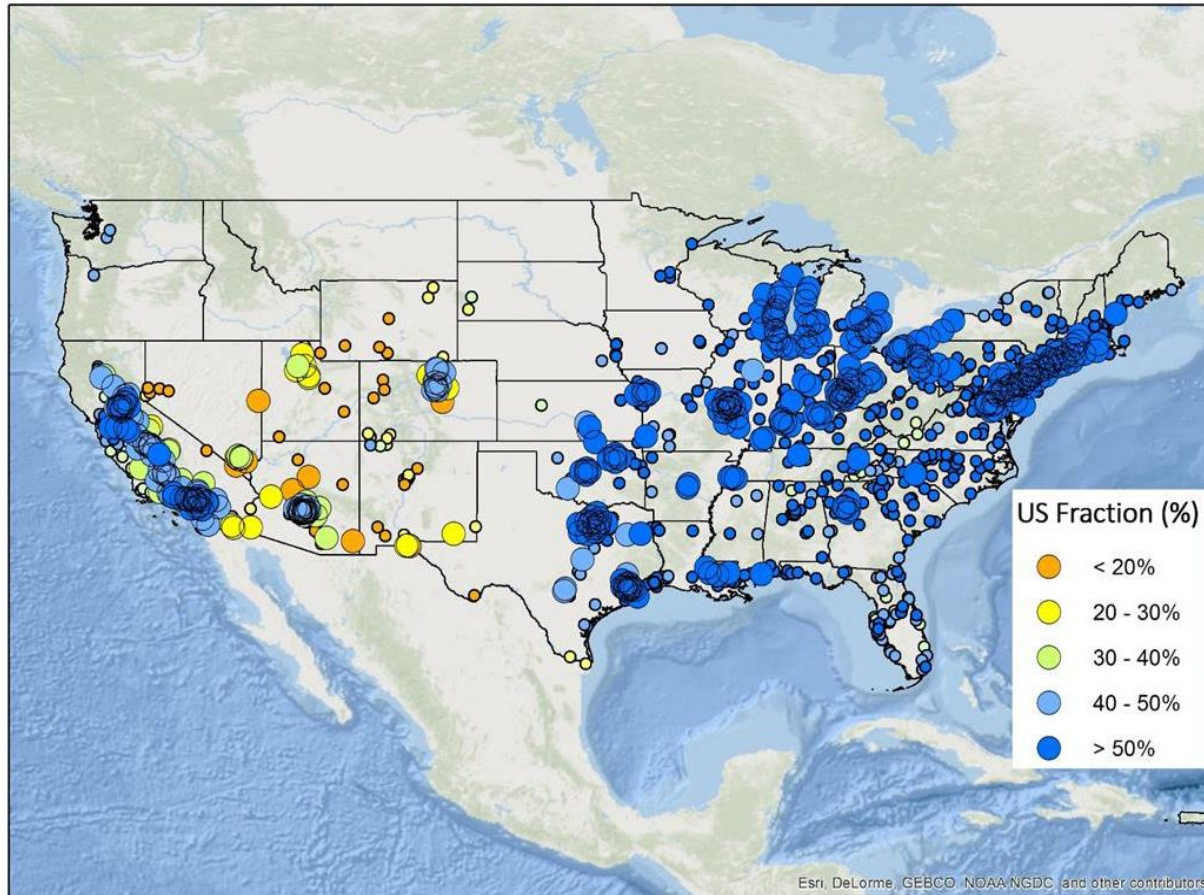


Western States and US Background Ozone

Mary Uhl
WESTAR

Why USB is Important to the West

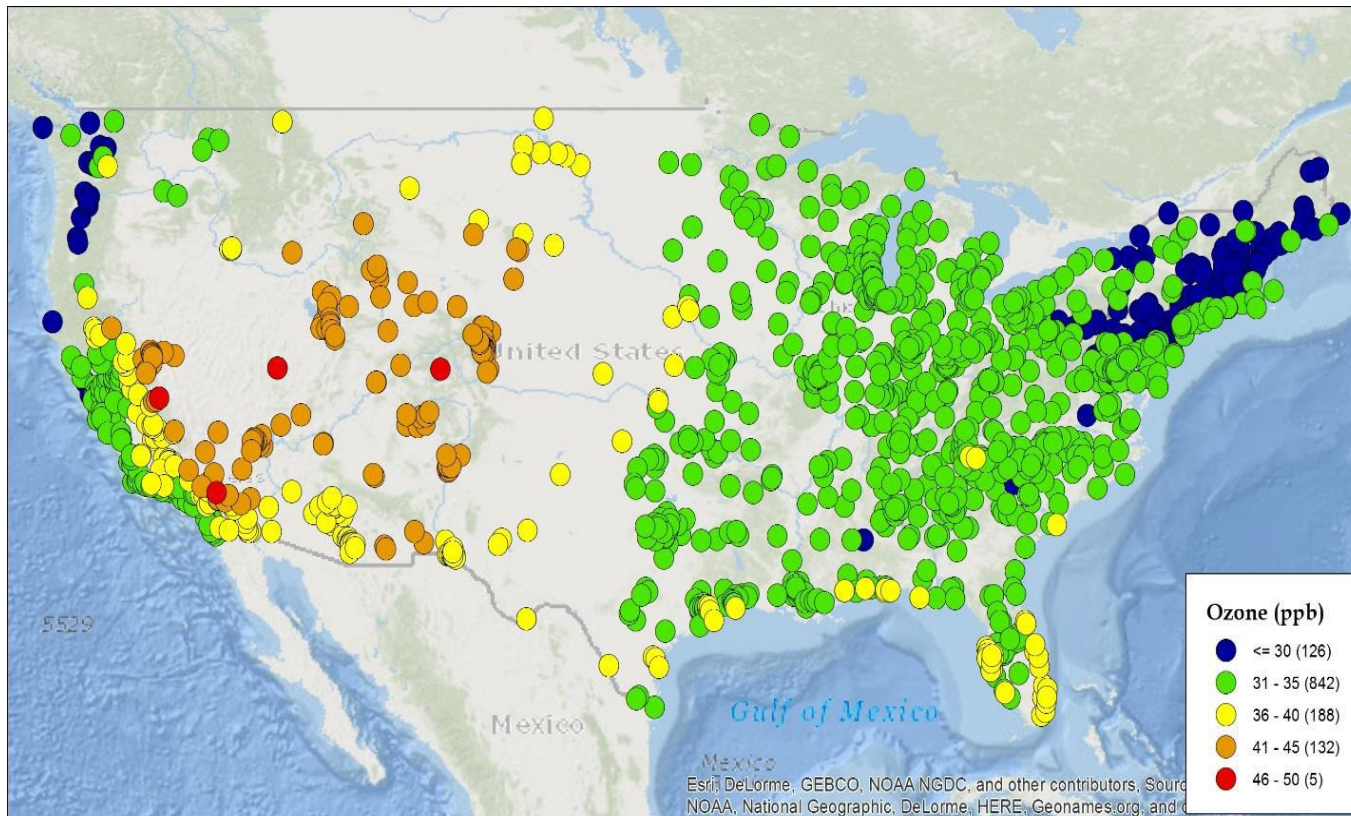
2017 source apportionment modeling from the proposed Cross-State Air Pollution Update Rule



- Figure is a visual representation of Table 2 of the white paper:
- Larger circles represent DVs > 70
 - Color coding of the circles displays fractional importance of U.S. manmade emissions on high days.
 - Note the west has many areas where US fraction is less than 30%, particularly in the intermountain west

Source: Modified from Slide 19 of EPA Background Ozone Workshop presentation

Recent Estimates of US Background Ozone



Source: Modified from Slide 17 of EPA Background Ozone Workshop presentation

Rural Western Ozone Monitor Issues

- 7 monitors in the intermountain west with Design Value greater than 70 ppb and man-made fractions less than 15%
- Monitors do not exhibit same daily variation in ozone concentrations as urban monitors
- Concentrations not responsive to local emissions reductions

What influences US Background Ozone?

- Elevation
- Long-term increases in tropospheric ozone concentrations
- Stratospheric intrusion
- Climatic variability (El Nino/La Nina)

Western Needs for Background Ozone Characterization

- Understand role of transport (US and international)
- Models and other tools for determining US background ozone
- Relationship between exceptional events and US background ozone
- Routine assessment of US background ozone (hourly, daily concentrations) in the western US for both current and future conditions

WESTAR Recommendations

- Work with EPA to refine estimates of US Background ozone in the west
- Improve western US model performance to better characterize background ozone in the west
- Determine best model for boundary conditions (important for model performance)

WESTAR Recommendations

- Collaborate with NOAA and other entities researching background ozone
- Review western modeling results and compare to national modeling
- Evaluate western monitors that may provide additional information about background ozone in the west and the influences of international transport (Trinidad Head, Mt. Bachelor)