Ozone Boundary Designations

MAG Air Quality Technical Advisory Committee
March 24, 2016

MARICOPA ASSOCIATION of GOVERNMENTS

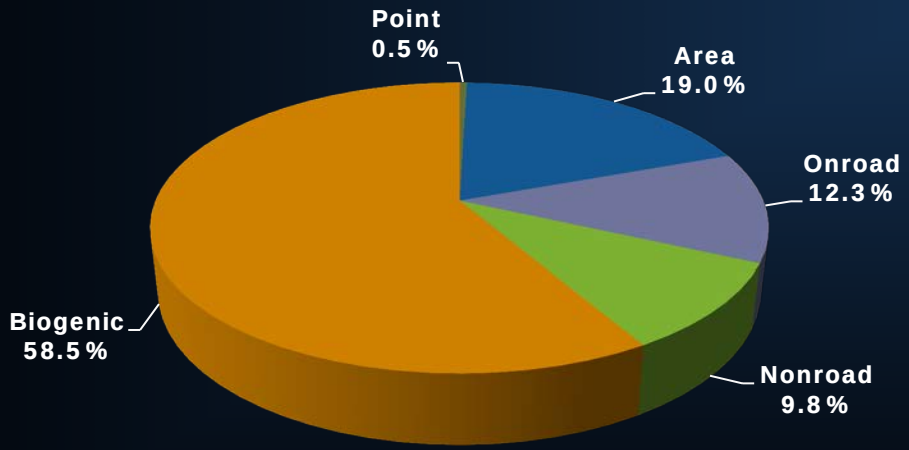
ENVIRONMENTAL PROGRAMS

New Strengthened Ozone Standard

- October 26, 2015-EPA published a final notice to strengthen the eight-hour ozone standard from 0.075 to 0.070 parts per million.
- October 1, 2016-states submit designation recommendations for attainment/nonattainment to EPA based upon 2013-2015 ozone monitoring data.
  - Arizona Department of Environmental Quality conducted 2 stakeholder meetings on February 23, 2016.
- October 1, 2017-EPA finalizes the designations, classifications, and attainment dates based upon 2014-2016 ozone monitoring data.
- Attainment dates-2020 to late 2037 based upon ozone levels in the area (Marginal-Extreme).

Draft 2011 Ozone Season-Day VOC Emissions in the Maricopa Nonattainment Area

Volatile Organic Compounds (VOC) Emissions = 599.87 tons/day



Sources

Point: Industrial, manufacturing and electrical power generating facilities

Area: Solvents and coatings use, fuel storage and transport, waste treatment and disposal, industrial/chemical processes, residential/industrial fuel combustion, open burning and wildfires

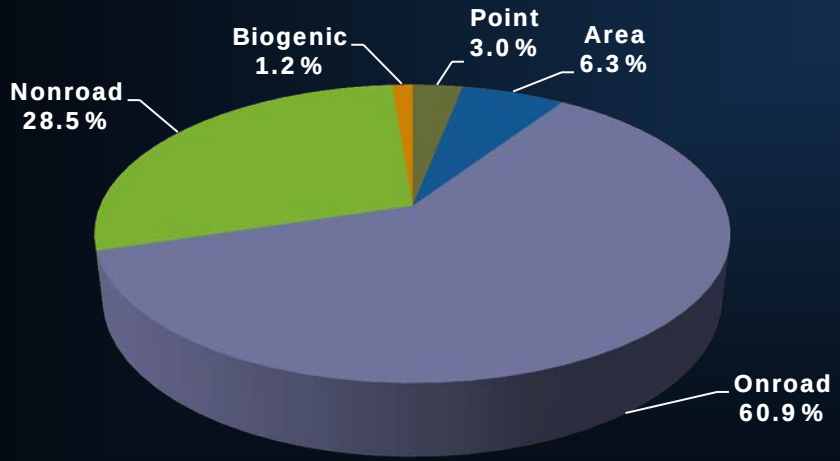
Onroad: Cars and trucks

Nonroad: Commercial, industrial, construction, mining, lawn and garden, farm and recreational equipment, aircraft and locomotives

Biogenic: Natural vegetation

Draft 2011 Ozone Season-Day NOx Emissions in the Maricopa Nonattainment Area

Nitrogen Oxides (NOx) Emissions = 253.86 tons/day



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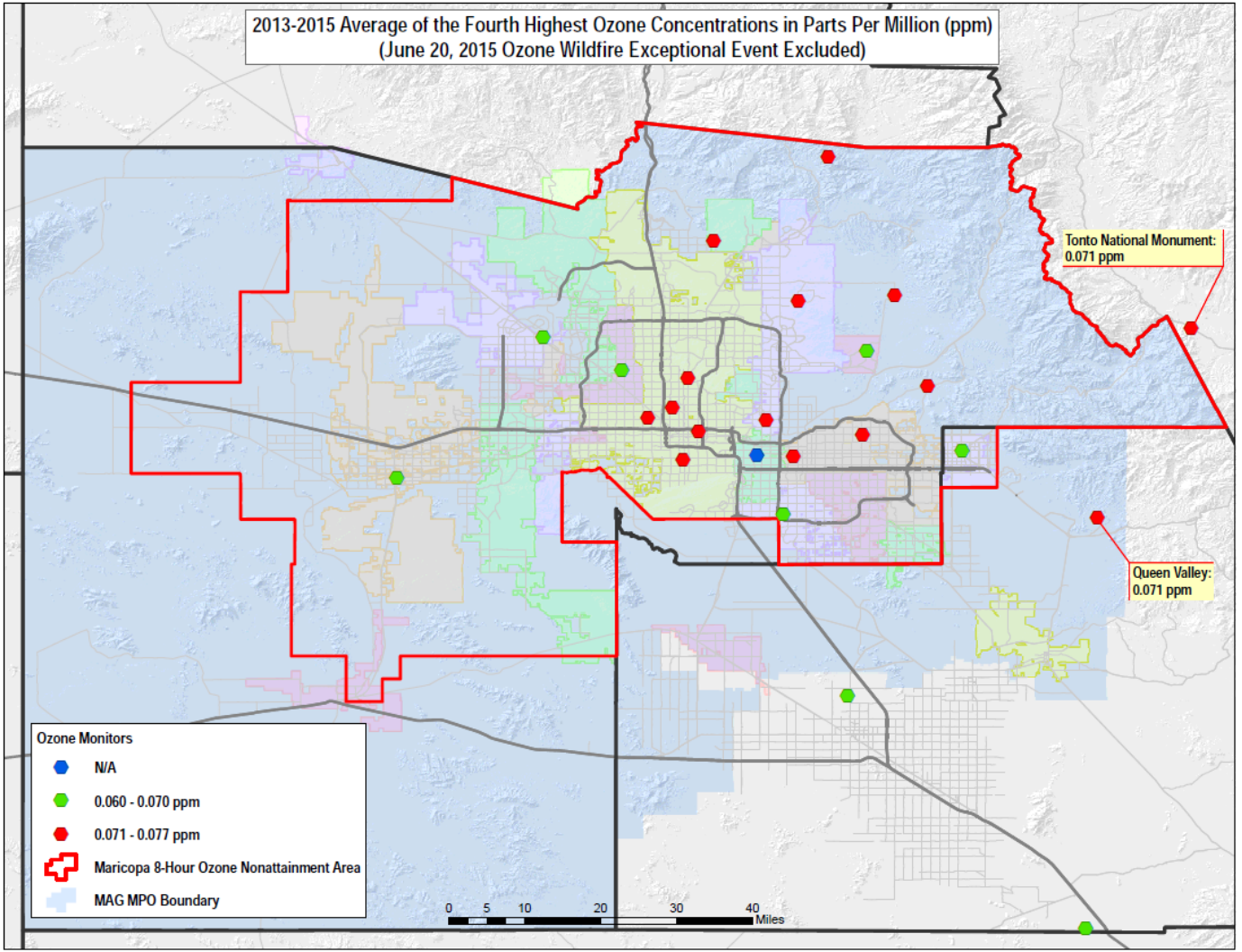
ENVIRONMENTAL PROGRAMS

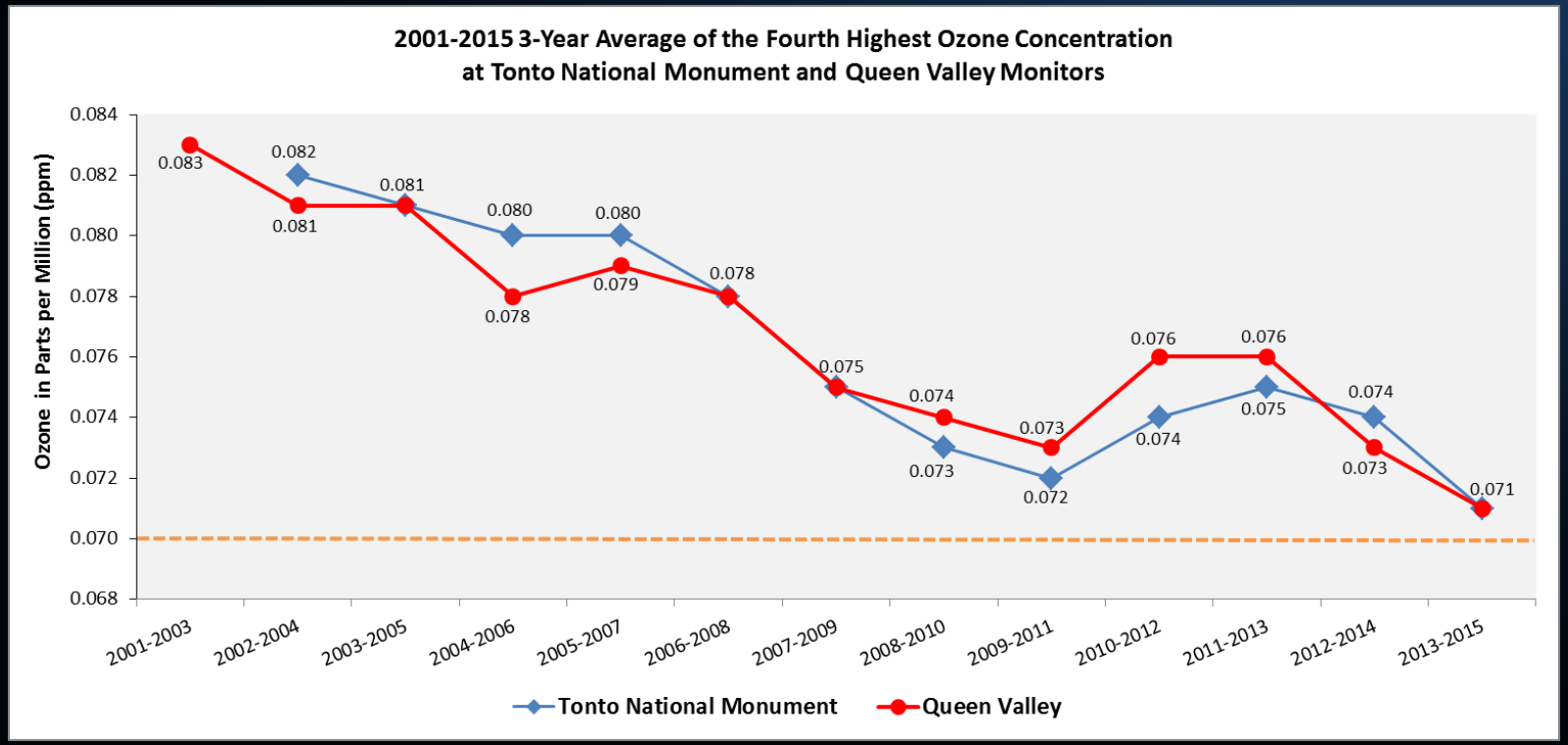
Nonattainment Area Analyses and Boundary Designation

- Nonattainment areas include areas that are violating the standard or are contributing to the nonattainment of other nearby areas-Clean Air Act Section 107(d).
- Evaluation of five factors:
  - Air Quality Data.
  - Emissions and Emissions Related Data.
  - Meteorology.
  - Geography/Topography.
  - Jurisdictional Boundaries.

ENVIRONMENTAL PROGRAMS



Ozone Monitoring Trend Data at Queen Valley and Tonto National Monument



Notes:

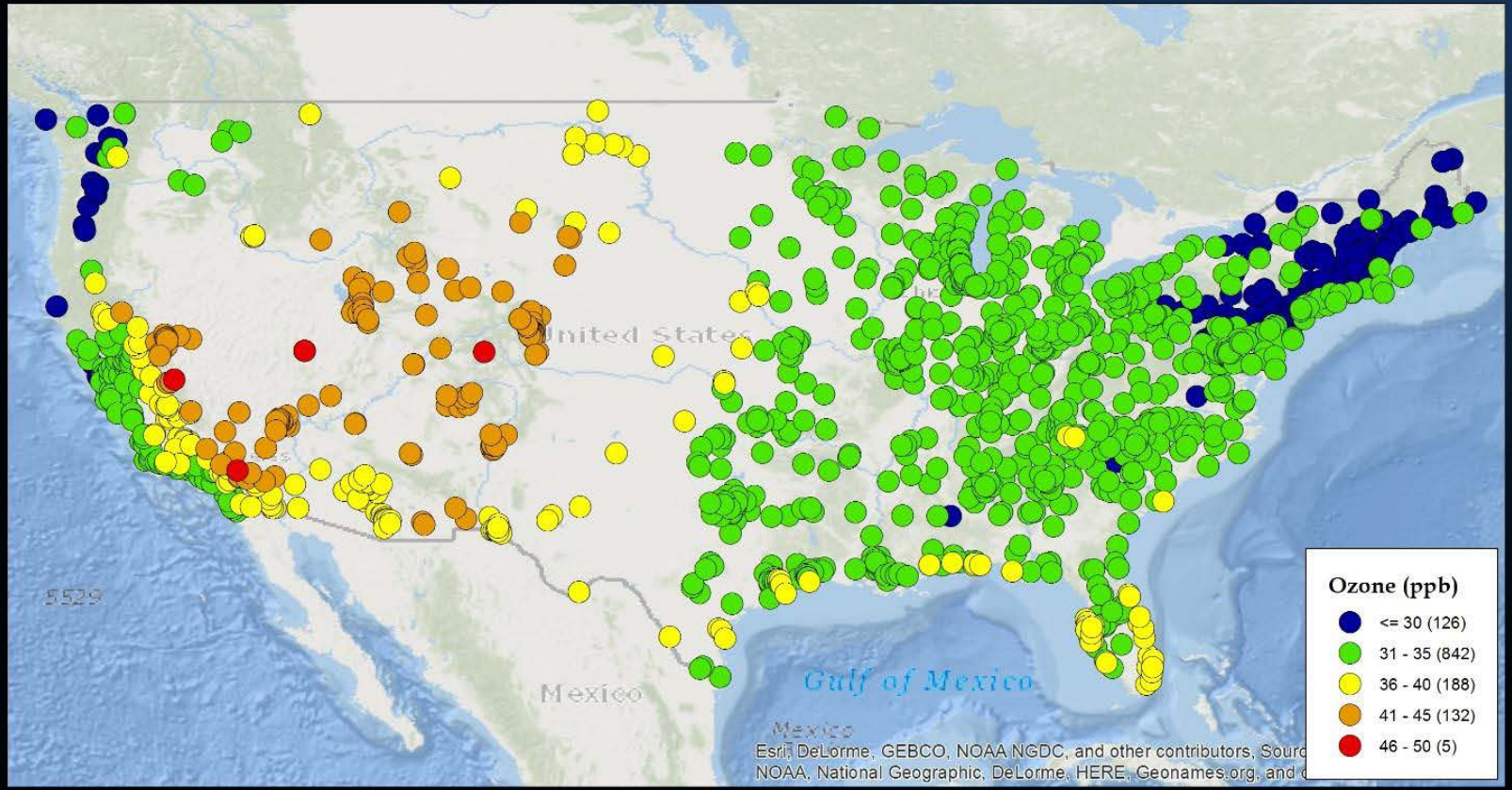
- Data Source: U.S. EPA Air Data (http://www3.epa.gov/airdata) accessed on February 19, 2016.
- The June 20, 2015 exceedance of 0.079 ppm at the Tonto monitor is excluded from the data as an exceptional event caused by the Lake Fire in San Bernardino County, California.

ENVIRONMENTAL PROGRAMS

Background Ozone

- **Natural sources.**
  - **Plants, vegetation, trees, wildfires, stratospheric ozone intrusion.**
- **Transport from other states.**
- **International transport.**
- **EPA estimates that in 2017, background ozone will be:**
  - **52% of the concentration in the Maricopa nonattainment area.**
  - **67% of the concentration at the Queen Valley Monitor and 64% at the Tonto Monitor.**

EPA Estimate of Background Ozone Concentrations



Source: EPA White Paper, Implementation of the 2015 Primary Ozone NAAQS: Issues Associated with Background Ozone. December 22, 2015.

Ozone Boundary Issues

- Background ozone – a bigger percentage of an area's ozone concentration with the lower 2015 ozone standard.
- Tighter controls on business and industry inside the nonattainment area.
- Transportation conformity requirements.
- Regional Planning Agency authority to develop air quality plans tied to Metropolitan Planning Organization Boundary (A.R.S. 49-406A.)
  - Plan determines the Motor Vehicle Emissions Budget for transportation conformity.

Arizona Department of Environmental Quality Boundary Designation Schedule

- Conduct a stakeholder meeting-April 14, 2016.
- Prepare draft designations document.
- Publish notice of availability-Mid-May 2016.
- Conduct a public hearing-June 2016.
- Submit designations document to Governor-September 2016.
- Governor submits to EPA-October 1, 2016.

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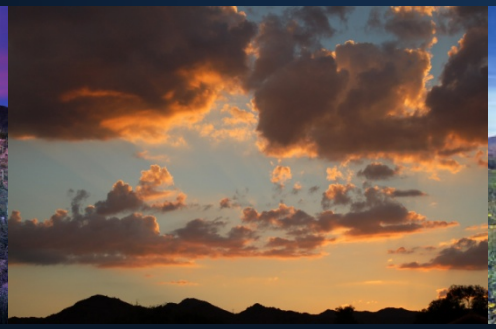

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