

The Designations Process

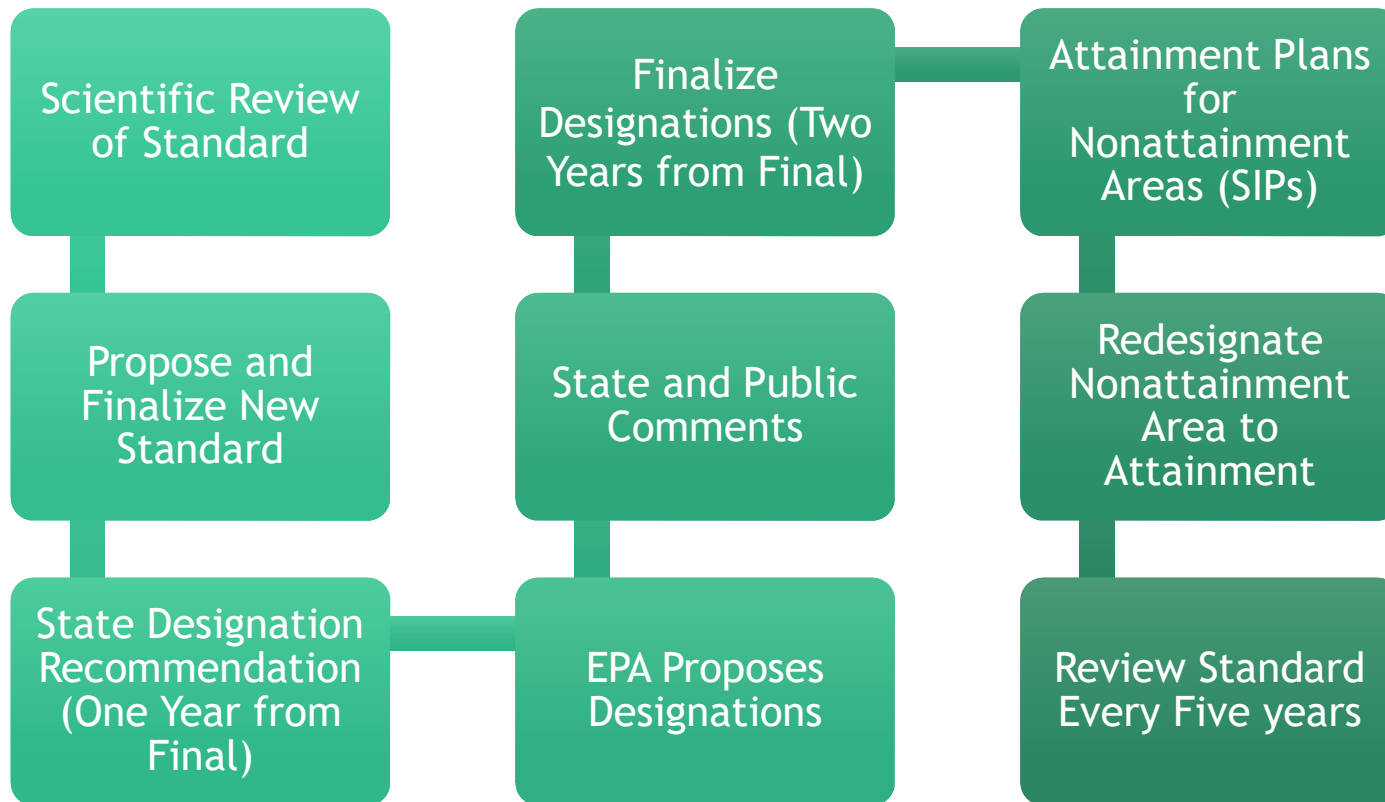
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The Designation Process

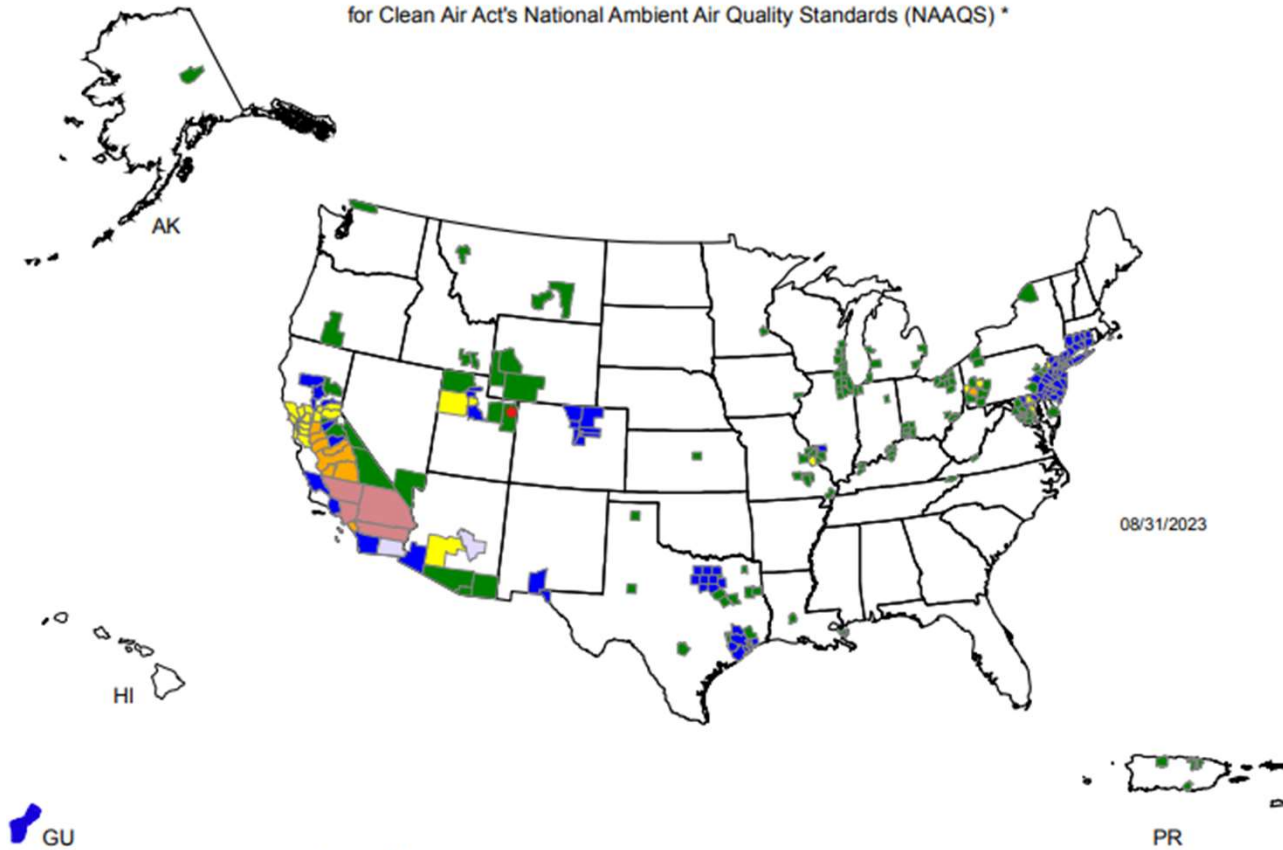


Types of area designations

- **Attainment**
 - An area that meets the primary or secondary standard for a NAAQS
- **Nonattainment**
 - An area that does not meet the primary or secondary standard for a NAAQS
 - An area that contributes to air quality in a nearby area that does not meet the primary or secondary standard for a NAAQS
- **Unclassifiable**
 - An area that cannot be classified on the basis of available information

Counties Designated "Nonattainment"

for Clean Air Act's National Ambient Air Quality Standards (NAAQS) *



Legend **

- County Designated Nonattainment for 6 NAAQS Pollutants
- County Designated Nonattainment for 5 NAAQS Pollutants
- County Designated Nonattainment for 4 NAAQS Pollutants
- County Designated Nonattainment for 3 NAAQS Pollutants
- County Designated Nonattainment for 2 NAAQS Pollutants
- County Designated Nonattainment for 1 NAAQS Pollutant

The process under CAA 107(d)

- States and tribes submit to EPA a list of areas recommended as nonattainment, attainment, and unclassifiable
 - Deadline is one year from promulgation of a new or revised NAAQS
- EPA notifies states and tribes of modifications to their recommendations
 - Deadline is 120 days prior to final designations
- EPA makes final nonattainment designations
 - Deadline is two years from promulgation of a new or revised NAAQS
 - EPA may take one additional year, if available information is insufficient

EPA's five factor analysis

- Generally*, where there is a violating monitor, there is a nonattainment designation
- The extent of the area is determined using EPA's five factor analysis
 1. Air quality data
 2. Emissions and emissions-related data
 3. Meteorology
 4. Geography and topography
 5. Jurisdictional boundaries

*For SO₂, a violation may be modeled or monitored

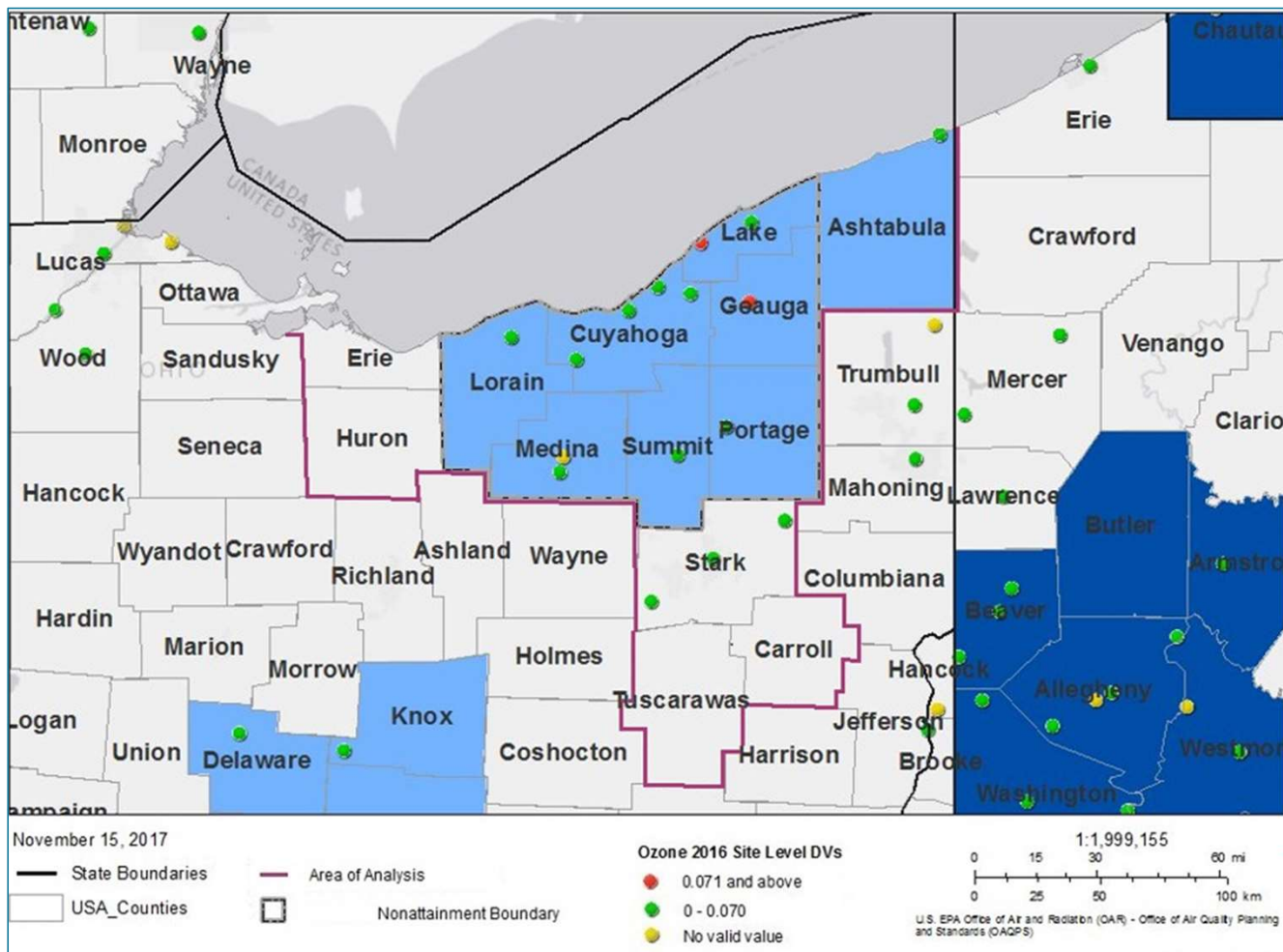
EPA's area of analysis

- For ozone and PM, the starting point for a contribution analysis is generally a census-defined statistical area
 - Metropolitan Statistical Area (MSA)
 - Core-Based Statistical Area (CBSA)
 - Combined Statistical Area (CSA)

Classifications

- For ozone and carbon monoxide (CO), initial classifications are assigned to nonattainment areas
- For the 2015 ozone standard
 - Marginal: 71ppb to 80 ppb
 - Moderate: 81 ppb to 92 ppb
 - Serious: 93 ppb to 104 ppb
 - Severe-15: 105 ppb to 110 ppb
 - Severe-17: 111 ppb to 162 ppb
 - Extreme: 163 ppb and above
- Areas that fail to attain can be bumped-up to higher classifications

Example: Cleveland for the 2015 ozone NAAQS



Background for the 5-factor analysis

- **Monitoring data**
 - One violating monitor in Geauga County
 - One violating monitor in Lake County
- **Area of analysis**
 - Geauga and Lake are in the Cleveland CSA

Considering the state recommendation

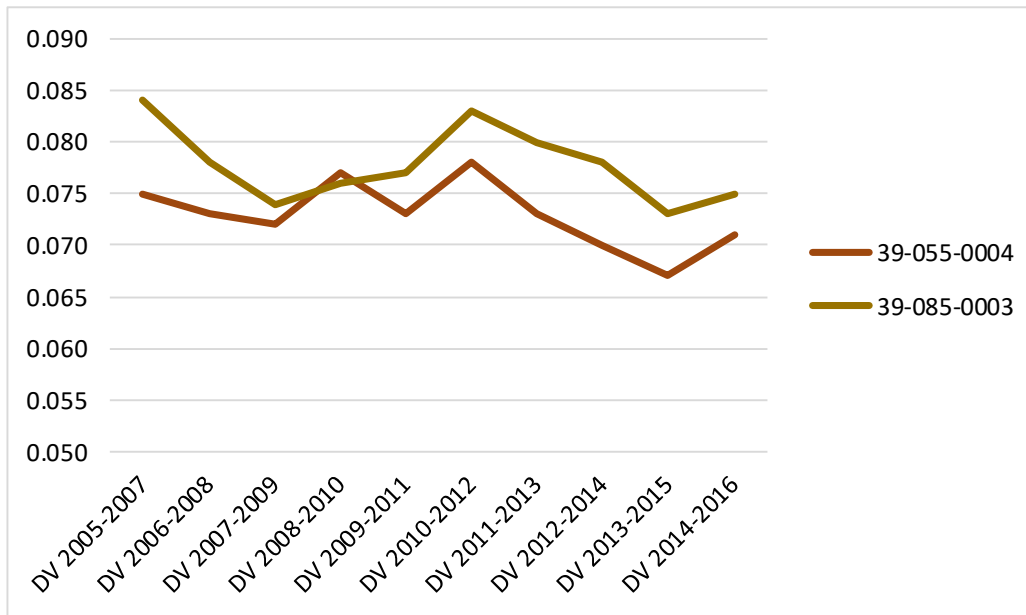
- Ohio recommended seven counties for a nonattainment area
 - Cuyahoga
 - Geauga
 - Lake
 - Lorain
 - Medina
 - Portage
 - Summit

EPA's five factor analysis

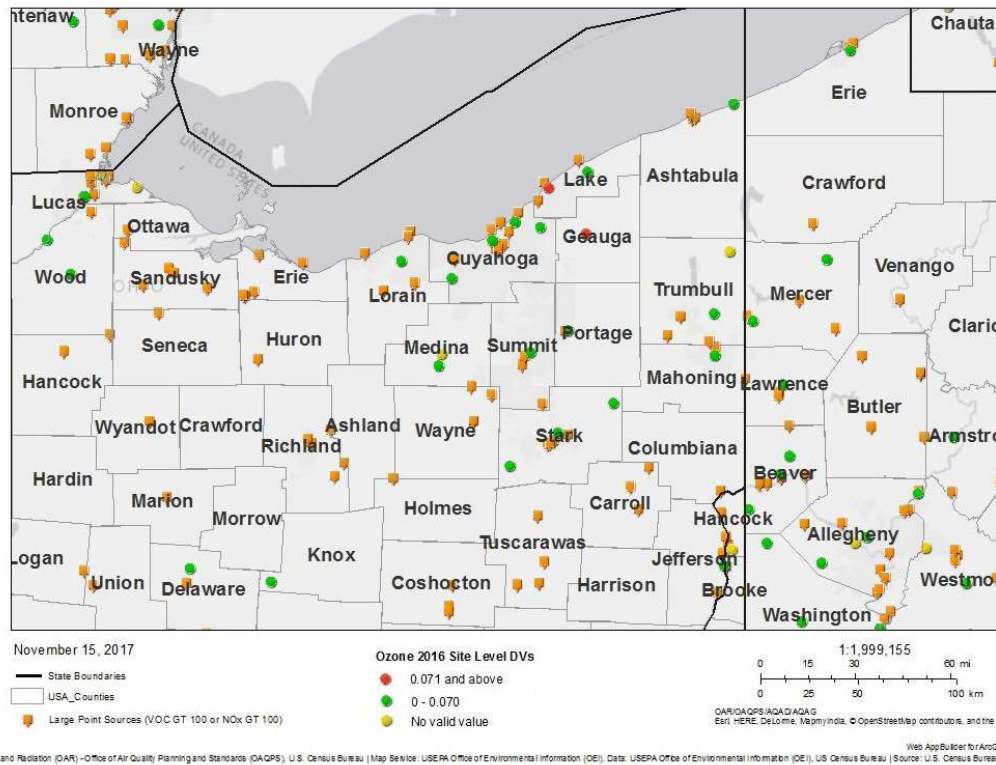
1. Air quality data
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1. Air quality data

- Three-year design values for violating monitors



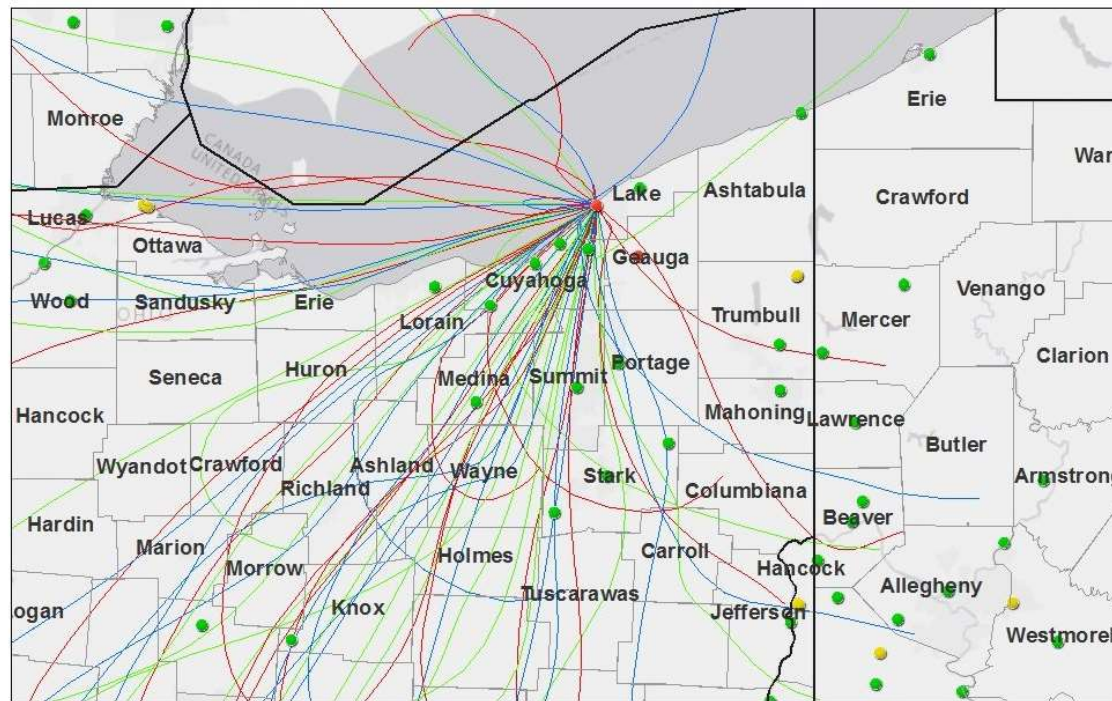
2. Emissions and emission-related data



2. Emissions and emission-related data

- Emissions from large point sources
- County-level NO_x and VOC emissions
- Population density and degree of urbanization
- Population and growth
- Traffic and vehicle miles traveled (VMT)
- Traffic and commuting patterns

3. Meteorology



December 4, 2017
 State Boundaries
 USA_Counties
 Site level DVs
 Violating
 Attaining
 Incomplete
 Cleveland_OH_390850003
 100
 500
 1,000
 1:2,022,267
 0 15 30 60 mi
 0 25 50 100 km
 Esri, HERE, DeLorme, MapmyIndia, © OpenStreetMap contributors, and the GIS user community
 Web AppBuilder for ArcGIS
 Air and Radiation (OAR) - Office of Air Quality Planning and Standards (OAQPS), U.S. Census Bureau | Map Service: USEPA Office of Environmental Information (OEI), Data: USEPA Office of Environmental Information (OEI), US Census Bureau | Source: U.S. Census Bureau |

4. Geography and topography



March 29, 2017
 State Boundaries
 USA_Countries

Ozone 2016 Site Level DVs (preliminary)

- Violating
- Attaining
- Incomplete

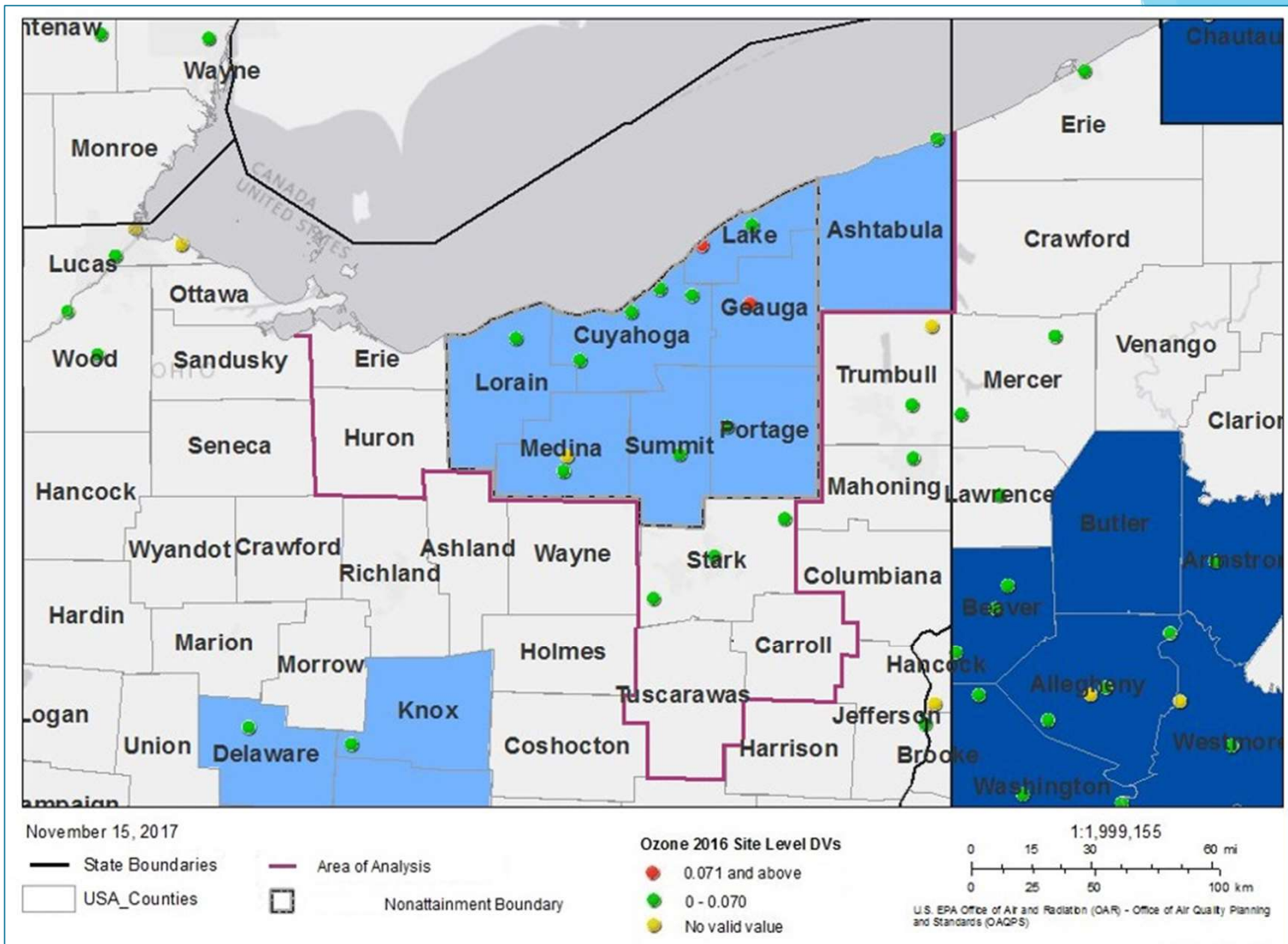
1:2,022,267
 0 15 30 60 mi
 0 25 50 100 km

Sources: Esri, HERE, DeLorme, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, ...

Map and Standards (QA/QS), U.S. Census Bureau | Map Service: USEPA Office of Environmental Information (OEI), U.S. Census Bureau | Source: U.S. Census Bureau | Esri, HERE, Garmin, FAO, USGS, NGA, EPA, NPS | Web App Builder for ArcGIS

5. Jurisdictional boundaries

- Boundaries for previous standards
- Air districts
- Metropolitan planning organizations



Intended and final designations

- EPA publishes 120-day letters
 - EPA agrees with Ohio that the nonattainment area should be the recommended area of seven counties
- EPA takes comments
- EPA finalizes designations
 - EPA finalizes the same area of seven counties

CAA NAAQS Implementation Timeline

From Date of Promulgation	
2 years	With input from States and Tribes, EPA designates areas
3 years	All States submit Infrastructure SIPs
From Date of Nonattainment Designation	
18 months	SIPs for areas designated as nonattainment for SO ₂ , NO ₂ , PM _{2.5} , PM ₁₀ , and Lead are due
3 years	SIPs for Ozone and CO nonattainment areas are due
5 years	Areas must be attaining the SO ₂ , NO ₂ , and Lead NAAQS
5-10 years	Areas must be attaining the PM _{2.5} and PM ₁₀ NAAQS (varies on severity)
3-20 years	Areas must be attaining Ozone NAAQS (varies from Marginal - Extreme)

Example NAAQS Implementation Timeline

Timeline for Implementing the PM_{2.5} Standards

Date	Action
February 2004*	State designation recommendations to EPA
June 28- 29, 2004	EPA letters to States responding to PM _{2.5} designation recommendations
December 2004	EPA finalizes designations
February 2005	EPA proposes implementation rule
Early 2006	EPA finalizes PM _{2.5} implementation rule
April 2008	State implementation plans due
Up to April 2010 with extension up to 2015 possible	Attainment dates for nonattainment areas (based on the previous 3 years of monitoring data)

* Consolidated Appropriations Bill of FY2004 requires designations by 12/31/04. SIP due dates for PM_{2.5} and regional haze are 3 years from effective date of PM_{2.5} designations.