



Non-attainment in Georgia

**Compliance with Federal National Ambient Air
Quality Standards**

James Kelly
Georgia EPD – Air Protection Branch

February 22, 2010



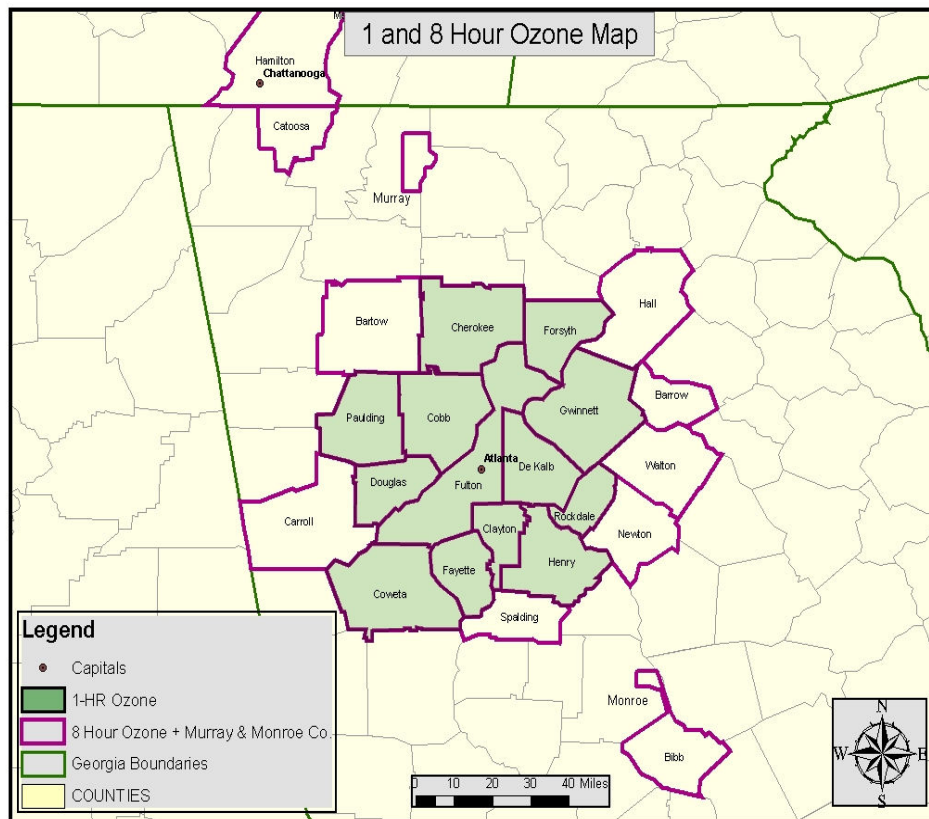
Nonattainment in Georgia

- Nonattainment with the National Ambient Air Quality Standards (NAAQS)
- 28 Counties affected by nonattainment designations from the 1997 NAAQS
 - 27 PM 2.5 (3 partial counties)
 - 24 8-hr Ozone (2 partial counties)
- 2009 proposed 8-hour Ozone could result in nonattainment for all monitored areas
- No areas affected by the 2010 NO₂ NAAQS
- Three areas could be affected by proposed 2009 SO₂ standard

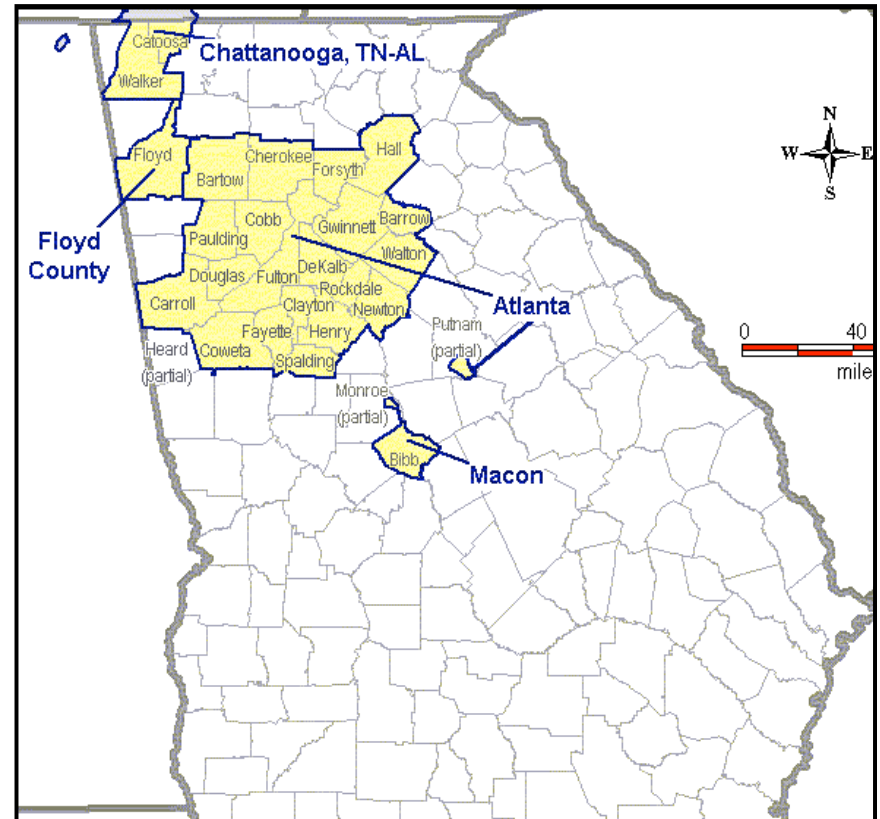
Non-Attainment in Georgia

- 8-hour ozone standard (85 ppb): **Atlanta**, Macon, Murray, Chattanooga (EAC)
- Annual PM_{2.5} standard (15 µg/m³): **Atlanta**, Macon, Floyd County, Chattanooga

Ozone non-attainment areas



PM_{2.5} non-attainment areas





Ozone NAAQS

- 1997 NAAQS – 0.08 ppm
- June 6, 2010 proposed NAAQS
0.060 to 0.070 ppm
 - Final by August 2010
 - Designation by July 2011

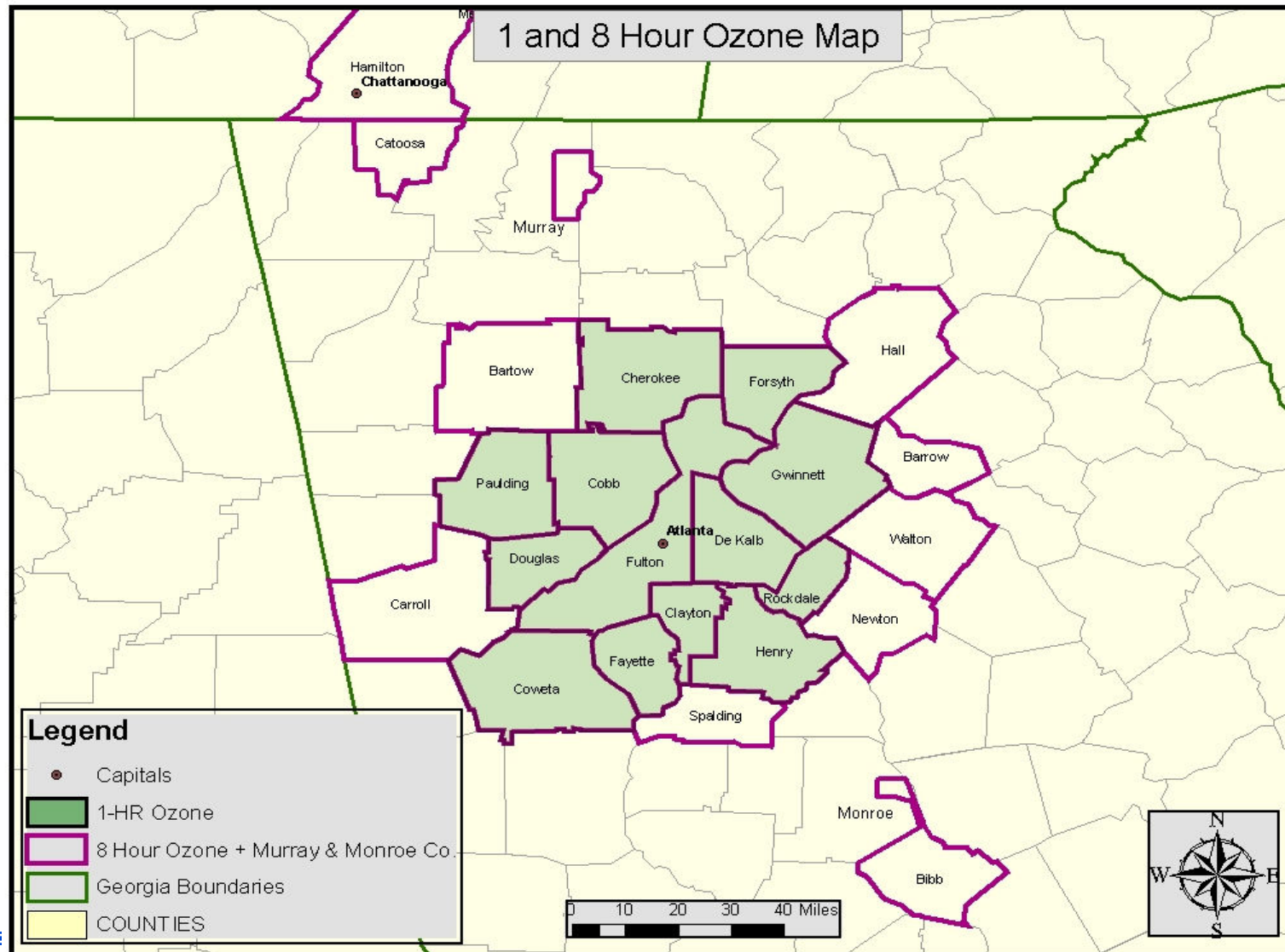


1997 8-Hour Ozone NAAQS

- Design value of ≤ 85 ppb
 - Average of annual 4th high values from 2007, 2008, and 2009
- Atlanta currently Moderate, with a 2010 attainment date
- Atlanta will likely not show attainment with current 8-hour ozone NAAQS
 - May be bumped from Moderate to Serious with a 2013 attainment date

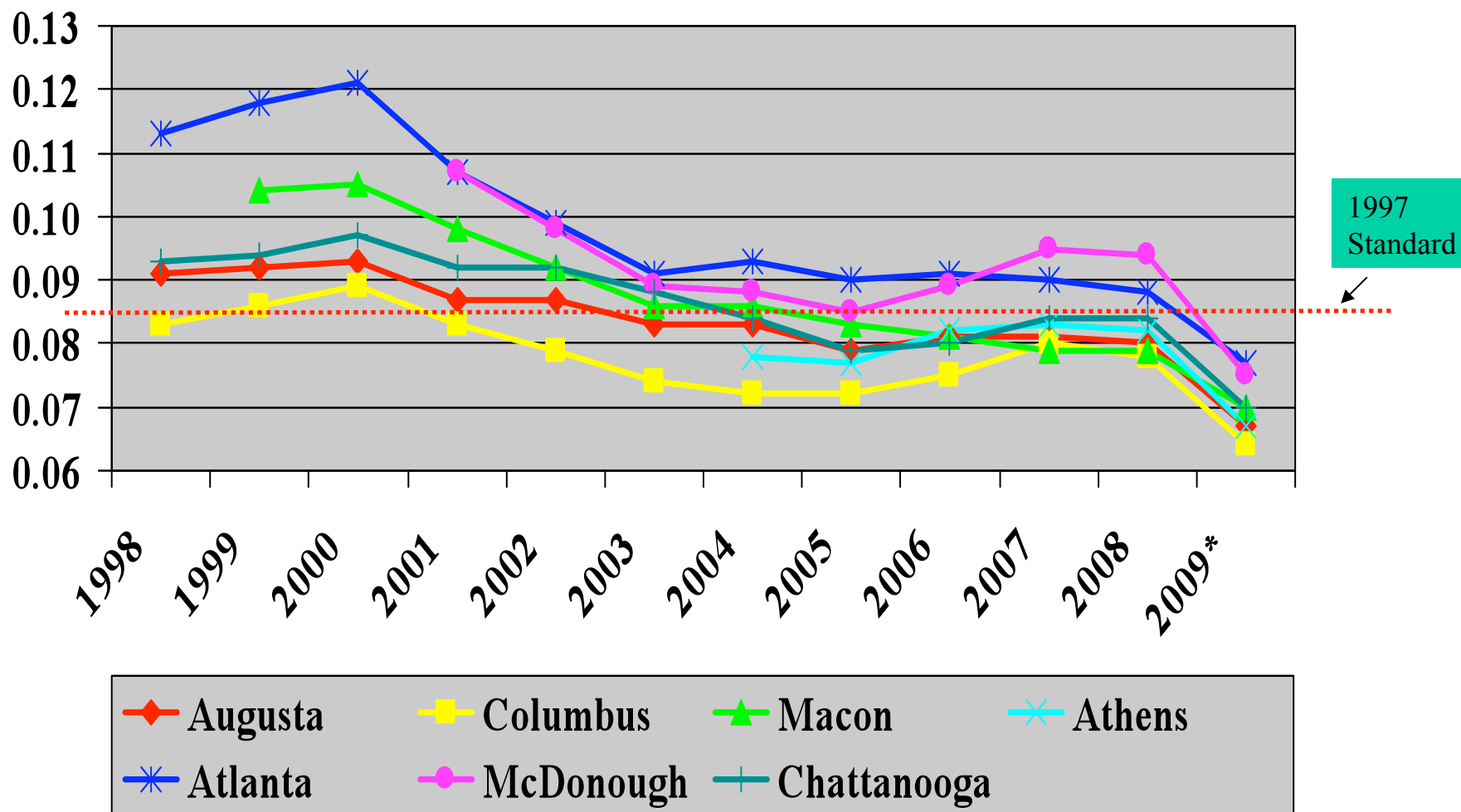


8-hr Non-attainment areas





Ozone – 3-Year Design Value



Georgia Environmental Protection Division



Summary of Ozone in Georgia

- Atlanta Previously designated “Severe” under the 1-hr Ozone standard
 - Standard attained June 15, 2005
 - Standard has since been revoked
- Atlanta currently “Marginal” under the 1997 8-hr standard
- Atlanta bumped-up to “Moderate” March 6, 2008
- Macon and Murray County redesignated to “Maintenance” for 8-hour Ozone Sept. 19, 2007
- Chattanooga met requirements for EAC and was designated attainment April 2, 2008



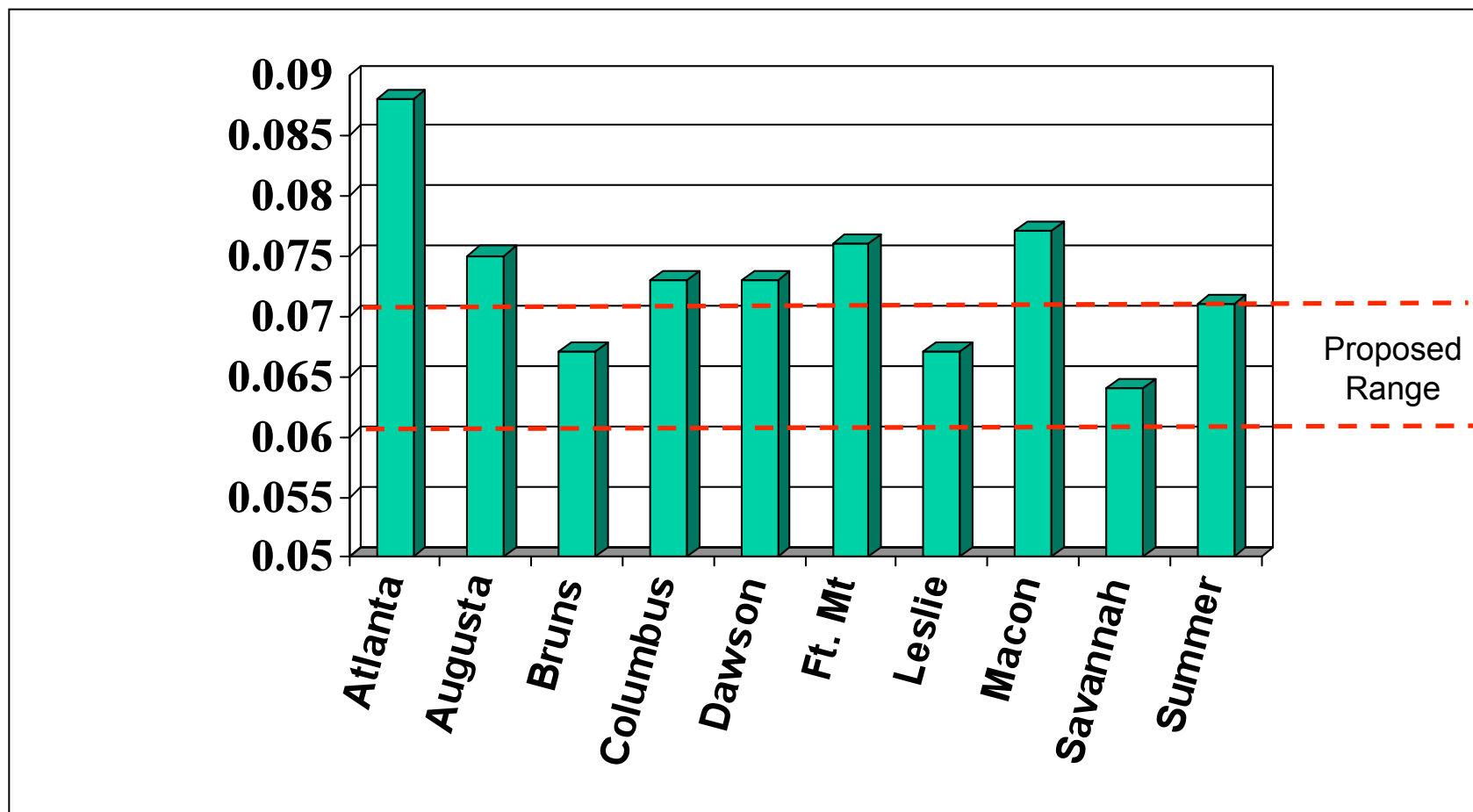
Proposed Ozone NAAQS

- June 6, 2010 proposed NAAQS
0.060 to 0.070 ppm
 - Final by August 2010
 - Designation by July 2011
- Secondary Standard 7-15 ppm-hours
- New monitors required



Areas Affected by Proposed Ozone NAAQS

Based on 2007-2009 ambient data



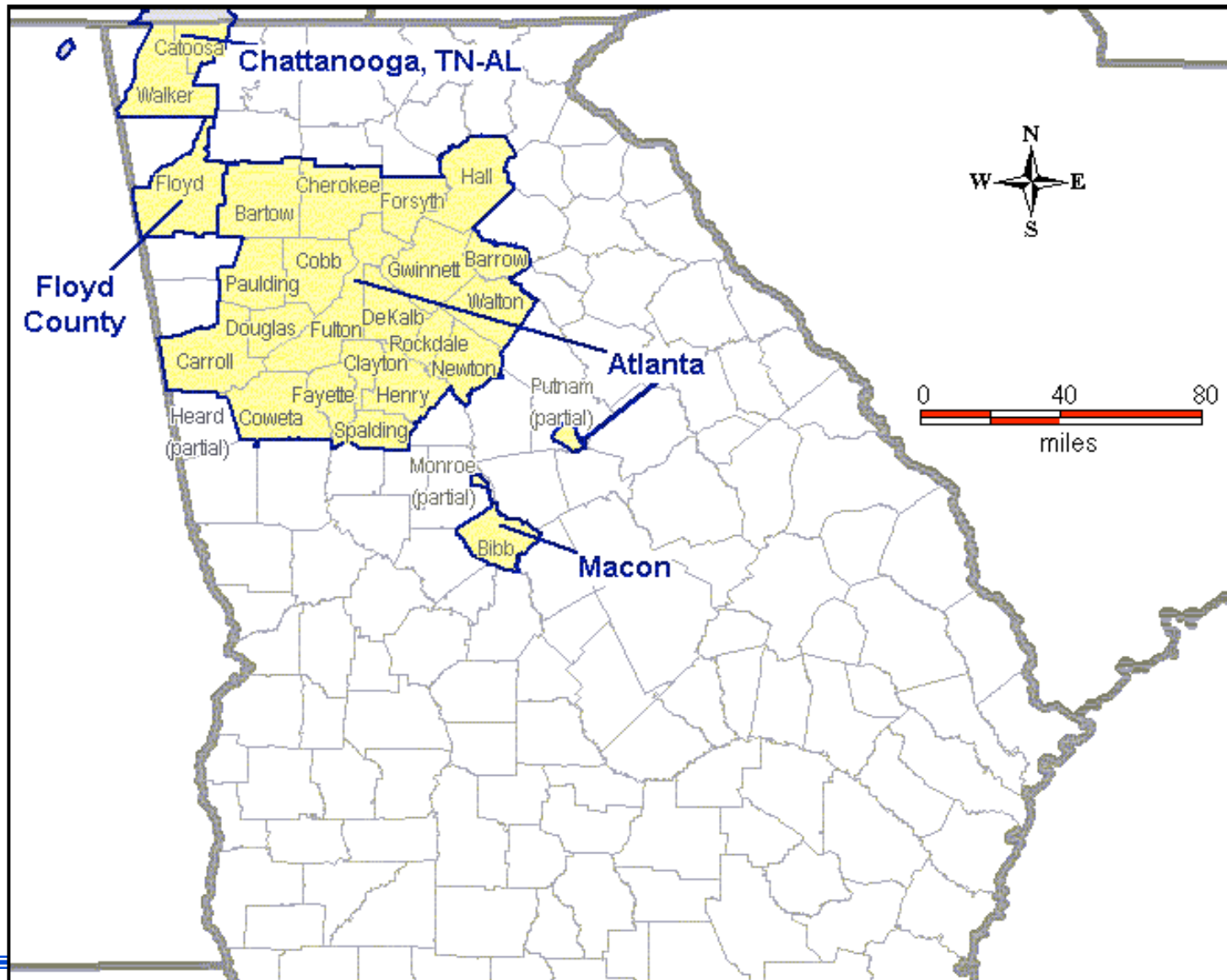


Fine Particulate Matter (PM 2.5)

- 1997 Annual NAAQS – $15.0 \mu\text{g}/\text{m}^3$
- 2006 24-hour NAAQS – $35.0 \mu\text{g}/\text{m}^3$
 - Annual Standard Not Changed
- 2006 NAAQS Is Being Reconsidered



PM 2.5 Nonattainment areas





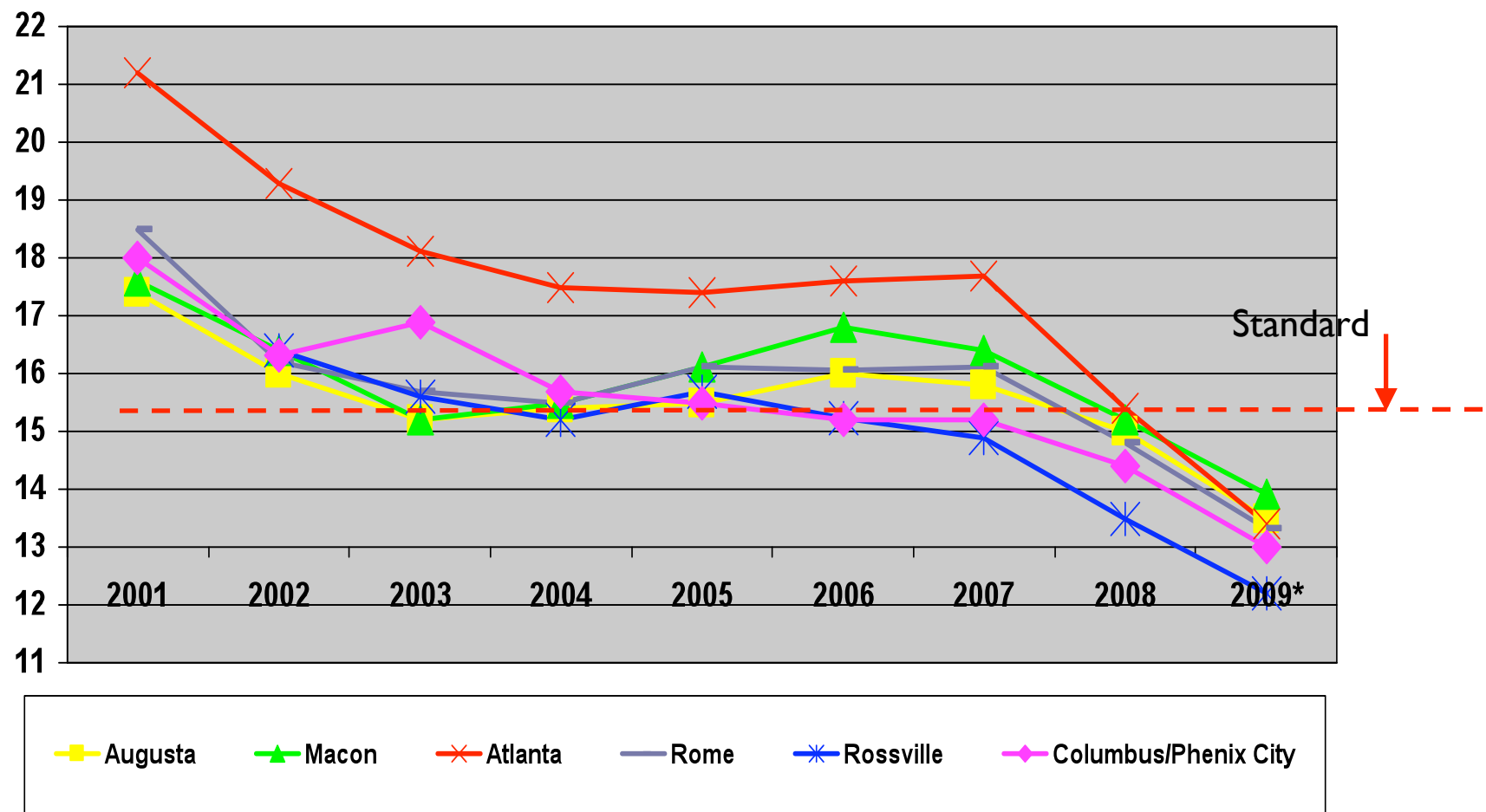
1997 Annual PM_{2.5} NAAQS

- Design value of $\leq 15.0 \text{ mg/m}^3$
 - Average of 2007, 2008, and 2009
- Attainment date April 2010
- Macon, Floyd, and Chattanooga SIPs
 - SIPs currently demonstrate attainment in 2010 and rely solely upon already promulgated state and federal rules.
- Atlanta will not show attainment by 2010 – requiring extension of attainment date
 - Plan to submit SIP with 2013 attainment date
 - Will need to model with 2012 emissions



Georgia Annual PM2.5

(3-year Average – microgram per cubic meter)



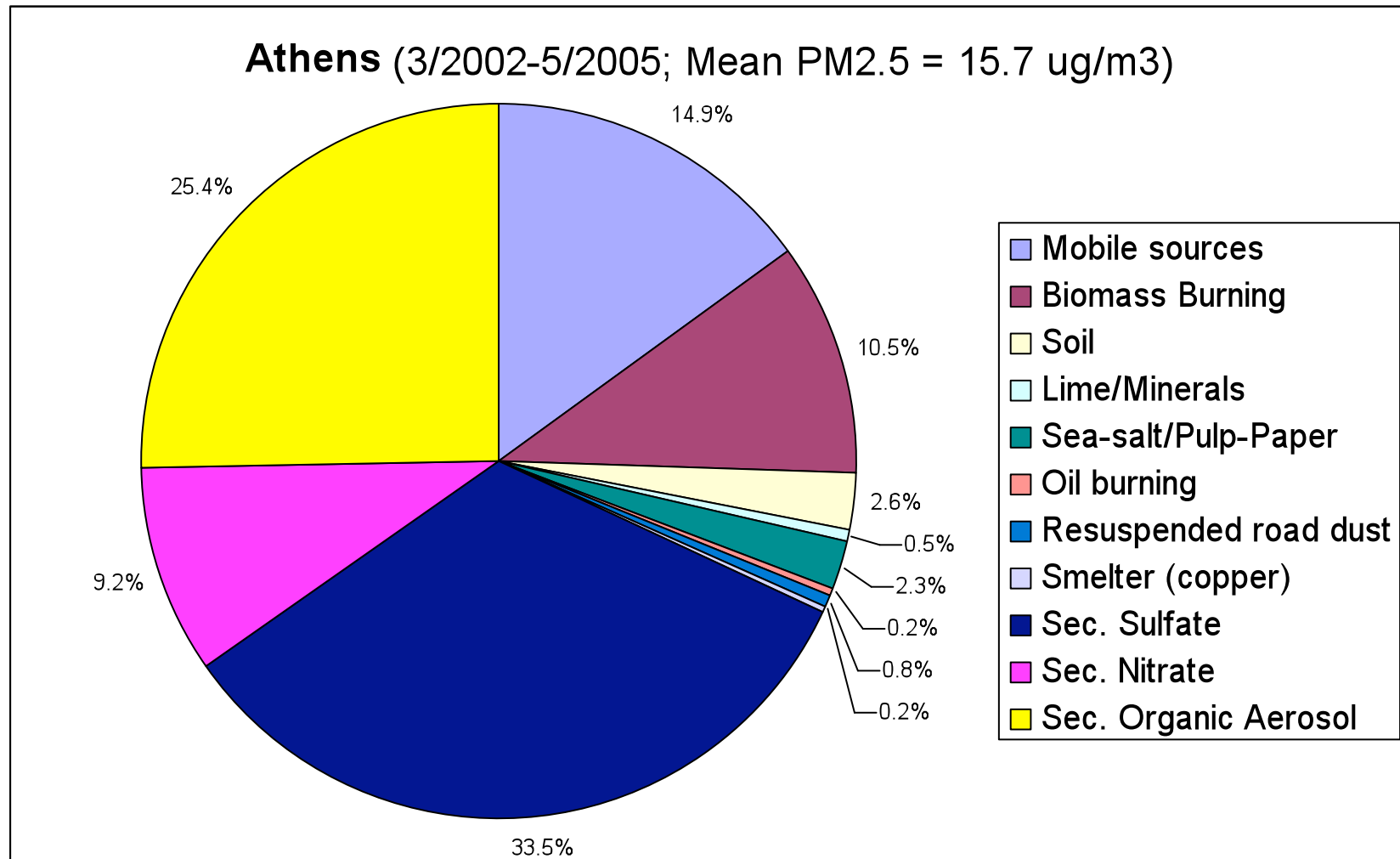


Source Apportionment of PM_{2.5}

- Used to Determine the origin of sources of PM_{2.5}
- Accomplished using Positive Matrix Factorization (PMF) Model
 - Associates various elements/compounds with emissions sources
 - Includes correlations with known major-sources of emissions

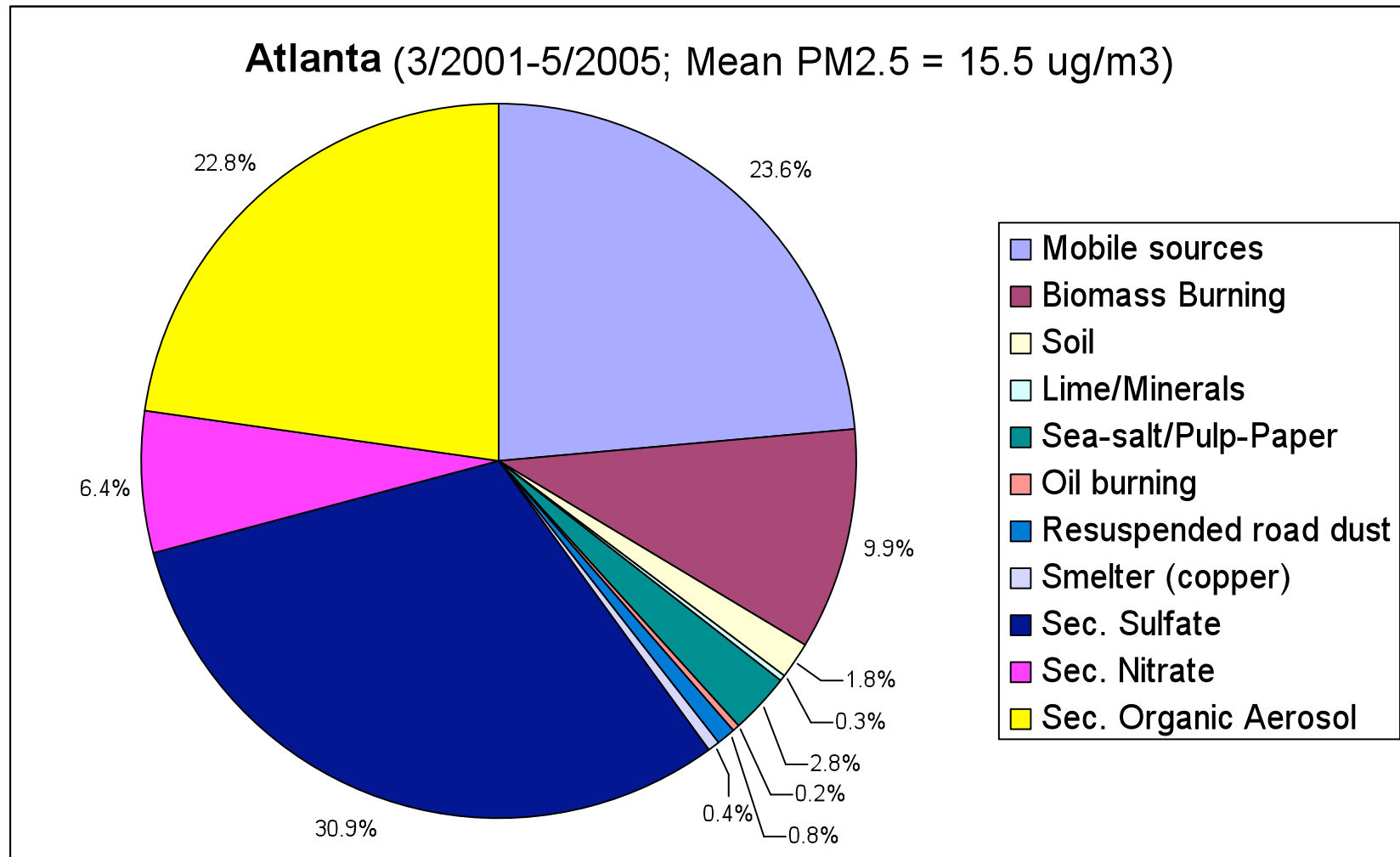


Average source-contributions: Athens



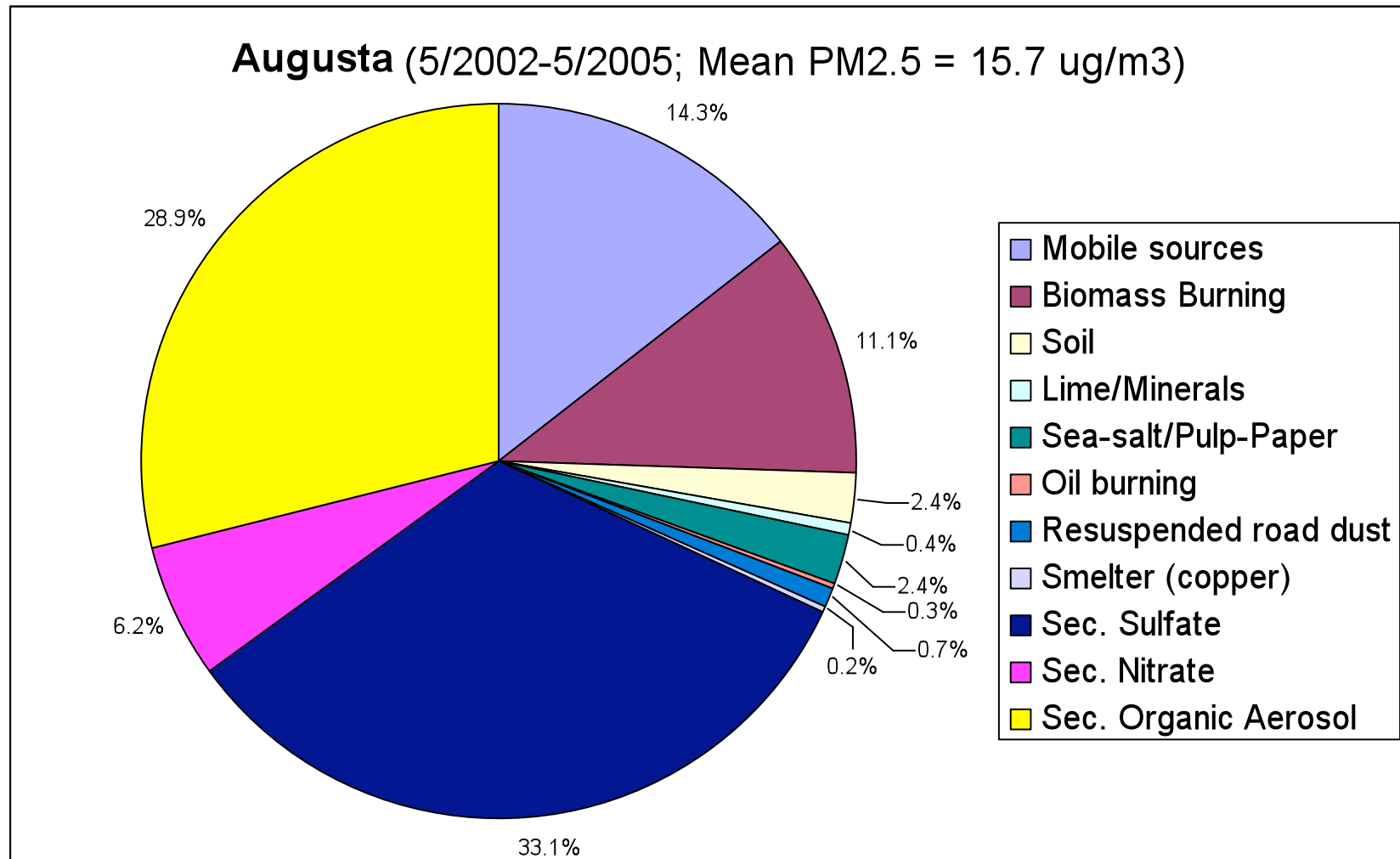


Average source-contributions: **Atlanta**



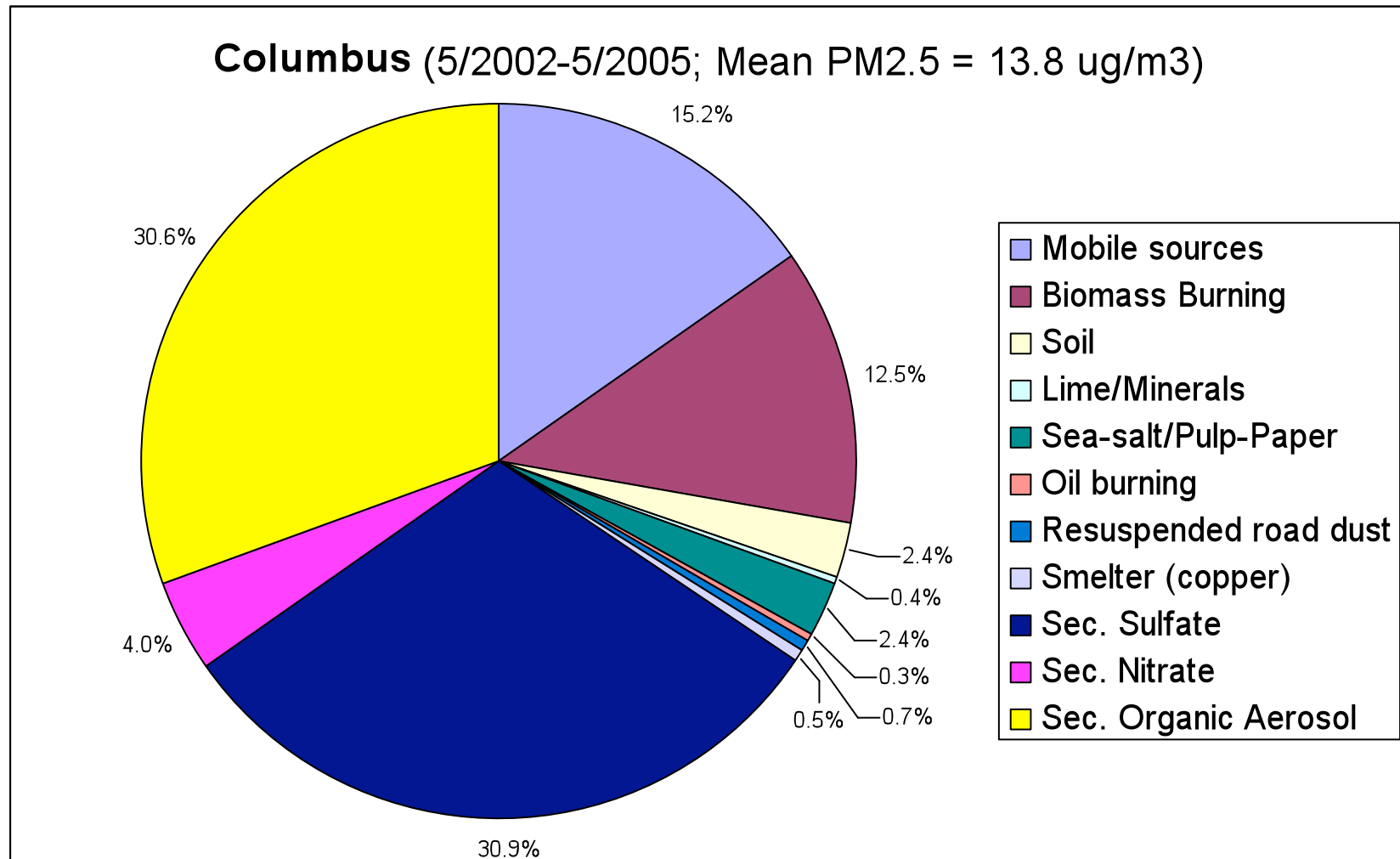


Average source-contributions: **Augusta**





Average source-contributions: **Columbus**





Additional New NAAQS

- NO₂
 - Final 01/22/2010
 - 1-hour average of 100 ppb
 - No new nonattainment areas under current monitored areas
 - New monitors required
 - No change to Secondary Standard



Additional New NAAQS

- SO₂
 - Proposed 11/16/2009
 - Final by June 2010
 - 1-hour average between 50 and 100 ppb
 - Alternative: 1-hour up to 150 ppb
 - No change to Secondary Standard
 - New monitors required
 - Atlanta, Savannah, and Rome could be affected



Questions??

Jim Kelly

James_Kelly@dnr.state.ga.us

(404) 363 7131