Scope and Goals of ARL’s Air Quality Program

- Air Quality Forecasting and Air Toxics Models
  Ozone and Fine Particulate Matter
  Dust and Smoke
  Mercury and other Air Toxics (e.g., Dioxin)
- Measurement and Monitoring Programs
  Mercury
  Nitrogen
  Precipitation Chemistry
Indicators of Preeminence

- Strong publication record, including several highly-cited papers
- Leadership in national and international air quality activities
- Establishment of modeling products used operationally by NOAA and globally
- Enduring top quality research monitoring networks
- NOAA Research Outstanding Scientific Paper (Cohen, Draxler & Artz, 2003)
- DOC Gold Medal for HYSPLIT model development (Draxler, 2009)
- EPA 2009 Level 1 Scientific and Tech Achievement Award (Byun and Schere, 2009)
- NOAA Distinguished Career Award (Dale Gillette, 2006)
- Presidential Rank Award for Meritorious Senior Professionals (Bruce Hicks, 2003)
- … a myriad of applications involving a broad suite of atmospheric pollutants.
ARL Air Quality Publications
2001-2010
Total = 100; Average = 10/year

Journals
- Atmos. Env.
- Books, Chapters
- J. Geophys. Res.
- Env. Manag.
- J. Air Waste Manag.
- Env. Sci. Tech.
- Other
Future Plans

• Air Quality Forecast Models
  • Improve emissions estimates for fires and dust
  • Develop tighter linkages with meteorological models
  • Develop chemical data assimilation capability

• Air Quality Toxics Models
  • Improve treatment of natural sources, surface exchange, and re-emissions
  • Capitalize on unique model evaluation opportunities

• Mercury, Nitrogen, and Precipitation Chemistry Measurements
  • Optimize existing and develop new measurement methods
  • Determine suitability of real-time sensors for long-term air-surface exchange research (nitrogen)
  • Develop protocols for global monitoring of mercury and dry deposition

• Assessments
  • Complete WMO global precipitation chemistry assessment
Thank You!