

US EPA ARCHIVE DOCUMENT

EPA's National Air Toxics Assessment (NATA)

**Introductory material for Windham *et al.*
presentation to Region 9**

Matt Lakin, EPA Region 9

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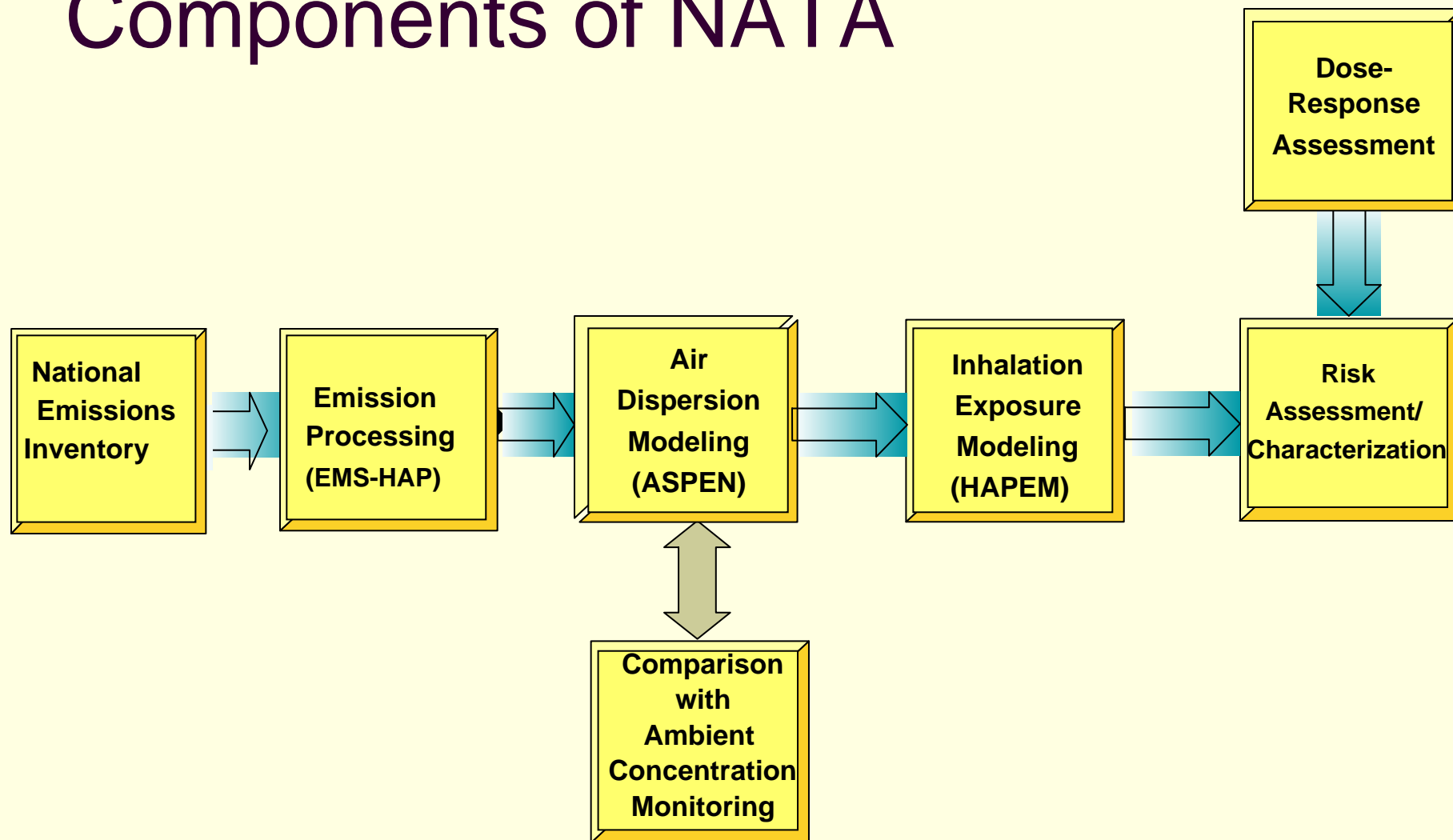
(overview slides courtesy of Ted Palma, OAQPS)

What is NATA?

Characterization of air toxics across the nation:

- Nationwide assessment, census tract resolution
- 177 hazardous air pollutants (HAPs) plus diesel PM (1996 NATA estimated 32 HAPs plus diesel PM)
- Emissions from:
 - major stationary sources (e.g. power plant),
 - smaller stationary sources (e.g. dry cleaners and gas stations),
 - onroad mobile sources (e.g. cars), and
 - nonroad mobile sources (e.g. locomotives, lawn and garden equipment)
- Modeled ambient concentrations and estimated inhalation exposures from outdoor sources
- Cancer and noncancer risk estimates for the 133 HAPs with health data based on chronic exposures

Components of NATA



History of National Air Toxics Assessments

- Cumulative Exposure Project (CEP)
 - 1990 data
 - Released in 1998
 - No peer review
- 1996 NATA
 - 1996 data
 - Released in May 2002
 - Internal and Science Advisory Board peer reviews
- 1999 NATA
 - 1999 data
 - Internal reviews
 - Scheduled for release in early 2006

1999 National-Scale Assessment Risk Characterization - Significant Pollutants

■ Cancer

- National drivers¹
 - Benzene
- Regional drivers²
 - Arsenic compounds
 - Benzidine
 - 1,3-Butadiene
 - Cadmium compounds
 - Carbon Tetrachloride
 - Chromium 6
 - Coke oven
 - Ethylene oxide
 - Hydrazine
 - Naphthalene
 - Perchloroethylene
 - POM

■ Non-Cancer

- National drivers³
 - Acrolein
- Regional drivers⁴
 - Antimony
 - Arsenic Compounds
 - 1,3-Butadiene
 - Cadmium compounds
 - Chlorine
 - Chromium 6
 - Diesel PM
 - Formaldehyde
 - Hexamethylene 1-6-diisocyanate
 - Hydrazine
 - Hydrochloric acid
 - Maleic anhydride
 - Manganese compounds
 - Nickel compounds
 - 2,4-Toluene Diisocyanate
 - Triethylamine

¹ At least 25 million people exposed to risk > 10 in 1 million

² At least 1 million people exposed to risk > 10 in 1 million OR At least 10,000 people exposed to risk > 100 in 1 million

³ At least 25 million people exposed to a hazard quotient (HQ) > 1.0

⁴ At least 10,000 people exposed to HQ > 1
Blue indicates new drivers since 1996

HAPs Potentially Relevant to Autism, Used by Windham *et al.*

Metals

- Arsenic
- Cadmium
- Chromium
- Lead
- Manganese
- Nickel

Aromatic Solvents

- Benzene
- Ethyl Benzene
- Styrene
- Toluene
- Xylene

Chlorinated Solvents

- Methylene chloride
- Perchloroethylene
- Trichloroethylene
- Vinyl chloride

Other HAPs

- Hydrazine
- PAHs (7)
- Diesel PM