Managing EPA's Emission Inventory Databases

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What is the NEI?

- EPA's National Emission Inventory
  - National Emission Inventory of Criteria Pollutants (and Precursors) and HAPS
  - Published Annually by EPA's Office of Air Quality Standards and Planning
  - EPA's Database as Opposed to States Database (AIRS-AFS)

Uses of the NEI

- Regional and Local Scale Air Quality & Human Exposure Modeling

- Control Strategy Analysis

- Regulatory Impact Analysis

- Risk Assessment Studies

- Emission Trends - Public Reports

- International Reporting

What's in the NEI?

- Geographic Coverage
  - Entire U.S.
  - County Level Inventory for Area and Mobile Sources
  - Process Level Inventory for Point Sources

What's in the NEI?

- Pollutant Coverage
  - Ozone Precursors
    - VOC, NO_X, CO (NET)
  - Direct PM Emissions
    - PM_{10} and $PM_{2.5}$ (NET)
  - PM Precursors
    - SO_2, NH_3 (NET)
  - Air Toxics
    - 188 HAPs (NTI)

What's in the NEI?

- Temporal Coverage
  - Data for 1985 through 1999 (NET)
    - Highest Quality Data 1996 and forward
  - Data for 1990, 1993, 1996, 1999 (NTI)
  - Annual Emissions (NET and NTI)
  - Average Summer Day Emissions (NET)
  - Operating Schedule & Temporal Factors to Create Emissions for Other Time Periods

NEI Data Input

- Batch Updates - Once a Year
- State Data Used Where Possible
- State Submissions through CDX (June 2001)
- All Data Flows Through EFIG
- EFIG Augments Data Where Necessary

NEI Data Access

← Summaries ——— Level of Detail ——— Most Detail →

AIRSData WWW Site
Plant Level Summaries
SIC Summaries
County Level Summaries
Tier 2 Summaries
MACT Code Summaries

**www.epa.gov/air/data/
sources.htm**

NEON
(Coming 2001 2nd Quarter)
Intranet Query Tool
Available to EPA
Design Your Own Queries
and Data Extracts
Emission Process Detail
Summaries (SCC, SIC, Tier)

EPA FTP Site
FTP Site Where Entire 1996 and
1999 NET and NTI Inventories
Can Be Downloaded
Process/SCC Level for Points
County/SCC Level for
Area/Mobile

**ftp.epa.gov/pub/
EmisInventory/**

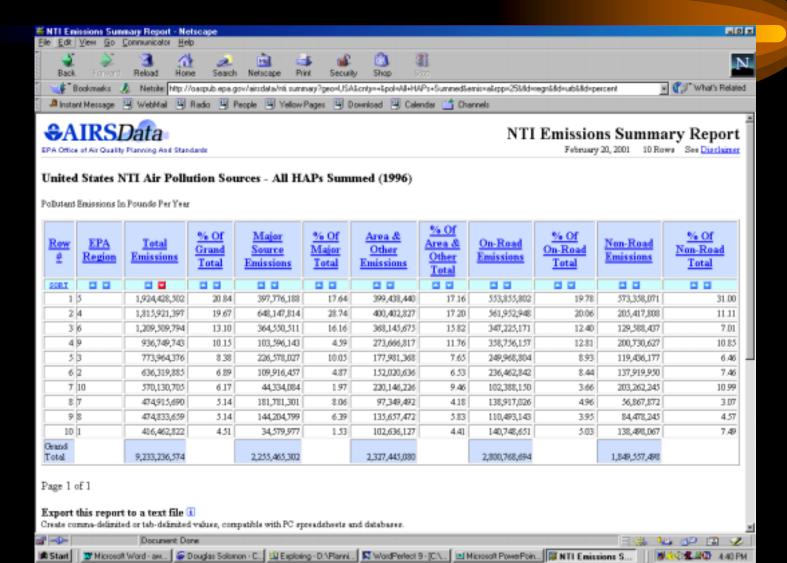← Easiest ——— Accessibility ——— Most Difficult →

Data Access - AIRData

- Emissions (both) - Facility level emissions
- Count (both) - No. of point sources and emissions
- SIC (NET) - No. point sources and emissions in SICs
- Tier (NET) - Point, area, and mobile emissions by EPA Tier Category
- MACT (NTI) - Facility level emissions by MACT Code
- Summary (NTI) - County Level Emissions Broken into Major Source, Area, On-road Mobile, and Non-road Mobile Components
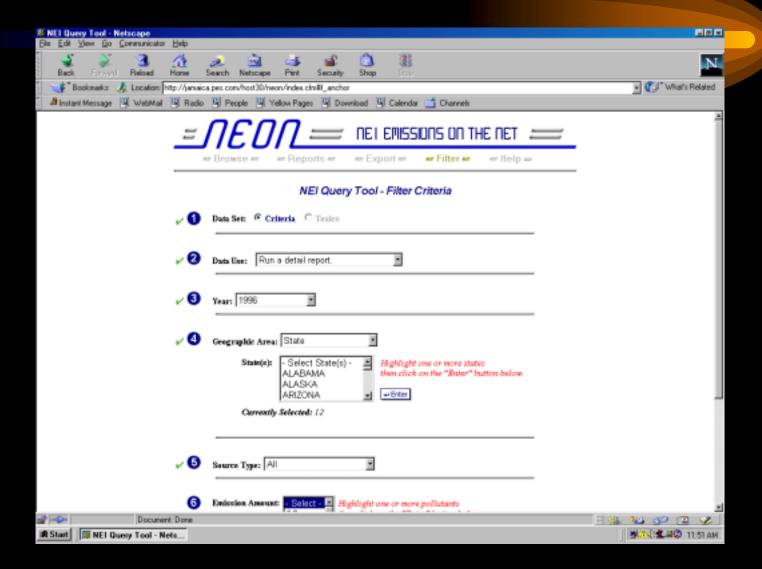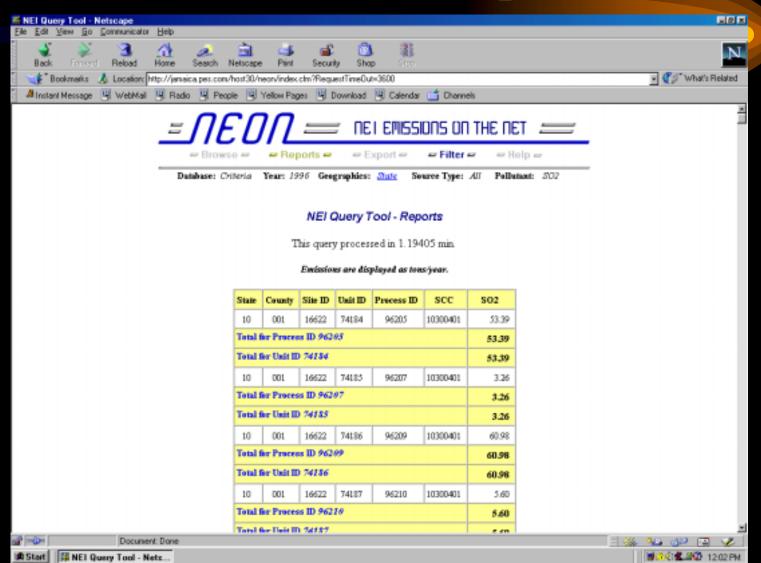
AIRData Selection Screen

AIRData Output Screen

NEON Selection Screen

NEON Output Screen

- Electric Generating Units (EGUs)
  - Emission Tracking System/Continuous Emissions Monitoring Data (ETS/CEM) - NO_X and SO_2
  - Augmented with fuel use data from DOE and AP-42 Emission Factors for Other Pollutants and Small Sources
  - ESD (NTI - Mercury)
  - States

NEI Inventory Sources of Data (cont..)

- Non-EGU Point Sources
  - State Data for More Than 40 States
  - ESD (NTI)
  - Toxics Release Inventory (NTI)
  - Older Inventories Grown Where No State Data Submitted (NET)

- Onroad Mobile
  - Vehicle Miles Traveled (VMT)
    - Highway Performance Monitoring System (HPMS)
  - Emission Factors
    - MOBILE5b Default Updated with NOx SIP Call Data
    - PART5 for PM and SO_2
    - Factors From OTAQ Study for Ammonia

- Nonroad Mobile
  - Beta Version of OTAQ NONROAD Model
  - Updated Activity and Emission Factor Data
  - OTAQ Factors for Ammonia

- Stationary Area Sources
  - State Data
  - Estimated by EPA
  - Older Inventories Grown Where No State Data Submitted (NET)

NEI Inventory Current/Future Plans

- NET Version 4 - March 2001
  - More 1996 State Data
  - Improved Mobile Source Estimates
  - More Rigorous QA
  - Preliminary 1999 Estimates

NEI Inventory Current/Future Plans (cont.)

- 1999 Inventory Cycle
  - State Data including utility and mobile source
  - NET/NTI Integration (Name will change to National Emission Inventory - NEI)
    - Standard Formats for Inputs and Reports
    - Use of CDX for State Submittals
  - Automated QA Software
  - Incorporation of Most Current Methods and Data
  - Tribal Indicators

NEI Inventory Current/Future Plans (cont.)

- Enhanced Access
  - Improvements to AIRData
  - Intranet Query Tool - Direct Access to Oracle Data Base
  - AIRS Graphics - Maps & Graphs
  - Envirofacts

Some Database Tips

- Design for the Near Future

- Take Small Bites

- Get Good Database Help Early

- Keep it Simple

NEI Inventory
For More Information . . .

- CHIEF Website
  - http://www.epa.gov/ttn/chief/
- Look for NEI Users Group and Listserve
  - http://www.epa.gov/ttn/chief/listserv.html#nei