



Development of the EPA's Emissions Modeling Platform

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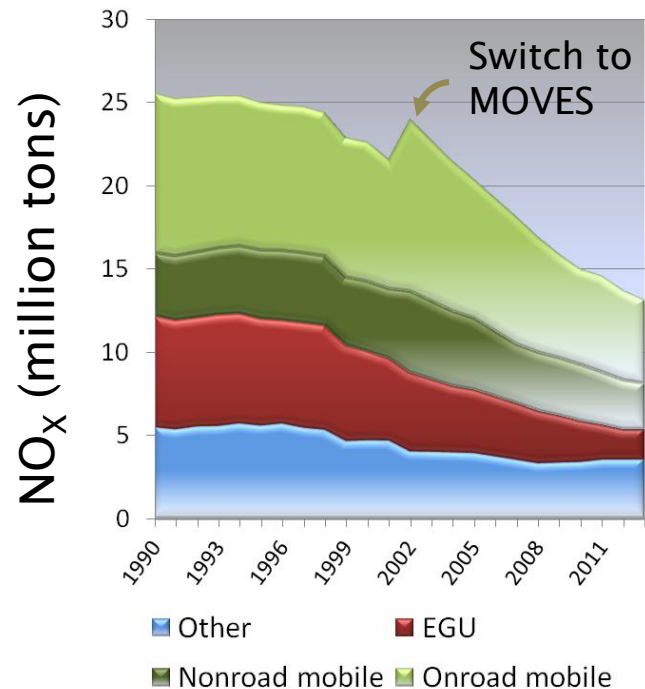
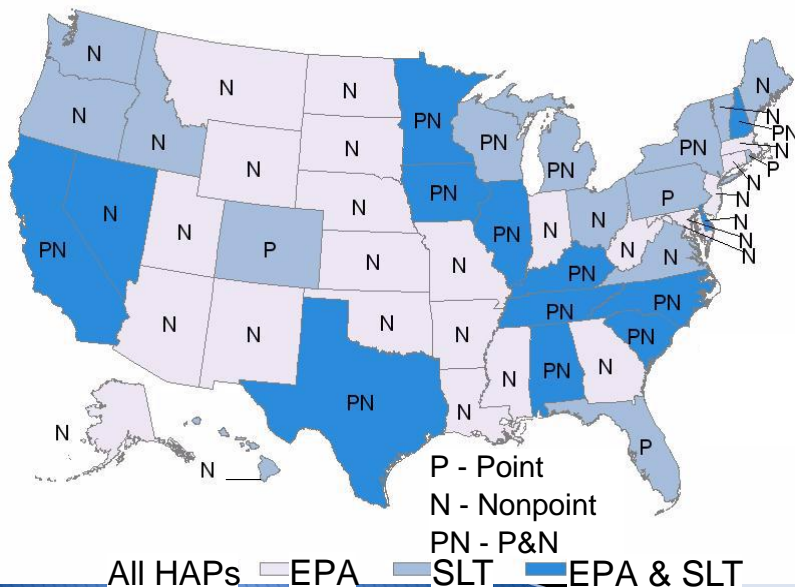
GEIA Conference, June 2014



2011 National Emissions Inventory (NEI) v1

- ▶ The full NEI is on a 3 year cycle
- ▶ States, locals, and tribes (S/L/Ts) are required to submit criteria pollutants
 - Air Emissions Reporting Requirements (AERR) defines the requirements of S/L/Ts to collect and submit emissions
- ▶ Hazardous Air Pollutants (HAPs) and GHGs are voluntarily submitted
- ▶ Emissions Inventory System (EIS) used to build and release the NEI
 - Data hierarchy: S/L/T data typically above EPA generated data

Solvent - Dry Cleaning



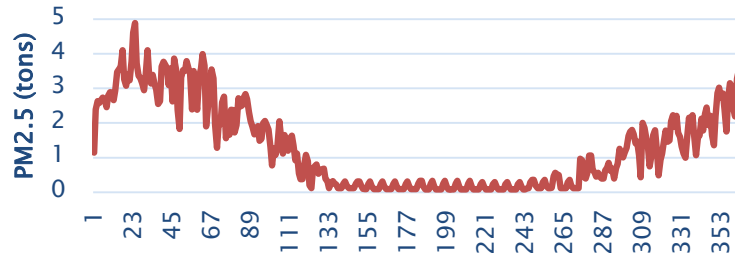


Overview of Modeling Platform

- Processing steps needed to convert emissions inventories into the resolution and formats needed by air quality models.

Temporalization

Chittenden Co, VT: RWC 2011 Daily
PM2.5



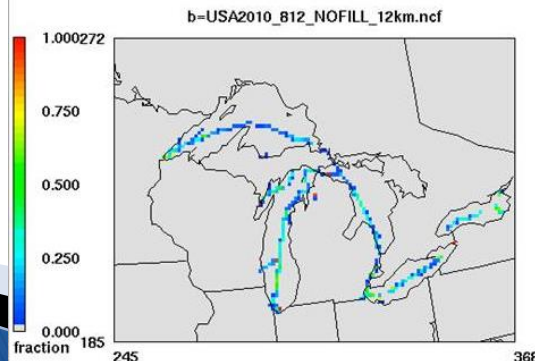
Inventories
(annual/
monthly/daily)

Speciation

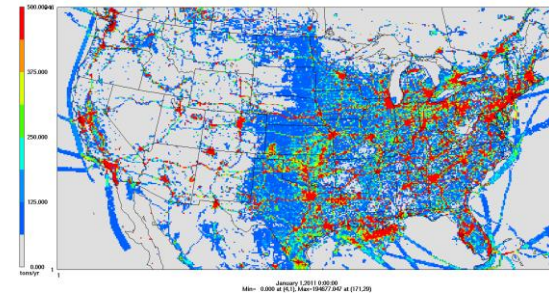


Gridding

812: Great Lakes Shipping Lane NOx Activity



2011ed annual NOx



Gridded, hourly,
speciated emissions



Uses and Challenges

- ▶ 2011 modeling platform and 2018 projected emissions are primarily based on 2011 NEI v1
 - Received comments from S/L/Ts, environmental groups and industry
- ▶ Basis for EPA's air analyses for rules and other purposes:
 - Transport of pollution across state boundaries
 - Health risks from toxic emissions (e.g. 2011 NATA v1)
 - Criteria pollutant standards (e.g. O3 NAAQS proposal)
 - GHG co-benefits (e.g. EGU GHG proposal – 111d)
- ▶ Challenge with international emissions
 - Getting current international emissions and future projections
 - Matching sources and sectors across inventories
 - NEI has thousands of process codes → 60 EIS sectors
→ 19 modeling sectors



For more information ...

- ▶ 2011 NEI v1:
<http://www.epa.gov/ttn/chief/net/2011inventory.html>
- ▶ Emissions trends:
www.epa.gov/ttn/chief/trends
- ▶ 2011 Emissions Modeling Platform:
<http://www.epa.gov/ttn/chief/emch/index.html#2011>
- ▶ My contact: zubrow.alexis@epa.gov



Appendix

EGU – Electric Generating Unit

EIS – Emissions Inventory System

NAAQS – National Ambient Air Quality Standards

NATA – National-Scale Air Toxics Assessment

NEI – National Emissions Inventory

S/L/T – State/Local/Tribal