What's known about NPS

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Overview

1. Context
   - Global
   - Alberta
2. Alberta NPS Emissions
3. Gaps
4. NPS Defined
5. Questions

1.CONTEXT

NASA Global 'Pollution' Map

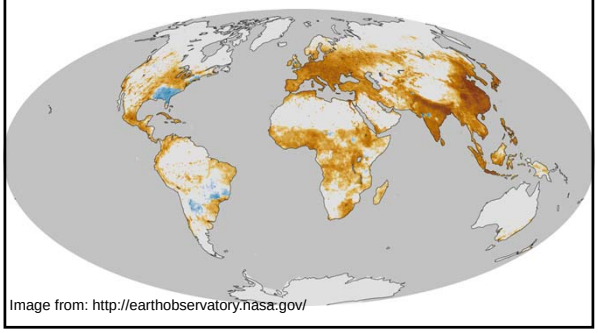
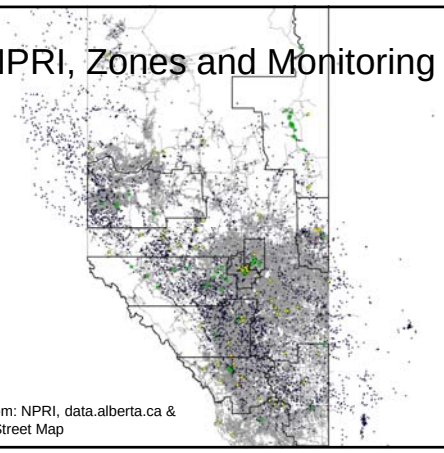


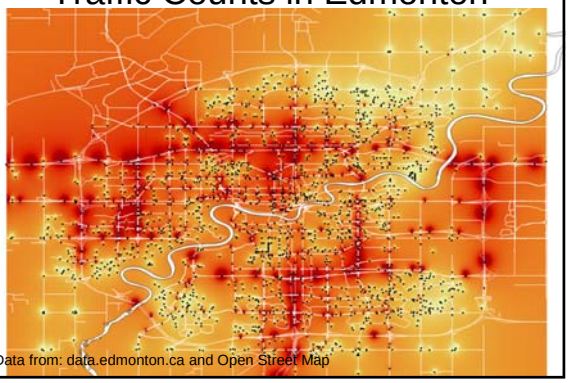
Image from: http://earthobservatory.nasa.gov/

NPRI, Zones and Monitoring



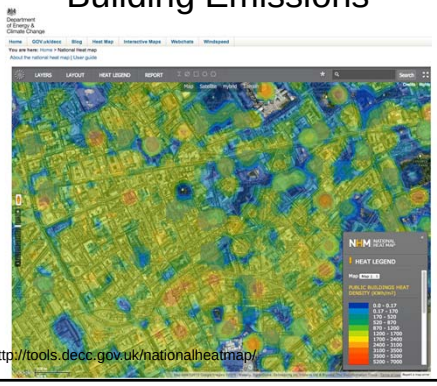
Data from: NPRI, data.alberta.ca & Open Street Map

Traffic Counts in Edmonton



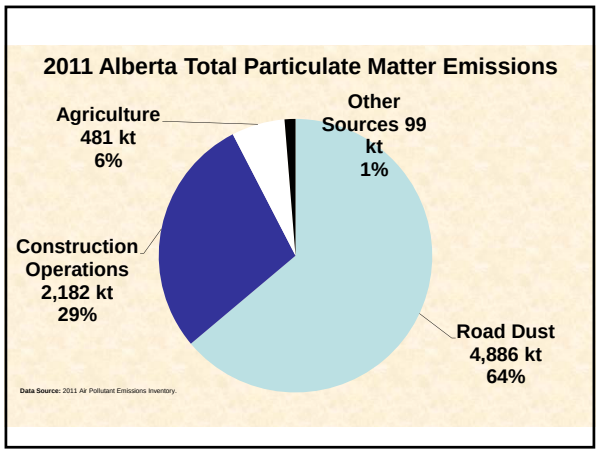
Data from: data.edmonton.ca and Open Street Map

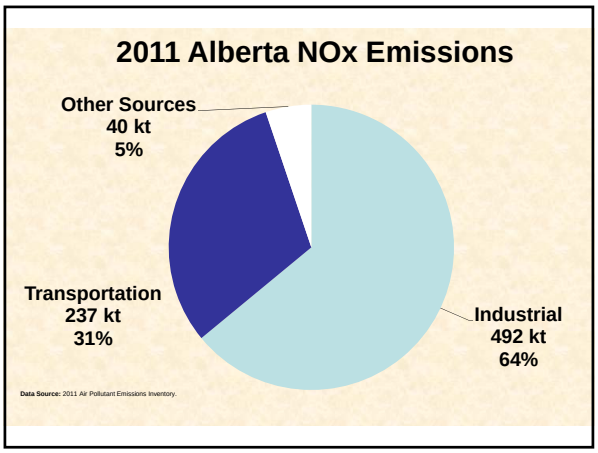
Building Emissions

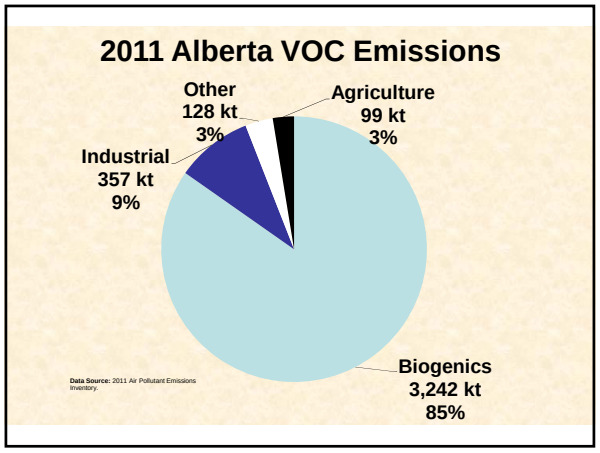


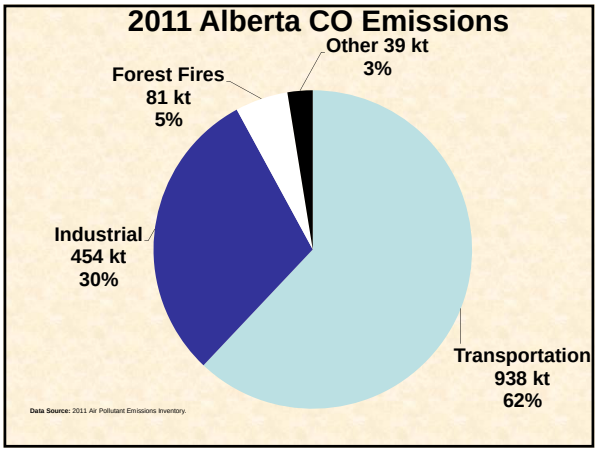
From: http://tools.decc.gov.uk/nationalheatmap/

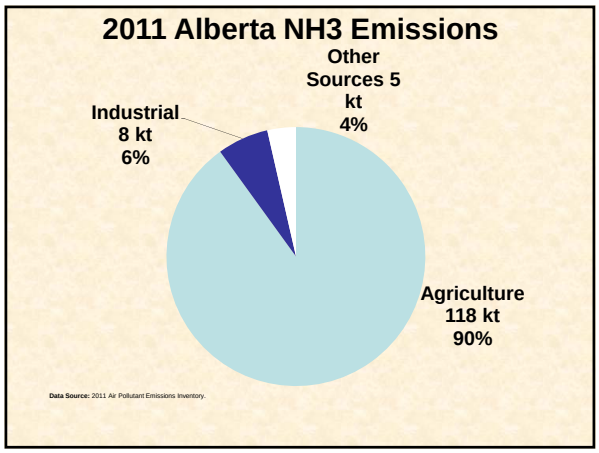
2.ALBERTA NPS EMISSIONS


2011 Alberta Total Particulate Matter Emissions
Agriculture
481 kt
6%
Other
Sources 99
kt
1%
Construction
Operations
2,182 kt
29%
Road Dust
4,886 kt
64%
Data Source: 2011 Air Pollutant Emissions Inventory.

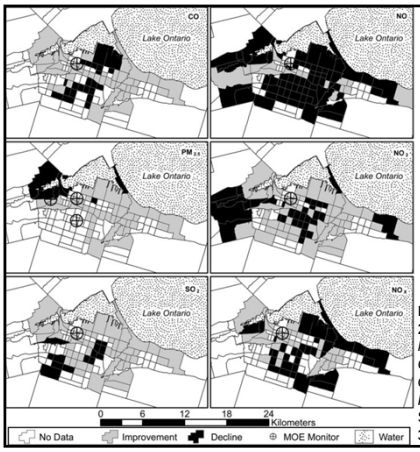

2011 Alberta NOx Emissions
Other Sources
40 kt
5%
Transportation
237 kt
31%
Industrial
492 kt
64%
Data Source: 2011 Air Pollutant Emissions Inventory.


2011 Alberta VOC Emissions
Other
128 kt
3%
Agriculture
99 kt
3%
Industrial
357 kt
9%
Biogenics
3,242 kt
85%
Data Source: 2011 Air Pollutant Emissions Inventory.


2011 Alberta CO Emissions
Other 39 kt
3%
Forest Fires
81 kt
5%
Industrial
454 kt
30%
Transportation
938 kt
62%
Data Source: 2011 Air Pollutant Emissions Inventory.



3.GAPS



AQ improvement and decline in Hamilton ON 2005-2010

From: Adams M.D., et al. 2012. *Mobile Air Monitoring: Measuring Change in Air Quality in the City of Hamilton, 2005–2010.* Soc Indic Res 108:351-364

"Stationary monitoring indicated air quality improvement from 2005 to 2010, whereas mobile monitoring indicated areas that experience both improvement and decline…"

4.NPS DEFINED

Definition

Non-point sources are **aggregated** sources of air emissions, as opposed to individual identifiable sources of emissions (point sources). This aggregation is done because the emission sources are either too small and numerous, too geographically dispersed, or too geographically large to be estimated or represented by a single point.

Examples on NPS

- Residential Fuel Combustion (e.g. home heating);
- Commercial Fuel Combustion (e.g. space and water heating);
- Residential Fuel Wood Combustion (e.g. fire places, wood burning stoves);
- Transportation (e.g. on-road and off-road vehicles, air, rail, etc).
- Incineration (cremation, industrial, commercial);
- Cigarette Smoking;
- Dry Cleaning;
- General Solvent Use;
- Meat Cooking;
- Refined Petroleum Products Retail (gas stations);
- Printing;
- Structural Fires;
- Surface Coatings;
- Agriculture (animals, tilling & wind erosion, fertilizer application);
- Construction Operations;
- Road Dust (paved and unpaved roads);
- Waste;
- Mine Tailings;
- Prescribed Burning;
- Biogenics (soils and plants);
- Forest Fires; etc.

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QUESTIONS?