

NON-ROAD SOURCES

The non-road annual inventory is generated regionally by running U.S. EPA's National Mobile Inventory Model. The National Mobile Inventory Model (NMIM) developed by USEPA is used to estimate emissions for all non-road mobile categories. NMIM consolidates non-road mobile emissions and on-road emissions modeling into a single modeling system.

Only the non-road emissions modeling portion of NMIM is used in the development of this emissions inventory. NMIM uses the USEPA's NONROAD model to calculate non-road mobile emissions. The basic NONROAD algorithm for calculating emissions uses base year equipment populations, average load factors, available engine powers, activity hours and emission factors.

Examples of Non-road Sources

Non-road emissions result from the use of fuel in a diverse collection of vehicles and equipment, including vehicles and equipment in the following categories:

- Recreational vehicles, such as all-terrain vehicles and off-road motorcycles;
- Logging equipment, such as chain saws;
- Agricultural equipment, such as tractors;
- Construction equipment, such as graders and back hoes;
- Industrial equipment, such as forklifts and sweepers;
- Residential and commercial lawn and garden equipment, such as leaf and snow blowers;
- Recreational and commercial marine vessels, such as power boats and oil tankers;
- Railway equipment, such as train engines; and
- Aircraft, such as jets and prop planes.

Note: Marine, Aircraft, and Railway are collectively referred to as **MAR**. For more information on **MAR** see...

Documentation for Aircraft, Commercial Marine Vessel, Locomotive, and Other Non-road Components in the [National Emissions Inventory, Volumes I and II](#), prepared by Eastern Research Group for U.S. Environmental Protection Agency, October 7, 2003 are available.

With the exception of aircraft, all categories of non-road vehicles and equipment were unregulated by the EPA prior to the mid-1990s.

Non-road Annual Data

Non-road annual emission inventory data for years 2005 and projected data for 2009 and 2018, can be found at the: <ftp://ftp.airtoxics.org/annual/annual/>

NMIM Non-road Output File Formats

NMIM has three output formats--reporting needs dictate the applicable format.

- NMIM Native, normalized (with a separate row for each pollutant).
- Wide Tables (with column for each pollutant).
- NIF3 – NIF3 ASCII output generated for on-road and non-road separately. The, Get Additional Data, button in the program will invoke a form for inputting additional information needed for NIF3 output.

Sample of NIF3 Output Files

For an on-road run seven files are generated. NIF3 is the output format used by the Ohio EPA.

The output files use the following nomenclature:

Area sources (.txt)	SCC
ohorem05ann	ohio, onroad, emission, 2005, annual
ohorpe05ann	ohio, onroad, period, 2005, annual
ohortr05ann	ohio, onroad, transfer, 2005, annual
ohrfem05ann	ohio, onroad refueling, emission, 2005, annual
ohrfpe05ann	ohio, onroad refueling, emission process, 2005 annual
ohrfpe05ann	ohio, onroad refueling, period, 2005, annual
ohrftr05ann	ohio, onroad refueling, transfer, 2005, annual

Here is a sample of some post aggregation output files:

File Name (.txt)	Size: (KB)	Time
ohorem05ann	144,231	2/26/2008 10:49 AM
ohorem05ann	1,280	2/26/2008 10:51 AM
ohorpe05ann	42	2/26/2008 10:33 AM
ohortr05ann	462	2/26/2008 10:50 AM
ohrfem05ann	15	2/26/2008 10:52 AM
ohrfpe05ann	7	2/26/2008 10:51 AM
ohrftr05ann	42	2/26/2008 10:33 AM

NMIM References

1. "National Mobile Inventory Model (NMIM) Base and Future Year County Database Documentation and Quality Assurance Procedures," prepared by Eastern Research Group, Inc., for U.S. Environmental Protection Agency, Office of Transportation and Air Quality, Ann Arbor, MI, 2003.
2. [Documentation for the Onroad National Emissions Inventory](#) (NEI) For Base Years 1970-2002 Prepared for: Office of Air Quality Planning and Standards Emission Factor and Inventory Group U.S. Environmental Protection Agency Research Triangle Park, NC 27711. Prepared by: E.H. Pechan & Associates, Inc., 5528-B Hempstead Way, Springfield, VA 22151, January 2004.
3. [Exhaust and Crankcase Emission Factors for Nonroad Engine Modeling --Compression-Ignition](#), U.S. Environmental Protection Agency, Office of Transportation and Air Quality, Report No. EPA420-P-02-016, November 2002.
4. [Details of the NIF3.0 format](#)