Emissions Inventory Workgroup

AIRPACT Emissions Inventory Update

NW-AIRQUEST Quarterly Meeting

Seattle, WA

October 4, 2018

AIRPACT Emissions Inventory Update

Main Data Sources:
◦ State inventories.
◦ EPA 2016 modeling platform.
◦ EPA NEI 2014 v2
◦ Canadian inventories.

Base Year: Nearest year available for forecast period. Differs by source category and area.

Pollutants: Criteria, ammonia, some toxic tracers.

SMOKE Version: 4.5

AIRPACT Emissions Inventory Update
Sources except fires and biogenics

Idaho, Oregon, Washington

Point Sources: 2017 inventories when complete. For interim, 2016 platform with edits as necessary (mainly stack parameters).

Aircraft: 2016 platform.

Confined Animal Feeding Operations (CAFOs): 2014 NEIv2 or 2016 platform county total estimates allocated to point locations provided by states for counties and animal types where locations are available. Otherwise, treat as nonpoint county totals.

AIRPACT Emissions Inventory Update
Sources except fires and biogenics

Idaho, Oregon, Washington

Nonpoint: 2014 or 2016 platform for most sources.
- **Residential Wood Combustion**: OR will update to 2017. WA may update 2014 estimates, or produce 2017 estimates.
- **Gas Stations**: OR providing 2014 data as point sources.
- **Dry Cleaners**: OR providing 2016 data as point sources.

Locomotives: 2016 platform. WA yard locomotives.

Commercial Marine: 2016 platform for ID, OR, and WA waters outside of Puget Sound and Straits. 2016 WA maritime EI for Puget Sound Straits.

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Sources except fires and biogenics

Idaho, Oregon, Washington

Nonroad (MOVES sources): MOVES default runs for 2019. (WA will use local data for recreational marine county allocation file.)

Onroad: States developed 2019 MOVES inputs and activity data. IDEQ (Wei Zhang) generated the static lookup tables and set up the daily SMOKE-MOVES model run process. The files are complete and can be integrated into AIRPACT. Refueling emissions are included.

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Border States

Point, Nonpoint, Locomotives, Commercial Marine, Aircraft: 2016 platform.

Nonroad (MOVES sources): MOVES runs for 2019.

Onroad: States developed 2019 MOVES inputs and activity data. IDEQ (Wei Zhang) generated the static lookup tables and set up the daily SMOKE-MOVES model run process. The files are complete and can be integrated into AIRPACT. Refueling emissions are included.

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Canada

Onroad: States developed 2019 MOVES inputs. Activity data – we are working with METRO-Vancouver and BC to acquire data. IDEQ generated the static lookup tables and set up the daily SMOKE-MOVES model run process.

Other sources: We will contact Canadian agencies for data availability. EPA modeling platforms.

AIRPACT Emissions Inventory Update
Fires and biogenics

Biogenics: Emissions are calculated at WSU on a daily basis using the Model of Emissions of Gases and Aerosols from Nature (MEGAN).

Fires: Wildfire and prescribed burn emissions are calculated at WSU on a daily basis, using the US Forest Service BlueSky model (v3.5.1) and the Satellite Mapping Automatic Reanalysis Tool for Fire Incident Reconciliation v2 (SMARTFIRE-2).

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Supporting Data

Reformatted spatial surrogates for onroad to match new MOVES version

Updated locomotive surrogate.

Updated marine surrogates for Puget Sound.

New spatial surrogate for unpaved road dust in OR, maybe WA.

Review other spatial surrogates, temporal profiles, and chemical speciation profiles.

Review report formats.

Chemical Speciation

New version of CMAQ can handle CB06 but we can also continue CB05

Schedule

Late 2018 to early 2019