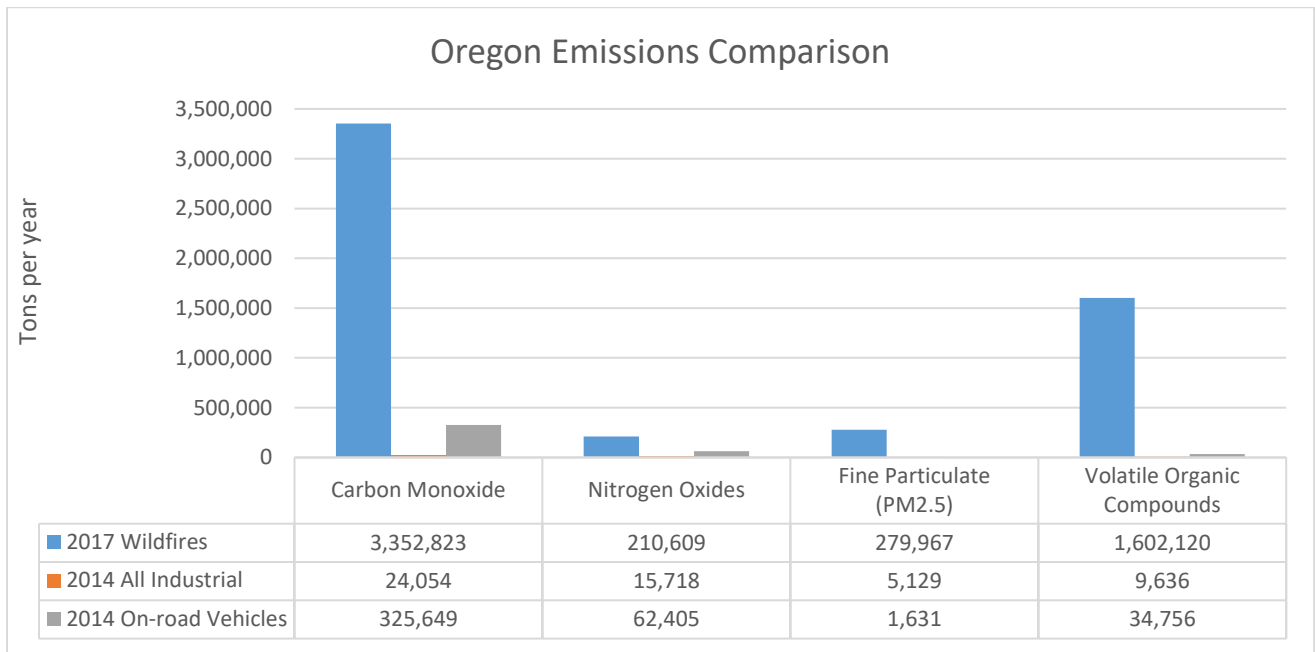


On January 12, 2018, DEQ was asked to replicate an analysis, “2017 Idaho Wildfire Emissions Compared to other Emission Sources in Idaho,” using information related to wildfires in Oregon. The related Oregon information and analysis is below:



Estimating emissions from wildfire

It appears that data from the Idaho brief may be derived from a “bottom-up” analysis that accounts for variables such as fire intensity and forest type. Idaho has been working with the US Forest Service AirFire group for the past year to install and customize their framework in order to estimate wildfire emissions in-house in a concerted effort to arrive at a better estimate.

DEQ does not have this framework installed. In an effort to use similar approaches, data on wildfire emissions used in this brief are from the Air Information Report for Public Access and Community Tracking (AIRPACT)ⁱ, an air quality forecasting model used to predict concentration of certain air contaminants in Idaho, Oregon and Washington. As further explained below, it does not provide estimates of carbon dioxide (CO₂). The model is managed by Washington State University.

Traditionally, Oregon DEQ has not relied on AIRPACT for estimating wildfire emissions and instead uses estimates developed by the Environmental Protection Agency (EPA). DEQ is uncertain how well the AIRPACT model “performs” at predicting actual emissions, but it is worth noting that, for example, AIRPACT overestimated the 2017 wildfire emissions relative to what the Idaho DEQ present in its report:

AIRPACT CO emissions estimate for Idaho	1,987,511 tons
Idaho DEQ CO emissions estimates presented in their brief	799,803 tons

The Idaho method has more accurate acreage burned data than AIRPACT. The two methods use the same modeling framework to estimate emissions from acreage burned, however the framework can be customized, and the customization is different between Idaho and AIRPACT.

Estimating emissions from other sources

Data for the other source categories (industrial emissions and on-road vehicles) is derived from the 2014 National Emissions Inventory, consistent with Idaho's report. This national scale inventory is conducted triennially. 2014 is most current dataset.

Emissions versus ambient concentrations

The Federal Clean Air Act regulates air sheds through the National Ambient Air Quality Standards (NAAQS). This regulatory frameworks are largely based on ambient concentrations; i.e. the presence of contaminants in the air that people breathe. As we experienced in many parts of the state in 2017, wildfires have the potential to greatly impact air quality in adjacent communities. Wildfires can result in very high concentrations of pollutants for relatively short durations, a few days to a few weeks. This can lead to acute impacts such as irritating the eyes and upper respiratory system and an increase in the symptoms of chronic cardiovascular and respiratory diseases. DEQ, in partnership with the Oregon Department of Forestry, the US Forest Service, the Oregon Health Authority and local governments works to provide real-time monitoring of wildfire smoke and advise the public of protective measures.

Wildfire smoke does not generally impact a community's compliance with the NAAQS. The US EPA has a process for removing emissions associated with "exceptional events" (e.g. wildfires) from the annual datasets used to determine if a community is in attainment with the standards. DEQ regularly works with local communities to successfully petition EPA to remove wildfire emissions from consideration. This was done in 2015 and the agency will do so again to address wildfires in 2017.

Note: The AIRPACT model used to generate emissions estimates for this brief does not provide estimates of carbon dioxide (CO₂). CO₂ emissions from wildfire and other biomass combustion are also not included in Oregon's sector-based greenhouse gas emissions totals because biomass is considered to be of biogenic origin (originating from a natural process). This is consistent with IPCC guidelines. It is assumed that the carbon released during the combustion of the biomass is recycled as U.S. forests and crops regenerate, causing no net addition of CO₂ to the atmosphere. The net-impacts of carbon due to land-use and forestry are accounted for separately in a land-use and forest carbon flux accounting framework which accounts for both emissions and sequestration.

ⁱ Source: <http://lar.wsu.edu/airpact/>