

2017 Idaho Wildfire Emissions Compared to other Emission Sources in Idaho

Wildfire smoke impacted Idaho's air quality significantly in 2017. Wildfires burned on over 5 million acres in Idaho, Washington, Oregon, Montana, and British Columbia Canada combined. Over 700,000 acres were affected by wildfire in Idaho this year. This report presents estimates of the emissions from Idaho fires only.

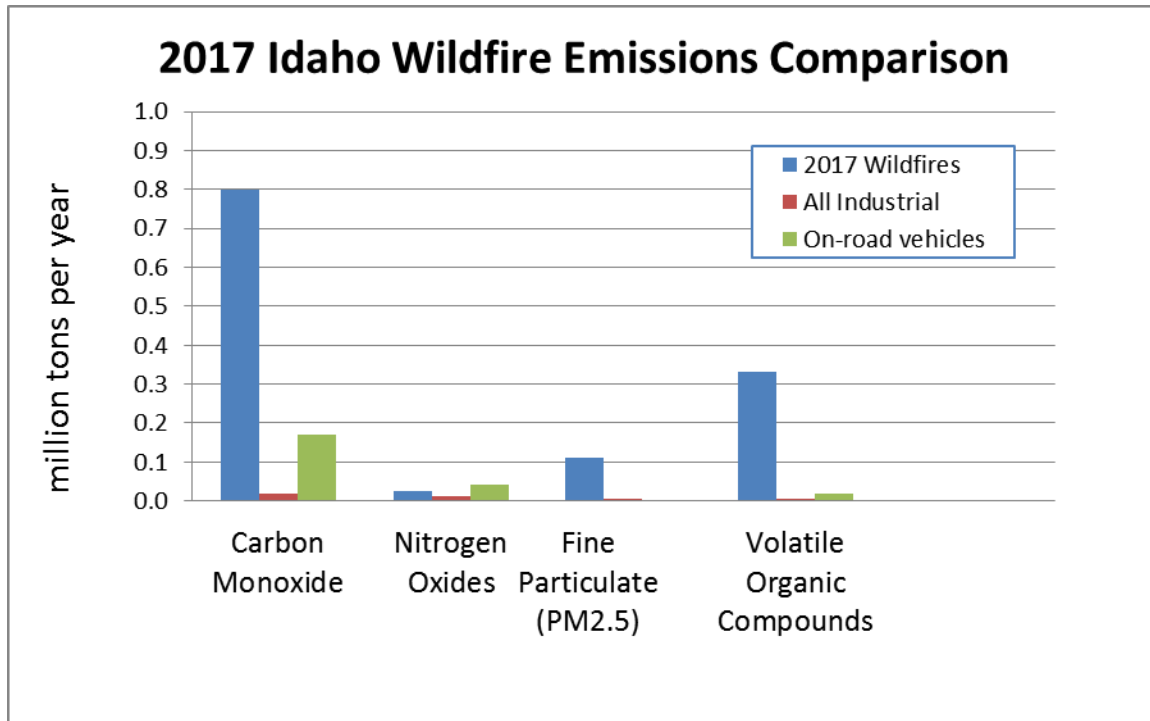


Figure 1. 2017 Idaho wildfire emissions compared to industrial emissions and all on-road motor vehicle emissions.

- Idaho wildfires in 2017 released over 111,000 tons of direct fine particulate pollution ¹(PM_{2.5}) into the air. This is equal to 10 times the amount of particulate pollution that all the cars and trucks in Idaho emit over a three year period.
- All Idaho's industrial sources combined emit 3% of the particulates (PM_{2.5}) emitted from Idaho wildfires in 2017.
- On-road vehicle emissions of volatile organic compounds (VOC) were approximately 5% of the wildfires emissions. VOC emissions from on road vehicles totaled approximately 19,000 tons. Wildfires were estimated to have released 331,000 tons of VOC.
- Industrial sources in Idaho emit approximately 19,000 tons carbon monoxide each year. The 2017 wildfires were estimated to have emitted 42 times that amount, or 800,000 tons.

Although not included in Figure 1, carbon dioxide and mercury emissions from 2017 wildfires were estimated. Table 1 includes the most recent estimate of on-road vehicle and industrial emissions. Complete carbon dioxide emissions are not available for industrial sources in Idaho, so they are not included in the table.

Table 1: Summary of annual pollutant emissions in tons comparing 2017 wildfire emissions to other emission source categories.

Source in Idaho	Fine particulate (PM _{2.5})	Carbon monoxide	Nitrogen oxides	Volatile organic compounds	Mercury	Carbon dioxide
2017 Wildfires	111,255	799,803	23,832	330,685	0.800	12,300,000
All Industrial	4,089	19,270	12,600	5,363	0.400	Not available
On-road vehicles	2,991	171,260	42,911	18,944	0.010	10,200,000

For additional information please contact:

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Notes:

- Idaho Fire emissions for 2017 are based on GEOMAC satellite-based burned areas as of October 16, 2017.
- Wildfire emissions estimations are based on the latest methods used by the U.S. Forest Service AirFire group in Seattle, and from the latest scientific literature on emission factors and estimation.
- Industrial and on-road vehicle emissions are from EPA’s national emission inventory (NEI) for 2014, the most recently available. Carbon dioxide is not reported as part of Idaho’s emission inventory submittal, therefore, emissions are not available for industrial sources. EPA calculates carbon dioxide emissions for on-road vehicles.
- ¹PM2.5 represents fine particles less than 2.5 micrometers (µm) in aerodynamic diameter a size which allows them to reach the deepest portions of the respiratory system.