

NOAA-NASA Suomi NPP captures fires and aerosols across America

September 9 2020



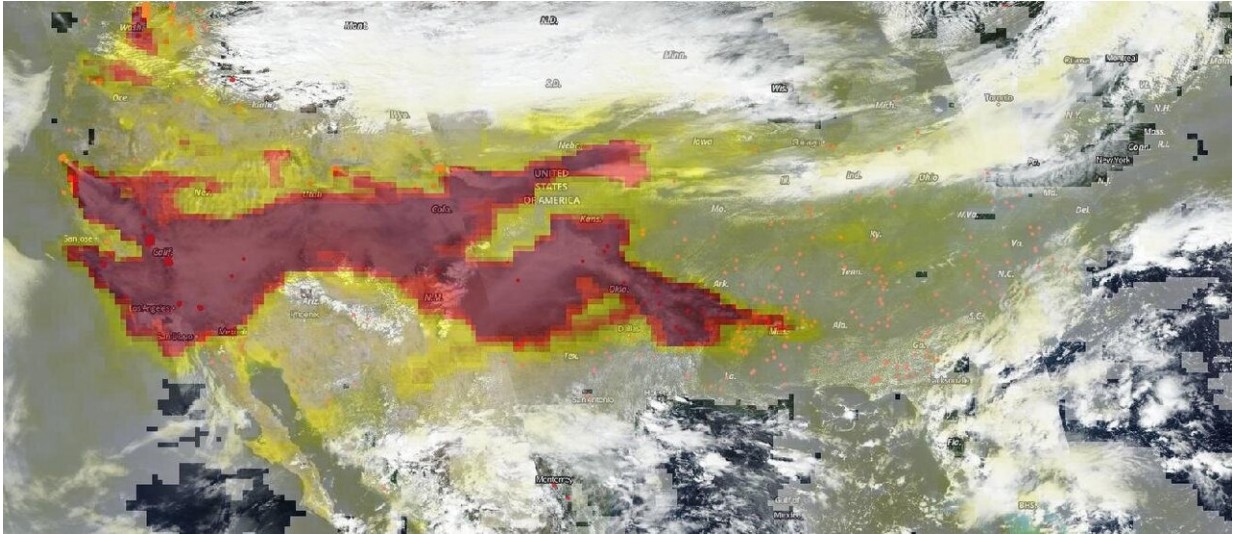
The NOAA/NASA Suomi NPP satellite captured an image of fires across America on Sep. 07, 2020. Credit: NOAA/NASA

On Sep. 07, 2020, NOAA/NASA's Suomi NPP satellite provided two different views of how fires are affecting the U.S. A true-color image of the United States shows a blanket of smoke obscuring the surface from California to Arkansas with a haze present over the East Coast as well. The Suomi NPP satellite also provided information about aerosols that were released from these fires and have traveled across the United States' landscape.

Although the OMPS suite was designed to measure ozone it also has the capability of measuring other [atmospheric particles](#) like sulfur dioxide and ash. The [aerosol](#) index (AI) value is related to both the thickness and height of the atmospheric aerosol layer. For most atmospheric events involving aerosols, the AI ranges from 0.0 to 5.0, with 5.0 indicating heavy concentrations of aerosols that could reduce visibilities or impact health. Color codes range from colorless (0.0) through yellow (.5—2.6), orange (2.7-3) deep red (>3—5.0). This image shows a significant area of deep red range which means aerosols in the area could potentially be dangerous to the health of those in that area.

The smoke released by any type of fire (forest, brush, crop, structure, tires, waste or wood burning) is a mixture of particles and chemicals produced by incomplete burning of carbon-containing materials. All smoke contains carbon monoxide, carbon dioxide and particulate matter (PM or soot). Smoke can contain many different chemicals, including aldehydes, acid gases, sulfur dioxide, nitrogen oxides, polycyclic aromatic hydrocarbons (PAHs), benzene, toluene, styrene, metals and dioxins. The type and amount of particles and chemicals in smoke varies depending on what is burning, how much oxygen is available, and the burn temperature.

High aerosol concentrations not only can affect climate and reduce visibility, they also can impact breathing, reproduction, the cardiovascular system, and the central nervous system, according to the U.S. Environmental Protection Agency. Since aerosols are able to remain suspended in the atmosphere and be carried in prevailing high-altitude wind streams, they can travel great distances away from their source as evidenced in these images and their effects can linger.



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Credit: NOAA/NASA

Provided by NASA's Goddard Space Flight Center

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