



# NOAA Knows... Wildfire Support

**N**OAA experts play a vital role in efforts to combat wildfires that rage in many parts of the United States each year, threatening lives, structures and hundreds of thousands of acres of vegetation.

Since 1914, meteorologists at NOAA's [National Weather Service](#) have supported fire managers from the five federal land management agencies, and other state and local fire control agencies in their efforts to suppress fires.

Weather, vegetation type, and dryness are key to fire behavior. Once a fire starts, up-to-date weather information becomes especially critical. Accurate forecasts of wind direction and speed guide fire management strategy, and help incident commanders make the best decisions to manage wildfires.

From long-range fire weather outlooks to on-site forecasts, specially trained meteorologists help ensure the safety of the public and all personnel involved in the management of fires.

## Forecasting Potential Hot Spots

National Weather Service forecasters provide outlooks of critical [fire weather](#) conditions across the nation up to eight days in advance. These conditions include dry thunderstorms, hot temperatures, low

humidity and high winds in combination with dry vegetation.



*Incident meteorologist conducting a radio weather briefing with crews in the fire area.*

The outlooks provide a national picture of critical fire weather patterns that helps fire officials plan ahead and manage firefighting resources.

## Local Support Throughout the Country

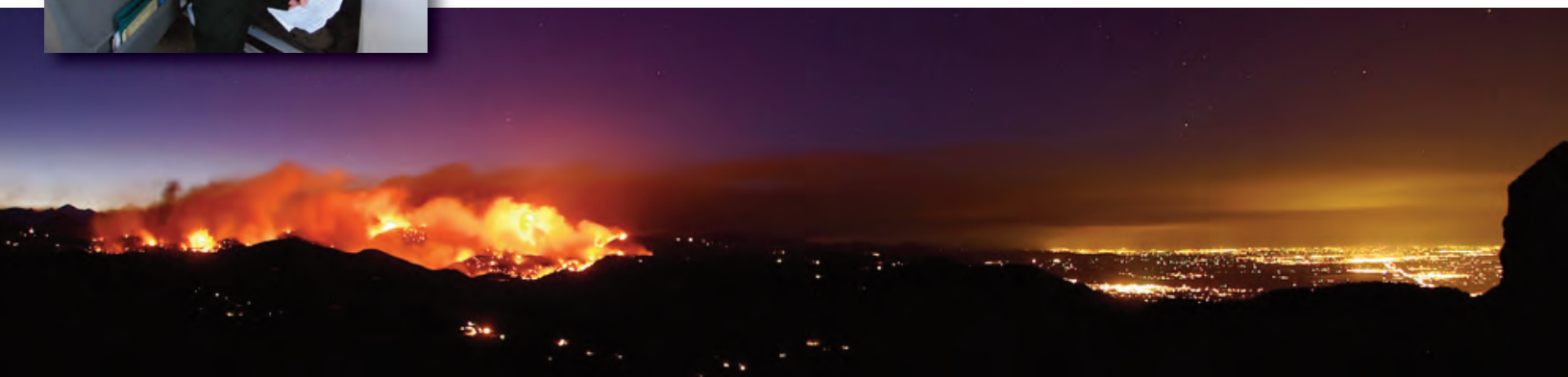
[National Weather Service forecast offices](#) across the country issue a variety of products on the local scale to support fire agency planning and suppression efforts. These include routine fire weather planning forecasts, point and area forecasts, watches and warnings for critical fire weather events, and site-specific spot forecasts for wildland fires. Forecasters also provide agencies with digital fire weather planning data via the Internet and other methods.

Weather phenomenon of critical interest to fire management agencies include dry thunderstorms, cold fronts, erratic wind, and very hot, dry environments. Offices near active fires often provide Internet-based weather briefings to operational fire management teams. These briefings help fire managers plan where to place resources and how to best manage the fire.

Forecasters draw upon various sources of meteorological information such as computer-produced weather models, local weather observations, and satellite weather information.



*(continued on back)*





## Tactical Information in the Field

Local weather service offices also provide specific meteorological support to [NOAA's incident meteorologists](#), also known as IMETs, who may be deployed to a fire location.

These specially trained fire weather forecasters (more than 80 certified nationwide) can be sent to remote locations throughout the United States to support first responders in their efforts against wildfires and other public safety hazards.

IMETs provide on-site weather support tailored to a specific incident, which ensures fire crew safety and provides information that is critical to success in battling wildfires.

IMETs receive special training in microscale forecasting, fire behavior and fire operations, and are a key member of the fire management team.



Incident meteorologists use special mobile equipment to provide on-site weather forecasts for wildfire suppression and prescribed burning projects. This equipment is known as the All-Hazards Response System (AMRS) and gives

the IMET a workstation similar to that used at a National Weather Service forecast office.

In very remote locations, the AMRS can also use satellite technology to allow IMET access to almost all National Weather Service weather information, including the latest surface and upper air observations, Doppler weather radar and weather satellite data.



NOAA satellites play a key role in fire weather forecasting, particularly in early detection of rapidly growing fires in remote areas. By manipulating and combining multiple satellite images in a 24-hour period, the National Weather Service can provide a single comprehensive image, showing all wildfires detected nationwide at a high resolution. This data helps forecasters know where wildfires are located even in open country where there are no visible smoke plumes or people.

For more information about fire weather, visit the [National Weather Service Fire Weather](#) website.

To learn more about NOAA, visit <http://www.noaa.gov>.



*Credit: U.S. Forest Service*

*Fire weather briefing.*