

Stubborn Drought, Hurricanes Add to Fire Worries

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High fire potential across the Southern Plains, Texas, the Southwest and portions of Florida will continue through early summer, according to predictions by experts at the National Seasonal Assessment: Eastern, Southern, and Southwest Geographic Areas Workshop, held Jan. 18-20 at the National Conservation Training Center in Shepherdstown, W.Va. The predictions by fire behavior analysts, fuels specialists, intelligence personnel, fire meteorologists and climate forecasters were based on analyses of recent weather and fuels conditions, as well as climate projections for the late spring and early summer.

Experts' chief concerns include a stubborn drought pattern across the southern tier of the United States, high fuel loads from past hurricane activity, and elevated risk of landfalling hurricanes in 2006. Workshop participants cautioned that mitigating hurricane-related fuel loads could take years, which might result in competition for firefighting resources as fire seasons ramp up in other parts of the country.

EASTERN AREA

The outlook for the Eastern geographic area calls for below-normal fire potential for a region stretching from the Ohio River Valley to northern Maine. This area has received copious precipitation since fall 2005. Temperatures have been above average in the northern tier of the Eastern area since about mid-October. Snowpack has been at or below average in the upper Midwest, including Michigan's Upper Peninsula, but above average in northern Maine.

Significant fire potential is expected for southwestern Missouri and the southwestern Lake Michigan shore west to central Iowa. These areas have experienced autumn and winter drought, resulting in dry fuel conditions. With continued low or absent snowpack, there's significant potential for grass fires in northwestern Indiana, northern Illinois, extreme southern Wisconsin, and eastern Iowa. Provided that prolonged transient drying episodes do not occur, the Eastern area is likely to be able to export firefighting resources to other parts of the country.

FLORIDA

The Southern geographic area working group members were concerned about above-normal fire potential in portions of Florida. The peninsula has high fuel loading from several hurricanes that crossed the peninsula on their way to the Gulf of Mexico in 2005, and lingering fuel loads from five hurricanes that pounded Florida and the Gulf Coast in 2004.

The southern half of Florida has experienced moderate precipitation deficits since fall 2005, along with above-average temperatures. Climate forecasts for Florida show consistently high probabilities of above-average temperatures through the early summer and enhanced probabilities of below-average precipitation through the spring fire season. The Pacific Ocean has a considerable influence on winter storms, and relatively cool tropical East Pacific temperatures have starved the subtropical jet stream of moisture. With the recent development of La Niña conditions in the tropical Pacific Ocean, Florida is likely to remain dry this spring

SOUTHERN AREA

The western portion of the Southern geographic area was experiencing significant fire activity in mid-January. Fire occurrence statistics through Jan. 18 show a slightly above-average number of fires (more than 2,100). But the big story is in acres burned, which is about 10 times the average number reported for the last 18 years. The majority of this activity has been centered in Oklahoma and Texas, where the recurring dry and gusty wind conditions have resulted in dramatic increases in acres burned. In addition, the widespread activity has involved wildland-urban interface areas, resulting in numerous structure losses.

Relatively cool mid-January tropical Pacific sea surface temperatures are responsible for La Niña — like climate patterns, which propagate a more northern storm track and leave the southern tier of the U.S. high and dry. In mid-January, the 12-month rainfall deficits in the Southern area ranged from 10 to 12 inches below average across areas of central Oklahoma and Texas to near 20 inches below-average over the Arkansas — Louisiana — Texas region. The Arkansas — Louisiana region is in a transition area between the extreme drought conditions to the west and the near-average conditions present in much of the eastern third of the Southern area, where rainfall frequency has been much higher.

Other climate patterns, such as the Pacific — North American pattern and the North Atlantic Oscillation, can reinforce the northward La Niña storm track shift and limit the number of frontal systems capable of delivering significant rainfall to the southern tier of the country. Under these atmospheric circulation patterns, drought is expected to develop through much of Florida and to persist across Texas and Oklahoma. Because these patterns predominantly influence wintertime conditions, their influence should fade during the spring. By late spring and summer, tropical moisture is expected to build across the region, and another active hurricane season is expected.

The exceptional drought conditions and high fire activity across Oklahoma and Texas demand extra initial-attack resources, outstripping the capability of the states to supply many of the needed resources. In mid-January, the majority of the nation's heavy airtanker fleet was completely committed to the Southern area. In addition to demands for fire suppression resources in Oklahoma and Texas, personnel continue to provide pre-suppression and initial attack assistance to areas of Louisiana that were affected by hurricanes Katrina and Rita.

Below-normal large fire potential is expected in the Ohio and Tennessee River valleys and southern Appalachians. These areas received abundant precipitation during the late summer and autumn as hurricane-related precipitation tracked through the area. Normal potential is forecast for the remainder of the Southern area.

Other southern states received average to above-average rainfall from fall tropical storms and slow-moving low-pressure systems. While long-term climate conditions were not a concern, blowdown has increased fuel loads. Dead blown-down trees in an area stretching from Mississippi to the Virginia Appalachians could increase fire potential in the event of seven- to 30-day dry spells. Similarly, North Carolina trees killed by hurricanes in 1998 and 2003 also could increase fire potential, given sustained dryness.

Experts from the Southern area noted the need for heavier tractors and bulldozers in Florida to remove “jack-strawed” blowdown. They also expressed concern about fire starts from debris burning in storm-damaged areas. Historically, the largest cause of Florida fire starts in January and February is debris burning.

SOUTHWEST AREA

As of mid-January, the Southwest area outlook was grim in its simplicity: Significant large fire potential is expected in all fuel classes for the entire region, and an earlier-than-normal start to the season is likely. The potential for early season timber fires is expected to be particularly high. Southwest experts expect a need for additional firefighting resources and for personnel to be trained and available earlier than usual.

The situation in the Southwest stems from an abundance of carryover fine herbaceous fuels from the wet 2004-2005 winter, significant precipitation deficits since summer 2005, exceptionally low mountain snowpack, above-average temperatures, and the La Niña storm track pattern. Climate forecasts show high probabilities of continued warm and dry conditions through May. Lower elevation, lighter fuel types are expected to be susceptible to fire through the winter, and mid- to high-elevation, heavier fuel types are expected to support significant fire activity by April. Southwest experts suggest 1996, a year with 21 large fires that required one or more Type-1 or -2 Incident Management Teams, as an analogue of the upcoming fire season.

Southwest experts expect fire activity to remain significant through June into July, mainly west of the Continental Divide. The silver lining in the Southwest outlook is the expectation of an early or on-time summer monsoon onset.

WORKSHOPS

The fire potential outlooks were generated as part of a multi-year partnership between the National Predictive Service Group, university researchers and climate forecasters. The seasonal assessment workshops interactions that help to bridge the worlds of fire managers and researchers.

The pre-season fuels-and-climate outlooks create a baseline for operational decision-making in the face of uncertainty and allow regional managers to make informed decisions about proactive management strategies, such as pre-positioning, resource allocation, prescribed burning and other treatments. In addition, workshop participants gain perspective on each others' operations, which allows for mutual understanding and improved cooperation. This year's workshop was accompanied by training on the National Oceanic and Atmospheric Administration's seasonal climate forecasts, persistent climate patterns, and new fire management analysis tools.

A Western States and Alaska workshop is planned for April.