

2011 California Preliminary Seasonal Assessment

(Notice: The annual seasonal assessment will be published in lieu of the regular outlook this month as it overlaps the June-August period)



North

- Most of northern CA is expected to have Normal risk for large fires in 2010
- Much of northeastern CA, where drought remains, will have Above Normal potential.
- There is some damage to trees from winter storms adding to the downed fuel load
- Drought stress, insects, and disease affect vegetation across the GACC to some degree.
- Precipitation to date, along with a near normal May forecast, will keep prescribed burn opportunities through at least late May.

South

- Below Normal risk for large fires over the central coast and the higher elevations of the Sierra Nevada Range.
- Normal large fire potential elsewhere over the region.
- Delayed start to fire season across lower elevations with an even later start in mountain areas above 6,000 feet.
- No clear signal with regards to summer monsoon activity over the district.

EXECUTIVE SUMMARY

This preliminary outlook is a product of the National Seasonal Assessment Workshop held virtually during the week of April 18th, 2011. The interagency workshop brought together subject matter experts from climatology, fire weather meteorology, fuels, fire behavior, and fire danger. The outlook is based on past developments, current conditions, trends, and predictions for the months May through August.

Objectives of the Executive Summary are to:

- Provide a prognosis of 2011 wildland fire potential in California, based on fuel conditions and available climate forecasts.
- Highlight concerns and key implications for management.
- Provide supporting documentation regarding weather and fuels information.
- Provide the framework for comprehensive final North Ops and South Ops outlooks to be completed in June.

This executive summary should aid California wildland fire managers in 2011 fire season preparedness, and add preliminary insight. More detailed fire season outlooks, for both North and South Ops, will be available in June. Those documents will give increased detail regarding all aspects of the coming fire season, and will have higher confidence levels. In addition to this outlook, the GACC Predictive Service Units at Riverside and Redding will continue to issue detailed monthly assessments of fire weather and fire danger.

2011 FIRE SEASON OVERVIEW:

South:

In general, precipitation during the past winter's "rainy season" was near normal over most of the mountains, coastal areas and in the interior valleys. However, across the desert areas, winter precipitation was well above normal with some locations surpassing 200% of normal in the eastern Mojave. Snowpack was near normal over most of the Sierras and across the transverse ranges of southern California. As a result, significant drought recovery occurred over the district with many areas recovering from moderate and severe drought to near average conditions. Thus, emerging from the winter rainy season, some areas of the central coast and the higher elevations of the central and eastern Sierra are expected to have a below average risk of large fires through August. Conversely, due to the wet winter over the deserts, there will be an above average risk of large fires through June which is expected to decrease to a near average risk by July.

North:

As of late April, most of Northern California west of the Cascade/Sierra crest had received 85-120 percent of normal precipitation (PON), while to the east PONs were lower, ranging from only 50-85% PON (figure 1). North Ops fire season is expected to begin in typical time frames, except the drought-affected northeast could see potential for large fires begin locally about 2-4 weeks ahead of average dates. Some factors that will come into play in 2010 include:

- Spring showers boosted lower-elevation annual grass crops to average or above heights. Once cured, this flashy fuel load could lead to an initial wind-driven fire maximum from June through early July. After a typical mid summer lull in general winds, the return of foehn wind patterns at lower elevations in September and October may lead to a secondary maximum in the potential for fast-spreading fires in light fuels.
- Across the higher foothills, in the coastal ranges, and Cascade/Sierra west of the crest, fire season is expected to progress in a typical way. The Mediterranean climate of California's interior will dry large dead fuels while curing live fuels, leading to an increased timber fire potential in July and even more so in August. Periods with above normal temperatures and low humidity accelerate this process.
- For all areas, any widespread and/or drier type lightning activity that might occur (particularly if there is competition for resources), will be critical. These events unfortunately remain very difficult to predict on seasonal time scales.
- Realize that even within the large "Normal" area in NOPS, smaller pockets may have locally Above Normal potential due to fuels anomalies.

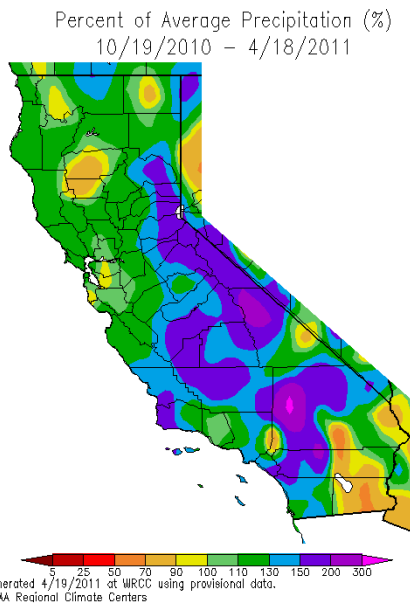


Figure 1. Percent of Average Precipitation

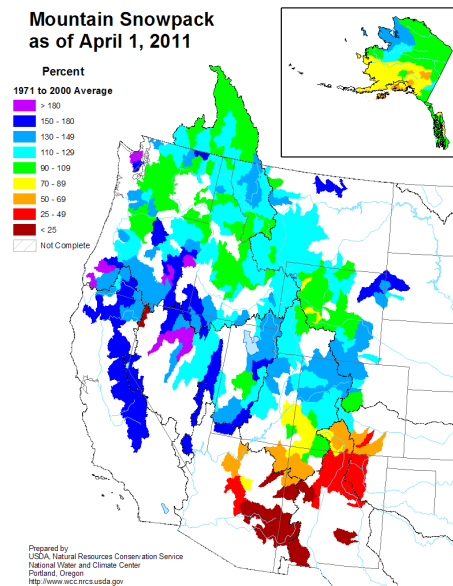


Figure 2. Mountain Snowpack as of April 1, 2011.

Statewide Fuels Discussion:

In the South, precipitation in South Ops during the past winter was above average in most areas. The early winter and early spring rains have brought an above normal crop of seasonal grasses to the foothills and desert areas. The December rains resulted in an early emergence of herbaceous annual and perennial fuels. NDVI departure from average greenness data showed 135-150% average greenness for central and Southern California. Live fuel moisture values in the lower elevations are running above average across the inland areas, but across the coastal regions, especially north of Point Conception, conditions are wetter than average. The latest snow pack surveys measured 165% of April 1 snow water equivalent in the Sierras. The expected weather conditions along with the antecedent fuel conditions suggest a normal fire season with the exception the Central Coast and the central Sierras which are expected to have a below average large fire

potential. A big factor will be the weather in the next six-ten weeks. This could change overall live fuel moistures and grass curing rates across the South Ops area and may result in a later or more normal start to the fire season.

In the North, herbaceous fuels at lower elevations are greening up and curing at a normal rate. There should be a normal to slightly above normal grass crop at the lower elevations. By August 1, energy release component (ERC) and 1000-hour fuel moisture should be approaching the 80th percentile across most of the GACC. Drought–stressed vegetation (following 3 to 4 years of drought), bug kill, Sudden Oak Death infestation, Port Orford Cedar infestation, and other pathogens contribute to fuels, and add to the fire behavior potential. Standing dead fuels as well as downed heavy fuels, in areas burned at least 10 years ago, contribute significantly to the fuel load and thus fire behavior potential. Winter storms resulted in damage to both conifers and hardwoods in several PSA's including portions of Northwestern Mountains, Northeastern Mountains, and Northern Sierras. This damage includes breakage of tree tops and branches which add to the down fuel loading. There is some frost damage to brush in the eastern portion of the GACC at lower to mid elevations. The Eastside and portions of the Northeast California Predictive Services Areas continue to see drought conditions and should 1000 hour fuels reaching a critical level by July 15.

California does not intend to issue a Fuels and Fire Behavior Advisory this year.

May through August Forecast:

South: There will be a below normal large fire potential over many high elevation sections of the district where heavier fuels are present. Large timber (as defined by 1,000 hour fuels having trunk diameter of 7" or greater) currently possess a large amount of moisture from the heavy precipitation of the past winter. It appears unlikely that these heavy fuels will dry to the point of receptivity during the outlook period. However, large fire potential will increase in lighter fuel types by late summer when the hottest weather arrives and fuel moisture reaches a seasonal minimum. Many long-term models indicate the current La Nina condition over the Eastern Pacific will continue to decrease this spring perhaps reaching a near neutral sea-surface anomaly by late winter or fall. Other models indicate a La Nina may re-emerge later this year. Either way, the affect of sea surface temperatures appears to be a non-factor in determining the weather patterns later this summer into fall. Therefore, outside the aforementioned areas in the higher elevation regions of the Sierras and portions of the central coast, expect a near average fire season this year.

North: Review of cool-season weather to date: An El Nino pattern which reached Moderate strength last summer intensified during the fall, and was then in the low end of the strong category for three winter months, with its peak in December. This El Nino led to an overall drier than normal fall for Northern California, but finally kicked in to have much wetter effects after mid-January. This has resulted in 85-120% of normal precipitation (PON) across the southwestern three-fifths of the Geographic Area. However, in areas to the northeast, a splitting storm track led to that area being 'missed' by several of the wetter winter/early spring storms, resulting in PONs through late April of just 50-85%. Snowpack on April 1st ranged from 90-130% of normal for most areas west of the Cascade/Sierra crest, but to the east snowpack was considerably less, ranging from 35-65% of normal.

Forecast: May is expected to have near normal temperatures and near to slightly above normal precipitation for most of North Ops. The June - August portion of the forecast calls for warm anomalies to *generally* increase slightly from month to month, perhaps reaching 2-5 deg F above normal for August. Precipitation for this 3-month period is forecast to be near to below normal for most of NOPS. This translates to very dry, as this is the part of the year with the lowest monthly normals. The most widespread and/or critical dry lightning events normally occur in late July or August, but as 2008 showed, they can come as early as June. As we head into fire season 2010, prior years that could possibly serve as climate analogs for this year include 1992, 1995 or 2003, based on years where a fairly strong El Nino in the previous winter was fading away to neutral summer conditions. Forecast Confidence = Temperatures 60% and Precipitation 55%

Hawai'i

The current El Niño phenomenon created abnormally dry winter season conditions throughout the state and it is expected that dry conditions will continue through the spring season. Rainfall across the state has been well below normal. The U.S. Drought Monitor shows that Hawai'i is under drought conditions ranging from D0 (abnormally dry) to an unprecedented D4 (drought–exceptional) – some of the worst conditions in the country. The west side of the islands seems to be the most susceptible to wind which exacerbates fire conditions. KBDI values are in excess of 500 in several locations across the islands. Expect above normal fire activity on the west side of each island and normal to above normal on the east side of the islands.

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