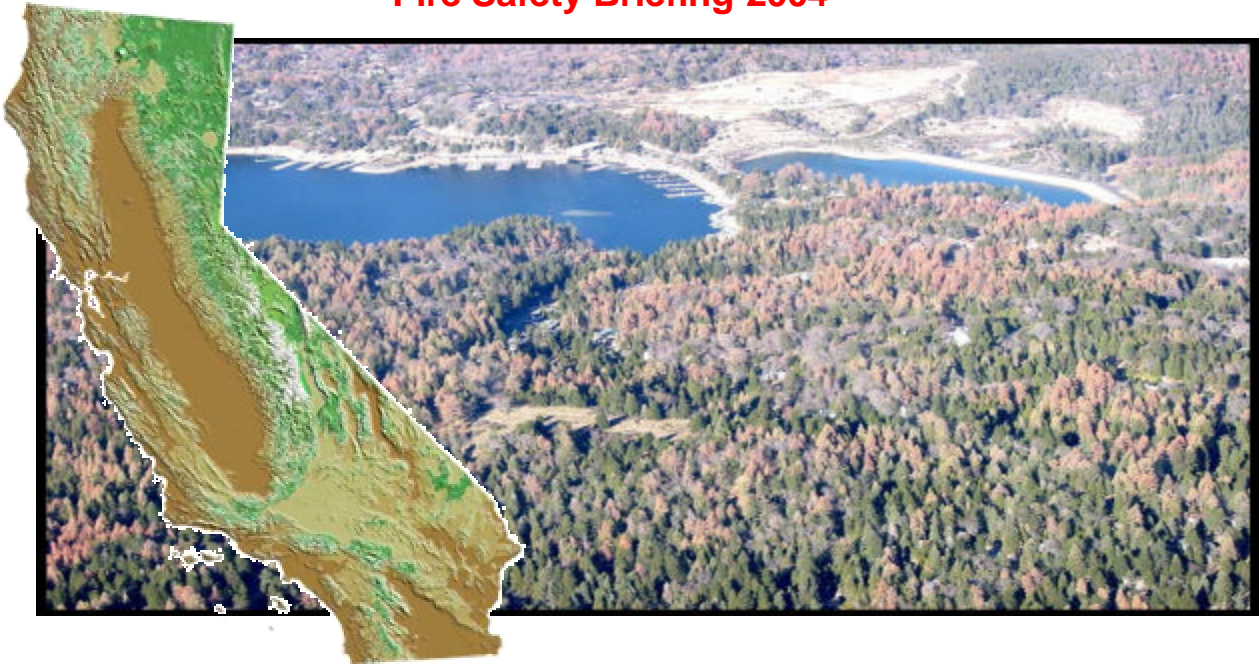


# California Department of Forestry and Fire Protection

## Fire Safety Briefing 2004



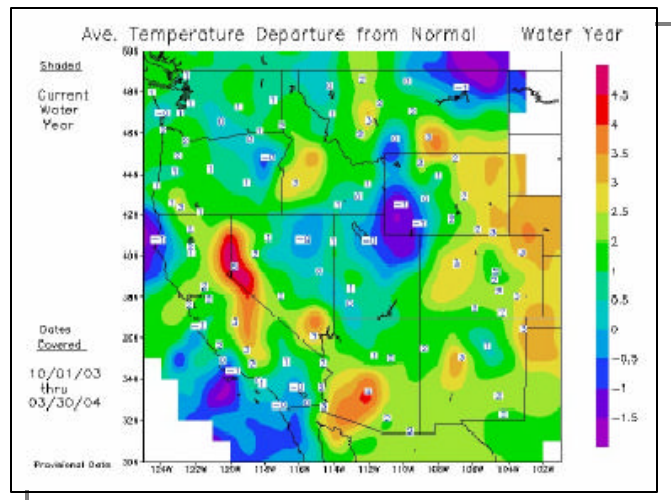
### Weather and Climate

#### California Northern Region

The California Northern Region saw both temperature and precipitation patterns in the near-normal category for the 2003-2004 cool season. Regarding temperatures, the spatial distribution for Oct 2003-March 2004 period varied from 1 degree Fahrenheit below normal along the coast to 2-3 degrees Fahrenheit above normal inland. A narrow strip bordering NV was 4-5 degrees Fahrenheit above normal.

Generalizing precipitation patterns, the northern half of the Region had rainfall ranging from near normal to 15% above normal, while the south half fell mainly into a 75-95% range.

The California Northern Region currently has no existing drought on the shorter time scales (under 18 months), but longer duration drought continues in the Great Basin, bordering Northeastern California. There is also no El Nino or La Nina pattern currently in existence, though there are hints that a weak El Nino could develop later in 2004.



## Weather and Climate (continued)

### California Northern Region

Temperatures were cool enough during the wettest winter months to help build a good mountain snow-pack by the end of February 2004. At that time, the snow-pack varied from about 95-130% of long-term averages. However, large-scale high pressure aloft locked in over the western U.S. during much of March 2004, producing the warmest March on record in northern California. This melted off most of the lower elevation snow (below about 4500' west and 5500' east) and significantly reduced the higher elevation snow-pack. The reduction was on the order of 30-40% in just one month.

North state humidity patterns were typical during last November, December, and February, which was on the high side, with daily minimums rarely below 40% during these months. However January, which had less than normal precipitation, saw a two-week period of above normal warmth and below normal humidity. The very warm March also had much lower humidity than normal.

**The record warmth and accompanying low humidity, along with a 3-4 week rainless period, also combined to open the window for an early and substantial spring burning season.**

Regarding winds, there were several strong prefrontal southeast to southwest wind events in November and December, 2003. These produced areas of substantial new "blow-down" (i.e. grounding of trees due to heavy winds) in the mountains. The previous winter had also produced significant "blow-down", so there are probably cumulative effects in some areas. There was one moderate foehn (north to east) wind event in northern California during March. This was a little earlier than in some years, but not a surprise with the strength of the high pressure system in March.

Temperatures for July through September are forecasted to average nearly 4 degrees Fahrenheit above

normal overall, with August currently expected to be the month most above normal. The probability of these three months totaling below-normal precipitation approaches 60% this year, consistent with the consensus climate forecast.



## **Weather and Climate** (continued)

### **California Northern Region**

**Note:** Precipitation for these months is often the lowest 3-month total in a given year; therefore the term 'below normal' implies very little precipitation. We do not foresee a repeat of summer 2003, in which the Southwest U.S. monsoon became displaced exceptionally far west, bringing moisture all the way out to the California coast range around early August. July and August are a time of year when local winds (slope winds and sea-breezes) predominate, with the Pacific jet stream weak and well to the north. By mid or late September, weak to moderate north to northeast winds could return to the north half of the Region. These winds are more critical than in the late spring, due to the much lower large dead fuel moistures, and the stressed live fuels.

### **California Southern Region**

Precipitation during this past year was about 60 to 80 percent of normal across southern and central California. This is the fifth year in a row in which most of the southern half of the state has experienced below normal precipitation. Although recent rains have alleviated drought conditions temporarily over the northern part of the Southern Region, long term drought conditions continue to persist across the eastern and southeastern portions of the state.



The dominating weather feature across the West Coast has been a split-flow pattern in the upper atmosphere for much of this past winter. This overall upper-air pattern broke down only occasionally with full latitude troughs moving through California, which is when the southern half of the state received its heaviest rainfall. Typically, split-flow patterns yield mild temperatures across southern and central California with varying amounts of precipitation. A split-flow usually keeps the stronger, more dynamic storms north of the area; however, sometimes the southern portion of the jet stream can become fairly active and produce heavy amounts of rainfall across the southern portion of the state.

This was not the case during the past winter season. Most of the precipitation for the water year occurred in late December and then again in February. Temperatures were slightly above normal across most of central California and near normal over southern California during the fall and winter months.



## Weather and Climate (continued)

### California Southern Region

March however was very warm over most of the region with nine days above 90 degrees. Riverside in fact, during the month of March, broke 15 records consisting of daily high maximums and daily low maximums. Consequently, snow pack in the Sierra Nevada is somewhat less than it should be for this time of the year.

Typically in July and August, the most significant factor contributing to wildland fire ignitions will be the amount of thunderstorm activity present. Consensus forecasts from climatologists suggest that there is a large degree of uncertainty as to the placement, amount, and duration of monsoonal moisture over the southwest United States.

During a normal summer, southern and central California usually experiences at least several episodes (3 to 5 days) of thunderstorm activity. We would expect this summer to average around near normal in terms of the amount of thunderstorm activity. Temperatures over the region are expected to average near normal over the coastal areas with continued above normal conditions across the inland areas, especially near the Arizona and Nevada borders. Very little rainfall usually occurs during this period and we don't anticipate any significant increase in rainfall activity other than what we would normally experience

