

Fuels

California Northern Region

The 3 ½ week unseasonably warm period in early March decreased fine and large dead fuel moistures especially the 1, 10, and 100 hour time-lag categories (0-3" diameter). The increased availability of fuels has allowed earlier than normal prescribed burning activity.

Live fuel moistures in brush species have increased during the warming trend in early March except at higher elevations where the brush is still dormant. 1000-hour fuel moistures for March range from 20 to 59% and average 35% (see Exhibit 1 and 2).

The availability of live and dead fuels is directly related to the moisture content of the material. Live fuel moistures at 100% or below may exhibit extreme fire behavior including crowning, spotting and potential development of a plume-dominated fire. These conditions are explosive and are extremely dangerous conditions for firefighters.



Dead fuels are expected to become available earlier in the season and reach critical levels earlier than normal.

Dead fuel moistures less than 12% indicate the material is available for rapid combustion. Smaller dead material dries faster than larger pieces. As 1000-Hour Fuel Moisture (3 to 6" diameter) drops below the critical 12% level, this indicates that the entire range of fuels is ready to burn. Graphs showing the condition of 1000-Hour Fuels show decreasing dead fuel moisture.

1000-Hour Fuel Moisture Charts

1000-Hour dead fuel moisture levels are computed from a 7-day average boundary condition composed of day length, hours of rain, and daily temperature/humidity ranges.

Exhibit 1 – Meyers, El Dorado County CA

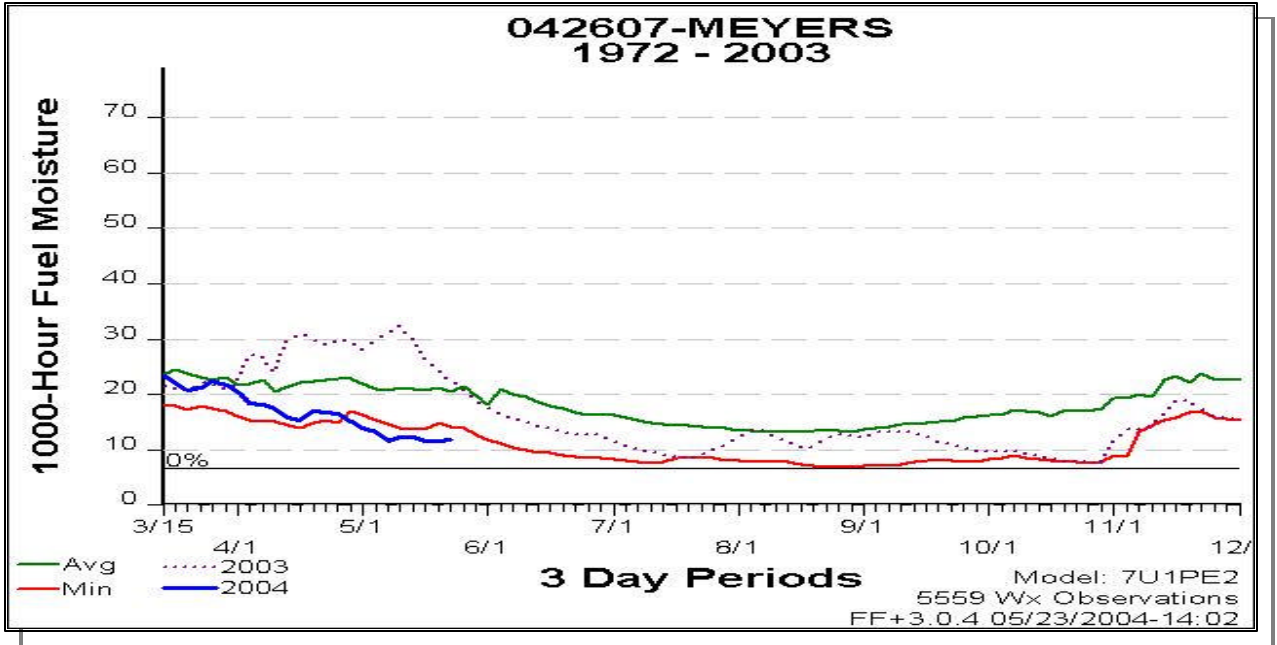
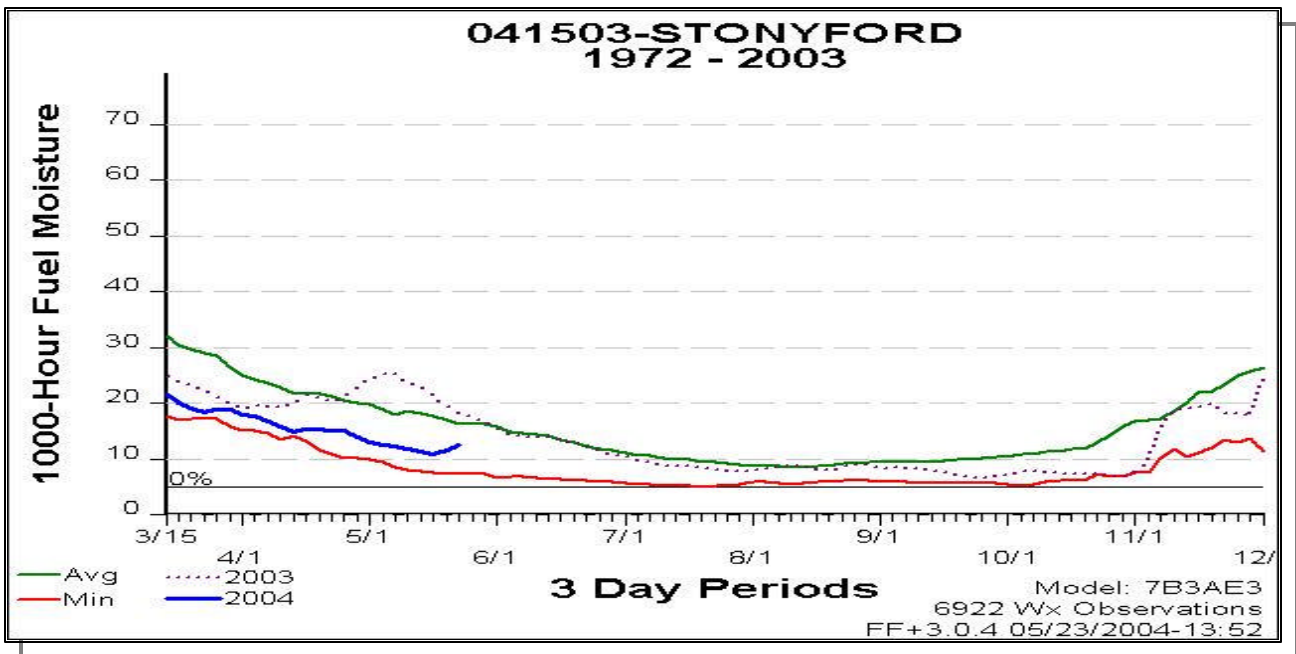


Exhibit 2 – Mendocino National Forest, Colusa County CA



Fuels (continued)

California Southern Region

The 1000-hour fuel moistures being recorded at various remote automated weather stations (RAWS) throughout Southern California are approaching record low levels. Thus far in 2004 the moisture content of both live and dead vegetative fuels has been exposed to a drier than normal spring with 1000 hour fuels reflecting near-record lows for the months of April and May (see Exhibits 3 and 4). These levels are indicative of the long-term drought throughout the area.

These long-term drought conditions have caused widespread stress in both timber and brush species throughout the Southern Sierras and most areas to the south. This stress is manifested in low foliar moisture resulting in more available fuel for combustion and fire spread. Drought stress on the vegetation has resulted in varying and extensive brush and timber mortality throughout the Angeles, Cleveland, San Bernardino, and Sequoia National Forests and surrounding state and local responsibility areas.



Much of the forested area in Southern California has been significantly altered from its historic fire return interval and absence of other management options, leading to over-density and heavy fuel loading with the potential for stand-replacing fires and ecotype conversion. The combination of drought and resulting heavy fuel loads have contributed significantly to large fire occurrence in the past four years.

Cumulative drought produced extreme dryness in dense vegetation resulting in extreme fire growth. Moderate winds exacerbated the fire behavior leading to unprecedented rates of spread. Fuel conditions have not changed significantly for the upcoming fire season. Winter precipitation produced a moderate grass crop. Above normal temperatures in March have led to an early curing of fine fuels, especially in the lower elevations.

1000-Hour Fuel Moisture Charts

Exhibit 3 – Keenwild - San Bernardino National Forest, Riverside County CA

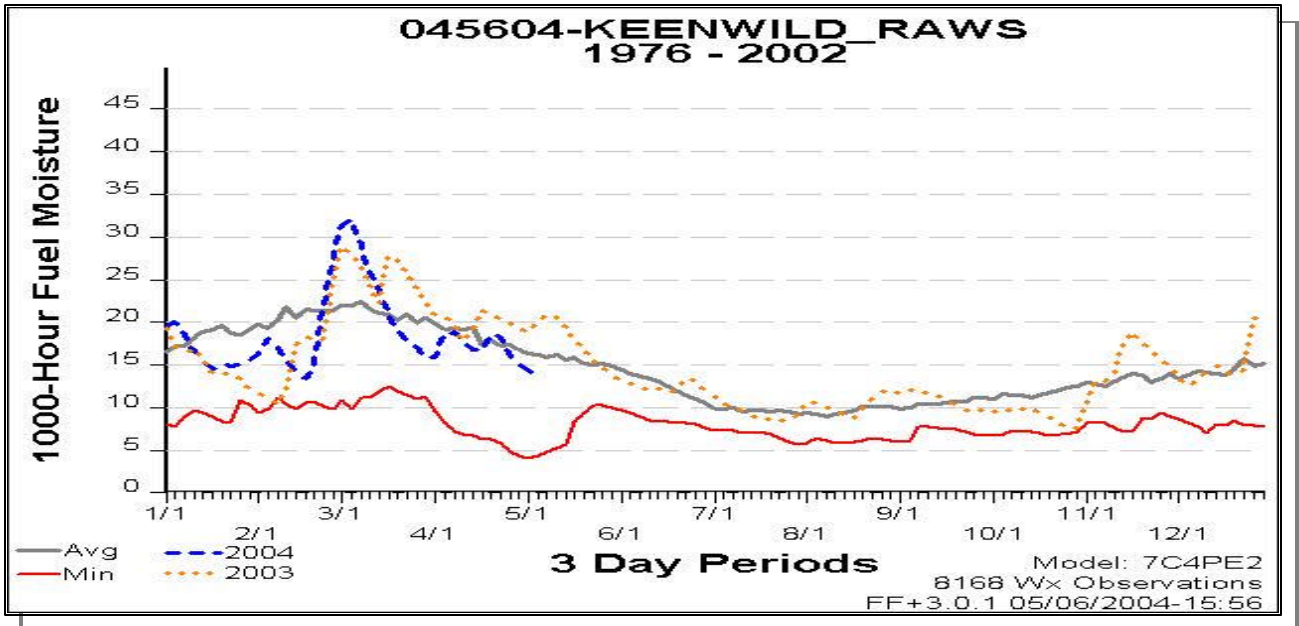


Exhibit 4 - Descanso - Cleveland National Forest, San Diego County CA

