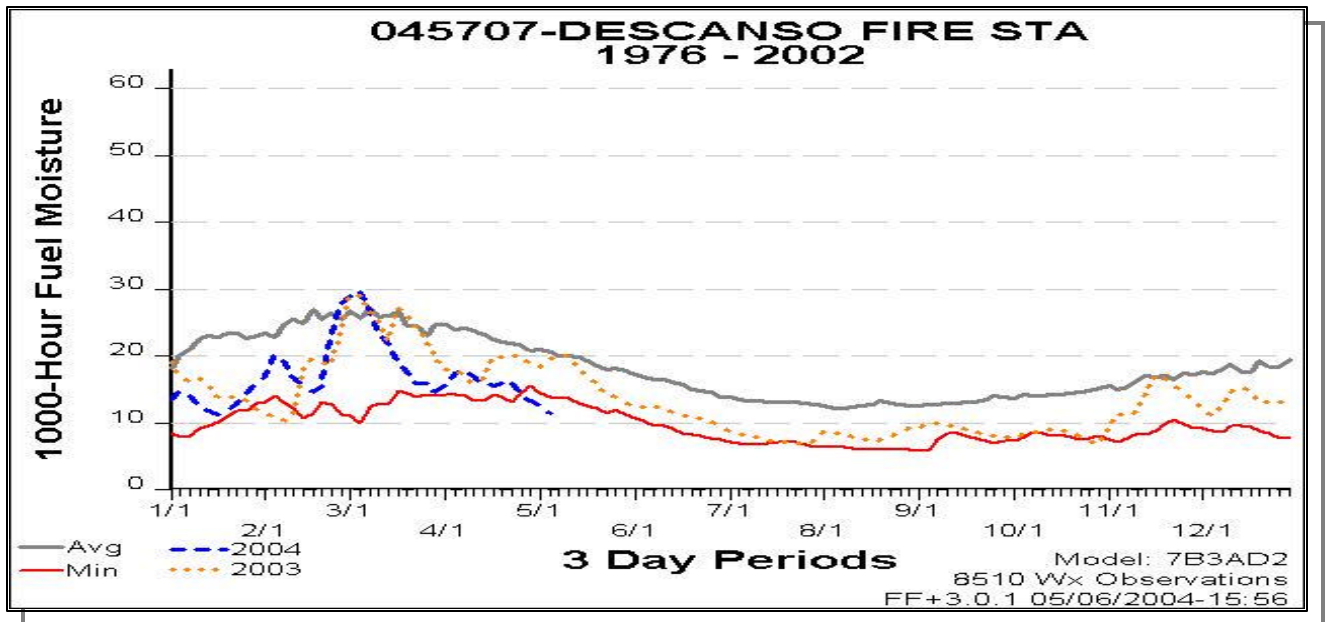


## Energy Release Component Charts

### Exhibit 8 - Descanso - Cleveland National Forest, San Diego County CA



### Fire Behavior

The combination of heavy vegetation mortality, heavy fuel loading, low live fuel moistures, low 1,000 hour fuel moistures and the fire weather outlook of above normal temperatures all indicate a high potential for extreme fire behavior throughout both the Northern and Southern parts of the State.

### Trigger Points for Extreme Fire Behavior

Extreme fire behavior trigger points are:

- ✚ Relative humidity below 20%
- ✚ Eye level winds at 10 mph or higher
- ✚ 1,000 hour fuel moistures below 8%
- ✚ Burning index of 50 or greater in 1000-hour fuels



## **Fire Behavior Assessment**

There is a landscape-level mortality of 5-100% in the timber and chaparral over approximately 350,000 acres. Standing and down dead fuel loadings could range up to several hundred tons per acre. Die off of grasses and critical fuel moistures in chaparral should be reached in mid to late July. Fuel moisture in the 1,000 hour fuels is below the 20-year average and dropping. The mountain top is heavily urbanized and many of the structures have wood siding, decks, flammable roofs and flammable vegetation close by including standing dead trees. Due to the spacing of homes, slopes, and narrow road systems burning is likely to be more characteristic of urban conflagration rather than a typical wildland/interface fire.

## **Plume-Dominated Fire**

The potential for a plume-dominated fire is extremely high; this is due to the heavy dead fuel loading of the landscape and the potential for crown fire. Plume-dominated fires can include crowning or can be caused by crowning when wind or slopes are no longer pushing the fire. Common characteristics of a plume-dominated fire are:

- ✚ Large fires or rapid spread
- ✚ Fire spread is a function of the fire itself, not the wind
- ✚ Upper level winds at 10,000-feet below 20 mph
- ✚ Convection column is well developed, sometimes reaching 20,000+ feet
- ✚ Strong updrafts during rapid growth and strong downdrafts after air cools in the upper atmosphere causing air to descend rapidly (column collapse) causing strong downdrafts



- ✚ Spotting is not long distance but can be profuse and in all directions
- ✚ Whirlwinds are typical around the perimeter

## Urbanized Forest Communities

A rapidly spreading wildfire coupled with a lack of defensible space may result in many structures burning simultaneously. Structure protection may not be possible. Sizing up each situation and triaging structures will be extremely important before committing to any structure protection.

Fire behavior will be influenced not only by forest fuels but also by the extreme intensity of multiple burning structures. Expect extreme fire behavior conditions with the potential of homes being a carrier of fire. Hazardous materials, electric and gas lines, and propane tanks will also be a factor.



## Safety

**The 10 Standard Fire Fighting Orders must be followed as well as the Eighteen Watch-out Situations.**

Make it a priority to review the **Wildland Urban Watch-outs**, the **LCES Checklist**, the **Structure Go-No Go/Protection Reference**, the **Common Denominators of Fire Behavior on Tragedy Fires** and utilize the **Pre-Incident Assignment Checklist** (see attachments).

- ✚ Take the time to ensure, and promote a safe working environment, review the following safety points and remember; “Sheltering-in-Place” procedures (both civilian and fire personnel)

