

7-Day Significant Fire Potential Product

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For those of you who monitor this product, it is important that it is being interpreted correctly.

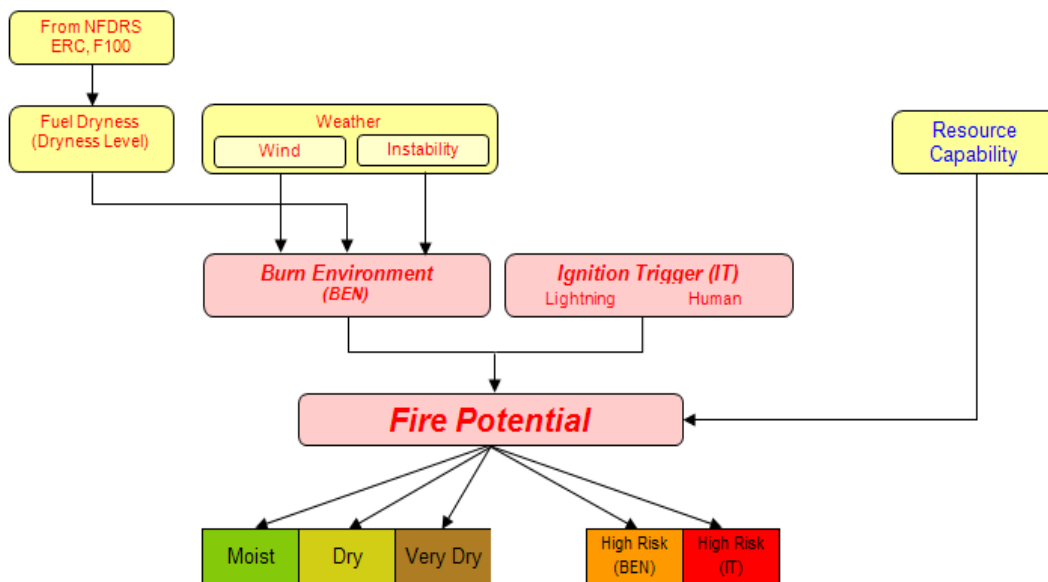
Significant Fire Potential

The primary responsibility of Predictive Services is to provide sound guidance to regional and national resource managers concerning current and projected “Significant Fire Potential”. The goal of this guidance is to help managers make effective and efficient use of available resources. “Significant Fire Potential” is defined as “the likelihood that a wildland fire event will require mobilization of additional resources from outside the area in which the fire situation originates”.

It is crucial to understand that this product is **not** a weather forecast! It is a **Significant Fire Potential Forecast!**

The following conceptual model is used to assess the daily probability for occurrence of a new large fire and/or the daily potential for significant new growth on existing fires.

Fire Potential Model



"Fire Potential": A wildland fire scenario measured in terms of anticipated occurrence of large fires, complex fires or number of fires and management's capability to respond. Fire potential is influenced by a sum of factors that includes *fuel dryness*, *weather*, *ignition triggers*, and *resource capability*.

For this product a Large Fire is defined as a fire meeting the size of the top 5% of historic “daily largest fires” during a typical fire season for each PSA.

Fuel Dryness (DL) is represented for each PSA for each of the next 7 days as one of three colors. DL, in the Northwest, is determined by combinations of forecasted ERC and F100.

1. Green – Indicates a DL which historically has resulted in a very low probability for large fires even when accompanied by critical weather.
2. Yellow – Indicates a rather “normal” summertime dryness that typically results in low probabilities of large fires but may become elevated when accompanied by a critical event (either burn environment or mass ignitions)
3. Brown – Indicates very dry fuels which have historically resulted in a higher than normal threat for large fires when accompanied by a critical burn environment/ignition trigger event. In the absence of such an event, the threat remains at low to moderate levels.

“High Risk Days”... At NWCC we will issue a high risk day when we expect conditions to exist that historically have resulted in approximately a 20% or greater chance for a large fire. These days will be indicated on our chart in **red** (when the causal agent is an ignition trigger event) or **orange** (when the causal agent is a critical burn environment). A symbol will be included to indicate the reason for the high risk:

- **Red** and a ⚡ – A combination of sufficiently dry fuels and abundant lightning that is expected to result in mass ignitions leading to a high risk for large fires. (It is important to note that this is NOT simply a lightning forecast but rather a forecast of a scenario that historically has resulted in a high risk for large fires due to lightning).
- **Red** and an “R” – This stands for high recreation in combination with dry fuels. Certain “high recreation” days can lead to a large number of human ignitions and when fuels are dry, this combination can lead to an elevated risk for large fires. A good example has been the 4th of July.
- **Orange** and a “U” – Represents an elevated burn environment due to a combination of dry fuels and an **unstable** airmass. Though this combination has historically shown a marginal increase in the probability of “new” large fires, it is most significant when large fires are already in progress. This trigger event can result in explosive growth on existing fires.
- **Orange** and a “W” – Represents an elevated burn environment due to a combination of dry fuels and **wind**. As is the case with the dry and unstable scenario, dry and windy is most significant when large fires are in progress and does not have a particularly good relationship with “new” large fires.

The following links provide further information regarding some of the research behind this product.

http://www.nwccweb.us/content/products/fwx/publications/assessing_daily_fire_severity1.pdf

http://www.nwccweb.us/content/products/fwx/publications/Assessing_Ignition_Triggers.pdf

<http://www.nwccweb.us/content/products/fwx/fdrop/fdrop.pdf>

Please feel free to call if you wish to discuss this product.
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