

2008

Seattle Fire Weather

Operating Plan

Changes for 2008:

New Fire Weather Watch/Red Flag Warning Criteria added for a Very Dry and Unstable Air Mass.

Northwest GACC Dryness Levels added in Fire Weather Watch/Red Flag Warning consideration for elevations above 1500 feet msl.

LOCATION

The National Weather Service Forecast Office in Seattle is located at the NOAA Western Regional Center in northeast Seattle. The address is:

National Weather Service
7600 Sandpoint Way N.E.
Seattle, WA 98115-0070

HOURS OF OPERATION

The National Weather Service Office in Seattle is open 24 hours a day, 7 days a week, every day of the year. During fire season, the Fire Weather desk is staffed by a certified and experienced Fire Weather forecaster between the hours of 7:00 a.m. and 5:00 p.m. In 2008, weekday fire desk staffing and twice-a-day Fire Weather Planning Forecasts will begin around May 23 (the Friday before Memorial Day). Weekend, 7-day-a-week Fire Weather desk staffing will begin on Saturday, June 28. The need for continuation of Fire Weather desk staffing will start being evaluated around the first or second week of

October. The exact dates of Fire Weather desk staffing can be adjusted based on weather conditions and user requirements or requests.

After hours during fire season and during the off-season, Spot Forecast support or phone briefings will be handled by staff meteorologists, trained in fire weather forecasting, on a 24/7 basis. A Fire Weather forecaster can be available with prior arrangements.

Certified Fire Weather Forecast Staff

Brad Colman – Meteorologist in Charge
Ted Buehner – Warning Coordination Meteorologist
Brent Bower - Service Hydrologist
Jim Prange – Fire Weather Program Leader/IMET
Andy Haner– Asst. Fire Weather Program Leader/IMET
Carl Cerniglia – Fire Weather Forecaster
Danny Mercer – Fire Weather Forecaster

PHONE NUMBERS

RING THROUGH (24/7)	(206) 526-6087
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INTERNET

Our Internet home page can be found at:

<http://www.wrh.noaa.gov/sew/> or <http://www.weather.gov/seattle>

Click the fire weather link on the main menu to access fire weather products.

Statewide, Internet-based, fire weather briefings will be conducted routinely Monday through Friday at 9:00 a.m. during the fire season. Additional daily, weekend and holiday Internet briefings may be conducted during critical fire weather episodes as coordinated with the land management agencies. Contact this office for the appropriate telephone number and conference ID to participate in the conference calls.

Requests for spot forecasts can be made via our Internet web site at <http://www.wrh.noaa.gov/sew/>. Click the “Fire Weather” link, then “Web-Based Fire

SPOT Request” near the top of the page. Completed spot forecasts will be posted to the web server as soon as possible after the original request is received. This provides a one-stop-shopping method for requesting and obtaining spot forecasts. The Internet web site is the preferred format for requesting Spot Forecasts. Please notify the NWS Seattle if no spot forecast is received within a reasonable amount time. *If at all possible, spot forecasts should be accompanied by an onsite weather observation. It should be understood that the quality of a spot forecast is highly dependent upon getting initial, accurate onsite weather conditions.*

FORECAST DISTRICT

The Seattle Fire Weather Office has forecast responsibility for most state and federal land in Western Washington. The Portland Fire Weather Office handles the Gifford Pinchot National Forest south of a line from Mt. St. Helens to Mt. Adams to the Oregon border. The Seattle fire weather district is divided into 5 distinct areas or districts for fire weather forecasting. The areas are further divided into 13 separate fire weather zones. Each fire weather zone is comprised of fire weather stations that exhibit similar weather and/or weather changes. However, not all of the fire weather stations report on a regular basis.

FORECAST PRODUCTS

1. FIRE WEATHER PLANNING FORECASTS

During the "fire season", twice-daily Fire Weather Planning Forecasts are issued by 8:30 AM PT and 3:30 PM PT. NFDRS Zone Trend forecasts are issued daily with the afternoon Fire Weather Planning Forecast. A modified Fire Weather Planning Forecast will be issued Monday through Friday during the "off-season", normally from about mid-October to early- May. The off-season forecasts are available in WIMS and on the Internet by 9:00 AM PT.

2. FIRE WEATHER WATCHES AND RED FLAG WARNINGS

Mission Connection: Fire Weather Watches and Red Flag Warnings will be issued when the combination of dry fuels and weather conditions support extreme fire danger and/or fire behavior. These conditions alert land management agencies to the potential for widespread new ignitions, overwhelming Initial Attack activities, control problems with existing fires, etc; any of which could pose a threat to life and property.

Fire Weather Watches and Red Flag Warnings will be issued during Fire Season in the Seattle Fire Weather District, **when the Energy Release Component, is equal to or greater than the 90th percentile value in the frequency distribution of historical ERCs.** Also, for zones above 1500 feet msl, the **Northwest GACC Dryness Levels** will be considered when in the **“YELLOW OR BROWN”** conditions under extreme or unusual conditions.

The conditions described below must either be occurring or forecast to occur within the next 72 hours. The table below shows the 90th percentile ERC values that will be used for each fire weather zone.

90th Percentile ERC

Zone 649:	17
Zone 650, 651, 653, 656, 657	25
Zone 652, 654, 655, 658, 659	31
Zone 661	34
Zone 662	73

Strong East Winds and Low Humidity (Westside zones only)

- Nighttime hours (midnight to 7 am):

Duration: 5 hours

Wind Speed: 20 ft /10 min avg. wind greater than or equal to 10 mph (RAWS)
- **OR** –
30 ft /2 minute avg. wind greater than or equal to 12 mph (ASOS)

RH: less than or equal to 35%.

- Daytime hours (7 am to midnight):

Duration: 4 hours in an 8 hour block

Wind Speed: 20 ft/10 min average wind greater than 10 mph - **OR** –
30 ft /2 min average wind greater than 12 mph

RH: less than or equal to 30%, except less than or equal to 25% on the Gifford-Pinchot NF south of the Cowlitz River.

Verifying Stations for East Wind episodes

Many fire weather stations in Western Washington do not show good exposure to strong east winds. Therefore, Red Flag Warnings for East Wind episodes will verify in the following zones when criteria are met at the following defined stations. A station is considered any NFDRS site. Additional METAR, DOT, DOE, etc., weather sites will also be queried to add additional wind, temperature and relative humidity data to enhance the verification process and document the East Wind Event.

Zone 649: Any two stations within the zone

Zone 650: Any single station within the zone **or** Quillayute ASOS

- Zone 651: At the Minot RAWS site – **or** –
at both the Shelton and Hoquiam ASOS sites.
- Zone 652: Any two stations within the zone – **or** –
at both the Ellis Mtn and Hurricane Ridge RAWS sites.
- Zone 653: Any two stations within the zone
- Zone 654: Any two stations within the zone (including Olympia ASOS)
- Zone 655: Any station within the zone – **or** –
at both of the Shelton ASOS and Minot Peak RAWS sites.
- Zone 656: Any single station under 1500 feet within Whatcom, Skagit, or
Snohomish County
- Zone 657: Any single station under 1500 feet within King or Pierce County
- Zone 658: Any single station within the zone – **and** –
one of the following sites: Greenwater, Lester, Stampede Pass,
and Kosmos Mountain
- Zone 659: Any two stations within the zone
- Zone 661: Any single station within the zone – **or** –
both the Ellis Mtn. and Minot Peak RAWS sites.

Strong West Winds and Low Humidity (Eastside zone 662 only)

- Duration: at least 4 hours
- Wind Speed: 20 ft /10 minute average wind greater than or equal to 15 mph
- RH: less than or equal to 25%.

Stehekin and Camp Four RAWS will be used to verify Red Flag Warnings in zone 662.

The conditions described above should be fairly widespread in both time and space across the fire weather zone - as opposed to an isolated incident or a diurnal occurrence that lasts for only a few hours.

Lightning

Dry lightning (LAL 6) occurs when the environment below the cloud base is so dry that passing thunderstorms produce little or no precipitation at the surface. A Fire Weather Watch or Red Flag Warning will be issued for the combination of sufficiently dry fuels and the occurrence of significant lightning, wet or dry, within a particular Fire Weather Zone, to cause a threat to life and property. The thunderstorm activity must be at least **scattered (25-54% aerial coverage) or greater** within a particular zone.

Each potential Red Flag event will be coordinated with local land management agencies to ensure environmental conditions are sufficiently critical to justify the issuance of a watch or warning.

Dry and Unstable Air Mass

Mid *and* High-level Haines of a 5 or 6, RH 25% or less, **AND** sufficiently dry fuels.

3. SPOT FORECASTS

Mission Connection: WFO Seattle will issue spot forecasts in support of wildfire suppression and natural resource management. These forecasts aid the land management and fire control agencies in protecting life and property during wildland fires, hazardous fuels reduction, and rehabilitation and restoration of natural resources. Spot forecasts may also be issued for hazardous materials incidents, search and rescue missions and other threats to public safety. All spot forecasts should be accompanied by an onsite weather observation.

Issuance Criteria: Spot forecasts are non-routine products issued at the request of the user. WFO Seattle will provide spot forecast service upon request of any federal, state, tribal, or local official who represents the spot forecast is required to support a wildfire.

For non-wildfire purposes, resources permitting, WFO Seattle will provide spot forecast service under the following circumstances and conditions:

a. Upon request of any federal official who represents that the spot forecast is required under the terms of the Interagency Agreement for Meteorological Services (NWS Instruction 10-406).

b. Upon request of any state, tribal, or local official who represents that the spot forecast is required to carry out their wildland fire management responsibilities in coordination with any federal land management agency participating in the Interagency Agreement for Meteorological Services (NWS Instruction 10-406).

c. Upon request of any public safety official who represents the spot forecast is essential to public safety, e.g. due to the proximity of population centers or critical infrastructure. A “public safety official” is an employee or contract agent of a government agency at any level (federal, state, local, tribal, etc.) charged with protecting the public from hazards including wildland fires of whatever origin and/or other hazards influenced by weather conditions such as hazardous material releases.

WFO Seattle will not provide spot forecasts to private citizens or commercial entities not acting as an agent of a government agency.

Information required by the fire weather forecaster from the requesting agency is found on WS Form D-1. Spot forecasts for wildfire suppression will take precedence over normal office routines.

AGENCIES SERVED

The Seattle Fire Weather Office serves the following state and federal land management agencies:

United States Forest Service - Olympic National Forest, Mt. Baker-Snoqualmie National Forest, Gifford-Pinchot National Forest and Okanogan-Wenatchee National Forest

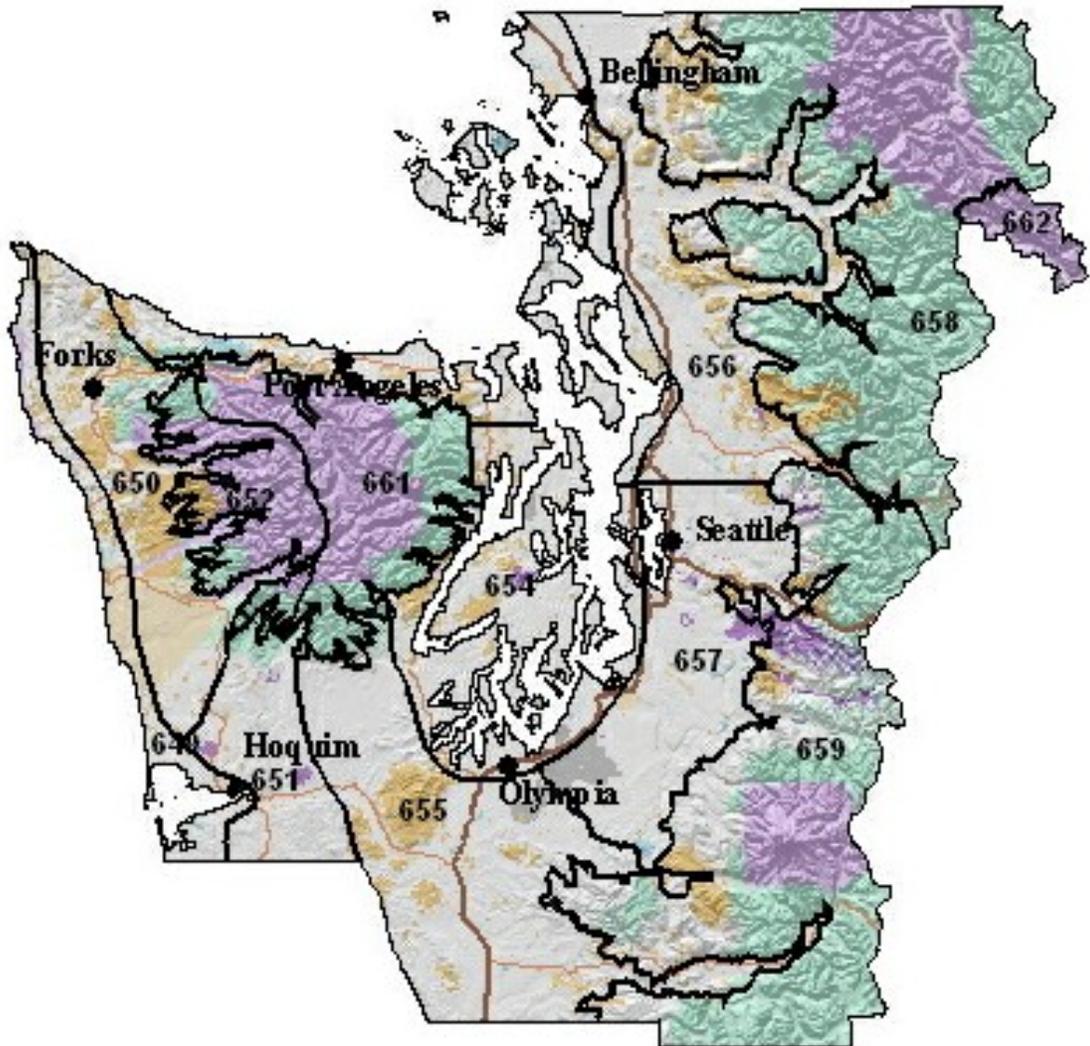
National Park Service - North Cascades National Park, Olympic National Park, Mt. Rainier National Park and San Juan Islands National Park

Bureau of Indian Affairs - Olympic Peninsula Agency and Puget Sound Agency

Washington Department of Natural Resources - Resource Protection Division and the Northwest, Olympic, South Puget Sound, and Pacific Cascade regions.

United States Army – Ft. Lewis Wildland Fire Program.

Seattle Fire Weather Zones



Appendix 1: Fire Weather Zone Descriptions

Appendix 2: NFDRS Fire Weather Station List