# ANNUAL FIRE WEATHER OPERATIONAL REPORT
# Fire Season 2015 – Medford, Oregon

## 1. Fire Weather Meteorologists:

Frederic Bunnag (IMET, Asst Fire FP)
Noel "Shad" Keene (IMET)
Brian Nieuwenhuis
Michael Petrucelli
Ryan Sandler (WCM)
Michael Stavish (SOO)
Daniel Weygand
Connie Clarstrom
Brett Lütz (Fire FP)
Sven Nelaimischkies
Ken Sargeant (ITO)
Marc Spilde
Jay Stockton
Thomas Wright

## 2. Spot Forecast Statistics (from The National Spot Forecast Statistics Page):

Total Number of Written Spot Forecasts: 990

By Type: Prescribed Burns 648…Wildfires 337…SAR 4…WFU 0…HAZMAT 1.

Request Source: Wildfire 337…Interagency Agreement 646…State/Local 0…Public Safety 7.

## 3. Total # of Fire Weather Courses Taught or Attended in 2015:

*Taught: 2*
S-390: June 1st in Roseburg, OR for Douglas Forest Protection Agency. Stavish.
S-290: June 17-18 in Roseburg, OR for Douglas Forest Protection Agency. Lutz

*Attended: 3*
IMET Virtual Workshop: March-April. Bunnag, Keene.
RT-130: April 8th, Klamath Falls, OR, Keene.
RT-130: May 15th, Roseburg, OR, Bunnag.

## 4. Training and Liaison Activities 2015:

Mar 4th: Preseason Virtual Meeting with Redding GACC, Sacramento WFO, Eureka WFO, Reno WFO about upcoming fire season (Lutz)

March 19-20th: Pacific Northwest AOP Meeting in Portland, OR. (Lutz)

April 7th: Umpqua National Forest Fire Refresher Season Outlook & Skywatching. (Lutz)

April 16th: Rogue-River Siskiyou Fire Refresher Season Outlook (Sandler)

April 25th: Rogue-River Siskiyou Fire Refresher Season Outlook (Keene)

May 9th: SONCAL CA/OR State Fire Resources & Vendors Meeting. Smith River, CA. (Lutz)

May 13th: Coos Bay BLM & Partners Meeting. (Bunnag)

May 27th: Fire Weather DSS June Outlook/Fire Season Onset E-mail. (Lutz)

June 1st: Daily Fire Wx Briefings by MFR begin (Sandler/Staff)

June 4th: Shasta-Trinity National Forest District Meeting. Season Outlook. Red Fir Flat, Mount Shasta (Lutz)

June 15th: Siskiyou Rappellers Tour. Medford NWS. (Sandler, Stavish)

June 26th: Conference Call for Rogue-River Siskiyou National Forest Regarding Upcoming Thunderstorms (Lutz)

Oct 20th: DSS Fire Wx E-mail Briefing on Definitive Season Ending Rain Coming (Lutz)

Nov 6th: Visit to Medford Interagency Command Center with new WR Director (Staff)

Dec 2nd: ODF Season Recap Meeting & Intro to New Leadership. (Lutz)

## 5. Fire Weather Watches and Red Flag Warnings 2015

### Warnings:

**Total Warnings for Both Lightning and Synoptic Events.**

| | | | | |
|---|---|---|---|---|
| A…Number of warnings verified | = | 103 | | |
| B…Number of events missed | = | 0 | | |
| C…Number of warnings not verified | = | 47 | | |
| Total number of warnings issued | = | 150 | | |
| Probability of Detection A / (A+B) | = | 103 / (103+0) | = | 100% |
| False Alarm Rate C / (A+C) | = | 47 / (103+47) | = | 31% |
| Critical Success Index A / (A+B+C) | = | 103 / (103+0+47) | = | 69% |
| Number of Warnings preceded by Watches | = | 69 | | |
| Total number of Watches issued | = | 105 | | |
| Average Lead Time | = | 22 hours 32 minutes | | |

**Synoptic Warnings**

| | | | | |
|---|---|---|---|---|
| A…Number of warnings verified | = | 29 | | |
| B…Number of events missed | = | 0 | | |
| C…Number of warnings not verified | = | 5 | | |
| Total number of warnings issued | = | 34 | | |
| Probability of Detection A / (A+B) | = | 29 / (29+0) | = | 100% |
| False Alarm Rate C / (A+C) | = | 5/ (29+5) | = | 15% |
| Critical Success Index A / (A+B+C) | = | 29 / (29+0+5) | = | 85% |
| Number of Warnings preceded by Watches | = | 14 | | |
| Total number of Watches issued | = | 17 | | |
| Average Lead Time | = | 24 hours 3 minutes | | |

**Lightning Warnings**

| | | | | |
|---|---|---|---|---|
| A…Number of warnings verified | = | 74 | | |
| B…Number of events missed | = | 0 | | |
| C…Number of warnings not verified | = | 42 | | |
| Total number of warnings issued | = | 116 | | |
| Probability of Detection A / (A+B) | = | 74 / (74+0) | = | 100% |
| False Alarm Rate C / (A+C) | = | 42 / (74+42) | = | 36% |
| Critical Success Index A / (A+B+C) | = | 74 / (74+0+42) | = | 64% |
| Number of Warnings preceded by Watches | = | 55 | | |
| Total number of Watches issued | = | 88 | | |
| Average Lead Time | = | 21 hours 56 minutes | | |

## 6. Incident Meteorologist Dispatches 2015

| IMET | Dates | Name of Fire Complex |
|---|---|---|
| Noel Keene | May 17-23, 2015 | Mud Lake Complex |

| | | |
|---|---|---|
| | | near Ochopee, FL<br>(Big Cypress National Preserve) |
| Frederic Bunnag | June 28-July 4, 2015 | Bunker Fire Complex<br>near Diamond Lake, OR<br>(Rogue-River Siskiyou NF) |
| Noel Keene | July 31-Aug 8, 2015 | Cable Crossing Fire<br>near Glide, OR<br>(Oregon Department of Forestry) |
| Frederic Bunnag | August 8-19, 2015 | National Creek Complex<br>near Prospect, OR<br>(Rogue-River Siskiyou National Forest) |
| Frederic Bunnag | Aug 23-Sep 11, 2015 | Selway Complex near Elk City, ID<br>(Nez Pierce National Forest) |
| Noel Keene | Aug 29-Aug 31, 2015 | Eagle Complex near Richland, OR<br>(Wallowa-Whitman National Forest) |
| Noel Keene | Aug 27-Sep 9, 2015 | Cougar Creek near Glenwood, WA<br>(Gifford-Pinchot NF) |
| Spencer Higginson | September 10-20, 2015 | (BAER Team/Hydrologist) |

Number of IMET Dispatches = 7 (+1 Hydro Dispatch for BAER Team)
Number of Dispatch Days = 72 (+11 Hydro/BAER dispatch days)

## 7. Brief Weather, Climate, and Fire Season Summary:

The 2014-15 Wet Season was not nearly as dry as the preceding wet season, with the area generally receiving near normal precipitation, in the 75% to 125% range. However, temperatures for that same time period were mostly in the top 10% of climatology going back to 1895, per the Westwide Drought Tracker. A small portion of the area actually experienced the warmest October-May on record. November through March were the warmest on record for much of the area. Thus, while precipitation was near normal, very anomalously above normal temperatures again resulted in near record low snowpack for much of the area. The exception to this was elevations above about 7500 feet, such as on Mount Shasta, where snowpack was closer to normal. Thus, the drought worsened prior to the beginning of fire season, with most of it in Moderate to Extreme drought per the US Drought Monitor. The snow drought of 2014-15 led to early melt off of the snowpack, increased threat of lightning started fires at higher elevations due to a longer surface fuel exposure time, and less water in the mountain lakes.

Just as it appeared fire season was going to begin early, May 2015 brought near to much above average rainfall to the area. By the end of May, the Coast Range actually had drier fuels than the east side, as much of the east side experienced 150-200%+ of normal precipitation. On May 19th a mudslide occurred

from heavy rain on a burn scar in the 2014 Day Fire area. This burn scar mudslide caused the closure of a portion of County Road 94.

The continued dryness and changing of the seasons on the west side led to fire season being declared on June 5th. However, not happened in terms of fire activity until late July in to early August, despite a very dry and record warm June for most of the area. This was because much of the area east of the Cascades experienced a very wet month, with 300%+ of normal precipitation from the monsoon. Even the eastern portion of the west side had above normal precipitation from significant monsoonal thunderstorms.

On July 30th, 2015 a lightning fire, called the Frog Fire, in Modoc National Forest went plume dominated on a forecast and observed Haines 6 day. A firefighter was killed by the fire. No shelter had been deployed.

On July 31st, 2015, Haines 6 conditions, both forecast and observed, caused the Cable Crossing human started fire to grow and resulted in a severe plume dominated crown fire called Stouts Creek. This fire resulted in a lot of smoke across the forecast area and grew to 25,000 acres before being extinguished.

On August 1st and 2nd a large number of lightning fires started in the Coast Range and in other parts of the area, to include the Collier Butte Fire and the National Creek Complex. On this same day, a smokejumper collided with another smoke jumper on the Watson Butte Fire in Umpqua National Forest resulting in an injury.

The Collier Butte Fire burned about 8,000 acres, as August rains aided containment efforts. The National Creek Complex burned 20,000 acres. The National Creek Fire burned portions of Crater Lake National Park and led to partial Park and road closures, at times.

The Medford NWS Office began issuing twice per day Fire Weather Planning Forecasts on May 1st and then continued them until October 28th. The fire season across most of the forecast area officially ran from June 5th through October 31st. Daily Fire Weather Briefings were accomplished by our office from June 1st through October 2nd.

Altogether, this fire season could have been much worse than it was. Drought followed by snow drought led to a precariously dry heavy fuels situation. However, unusually wet conditions, especially east of the Cascades, caused the finer fuels to remain wetter. Strong July thunderstorms with rain had a similar effect over all but the Coast Range. We were fortunate that we did not have much lightning in the Coast Range and that the fire season was wet east of the Cascades. While both the Stouts Creek and National Creek Fires were both severe, given the spring fuel conditions, large fire activity was not too out of the ordinary.