



FIRE PROTECTION DIVISION 2015 FIRE SEASON REPORT

Oregon Department of Forestry
Fire Protection Division
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FIRST, A WELCOME AND THANK YOU

In 2015 Oregon Department of Forestry (ODF) experienced a transition in leadership. Doug Grafe was promoted to Chief of the Fire Protection Division. Ron Graham was selected as the Deputy Chief of the Fire Protection Division. Providing uninterrupted leadership for fire season and to aid transition, on hand were State Forester Doug Decker, Deputy State Forester Nancy Hirsch, Division Chief Doug Grafe, Eastern Oregon Area Director Travis Medema (Acting Chief of the Fire Protection Division), and Operations Manager Karen Swearingen.

Deputy Chief of Protection Ron Graham joined our staff mid-season. Ron attended Gogebic Community College, Michigan Technological University, and Washtenaw Community College. Ron began his career in wildland fire fighting in 1988 as a seasonal firefighter for the Michigan Department of Natural Resources. He continued with the MIDNR as a Park Ranger, Forest Fire Officer and State Forest Officer until 2004. In 2004, Ron accepted a District Fire Management Officer with the New Mexico State Forestry Division, Chama District. In 2007, Ron accepted the position of Assistant Fire Management Officer in the headquarters office for the Wyoming State Forestry Division. In 2011, Ron accepted the position of Assistant State Forester – Fire Management. A native of Michigan's Upper Peninsula, Ron and his wife have twin daughters.

The Salem Support Team was activated again this year, and veteran ODF retirees were engaged as well to fill the ranks in support of our Incident Management Teams and other staff at ODF. Welcome Ron, and thank you retirees!

Oregon Department of Forestry thanks forest landowners, state, federal, and local agency and organization partners, and contractors for their undaunted commitment to the complete and coordinated fire protection system in Oregon. We also thank our neighbor states from all over the U.S. and Canada for sending personnel to help this year.

The Aviation Unit Manager at ODF Salem and all Salem staff would like to also extend a special thanks to our aircraft vendors. Their service truly makes our aviation program a success and we look forward to working with them for many fire seasons to come.



Oregon Governor Kate Brown and USFS Chief Tom Tidwell visiting with Canyon Creek Fire personnel. Photo from KOIN.com news.



State Forester Doug Decker and USFS Chief Tom Tidwell at Canyon Creek Fire. Photo from Tina Young.

The Protection Division also thanks all staff and their families in our districts and associations, and personnel and families from ODF divisions: Private Forests, State Forests, Resources Planning, and Administration for their unwavering commitment to service in fire protection.

As well, we thank the Board of Forestry, the Office of the Governor, and the Oregon State Legislature for their support.

FIRE PROTECTION DIVISION PURPOSE

The Fire Protection Division's purpose is to protect approximately 16 million acres (24,900 square miles) of private and public forestland from fire. The acreage protected includes 3.5 million acres of 'wildland-urban interface' areas, which are forest lands with residences and other structures within the reach of wildfire. This is done through a complete and coordinated system of fire prevention, suppression and fuels management.

The goal of the program is to create and use environmentally sound and economically efficient strategies which minimize the total cost to protect Oregon's timber and other forest values from wildfire while also minimizing wildfire damage to protected resources.

Specific objectives of the program are to:

- Ensure that landowners will continue to invest in forestry in the state, knowing that their lands have effective and reasonable cost protection from fire. The total "cost plus loss" resulting from wildfire in terms of suppression costs and damage to timber and forest values is held to minimum levels.
- Provide effective protection from fire to other forest values, such as water and watersheds, fisheries, wildlife, recreation, aesthetics, soil productivity and soil stability.
- Provide a cost effective system of fire protection that is well coordinated with local fire districts across the state and with federal and tribal wildland fire protection agencies.
- Effectively manage high-cost fire suppression resources.
- Educate forest landowners and forest homeowners about the value of fire hazard and risk reduction measures and take positive action to minimize the threat.
- Maintain air quality through the administration of the Smoke Management Plan which regulates prescribed burning on private, federal, and state and local government forestland in Oregon.

2015 FIRE SEASON OVERVIEW

The 2015 fire season was characterized by multiple destructive and challenging large wildfires that have displayed extreme fire behavior and exponential growth, and resulted in significant losses to public infrastructure, private property and structures, commercial timberlands, and other forestland. These fires have disrupted life in southwest and eastern Oregon and produced significant impacts to air quality, water quality, recreation and scenic values, and wildlife habitat. This is the third year of significant fire activity in a row, brought on in part by elevated statewide drought conditions, lightning, and an increase in human-caused fires.



Stouts Creek Fire Pyrocumulus cloud on July 31, 2015. Photo from Douglas Forest Protective Association.

Oregon has experienced three of the most expensive and challenging fire seasons in more than half a century. All facets of Oregon's complete and coordinated fire protection system were tested and exercised. This included Oregon's unique funding structure for suppression of both small and large fires, the use of severity resources, landowner partnerships, contractors, cooperators and other agreements, which ultimately brought firefighting support from around the country, the National Guard, and from the Canadian provinces.



The Dry Gulch Fire in ODF's Northeast Oregon District burned 17,000 acres in 3 days, illustrating the explosive fire growth in receptive fuels. Photo Courtesy Jeffery Apple and Rod Nichols.

We've also seen several fires with high public profiles, due to their proximity to population centers, threats to homes, structures burned, and values at risk that have included air and water quality, recreation and scenic values, and habitat - as well as losses of standing timber.

By the end of August, the Northwest Coordination Center (NWCC) reported that Oregon and Washington had already hosted 37 incident management teams, and more than

10,000 firefighters working 93 large fires that have burned a combined 1.4 million acres of forest and range land. These fires resulted in the death of three wildland firefighters in north central Washington, had burned more than 100 primary residences, and resulted in evacuation notices for 16,500 homes. National Guard members from both states were deployed, and active duty Army troops were integrated into fire operations in north-central and northeast Washington. The National Preparedness Level had been set at the highest possible rating (PL5), meaning that the commitment of all resources was in effect, with little to no availability for new resources to enter Oregon or Washington. By September 30, NWCC reported 2,273 fires burned nearly 632,000 acres in Oregon.

This year, three battalions of 250 Oregon National Guard (NG) troops trained and deployed as firefighters. One battalion was deployed to Canyon Creek Complex for 8 days and two were deployed to Grizzly Bear Complex for 9 days. NG helicopters were also deployed to Cornet, Eagle Complex, and the Canyon Creek Complex fires this year.

To close out the year, NWCC reported 4,299 fires for Oregon and Washington. 2,524 of these fires were in Oregon, which burned a total of 633,048 acres. 43 of 102 large fires, where at least 100 acres timber or 300 acres grass or brush were burned, were in Oregon. The largest was the Canyon Creek Complex at 110,422 acres. NWCC reported that 11,450 firefighter and support personnel were active in Oregon and Washington this fire season. The Preparedness Level (PL) reached PL4 for 24 days and peaked at PL5 for 23 days.

ODF reported 1,080 statistical fires this year and 86,629 protected acres burned. Taking 2015 data into account, our 10-year average has risen. From 2005-2014 the average number of fires was 987 and average acres burned was 27,599. For 2006-2015, the 10-year average is now 1,013 fires and 35,101 acres burned.

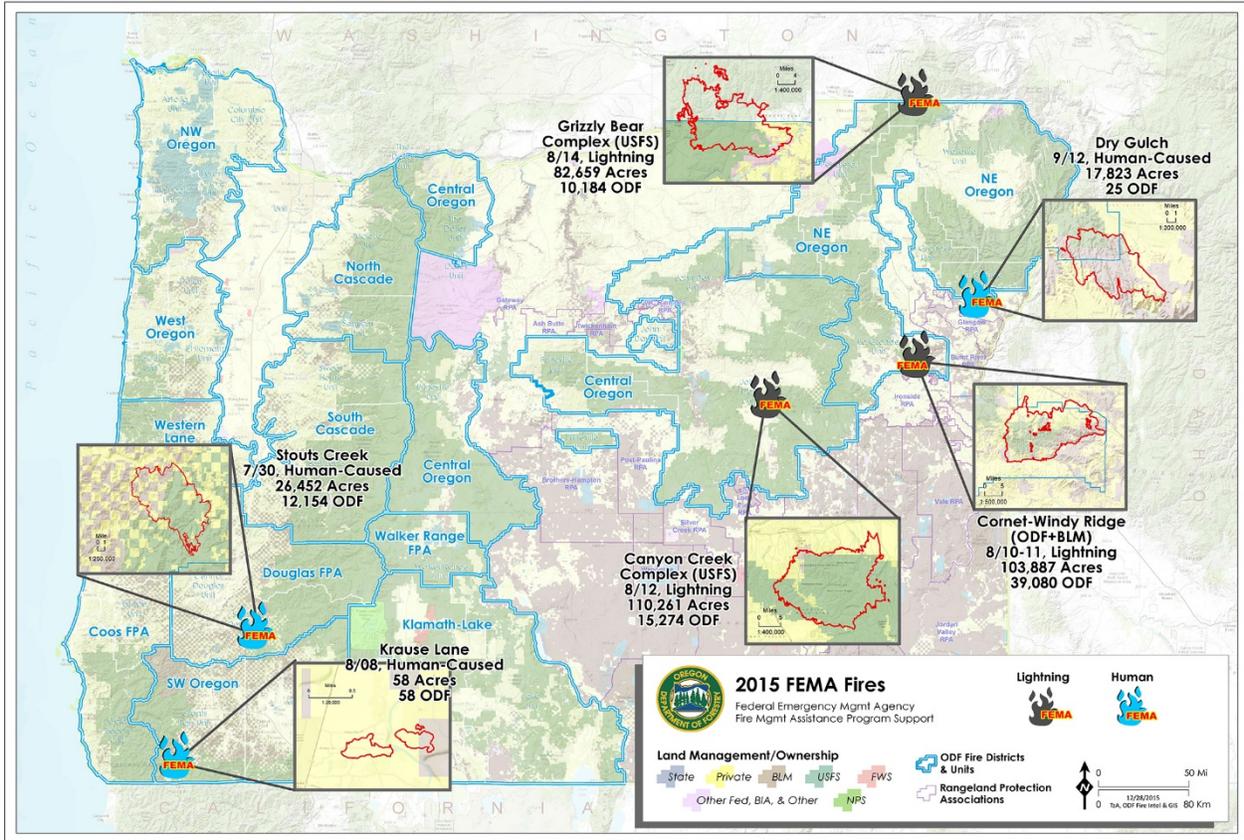
ODF FIRE SEASON DATES

The 2015 ODF fire season lasted 149 days, or 4 months and 27 days. Douglas Forest Protective Association declared 2015 fire season first starting on June 1, near the 10-year average start date of May 29. The Southwest District declared end of fire season last on October 28; the 10-year average end date is October 25. In comparison, in 2014 fire season started on May 22 and ended October 23 for a 154-day fire season, and in 2013 fire season started on May 10 and ended October 21, for a 164-day fire season.

A notable early fire in the year was the Peavine Creek fire in the southern area of the Douglas Forest Protective Association on May 5 for 148 acres. A notable late fire was the Skookum fire in the John Day Unit of Central Oregon District on October 29 for 56 acres.

FEMA FIRES

There were 6 FEMA Fire Management Assistance Program fires in Oregon this year: Stouts Creek, Krause Lane, Cornet-Windy-Ridge, Canyon Creek Complex, Grizzly Bear Complex, and the Dry Gulch fire.



SUCCESSFUL INITIAL ATTACK AND PARTNERSHIPS IN FIRE PROTECTION



On Stouts Creek fire, landowner group of 15 overhead and 40 equipment produced 28 miles of fire line in 5 days on the west flank checking the fire spread and protecting 158 homes to the west of the fire.

1,025, or 95% of ODF fires were controlled while at a small size (less than or equal to 10 acres).

A key factor in Oregon's initial attack success includes an augmented set of severity resources, primarily aircraft, available for pre-positioning around the state when and where fire danger has been at its peak. Private landowners and ODF have partnered to increase severity response capability as part of the Wildfire Protection Act of 2013. On numerous occasions, these resources have kept small fires from growing large, at a time

when resources were already fully committed. Severity resources have played a key role in augmenting and supporting large fires due to the challenging environment for gaining additional resources to suppress fires. Also vital to initial attack success has been close collaboration with other public agencies including the Oregon State Fire Marshal's Office, our steadfast partnership with cooperators, and the availability of a robust contract firefighting community.

Forest landowners and contractors have significantly contributed to the complete and coordinated fire protection system with an "all hands on deck" approach. For example, on the Stouts Creek Fire, 28 miles of fire line construction was efficiently completed in five days by equipment and overhead provided by forest landowners. On the Willamina Creek Fire near Dallas, Oregon, landowners and contractors participated at a time when ODF resources were stretched thin, keeping the fire small and ensuring that additional resources were not required. Without this partnership, the Willamina Creek Fire would have become a large severe and costly fire – but in large part, due to these partnerships, the fire was contained at 200 acres.



Clackamas Structural Fire Engine on the Canyon Creek Fire.

STATEWIDE FIRE MAP FOR 2015

Figure 1 (on page 9) is a statewide ODF 2015 Fire Season map showing ODF and large multi-jurisdictional fires where ODF partnered in incident management. This year, central and eastern Oregon fires spread at alarming rates given receptive drought-stricken forest fuels.

The map illustrates the distribution of human and lightning statistical fires across all ODF districts, and, in inset maps, the largest fire perimeters at time of containment. All of the inset maps and the primary reference map show ownership/land management status illustrating multi-jurisdictional impacts on private, state and federal lands.

Statistical fires are those where ODF is the primary protection agency or where there is a direct threat to lands protected by ODF. This year, there were 1,080 statistical fires which burned 86,629 acres. Non-statistical fires are those where ODF is not the primary protection agency, but these are also recorded and shown in this overview map because there were significant impacts on lands within ODF jurisdictional areas such as in the Central Oregon Area Offset Agreement areas and, our Incident Management Teams and local personnel co-managed or were heavily

engaged in fighting these fires this year. There were 356 non-statistical fires this year which burned 6,145 ODF-protected acres, most notably the Sugarloaf and Corner Creek fires.

This map does not show "Non-Fire Crew Actions." Normally these activities are recorded by the districts but not reported in statewide statistics. However, these actions are significant in that all year-round, ODF personnel respond to potential wildfire and smoke-associated activities. This year, there were 2,286 Non-Fire Crew Actions statewide which contributed to the prevention of wildfires across all of our districts in Oregon.

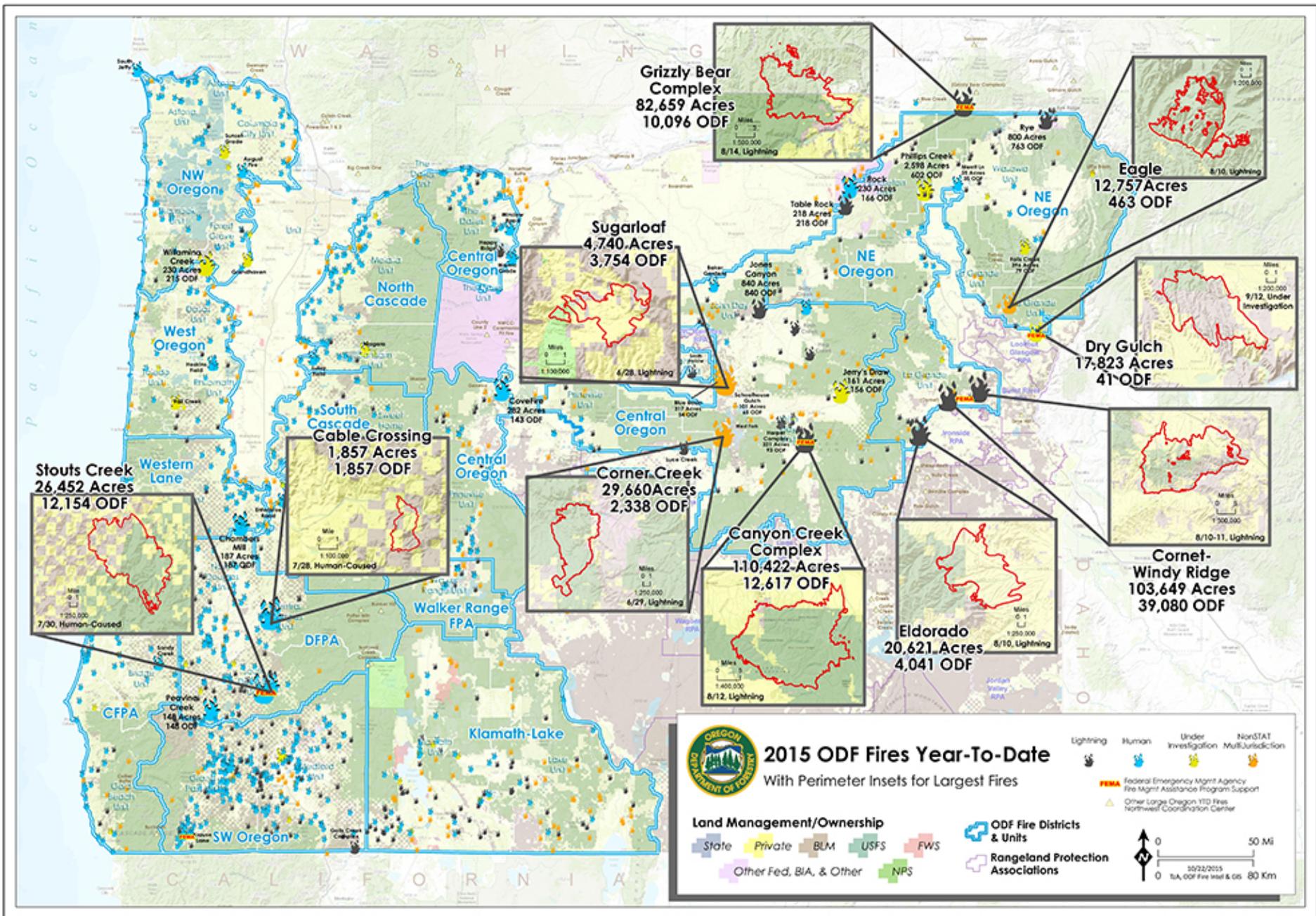


Figure 1. Map of 2015 ODF fires with insets for largest fires, some of which were multi-jurisdiction fires.

RECEPTIVE FUELS - INFLUENCE OF DROUGHT

The *National Significant Wildland Fire Potential Outlook* for the entire state of Oregon was predicted to be above normal for July and August 2015. It was as well for most of Washington, Idaho and California, which created challenges due to the drawdown of firefighting resources across the region at the height of the season. For the three-month period of May through July 2015, Oregon recorded the warmest average temperatures since 1895. Receptive fuels under prolonged drought conditions produced extreme fire behavior and rapid fire growth requiring large commitments of resources to control.

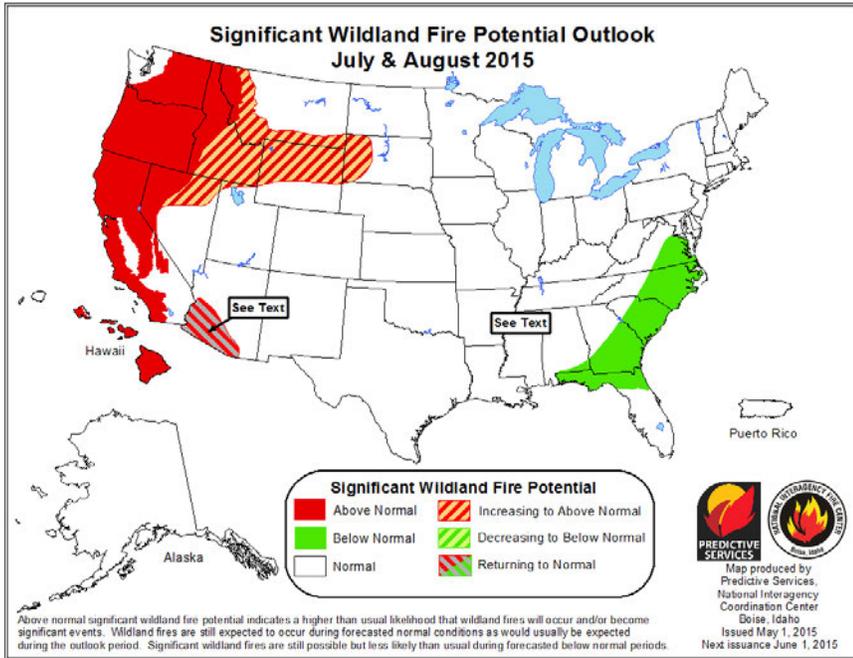
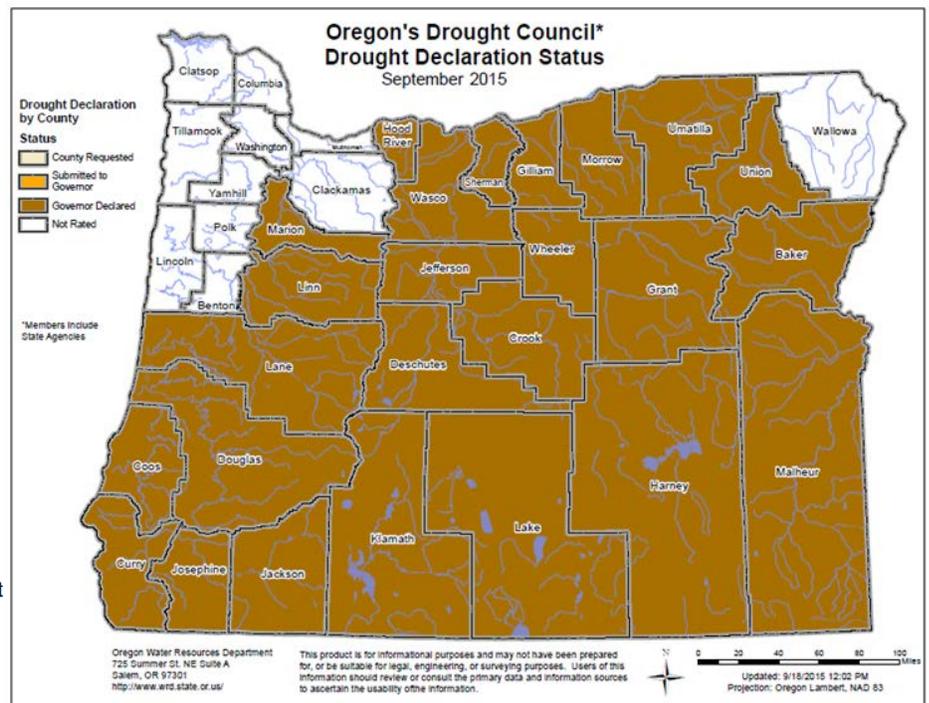


Figure 2. National Wildland Fire Potential Outlook predicting Oregon at Above Normal for July and August 2015.

As persistent drought covered most of the state and intensified throughout the summer, by mid-September, Oregon Governor Kate Brown declared drought in twenty-five of thirty-six counties.

Figure 3. Oregon's Drought Council map of September 2015 showing declared drought in 25 counties.



Key indicators signaled another potentially severe fire season:

- Below normal snowpack
- Early snowmelt
- Long term drought
- Potential below-normal June rainfall
- Potential dry July and August
- Anticipated dry lightning episodes

Many ODF districts had significant fire potential in the high to extreme categories for much of the season with sustained above average Energy Release Component values and sustained below average Fuel Moisture values.

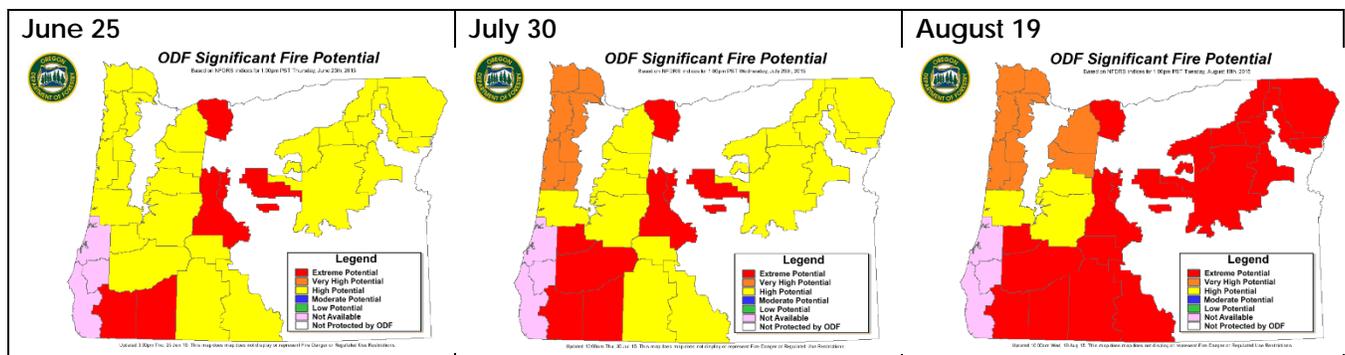


Figure 4. ODF's Fire Danger Rating Areas at sustained High to Extreme Significant Fire Potential through the 2015 fire season.

2015's extreme fire season conditions are illustrated as described in a FEMA Fire Management Assistance Grant for the Canyon Creek Complex.

Example Severity Narrative for the Canyon Creek Complex, Produced by ODF for FEMA

During the latter part of July, the Significant Fire Potential for the John Day area was Extreme, and the area went from a moderate drought to a severe drought by the end of the month. Parts of the area experienced record or near record dryness. Statewide there were already three times the ten year average of lightning caused acres burned.

From July 24th to the ignition date on August 12th, the 1000-hour fuels dropped from 10% to 7%, which is at or near record lows for that date. The Energy Release Component was well above the High threshold and quickly rose to well above the Extreme threshold just prior to the start of the fire. Temperatures were above average across the central and northeast portions of Oregon.

Red Flag Warnings for lightning and dry fuels along with Excessive Heat Warnings were issued throughout the weeks prior to the start of the Canyon Creek fire which was started by lightning on August 12th. Throughout the state, the fire indices for July and into August were well above average with severe to extreme drought covering the entire state. There were already multiple large fires burning in the state at this time, reducing available firefighting resources.

Figure 5. Severity Narrative for FEMA FMAG Assistance for the Canyon Creek Complex.

WILDFIRE CAUSES AND PREVENTION

Oregon experienced ongoing lightning activity, sometimes prolonged and very intense, for much of the summer. In early July, there were over 19,000 lightning strikes, although these were accompanied by trace precipitation, eluding the potential for large fire growth. On August 10, Oregon experienced about 1,000 lightning strikes, but these resulted in our largest fires across the landscape, including the Cornet-Windy Ridge, Canyon Creek, Eldorado, Eagle and the Grizzly Bear Complex fires. Even during these high-intensity lightning periods, the agency had aggressively searched for and attacked new fire starts, simultaneously continuing large fire operations.

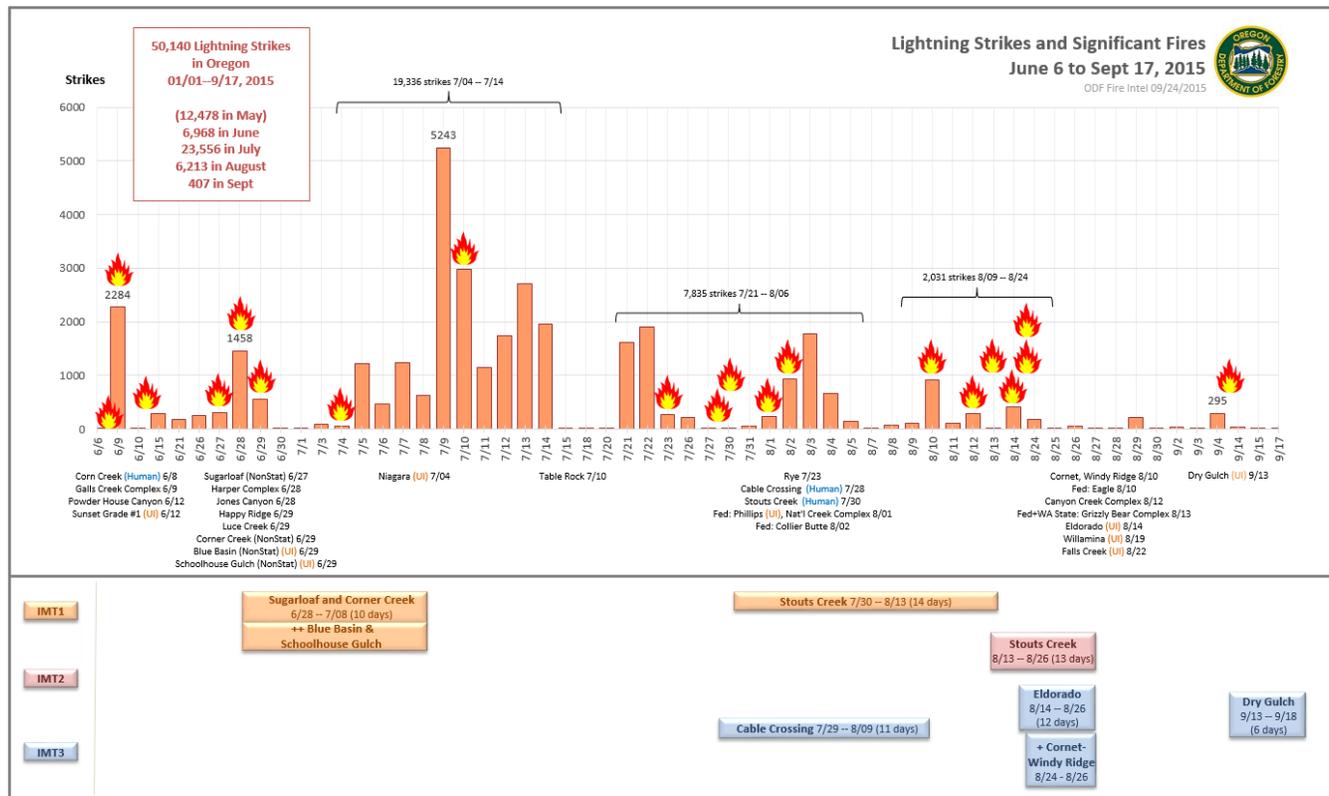
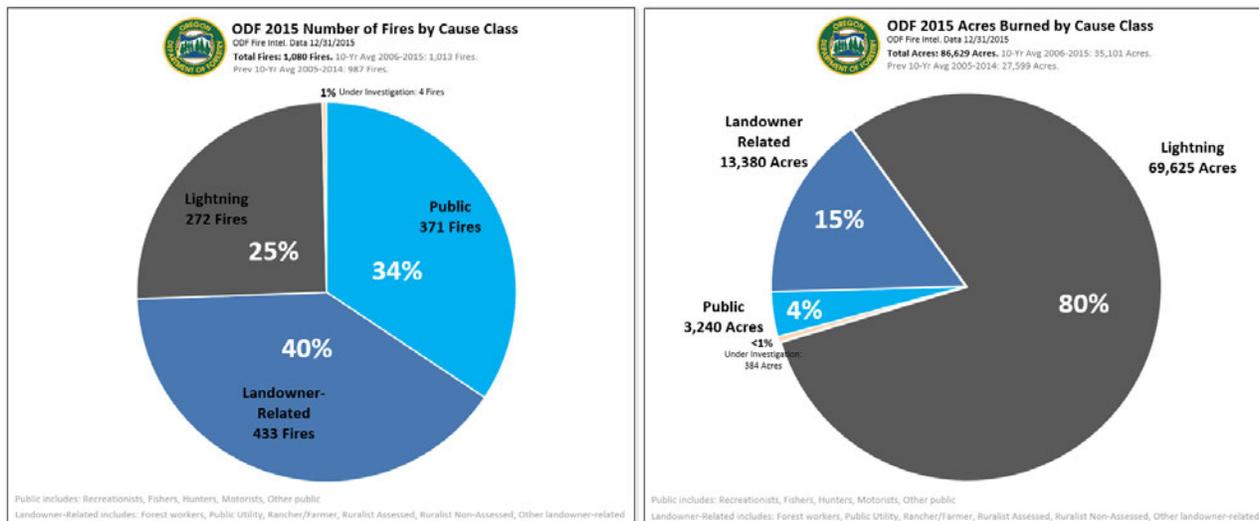


Figure 6. Lightning Strikes, Large Oregon Fires, and ODF IMT Deployments in 2015.

In addition to lightning fires, the state has experienced a number of devastating human-caused fires, the most significant being the Stouts Creek Fire outside of Days Creek, Oregon, east of Canyonville. The Stouts Creek Fire was ignited on July 30, and burned more than 26,000 acres of forestland, with total costs surpassing \$34 Million.

Preventing human-caused fires posed many challenges during the 2015 fire season. Drought and severe fire danger conditions plagued the state for the third consecutive year. The slightest spark, no matter how large or small, carried with it the potential of igniting a fire and quickly spreading out of control. The number of human-caused fires this year were 116 more than the

standing 10-year average (2005-2014), the **17,004** acres burned were **more than three times the average**, proof positive that multiple years of severe fire conditions fueled extreme fire behavior.



Figures 7 and 8. Number of Fires and Acres Burned in 2015 by General Cause Class

This year's extreme fuel conditions and fire weather prompted industrial and public fire prevention closures that had not been seen in decades. Industrial Fire Precaution Level IV was imposed in five districts west of the Cascades on two different occasions in August for a total of 19 days. IFPL III was in place in various areas from June 7 through August 30 and then again from September 10 through September 15 for a total of 71 days. While forest workers were kept out of the woods, many operators proved essential to the fire suppression effort providing manpower and equipment on many of the large fires burning across the state.

In addition to regulating industrial and public activities during these severe conditions, prevention messaging emphasized caution that the public must take when working or recreating outdoors. Collaboration with our partners such as Keep Oregon Green, PNWCG, Oregon State Fire Marshal, Oregon Department of Fish and Wildlife, Oregon Department of Transportation, and others was key throughout the summer.

A significant campaign took place in the Northwest Oregon Area "targeting" recreational shooting. What was at one time considered low risk in fire ignition, target shooting had grown into a reliable fire starter in 2015. News releases and flyers were developed with the help of Keep Oregon Green to heighten awareness, especially on state forest lands, where a large contingency of target shooters frequented. A legislative concept is currently under development that would give the department authority to regulate target shooting under high fire danger.

The extreme fire conditions were not pinpointed in one particular area. The entire state was feeling the heat. Through a request by State Forester Doug Decker, the Oregon Department of Transportation joined the effort by using large electronic reader boards on major state highways and freeways that read, "CAUTION, HIGH FIRE DANGER."



ODF would like to extend thanks and appreciation to ODOT and all other agencies and cooperators who joined the prevention effort.

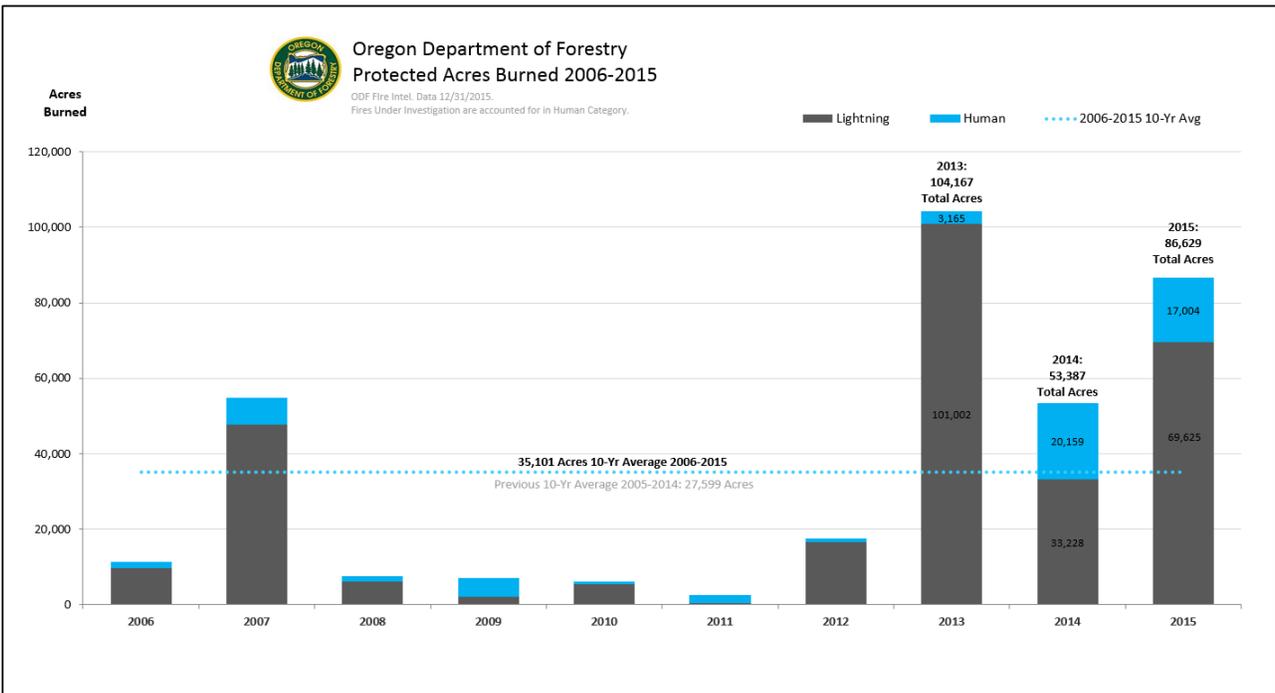
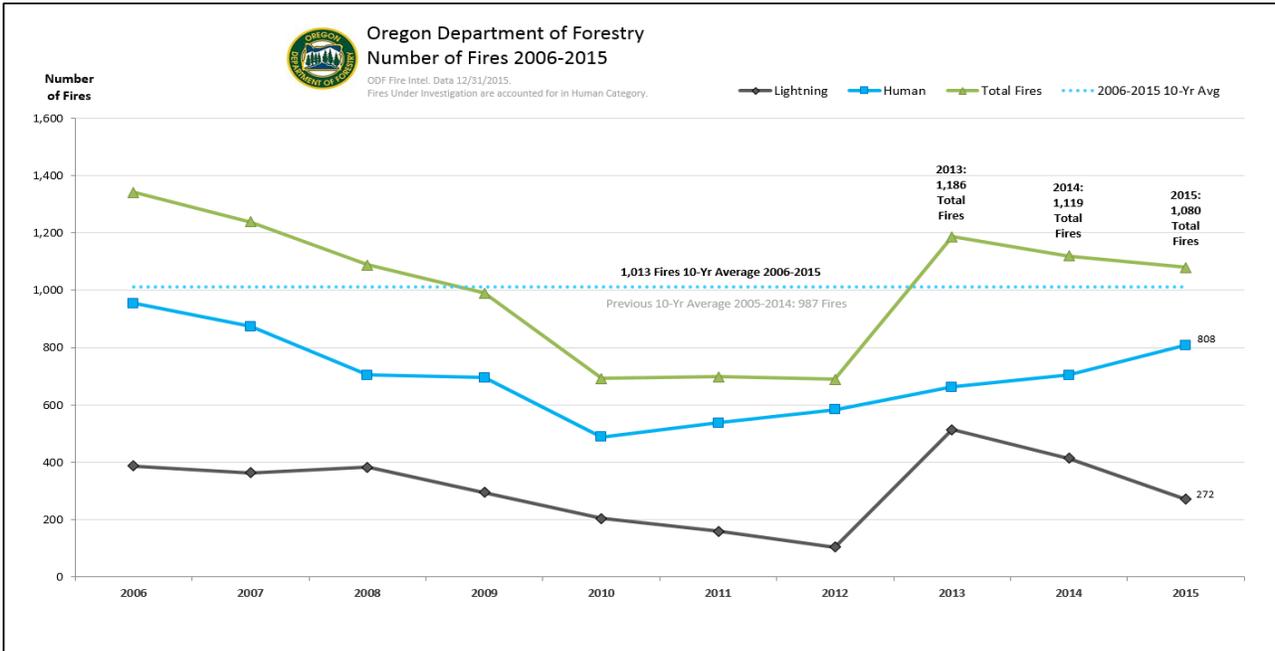
FIRE STATISTICS

ODF recorded **1,080** statistical fires in 2015, **93** more than our previous 10-year average from 2005-2014 (987 fires). In 2014, there were 1,119 fires, and in 2013, there were 1,186 fires.

A total of **86,625** acres were burned on ODF-protected lands. This is **59,026** acres or 3 times greater than our ten-year average (27,599 acres). In 2014, 53,387 protected acres were burned. In 2013, 104,167 acres were burned.

Lightning-caused fires spread quickly in central and eastern Oregon; **50,000** lightning strikes in Oregon from May through mid-September accounted for **272** fires which burned **69,625 acres**, or **80%** of the total ODF-protected acres burned this year. This is **47,094** acres, or more than twice above the ten-year average for lightning fires (296 fires, 22,531 acres).

Despite an aggressive media campaign to minimize human-caused fires with partnerships including Keep Oregon Green, human-caused fires were also a significant driver this year, with **808** fires totaling **17,004** acres burned; this is **115** more fires and over **11,936** more, or well over twice the acres burned than our ten-year average (692 fires, 5,068 acres).



To close 2015 and start 2016, we have a higher 10-year average as baseline. From 2006-2015, our new average number of fires is 1,013 (26 more than our previous 10-yr average), and 35,101 protected acres burned (7,502 acres more than our previous 10-yr average). These values include 310 lightning fires for 29,180 acres burned, and 703 human fires for 5,922 acres burned, respectfully.

Overall since the start of Fire Season 2013, Oregon has been experiencing drought impacts that produced an increase protected acres burned.



ODF Fire History 1911-2015

Data from 1911-1998: Wolf, Gibson Archives
Data from 1999-2015: ODF FiresDB
Other Large Fire Information: NIFC
PDO and Drought Data from ODF Meteorology/Smoke Mgmt

Protected Acres Burned

400,000

350,000

300,000

250,000

200,000

150,000

100,000

50,000

0

- Acres Burned
- Acres Burned - Drought Year
- Human Fires
- Lightning Fires
- 30 Yr Moving Trend - Acres Burned
- 30 Yr Moving Trend - Number of Fires

Number of Fires

2,000

1,800

1,600

1,400

1,200

1,000

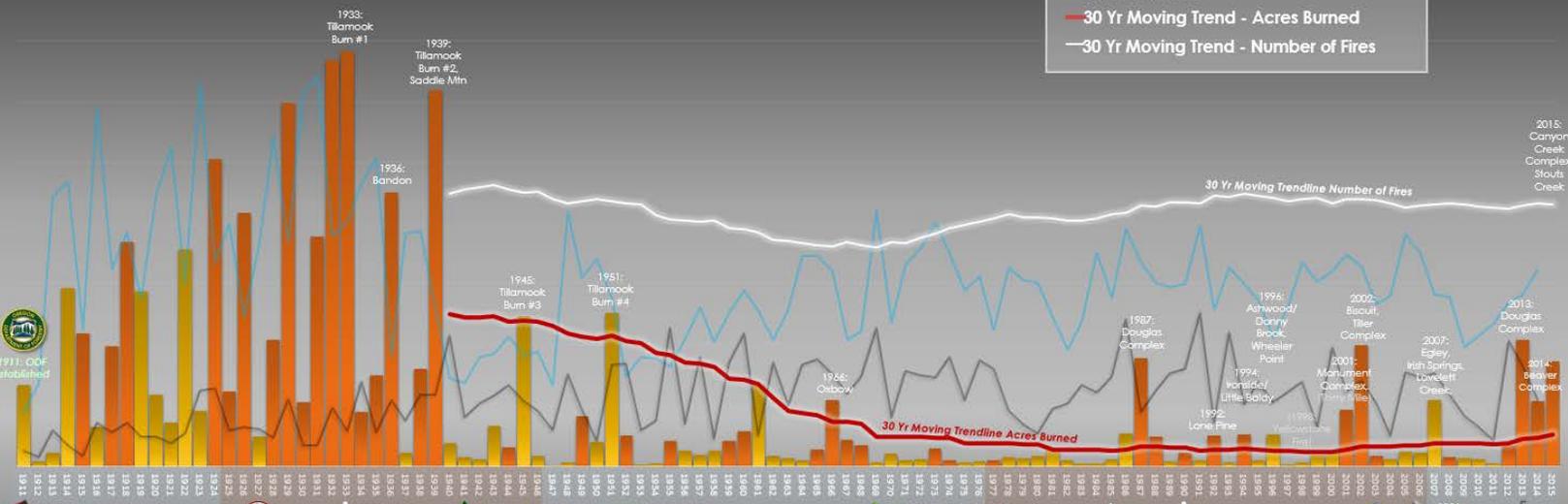
800

600

400

200

0



Pacific Decadal Oscillation (PDO) Phases

- Cool Phase (1890) - 1924**
Temps cool over N. America
- Warm Phase 1925 - 1946**
Temps warm over North America
- Cool Phase 1947 - 1976**
Temps cool over North America
- Warm Phase 1977 - 2006**
Temps warm over North America
- Cool Phase 2007 ->**
Temps cool over N. America

Drought determination is based on Palmer Hydrological Drought index of 2.0 (moderate drought) or greater in 3 or more of 9 Oregon sub-regions in any given year. Fire data shown are ODF-Protected Acres Burned from Statistical fires where ODF was the primary protection agency. Historical large Oregon fire names are shown for context above the year of occurrence.

PDO: During a warm or "positive" phase, the west Pacific Ocean becomes cooler and part of the eastern ocean warms; temperatures warm over North America. During a cool or "negative" phase, the west Pacific Ocean becomes warmer and part of the eastern ocean cools; temperatures cool over North America.

1911: The Big Burn (Wheeler, Harney, WMA Area)
1800 ODF Acres - 1000 Acres
1888 Coos Bay, Nevada - 3000 Acres and
1888 Silverton - 3000 Acres
1857 Nantuxa - 3200 Acres
1850 Siskiyou - 1000 Acres
1848 Great Fire - 1.5M Acres
1708 Williamson - 100K Acres
Pre-1911 Very Large Oregon Fires

LARGE FIRE COSTS

For the third fire season in a row, ODF spent significant funds to suppress fires to protect natural resources, communities and Oregonians. ODF's gross large fire costs for the 2015 season are estimated at \$76.6 million, compared to our ten-year average of \$22.3 million. In December, NWCC also reported larger firefighting costs in Oregon, estimated at \$266.3 Million.

It is estimated that \$19.6 million will be reimbursed by the Federal Emergency Management Agency's Fire Management Assistance Grant program from the six FEMA fires and \$25.6 million will be recovered from other agency partners. Fortunately, for 2015, the state will not be making a claim against this fire season's insurance policy.

The large-fire funding system, unique to ODF, has proven especially conducive in response to fire seasons like 2015. Oregon's large-fire funding system is created with the support of landowners, the legislature, and the Governor's office; the system involves a shared responsibility among landowners, the state's General Fund, and a \$25 million insurance policy, the only policy of its kind nationally. Oregon's annual large-fire funding system covers major portions of this total. The first \$20 million is shared between forest landowners and the state (50 percent General Fund, 50 percent Oregon Forest Land Protection Fund). The next \$30 million is General Fund, up to a required deductible before the insurance coverage becomes available. The next \$25 million comes from the insurance policy, which has been purchased annually since 1973.

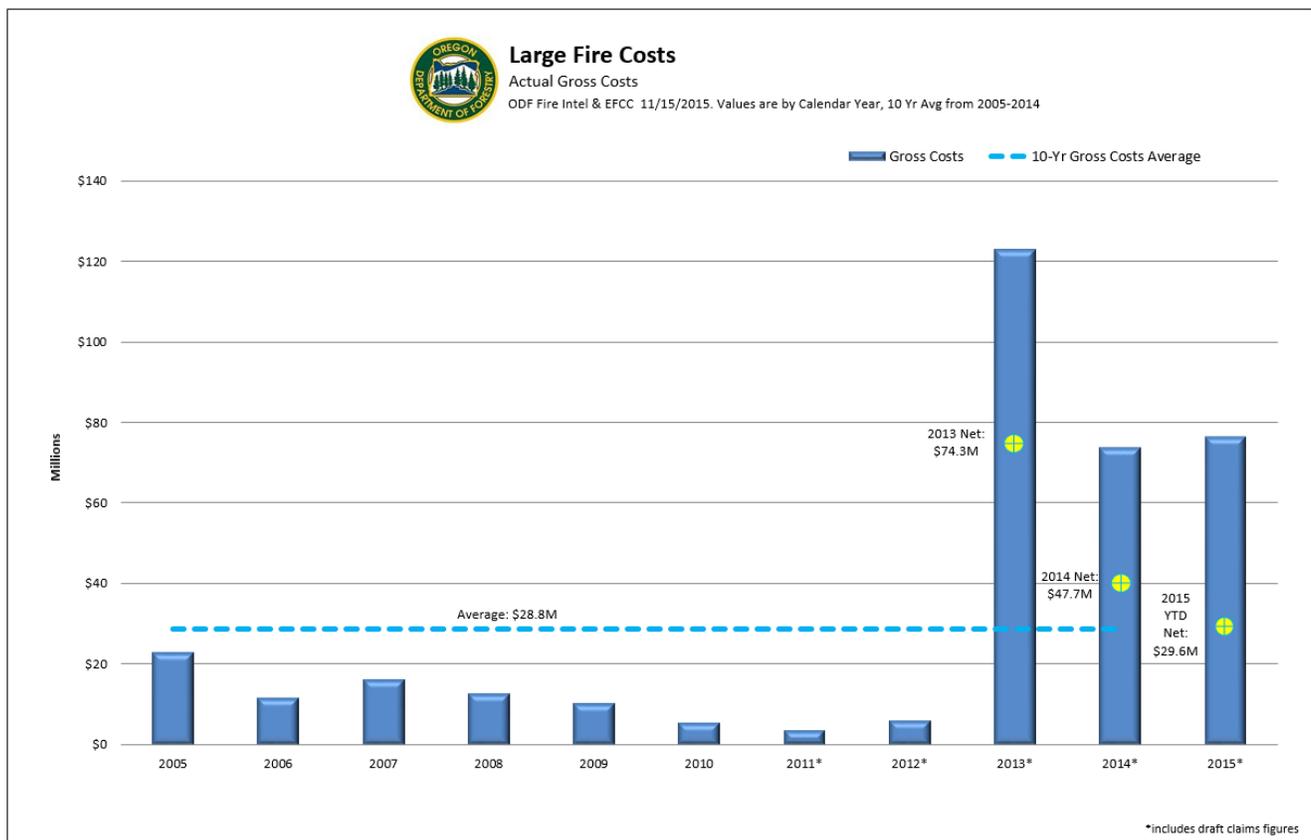


Figure 9. Gross Large Fire Costs in 2015, with estimated Net Cost after FEMA and other reimbursements.

FIRE OPERATIONS

Fire Operations focuses primarily on the large fire effort once wildfire complexities increase beyond local protection district capabilities. Through the management of the Aviation unit, Salem Coordination Center, Fire Cache, and the Protection Training/ROSS Coordinator, Fire Operations supports complex incident management, including deployment of the agencies three Incident Management Teams.

INCIDENT MANAGEMENT TEAM DEPLOYMENTS

Overall this season, ODF Incident Management Teams were deployed 6 times to wildfires across Oregon. IMT1 ODF1 was deployed to Sugarloaf, Corner Creek (and other concurrent fires the vicinity), and Stouts Creek; IMT1 ODF2 was deployed to Stouts Creek; and IMT1 ODF3 was deployed to Cable Crossing, Eldorado, and Dry Gulch.

PROTECTION CONTRACT SERVICES – IFCA CREWS

The Interagency Firefighting Crew Agreement (IFCA) was established in 1990 as an agreement between the State of Oregon, acting by and through the Oregon Department of Forestry and on behalf of the state and federal member agencies of the Pacific Northwest Wildfire Coordinating Group. The IFCA provides Type 2 20-person firefighting hand crews available for dispatching to wildland fire suppression incidents, including mop-up and severity assignments, within the states of Oregon and Washington and elsewhere. These crews are available to be dispatched, without limitation, by all members of the wildfire management agencies of the PNWCG including: Oregon Department of Forestry, Washington Department of Natural Resources, United States Forest Service, Bureau of Land Management, Bureau of Indian Affairs, National Park Service, United States Department of Fish & Wildlife, Coos Forest Protective Association, Douglas Forest Protective Association, and Walker Range Protective Association.

The ODF Protection Contract Services Unit reports that in 2015, 168 crews were assigned to 175 incidents in Oregon, Washington, California, Idaho, and Alaska for a total of 8,034 crew-days and 872 total deployments. In Oregon, IFCA crews were deployed or staged on 84 incidents for a total of 3,502 crew-days.

149 IFCA Type 2 Regular Crews were deployed for a total of 7,404 crew-days. An additional 12 crews under current agreement since 2013 were deployed for 513 crew-days. Seven emergency crews added for the 2015 season were deployed for 117 crew-days. These three types of crews were assigned to wildfires for 7,641 crew-days, were prepositioned for 348 crew-days, and, provided 45 crew-days of season support.

In terms of assignment lengths, 662 crew-days were 1-14-day assignments. 147 were 15-21-day assignments. 48 crew-days were for 22-28-day assignments, and 15 crew-days were for extended assignments of over 28 days.

AVIATION UNIT

In 2015, Oregon Department of Forestry through the Severity Program had 16 exclusive use aircraft on contract used as state wide resources to support aggressive initial attack and to compliment association and district's existing aviation resources.

Aircraft included one Large Air Tanker, five Single Engine Air Tankers, five fixed wing detection planes, 10 type II helicopters, three type III helicopters and one type III (helitack). These aircraft flew over 2500 hours and dropped approximately 900,000 gallons of water, Firelce, and retardant.



Snorkel for the Cable Crossing Fire. Photo Kyle Reed.

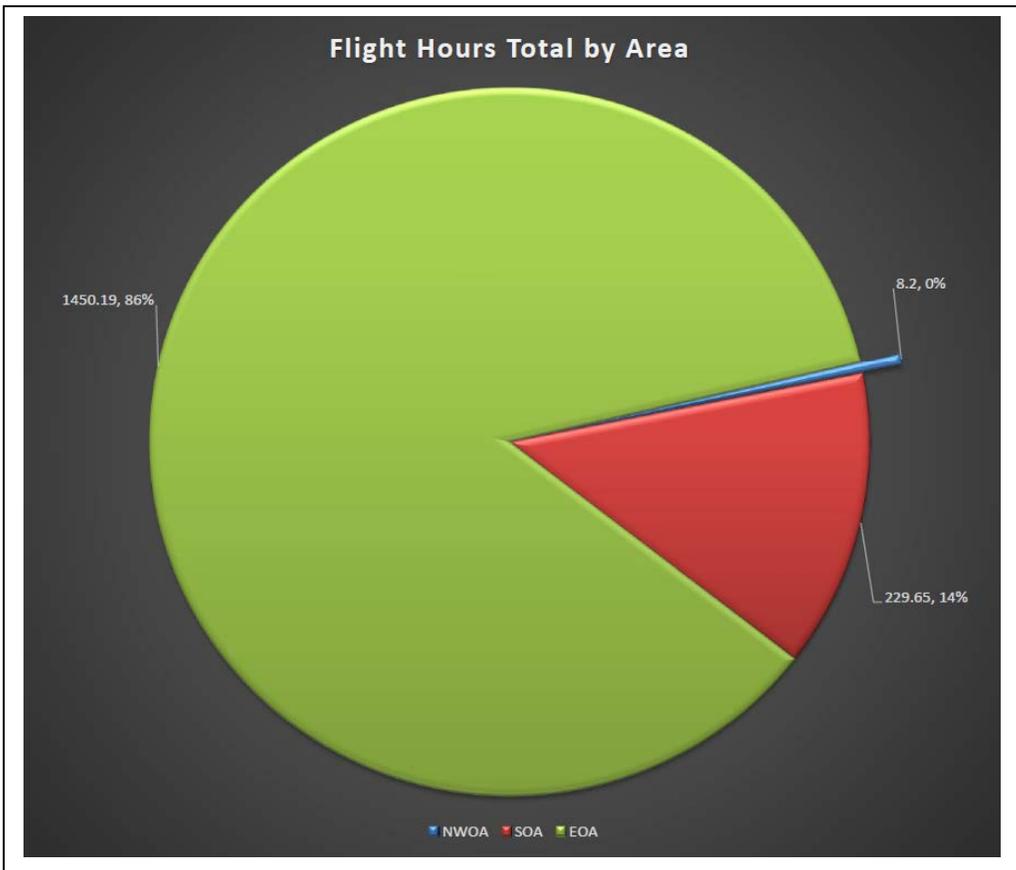
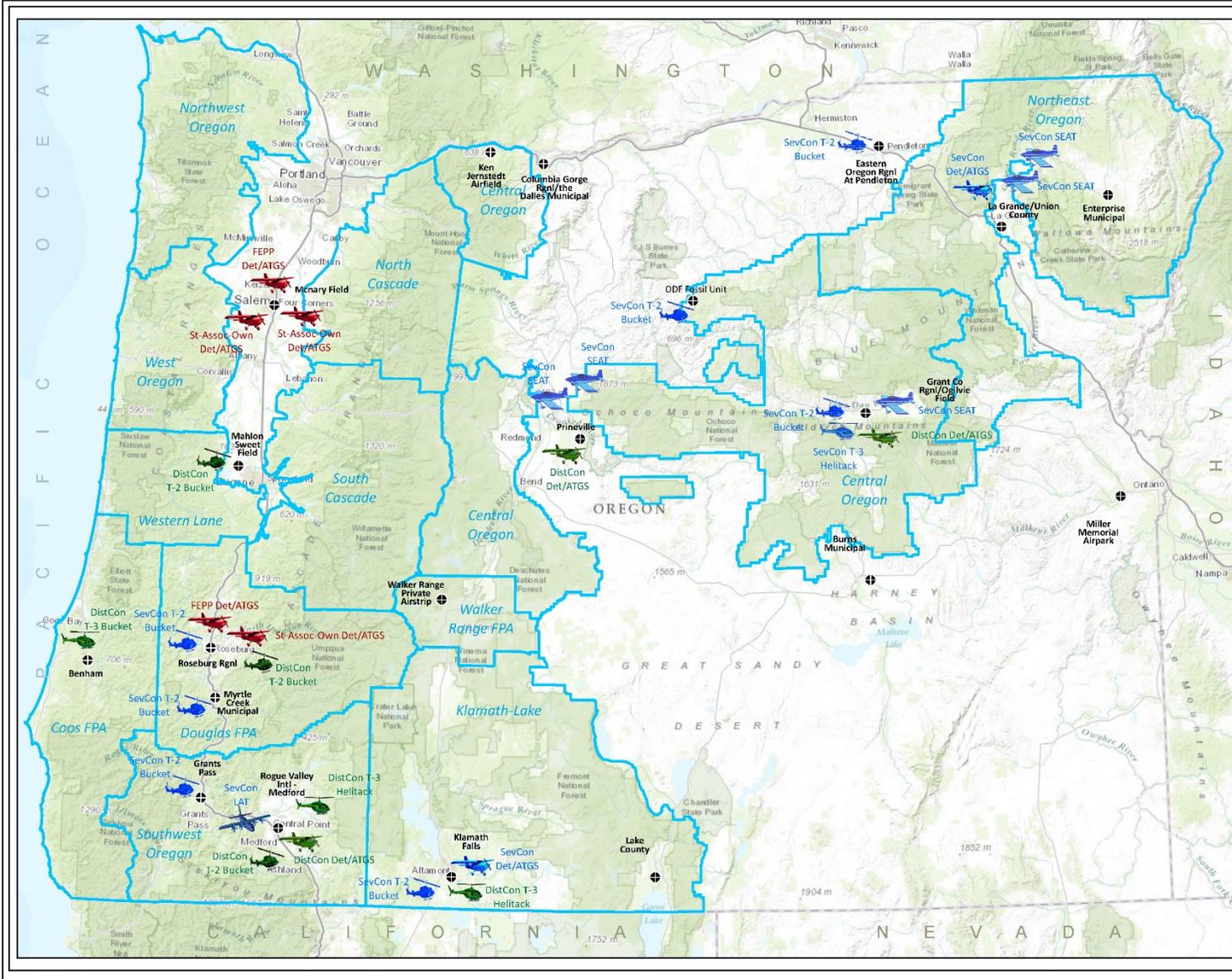


Figure 10. Total Flight Hours by ODF Area in 2015. 1,450 Hours flown in Eastern Oregon Area this year.



ODF Aviation Resources 2015



- State/Association & FEPP**
 - Detection/ATGS
150 miles/60 mins
- District Contracted**
 - Detection/ATGS
 - T2 Bucket
60 miles/30 mins
 - T3 Bucket & T3 Helitack
30 miles/30 mins
- Severity Contracted**
 - Detection/ATGS
 - T2 Bucket
 - SEAT
75 miles/20 mins
 - T3 Helitack
 - LAT
250 miles/60 mins

- Airports ODF Use 2015
- ODF Fire Protection Districts

0 50 Mi
0 40 Km
06/02/2015
ODF Aviation
Fire Intel & GIS

Figure 11. ODF Aviation Resources Reference Map for 2015, showing available aircraft near their home airfields.

ADVANCES IN WILDFIRE SUPPRESSION

This year ODF tested a new product produced by **GelTech Solutions** called **Firelce®** (<http://www.geltechsolutions.com/firelce/>), a dry polymer powder that when hydrated produces a water-based fire retardant and suppressant. Firelce® is non-toxic and its environmental impact is negligible compared to other fire chemicals used in wildland firefighting, particularly in sensitive ecosystems. Firelce® is also non-corrosive and weighs significantly less than other commonly used chemicals, enhancing the safety of pilots and their aircraft. The State Aviation Unit Manager is currently gathering feedback from the field and plans to further study the impact deployment tactics have on the products effectiveness. Firelce® made up nearly 204,000 gallons of retardant totals.

ADVANCES IN WILDFIRE DETECTION

ODF also ordered the Multi-Mission Aircraft (MMA) from the Colorado Division of Fire Prevention and Control (DFPC) on July 31, 2015. ODF had been experiencing substantial lightning storms over the previous days. Several large fires were already burning in the state and many more fires were being ignited by the lightning. ODF wanted to explore the technology of the MMA to support large fire monitoring, as well as new fire detection. The two week assignment (from August 1 – August 15) was to detection lightning fire starts and map the Stout's Creek Fire perimeter and acquire other infrared imagery and video footage. Other districts requested detection flights for other ODF-protected lands.

During the fire assignment to Oregon, Colorado aircraft 328SF flew for a total of 60 hours. Twenty missions were flown for mapping and new fire detection. During these missions, 15 new fires were detected. A video and or photo image of these fires was provided to ODF fire

management staff, and dispatch centers both directly and via the Colorado Wildfire Information System (COWIMS). Additionally over fifty other fires were confirmed. In many instances updated information was relayed to crews on the ground through the assigned Air Attack ship. The large fire support to ODF consisted of mapping perimeters for Stout's Creek (four times), the Cable Crossing Fire (two times), the first perimeter of the Eldorado fire, and other smaller fires for a total of 11 mapping missions.

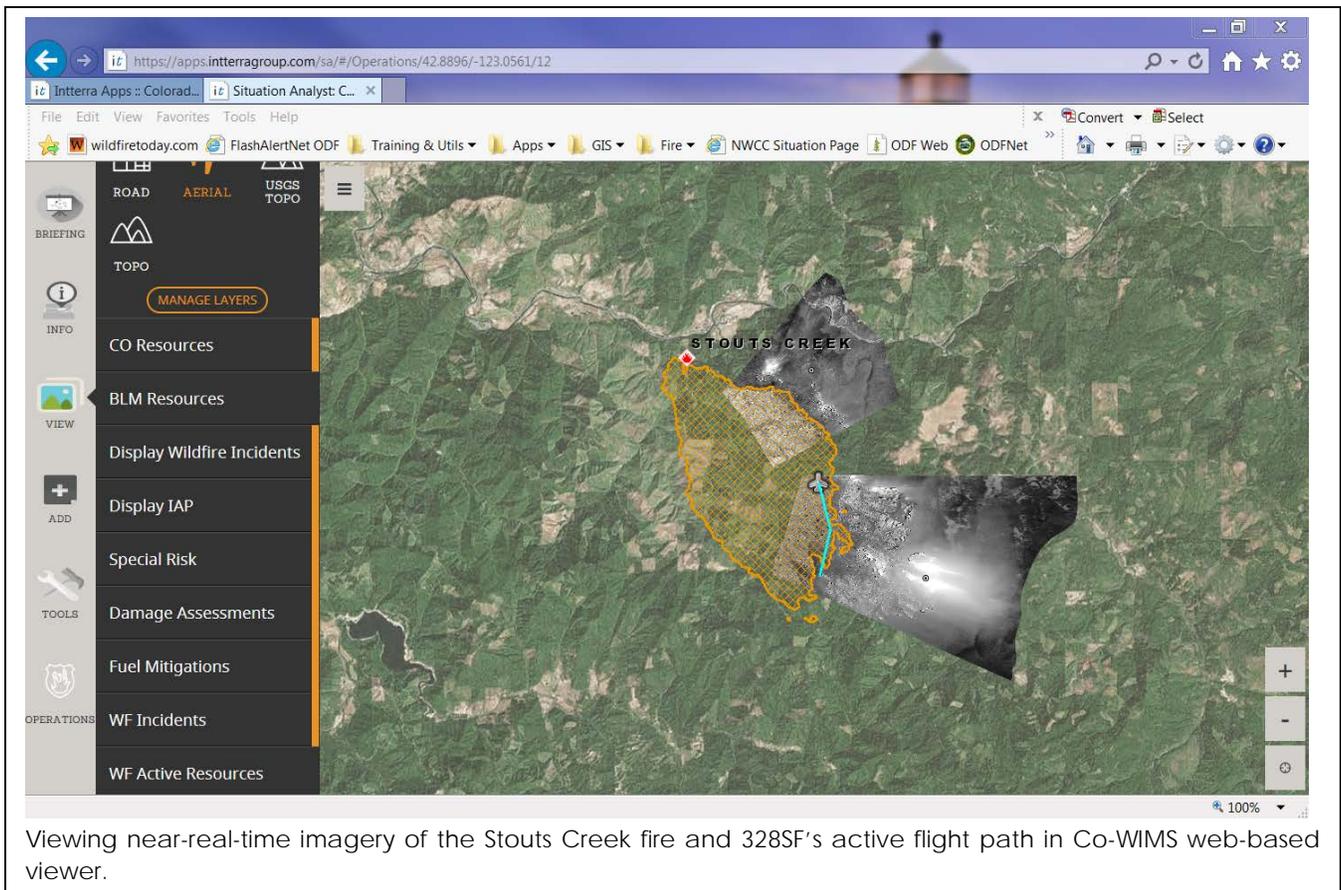


Colorado Multi-Mission Aircraft 328SF first landing at McNary Field in Salem, Oregon.

Colorado Multi-Mission Aircraft Mission Summary:

08/01	1 mission	Mapped the Stouts and Cable Crossing fires.
08/03	2 missions	Lightning detection Southwest Oregon. Found one undetected fire.
08/04	2 missions	Lightning detection in Western Oregon. Found five undetected fires.
08/05	2 missions	Lightning detection Central Oregon. Found one undetected fire. Mapped the Stouts Creek Fire.
08/06	1 mission	Lightning detection in Klamath County. No new fires detected.
08/07	4 missions	Mapped the Blue and Phillips fires. Passenger transport.
08/11	2 missions	Lightning detection Western and Southern Oregon. Five undetected fires were found.
08/12	3 missions	Flew lightning detection South-central Oregon and the Coastal Range and Eastern Oregon. Found three undetected fires. Mapped the Eagle and Cornet fires in NE Oregon.
08/13	2 missions	Mapped the Stouts Creek fire and the Chambers Mill fires.
08/14	1 mission	Mapped the first perimeter of the Eldorado fire.

All images and video footage from the 2015 Colorado MMA Mission to Oregon are available on ODFNet Intranet: https://odfnet2010.odf.state.or.us/Protection/FireIntel/Pages/Detection_CO-MMA.aspx



Viewing near-real-time imagery of the Stouts Creek fire and 328SF's active flight path in Co-WIMS web-based viewer.

SALEM COORDINATION CENTER

Salem Coordination Center (SCC) strives to provide safe, cost-effective and timely coordinated responses of resources to wildland fires and other emergency/all-risk management activities both locally and nationally. SCC coordinates the mobilization of available resources to meet anticipated and existing incidents, preparedness, severity and wildland fire needs regardless of geographic location or agency affiliation. The mission is accomplished through planning, situation monitoring and expediting resource orders between areas, districts and other cooperating fire agencies. SCC's coordination efforts are in cooperation with the Pacific Northwest Coordination Center (NWCC). In 2015, SCC supported six Type 1 ODF Incident Management Team deployments. SCC provided 24/7 dispatch center coverage for the initial 72 hour period and expanded dispatch responsibilities until the incident was turned over to the local district. SCC accomplished this with two permanent and four seasonal staff.

Significant accomplishments for the 2015 fire season are:

- SCC had nearly 1,000 Type 2 Crew dispatches throughout the region this year. In June, Oregon Department of Forestry was able to aid Alaska, a member agency of the Northwest Compact, by dispatching needed Type 2 contract crews to assist with fire suppression efforts.
- In an effort to strengthen interagency collaboration, SCC sent Jamee Meyers, seasonal dispatcher, on a 14-day assignment to the Blue Mountain Interagency Center. Jamee provided valuable insight on ODF dispatch procedures and crucial support to the ODF Incident Management Team assigned to the Eldorado Fire.
- The Aviation Desk in the SCC tracked and coordinated the use of the 16 exclusive use aircraft prepositioned across the state.
- SCC had a major role in the mobilization of 360 Oregon National Guard Troops and five helicopters which were utilized for bucket work and MEDEVAC platform on large fires throughout Oregon to include Canyon Creek Complex, Grizzly Bear Complex, Cornet, Windy Ridge, and Eagle Fire.
- In addition to dispatch responsibilities, SCC also supported the division by submitting the daily fire statistics report in FAMWEB, conducting Weather Quality Control (weekends), and Senate Bill 360 certification.

Support Received:

- During the peak of fire season, SCC in coordination with NWCC arranged the arrival of 180 out of state personnel to supplement a thinning pool of state resources. This allowed ODF to prioritize and send critical state personnel where they were needed most. By the end of fire season ODF had received resources from 26 different states.
- By exercising the Northwest Compact Agreement SCC coordinated the arrival of 12 critical overhead resources to support the ODF IMT assigned to the Stouts Creek Fire.
- 330 inmates from 10 Oregon Department of Corrections (DOC) institutions logged 1,187 crew days at 34 fires around the state. Unified by the Oregon Department of Forestry's mission to put out fires at the smallest size possible, the inmate firefighters worked side-by-side with agency and contract firefighters.

SALEM FIRE CACHE

Fire Cache provides statewide logistical support to the ODF Incident Management Teams, fire protection districts, and other state and federal agencies in their efforts toward wildland fire suppression and other (all-risk) emergency operations. Fire Cache provides trained personnel, equipment and supplies to any location throughout the state and cooperating states. Fire Cache systems consist of pre-loaded cache vans, large mobile kitchen facilities, shower and washing facilities, communications trailers, IT trailers, GIS trailers, and field administration units.

In support of the 2015 fire season (May 1, 2015 to present), Fire Cache deployed equipment to seven fires across Oregon. Approximately 82,480 hot meals (2 meals per day – does not include sack lunches) were served from ODF mobile kitchens and Fire Cache vehicles logged a season total of 41,594 miles.

PROTECTION TRAINING

The State Fire Assistance (SFA) Classroom Training Fund was used to support 62 students into 21 courses including topics such as:

- Fire program/databases: E-Isuite and S-443 IRIN
- Dispatch: D-311 IADP & D-312 ACDP
- Leadership: L-380, L-381, L-480 and advanced Leadership L-580
- Fire weather/behavior: S-390 and S-490
- Agency policy support: You Will Not Stand Alone (LODD)
- Fire Finance: S-262 ICPI & S-360 Finance/Admin. Unit Leader
- Aviation: S-271 HECM, S-273 SEMG, S-371 HEB & S-372 HMGB
- Planning: S-346 SITL & S-440 PSC
- Fire Investigation: FI-210 Fire Origin and Cause

Two of the above courses were out-of-state to support critical needs position training (Infrared Interpreter in Golden, CO and L-580 Advanced Leadership in Gettysburg, PA).

Classroom SFA also sponsored the following:

- Two sessions of Joint Information Center training in partnership with the Emergency Operations Centers and other interagency partners in Deschutes and Washington counties.
- Cadre and IT support for four sessions of e-Isuite courses to cover statewide training needs.
- 24 advanced students to attend the CIMC (Complex Incident Management Course) in pursuit of Type 1 position qualification.

SFA OJT Training Fund was used to fund seven persons in critical needs fire assignments on three incidents. These included Safety Officer, Air Tactical Group Supervisor and Infrared Interpreter as well as an ODF IMT Procurement Unit Leader and Supply Unit Leader.

The training program itself provided for:

- Delivery of S-110 Basic Wildland Fire and Orientation to the Protection Program during New Employee Orientation training
- Basic/intermediate IOS training in Central Oregon, Salem and Western Lane
- Basic ROSS training in Salem on two occasions, for the Northwest Oregon Area duty officers/dispatch staff and again for a Southern Oregon Area admin meeting
- Basic Task Book process/procedure training in Salem
- Two sessions of the RT-130 Fireline Safety Refresher for Salem staff
- Planning and delivery of CIMC to be hosted by ODF in November
- Basic Wildland Firefighter training for 125 National Guard troops + FFT2 certification for all
- Facilitation of nominations for Redmond and out of state fire training
- In coordination with IT, facilitated an IOS database update/upgrade, beta testing and release
- Facilitation of an L-280 Followership to Leadership course scheduled for December
- Reported out for the Fire Protection Division, a requested HR/Safety Training Needs Assessment
- Completed 65 individual qualifying Police & Fire eligibility review forms and approx. 100 P&F checks in IOS that did not meet eligibility requirements
- Delivery of the Police & Fire eligibility report to HR and Payroll for data entry of retirement benefits
- Provided the Salem headquarters Training Needs Assessment to the ODF Northwest Geographic Training Zone representative
- Produced a 2015 revision of the ODF Protection Training and Certification Manual (from the 2013 revision)
- Produced 2015 incident qualification cards and Master Record data entry review for Salem staff
- In coordination with IT, facilitated the upgrade of the Protection Training website presence on SharePoint

The Protection Training Coordinator participated in:

- The PNWCG – Training Committee (Region 6 Training officers - policy)
- The ODF Driver Training workgroup (Revision of the ODF Driver level A & B curriculum)
- ODF IMT/Protection Conference Planning Committee (Development and delivery of a four day conference)
- The ODF Protection Training Committee (PTM revision + policy decisions)

- Northwest Interagency Training Zone Committee (training schedule coordination in the NW Oregon Area)
- DPSST Fire Policy Committee (representing the wildland fire agencies in formulating structural fire service training and certification policy)
- Presenter/facilitator at the 2015 ODF IMT/Protection Conference
- Facilitation of four sessions of e-ISuite courses statewide during the month of April
- Pre-season Module 2-5 meeting with Area Exec. Support and SCC
- Interagency GEO-zone training committee chair meeting in Redmond (representing the PNWCG-Training Committee)
- Western State IQS representative (conf. calls monthly representing the State of Oregon IQS users)
- SOA staff meeting discussing use of training funds
- Initial Attack Training Committee (delivery/sharing of Initial Attack training concepts/input into Protection Conference presentation)
- A Police & Fire eligibility presentation for Executive Team and subsequent update to P&F eligible positions
- Facilitator/presenter at the Region 6 Training Officers Conference scheduled for November
- Attendance at the You Will Not Stand Alone (Line of Duty Death) training in Redmond
- Attendance at the Intro to Project Management class at Chemeketa CC

PREPARING FOR 2016

As we prepare for the 2016 fire season, we are reminded the State's Complete and Coordinated Fire Protection System is truly integral to our agencies success. This system relies on our landowners and forestry professionals who bring their own firefighting resources and equipment to fires, other state and federal agencies such as the National Wildland Fire Coordinating Group and the National Interagency Fire / Coordination Center (NMAC) via the Northwest Coordination Center for the Geographic Area of Oregon and Washington (PNWCG/MAC), the Bureau of Land Management, USDA Forest Service, USDI National Park Service, Bureau of Indian Affairs, US Fish and Wildlife Service and many other cooperators – including the private contract community – and even Lloyds of London. In addition, we participate internationally and with partner states in the Northwest Compact. The Protection Division looks forward to continued cooperation and appreciates all who supported Oregon Department of Forestry in 2015.

COMPLETE AND COORDINATED



WASHINGTON STATE DEPARTMENT OF
Natural Resources

