



The Inland Northwest Informer

Information For Storm Spotters, Cooperative Observers And Everyone

A Publication Of WFO Pendleton, Oregon

Spring/Summer 2020 - Volume 26

Historical Winter Flooding 2020

By Marcus Austin, Warning Coordination Meteorologist and Marilyn Lohman, Hydrologist



Figure 1. Semis stranded along Interstate 84 near Hermiston, OR as the Umatilla River spills out of its banks. Photo courtesy of the Oregon State Police.

After a rather quiet start to the fall/winter wet season in the Pacific Northwest, things ramped up rapidly as a persistent onshore flow pattern developed mid to late January and lingered into early February. This brought significant rain and mountain snow to much of the northwest including all of Washington and portions of northern Oregon. While many areas were substantially impacted, parts of northeast Oregon and southeast Washington saw record-breaking river flooding and significant impacts. The

period from February 4 through 9 was especially impactful as a heavy snow event

rapidly transitioned to moderate to heavy rain with rising snow levels, leading to increased snowmelt, rain on mountain snow, and extreme liquid runoff estimated between 3 and 10 inches. This unprecedented rain/snowmelt runoff led to rapid rises on creeks, rivers and streams, spawning record flooding on the Umatilla, Walla Walla and Touchet rivers and additional significant flooding of numerous other creeks, streams, and rivers

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across Umatilla, Union and Wallowa Counties of Oregon, and Walla Walla and Columbia Counties of Washington. Most rivers and streams crested overnight on February 6th or on the morning of February 7th and then slowly receded back below flood stage on February 8th and 9th, with widespread destruction in the flooding's wake.

As the floodwaters rose, numerous search and rescue missions were carried out to secure people stranded by the rising water. Sadly, one fatality occurred near Gibbon

in rural Umatilla County Oregon. Impacts to property and critical infrastructure were extensive, with damaged and/or destroyed roads, railroads, bridges and levees. Interstate 84, a major commercial transportation route, was heavily damaged and impassable, leading to a two-week closure of the major thoroughfare. Total damages across southeast Washington and northeast Oregon are estimated to be around 49 million dollars. ❖

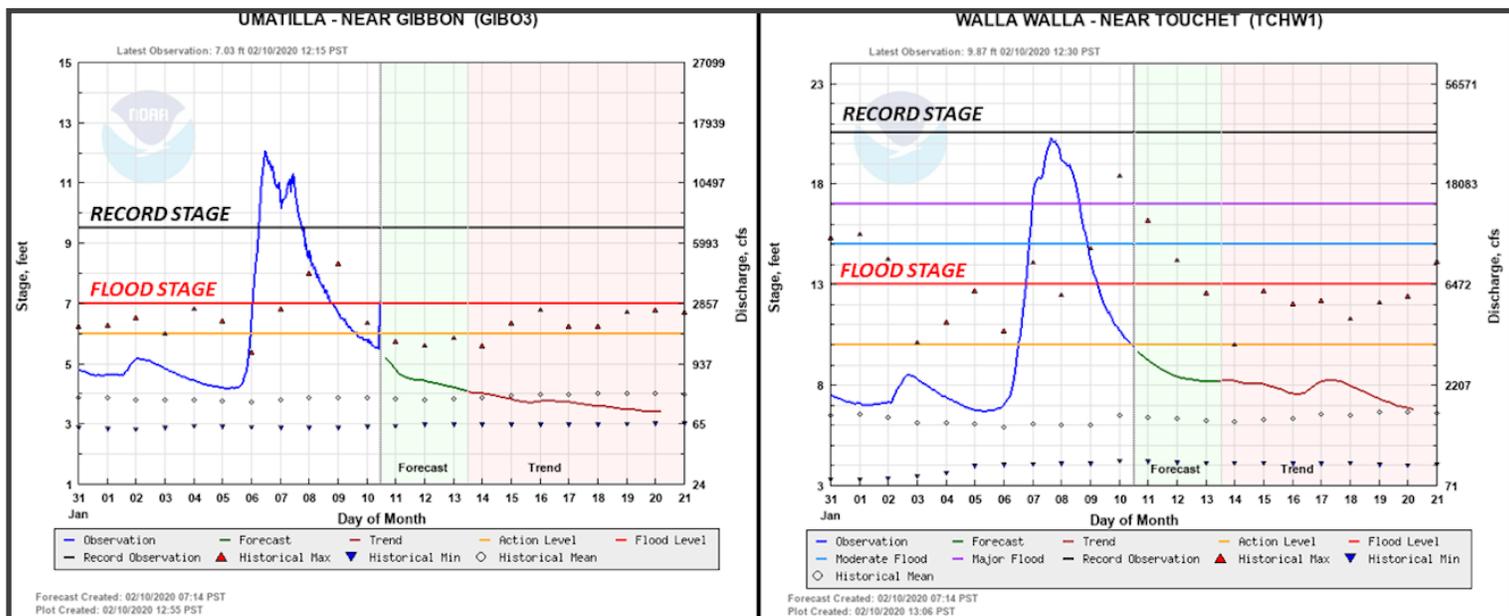


Figure 2. Hydrographs depicting major to record river flood crests at the Umatilla River near Gibbon, Oregon (left) and the Walla Walla River near Touchet, Washington (right).



Water Year Precipitation October 2019 - March 2020

By Marilyn Lohmann, Service Hydrologist

Location	Amount In Inches	Percent of Normal
Bend.....	4.37.....	58%
Heppner.....	4.28.....	52%
John Day City.....	3.64.....	55%
La Grande.....	11.40.....	124%
McNary Dam.....	3.31.....	58%
Madras.....	3.33.....	51%
Meacham.....	28.52.....	128%
Milton-Freewater.....	8.65.....	85%
Mitchell 2NE.....	4.70.....	65%
Moro.....	4.59.....	59%
Pendleton NWS.....	6.49.....	80%
Pilot Rock 1SE.....	3.45.....	43%
Prineville 4NW.....	3.76.....	58%
Redmond Airport.....	3.08.....	61%
The Dalles.....	6.81.....	58%
Wallowa.....	7.53.....	77%
Wickiup Dam.....	8.17.....	52%
Cle Elum.....	15.78.....	91%
Dayton.....	9.66.....	77%
Ellensburg.....	3.39.....	56%
Hanford.....	2.76.....	59%
Ice Harbor Dam.....	4.99.....	69%
Mill Creek Dam.....	11.52.....	96%
Mt Adams RS.....	28.37.....	74%
Prosser.....	2.90.....	49%
Selah 2NE.....	2.14.....	40%
Sunnyside.....	2.51.....	40%
Whitman Mission.....	6.92.....	76%
Yakima Airport.....	2.70.....	48%

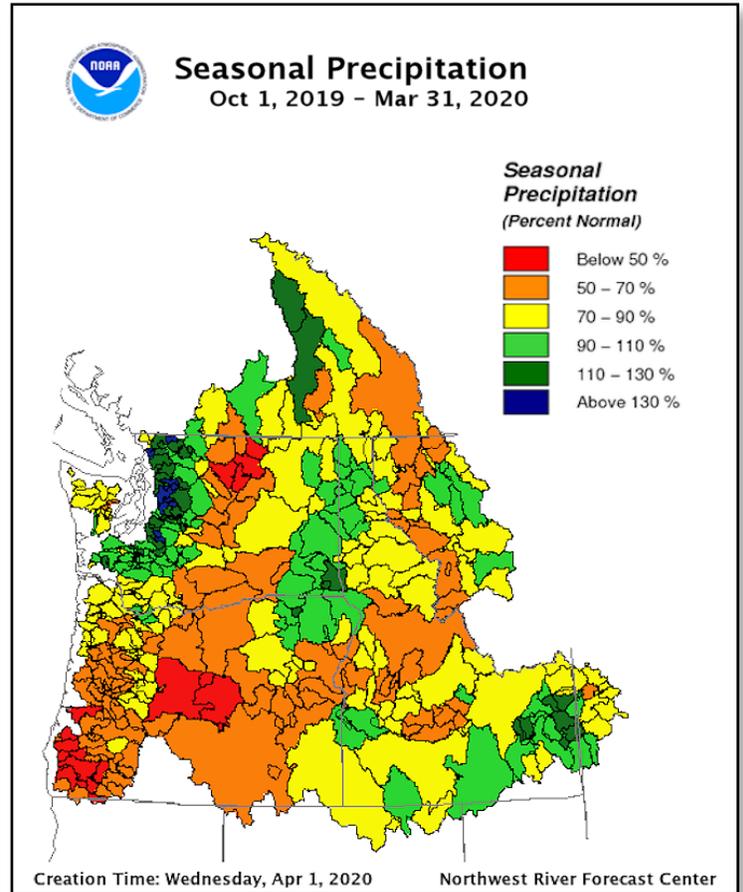


Figure 3. Seasonal precipitation for the Pacific Northwest, from October 2019 through March 2020

For more hydrological information:

- [Water Supply Forecasts \(Map\)](#)
- [Regional River Observations \(Map\)](#)
- [Local Hydrology Links](#)



Fire Season Outlook 2020

By Mary Wister, Incident Meteorologist / Fire Weather Program Leader

First and foremost, I would like to extend my gratitude to the wildland fire community and others who work hard to suppress wildfires. The latest COVID-19 pandemic has left many uncertain about what the future holds. What I admire most about this group is that they are dedicated to getting a job done, but safety is their top priority. There is a lot of training and refresher courses that are required before firefighters can work on the fire line, and their hands-on-training was put to a halt this spring. They have used their innovative and creative skills to ensure that this virus will not stop their required training. Via teleconferencing and other forms of media, they are doing all they can to get the training they need so they can serve the community. Whatever happens this coming season, I am confident they will do all they can to suppress or manage wildfires.

I wish I could bring better news, but the seasonal outlook in terms of the potential for large wildfires for most of Washington and Oregon is above average this summer. The fire potential outlook (figure 5, below)

is provided by the Geographical Area Coordination Centers (GACC), and the Northwest Coordination Center (NWCC) Predictive Services provides the outlook for Washington and Oregon. Although their current seasonal outlooks cover through July (next update on May 1 will cover August), it is likely our forecast area will remain above normal through the end of summer.

June is usually the month when fuels in the Northwest

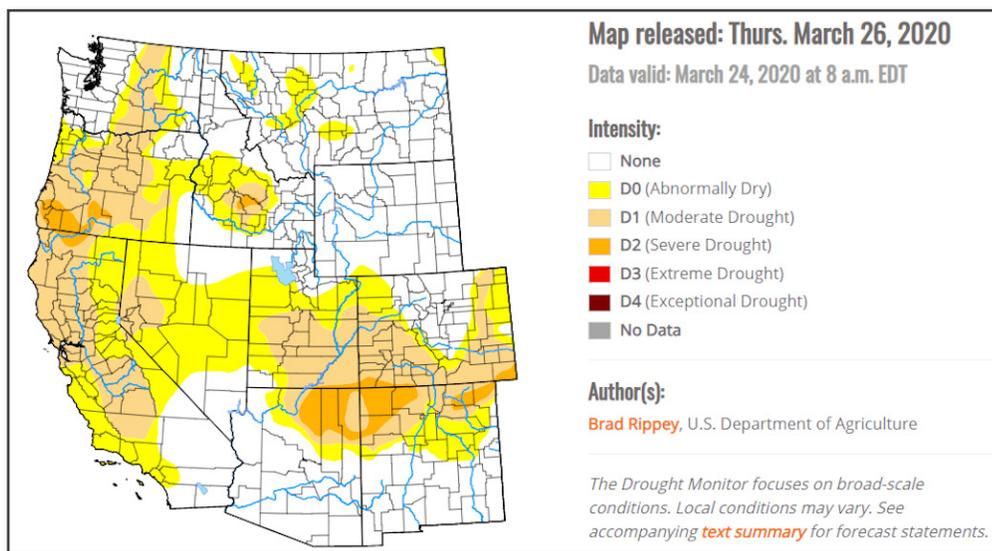


Figure 4. (Above) The weekly drought monitor for western U.S. as of March 24, 2020. For the latest, visit droughtmonitor.unl.edu

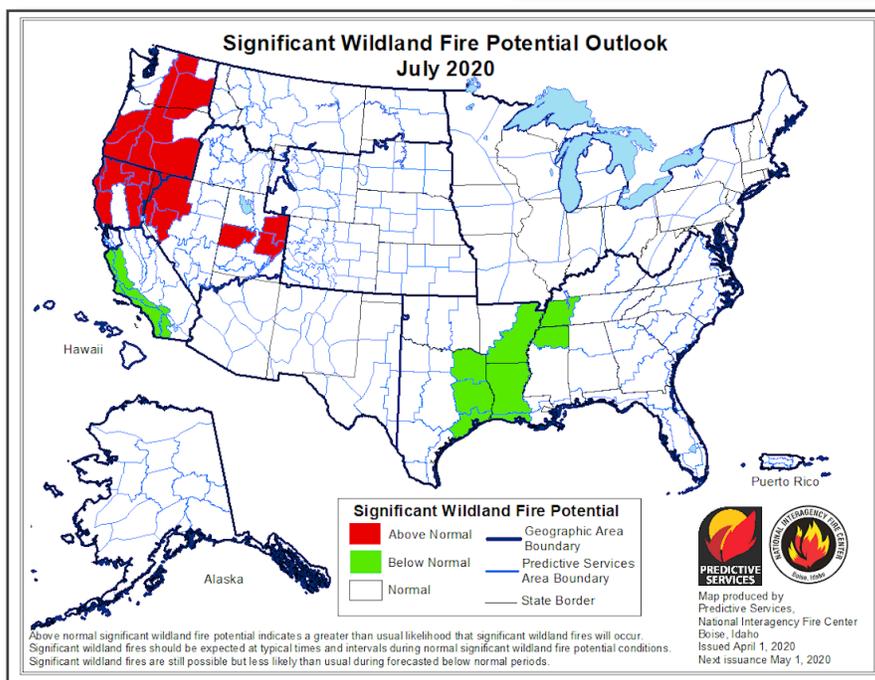


Figure 5. (Above) Fire Potential Outlook, July 2020

begin to cure, especially the fine fuels such as grass and brush. Although the NWCC does not have our area in the above average category for June, keep in mind that this area could have large wildfires. Fast spreading grass fires are common in June, sometimes as early as May. All it takes is a week or more of dry and warm conditions to dry out the fine fuels and quickly cause fires to spread.

The US Department of Agriculture provides a monthly US Drought Monitor. Dry conditions through most of March pushed most of Washington and Oregon into the “abnormally dry” or “moderate drought” categories. The Blue Mountains and the Wallowa Mountains received enough snowpack

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to keep these areas out of drought conditions. Wet and cool conditions are likely for the first half of April, but drier conditions are possible during the second half of the month. Nevertheless, cool and wet conditions in spring doesn't necessarily mean that the above average potential for significant wildfires will be lifted this summer. Snow in April may provide the beneficial fuel moisture for the large fuels such as timber and slash, but this could change if May and June are unseasonably dry with an increase in the moisture deficit for all fuel types.

I strongly encourage you to maintain vigilance over the

next six months through proper landscaping and responsible burning. Think about our wildland firefighters and the difficult tasks they will have, especially if the pandemic continues. You can make their jobs a lot easier by taking simple measures to create a defensible space around your home and carefully handling flammable material when outdoors.

For details on preparing your home and property, as well as other great suggestions, visit <https://www.fs.usda.gov/fs-tags/fire-wise>. ❖



*Firefighters successfully saved this ranch through burnout operations.
Williams Flats Fire August 2019. Photo courtesy of Inciweb*

Remember—You can help minimize damage from wildfires by maintaining your landscaping. Here are a few tips for cleaning your property and preventing fire spread:

1. Remove dead vegetation at least 10 feet away from your home.
2. Remove flammable material such as propane tanks and firewood stacks at least 30 feet away from your home and outbuildings.
3. If you have trees on your property, prune so the lowest branches are 6-10 feet from the ground.
4. Keep your lawn hydrated and maintained.
5. Clear leaves and other debris from gutters, eaves, porches and decks. This prevents embers from igniting your home.

Climate Outlook for Summer 2020

By Roger Cloutier, Meteorologist

The upcoming summer of 2020 (June, July & August) is expected to have well above normal temperatures across the forecast area and the Pacific Northwest.

The green marker indicates where the Weather Forecast Office is located, in Pendleton, Oregon. As can be seen in figure 6 (right), almost the entire forecast area (northeast Oregon and Southeast Washington) are in the 4th highest shaded area (out of 5 from the scale at the top of the image, with 5 being the warmest). This indicates that it will not only be above normal, but likely much above normal. This also is indicative that some to many record high temperatures are possible through the summer.

Figure 7 (below) shows that the forecast area will have drier than normal conditions, but only in the first or second shaded areas from the scale above (out of 5, with 5 being the driest). Most of the forecast area will be in the first shaded color, which

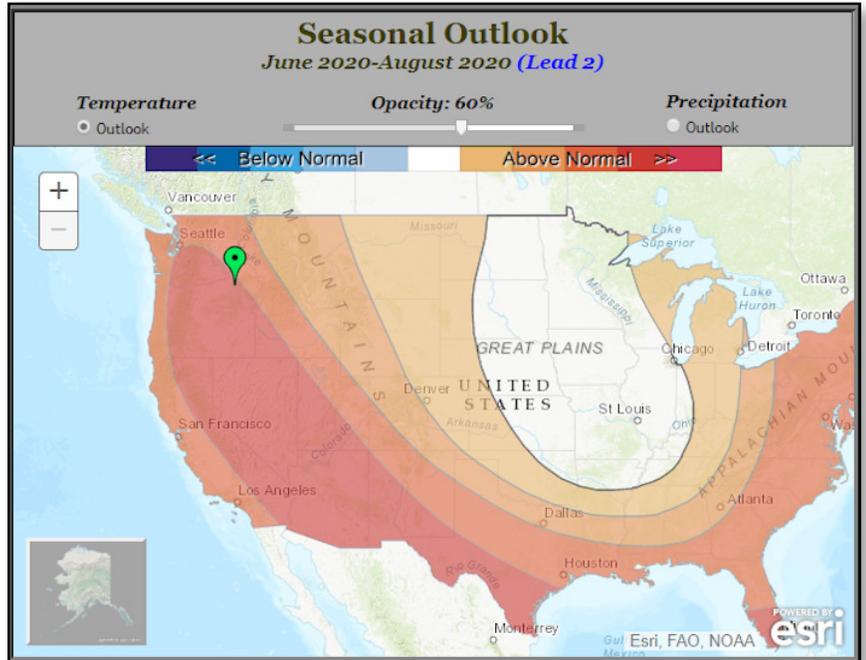


Figure 6. Seasonal Temperature Outlook for June - Aug 2020

would be indicative that it will only be slightly drier than normal in those areas. There is a small portion in extreme northeast Oregon and most of southeast Washington that are forecast to be in the second shaded color on the scale (from 1 to 5, with 5 being the driest). This area can expect less precipitation than the rest of the forecast area.

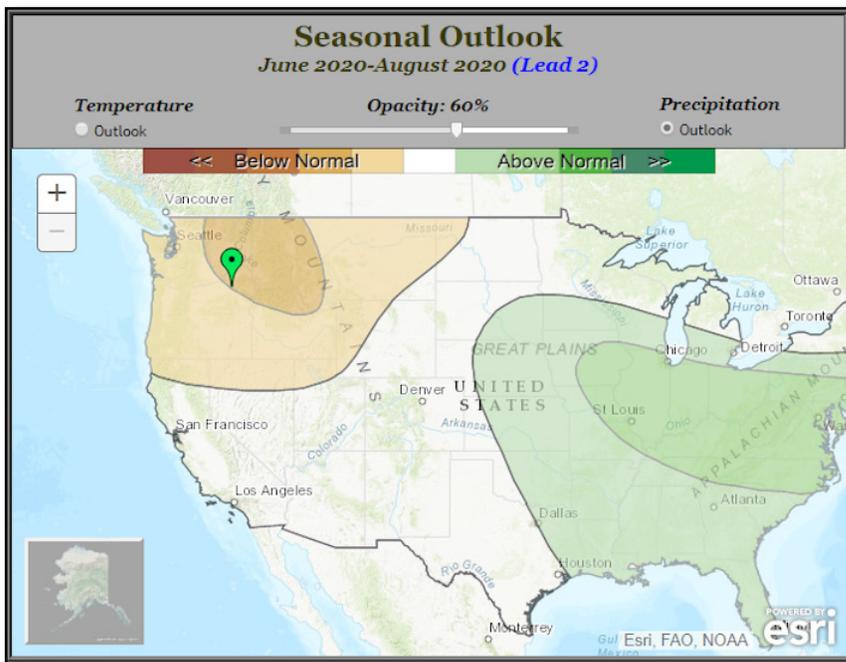


Figure 7. Seasonal Precipitation Outlook for June - Aug 2020

On the following page, Figure 8 shows that the Sea Surface Temperatures (SST) outlook is forecast to be about .5 degrees below the neutral line (zero) for July 2020 in the Nino Region 3.4, which covers the longitude where the forecast area is located. This value is likely not cool enough to indicate La Nina or El Nino conditions, but rather neutral conditions. The current outlook from the ENSO summary briefing from the Climate Prediction Center (CPC) is: "ENSO-neutral is favored for the Northern Hemisphere summer 2020 (~60% chance), remaining the most likely outcome through autumn.", or about a 60% chance of being neutral through

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the summer into Autumn. The ultimate result is that the climatic conditions outlook for the summer will not be affected by either El Nino nor La Nina conditions. For

more information and the latest climate outlook products, visit <https://www.cpc.ncep.noaa.gov/> ❖

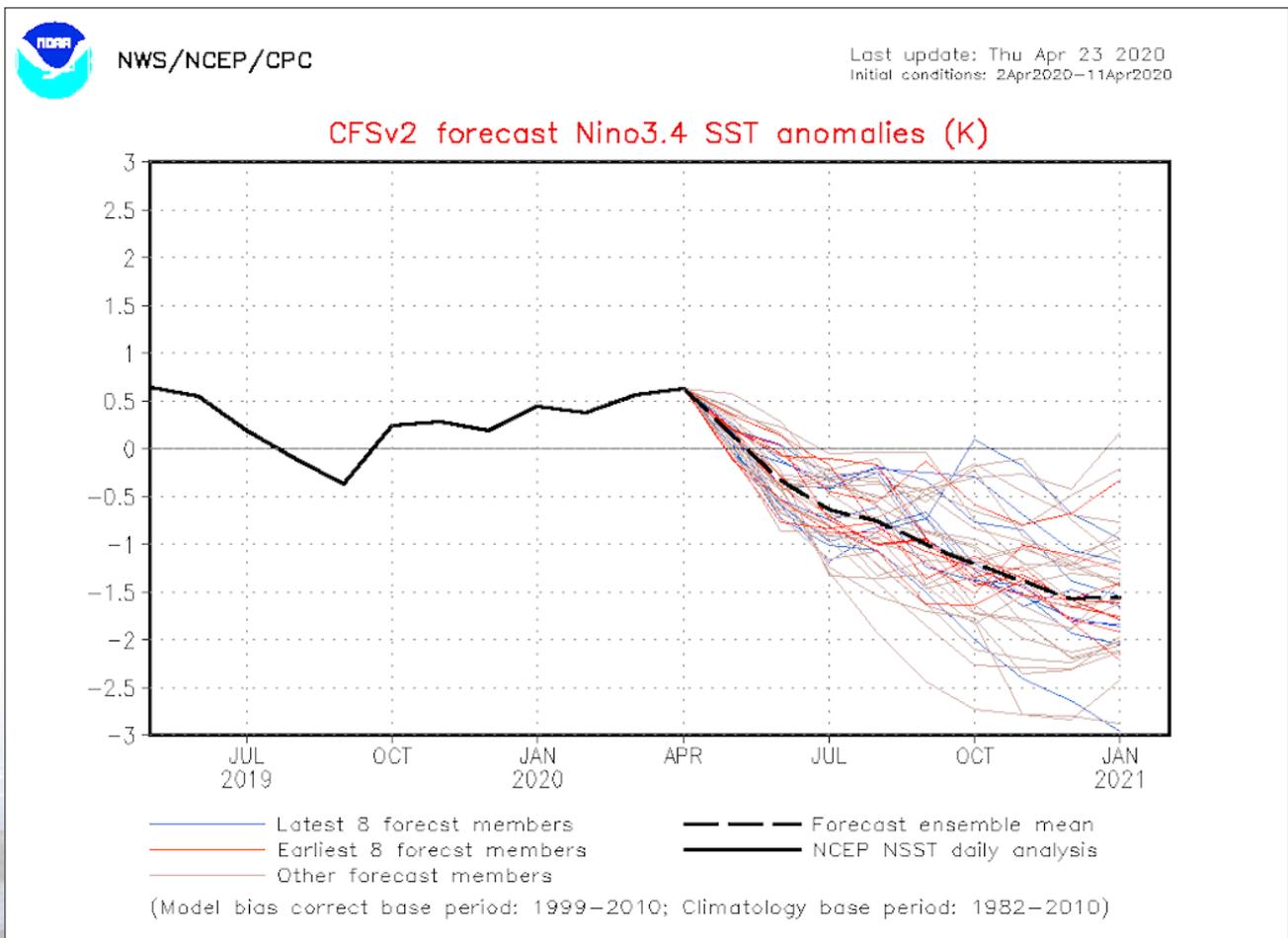


Figure 8 (above) From the National Centers for Environmental Prediction (NCEP) and the Climate Prediction Center (CPC), the seasonal Sea Surface Temperature (SST) anomalies.

Severe Weather Spotter Training

By Marcus Austin, Warning Coordination Meteorologist

As we turn the page on another winter and begin looking forward to the warmer days of spring and summer, we must also remember we're entering thunderstorm season. While the Inland Northwest doesn't see the frequency of thunderstorms that areas east of the Rockies do, we still get our fair share of thunderstorm days, especially in May and June. Even the basic garden variety storm brings hazards such as lightning, gusty winds and brief heavy rainfall. And on those rare days when all of the ingredients come together just right, severe storms can develop, bringing large hail, damaging winds, torrential rains, and every once in a great while, tornadoes.

The National Weather Service (NWS) relies heavily on reports of severe weather when such events occur. Given the sparsely-populated expanse of northern and central Oregon and southern Washington that lies within our area of responsibility, it's crucial that we have eyes on the storms during those higher-end days to determine what's actually happening at the ground. We call this ground-truth, and it enables us to more effectively communicate severe weather hazards when they occur. Storm reports assist the NWS in the verification and issuance of warnings, ultimately improving the quality and timeliness of our warnings during severe weather.

So how does one learn about hazardous weather? What's worth reporting and what isn't? And how does someone go about reporting something anyway? We answer all of these questions and more during our Storm Spotter Training sessions. Usually we hold several in-person trainings a year. This year, due to the ongoing health concerns surrounding the pandemic, we're going all virtual! In some ways, this is nice because you can tune in from the comfort of your home with your favorite snack and/or beverage! You don't even have to wear pants!

We'll go through all the basics of severe weather, how severe storms and tornadoes form, and how to stay safe. We'll also touch on other weather hazards including snow and ice, damaging non-thunderstorm winds and dust storms! You'll learn a lot and you'll become a real asset the NWS by simply educating yourself and volunteering to report any hazardous weather you witness back to your local forecast office!

Find all the details, including a registration link for our virtual spotter training sessions at [weather.gov/pdt/spotterTraining](https://www.weather.gov/pdt/spotterTraining). We look forward to your participation! The more the merrier! ❖



VIRTUAL STORM SPOTTER TRAINING

April 30th • May 12th • May 22nd • June 3rd
Starting at 6 pm each evening
Register at [weather.gov/pdt/spotterTraining](https://www.weather.gov/pdt/spotterTraining)!

STAFF SPOTLIGHT



Walt Clark

Walt is a native to the hills of northwest South Carolina. Walt has had a strong affinity for environmental sciences, specifically meteorology, from a young age. He went to the University of South Alabama to pursue a degree in atmospheric science. There, he became involved in a NASA sponsored internship program focused on breaking

down satellite data into pieces small enough to assist states, counties, and communities. Research was varied, ranging from shellfish habitat health to urban modeling to predicting pine beetle infestations from the splintered trees of tornado outbreaks. Walt began as a team member, progressing to lead the breakout center in Mobile, Alabama for a number of years.

After graduation and a brief stint forecasting weather for a global oil and gas contractor in Cajun country, Louisiana, Walt began a career at the National Ice Center (NIC) in Suitland, MD. The NIC is a multi agency center tasked with monitoring global sea ice cover and providing tactical scale information about sea ice to support national interests. There, he focused on maintaining high quality sea ice observations in the agency's weather modeling system, and provided those operating inside or on top of the ice pack with critical information, including sea ice fracturing risk. A highlight of Walt's time with the NIC was accompanying the US' only heavy icebreaker, USCGC Polar Star on its 2017-2018 Antarctic deployment to resupply McMurdo Station.

Walt is excited to be back in an environment where he is forecasting weather and is happy to call the Pacific Northwest home. He's an avid backpacker and adventurer who enjoys bearing witness to all the components of the environment, most of all those who call these spectacular places home. ❖



Brandon Lawhorn

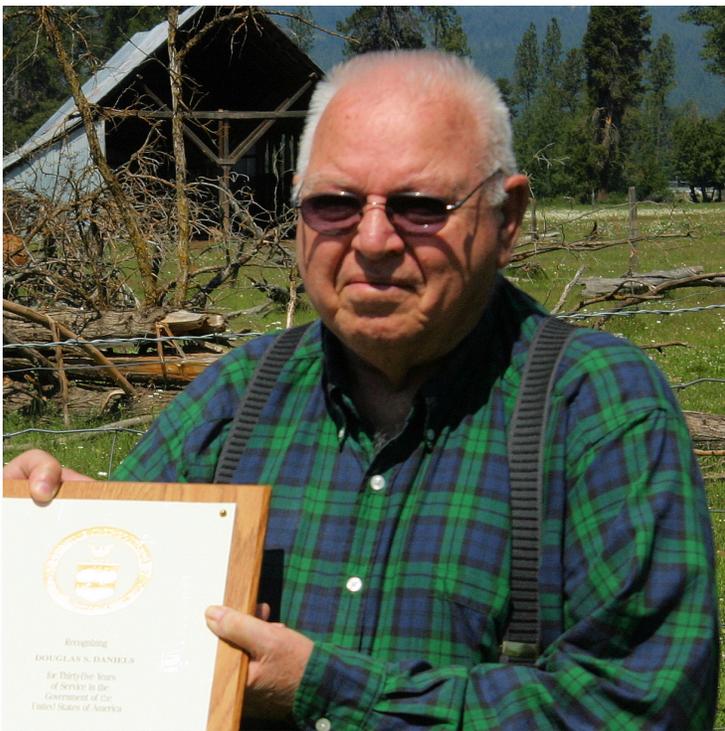
Brandon was born in Oceanside, CA and raised in Tucson, AZ. From a young age, he had always had an interest in the weather, especially the southwest's monsoon season where he would watch the lightning over the Sonoran desert. He started his college education as a Physics Major at Arizona State University, but ended

up switching to Atmospheric Sciences in the middle of his third year when he realized he wanted to combine his passions in physical sciences and meteorology. During his undergraduate time, he had participated in a mentorship at the Phoenix National Weather Service (NWS) office in 2015, and became interested in becoming a forecaster for the NWS. He graduated with a degree in Meteorology-Climatology, with a minor in Geographic Information Sciences (GIS). After receiving his undergraduate degree, he worked as a mortgage loan processor. In 2016, he began pursuing a Master's degree, and worked as an instructor for several semesters teaching introductory physical geography and meteorology labs, as well as volunteering his time during the 2017 monsoon season at the Phoenix NWS office. In his last year of his Master's degree, he worked as a GIS Specialist for Southwest Gas in Phoenix. He received his Master's degree in the spring of 2019.

Brandon started at the Pendleton office in October 2019. He had wanted to stay on the west coast, but wanted a change of scenery from the desert southwest. His interests include hiking and camping, travelling around urban and rural areas, collecting maps of locations he has been to and historical maps of many locations, as well as working with spatial data to show interesting spatial statistics or to tell the history of a region. He is no stranger to the heat, and is excited to experience a summer where it's not in the triple digits for several weeks straight. ❖

Cooperative Program Highlights

Sharon Prantle is presented an award for 10 years of service, as a weather observer, in the NWS Cooperative Program. Sharon's station is in Sagemoor, just north of the Tri-Cities of eastern Washington.



In Memorium...

*Douglas S. Daniels
1930 - 2019*

Doug Daniels assumed the responsibilities of maintaining and managing the automated rain gauge in Glenwood, Washington in July 1974, while working as a forester for the State of Washington. Doug had proven to be one of our most reliable and knowledgeable cooperative observers, and a real pleasure to work with. Over the years, Doug received several awards from the National Weather Service, including the prestigious national John Campanius Holm Award in 2010. NWS Pendleton was preparing to present Doug with a 45-year length-of-service award in October 2019, when we were informed of his passing.

Photo Album



Morning fog in early spring, Trout Lake, Washington. Photo by Darlisa Black



The view (north) of the Cascades, from the cooperative weather station at Hyak, WA. Photo by A. Adams



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