

Puget Sound Energy

PETITION FOR EXCLUSION OF EXTRAORDINARY EVENTS FROM SQI SAIDI
PERFORMANCE CALCULATION

**Appendix A: Media Coverage, NWS weather alerts and bullets, and the other Referencing
Documents**

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August 2015 Storm Event



Sunday, Aug. 30, 2015

[Some customers will be without power until Tuesday](#)

<Click link for video story>

By John Langelier and Josh Green

On Sunday morning, Puget Sound Energy reported more than 90,000 customers still without power after Saturday's wind storm.

PSE said it would be Tuesday before all customers in Whatcom, Skagit and Kitsap counties would be restored.

Seattle City Light has about 21,000 customers in the dark.

Powerful gusts toppled trees and knocked out power for at least a quarter-million customers in the Seattle area, and thousands more in Oregon.

Two people died as a result of the storm. A man was killed when a tree hit his car in Gig Harbor, and a girl died when a branch fell and hit her as she played in the yard at a Federal Way home.

A new record was set for rainfall at Sea-Tac, with 1.28 inches of rain falling. The old record was .87 inches, set in 1983.

Lori Lang, who owns a home near NE 195 St. and 32 Ave NE in Lake Forest Park, had been without power overnight into Sunday morning.

"We went out to find coffee this morning and it was dark up well past the county line up into Lynwood," she recalled.

Lang said the winds started picking up around 4:00 Saturday afternoon with sustained winds for long periods of time.

"I've lived here in this particular neighborhood for over 10 years and I've never seen anything like it," she said.

Patrick See, a Certified International Arborist with Pat's Tree & Landscape, said it was a storm this area doesn't typically see this time of year.

"Typically that would happen in October. Columbus Day storms are notorious for that," See said. "All the deciduous trees have all their leaves on. It creates a sail. And with that extra sail they couldn't handle the wind so we had catastrophic failure."

See also said the dry weather created problems because small feeder roots had dried out. He suggests that homeowners inspect their trees after this weekend's storms and have a certified arborist check out any damage.

"If anything got broken or split, if we get another windstorm like we typically get in October, this could happen all over again," See said.

Josh Green reports from Lake Forest Park where residents and utility crews are cleaning up after strong storm this weekend. KING



peninsuladailynews.com

San Jose Mercury News

Saturday, Aug. 29, 2015

[Strong winds blamed for 2 deaths in Seattle area](#)

Powerful winds toppled trees and power lines across the Pacific Northwest on Saturday, causing two deaths in the Seattle area and knocking out electricity to nearly 500,000 customers.

A man was killed when a tree fell on a car in Gig Harbor, Washington, KING-TV reported. His 3-year-old daughter was in the back seat, but she was not hurt.

In Federal Way, a 10-year-old girl playing outside at a friend's birthday party was struck and killed by a falling limb from an alder tree, The News Tribune of Tacoma reported.

Falling trees or branches injured four people during a triathlon at Joint Base Lewis-McChord, south of Seattle. They were taken to an Army hospital for treatment, The News Tribune reported.

Trees on roadways caused widespread traffic problems.

The National Weather Service reported 20 to 35 mph winds, with gusts of 50 mph. One weather station in Hoquiam clocked a gust of 63 mph.

Late August is unusually early for such a powerful storm, meteorologists said. Trees, already stressed by dry conditions, still have their leaves, which makes them more likely to fall when strong winds blow.

Crews working to restore power were taxed by the storm's breadth. It tore trees out of the ground across a vast swath of the Pacific Northwest, stretching manpower and equipment thin.

"If it just hits one part of our service area, you can maybe send crews down from another area. But this is a service-area-wide event," said Christina Donegan, a spokeswoman for Puget Sound Energy, which reported 224,000 customers without power by early evening.

Other Seattle-area utilities — Seattle City Lights, Snohomish County Public Utility District and Tacoma Public Utilities — estimated more than 240,000 outages between them.

The Snohomish Public Utility District said on Twitter that "customers should expect potentially long power outages."

In Oregon, Portland General Electric reported more than 20,000 were without power. Pacific Power's worst outage affected about 3,500 people in Astoria.



Saturday, Aug. 29, 2015

High winds, falling trees wreak havoc in South Sound

Strong winds blew down trees, knocked out power and even caused a boating accident Saturday in Thurston County. A high wind warning issued by the National Weather Service was in effect for most of the day, and first responders said there were more calls than usual.

"I'd say we're responding to about twice the average number of calls (in Lacey) for a Saturday," said Battalion Chief Tim Hulse of the Lacey Fire Department.

Hulse said he and his crew responded to several reports of weather related incidents — mainly trees falling on homes, cars and power lines. High winds also caused a sailboat to capsize on Long Lake, and two people were rescued from the water.

"Basically, the winds were too strong for the sailboat," Hulse said. "When we arrived, two people were in the water."

Both people were wearing life jackets, he said, and no one was injured. Crews used personal watercraft to rescue the sailors and tow in the boat.

Lacey Fire and the Lacey Police Department also responded to a tree that fell onto a car at about 11 a.m. Lacey police reported that no one was injured, but the car and fallen tree did block the road.

Meanwhile, hundreds of Thurston County residents were without power. Puget



Rafael Martinez stops to look up at the tall trees surrounding his property as he cleans up debris from a pair of 60-foot-tall trees that fell in his neighbor's back yard on 16th Ave SE in Lacey, just missing both houses on Saturday, Aug. 29, 2015. "It was really howling through here this morning. I'd never seen it so strong," said Martinez, who was in his front yard cleaning up a fallen branch when the two trees fell. **Exhibit A Page 4 of 100**
Overman Staff photographer

Sound Energy spokeswoman Mandy Hill said she was unsure how many customers were without power in Thurston County on Saturday afternoon. But statewide, about 138,000 Puget Sound Energy customers were without power.

“Our crews are out taking each outage as it comes, trying to get service restored,” Hill said.

To report a power outage to [Puget Sound Energy](#), contact 1-888-225-5773. Outages may also be tracked using Puget Sound Energy’s [online outage map](#).

In Gig Harbor, a 36-year-old man died after a tree fell on his moving car. His three 3-year-old child traveling in the car with him was uninjured.

The tree hit the station wagon just before 10:45 a.m. on Gig Harbor’s Borgen Boulevard, Gig Harbor Police Chief Kelly Busey said.

A 10-year-old girl who was playing outside at a birthday party in Federal Way died when a falling branch hit her.

The names of the two who died were not released.

At Joint Base Lewis-McChord, four people were injured about 10 a.m. when multiple trees and limbs fell near a parking lot at Shoreline Park and along a triathlon course, the Northwest Guardian reported.

All four of the injured were transported to Madigan Army Medical Center and are in good condition, according to Jay Ebbeson, chief of public affairs for Madigan.

Ebbeson said two of the injured would remain at the hospital overnight, and the others would be released sometime Saturday.

The four injured people had been at the Deuces Wild Triathlon at Shoreline Park on Lewis North. A tree fell onto a parked car, injuring three people who were standing nearby. The fourth injury was the result of trees and limbs falling on the course.

Ryan Engledow was less than a mile from the finish line when he got word that the race had been stopped.

“There were pine needles hitting me in the face at about 20 miles per hour and that really hurt,” he told the NW Guardian.



Sunday, Aug. 30, 2015

Storm toll: 2 dead, 4 hurt, 450,000 lose power

By Scott Sistek, KOMO Staff

A powerful and rare summertime windstorm packing 50-70 mph winds is being blamed for two deaths, four injuries and knocking out power to over 450,000 people Saturday afternoon.

A father driving in Gig Harbor with his 3-year-old daughter was [killed when a tree fell on his car](#). He died at the scene; his child was not hurt.

"This is heart wrenching, a father was just taken from their child, husband taken from their wife, certainly just a tragedy just out of nowhere," Gig Harbor Police Chief Kelly Busey said.

About 90 minutes later In Federal Way, [a 10-year-old girl was struck and killed by a falling branch](#) while attending a sleepover at the Trellis Apartments.

Four others were hurt during the Deuces Wild Triathlon at Joint Base Lewis-McChord Saturday morning when three trees fell. The injured were taken to Madigan Army Medical Center for treatment of non-life-threatening injuries, officials said. Two have since been released while two more are being held overnight for observation.

There were many other tales of close calls amid dozens of reports of downed trees and power lines across the much of the Western Washington lowlands, damaging homes and wreaking havoc on roads and freeways.

In the North Sound, a large tree fell across the northbound lanes of I-5 near 196th Street SW in Lynnwood, striking one car, but no one was hurt. I-5 was also shut down in the southbound direction for a time near NE 145th Street in Shoreline due to downed trees.

Over on I-405, eight trees toppled along the southbound lanes just south of SR-527 in Bothell, according to the WSDOT. There have been multiple reports of trees down on local roads across the region. Several trees toppled in the Olympic National Park, prompting park rangers to close all roads into the park and campgrounds. Puyallup closed all its parks in the city and ordered the closure of the Farmers Market in Pioneer Park.

In Shoreline, power lines fell on a truck at N. 185th Street and Dayton Ave. N, setting the truck on fire. Luckily no one was hurt. In Lacey, firefighters had to don water rescue craft to save two people whose boat overturned on Long Lake. They were safely rescued.

At the peak of the storm, Puget Sound Energy reported about 224,000 people without power while Snohomish PUD estimated over 175,000 outages and Seattle City Light had about 59,000 at their peak. Tacoma Public Utilities reported 20,000 around midday but had restored more than 10,000 of those by late afternoon.

Wind speeds were on par with some of the stronger storms Western Washington typically receives in the late fall and winter, with gusts in the Seattle-Tacoma area reaching 40-50 mph, while gusts to 60-70 mph were common in the North Sound and along the coast. Whidbey Island Naval Air Station reported a gust of 70 mph, while Everett's Paine Field had multiple gusts around 60 mph, peaking at 61 mph. The Coast Guard took a report from a boat in the Rosario Strait that recorded a gust of 81 mph. Lopez Island clocked in at 66 mph and Bellingham hit 58 mph.

Closer to the metro area, Tacoma reported a gust of 54 mph, while Gig Harbor hit 51 mph and Seattle hit a gust of 46 mph. Over on the coast, Westport hit 63 mph while both Forks, Hoquiam and Astoria all hit 62 mph. But the largest gust recorded in the western half of the state belonged to Destruction Island just off the north coast, which measured a sustained wind of 79 mph gusting to 87 mph.

Those kind of wind speeds would do damage in any month, but the damage with this storm was particularly severe because the trees were still heavy and full of leaves. The first windstorm of a season tends to be the one to break off all the more susceptible branches that weakened over the summer, which was especially an issue this summer with our recent dry weather.

Eastern Washington, Idaho hit strong winds too

Damaging winds were not limited to the western half of the state. The wind gauge at the Yakima training center recorded a gust of 77 mph Saturday afternoon, while Lewiston, Idaho hit 72 mph. Most gusts were in the 40-50 mph range with blowing dust an issue in the Columbia Basin as well.

Winds will continue to ease Saturday night. A series of weaker weather systems are forecast to push through the region for Sunday into much of next week, but strong winds won't be a factor.



Saturday, Aug. 29 2015

[High winds knock out power across Whatcom County](#)

Gusty winds knocked down trees and sent limbs into power lines Saturday, Aug. 29, knocking out power in areas across Whatcom County.

Puget Sound Energy was responding to dozens of outages. Several thousand county residents and businesses were without power as of noon. With outages scattered across the county, PSE crews were scrambling to make fixes. Some people can expect a long wait for return of electricity.

The outages and their status can be tracked on the PSE outage map.

More power outages are expected as a high wind warning remains in effect until 6 p.m. Saturday. Expect sustained south winds of 20 to 30 mph with gusts to more than 50 mph.

At Bellingham International Airport, sustained winds were close to 30 mph with gusts as strong as 53 mph as of noon.

Drivers also were struggling with wind issues. A tree fell on a car at Lakeway and Woburn streets in Bellingham. In Lynden, one of the oak trees lining Front Street came down across the road. Some roads have been blocked by downed trees while others are strewn with leaves and branches.

Winds this strong usually come later, in fall when trees have lost their leaves. The fact most trees still are full of leaves, combined with trees weakened by drought, is causing extra damage in this storm. Branches and debris are striking power lines in many areas.



Saturday, Aug. 29, 2015

[2 dead; thousands lose power after windstorm](#)

At peak, more than 300,000 people lost power

<Click link for video story>

High winds and rain caused widespread outages and damage in the Seattle area. Get updated forecasts anytime with the KIRO 7 Weather App for Android and iPhones.

QUICK FACTS:

More than 150,000 in the Puget Sound area were without power

A 10-year-old girl killed by a tree in Federal Way

Man killed after tree hit his vehicle in Gig Harbor

I-5 had long backups near Lynnwood after downed trees

Traffic stopped early afternoon on I-405 near 232nd Street

POWER OUTAGES (as of Monday morning):

Seattle: 3,763

Puget Sound Energy: 37,000 affected

On Sunday, most power outages had been restored -- and the windstorm had passed.

Some areas remained without power. Seattle City Light reported over 6,500 customers were still affected.

Puget Sound Energy said Sunday evening that some residents may remain without power through Tuesday.

Spotty showers persisted in some areas of the Puget Sound.

Sunday, Washington did not experience the damaging winds of Saturday's storm; instead, winds were breezy.

Officials confirmed the man killed in a crash -- as a fallen tree landed on his car -- was the assistant general manager at Chambers Bay: 36-year-old Jamie Fay.

His 3-year-old daughter was inside of the car, but was not hurt.

The identity of a 10-year-old girl killed by a tree branch before a birthday party during Saturday's storm -- was not released on Sunday.

Saturday storm

11:00 pm

From Grays Harbor County PUD:

Crews continue to work to repair the damage done by 60 mph winds that moved over the Washington coast today.

South Beach - Significant damage done to lines continues to impact Grayland, Tokeland and Westport.



North Grays Harbor - Moclips, Pacific Beach and Taholah are still without power and maybe for much of the night.

10:50 pm

Puget Sound Energy lowers their outage to 161,000. Half of those are in Skagit and Whatcom counties.

10:30 pm

Tacoma PUD Down to about 2,200 without power. Crews will work through the night.

9:29 p.m.

Snohomish County Public Utilities Department reports crews are still working to restore 105,000 outages.



Sunday, Aug. 30, 2015

[Two dead as storm batters the Northwest](#)

<Click link for video story>

By Alex Rozier

Two people have died after an unusually strong storm system moved through the Northwest, bringing down trees and causing power outages.

Gig Harbor Police report that a man died when a tree fell onto his car. Jamie Fay, 36, was driving home from a trip to Costco with his 3-year-old daughter in the back seat. The girl was not hurt.

Fay was the General Manager of Chambers Bay Golf Course in University Place.

In Federal Way, a 10-year-old girl was playing outside a friend's home when a branch fell and hit her. Adults called 911 and started CPR. Crews arrived and continued CPR but she was declared dead at the scene.

Puget Sound Energy estimated 224,000 customers without power. Three other Seattle area utilities had 240,000 outages between them.

Puget Sound Energy warned Seahawks fans whose power was out that they may want to make alternative plans for the game. "We'll keep working until everyone is restored," they said via Twitter.

A high wind warning was in effect for the Puget Sound region until 6 p.m.

Gusts to 50 mph were recorded on the SR 520 bridge. The Department of Transportation says the criteria for closing the bridge to traffic and opening the draw span is 50 mph gusts sustained for 15 minutes. When a 40 mph gust is sustained for one minute, a warning alarm calls crews to the bridge for inspection and monitoring.

Opening the drawspan relieves stress on the bridge structure. During a windstorm the force of the waves pushes north on floating span, twisting and rocking the structure, making the bridge vulnerable to damage. When the drawspan is opened some of the force is released, allowing the bridge structure to relax.

The Department of Transportation reported "too many storm closures on state routes in the Seattle area to list."

Olympic National Park closed all campgrounds and roads into the park due to multiple trees down.

Additional closures:

Metro Parks Tacoma temporarily closed the popular outer loop of Five Mile Drive in Point Defiance Park

Northwest Trek closed early

Woodland Park Zoo closed

Puyallup city parks closed

More than an inch of rain fell at Forks, .72 inches at Bremerton and more than a half inch in Shelton.

In Eastern Washington, a dust storm caused the closure of I 90 from Vantage to five miles east of George.

Winds were expected to die down overnight but more heavy rain is expected.

MyNorthwest.com

Monday, Aug. 31, 2015

[Crews restoring power, cleaning up after deadly windstorm](#)

By Richard D. Oxley, MyNorthwest.com Writer

Emergency crews are cleaning up roads and restoring power to Puget Sound communities after a Saturday storm ripped through the region, killing two people and causing widespread power outages.

By Monday morning, Puget Sound Energy had the number of power outages down to 34,186. Seattle City Light had approximately 3,721 outages to further repair. The Snohomish Public Utility District had its outages down to 25,000. The figures are down from more than a quarter million homes that were left without power because of the Saturday storm.

Crews working to restore power were taxed by the storm's breadth. It tore trees out of the ground across a vast swath of the Pacific Northwest, stretching manpower and equipment thin.

The storm caused two deaths. A Gig Harbor man died after a tree fell onto his car while driving home from the store. He has been identified as 36-year-old James Fay. His 3-year-old daughter was in the back seat of the vehicle, but was unharmed, [KING 5 reports](#).



A 10-year-old Federal Way girl died after a branch fell on her while playing outside at a friend's home. Adults at the scene attempted CPR, as well as emergency crews, but she was pronounced dead at the scene.

The National Weather Service reported 20 to 35 mph winds, with gusts of 50 mph. One weather station in Hoquiam clocked a gust of 63 mph.

Late August is unusually early for such a powerful storm, meteorologists said. Trees, already stressed by dry conditions, still have their leaves, which makes them more likely to fall when strong winds blow.

On Sunday, [Puget Sound Energy](#) estimated power will be restored to all customers on or before the following times:

South King County: Monday Aug. 31 at 6 a.m.

Pierce County: Monday Aug. 31 at 6 a.m.

Thurston County: Monday Aug. 31 at 6 a.m.

Whatcom and Skagit Counties: Monday, Aug. 31 at midnight

North King County: Tuesday, Sept. 1 at 6 p.m.

Kitsap County: Tuesday, Sept. 1 at 6 p.m.

The hardest hit areas were Edmonds, Woodway, and Mountlake Terrace in the Snohomish Public Utility District.

Seattle police instructed people to only call 9-1-1 if there are life threatening emergencies. Officers are assisted city agencies with downed trees and clearing roads, but the police department noted that 9-1-1 was overwhelmed with calls.

Puget Sound Energy asks customers to call 1-888-225-5773 to report downed power lines.

Saturday, Aug. 29, 2015

[Winds cause power outages throughout Eastside](#)

By Daniel Nash, Issaquah Reporter Staff Writer

UPDATE 2:43 P.M.: PSE is now reporting outages affecting 501-2,500 customers north of Juanita.

A summer storm hit Western Washington Saturday, with winds causing power infrastructure to fail throughout the region.

While Seattle City Light reported outages affecting more than 57,500 households west of the lake, the Eastside was relatively unaffected as of 2:22 p.m.

Puget Sound Energy reported, via its outage map, scattered power outages east of Lake Washington, with most individual outages in Issaquah, Sammamish, Bellevue and Mercer Island affecting fewer than 50 customers. Larger outages affecting 51-500 customers have hit south of Cougar Mountain, West Mercer Way and South Juanita.

PSE is reporting outages have affected more than 138,000 customers throughout the entirety of its coverage footprint.



Saturday, Aug. 29, 2015

[Strong winds blamed for 2 deaths in Seattle area](#)

SEATTLE -- Powerful winds toppled trees and power lines across the Pacific Northwest on Saturday, causing two deaths in the Seattle area and knocking out electricity to at least a quarter-million customers in Oregon and Washington.

A 10-year-old girl awake after a sleepover was killed when she was struck by a tree branch blown off in the wind, CBS affiliate KIRO-TV reported. The girl was outside her friend's apartment in Federal Way.

One man was killed when a tree fell on a car in Gig Harbor, Washington, the Seattle Times reported. His 3-year-old daughter was in the back seat, but she was not hurt.

Falling trees or branches injured at least two people during a triathlon at Joint Base Lewis-McChord, south of Seattle. They were taken to an Army hospital for treatment, base spokeswoman Kelsy Husted told the News Tribune of Tacoma.

Trees on roadways caused widespread traffic problems.

The National Weather Service reported 20 to 35 mph winds, with gusts of 50 mph. One weather station in Hoquiam clocked a gust of 63 mph.

Late August is unusually early for such a powerful storm, meteorologists said. Trees, already stressed by dry conditions, still have their leaves, which makes them more likely to fall when strong winds blow.

Crews working to restore power were taxed by the storm's breadth. It tore trees out of the ground across a vast swath of the Pacific Northwest, stretching manpower and equipment thin.

"If it just hits one part of our service area, you can maybe send crews down from another area. But this is a service-area-wide event," said Christina Donegan, a spokeswoman for Puget Sound Energy, which reported 140,000 customers without power mid-afternoon. The figure was expected to grow.

Other Seattle-area utilities -- Seattle City Lights and Snohomish County Public Utility District -- estimated more than 175,000 outages between them.

In Oregon, Portland General Electric reported more than 20,000 were without power.

Thousands without power on Bainbridge Island

Thousands of homes on Bainbridge Island — many in the Winslow area — were still without electricity Saturday afternoon after a powerful windstorm swept through Puget Sound.

According to Puget Sound Energy, some customers have been without power since shortly after 8 a.m. Saturday, Aug. 29.

Many neighborhoods throughout the Winslow area lost power at about 1:30 p.m. More than 120 customers east of Weaver Road were also without electricity.

More than 800 homes east of Phelps Road on the north end also lost power just after noon Saturday.

Another 1,200 homes near NE Valley Road also went dark during the height of the storm. More than 1,200 homes in the Lynwood Center area were also without power.

PSE said Saturday there were widespread outages throughout our service area.

"We've opened our storm bases as well as our Emergency Coordination Center," the company said on its website Saturday afternoon.

Many of the outages have been caused by fallen trees and branches. PSE said ongoing drought conditions have left trees stressed.

The high wind warning for the area will stay in place until 6 p.m. Saturday, and PSE said more outages are expected.

The storm has kept emergency responders busy on Bainbridge.

The Bainbridge Island Fire Department reported on its Facebook page that power wires were reported down on Lovgreen Road and Agate Street.

North Madison Avenue was blocked by a downed tree.



Saturday, Aug. 29 2015

Comcast responds to wildstorm outages

More than 300,000 were without power Saturday across Western Washington, and Comcast wasn't sure if power would be restored before the Seahawks preseason game against San Diego.

This list is short but growing with viewer comments. Please e-mail us a message so we can update this list. Here are links for the [Seattle City Light outage map](#) and the [Puget Sound Energy Map](#).

A Comcast spokesman didn't have details on whether the company would offer refunds for the outages. The spokesman also did not give the total number of Xfinity customers affected.

"Today's severe windstorm has caused numerous commercial power outages that have affected Comcast customers as well as impacted our plant in some areas," spokesman Walter Neary said in a written statement. "In Seattle, there was a power outage at our 'head-end' or physical data center facility, responsible for the distribution of our services to the Seattle area. We are coordinating with our valued power partners and restoration of this facility is a top priority for all parties.

"At this time we are not able to provide an estimated time for restoration, but be assured that we are doing everything possible to ensure Hawks fans can enjoy today's game."

Windy weather could cause power outages

An August windstorm is already causing scattered power outages across the area.

Puget Sound Energy offers up-to-date outage information, including restoration estimates, on its outage map here. Customers can also get the most up-to-date outage information, or report an outage, by downloading the myPSE app for smartphones here.

Do not call 911 if your power is out, unless your safety is at risk. Report the outage to PSE online, or by calling 1-888-225-5773.

During storms, customers should keep an emergency kit handy and stay away from downed power lines, according to advice posted on PSE's website.

PSE offers these steps to follow during an outage:

Turn off lights and appliances.

Leave one light switch on so you'll know when your power is back on.

Use flashlights instead of candles.

Keep your freezer and refrigerator doors closed and open them only when it is necessary.

Never use a gas range, indoor cooker, charcoal or gas barbecue for heating.

Close curtains and drapes to keep the heat in.

Wear warm clothes in layers.

Drivers, remember, if you come to an intersection where the streetlights are out, treat it like a four-way stop.

During a windstorm it's not uncommon to find downed power lines. PSE says to assume it's energized and stay as far away as you can before calling 911 or 1-888-225-5773 to report it.

Do not drive over a downed power line. Even if they're not energized, downed wires can get entangled with your vehicle and cause further damage.

Get more safety tips at <http://pse.com/safety/Pages/default.aspx>.

The Seattle Times

Sunday, Aug. 30, 2015

At least 60,000 still without power after windstorm

By John Higgins

On Saturday night, Emma Gardner, 79, and her 83-year-old husband, Gary, slept in a cold room of their Mountlake Terrace home with a tree on their roof, a downed electrical line in their rhodies and little hope that power would be restored soon.

"We're sleeping in the rec room in the furthest corner from any big tree," Emma Gardner said. "I'm sleeping on the Daveno and my husband is sleeping in a chair."

But because the damage is isolated to their house, they're low on the priority list of electrical crews focusing on repairs after Saturday's wind storm. Some customers have been told it may be Tuesday before they get power back.

"We have people up the street who have power, and we don't have power because it was pulled away from our house, so that puts us at the bottom of the list. I don't understand it," Gardner said. "That Daveno, of course, is killing me with my rheumatoid."

The Gardners are among more than 100,000 residents who still lacked power Sunday because of a windstorm Saturday that killed two people and toppled trees, snapped utility poles and downed electrical lines throughout the region.

Authorities Sunday identified the two people killed during Saturday's windstorm.

Samara Iereneo, 10, of Burien, was killed while playing at a friend's home when she was hit by a falling branch, according to the King County Medical Examiner's Office and law-enforcement authorities.

A 36-year-old Gig Harbor man who was killed Saturday morning when a tree fell on his car was identified by Pierce County authorities as James Fay, an assistant general manager at Chambers Bay golf course. Fay's 3-year-old daughter was also in the car but not hurt, officials said.

Federal Way police Cmdr. Stan McCall said Saturday that the 10-year-old Burien-area girl had been staying at a friend's home in the 2300 block of Southwest 352nd Street. She was playing with other children in a grassy area behind the apartment building when she was hit by a tree branch.

Fay was director of sales and marketing at Chambers Bay, according to a course spokesman. Chambers Bay was the site of this year's U.S. Open Golf Championship.

Fay, a native of Vancouver, Wash., was a 2001 graduate of the University of Puget Sound and was named director of sales and marketing at Chambers Bay in 2008, according to a company spokesman.

He was killed when a tree fell onto his Subaru station wagon while he was driving on Borgen Boulevard just before 10:45 a.m., according to Gig Harbor Police Chief Kelly Busey.

Autopsies for both victims will be performed Monday.

The storm Saturday left almost a half-million customers without power and set a rainfall record for that date at Seattle-Tacoma International Airport, dumping 1.28 inches in a 24-hour period. The previous record for that day was .87 inches in 1983.

With gusts between 30 and 40 mph (and stronger north and west of Seattle), the storm would have been destructive at any time of year, but coming at the end of a dry summer when deciduous trees still have all their leaves made it worse.

"We had a lot more maples and that type of thing come down than we might otherwise," said meteorologist Danny Mercer with the National Weather Service in Seattle. "We had gusts up toward Everett that were around 61 mph."

Further north in Vancouver, B.C., winds reached 50 mph, and left an estimated 500,000 people without electricity.

The storm triggered wind warnings from Environment Canada, forced the temporary closure of Vancouver's Stanley Park, and slowed ferry service between Victoria and the mainland.

Ferry service between Port Townsend and Coupeville was suspended Saturday because of the windstorm, according to Washington State Ferries.

Cable provider Comcast reported that 30,000 Western Washington customers were still without service as of about 5 p.m. Sunday, down from 152,000 on Saturday.

Densely forested communities north of Seattle were the slowest to get power back with some Puget Sound Energy customers in North King County not expected to have electricity restored until Tuesday.

Puget Sound Energy reported 34,000 customers still didn't have service at 6 a.m. on Monday. The storm at its height knocked out 230,000 of the utility's customers.

Seattle City Light had whittled down the outage list from about 58,000 customers Saturday — including many in Shoreline, Lake Forest Park and Magnolia — to about 3,600 by early Monday morning.

Snohomish County Public Utility District still had about 24,500 without power Monday morning, including Emma and Gary Gardner in Mountlake Terrace, after reporting as many as 175,000 customers without power on Saturday.

Crews on Sunday repaired downed transmission lines leading to three substations in the Edmonds, Woodway and Mountlake Terrace areas, spokesman Bob Bolerjack said.

Repairs that deliver the most power to the most people get priority over those that might restore electricity to one or two houses, which is typical for utilities responding to a big storm.

"Unfortunately, they're probably not alone in that boat," Bolerjack said about the Gardners' situation.

"We really suggest for folks like that they try to get a hold of family and try to make some alternate arrangement for the next day or two because it may be a while before we are able to get to all of those," he said.

Emma Gardner said she does have neighbors looking in on them.

“One neighbor brought me over coffee in a thermos, and we got invited to go across the street to dinner at 5 o’clock tonight,” she said.

But they don’t want to leave their house.

“My husband, he’s so mad, and I said: Honey, there’s nothing we can do.”

YAKIMAHERALD
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A DAILY PART OF YOUR LIFE

Saturday, Aug. 29, 2015

[Two people killed as wind wallops Puget Sound region](#)

By Christine Clarridge, Paige Cornwell and Joseph O’sullivan, The Seattle Times

SEATTLE — A girl in Federal Way and a man in Gig Harbor were killed in a windstorm Saturday that took down trees and power lines, whipped debris into the streets, and left almost a half-million customers without power.

Federal Way police Cmdr. Stan McCall said the 10-year-old Burien-area girl had been staying at a friend’s home. She was playing with other children in a grassy area behind the apartment building when she was hit by a tree branch.

“People saw the accident and rushed to help,” McCall said. “Lifesaving efforts were being administered when our first officer arrived,” but the girl was pronounced dead at the scene.

South King Fire & Rescue Assistant Chief Ed Plumlee told The News Tribune of Tacoma that the girl had been a guest at a birthday party.

The 36-year-old Gig Harbor man was killed when a tree fell onto his Subaru station wagon just before 10:45 a.m., according to Gig Harbor Police Chief Kelly Busey. The man’s 3-year-old daughter, in the back seat, was not hurt, he said.

The names of those killed were not released.

There was a scare at Joint Base Lewis-McChord on Saturday morning, when four people were injured by falling branches during a triathlon, The News Tribune reported.

Around the region, as trees and wires fell on homes and cars and blocked side streets and interstates, 911 operators were overwhelmed, as were transportation crews.

Among the big gusts recorded Saturday: 61 mph at Paine Field in Everett, 66 mph on Lopez Island, and 80 mph on Destruction Island, off the coast of Jefferson County on the Olympic Peninsula, according to Johnny Burg, a meteorologist with the National Weather Service.

The windstorm halted traffic on some major transportation routes, forcing closures of sections of Interstates 5 and 405, smaller roads throughout the region, a ferry route and the Hood Canal Bridge.

Greg Phipps, spokesman for the Washington State Department of Transportation, said the closures were “pretty significant” and unusual for summer.

The closures rippled across the Seattle area and into Snohomish County. A fallen tree at one point blocked all lanes of northbound I-5 in Lynnwood, according to WSDOT. Traffic was backed up 3 to 5 miles at 2:15 p.m.

Downed trees blocked three lanes of southbound I-5 near Northeast 145th Street. Eight fallen trees also blocked all lanes of southbound I-405, just south of Highway 527.

Highway 522 in Lake Forest Park was closed because of power lines on the road, according to Phipps.

Ferry service between Port Townsend and Coupeville was suspended because of the windstorm, according to Washington State Ferries.

Seattle police worked with city agencies to clear roads. Troopers investigated 47 weather-related collisions in King County between 5 p.m. and 6 a.m., according to the Washington State Patrol.

Transportation officials monitored the Highway 520 bridge, where gusts reached 35 to 40 mph Saturday afternoon, Phipps said.

The normal threshold for closing the bridge would be winds of 50 mph sustained for 15 minutes, and so the bridge remained open, Phipps said.

State Patrol troopers and WSDOT stayed in touch and helped each other keep tabs on roads and other infrastructure through the storm, according to Phipps.

Puget Sound Energy says it will take time to turn all the lights back on with the tangle of trees and downed wires that left 230,000 of its customers without power at the storm's height.

The Snohomish County Public Utility District at one point reported more than 175,000 customers without service Saturday.

Seattle City Light recorded 58,000 people without power, with many of the outages in the Lake Forest Park, Magnolia and Shoreline areas.

The Seattle Public Library's Central Library and Broadview branch closed Saturday afternoon after losing power, while the Woodland Park Zoo closed around 1:30 p.m. because of concerns for safety amid the wind.

The University of Washington's Seattle campus reported a campuswide power outage shortly before noon. Power was restored to most of the campus by 1 p.m.

The outage was caused by a tree limb falling onto a primary feeder line, according to UW.

Cable customers were reporting widespread outages, too, leaving many unhappy. Seattle Seahawks fans who wanted to watch the 5 p.m. exhibition game against the Chargers in San Diego scrambled to reach friends with homes that still had cable.

peninsuladailynews.com

Saturday, Aug. 29, 2015

5th UPDATE — Thousands lose power and Olympic National Park closes as hurricane-strength winds lash Peninsula in region-wide storm

PORT ANGELES — Hurricane-force winds Saturday closed Olympic National Park, closed the Hood Canal Bridge for nearly two hours, interrupted the Port Townsend ferry run, closed roads and cut power to about 14,500 electrical customers.

Two deaths were reported elsewhere in the region-wide storm.

A man was killed when a tree fell on a car in Gig Harbor, The Seattle Times reported, and KIRO-TV said a 10-year-old girl was killed in Burien when she was struck by a tree branch blown off in the wind.

Winds had begun to die down on the North Olympic Peninsula by midafternoon, when about 3,000 of the estimated 12,000 customers who had lost power had the lights back on, according to Jim Parker, manager of the Jefferson County Public Utility District, which has about 18,500 electrical customers.

Those in remote areas, such as in the Coyle area, may have to wait for 48 hours to regain electrical power, Parker said.

About 2,500 Clallam County customers remained without power at 5 p.m., said Michael Howe, Clallam County PUD spokesman.

Some 1,500 West End customers lost power in the Neah Bay, LaPush and Hoko areas and locations south of Forks.

About 150 in Diamond Point had power restored by 5 p.m., but more outages were reported in Joyce and on Sequim Bay Road, Howe said.

The National Weather Service measured winds as high as 79 mph at Destruction Island off the Washington Coast near Kalaloch, with gusts of 81 mph in Rosario Strait, 69 mph at Hurricane Ridge, 43 mph at William R. Fairchild International Airport in Port Angeles and 40 mph at Sequim Valley Airport.

Winds remained as high as 49 mph at Destruction Island at 4 p.m. and 38 mph at Naval Air Station-Whidbey Island.

Roads into the park — and all the park's campgrounds — were closed Saturday afternoon, with some campers' vehicles stranded and others unable to return to their campsites beneath hundreds of downed or wind-weakened trees, according to park spokeswoman Barb Maynes.

Rangers would clear roads as soon as high winds abated, she said.

Park personnel were encouraging those campers who could leave to do so.

The park visitor center had inquiries about the closure, but the numbers were no greater than on other Saturdays, said Greg Marsh, a park ranger who supervises the center.

The Hood Canal Bridge was closed in both directions at 1:09 p.m. because of high winds and was reopened at 2:54 p.m., the state Department of Transportation said.

The Port Townsend-Coupeville ferry also remained out of service due to high winds and rough seas. Reservation holders will not be charged “no show” fees.

Myriad outages were reported throughout the Jefferson County PUD service area, hitting customers in Port Townsend, Marrowstone Island, Port Ludlow, Irondale, Cape George, Eaglemount, Chimacum, Quilcene and the Coyle Peninsula.

“It was pretty much the whole service area,” Parker said. “The wind hit everywhere.”

Traffic lights were out in Port Townsend, where many customers remained without electrical power by 3:30 p.m. Saturday.

Restoration of power was spotty because of the nature of the outages, Parker said.

Trees fell on power lines, shorting out the lines in 15 to 20 major outages, along with several smaller outages.

It wasn't clear by midafternoon exactly how many customers had lost power.

County emergency operations center spokeswoman Keppie Keplinger said about 60 percent of the county was without power at one point, “and it's going to be a long time before power gets restored because there's just so much damage.”

Crews were brought in from outside the county to help with power restoration.

The wind began at about 8:30 a.m. or 9 a.m., Parker said.

“It was calm, and then all of a sudden, it just starting coming in,” he said.

By 10 a.m., emergency dispatchers were fielding calls of downed power lines and fallen trees — some of them afire — on U.S. Highway 101 in Jefferson County and state Highways 20 and 104.

Highway 104 was closed in both directions at Milepost 5 but had been reopened by 1 p.m.

Fallen trees were caused traffic delays on state Highway 112 from Milepost 3 to Milepost 37, Transportation reported. Trees were cleared by 4:51 p.m.

One lane of U.S. Highway 101 was closed briefly near Ruby Beach Road in the park's coastal strip. Fallen trees had blocked the southbound lane at Milepost 164 beginning at 11:02 a.m. The road was cleared by 12:57 p.m.

The storm also shut down air operations at the Paradise Fire in Olympic National Park, which was not expected to grow greatly during the storm because of recent rain and high humidity, said Brentwood Reid, public information officer for the fire.

The fire, burning through rainforest about 12 miles inside park boundaries in the Queets River valley, has covered 2,796 acres.

Crews had shifted their priority to assessing damage and reopening roads blocked by fallen trees as quickly as possible, Reid said.

The wind storm knocked out power to at least a quarter-million customers in Washington and Oregon.

Late August is unusually early for such a powerful storm, meteorologists said. Trees, already stressed by dry conditions, still have their leaves, which makes them more likely to fall when strong winds blow.

Crews working to restore power were taxed by the storm's breadth, tearing trees out of the ground across a vast swath of the Pacific Northwest.

“If it just hits one part of our service area, you can maybe send crews down from another area. But this is a service-area-wide event,” said Christina Donegan, a spokeswoman for Puget Sound Energy, which reported 140,000 customers without power midafternoon. The figure was expected to grow.

Sky Valley Chronicle

Monday, Aug. 31, 2015

Windstorm brings fatalities, property damage, power outages to western Washington

Saturday's freak, powerful summer windstorm on Saturday resulted in two deaths, power outages and property damage throughout the Puget Sound metro.

In one instance a father was driving in Gig Harbor with his three year child when he was killed when a tree fell on his car. His young daughter was uninjured.

Not long after that fatality a 10-year old girl in Federal Way lost her life when she was struck by large branch from a tree that snapped off in the high wind. The little girl had been attending a sleepover at a friend's home.

In addition the windstorm brought injuries. Four people were hurt by falling trees during the Deuces Wild Triathlon at Joint Base Lewis-McChord Saturday morning. They were taken to Madigan Army Medical Center for treatment of non-life-threatening injuries.

And other assorted mayhem was caused by the storm, which packed winds ranging from 50 to 70 mph in the North Puget Sound region and along the coastline, while gust of 40 to 50 mph were common in the Seattle-Tacoma.

There were numerous reports of damaged homes and vehicles and impassable roadways for a time around western Washington due to all the trees and large branches that came down.

In Shoreline, power lines fell on a truck at North 185th Street & Dayton Ave. North, setting the truck on fire. No one was injured.

In Lacey, Washington firefighters engaged in a water rescue, saving two people whose boat overturned on Long Lake.

Reported high wind gusts for the area:

- 87 mph at Destruction Island
- 81 mph Rosario Strait
- 63 mph at Westport
- 66 mph Lopez Island
- 61 mph Everett's Paine Field
- 58 mph Bellingham
- 54 mph Tacoma
- 51 mph Gig Harbor



[Puget Sound Energy](#) crews worked through the night to restore power to thousands of customers.

BAINBRIDGE ISLAND
REVIEW
Sunday, Aug. 30, 2015

Several hundred homes still without power on Bainbridge

Hundreds of people on Bainbridge Island went the night without power following a powerful late summer windstorm that swept across Puget Sound Saturday.

Puget Sound Energy reported Sunday that roughly 87,000 customers in the Puget Sound region were still without power.

On Bainbridge, the largest ongoing outage is on the southeastern end of Port Madison, where 275 homes were without electricity. The power there went out just before 4:30 p.m. Saturday. PSE said a repair crew is onsite.

A total of 31 separate outages, many affecting just one or two homes, were reported just after 8:30 a.m. Sunday on Bainbridge.

PSE reported on Twitter that crews worked through Saturday night to restore power, and workers were out "in full force" Sunday.

Sixty line crews and 16 tree crews have been called out, with some workers coming from British Columbia to help restore power.

Fallen trees are to blame for most of the outages.

The hardest hit areas, according to PSE, were Whatcom and Skagit counties, and north King County.



Sunday, Aug. 30, 2015

[Seattle-area windstorm leaves 2 dead, thousands without power](#)

By Elisha Fieldstadt

Two people were killed Saturday in northwestern Washington when a storm carrying heavy winds passed through the area, toppling trees and knocking out power for thousands.

Jamie Fay was driving in Gig Harbor, about 70 miles south of Seattle, when strong winds brought a tree down on his vehicle, which killed him instantly, Gig Harbor Police Chief Kelley Busey told NBC News. The man's 3-year-old daughter was also in the car but wasn't injured, according to NBC affiliate KING5.

In Federal Way, Washington, just across Commencement Bay, a 10-year-old girl was also killed when a branch was wind-whipped off of a tree and hit her, said Stan McCall, an administrative commander at the Federal Way Police Department. The young girl was playing outside of an apartment complex at about noon when she was struck, McCall told NBC News.

Four more people were injured by falling tree limbs at Joint Base Lewis-McChord, about 25 miles south of Federal Way, which was hosting a triathlon Saturday morning, according to a post on the Facebook page belonging to the military base.


The National Weather Service in Seattle recorded winds during the storm gusting up to 70 mph in some areas. People posting about the storm on social media shared footage of trees bending and waves in Lake Washington that looked like they belonged in the ocean.

After the windstorm hit, more than 224,000 Puget Sound Energy customers were left without power, according to the utility company. Puget crews maneuvered around the debris and downed trees overnight to decrease the amount of outages to less than a quarter of what was originally reported, the company said.

Seattle City Light said another 58,000 customers were without power at the height of the storm.

Many roads and campgrounds in Olympic National Park, which was battered by 30 to 70 mph winds, remained closed Sunday as crews worked to clean up the mess left behind by the storm.



 Puget Sound Energy
@PSETalk [Follow](#)

Our crews will be working through the night to restore power. See work happening now:

bit.ly/1fOAXeN

12:58 AM - 30 Aug 2015

  3  5

Sunday, Aug. 30, 2015

[Two dead, massive outages after windstorm slams Washington state](#)

Aug 30 A powerful windstorm toppled trees, killing two people in Washington state as work crews scrambled on Sunday to restore power to 450,000 customers, a TV report showed.

A father driving with his three-year-old daughter in Gig Harbor, just west of Tacoma, was killed on Saturday when a tree fell on his car, KOMO 4 TV reported.

Within two hours, a falling branch struck and killed a 10-year-old girl in Federal Way, just east of Tacoma, the television station reported.

Gusting winds were blamed for massive power outages affecting as many as 450,000 customers.

On utility websites, Puget Sound Energy said crews working through the night had been able to restore nearly 75 percent of affected customers by early Sunday morning, with 97,000 remaining without power, Snohomish PUD reported 88,000 remained without power, Seattle City Light had about 21,000 still affected and Tacoma Public Utilities had 500 customers still in the dark.

BAINBRIDGE ISLAND
REVIEW
Sunday, Aug 30, 2015

PSE: Some homes on Bainbridge, North Kitsap may not have power until Tuesday evening

Puget Sound Energy said Sunday that some residents in Kitsap County may not see their power restored until 6 p.m. Tuesday, Sept. 1.

In a report Sunday afternoon, PSE said progress was being made but approximately 8,600 customers in Kitsap County still did not have power by 2 p.m. Aug. 30.

Most of those outages are on Bainbridge Island and north Kitsap County.

Two more crews are expected to arrive at the Kitsap Storm Base Sunday evening and will be immediately sent to Bainbridge Island to help with restoration efforts, PSE said.

The Port Gamble substation was brought back on line before 2 p.m. Sunday, which restored electricity to "a good number of customers," PSE said in an update Sunday.

In the Puget Sound area, PSE said roughly 70,000 customers were still without power as of 2 p.m. Sunday.

At the height of Saturday's windstorm, approximately 238,000 PSE customers lost electricity.

Homes in isolated pockets across Bainbridge, from South Beach to Seabold, remained without power Sunday afternoon.

Thirty-three outages were reported in different locations across the island.

Outages range in size to one home to places where 50 or more houses are without power.

KitsapSun
Sunday, Aug. 30, 2015

[Storm brings 2 inches of rain to area](#)

The weekend's windstorm went easy on Kitsap compared to the rest of the region.

Trees and power lines went down Saturday across the county, leading to widespread power outages and road blockages, but no serious injuries or property damage was reported.

Elsewhere, the storm struck hard, killing two people and injuring at least two more. Falling trees killed a man in Gig Harbor and a 10-year-old girl in Federal Way. Two people were injured by falling trees or branches during a triathlon at Joint Base Lewis-McChord.

The Hood Canal bridge was closed for less than an hour due to high winds Saturday and Poulsbo's police chief on social media urged motorists to stay off the roads. North Kitsap Fire and Rescue and the Bremerton Fire Department reported an especially high volume of calls.

About 2 inches of rain fell in Bremerton over the 72-hour period before, during and after the storm, according to National Weather Service data collected at Bremerton National Airport. Rain remains in the forecast through Friday.

Puget Sound Energy reported that the nearly 240,000 customers were without power throughout the region during the storm's peak Saturday. By Sunday afternoon, that number had been reduced to 70,000.

About 23,000 customers were without power Saturday evening in Kitsap. PSE had restored power to all but about 6,000 Kitsap customers by Sunday afternoon. All customers in Kitsap should have power by 6 p.m. Tuesday, said PSE spokeswoman Christina Donegan.

"Crews have been making good progress (in Kitsap)," she said. "You definitely fared better than Whatcom and Skagit counties."

Those counties accounted for more than half of the customers without power Sunday. North King County was the next hardest-hit with more than 11,000 customers without power.

PSE had 60 line crews and 16 tree-cutting crews working in the region. Additional crews were being brought in from British Columbia.



Sunday, Aug. 30, 2015

[Puget Sound Energy releases estimates for restoring power](#)

If your neighborhood hasn't seen its power restored yet, Puget Sound Energy has a worst-case estimate and you may not be happy with it.

With tens of thousands customers out of service not only in Whatcom County but throughout Puget Sound, PSE resources are spread thin as a result of the rare August windstorm that hit yesterday, August 29th. Debris and fallen trees in the way only make the job tougher. With that in mind, here is the latest from Puget Sound Energy,

We're estimating power will be restored to all customers on or before the following times. We expect most customers to have power restored sooner. Customers in isolated areas or areas with heavy damage will have power restored closer to the estimated time listed below.

South King County: Monday, Aug. 31 at 6 a.m.

Pierce County: Monday, Aug. 31 at 6 a.m.

Thurston County: Monday Aug. 31 at 6 a.m....

Whidbey Island: Monday, Aug. 31 at 2 a.m.

Whatcom and Skagit Counties: Tuesday, Sept. 1 at 6 p.m.

North King County: Tuesday, Sept. 1 at 6 p.m.

Kitsap County: Tuesday, Sept. 1 at 6 p.m.

Businesses have been advised to not expect their power to be restored until midnight, Monday night.



Sunday, Aug. 30, 2015

[Update on Storm Damage: Bainbridge and North Kitsap hardest hit in county](#)

By Sarah Lane

Earlier this afternoon, August 30, 8,600 Kitsap customers still had no power. Puget Sound Energy reports that most of those customers were on Bainbridge and in North Kitsap. At 5 p.m. there were just over 50 Bainbridge customers still in the dark.

Two additional crews are expected to arrive at the Kitsap Storm Base this evening, and PSE says they will be immediately directed to Bainbridge to help with the restoration efforts there. PSE reports that they expect all customers in Kitsap County to have power restored by Tuesday, September 1, at 6 p.m.

PSE is reporting that more than 1,800 locations in their service area experienced damage to the electric system during this weekend's storm. About 70,000 customers were still without power as of 2 p.m. today. By 5, the number had been reduced to 57,000.

Despite the effects of the storm in Kitsap, Whatcom and Skagit counties were the hardest hit, followed by North King County. PSE says that 60 line crews and 16 tree crews are working to help with restoration efforts. These crews include crews brought into the area from as far as British Columbia.

PSE and the Bainbridge Island Fire Department remind you to treat all downed power lines as if they are energized and extremely dangerous. Keep yourself and others away from them.



Sunday, Aug. 30, 2015

[Storm knocks out power to 238,000 Puget Sound Energy customers](#)

By Matt Phelps, Kirkland Reporter Regional Editor

The powerful wind storm that blew down trees, telephone poles and littered local roads with debris also knocked out power to 238,000 residents in western Washington, according to Puget Sound Energy. Approximately 50,000 residents remain without power as of 7 p.m. on Sunday, including approximately 1,500 in Kirkland according to PSE.com. Most of the current outages in Kirkland are in the north end of the city.

"We have 60 line crews and 16 tree crews working to help with restoration efforts, including additional crews brought into the area from as far as British Columbia," said PSE spokesperson Christina Donegan.

There are approximately 1,100 customers without power in King County. PSE was able to restore power to an estimated 20,000 customers between 2-7 p.m. on Sunday.

"Crews made steady progress throughout the day, restoring power to customers in thousands of different locations from Whatcom to Thurston to Kitsap and King Counties," Donegan said. "We understand customer's frustration at the time it takes to investigate damage and estimate when power will be restored. There's a lot of work to do."



The high winds on Saturday resulted in a lot of downed trees, power lines and other debris, including this tree in the Totem Lake neighborhood of Kirkland. In many locations tree crews had to remove large downed trees and limbs before Puget Sound Energy power restoration work could begin. — Image Credit: Courtesy PSE

In addition to strong winds, most trees still have their leaves and many of them have been stressed by recent drought conditions, making them more susceptible to snapping or falling, according to PSE. In many cases, old-growth trees uprooted, falling across roadways, on utility poles and through power wires.

PSE officials are estimating that all residents in north King County will have power restored by 6 p.m. on Tuesday.



Monday, Aug. 31, 2015

[Days after storm, crews still work to repair power for some](#)

SEATTLE (AP) — On Monday, crews around the area worked to restore power to thousands of customers still without power from the weekend's storms, which knocked out electricity to nearly 500,000 customers in the Seattle area.

More than 3,500 customers remained without power in Seattle, Seattle City Light officials said Monday, down from a peak of 58,000. In Snohomish County, 24,500 residents were still without power as contractors worked hard overnight to restore lights and power.

In Skagit County, about 9,600 people remain without power. In Whatcom County, about 10,700 people are without lights.

Of the 500,000 people without power on Saturday, 238,000 were Puget Sound Energy customers, officials said. Most of those have been restored, but still more than 70 line crews and 16 tree crews from PSE are working to restore power to all customers.

Comcast XFINITY also reported service interruptions to many customers in Washington as a result of some commercial power outages.

The Seattle Department of Transportation says more than 75 fallen trees or limbs have been taken care of and major roads cleared.

A 36-year-old Gig Harbor man killed by a falling branch on Saturday has been identified as James Fay. A 10-year-old girl playing outside at a friend's birthday party was killed by a falling tree limb Saturday.

The National Weather Service reported an 80 mph wind gust on Saturday on Destruction Island off the Olympic Peninsula. The storm set a rainfall record, as it dumped 1.28 inches of rain in a 24-hour period at Sea-Tac. The previous record for that day was .87 inches in 1983.

Rain and blustery weather remains on tap for the week, but should lighten up by the holiday weekend.



Puget Sound Energy
@PSETalk



Crews worked through the night & continued to make progress, are out in full force again today.

6:56 AM - 31 Aug 2015

4 1



Sunday, Aug. 30, 2015

[Storm knocks out power to 238,000 Puget Sound Energy customers](#)

By Matt Phelps, Bothell Reporter Regional Editor

The powerful wind storm that blew down trees, telephone poles and littered local roads with debris also knocked out power to 238,000 residents in western Washington, according to [Puget Sound Energy](#).

Approximately 50,000 residents remain without power as of 7 p.m. on Sunday, including approximately 2,600 in Kenmore and approximately 200 in Bothell. There are approximately 1,100 customers without power in King County.

"We have 60 line crews and 16 tree crews working to help with restoration efforts, including additional crews brought into the area from as far as British Columbia," said PSE spokesperson Christina Donegan.

PSE was able to restore power to an estimated 20,000 customers between 2-7 p.m. on Sunday.

"Crews made steady progress throughout the day, restoring power to customers in thousands of different locations from Whatcom to Thurston to Kitsap and King Counties," Donegan said. "We understand customer's frustration at the time it takes to investigate damage and estimate when power will be restored. There's a lot of work to do."

In addition to strong winds, most trees still have their leaves and many of them have been stressed by recent drought conditions, making them more susceptible to snapping or falling, according to PSE. In many cases, old-growth trees uprooted, falling across roadways, on utility poles and through power wires.

PSE officials are estimating that all residents in north King County will have power restored by 6 p.m. on Tuesday.



A large tree took down six spans of transmission and distribution wire in Swamp Creek Park in Kenmore. Asplundh crews are required to help Potelco access the heavily vegetated area. — Image Credit: Courtesy PSE

[Windy weather could cause power outages](#)

An August windstorm is already causing scattered power outages across the area.

Puget Sound Energy offers up-to-date outage information, including restoration estimates, on its outage map [here](#). Customers can also get the most up-to-date outage information, or report an outage, by downloading the myPSE app for smartphones [here](#).

Do not call 911 if your power is out, unless your safety is at risk. Report the outage to PSE online, or by calling 1-888-225-5773.

During storms, customers should keep an emergency kit handy and stay away from downed power lines, according to advice posted on PSE's website.

PSE offers these steps to follow during an outage:

Turn off lights and appliances.

Leave one light switch on so you'll know when your power is back on.

Use flashlights instead of candles.

Keep your freezer and refrigerator doors closed and open them only when it is necessary.

Never use a gas range, indoor cooker, charcoal or gas barbecue for heating.

Close curtains and drapes to keep the heat in.

Wear warm clothes in layers.

Drivers, remember, if you come to an intersection where the streetlights are out, treat it like a four-way stop.

During a windstorm it's not uncommon to find downed power lines. PSE says to assume it's energized and stay as far away as you can before calling 911 or 1-888-225-5773 to report it.

Do not drive over a downed power line. Even if they're not energized, downed wires can get entangled with your vehicle and cause further damage.

Get more safety tips at <http://pse.com/safety/Pages/default.aspx>.

Kitsap Sun

Friday, Aug. 28, 2015

Pacific storm to bring strong winds

The National Weather Service has issued a special weather statement, warning of strong winds and heavy rain coming from a strong Pacific storm that will move into Western Washington on Saturday.

The statement issued Friday morning said the system has the potential to bring winds of 20 to 35 mph to the region, with gusts of 45 to 50 mph on the coast.

The winds will be what Western Washington residents are used to in the fall or winter, instead of August. That means that trees full of leaves will be more prone to snapping, meaning lots of downed limbs and possible power outages.

Puget Sound Energy is aware of the forecast, said spokeswoman Akiko Oda, and will have additional staff on hand. She encouraged customers to download the power outage map application to their smartphone.

Leaves could cause more branches to break, Oda said, but PSE trims trees daily to keep them away from lines. So does Kitsap County, which isn't planning anything special Saturday, said spokesman Doug Bear. Normal duty crews will be available. The county will be watching for lowland flooding and be able to respond as warranted.

Wind is apt to be more of a problem than rain. A half-inch to an inch of rain is forecast inland, with 1 to 3 inches possible on the coast.

There's a 100 percent chance of rain during the day Saturday, with the high temperature reaching about 65 degrees. Showers will taper off to 30 percent Saturday night.

From: nws.seattle@noaa.gov
Sent: Friday, August 28, 2015 11:40 AM
Subject: ACTION: PACIFIC STORM TO BRING STRONG WINDS TO WESTERN WASHINGTON SATURDAY



PACIFIC STORM TO BRING STRONG WINDS TO WESTERN WASHINGTON SATURDAY

National Weather Service, Seattle WA

Hello,

This message is intended as an informational briefing for public safety decision makers. We ask that you continue to monitor latest information using the resources listed below. You are welcome to share this message with others in your organization.

SYNOPSIS:

A weather pattern change arrived today that brought our first weak storm. The next system is expected to be much stronger Saturday bringing strong winds and lots of rain to western Washington that may produce some power outages.

HEADLINES:

Wind advisories may be issued overnight covering most sections of western Washington for strong winds during the day Saturday.

FORECAST SPECIFICS:

An upper level low pressure system west of northern California this morning is expected to strengthen and deepen as it moves northeast, tracking just off the coast of Washington by Saturday morning. This will bring strong winds and rain to most areas of western Washington starting in SW Washington by 5 A.M. and continue north through the rest of the coast and the Puget Sound area by 8 A.M., and the north interior during the afternoon. The winds are expected to reach as much as 20 to 35 MPH with gusts of 40 to 50 MPH.

This storm is unusually strong for this time of year. With trees in full leaf, and having been stressed due to warm dry conditions this summer, impacts may be greater than usual for a storm of this magnitude. As the strong winds pull on weakened branches in full leaf, there will be greater tendency of more limbs snapping off than would normally be expected. The falling limbs may produce some local power

outages.

The low pressure system will exit the region in SW Canada by Saturday night with diminishing winds and showers. There will be another weak storm on Sunday bringing more showers. Next week will continue to be cool and showery.

CONFIDENCE:

Confidence in the strength and timing of the strong wind is high.

Confidence in the strong winds affecting the Puget Sound region is moderate.

UNLISTED 24x7 Phone number for Decision Makers: 206-526-6857

NWSChat: Chat room with the forecasters on duty - more information and account registration at <https://nwschat.weather.gov>.

E-Warn: Tailored email reception of NWS warning messages, contact ted.buehner@noaa.gov for a registration form.

iNWS: Smart phone app for the emergency management community to monitor the latest forecasts, warning information and conditions - register at <http://inws.wrh.noaa.gov>.

Web Site: <http://www.weather.gov/seattle>

Facebook: <http://www.facebook.com/US.NationalWeatherService.Seattle.gov>

Twitter: <https://twitter.com/NWSseattle>

Thank you,
National Weather Service, Seattle WA

National Weather Service Bulletins; Aug. 28-29, 2015

WWUS76 KSEW 282129
NPWSEW

URGENT - WEATHER MESSAGE
NATIONAL WEATHER SERVICE SEATTLE WA
229 PM PDT FRI AUG 28 2015

...A STRONG FRONTAL SYSTEM WILL MOVE THROUGH WESTERN WASHINGTON ON SATURDAY...

.EXPECT RAIN AND WINDY WEATHER ON SATURDAY IN WESTERN WASHINGTON.

WAZ516-517-290545-
/O.NEW.KSEW.WI.Y.0005.150829T1500Z-150829T2300Z/
NORTH COAST-CENTRAL COAST-
229 PM PDT FRI AUG 28 2015

...WIND ADVISORY IN EFFECT FROM 8 AM TO 4 PM PDT SATURDAY...

THE NATIONAL WEATHER SERVICE IN SEATTLE HAS ISSUED A WIND ADVISORY...WHICH IS IN EFFECT FROM 8 AM TO 4 PM PDT SATURDAY.

* TIMING...DURING THE DAY SATURDAY.

* WINDS...SOUTH WIND 15 TO 30 MPH WITH GUSTS TO 45 MPH.

* IMPACTS...DOWNED LIMBS AND LOCAL POWER OUTAGES.

PRECAUTIONARY/PREPAREDNESS ACTIONS...

A WIND ADVISORY MEANS THAT WINDS OF 35 MPH ARE EXPECTED. WINDS THIS STRONG CAN MAKE DRIVING DIFFICULT...ESPECIALLY FOR HIGH PROFILE VEHICLES. USE EXTRA CAUTION.

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WAZ504-507-509-511-512-555-556-558-559-290545-
/O.NEW.KSEW.WI.Y.0005.150829T1800Z-150830T0000Z/
SOUTHWEST INTERIOR-EVERETT AND VICINITY-TACOMA AREA-
HOOD CANAL AREA-LOWER CHEHALIS VALLEY AREA-
EAST PUGET SOUND LOWLANDS-BELLEVUE AND VICINITY-
SEATTLE AND VICINITY-BREMERTON AND VICINITY-
229 PM PDT FRI AUG 28 2015

...WIND ADVISORY IN EFFECT FROM 11 AM TO 5 PM PDT SATURDAY...

THE NATIONAL WEATHER SERVICE IN SEATTLE HAS ISSUED A WIND ADVISORY...WHICH IS IN EFFECT FROM 11 AM TO 5 PM PDT SATURDAY.

* TIMING...MIDDAY THROUGH SATURDAY AFTERNOON.

* WINDS...SOUTH WIND 15 TO 30 MPH WITH GUSTS TO 45 MPH.

* IMPACTS...DOWNED LIMBS AND LOCAL POWER OUTAGES.

PRECAUTIONARY/PREPAREDNESS ACTIONS...

A WIND ADVISORY MEANS THAT WINDS OF 35 MPH ARE EXPECTED. WINDS THIS STRONG CAN MAKE DRIVING DIFFICULT...ESPECIALLY FOR HIGH PROFILE VEHICLES. USE EXTRA CAUTION.

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WAZ001-503-506-510-290545-
/O.NEW.KSEW.WI.Y.0005.150829T1900Z-150830T0400Z/
SAN JUAN COUNTY-WESTERN WHATCOM COUNTY-WESTERN SKAGIT COUNTY-
ADMIRALTY INLET AREA-
INCLUDING THE CITY OF...FRIDAY HARBOR
229 PM PDT FRI AUG 28 2015

...WIND ADVISORY IN EFFECT FROM NOON TO 9 PM PDT SATURDAY...

THE NATIONAL WEATHER SERVICE IN SEATTLE HAS ISSUED A WIND ADVISORY...WHICH IS IN EFFECT FROM NOON TO 9 PM PDT SATURDAY.

* TIMING...SATURDAY AFTERNOON AND EVENING.

* WINDS...SOUTH WIND 15 TO 30 MPH WITH GUSTS TO 45 MPH.

* IMPACTS...DOWNED LIMBS AND LOCAL POWER OUTAGES.

PRECAUTIONARY/PREPAREDNESS ACTIONS...

A WIND ADVISORY MEANS THAT WINDS OF 35 MPH ARE EXPECTED. WINDS THIS STRONG CAN MAKE DRIVING DIFFICULT...ESPECIALLY FOR HIGH PROFILE VEHICLES. USE EXTRA CAUTION.

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WWUS76 KSEW 290445
NPWSEW

URGENT - WEATHER MESSAGE
NATIONAL WEATHER SERVICE SEATTLE WA
945 PM PDT FRI AUG 28 2015

...A STRONG FRONTAL SYSTEM WILL MOVE THROUGH WESTERN WASHINGTON ON SATURDAY...

.EXPECT RAIN AND WINDY WEATHER ON SATURDAY IN WESTERN WASHINGTON.

WAZ516-517-291245-
/O.CON.KSEW.WI.Y.0005.150829T1500Z-150829T2300Z/
NORTH COAST-CENTRAL COAST-
945 PM PDT FRI AUG 28 2015

...WIND ADVISORY REMAINS IN EFFECT FROM 8 AM TO 4 PM PDT
SATURDAY...

* TIMING...DURING THE DAY SATURDAY.

* WINDS...SOUTH WIND 20 TO 30 MPH WITH GUSTS TO 50 MPH.

* IMPACTS...DOWNED LIMBS AND LOCAL POWER OUTAGES.

PRECAUTIONARY/PREPAREDNESS ACTIONS...

A WIND ADVISORY MEANS THAT WINDS OF 35 MPH ARE EXPECTED. WINDS
THIS STRONG CAN MAKE DRIVING DIFFICULT...ESPECIALLY FOR HIGH
PROFILE VEHICLES. USE EXTRA CAUTION.

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WAZ504-507-509-511-512-555-556-558-559-291245-
/O.CON.KSEW.WI.Y.0005.150829T1800Z-150830T0000Z/
SOUTHWEST INTERIOR-EVERETT AND VICINITY-TACOMA AREA-
HOOD CANAL AREA-LOWER CHEHALIS VALLEY AREA-
EAST PUGET SOUND LOWLANDS-BELLEVUE AND VICINITY-
SEATTLE AND VICINITY-BREMERTON AND VICINITY-
945 PM PDT FRI AUG 28 2015

...WIND ADVISORY REMAINS IN EFFECT FROM 11 AM TO 5 PM PDT
SATURDAY...

* TIMING...MIDDAY THROUGH SATURDAY AFTERNOON.

* WINDS...SOUTH WIND 15 TO 30 MPH WITH GUSTS TO 45 MPH.

* IMPACTS...DOWNED LIMBS AND LOCAL POWER OUTAGES.

PRECAUTIONARY/PREPAREDNESS ACTIONS...

A WIND ADVISORY MEANS THAT WINDS OF 35 MPH ARE EXPECTED. WINDS
THIS STRONG CAN MAKE DRIVING DIFFICULT...ESPECIALLY FOR HIGH
PROFILE VEHICLES. USE EXTRA CAUTION.

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WAZ001-503-506-510-291245-
/O.CON.KSEW.WI.Y.0005.150829T1900Z-150830T0400Z/
SAN JUAN COUNTY-WESTERN WHATCOM COUNTY-WESTERN SKAGIT COUNTY-
ADMIRALTY INLET AREA-
INCLUDING THE CITY OF...FRIDAY HARBOR
945 PM PDT FRI AUG 28 2015

...WIND ADVISORY REMAINS IN EFFECT FROM NOON TO 9 PM PDT
SATURDAY...

* TIMING...SATURDAY AFTERNOON AND EVENING.

* WINDS...SOUTH WIND 15 TO 30 MPH WITH GUSTS TO 45 MPH.

* IMPACTS...DOWNED LIMBS AND LOCAL POWER OUTAGES.

PRECAUTIONARY/PREPAREDNESS ACTIONS...

A WIND ADVISORY MEANS THAT WINDS OF 35 MPH ARE EXPECTED. WINDS THIS STRONG CAN MAKE DRIVING DIFFICULT...ESPECIALLY FOR HIGH PROFILE VEHICLES. USE EXTRA CAUTION.

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WWUS76 KSEW 291057

NPWSEW

URGENT - WEATHER MESSAGE

NATIONAL WEATHER SERVICE SEATTLE WA

357 AM PDT SAT AUG 29 2015

WAZ516-517-291900-

/O.UPG.KSEW.WI.Y.0005.150829T1500Z-150829T2300Z/

/O.NEW.KSEW.HW.W.0002.150829T1500Z-150830T0100Z/

NORTH COAST-CENTRAL COAST-

357 AM PDT SAT AUG 29 2015

...HIGH WIND WARNING IN EFFECT FOR THE NORTH AND CENTRAL COAST FROM 8 AM THIS MORNING TO 6 PM PDT THIS EVENING...

THE NATIONAL WEATHER SERVICE IN SEATTLE HAS ISSUED A HIGH WIND WARNING...WHICH IS IN EFFECT FROM 8 AM THIS MORNING TO 6 PM PDT THIS EVENING. THIS REPLACES THE WIND ADVISORY THAT WAS PREVIOUSLY IN EFFECT.

* WINDS...INCREASING FROM THE SOUTH AT 20 TO 35 MPH WITH GUSTS AS HIGH AS 55 MPH.

* SOME AFFECTED LOCATIONS...WESTPORT...HOQUIAM...AND FORKS.

* TIMING...THE STRONGEST WINDS ARE LIKELY TO OCCUR BETWEEN 9 AM AND 2 PM PDT.

* IMPACTS...WINDS THIS STRONG TYPICALLY OCCUR DURING THE FALL AND WINTER. THIS WIND EVENT COULD CREATE MORE PROBLEMS DUE TO TREES BEING UNDER STRESS BECAUSE OF DRY CONDITIONS AND DUE TO DECIDUOUS TREES STILL HAVING THEIR LEAVES. THESE FACTORS WILL INCREASE THE RISK DOWNED TREES AND BRANCHES. THERE COULD ALSO BE LOCAL POWER OUTAGES.

PRECAUTIONARY/PREPAREDNESS ACTIONS...

A HIGH WIND WARNING MEANS A HAZARDOUS HIGH WIND EVENT IS EXPECTED OR OCCURRING.

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WAZ504-507-509-556-558-559-291900-
/O.UPG.KSEW.WI.Y.0005.150829T1800Z-150830T0000Z/
/O.NEW.KSEW.HW.W.0002.150829T1500Z-150830T0100Z/
SOUTHWEST INTERIOR-EVERETT AND VICINITY-TACOMA AREA-
BELLEVUE AND VICINITY-SEATTLE AND VICINITY-BREMERTON AND VICINITY-
357 AM PDT SAT AUG 29 2015

...HIGH WIND WARNING IN EFFECT FOR THE PUGET SOUND REGION AND
SOUTHWEST INTERIOR FROM 8 AM THIS MORNING TO 6 PM PDT THIS
EVENING...

THE NATIONAL WEATHER SERVICE IN SEATTLE HAS ISSUED A HIGH WIND
WARNING...WHICH IS IN EFFECT FROM 8 AM THIS MORNING TO 6 PM PDT
THIS EVENING. THE WIND ADVISORY IS NO LONGER IN EFFECT.

* WINDS...INCREASING FROM THE SOUTH AT 20 TO 35 MPH WITH GUSTS OF
45 TO 50 MPH.

* SOME AFFECTED
LOCATIONS...SEATTLE...EVERETT...TACOMA...BELLEVUE...AND OLYMPIA.

* TIMING...THE STRONGEST WINDS ARE LIKELY TO OCCUR BETWEEN 10 AM
AND 4 PM PDT.

* IMPACTS...WINDS THIS STRONG TYPICALLY OCCUR DURING THE FALL AND
WINTER. THIS WIND EVENT COULD CREATE MORE PROBLEMS DUE TO TREES
BEING UNDER STRESS BECAUSE OF DRY CONDITIONS AND DUE TO
DECIDUOUS TREES STILL HAVING THEIR LEAVES. THESE FACTORS WILL
INCREASE THE RISK DOWNED TREES AND BRANCHES. THERE COULD ALSO
BE LOCAL POWER OUTAGES.

PRECAUTIONARY/PREPAREDNESS ACTIONS...

A HIGH WIND WARNING MEANS A HAZARDOUS HIGH WIND EVENT IS EXPECTED
OR OCCURRING.

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WAZ511-512-555-291900-
/O.UPG.KSEW.WI.Y.0005.150829T1800Z-150830T0000Z/
/O.NEW.KSEW.HW.W.0002.150829T1500Z-150830T0100Z/
HOOD CANAL AREA-LOWER CHEHALIS VALLEY AREA-
EAST PUGET SOUND LOWLANDS-
357 AM PDT SAT AUG 29 2015

...HIGH WIND WARNING IN EFFECT FOR THE HOOD CANAL AREA...LOWER
CHEHALIS VALLEY AREA...AND EAST PUGET SOUND LOWLANDS FROM 8 AM
THIS MORNING TO 6 PM PDT THIS EVENING...

THE NATIONAL WEATHER SERVICE IN SEATTLE HAS ISSUED A HIGH WIND
WARNING...WHICH IS IN EFFECT FROM 8 AM THIS MORNING TO 6 PM PDT
THIS EVENING. THE WIND ADVISORY IS NO LONGER IN EFFECT.

* WINDS...INCREASING FROM THE SOUTH AT 20 TO 30 MPH WITH LOCAL GUSTS OF 45 TO 50 MPH.

* SOME AFFECTED LOCATIONS...MONTESANO...SHELTON...AND MONROE.

* TIMING...THE STRONGEST WINDS ARE LIKELY TO OCCUR BETWEEN 9 AM AND 4 PM PDT.

* IMPACTS...WINDS THIS STRONG TYPICALLY OCCUR DURING THE FALL AND WINTER. THIS WIND EVENT COULD CREATE MORE PROBLEMS DUE TO TREES BEING UNDER STRESS BECAUSE OF DRY CONDITIONS AND DUE TO DECIDUOUS TREES STILL HAVING THEIR LEAVES. THESE FACTORS WILL INCREASE THE RISK DOWNED TREES AND BRANCHES. THERE COULD ALSO BE LOCAL POWER OUTAGES.

PRECAUTIONARY/PREPAREDNESS ACTIONS...

A HIGH WIND WARNING MEANS A HAZARDOUS HIGH WIND EVENT IS EXPECTED OR OCCURRING.

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WAZ001-503-506-291900-

/O.UPG.KSEW.WI.Y.0005.150829T1900Z-150830T0400Z/

/O.NEW.KSEW.HW.W.0002.150829T1500Z-150830T0100Z/

SAN JUAN COUNTY-WESTERN WHATCOM COUNTY-WESTERN SKAGIT COUNTY-INCLUDING THE CITY OF...FRIDAY HARBOR

357 AM PDT SAT AUG 29 2015

...HIGH WIND WARNING IN EFFECT FOR THE NORTHWEST INTERIOR FROM 8 AM THIS MORNING TO 6 PM PDT THIS EVENING...

THE NATIONAL WEATHER SERVICE IN SEATTLE HAS ISSUED A HIGH WIND WARNING...WHICH IS IN EFFECT FROM 8 AM THIS MORNING TO 6 PM PDT THIS EVENING. THE WIND ADVISORY IS NO LONGER IN EFFECT.

* WINDS...INCREASING FROM THE SOUTH AT 20 TO 35 MPH WITH GUSTS OF 45 TO 50 MPH.

* SOME AFFECTED LOCATIONS...BELLINGHAM...ANACORTES...MOUNT VERNON...AND EASTSOUND.

* TIMING...THE STRONGEST WINDS ARE LIKELY TO OCCUR BETWEEN 11 AM AND 5 PM PDT.

* IMPACTS...WINDS THIS STRONG TYPICALLY OCCUR DURING THE FALL AND WINTER. THIS WIND EVENT COULD CREATE MORE PROBLEMS DUE TO TREES BEING UNDER STRESS BECAUSE OF DRY CONDITIONS AND DUE TO DECIDUOUS TREES STILL HAVING THEIR LEAVES. THESE FACTORS WILL INCREASE THE RISK DOWNED TREES AND BRANCHES. THERE COULD ALSO BE LOCAL POWER OUTAGES.

PRECAUTIONARY/PREPAREDNESS ACTIONS...

A HIGH WIND WARNING MEANS A HAZARDOUS HIGH WIND EVENT IS EXPECTED

OR OCCURRING. SUSTAINED WIND SPEEDS OF AT LEAST 40 MPH OR GUSTS OF 58 MPH OR MORE CAN LEAD TO PROPERTY DAMAGE.

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WAZ510-291900-
/O.UPG.KSEW.WI.Y.0005.150829T1900Z-150830T0400Z/
/O.NEW.KSEW.HW.W.0002.150829T1500Z-150830T0100Z/
ADMIRALTY INLET AREA-

357 AM PDT SAT AUG 29 2015

...HIGH WIND WARNING IN EFFECT FOR THE ADMIRALTY INLET AREA FROM 8 AM THIS MORNING TO 6 PM PDT THIS EVENING...

THE NATIONAL WEATHER SERVICE IN SEATTLE HAS ISSUED A HIGH WIND WARNING...WHICH IS IN EFFECT FROM 8 AM THIS MORNING TO 6 PM PDT THIS EVENING. THE WIND ADVISORY IS NO LONGER IN EFFECT.

* WINDS...INCREASING FROM THE SOUTH AT 20 TO 35 MPH WITH GUSTS AS HIGH AS 55 MPH.

* SOME AFFECTED LOCATIONS...OAK HARBOR AND PORT TOWNSEND.

* TIMING...THE STRONGEST WINDS ARE LIKELY TO OCCUR BETWEEN 9 AM AND 2 PM PDT.

* IMPACTS...WINDS THIS STRONG TYPICALLY OCCUR DURING THE FALL AND WINTER. THIS WIND EVENT COULD CREATE MORE PROBLEMS DUE TO TREES BEING UNDER STRESS BECAUSE OF DRY CONDITIONS AND DUE TO DECIDUOUS TREES STILL HAVING THEIR LEAVES. THESE FACTORS WILL INCREASE THE RISK DOWNED TREES AND BRANCHES. THERE COULD ALSO BE LOCAL POWER OUTAGES.

PRECAUTIONARY/PREPAREDNESS ACTIONS...

A HIGH WIND WARNING MEANS A HAZARDOUS HIGH WIND EVENT IS EXPECTED OR OCCURRING. SUSTAINED WIND SPEEDS OF AT LEAST 40 MPH OR GUSTS OF 58 MPH OR MORE CAN LEAD TO PROPERTY DAMAGE.

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WWW.WEATHER.GOV

WWUS76 KSEW 291714
NPWSEW

URGENT - WEATHER MESSAGE
NATIONAL WEATHER SERVICE SEATTLE WA
1014 AM PDT SAT AUG 29 2015

...A HIGH WIND WARNINGS REMAINS IN EFFECT UNTIL 6 PM TODAY...

WAZ510-516-517-292230-
/O.CON.KSEW.HW.W.0002.000000T0000Z-150830T0100Z/

ADMIRALTY INLET AREA-NORTH COAST-CENTRAL COAST-
1014 AM PDT SAT AUG 29 2015

...HIGH WIND WARNING REMAINS IN EFFECT UNTIL 6 PM PDT THIS
EVENING...

- * WINDS...SOUTH AT 20 TO 35 MPH WITH GUSTS TO 55 MPH.
- * SOME AFFECTED LOCATIONS...WESTPORT...HOQUIAM...AND FORKS.
- * TIMING...THE STRONGEST WINDS ARE LIKELY TO OCCUR MIDDAY.
- * IMPACTS...WINDS THIS STRONG TYPICALLY OCCUR DURING THE FALL
AND WINTER. THIS WIND EVENT COULD CREATE MORE PROBLEMS DUE TO
TREES BEING UNDER STRESS BECAUSE OF DRY CONDITIONS AND DUE TO
DECIDUOUS TREES STILL HAVING THEIR LEAVES. THESE FACTORS WILL
INCREASE THE RISK DOWNED TREES AND BRANCHES. THERE COULD ALSO
BE LOCAL POWER OUTAGES.

PRECAUTIONARY/PREPAREDNESS ACTIONS...

A HIGH WIND WARNING MEANS A HAZARDOUS HIGH WIND EVENT IS EXPECTED
OR OCCURRING.

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WAZ001-503-504-506-507-509-556-558-559-292230-
/O.CON.KSEW.HW.W.0002.000000T0000Z-150830T0100Z/
SAN JUAN COUNTY-WESTERN WHATCOM COUNTY-SOUTHWEST INTERIOR-
WESTERN SKAGIT COUNTY-EVERETT AND VICINITY-TACOMA AREA-
BELLEVUE AND VICINITY-SEATTLE AND VICINITY-BREMERTON AND VICINITY-
INCLUDING THE CITY OF...FRIDAY HARBOR
1014 AM PDT SAT AUG 29 2015

...HIGH WIND WARNING REMAINS IN EFFECT UNTIL 6 PM PDT THIS
EVENING...

- * WINDS...SOUTH AT 20 TO 35 MPH WITH GUSTS TO 50 MPH.
- * SOME AFFECTED LOCATIONS...SEATTLE...EVERETT...TACOMA...
BELLEVUE...AND OLYMPIA.
- * TIMING...THE STRONGEST WINDS ARE LIKELY TO OCCUR MIDDAY.
- * IMPACTS...WINDS THIS STRONG TYPICALLY OCCUR DURING THE FALL
AND WINTER. THIS WIND EVENT COULD CREATE MORE PROBLEMS DUE TO
TREES BEING UNDER STRESS BECAUSE OF DRY CONDITIONS AND DUE TO
DECIDUOUS TREES STILL HAVING THEIR LEAVES. THESE FACTORS WILL
INCREASE THE RISK DOWNED TREES AND BRANCHES. THERE COULD ALSO
BE LOCAL POWER OUTAGES.

PRECAUTIONARY/PREPAREDNESS ACTIONS...

A HIGH WIND WARNING MEANS A HAZARDOUS HIGH WIND EVENT IS EXPECTED
OR OCCURRING.

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WAZ511-512-555-292230-
/O.CON.KSEW.HW.W.0002.000000T0000Z-150830T0100Z/
HOOD CANAL AREA-LOWER CHEHALIS VALLEY AREA-
EAST PUGET SOUND LOWLANDS-
1014 AM PDT SAT AUG 29 2015

...HIGH WIND WARNING REMAINS IN EFFECT UNTIL 6 PM PDT THIS
EVENING...

- * WINDS...SOUTH AT 20 TO 30 MPH WITH LOCAL GUSTS TO 50 MPH.
- * SOME AFFECTED LOCATIONS...MONTESANO...SHELTON...AND MONROE.
- * TIMING...THE STRONGEST WINDS ARE LIKELY TO OCCUR MIDDAY.
- * IMPACTS...WINDS THIS STRONG TYPICALLY OCCUR DURING THE FALL
AND WINTER. THIS WIND EVENT COULD CREATE MORE PROBLEMS DUE TO
TREES BEING UNDER STRESS BECAUSE OF DRY CONDITIONS AND DUE TO
DECIDUOUS TREES STILL HAVING THEIR LEAVES. THESE FACTORS WILL
INCREASE THE RISK DOWNED TREES AND BRANCHES. THERE COULD ALSO
BE LOCAL POWER OUTAGES.

PRECAUTIONARY/PREPAREDNESS ACTIONS...

A HIGH WIND WARNING MEANS A HAZARDOUS HIGH WIND EVENT IS EXPECTED
OR OCCURRING.

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WWUS76 KSEW 291943
NPWSEW

URGENT - WEATHER MESSAGE
NATIONAL WEATHER SERVICE SEATTLE WA
1243 PM PDT SAT AUG 29 2015

...A HIGH WIND WARNINGS REMAINS IN EFFECT UNTIL 6 PM TODAY...

WAZ515-300100-
/O.EXA.KSEW.HW.W.0002.000000T0000Z-150830T0100Z/
WESTERN STRAIT OF JUAN DE FUCA-
1243 PM PDT SAT AUG 29 2015

...HIGH WIND WARNING IN EFFECT UNTIL 6 PM PDT THIS EVENING...

THE NATIONAL WEATHER SERVICE IN SEATTLE HAS ISSUED A HIGH WIND
WARNING...WHICH IS IN EFFECT UNTIL 6 PM PDT THIS EVENING.

- * WINDS...SOUTHWEST 25 TO 35 WITH GUSTS TO 55 MPH.
- * SOME AFFECTED LOCATIONS...SEKIU AND CLALLAM BAY.

* TIMING...THE STRONGEST WINDS ARE OCCURRING EARLY THIS AFTERNOON.

* IMPACTS...WINDS THIS STRONG TYPICALLY OCCUR DURING THE FALL AND WINTER. THIS WIND EVENT COULD CREATE MORE PROBLEMS DUE TO TREES BEING UNDER STRESS BECAUSE OF DRY CONDITIONS AND DUE TO DECIDUOUS TREES STILL HAVING THEIR LEAVES. THESE FACTORS WILL INCREASE THE RISK DOWNED TREES AND BRANCHES. THERE COULD ALSO BE LOCAL POWER OUTAGES.

PRECAUTIONARY/PREPAREDNESS ACTIONS...

A HIGH WIND WARNING MEANS A HAZARDOUS HIGH WIND EVENT IS EXPECTED OR OCCURRING.

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WAZ510-516-517-300100-
/O.CON.KSEW.HW.W.0002.000000T0000Z-150830T0100Z/
ADMIRALTY INLET AREA-NORTH COAST-CENTRAL COAST-
1243 PM PDT SAT AUG 29 2015

...HIGH WIND WARNING REMAINS IN EFFECT UNTIL 6 PM PDT THIS EVENING...

* WINDS...SOUTH AT 20 TO 35 MPH WITH GUSTS TO 55 MPH.

* SOME AFFECTED LOCATIONS...WESTPORT...HOQUIAM...AND FORKS.

* TIMING...THE STRONGEST WINDS ARE LIKELY TO OCCUR MIDDAY.

* IMPACTS...WINDS THIS STRONG TYPICALLY OCCUR DURING THE FALL AND WINTER. THIS WIND EVENT COULD CREATE MORE PROBLEMS DUE TO TREES BEING UNDER STRESS BECAUSE OF DRY CONDITIONS AND DUE TO DECIDUOUS TREES STILL HAVING THEIR LEAVES. THESE FACTORS WILL INCREASE THE RISK DOWNED TREES AND BRANCHES. THERE COULD ALSO BE LOCAL POWER OUTAGES.

PRECAUTIONARY/PREPAREDNESS ACTIONS...

A HIGH WIND WARNING MEANS A HAZARDOUS HIGH WIND EVENT IS EXPECTED OR OCCURRING.

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WAZ001-503-504-506-507-509-556-558-559-300100-
/O.CON.KSEW.HW.W.0002.000000T0000Z-150830T0100Z/
SAN JUAN COUNTY-WESTERN WHATCOM COUNTY-SOUTHWEST INTERIOR-
WESTERN SKAGIT COUNTY-EVERETT AND VICINITY-TACOMA AREA-
BELLEVUE AND VICINITY-SEATTLE AND VICINITY-BREMERTON AND VICINITY-
INCLUDING THE CITY OF...FRIDAY HARBOR
1243 PM PDT SAT AUG 29 2015

...HIGH WIND WARNING REMAINS IN EFFECT UNTIL 6 PM PDT THIS EVENING...

* WINDS...SOUTH AT 20 TO 35 MPH WITH GUSTS TO 50 MPH.

* SOME AFFECTED LOCATIONS...SEATTLE...EVERETT...TACOMA... BELLEVUE...AND OLYMPIA.

* TIMING...THE STRONGEST WINDS ARE LIKELY TO OCCUR MIDDAY.

* IMPACTS...WINDS THIS STRONG TYPICALLY OCCUR DURING THE FALL AND WINTER. THIS WIND EVENT COULD CREATE MORE PROBLEMS DUE TO TREES BEING UNDER STRESS BECAUSE OF DRY CONDITIONS AND DUE TO DECIDUOUS TREES STILL HAVING THEIR LEAVES. THESE FACTORS WILL INCREASE THE RISK DOWNED TREES AND BRANCHES. THERE COULD ALSO BE LOCAL POWER OUTAGES.

PRECAUTIONARY/PREPAREDNESS ACTIONS...

A HIGH WIND WARNING MEANS A HAZARDOUS HIGH WIND EVENT IS EXPECTED OR OCCURRING.

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WAZ511-512-555-300100-
/O.CON.KSEW.HW.W.0002.000000T0000Z-150830T0100Z/
HOOD CANAL AREA-LOWER CHEHALIS VALLEY AREA-
EAST PUGET SOUND LOWLANDS-
1243 PM PDT SAT AUG 29 2015

...HIGH WIND WARNING REMAINS IN EFFECT UNTIL 6 PM PDT THIS EVENING...

* WINDS...SOUTH AT 20 TO 30 MPH WITH LOCAL GUSTS TO 50 MPH.

* SOME AFFECTED LOCATIONS...MONTESANO...SHELTON...AND MONROE.

* TIMING...THE STRONGEST WINDS ARE LIKELY TO OCCUR MIDDAY.

* IMPACTS...WINDS THIS STRONG TYPICALLY OCCUR DURING THE FALL AND WINTER. THIS WIND EVENT COULD CREATE MORE PROBLEMS DUE TO TREES BEING UNDER STRESS BECAUSE OF DRY CONDITIONS AND DUE TO DECIDUOUS TREES STILL HAVING THEIR LEAVES. THESE FACTORS WILL INCREASE THE RISK DOWNED TREES AND BRANCHES. THERE COULD ALSO BE LOCAL POWER OUTAGES.

PRECAUTIONARY/PREPAREDNESS ACTIONS...

A HIGH WIND WARNING MEANS A HAZARDOUS HIGH WIND EVENT IS EXPECTED OR OCCURRING.

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WAZ514-300100-
/O.NEW.KSEW.WI.Y.0006.150829T1943Z-150830T0100Z/
EASTERN STRAIT OF JUAN DE FUCA-
1243 PM PDT SAT AUG 29 2015

...WIND ADVISORY IN EFFECT UNTIL 6 PM PDT THIS EVENING...

THE NATIONAL WEATHER SERVICE IN SEATTLE HAS ISSUED A WIND
ADVISORY...WHICH IS IN EFFECT UNTIL 6 PM PDT THIS EVENING.

* TIMING...THIS AFTERNOON.

* WINDS...SOUTHWEST 20 TO 30 MPH WITH GUSTS TO 50 MPH.

* IMPACTS...LOCAL POWER OUTAGES.

PRECAUTIONARY/PREPAREDNESS ACTIONS...

A WIND ADVISORY MEANS THAT WINDS OF 35 MPH ARE EXPECTED. WINDS
THIS STRONG CAN MAKE DRIVING DIFFICULT...ESPECIALLY FOR HIGH
PROFILE VEHICLES. USE EXTRA CAUTION.

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Office of the Washington State Climatologist

September 4, 2015

August Event Summary

Average August temperatures were warmer than normal across the entire state for the 4th consecutive month. Precipitation, on the other hand, was vastly different for the two sides of the state: western WA received well above normal for the month while eastern WA was drier than usual. Despite SeaTac Airport's high ranking compared to precipitation during historical Augusts (4th wettest), the rankings for the rest of western WA do not end up being too impressive (Table 1). The temperature rankings for average August temperature are actually higher, as all listed in Table 1 were among the top 8 warmest Augusts for the selected western WA locations. Stations in eastern WA were also ranked among the top ten warmest Augusts (e.g., Pullman - 4th, Omak - 5th, Wenatchee - 6th).

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The month started out warm, with daily record high temperatures in the upper 80s, 90s and 100s around the state on August 1. It wasn't long before temperatures cooled statewide, however, and cloudier mornings were the rule for western WA. Thunderstorms were common from the 8th through the 14th, and ignited several fires throughout the state. Daily high temperature records were set in eastern WA on the 12th (e.g., Wenatchee - 103°F and Omak - 104°F), and then again on the 13th (e.g., Spokane Airport - 100°F). A lightning-caused fire near Chelan started overnight on the 13th/14th, forcing evacuations of hundreds of homes in the area; 21 residences were destroyed and the fire is 70% contained at the time of this writing. The Okanogan Complex fire -

Station	August Precipitation (inches)	Rank	August Temp (°F)	Rank	Records Began
SeaTac	3.28	4	68.7	4	1945
Olympia	2.84	6	66.2	7	1948
Quillayute	4.05	10	62.8	2	1966
Everett	2.11	16	67.3	8	1894
Arlington	2.23	20	64.0	6	1923
Hoquiam	1.77	21	63.3	4	1953
Bellingham	1.53	22	65.8	4	1949

Table 1: August total precipitation and ranking (ascending) and August average temperature and ranking (descending), along with the period of record for selected western WA stations.

now the largest fire in state history and only 60% contained - was also started on the same day and 123 residences and 72 other structures have been destroyed. On the west side of the Cascades, the thunderstorms on the 14th were associated with a cold frontal passage, and brought some heavy rain, especially in the central Puget Sound region. Daily maximum rainfall records were set at Olympia (0.93") and the Seattle Weather Forecast Office (0.90"), but there were localized totals well over an inch. Strong winds on that day also caused widespread dust storms east of the Cascades. Even stronger winds occurred in eastern WA on the 21st, resulting in extreme fire behavior.

The large, active fires in eastern WA produced a great amount of smoke, and an air quality alert was issued for all of eastern WA during the latter part of the month. For the most part, the weather for the remaining two weeks of the month was typical of summer with warm temperatures and little precipitation, until a series of frontal systems impacted the state beginning on the 27th, bringing rain and strong winds. The storm on the 29th caused widespread power outages in western WA from broken limbs and downed trees. Wind gusts were between 40 and 65 mph in western WA, and mostly in the 30s and 40s in eastern WA. It was a very strong system for the time of year, and there were even two deaths due to falling trees. Both the recent drought conditions and the summer foliage on trees likely exasperated the damage (see [article](#)). Daily rainfall records were set at SeaTac Airport (1.28") and the Seattle Weather Forecast Office (1.28") on the 29th, and then again at SeaTac on the 30th (0.40"). Rain even fell in eastern WA on the 30th, with as much as 0.30" in Spokane county, though totals elsewhere were much less.

Drought Update

Though the recent precipitation has certainly helped the drought situation, especially in western WA, we are by no means in the clear. Despite the wet August, summer precipitation deficits still reach up to 6" in some parts of western WA and the increased streamflows are expected to be temporary. The Seattle, Everett, and Tacoma utility districts are still urging voluntary water conservation efforts, for example. Still, the recent precipitation in western WA has prompted some improvement on the US Drought Monitor for the drought designation on the Olympic Peninsula; the Peninsula is now in "severe drought" as opposed to "extreme drought". Since the last edition of the OWSC newsletter, however, the area of "extreme drought" has been expanded to include all of eastern WA due to continued low streamflows, little precipitation, and warm summer temperatures. OWSC produces a weekly drought monitoring [report](#) on statewide weather and hydrological conditions as well as drought impacts, which can be referenced for more details.

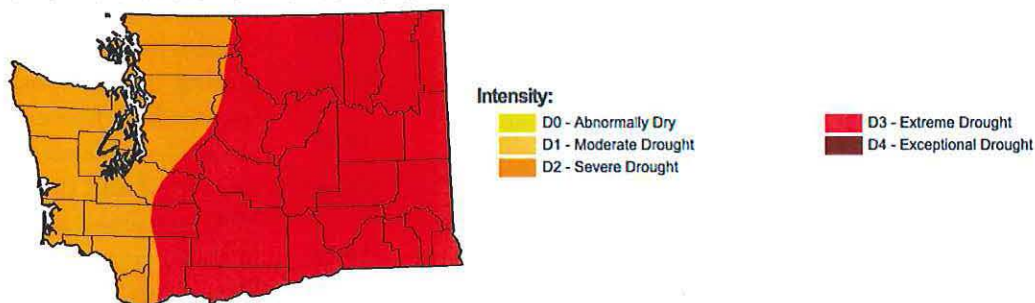


Figure 1: The 1 September 2015 edition of the US Drought Monitor (<http://droughtmonitor.unl.edu/>).

The Yacolt Burn of 1902

A message from the State Climatologist

This summer has included the largest fire (the Okanogan Complex) in WA state history and the most acres burned since at least 2002. The vast majority of wildfires in WA occur east of the Cascade Range crest but that is not the only part of state that can face a serious threat. In particular, prior to 2014, the largest fire in state history burned on the west flank of Cascades, the so-called Yacolt Burn of September 1902, which burned over 238,000 acres. There was little capability to fight large wildfires at that time, and the property damages and loss of life were exacerbated by the lack of reliable communication. On the other hand, the weather generally plays a critical role in severe fires in the Pacific Northwest (Gedalof et al. 2005) and it appears the Yacolt Burn was no exception. Our objective here is to briefly summarize conditions during the Yacolt Burn and determine how often similar conditions have arisen in recent decades.

The history of the Yacolt Burn is not fully known. It appears that the first fires may have begun in Oregon on 8 September, with embers crossing the Columbia into Washington state. Another fire started a day or two later near Stevenson, WA in the Columbia River gorge. It definitely seems that there were multiple points of ignition with separate fires merging into the conflagration. More detail on the Yacolt Burn is available at the following websites, among others: [Clark County Government](#) and [History Link](#).

The temperatures in the region of interest were abnormally warm but not extremely hot before and during the fire. The maximum temperatures from three nearby stations, Centralia and Vancouver, WA and Hood River, OR during the first 12 days of month were typically in the 80s or 6 to 8°F above normal, and no daily records were set. The historical accounts of this event generally include mention of strong east winds, and one description used the term "devil wind from eastern Washington". Because of the probable importance of the east winds to the severity of the Yacolt Burn, here we will focus on that aspect of the regional weather conditions.

The NCEP 20th Century Reanalysis is used to document the regional flow at 850 hPa for the Yacolt Burn, and to identify other strong easterly events in the recent record (back to late 1940s). This product has a coarse spatial resolution and cannot be used to specify details in the specific location of the fire. Presumably it is suitable for comparing regional aspects of the circulation during the Yacolt Burn with similar events in the historical record. The distribution of mean 850 hPa geopotential height (Z) for the 3 days of 9-11 Sept 1902 is shown in Figure 2. This pattern was associated with a mean easterly wind of ~5 m/s in the general region of the fire. There was also a thermally-induced trough of low sea level pressure (SLP) at the coast (not shown); a hint of this feature is in the 850 hPa Z map included here.

As indicated above, the zonal winds at 850 hPa are used to ascertain when conditions comparable to those of the Yacolt Burn have occurred in recent decades. Specifically, 3-day average values of the zonal winds (U) at 850 hPa in SW WA were computed during the period of 15 August through 15 September for the years 1948 through 2014 in the region of the Yacolt fire.

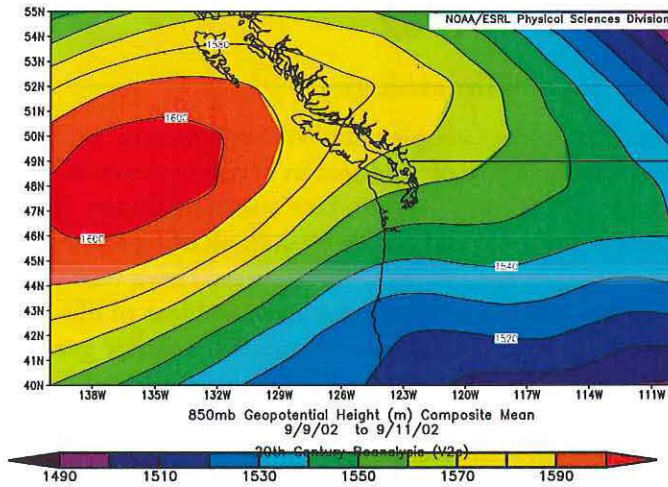


Figure 2: The 850 hPa geopotential heights (Z) for 9-11 September 1902 from the NCEP 20th Century Reanalysis.

Date	850 hPa U (m/s)	500 hPa Z (m)	1000 hPa Temperature (°C)
10 Sept 1902	-5	5910	27
8 Sept 1948	-4	5870	23
5 Sept 1949	-4	5860	27
14 Sept 1951	-4	5870	26
8 Sept 1960	-4.5	5880	21
12 Sept 1961	-4.5	5780	24
24 Aug 1966	-4	5850	26
14 Sept 1967	-6	5860	22
12 Sept 1988	-5	5890	22
8 Sept 1989	-4	5880	23
12 Sept 2014	-5	5840	20

Table 2: The historical cases of strong 850 hPa zonal winds during August 15 to September 15. Note: The 850 hPa U and 1000 hPa T refer to the region of southwest WA in the vicinity of the Yacolt Burn; the 500 hPa Z refers to the maximum Z at the axis of the ridge (typically west of the coastline).

The 3-day periods with the 10 strongest mean easterly flow were examined individually. Table 2 itemizes the dates of these events, and approximate values for the 3-day means of the easterly flow (U) at 850 hPa, peak magnitude of 500 hPa ridge (Z), and 1000 hPa air temperature.

The cases identified on the basis of 850 hPa zonal winds can give insight into the conditions present during the Yacolt Burn. The atmospheric conditions during Yacolt Burn were more extreme than might be supposed based on surface air temperatures alone. There was one event found since the late 1940s with stronger east winds at the 850 hPa level (14 Sept 1967), but this case also included more moderate air temperatures. Our selection process revealed that strong easterlies are much more likely in early September than in late August. While temperatures are cooling off this time of year on average, the increased likelihood of winds promoting the growth of fires, and in many cases the continued drying of the landscape, may make early September the period of greatest fire threat west of the Cascade crest. Perhaps the rain we are receiving from the end of August into September 2015 is especially timely.

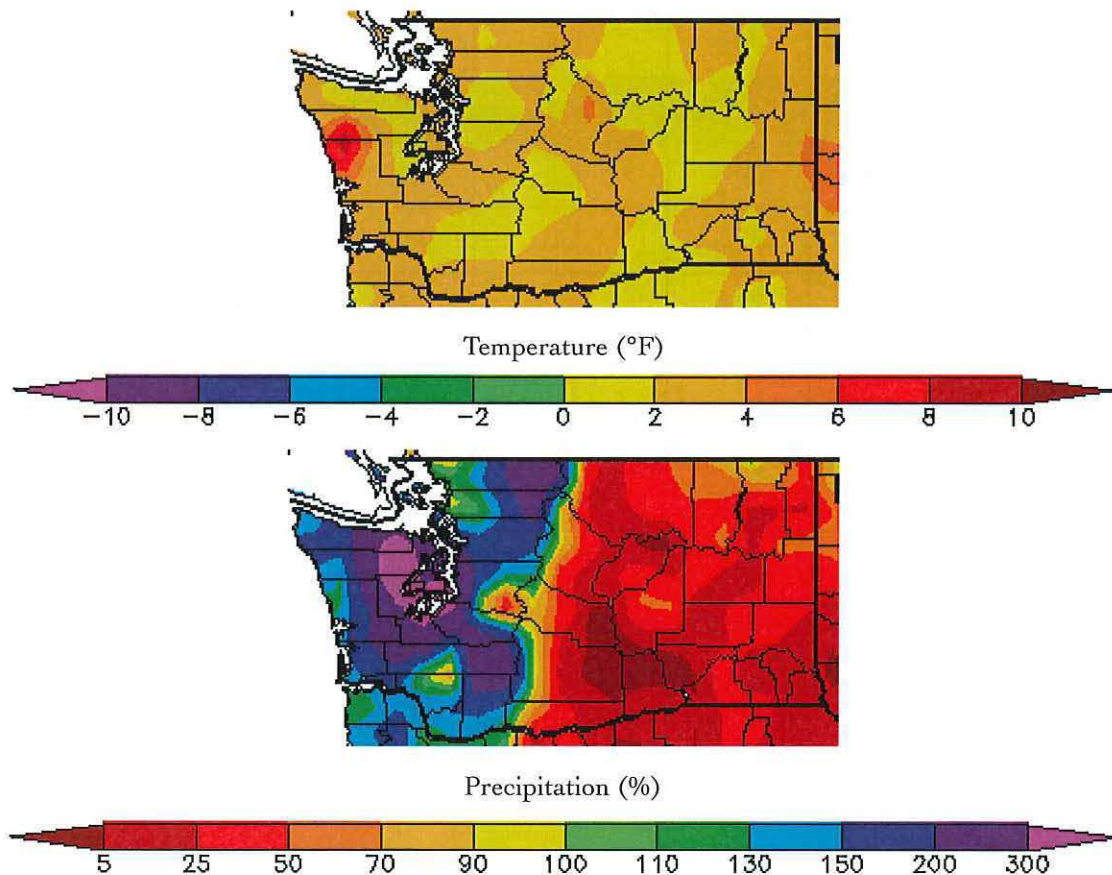
Reference:

Gedalof, Z., D.L. Peterson and N.J. Mantua (2005): Atmospheric, climatic and ecological controls on extreme wildfire years in the northwestern United States. *Ecological Applications*. 15: 154-174.

Climate Summary

Mean monthly August temperatures were warmer than normal throughout the entire state, but the anomalies are not as large in magnitude as previous months this summer. According to the map from the High Plains Regional Climate Center, average August temperatures were between 2 and 4°F above normal for most of the state. A few of the locations in listed in Table 3 were closer to normal, with Omak and Pasco only 1.2 and 1.0°F above normal, respectively. The smoke in the former location may have been dense enough to limit solar heating.

Total August precipitation was drastically different for the two halves of WA State: western WA received well above normal precipitation, with values exceeding 300% of normal, while eastern WA remained much drier than normal, receiving less than half of typical August precipitation. Hanford was a dry spot, and didn't receive any precipitation during the month. Wenatchee and Pasco only received 10 and 11% of normal precipitation, respectively. Meanwhile, two periods of heavy rain in western WA during the month brought totals to over 300% of normal at Olympia, Seattle, and the eastern Olympic Peninsula. The rest of western WA received between 130 and 300% of normal August precipitation.



*August temperature (°F) departure from normal (top) and precipitation % of normal (bottom).
(High Plains Regional Climate Center; relative to the 1981-2010 normal).*

	Mean Temperature (°F)			Precipitation (inches)		
	Average	Normal	Departure from Normal	Total	Normal	Percent of Normal
Western Washington						
Olympia	66.2	64.1	2.1	2.84	0.94	302
Seattle WFO	68.4	66.5	1.9	2.70	0.97	278
SeaTac AP	68.7	66.1	2.6	3.28	0.88	372
Quillayute	62.8	59.6	3.2	4.05	2.49	163
Hoquiam	63.3	60.6	2.7	1.77	1.31	135
Bellingham AP	64.5	65.8	3.3	1.53	1.23	124
Vancouver AP	71.2	69.2	2.0	0.55	0.77	71
Eastern Washington						
Spokane AP	72.5	69.3	3.2	0.18	0.59	31
Wenatchee	76.9	73.5	3.4	0.02	0.20	10
Omak	73.6	72.4	1.2	0.17	0.49	35
Pullman AP	67.8	65.7	2.1	0.15	0.63	24
Ephrata	75.2	72.9	2.3	0.09	0.19	47
Pasco AP	73.8	72.8	1.0	0.03	0.27	11
Hanford	77.9	75.8	2.1	0	0.18	0

Table 3: August 2015 climate summaries for locations around Washington with a climate normal baseline of 1981-2010. Note that the Vancouver Pearson Airport and Seattle WFO 1981-2010 normals involved using surrounding stations in NCDC's new normal release, as records for these station began in 1998 and 1986, respectively. M denotes missing data.

Climate Outlook

El Niño is alive and well in the tropical Pacific, and sea surface temperature (SST) anomalies in each of the Niño monitoring regions are above normal, according to the Climate Prediction Center (CPC). The weekly SST anomalies exceed 2°C in the central and eastern equatorial Pacific and these anomalies have persisted over the last 4 weeks as well. The “El Niño Advisory” released on 5 March is still in effect. There is about a 90% chance that El Niño conditions will continue through next winter (2015-16), and most ENSO models have the Niño3.4 anomaly staying above 1°C.

The CPC seasonal outlook for September is calling for increased chances of above normal temperatures statewide. September precipitation is more uncertain: there are equal chances that there will be below, equal to, or above normal precipitation for most of the state. In other words, each outcome is assigned a 33% chance of occurring. The odds of below normal precipitation are slightly elevated for the southern portion of the state.

The September-October-November (SON) CPC outlook is calling for higher than normal temperatures statewide, with the odds of warmer temperatures exceeding 60% for the western two-thirds of the state. For precipitation, there are higher chances of below normal precipitation for the entire state.



September outlook for temperature (left) and precipitation (right) from the CPC.



September-October-November outlook for temperature (left) and precipitation (right) from the CPC.

Puget Sound Energy

PETITION FOR EXCLUSION OF EXTRAORDINARY EVENTS FROM SQI SAIDI
PERFORMANCE CALCULATION

**Appendix A: Media Coverage, NWS weather alerts and bullets, and the other Referencing
Documents**

November 2015 Storm Event

[Storm kills 3 in state; more than 300,000 without power in region](#)

By Jessica Lee, Evan Bush, Jack Broom, Seattle Times

Three people died and several hundred thousand lost power in a fierce windstorm that ripped across Washington state, causing major river flooding, highway mudslides and road closures throughout Tuesday.

The storm's strong winds turned deadly in the afternoon, when the system peaked in the Seattle metro area.

The first reported fatality, around 2 p.m., occurred in the Monroe area, where a tree fell on a car, killing the man inside. No one else was injured when the tree came down along the Ben Howard Road between Monroe and Sultan, Snohomish County Fire District 5 Chief Merlin Halverson said. The man was believed to be in his 20s.

Less than two hours later, a tree fell in Spokane and killed a woman in her 50s, police reported. A woman driving in the area also died after a tree fell over Highway 904, about 5 miles east of Cheney, according to a Washington State Patrol spokesman.

A man, believed to be in his late 50s, was taken to Harborview Medical Center in Seattle around 4:20 p.m. with severe burns after he touched an electrified fence at his home in Sultan, Halverson said. Wind knocked a power line onto the fence about 600 feet away, sending "tens of thousands" of volts through him, Halverson said.

A young man tried helping him before medics arrived, and Halverson said he's surprised the young man was not also injured.

The region saw wind gusts in the 60 mph range throughout the day, continuing a pattern of on-again, off-again storms for days across the state. More than 300,000 electrical customers were without power in the region.

Rainfall in Seattle and the surrounding area was relatively low, about 1.25 inches since Monday afternoon, National Weather Service meteorologist Chris Burke said.

And though the Tuesday storm's intensity ebbed by night, rising rivers still threatened homes and lowlands.

The Washington Military Department and its Emergency Management Division expected the Chehalis River at Doty, Lewis County, to flood overnight, potentially impacting homes and commercial areas. The agency also predicted the Dungeness River at Sequim, on the Olympic Peninsula, would flood roads and pastures into the evening.

About 14 areas across Western Washington were under flood warnings Tuesday night, which means flooding is imminent or occurring. In King County, Snoqualmie River flooding was severe; Tolt and Cedar rivers had minor flooding.

Snoqualmie Falls put on a forceful show as waters plunged toward the Snoqualmie Valley during an autumn storm on Tuesday. Fallen trees closed roads in the area. (Steve Ringman / The Seattle Times)
"If you live near a river, you better be taking action right now," Burke said in the early evening. Most of the region remains in a flood watch until Wednesday evening.

Though Tuesday's rains were not particularly heavy, saturated ground and the flooding rivers posed a continued danger of mudslides, threatening roadways.

Two mudslides blocked Highway 2 between Skykomish and Deception Falls, for instance, according to the Washington State Department of Transportation (WSDOT).

Another slide closed the North Cascades Highway (Highway 20) near New-halem, a Seattle City Light company town and part of the utility's Skagit Hydroelectric Project. The slide was blocking access to Diablo, another company town.

Transportation crews were working to clear fallen trees and affected areas, ending a series of road closures, though it was unclear when some would reopen, WSDOT spokesman Justin Fujioka said.

"Things can change overnight," Fujioka said.

Wednesday-morning commuters should plan ahead in case their routes are affected, he said.

Public-utility crews were also swamped with various power outages. The number of those affected changed nearly by the minute as crews scrambled to deal with limbs and trees on power lines.

As the storm subsided, forecasters predicted drier and less-windy weather to move through the Seattle area, continuing a pattern that could last into next week, Burke said.

Besides Friday, the upcoming days carry chances for showers and cloudy skies, an outlook that overall looks "pretty nice," he said.

Related headlines:

- **Windstorm strikes, knocks out power for thousands in Western Washington**, MyNorthwest.com
 - **15-car pileup in Bellevue leads an awful traffic day**, seattlepi.com
 - **Some Port Orchard customers without power this am**, Port Orchard Independent
 - **150000 lose power in Western Washington wind storm**, KING5.com
 - **Thousands without power in Bellevue | Bel-Red corridor, Factoria hardest hit**, Bellevue Reporter
 - **Man killed when tree hits car in Snohomish County**, KIRO Seattle
 - **UPDATE | PSE reports more than 600 power outages across Western Washington**, Bainbridge Island Review
 - **25-40 mph sustained winds were expected with gusts of 50-60 mph Tuesday across Western Washington**, Q13 FOX
 - **Storm sweeps into Kitsap**, Kitsap Sun
 - **Strong winds, downed trees impact Duthie Hill Road | rough weather expected to continue**, Issaquah Reporter
 - **Highways 101 and 112 closed west of Port Angeles**, KONP.COM
 - **Puget Sound Energy says scattered power outages hit Nisqually Valley**, Nisqually Valley News
 - **Wild weather in Washington state leaves 2 dead**, CBS News
 - **Widespread outage on mainland - county power restored**, SanJuanIslander.com
 - **Motorist killed, 200000 without power in Washington state storm**, Reuters Africa
 - **Gusting winds whip Tri-Cities, Northwest**, Tri-City Herald
 - **Downed trees force several road closures | Updated**, Central Kitsap Reporter
-



[Windstorm: One dead, 370,000 without power](#)

KING 5 News and KING5.com , KING 12:02 AM. PST November 18, 2015

A wind storm pummeled Western Washington Tuesday, toppling trees, damaging homes and knocking out power to more than 220,000 households. (5pm Tues 11/17/15)



A tree fell into a house in Everett, Wash., during a wind storm, Nov. 17, 2015. (Photo: KING 5 News)

(10 p.m.) More than 370,000 customers without power across the region at peak of storm. Puget Sound Energy reports 169,000 outages at this hour; Snohomish PUD reports 150,000 without power

Many roads are closed due to trees and wires down or water over the roadway. County-by-county road closure information

Some schools reported cancellations. Check closings and delays

One person was killed after a tree hit a car in Monroe.

A Metro bus was hit by a tree in Shoreline, sending the driver to the hospital.

A person was injured after an electrical shock by a downed power line.

Flood warnings issued for a number of rivers and a flood watch is in effect for most of Western Washington.

King County Flood Warning Center issues Phase 4 flood alert for Snoqualmie River

Related: Up-to-the-minute live weather blog

SEATTLE -- Two people died and more than 370,000 people were without power as a strong wind storm slammed into Western Washington. Trees, floodwaters and downed power lines blocked roads all over the region.



Grand Ave Park, Everett (Photo: nicephotos)

One person in Monroe was killed after a tree hit their car on Ben Howard Road.

A man was shocked due to a downed power line in Sultan after coming in contact with a metal fence. That man is being treated at Harborview.

A Metro bus driver was taken to the hospital after a tree hit their bus in Shoreline.

At the peak of the storm, power outages included 220,000 Puget Sound Energy customers, 150,000 Snohomish PUD customers, and 5,000 Seattle City Light customers. A power pole had to be supported after it started leaning in Seattle's Queen Anne neighborhood.

Emergency crews warned people to stay far away from downed power lines and to call 911 if they saw one.

Wind gusts

Crystal summit - 97 mph

Spokane - 71 mph

Lake Stevens - 57 mph

Issaquah - 56 mph

The Hood Canal Bridge was closed for several hours but was later reopened. The SR 520 floating bridge remained open, although gusts near 50 mph were recorded. The Tacoma Narrows Bridge also remained open.

Related: [Current weather alerts](#)

Related: [Windstorm safety tips](#)

Related: [List of utility companies and contact information](#)

Heavy rain will likely cause flooding on some area rivers through late Wednesday night. Flood warnings are in effect for the Snoqualmie, Skykomish, Stillaguamish, Chehalis, Elwha, Newakum, Skokomish, Skagit, Bogachiel, and Nooksack rivers.

Washington Emergency Management said the Chehalis River was flooding at Porter Tuesday evening and would flood Tuesday night at Doty, impacting homes and commercial areas. The Stillaguamish was at "major flood level." Sections of US 101 near Port Angeles and US 2 Gold Bar-Skykomish were closed due fallen trees and water over the road.

At the Sultan fire station, employees moved fire trucks as flood water inched closer.

On Main Street, the water rose so quickly that one woman's only option was to escape out her front window.

Luckily, she was rescued by a man who runs a rafting company.

"She's fine, a little cold... she was in shorts and flip flops," said TJ Mohrbacker.

KING 5 Chief Meteorologist Jeff Renner said the front moved through in the afternoon.

"The rain will diminish," he said. "Showers will be most likely in central to north Puget Sound as a Puget Sound convergence zone continues."

Winds began to ease at about 7 p.m. for most of Western Washington but were expected to persist later into the night in Everett and areas to the north and west, as well as in the Strait of Juan de Fuca and Admiralty Inlet, said Renner.

Rain will turn to snow in the mountains.

"Between 4 and 10 inches of snow are expected on Tuesday night at Stevens Pass and 2-5 inches at Snoqualmie Pass," said Renner.

Latest forecast from KING 5 meteorologists

Like KING 5 Weather on Facebook for updates

Download KING 5's Weathercaster app to track conditions in your neighborhood

In Eastern Washington, gusts reached 70 mph and Interstate 90 was shut down from Ritzville and Vantage due to a dust storm.

Conditions in Spokane prompted the Greater Spokane Department of Emergency Management to ask citizens to shelter in place and call 911 only in the case of life threatening emergency.

The extreme winds in Spokane caused downed trees, power lines, and flying debris.

Spokane Police said a woman was killed by a fallen tree, and the State Patrol reported a person died in a vehicle vs. tree collision.

On Wednesday we'll get some relief in Western Washington, with scattered showers and and periods of partial clearing. But rain will return Wednesday night.



World | Wed Nov 18, 2015 3:31pm EST

Related: U.S., ENVIRONMENT

[Three killed, 250,000 customers without power after Washington state storms](#)

SEATTLE | BY [ERIC M. JOHNSON](#)





At least

three people were killed and about 250,000 homes and businesses were without power in Washington state on Wednesday after a storm blew down trees and triggered mudslides, authorities said.

A wide swath of the Puget Sound region was under flood watches and warnings through Wednesday afternoon, the National Weather Service said.

In the Spokane area of eastern Washington, utility Avista said nearly 115,000 customers were without power and the city closed schools on Wednesday after winds up to 70 mph (113 kph) tore through the area.

In Oregon, fallen trees, mudslides and floods shut down roads across the western part of the state on Tuesday night, including a 50-mile (80-km) stretch of Interstate 84 that authorities declared impassible into midday Wednesday. Several other highways remained closed, Washington state police said.

At least three people were confirmed to have died in storm-related accidents, authorities in Washington state said.

A motorist was killed on Tuesday near the city of Monroe, northeast of Seattle, when a tree fell from a cliff onto his car, said Snohomish County Fire Chief Merlin Halverson.

"Many roads are closed from downed trees, active power lines, flood waters," Halverson said. "It's a hell of a mess here."

In Spokane, police said a woman was killed by a falling tree while another woman died on State Route 904 southwest of the city when a tree struck her car, state police said on Twitter.

Puget Sound Energy, which supplies customers in parts of Seattle and its suburbs, reported roughly 70,000 outages on Wednesday morning, down from about 210,000 late on Tuesday.

To the north, in Snohomish County, the public utility district said about 65,000 customers were without power on Wednesday morning, compared with 150,000 the night before.

Mudslides and other debris blocked state and U.S. roads in parts of the state.

King County, home to Seattle, reported severe flooding on the Snoqualmie River, moderate flooding on the Green River and minor flooding on the Cedar River.

An airport in Olympia received 2.08 inches of rain on Tuesday, a record for daily precipitation, the National Weather Service said. The previous record was 1.61 inches set in 1959.

The Seattle-area was due to see scattered showers and some sunshine on Wednesday, the service said.

(Reporting by Eric M. Johnson in Seattle; Additional reporting by Courtney Sherwood in Portland, Oregon, and Victoria Cavaliere in Los Angeles; Editing by Daniel Wallis and Bill Trott)

KOMONNEWS.com

High Wind Warnings issued for 60 mph gusts in Seattle Tuesday

By Scott Sistek Sunday, November 15th 2015



SEATTLE -- It's turning into a "November to remember" for storms but the one coming up might end up being the first one that comes to mind when all is said and done.

A powerful frontal system is just starting to push inland, starting a 24-30 hour period very stormy weather around Western Washington, complete with heavy rain, flooding potential, massive mountain snows and then, of course, the much-talked-about windstorm for Tuesday.

This evening and tonight will be marked by heavy rains for the lowlands and significant snows in the mountains. A Winter Storm Warning is in effect through 4 a.m. for 1-2 feet in the high mountain passes, including Stevens Pass, and Paradise Ranger Station (closer to 2 feet possible there) while Snoqualmie Pass could see 8-12 inches. It will be windy overnight as well in the lowlands with gusts in the 25-40 mph range, but it's just the appetizer.

The Wind Forecast:

The main event comes Tuesday morning when an intense cold front sweeps through the region, creating a large difference in pressure across the state -- a recipe for very strong winds as the front approaches and passes by. In addition, the way the storm system is aligned and the path it's travelling will combine to send a surge of westerly winds chasing after the front, for a second round of severe winds that might even top the first round.

A High Wind Warning is in effect for much of Western Washington Tuesday, including the greater Seattle and Puget Sound/Bremerton Metro areas, from 5 a.m. to 6 p.m. The High Wind Warning also covers the Eastside/Cascade foothills, the Strait of Juan de Fuca/northern Olympic Peninsula, Kitsap County, and the coast.

In a slight nuance, a lesser Wind Advisory is in effect for southwestern Washington and the far North South areas of Skagit, Whatcom and San Juan Counties. Winds are still expected to gust as high as 50-55 mph, but a High Wind Warning requires a forecast of 58 mph gusts or better. And 50-55 mph winds are still capable of damage.

Southwest winds will pick up in mid-late morning gusting to 25-40 mph, then increase in gusts to as high as 50-60 mph in the midday hours out of the southwest, then a renewed surge of wind from the west in the early-to-mid afternoon hours, especially along the Strait of Juan de Fuca into Island and Snohomish County, plus a swath of potentially damaging west wind is likely from about Hoquiam/Aberdeen across essentially the US 12/SR-8 corridor into Thurston and Pierce Counties, including Tacoma and the suburbs like Gig Harbor, Graham, Puyallup and Bonney Lake. Downtown Seattle and the central Seattle-Bellevue core tends to be shielded a bit from the west wind thanks to the Olympics, but you'll have had plenty of wind from the first southerly wind round.

Boaters need to take special precautions as well, especially in the Strait of Juan de Fuca where marine forecasters have issued a Storm Warning for Tuesday for gusts in the waters of 60-70 mph.

These wind speeds are certainly enough to cause widespread power outages and tree damage, so take precautions now for potential power outages. We have a Western Washington windstorm guide at komonews.com/windstorm.

The Flood Forecast:

In addition to the wind, we're looking at another heavy rain event. All the snow in the Cascades will change to rain early Tuesday morning with another 5-8 inches of rain possible during the day, with isolated spots getting even more. With the rivers just barely in their banks from the last flooding rains over the weekend, it won't take much to create a renewed round of flooding. Plus this time, instead of an extended 2-day rain event, the rain is expected to fall in a 12-18 hour period, making for sharp rises in river levels. A Flood Watch is in effect for all mountain-fed rivers in Western Washington and river forecasters warn that flooding could end up a little worse than it was this weekend.

There will likely be renewed urban and small stream flooding in the lowlands, and landslide risk remains high. To top it off a High Surf Advisory is on the coast for waves of 17-23 feet on Tuesday.

Rain and wind will calm down late Tuesday evening and we'll be in a relative lull Wednesday morning. We have another round of light-to-moderate rain late Wednesday with highs near 50 but it's a quick mover and is gone by daybreak Thursday. After that, a dry stretch! Long range models show dry weather Thursday through Saturday with just a few sprinkles on Sunday.



- **[UPDATES: Crews continue to restore power to tens of thousands of customers](#)**

Updated: Nov 17, 2015 - 4:58 AM

SEATTLE —

Three people were killed in a storm that cut power to more than 370,000 customers, toppling trees and causing flooding.



- **PHOTOS: Soaking rain, high wind cause damage**

- Man in 20s killed in Snohomish Co., when tree falls on car
- Woman in 50s killed by falling tree in Spokane
- More than 300K without power
- High wind warning in effect for most of Western Washington
- Heavy rain with flooding, mudslide concerns
- Strong winds causing downed trees, power outages
- Stay updated on the latest weather conditions with the KIRO 7 Weather app
- **Read a weather Q-and-A here**
- **SLIDESHOW: High wind causing damage**
- Outage maps: Seattle City Light | Puget Sound Energy

We'll have updates below, throughout Tuesday.

[11:20 p.m.] More than 145,000 Puget Sound Energy customers remain without power. A PSE spokesman said there is so much to do that utility workers from other companies will help work through the night to restore power.

[10:37 p.m.] Snohomish PUD say the outage total is down to 130,000. Puget Sound Energy say about 158,920 customers are still without power. More than 300,000 people across Western Washington are still in the dark.

[10 p.m.] More than 370,000 across Western Washington are without power. Puget Sound Energy reports 210,000 customers are without power, Snohomish PUD estimates 150,000 customers and Tacoma Public Utilities reports 1,800 without power.

[9:28 p.m.] <center><https://twitter.com/MorganKIRO7/status/666850545999589377></center>

[8:43 p.m.] The Green River is in flood phase 2. Minor flooding is expected in rural lowland areas upstream of Auburn.

[8:33 p.m.] <center>https://twitter.com/WA_Marysville/status/666833671748349952</center>

[8:17 p.m.] Snohomish Co. Search and Rescue members headed to Sultan with a boat and hovercraft to help evacuate 4-8 homes in Sultan.

[7:57 p.m.] <center><https://twitter.com/SnoPUD/status/666825976425422848></center>

[7:34 p.m.] Brief heavy rain and small hail in the foothills of King County. Still rain at Snoqualmie Pass. Turns to snow tonight.

[7:22 p.m.] From meteorologist Morgan Palmer: Downpour + cooling aloft = some small hail with cell moving from West Seattle toward Lake Washington!

[6:58 p.m.] <center><https://twitter.com/GaryKIRO7/status/666812806801440768></center>

[6:41 p.m.] Dive team in Granite Falls helping family trapped in house due to rising water across driveway and yard. No injuries.

[6:24 p.m.] NWS upgraded the flood status on the North Fork of the Stilliguamish River from moderate to major -- and advised it would affect the Arlington area.

[6:19 p.m.] <center><https://twitter.com/KIRO7Seattle/status/666801850688122880></center>

[6:04 p.m.] Spokane police announced a woman in her 50s was killed by a falling tree, due to severe winds.

[5:56 p.m.] The Kingston/Edmonds ferry route was declared out of service. Due to high winds in Edmonds, the boats were unable to off-load vehicles.

<center><https://twitter.com/KIRO7Seattle/status/666797644463923200></center>

[5:37 p.m.] Puget Sound Energy reporting over 220,000 customers without power.

[5:29 p.m.] A tree fell on a van along SB SR 9 near 108th in Marysville. Both occupants were okay.

<center><https://twitter.com/KIRO7Seattle/status/666789963439185921></center>

[5:11 p.m.] Chehalis River at Porter is now flooding, per Washington Emergency Management.

[4:51 p.m.] High winds slammed the Sammamish Plateau, toppling trees and knocking out power.

<center><https://twitter.com/AlisonKIRO7/status/666778603397386240></center>

[4:21 p.m.] City of Lakewood parks closed for the day due to severe winds.

[4:09 p.m.] Over 190,000 PSE customers without power.

[4:03 p.m.] <center><https://twitter.com/DScrapps/status/666768565266026496></center>

[3:49 p.m.] SoundTransit reporting two downed trees in different areas across the tracks between Sumner and Puyallup. No trains can pass at this time. Buses are being organized to pick up passengers at the Sumner station.

[3:39 p.m.] James Street in Kent is severely flooded. A friend of KIRO 7, Rachel June Hines, shared a video of the roadway.

[3:30 p.m.] Snohomish Co. officials released more information about the driver killed during the storm by a falling tree. No one else was in the vehicle with the man in his 20s -- who died in the accident.

<center><https://twitter.com/KIRO7Seattle/status/666760088296808448></center>

[3:21 p.m.] A downed tree was reported onto a house in Everett along Federal Avenue.

<center><https://twitter.com/KIRO7Seattle/status/666756913053478912></center>

[3:01 p.m.] Downed tree, power lines close NB SR 7 ramp into NB I-5 in Tacoma; could remain closed through evening commute.

[2:50 p.m.] Tree down across Duthie Hill Road in Sammamish, Wash.

[2:44 p.m.] Granite Falls area to expect moderate flooding -- mainly in the Blue Spruce area & Jordan Road. River forecast to be 2 feet above flood stage, according to Snohomish Co. Sheriff.

[2:31 p.m.] Heavy flooding along Ben Howard Road, close to where tree crashed onto vehicle, killing man in 20s.

<center><https://twitter.com/JoannaKIRO7/status/666745857883045888></center>

[2:21 p.m.] Trees take down power line along Shelton-Matlock Rd. Crews working the scene. No estimate when power returns.

<center><https://twitter.com/JayOlyKIRO7/status/666743623636004864></center>

[2:11 p.m.] From meteorologist Morgan Palmer >> Highest wind threat after 3 p.m. will be shorelines of Snohomish to north King Co. 50+ gusts likely.

<center><https://twitter.com/KIRO7Seattle/status/666739407295283200></center>

[2:01 p.m.] Grant County I-90 closes between George and Vantage due to poor visibility.

[1:54 p.m.] Mason Co. PUD advises water is off for Twanoh Heights on the north end and part of Hillside Road for emergency repairs.

[1:52 p.m.] A man in his 20s was killed, when a tree fell onto a car near Sultan, Wash.

<center><https://twitter.com/KIRO7Seattle/status/666735468629880832></center>

[1:48 p.m.] Ben Howard Road has closed between Cedar Ponds Road and 297th Avenue SE for an investigation after a tree fell on a vehicle.

<center><https://twitter.com/SnoCoSheriff/status/666732992161644544></center>

[1:31 p.m.] Snohomish Co. Sheriff advises Mann Road has closed from 311th Ave SE to the end of the road, due to water over the roadway.

[1:13 p.m.] SR 20 between Newhalem and Diablo closes until at least tomorrow due to a slide.

<center>https://twitter.com/wsdot_traffic/status/666729397043396608</center>

[1:03 p.m.] Crew arrives at Union Hill near Redmond to address a tree into power lines.

<center><https://twitter.com/AlisonKIRO7/status/666730077556637696></center>

[12:53 p.m.] Kitsap & Mason Schools: Mary M Knight closing at 2pm due to power outage, No preschool. Buses will run an hour early.

[12:53 p.m.] Snohomish Co. PUD: New outages in East Snohomish (840 customers) and Everett (1,500 customers).

[12:51 p.m.] Bellevue: SE 43rd is closed at 164th Way due to a wire across the roadway.

[12:49 p.m.] Meteorologist Morgan Palmer: Wind just shot to 39mph (in a gust) at Three Tree Point in Burien.

[12:43 p.m.] Power out in much of Richmond Beach neighborhood. Some street lights are dark.

[12:30 p.m.] Winds/rain causing downed power lines in Bonney Lake.

[12:20 p.m.] Wind gusts at Alki Beach in West Seattle at 44 mph.

[12:10 p.m.] North Kitsap Fire: Crews are on the scene of a tree with wires down and blocking both lanes of South Kingston Road at Mahoney.

[12:03 p.m.] Puyallup: Wildwood Park and all of the Riverwalk Trail are closed due to safety concerns during high winds.

<center><https://twitter.com/JoannaKIRO7/status/666713049206644736></center>

[11:40 a.m.] Tree crashes onto house at 106th and Rosewood in Everett. MyEverettNews.com says no one hurt.

[11:33 a.m.] Both lanes of Highway 3 blocked at Equestrian Drive, north of Poulsbo, due to downed trees.

[11:22 a.m.] OUTAGES: PSE more than 14,000 customers without power; Seattle City Light: More than 1,700

[11:07 a.m.] On the I-405 southbound on-ramp from NE 44th St (Renton) the right lane is closed due to water over the roadway.

<center><https://twitter.com/AlisonKIRO7/status/666702942448152576></center>

[11:03 a.m.] Seattle City Light: Shoreline still has 2,990 out. Multiple smaller outages throughout our service area.

[11:01 a.m.] Snohomish Co PUD: Outage in Darrington affecting 1,650 customers.

[10:51 a.m.] Mudslide on SR 20 just east of Newhalem blocking the road from milepost 121 to 122.

[10:47 a.m.] Power is out in Issaquah: Fred Meyer, Best Buy, entire strip mall without power.

<center><https://twitter.com/wsdot/status/666700110902919169></center>

[10:43 a.m.] SR 104 Hood Canal Bridge closed by high winds. Crews standing by to reopen when winds decrease.

[10:40 a.m.] Tree down on Aurora Avenue North at Raye Street just south of Aurora Bridge. Far right lane blocked southbound. Update: Tree cleared.

[10:30 a.m.] PSE reports an estimated 12,365 customers affected by outage including but not limited to Yelm, Bremerton, Seabeck, Port Orchard, Sammamish.

<center><https://twitter.com/ClancyKIRO7/status/666693095614906368></center>

[10:29 a.m.] Tree down on Metro bus in Shoreline. No passengers on board, driver reported neck, back pain. Tree cleared, bus towed.

[10:01 a.m.] Power back on at Pathfinder and Alki schools in Seattle. West Seattle outage down to 3,176 customers.

<center><https://twitter.com/AlisonKIRO7/status/666688131454767104></center>

[10:00a.m.] Wind gusts: Bremerton: 51 mph, Everett: 44 mph, Seattle: 36 mph, Tacoma: 35 mph, Bellingham: 38 mph

[9:54 a.m.] Bainbridge Island: Grand Avenue is currently closed due to a downed tree north of Byron.

[9:49 a.m.] Bainbridge Island Fire Dept: Getting multiple reports of trees down with wires. Expect power outages.

[9:26 a.m.] Tree and wires blocking the 8300 block of Grand Ave. on Bainbridge Island.

<center><https://twitter.com/CityofSeattle/status/666676133342089216></center>

[9:23 a.m.] Power outage at Alki and Pathfinder schools. School still in session. Seattle City Light estimates 2 hrs until power is restored.

[9:08 a.m.] Outage in East Tulalip/NW Marysville affecting 1,680 customers.

[8:46 a.m.] Power outage affects 4,932 customers in West Seattle. Includes Alki Point and Beach Drive. Seattle City Light outage map

[8:23 a.m.] Power outage in Mukilto is likely wind related. 1,080 customers affected. Power restored at 8:41 a.m.

[7:42 a.m.] King County Flood Warning Center open, monitoring minor to moderate flooding from heavy rain.

<center><https://twitter.com/NickAllardKIRO7/status/666661472794079232></center>

[7:38 a.m.] Snoqualmie River at flood phase 3.

[7:30 a.m.] Flood warnings until late Tuesday for Grays River in Wahkiakum & Stillaguamish River at Arlington. Minor to moderate flooding forecast.

[7:27 a.m.] Report of downed trees in the 4500 block of 108th in Kirkland.

[7 a.m.] National Weather Service says some locations in Western WA already gusting to more than 35 mph.

[6:45 a.m.] Flood Warning for the Skykomish River in the Sultan/Gold Bar area.

[6:43 a.m.] The Tolt River has reached flood phase 2. Minor flooding is expected in low lying areas. San Souci-area homes may become inaccessible.

[6:24 a.m.] The Snoqualmie River has reached flood phase 2. Minor flooding is expected in low lying areas.

[5:56 a.m.] Fallen trees block two right lanes of eastbound I-90 at Winery Road, just west of the Snoqualmie Casino.

[5:47 a.m.] Tree fell on house in Port Orchard at SE Krista St and SE Karli Way.

Weather Summary

Wind will be slowly increasing through the morning hours. A high wind warning is in effect from just north of Everett to Tacoma in the 25-40 mph range with daytime gusts in the 40-50 mph range in the majority of the area, mainly after 8 a.m. and peaking through the early afternoon hours.

Some high spots with a southerly/southwesterly exposure and foothill locations could have gusts of up to 60 mph gusts, as well as locations on the coast. Peak winds will occur from 10 a.m. to 2 p.m. with wind decreasing in speed by dark.

There is the possibility that the SR 520 bridge could close if WSDOT measures sustained winds at 50 miles per hour for 15 minutes. A warning siren sounds when winds hit 40 mph. Read how the 520 Bridge "talks to" WSDOT.

There is a wind advisory in effect for for Bellingham and part of the south interior.

Rain will be heavy through early afternoon and a half-inch to an inch of rain could fall during the storm from Seattle to Olympia.

A flood watch is also in effect for the entire Puget Sound region starting at 2 p.m. through late Wednesday. With soil not able to absorb much moisture, flooding could be higher than what occurred on Saturday. There will also be an increased risk for landslides.

"It looks like we'll see a little lull in the rain Tuesday night into early Wednesday before another round of rain moves through. Showers could linger into Thursday. Models are hinting at a chance to dry out Friday into the upcoming weekend," said KIRO 7 meteorologist Nick Allard.



Three people killed by falling trees in severe Washington storm

Hundreds of thousands were without power on Tuesday as a severe storm packing high winds unleashed across the north-western United States



Eastbound traffic lanes, right, on Interstate 90 are dampened by wind-driven waves from the south as the floating bridge calms Lake Washington to the north on Tuesday. Photograph: Elaine Thompson/AP

At least three people have died and hundreds of thousands were without power on Tuesday as a severe storm packing high winds unleashed across the north-west.

Police said a woman in her 50s was killed when a tree toppled taking down power lines as it fell in Spokane on Tuesday afternoon. Fire crews were unable to resuscitate the woman.

Another woman died after a tree fell on her car on Highway 904 about 15 miles south-west of Spokane, according to the [Washington state](#) patrol.

A man in his mid-20s was killed when a tree crushed his car as he was driving near Sultan in Snohomish County. The tree landed on the car's roof directly over the driver's seat, killing him instantly, said fire chief Merlin Halverson.

Their identities were not immediately released.

Puget Sound Energy reported nearly 178,000 customers without power in its western Washington region Tuesday night as trees toppled onto roadways and power lines.

Ferry trips were delayed or canceled in several areas and Sound Transit trains were delayed due to trees and water on the tracks throughout the system.

Energy company Avista Corp said more than 136,000 customers had lost power as of Tuesday night around Spokane and in Northern Idaho. Flights into and out of Spokane International Airport were canceled or delayed Tuesday evening.

In Oregon, thousands were without power in the greater Portland area and a flood watch was issued for the northern [Oregon](#) coast through Wednesday. State officials said heavy rain caused Portland's sewer system to overflow into the Willamette river and residents were urged to avoid contact with the river through Thursday evening.

Around the country Tuesday, a powerful storm dumped heavy snow on parts of Colorado while bringing the threat of tornadoes to millions in central and southern states. Much of Interstate 70, Colorado's main east-west highway, was closed because of blizzard conditions on the state's eastern plains as well as in north-west Kansas, where up to 15 inches of snow and heavy winds are in the forecast.

Early Tuesday, two weak tornadoes touched down in the northern suburbs of the Dallas-Fort Worth area, according to the National Weather Service. No one was injured.

The storm that originated in the Gulf of Alaska could be a harbinger of El Niño, the ocean-warming phenomenon that's [predicted to bring heavy rain to the west in the coming months](#), said Kathy Hoxsie of the National Weather Service.



Relentless rain closes Thurston County roads

Rain already above November average, with nearly two weeks to go

Wind peaked at 43 mph Tuesday

Most closed roads are in the southern portion of Thurston County



The National Weather Service says Olympia will have winds of 22-24 mph Tuesday, with gusts to 33. FILE
i

The National Weather Service says Olympia will have winds of 22-24 mph Tuesday, with gusts to 33. FILE

By Jerre Redecker

jredecker@theolympian.com

The storms of November keep rolling through, already dumping more rain in 17 days than the area usually gets in the entire month of November.

Before Tuesday's 2-plus inches are official, Olympia had logged 9.21 inches of rain in November. The average for the month is 8.63 inches, according to Kirby Cook of the National Weather Service office in Seattle.

Tuesday's storm came with a lot of wind, but the worst of it was north of Seattle and on the coast. The highest gust registered 43 mph at the Olympia airport.

Scattered small power outages were reported Tuesday, most with one to 10 customers, according to the Puget Sound Energy [outage map](#).

The brunt of the storm had moved through by late Tuesday afternoon and systems coming the rest of the week are expected to be uneventful, Cook said. Snow levels will be lower the rest of the week, he said, but are not expected to reach the lowlands.

The Chehalis river at Grand Mound is expected to have minor flooding and to crest Thursday.

Cook said it's a little early to forecast for Thanksgiving travel, but the 6-10 day outlook calls for temperatures to be lower than normal and accompanied by — you guessed it — rain.

"But some models are forecasting very cold temperatures around Thanksgiving," he said, cautioning, "A lot can change in that time frame."

Here are some weather-related incidents as of 4 p.m. Tuesday.

ROADS CLOSED

- Prather Road Southwest between Oregon Trail Road and Lundeen Road.
- 110th Avenue Southwest between Littlerock Road and Delphi Road.
- Tilley Road Southwest at the 15000 block of Anderson Road (gravel portion) between U.S. Highway 12 and McCormick Road.

ROADS REOPENED

- Independence Road Southwest between James Road and Michigan Hill Road, which is good news for people affected by the closure of Prather Road.
- 188th Avenue Southwest between Moon and Anderson roads.

SCHOOL CLOSURES

Mary M. Knight School District was closed Tuesday because of a power outage.

Jerre Redecker: [360-754-5422](tel:360-754-5422), [@jredecker](#)

Read more here: <http://www.theolympian.com/news/local/article45219567.html#storylink=cpy>

From: nws.seattle@noaa.gov
Sent: Sunday, November 15, 2015 4:01 PM
Subject: ACTION: Corrected: Strong Wind, Heavy Rain, River Flooding, Heavy Mountain Snow, and an Enhanced Risk of Landslides are Expected Monday through Tuesday Night



Corrected: Strong Wind, Heavy Rain, River Flooding, Heavy Mountain Snow, and an Enhanced Risk of Landslides are Expected Monday through Tuesday Night

National Weather Service, Seattle WA

Hello,

This message is intended as an informational briefing for public safety decision makers. We ask that you continue to monitor latest information using the resources listed below. You are welcome to share this message with others in your organization.

SYNOPSIS:

Corrected wind on Monday below.

Two strong weather systems will move through Western Washington early this week. The first, a strong warm front, will give windy conditions to the coast and north interior Monday and Monday evening. The warm front will also give heavy snow to the Cascades -especially above 4000 feet. The second system -a strong cold front associated with a deepening low pressure system moving by to the north of the area- will give the potential for intense rain in the mountains and damaging winds across western Washington. An enhanced risk of landslides will continue for the next several days.

HEADLINES:

Winter Storm Warning Cascades Monday afternoon through Monday night

Wind Advisory Coast and North Interior Monday through Monday evening

High Wind Watch entire area Tuesday into Tuesday evening

Flood Watch all counties except Island and San Juan Counties through Wednesday night

FORECAST SPECIFICS:

- * Mountain Snow on Monday: 12-18 inches above 4000 feet and 6-10 inches at Snoqualmie Pass
- * Wind Monday: South to Southeast 20 to 35 mph with gusts to 55 mph Coast and North Interior
- * Possible Damaging Wind Tuesday: Southwest wind 30 to 45 mph with gusts 65 to 75 mph possible Tuesday into Tuesday evening in the lowlands. The ground is saturated, so these gusty winds, if they occur, will cause many trees to topple and produce widespread power outages. These gusty winds would also result in many structures receiving roof damage.
- * Intense Rainfall Tuesday: 9-12 hour rainfall amounts in the mountains of 4 to 7 inches. This would give renewed flooding to many area rivers; several rivers could hit moderate flood stage.
- * Increased threat of landslides on steep slopes, especially on Tuesday

CONFIDENCE:

Confidence is moderate concerning Cascade snowfall amounts Monday

Confidence is high concerning wind along the coast and in the north interior on Monday

Confidence is moderate concerning the threat of damaging wind on Tuesday

Confidence is moderate concerning the threat of flooding on area rivers on Tuesday

UNLISTED 24x7 Phone number for Decision Makers: 206-526-6857

NWSChat: Chat room with the forecasters on duty - more information and account registration at <https://nwschat.weather.gov>.

E-Warn: Tailored email reception of NWS warning messages, contact ted.buehner@noaa.gov for a registration form.

iNWS: Smart phone app for the emergency management community to monitor the latest forecasts, warning information and conditions - register at <http://inws.wrh.noaa.gov>.

Web Site: <http://www.weather.gov/seattle>

Facebook: <http://www.facebook.com/US.NationalWeatherService.Seattle.gov>

Twitter: <https://twitter.com/NWSseattle>

Thank you,
National Weather Service, Seattle WA

From: nws.seattle@noaa.gov
Sent: Saturday, November 14, 2015 3:47 PM
Subject: ACTION: Strong Winds and More Flooding Rain Possible Monday Through Wednesday



Strong Winds and More Flooding Rain Possible Monday Through Wednesday

National Weather Service, Seattle WA

Hello,

This message is intended as an informational briefing for public safety decision makers. We ask that you continue to monitor latest information using the resources listed below. You are welcome to share this message with others in your organization.

SYNOPSIS:

A warm front will cause snow levels to rise Monday afternoon through Wednesday morning before the arrival of a strong cold front. The rising snow levels will cause the snow in the mountains to switch over to rain. The rain will be heavy at times late Monday through at least Wednesday morning before changing over to snow.

Please note that this second period of heavy rain in the mountains is expected to arrive only two days after the recent heavy rain event. This will raise the potential for significant flooding on all area rivers due to the fact that soils will be saturated and rivers will still be swollen after the recent heavy rainfall. In other words, rivers could crest higher than what they did during the recent event.

In addition to the potential for flooding rains, areas of strong winds are likely on Monday, possibly become more widespread on Tuesday and Wednesday.

HEADLINES:

Flood Watches/Warnings remain in effect for much of the area.

Winter Storm Warning remains in effect for the Olympics and north Cascades until 10 AM PST, Sunday.

FORECAST SPECIFICS:

Heavy rains will likely arrive on the Olympic peninsula Monday night when snow levels rise into the 6500 to 7000 foot range; therefore, rivers flowing off the Olympic range will likely be the first to flood.

Another 7 to 10 inches (locally up to 13 inches) of rain is forecast for the Olympics during the 3-day period ending at 4 PM PST, Wednesday.

It looks like heavy rain will likely begin in the Cascades on Tuesday when snow levels climb to near 7000 feet. Another 5 to 8 inches (locally up to 12 inches) is forecast for Cascade range during the 36-hour period ending 4 PM PST, Wednesday.

Unlike the recent rain event, there will be the potential for urban and small stream flooding due to the fact that soils will be saturated. This means that additional heavy rainfall will quickly accumulate on surfaces instead of soaking into the ground.

The next heavy rain event will also raise the threat of landslides.

Wind speeds meeting advisory criteria (sustained 30 to 39 MPH and/or gusts of 45 to 57 MPH) are possible over the northwest interior (Island County northward) Monday afternoon and night. The strong winds will become more widespread across the lowlands Tuesday and Wednesday.

CONFIDENCE:

Confidence is medium that there will be another period of heavy rain leading to flooding early next week. The reason being is that there are model solutions indicating that the duration of heavy rain will be shorter due to these models bringing the cold front across the area about 24 hours earlier. This would mean rainfall amounts will be less than forecast. The current forecast reflects the model solutions showing a longer period of heavy rain.

Confidence is high that there will be a period of strong winds, but confidence is medium in regards to which areas will experience the strongest winds and when the strongest winds will occur. This is due to differences in the model solutions concerning the timing of the cold front.

UNLISTED 24x7 Phone number for Decision Makers: 206-526-6857

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iNWS: Smart phone app for the emergency management community to monitor the latest forecasts, warning information and conditions - register at <http://inws.wrh.noaa.gov>.

Web Site: <http://www.weather.gov/seattle>

Facebook: <http://www.facebook.com/US.NationalWeatherService.Seattle.gov>

Twitter: <https://twitter.com/NWSseattle>

Thank you,
National Weather Service, Seattle WA



Office of the Washington State Climatologist

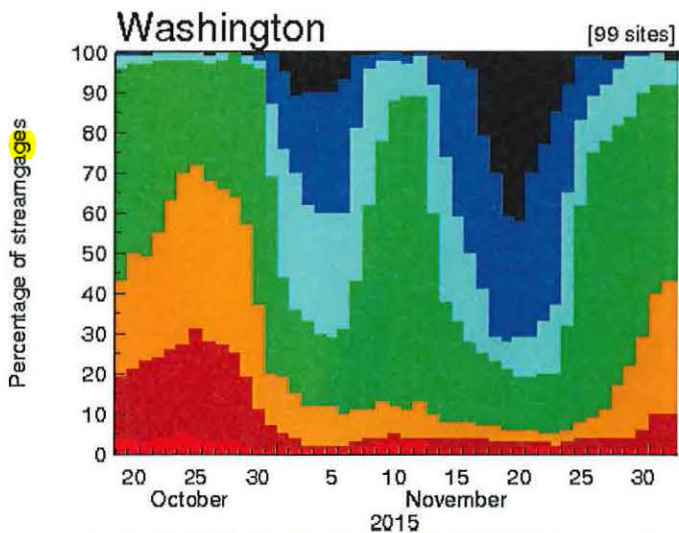
December 4, 2015

November Event Summary

Mean November temperatures were below or near-normal for WA state, which is a marked change from October's extremely warm anomalies. November precipitation was similar to October, however, with western WA receiving above normal precipitation and eastern WA below normal. Two wet periods west of the Cascade Mountains during the month were largely responsible for the wetter than normal conditions: the beginning of November and then an interval during mid-month. Figure 1 shows the response in streamflow to these wet periods and overall improvement in the percentage of streamflows that were at or above normal by the end of the month.

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Explanation - Percentile classes						
Low	<10	10-24	25-75	76-90	>90	High
	Much below normal	Below normal	Normal	Above normal	Much above normal	

Figure 1: Time series of 7-day average streamflow percentiles for the past 45 days in Washington.

November 1 saw a continuation of a heavy rainfall event that was discussed in last month's newsletter; 24-hour precipitation totals up to 2" were again measured in parts of western WA on the morning of the 2nd with lighter precipitation amounts in eastern WA. The weekend of the 7th/8th was also wet statewide, and it is worth noting that in general, conditions were too warm in the first half of the month for substantial snow in the mountains. More localized precipitation fell in eastern WA, with Pullman recording a record daily maximum (0.59") on the 9th.

But this was all "greasing the skids" for what was yet to come. Precipitation began as snow in the mountains on the 12th before changing over to rain as a warm, atmospheric river event set up. 24-hour precipitation totals ending in the morning of the 13th

were as high as 6.44" in the lower Chehalis Valley, well over 2" on the coast, and between 1 and 3.50" in the Hood Canal area. A CoCoRaHS observer measured a 24-hour total of 8.47" at 7 am on the 13th. Quillayute measured a maximum daily precipitation record of 4.09" on the 13th (calendar day). Moderate flooding occurred throughout western WA due to this event, and continued precipitation through the 17th caused some of the flood warnings to not expire until the 18th or 19th. This period was warm as well, with some record daily high temperatures recorded east of the Cascades on the 13th at Ephrata (64°F), Omak (62°F), Wenatchee (67°F), and Colville (59°F). Landslides occurred over the weekend as heavy rain continued, with two slides impacting rail lines between Tacoma and Nisqually on the 14th. A cold frontal passage on the 15th lowered snow levels in the mountains and there were even some traces of snow at higher locations in the western WA lowlands that morning as well.

More daily precipitation records were set on the 17th at Olympia (2.08"), SeaTac Airport (1.16"), and Wenatchee (0.35"), but wind was the main concern statewide. Gusts in the 40s and 50s mph were common throughout the state with pockets of even stronger winds. For example, Spokane AP (71 mph), Crystal Mountain (107 mph), and Mission Ridge ski area (137 mph) all had extremely strong gusts. Winds caused power outages and there were unfortunately several deaths due to falling trees around the state.

The weather became much less active in the days that followed, with the onset of a colder than normal period on around the 23rd that persisted through the end of the month. Widespread snow was measured on the morning of the 24th in eastern WA. Figure 2 shows the "new snow" totals from CoCoRaHS observers on that morning. Record low minimum temperatures were recorded west of the Cascades as well, with Quillayute (23°F) and Hoquiam (29°F) setting records on the 26th. Another record low minimum temperature was recorded at Vancouver (19°F) on the 30th.

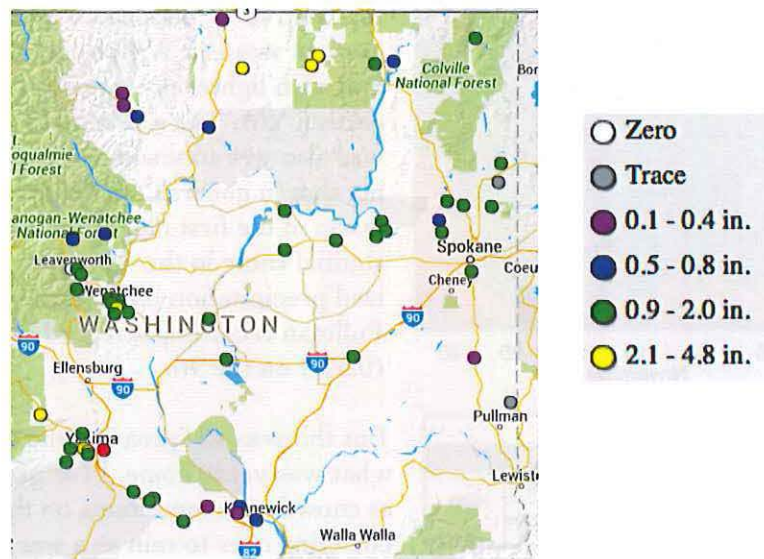


Figure 2: 24-hour snowfall totals from CoCoRaHS observers ending on the morning of November 24, 2015.

Snowpack and Drought Update

Mountain precipitation during the month of November oscillated between rain and snow due to the varying temperatures, leaving snowpack below normal for a majority of the state as of December 1. Figure 3 shows the snow water equivalent (SWE) percent of normal averaged for each basin in WA from the National Resources Conservation Service. The Olympic basin is the state's bright spot, with 118% of normal SWE. The North Puget Sound also has near-normal snow for now, but the rest of the state is sub-par. The Central Puget Sound and Upper Yakima have the smallest basin average SWE, with 23 and 24% of normal, respectively. Other basins are not quite as bad, but are around 50% of normal. The good news is that Cascade snow typically falls in December or January so there is still plenty of time for snowpack to build. Moreover, at least limited skiing was available over the Thanksgiving holiday. In the meantime, the heavy November precipitation west of the Cascades greatly improved the US Drought Monitor (Figure 4); there is currently no drought designation there. Short and long-term precipitation deficits east of the Cascades have limited improvements there.

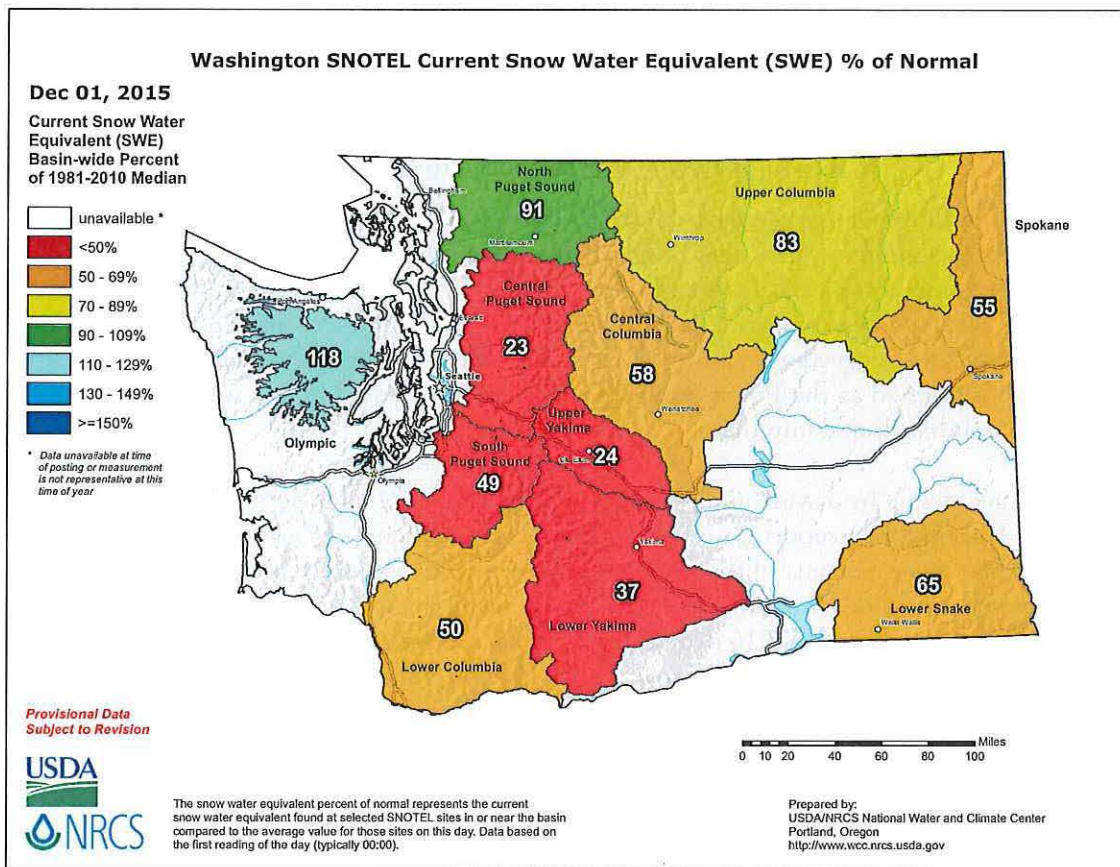


Figure 3: Snowpack (in terms of snow water equivalent) percent of normal for Washington as of December 1, 2015 (from the National Resources Conservation Service).

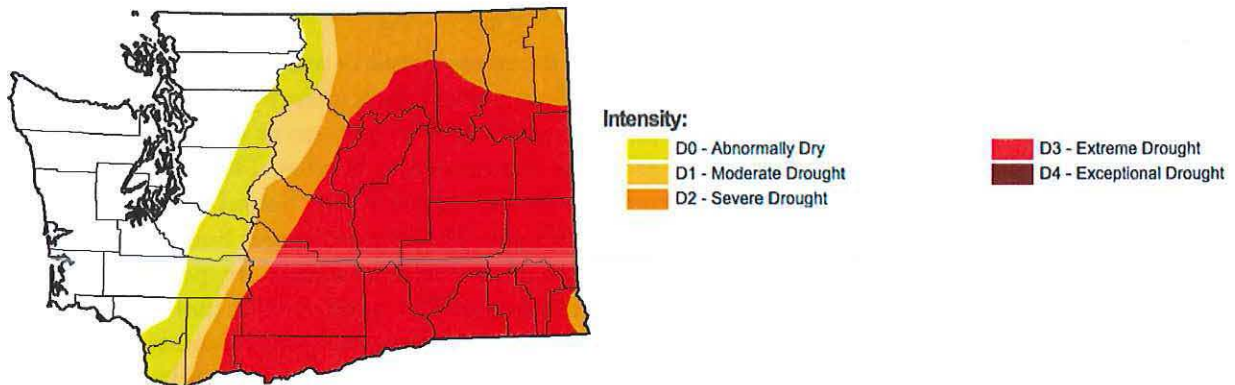


Figure 4: The December 1, 2015 edition of the US Drought Monitor (<http://droughtmonitor.unl.edu/>).

A New Synthesis Report on Climate Change in the Puget Sound

A message from the State Climatologist

A new state of the knowledge [report](#) from the University of Washington's Climate Impacts Group on climate change in the Puget Sound region was released in November (Mauger et al. 2015). A wide range of topics is covered in the report with separate chapters describing how climate change is expected to impact each topic area (e.g., agriculture, human health, sea level, water quality, and ecosystems, among others). The report is specific to the Puget Sound region, which is defined as the Puget Sound and Strait of Juan de Fuca water bodies and all adjacent land that drains into them.

Meant to be accessible by a wide audience, the jointly funded (Puget Sound Institute, NOAA, and State of Washington) report is an update to a previous report released 10 years ago. Additional topics that were not part of the previous report include expanded sections on ocean acidification and landslides, and much more detail on salmon. We will highlight just a few particulars here motivated by the 2015 drought, which has shown that our region, while notoriously wet, can sometimes have a scarcity of water. How is climate change liable to influence the nature of our precipitation events and water supplies, and what might be the impacts?

Of course a lack of water is not the only kind of problem; sometimes there is too much of a good thing. One of the specific subjects in the report (in Section 2 on the climate) relates to extreme rainfall events. There is tentative evidence from observations that there are modest increases in heavy rainfall events (48-hour and shorter in duration) in western WA, as found by Mass et al. (2011) for coastal WA locations. An in-house study carried out by the OWSC revealed that these types of events were tending to become more common in winter in western WA, but not in summer (May 2014 newsletter). To be sure, there is considerable temporal and spatial variability in these trends, and the inherently "noisy" nature of time series of extreme

events complicates attribution to climate change. Nevertheless, present climate models are suggesting that heavy precipitation events will increase in magnitude (by very roughly 20% on average) and frequency (by as much as four-fold) by the 2080s relative to the latter part of the 20th century.

More extreme bursts of rainfall probably mean a greater threat of landslides. This issue is discussed in Section 5 of the report. While the connection between heavy rain and higher soil moisture contents, and ultimately the failure of steep slopes, may seem obvious for low-elevation locations such as bluffs along the shores of Puget Sound, the report also discusses how there is also an increasing threat at higher elevations. A direct effect here will be the warming associated with climate change and hence a greater proportion of rain relative to snow, compared with the present climate. In addition, snowpack serves to slow the infiltration of water into the soil and prevent the erosion caused by pounding rains and hence limit (but not prevent) landslides at higher elevations during the cold season. The effects of heavier rains, and more rain in the mountains, on landslides in the Puget Sound region with the changing climate can either be mitigated or exacerbated by concomitant changes in land use and land cover.

Warming temperatures will almost certainly lead to changes in the timing of streamflow in many area rivers. Western WA has three basic types of rivers: rain-dominant, “mixed rain and snow”, and snow-dominant (Figure 5). Low-elevation watersheds will continue to receive the vast majority of their precipitation as rain, with both average and peak flows remaining generally highest in winter during the wet season. Mixed rain and snow watersheds, which now experience high flows in winter (especially during periods of warm, wet weather) and spring (due to snowmelt) will undergo a transition to seasonal cycles of present rain-dominant streams (Figure 6). And the hydrographs of present snow-dominant rivers, such as the Sauk and upper Skagit, are apt to resemble those of today’s mixed rain and snow rivers.

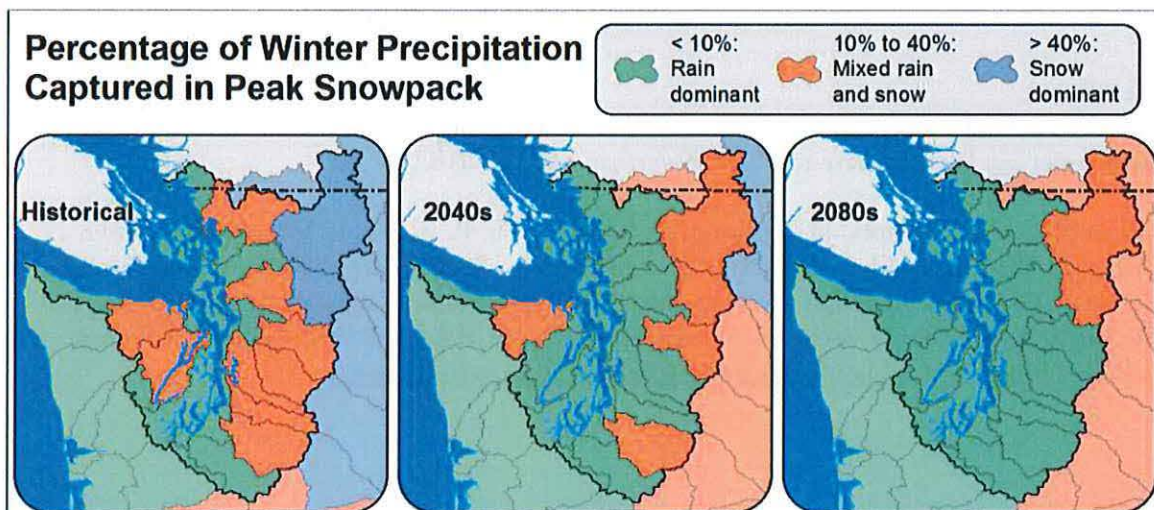


Figure 5: Current watershed classifications and the projected changes by the 2040s and 2080s based on a moderate greenhouse gas scenario (A1B) and 10 global models (Figure 3-1 in Mauger et al. 2015).

We note above that actions can be taken to ameliorate the effects of climate change on the Puget Sound region. The report notes many examples of organizations collaborating with others and preparing for the impacts of climate change, with some preparedness activities already taking place. One such example of adaptation that has been implemented is the newly renovated (\$65 million) water treatment plant for the City of Anacortes, completed in 2013. The plant sits on the Skagit River and is responsible for the drinking water supply for about 56,000 residential, commercial, and industrial customers. Climate change projections indicate increased flooding and sediment on the Skagit River, and these projections were taken into account for the new design, with a more effective sediment removal process included. In addition, all electrical controls were moved well above the current 100-year flood levels and other structures were elevated. The new synthesis report should help motivate and guide new efforts of this type, and we recommend further reading of the report and this [Seattle Times article](#) for more information.

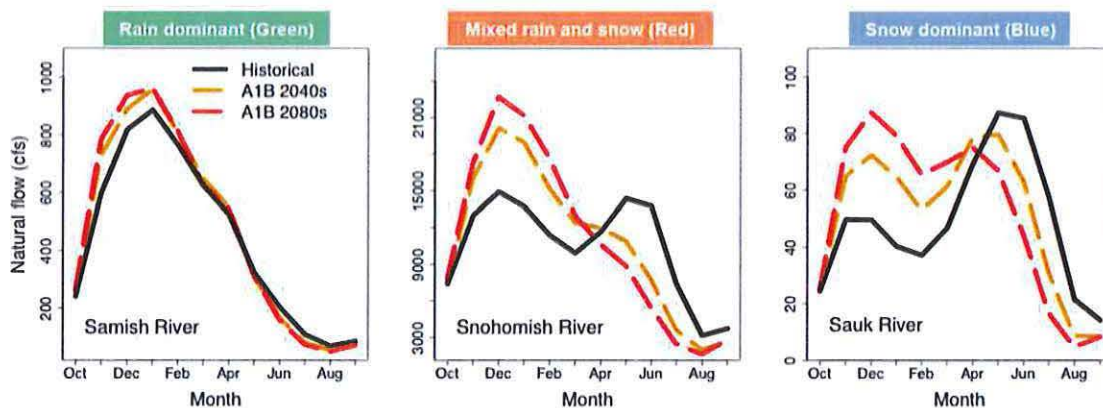


Figure 6: The changes in hydrographs (or monthly timing of streamflow) for examples of the three different types of basins categorized in Figure A (Samish River, Snohomish River, and Sauk River). Figure 3-2 in Mauger et al. 2015.

References

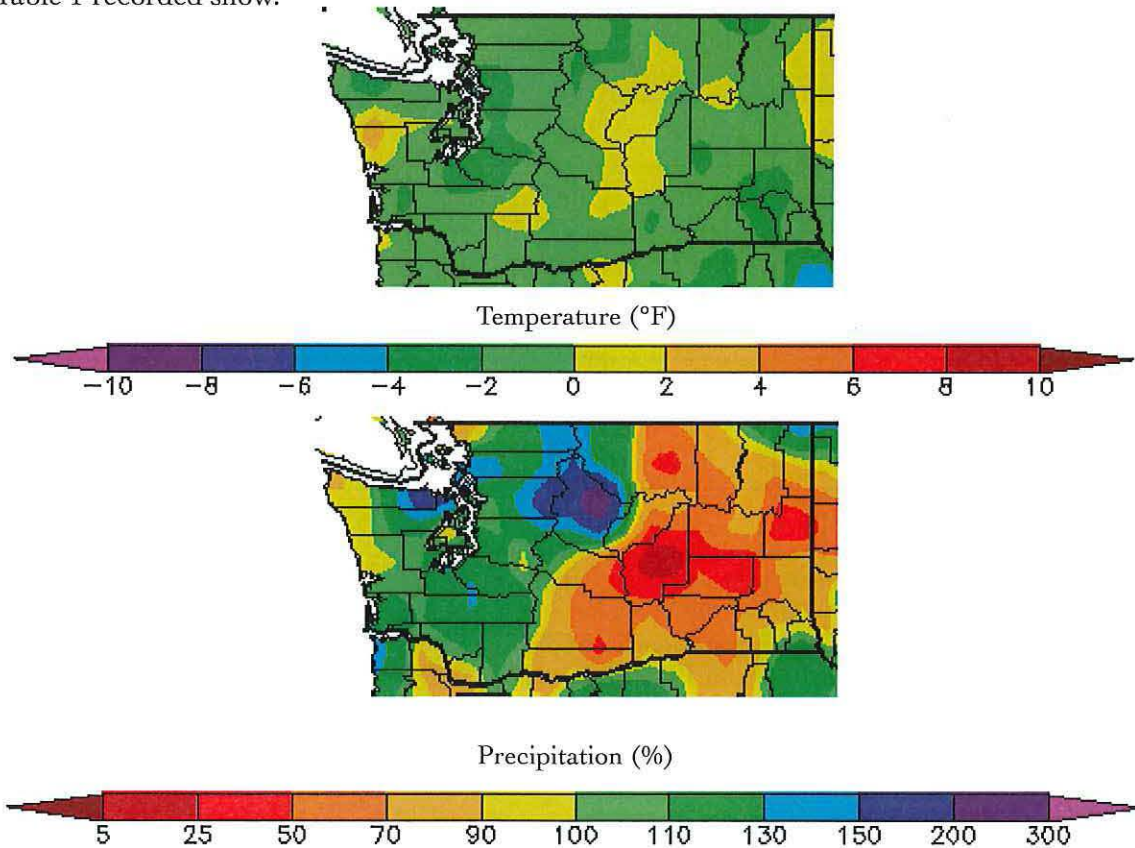
Mass, C., A. Skalenakis, and M. Warner, 2011. Extreme precipitation over the west coast of North America: Is there a trend? *J. Hydrometeor.*, 12, 310-318.

Mauger, G.S., J.H. Casola, H.A. Morgan, R.L. Strauch, B. Jones, B. Curry, T.M. Busch Isaksen, L. Whitely Binder, M.B. Krosby, A.K. Snover, 2015. State of Knowledge: Climate Change in Puget Sound. Report prepared for the Puget Sound Partnership and NOAA. Climate Impacts Group, University of Washington, Seattle. doi:10.7915/CIG93777D Report available online: <https://cig.uw.edu/resources/special-reports/ps-sok/>

Climate Summary

Mean November temperatures were cooler than normal for a majority of the state, as shown in the temperature departure from normal map below from the High Plains Regional Climate Center. Most of the state was within 2°F of normal, which is a big change from the very warm anomalies seen in October. In western WA, Olympia and Vancouver were cool spots, with temperatures 2 and 2.5°F below normal, respectively. Average temperatures were closer to normal in eastern WA, with most stations listed in Table 1 within 1°F of normal. Ephrata measured exactly normal temperatures for November, a relatively uncommon and thrilling occurrence for climatologists.

Total November precipitation relative to normal was very different for the two sides of WA state. Most of western WA and the east slopes of the northern Cascades received normal to above normal precipitation. Quillayute and SeaTac Airport received 96 and 127% of normal, respectively. On the other hand, most of eastern WA received below normal precipitation. Ephrata was extremely dry, only receiving 18% of normal, while other locations mainly received between 50 and 70% of normal. Regarding lowland snowfall, Spokane had about 20% of normal while Hanford recorded 170% of normal with 3.4". While some high elevations in western WA received a dusting of light snow on November 15, none of the stations listed in Table 1 recorded snow.



November temperature (°F) departure from normal (top) and precipitation % of normal (bottom). (High Plains Regional Climate Center; relative to the 1981-2010 normal).

	Mean Temperature (°F)			Precipitation (inches)			Snowfall (inches)		
	Avg	Norm	Departure from Normal	Total	Norm	% of Norm	Total	Norm	% of Norm
Western Washington									
Olympia	41.3	43.3	-2.0	11.82	8.63	137	0	0.9	0
Seattle WFO	44.5	46.2	-1.7	7.16	5.84	123	0	0.3	0
SeaTac AP	43.8	45.4	-1.6	8.37	6.57	127	0	1.2	0
Quillayute	43.8	44.2	-0.4	14.96	15.52	96	0	1.4	0
Hoquiam	45.5	45.8	-0.3	10.94	11.17	98	0	0.4	0
Bellingham AP	42.1	43.2	-1.1	4.57	5.80	79	0	0.9	0
Vancouver AP	43.9	46.4	-2.5	4.57	5.91	77	0	M	0
Eastern Washington									
Spokane AP	34.9	35.7	-0.8	0.77	2.30	33	1.5	7.4	20
Wenatchee	38.6	37.6	1.0	0.68	1.11	61	M	5.0	-
Omak	36.1	35.9	0.2	0.91	1.61	57	M	M	-
Pullman AP	36.0	37.0	-1.0	2.02	2.29	88	M	M	-
Ephrata	37.0	37.0	0.0	0.19	1.06	18	M	2.6	-
Pasco AP	39.4	41.3	-1.9	0.61	1.09	56	0.5	M	-
Hanford	39.9	40.5	-0.6	0.60	0.95	63	3.4	2.0	170

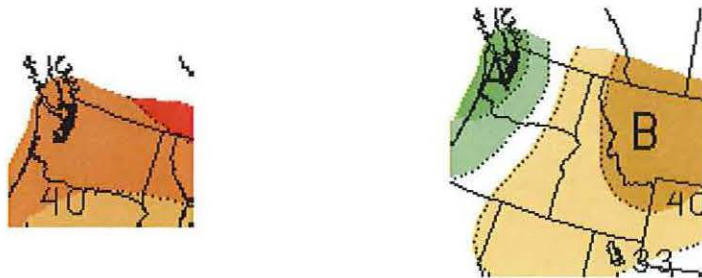
Table 1: November 2015 climate summaries for locations around Washington with a climate normal baseline of 1981-2010. Note that the Vancouver Pearson Airport and Seattle WFO 1981-2010 normals involved using surrounding stations in NCDC's new normal release, as records for these station began in 1998 and 1986, respectively. "M" denotes missing data.

Climate Outlook

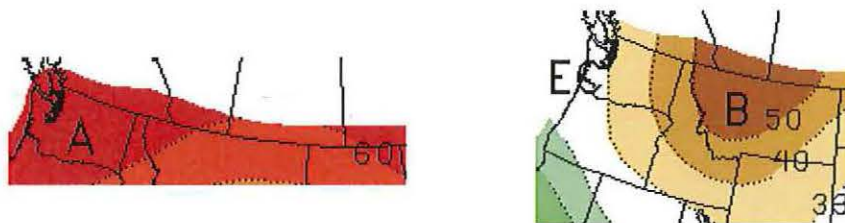
El Niño conditions in the tropical Pacific Ocean are still present and are strengthening in some regard, according to the Climate Prediction Center (CPC). Weekly sea surface temperature (SST) anomalies exceed 3°C in the central and eastern equatorial Pacific at the time of this writing, and the monthly SST departures are above 3.5°C in some areas of the equatorial Pacific Ocean. The SST anomalies in the Niño3.4 index region are warmer than any previous El Niño event for this time of year, including the strong 1997-98 El Niño. The “El Niño Advisory” released by the CPC on 5 March is still in effect. ENSO forecast models are unanimous in an El Niño lasting through the winter of 2015-16 and there is over a 70% chance that the conditions will persist through the spring of 2016. The CPC is taking the El Niño into account, as well as other factors in their seasonal outlooks.

The CPC seasonal outlook for December is calling for increased chances of above normal temperatures statewide. There is more variation for the December precipitation forecast with wetter than normal conditions expected in western WA and the Cascades and drier than normal conditions in far eastern WA. There is a zone in central eastern WA where equal chances of below, equal to, or above normal precipitation is expected.

The December-January-February (DJF) CPC outlook is calling for higher than normal temperatures statewide, with the odds of warmer temperatures higher than what is in place for just the month of December. For precipitation, there are higher chances of below normal precipitation for most of the state, with odds of below normal precipitation highest for eastern WA. The Olympic Peninsula and southwest WA have equal chances of below, equal to, or above normal precipitation.



December outlook for temperature (left) and precipitation (right) from the CPC.



December-January-February outlook for temperature (left) and precipitation (right) from the CPC.



STATE OF WASHINGTON
OFFICE OF THE GOVERNOR

P.O. Box 40002 • Olympia, Washington 98504-0002 • (360) 753-6780 • TTY/TDD (360) 753-6466

January 8, 2016

The Honorable Barack Obama
 President of the United States
 The White House
 1600 Pennsylvania Avenue NW
 Washington, D. C. 20500

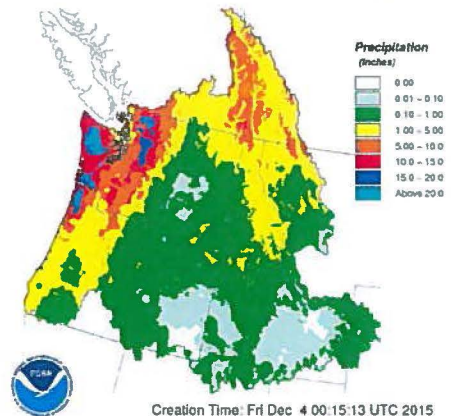
Through: Mr. Kenneth Murphy
 Regional Administrator
 FEMA Region X
 130 – 228th Street SW
 Bothell, WA 98102

Dear Mr. President:

Under the provisions of Section 401 of the Robert T. Stafford Disaster Relief and Emergency Assistance Act, 42 U.S.C. §§ 5121-5207 (Stafford Act), and implemented by 44 CFR § 206.36, I request that you declare a major disaster for the State of Washington as a result of damages incurred by a Winter Storm on November 12-21, 2015, which included Straight-line Winds, Flooding, Landslides, and Mudslides. I am specifically requesting the Public Assistance Program for the following counties; Adams, Benton, Chelan, Clallam, Columbia, Cowlitz, Franklin, Garfield, Grant, Grays Harbor, Island, Jefferson, King, Kitsap, Kittitas, Lewis, Lincoln, Mason, Pacific, Pend Oreille, Pierce, Skagit, Skamania, Snohomish, Spokane, Stevens, Thurston, Wahkiakum, Whatcom, Whitman, and Yakima. I request the Hazard Mitigation Grant Program statewide.

An atmospheric river of sub-tropical moisture associated with a strong jetstream was positioned over Washington State and produced heavy amounts of rainfall from November 12th through the 18th. Rapidly moving waves along this system resulted in pulses of rain through the period and produced a powerful wind storm on November 17th. Heavy rainfall amounts exceeded 15 inches in parts of the Olympic and Cascade Mountains, and ranged from three to 15 inches in the lowlands of western Washington. Rainfall amounts varied significantly by day and location.

Observed Storm Total Precipitation, Nov 12–18, 2015



Quillayute on the north coast had 9.28 inches during this 7-day period with a daily high of 4.09 inches on the 12th. Olympia received 9.83 inches during the period with a daily high of 2.89 inches on the 14th. Hoquiam on the central coast had 8.19 inches with a daily high of 1.73 inches on the 16th. Other daily precipitation (in inches) at selected sites for November 12-18 2015 is listed below:

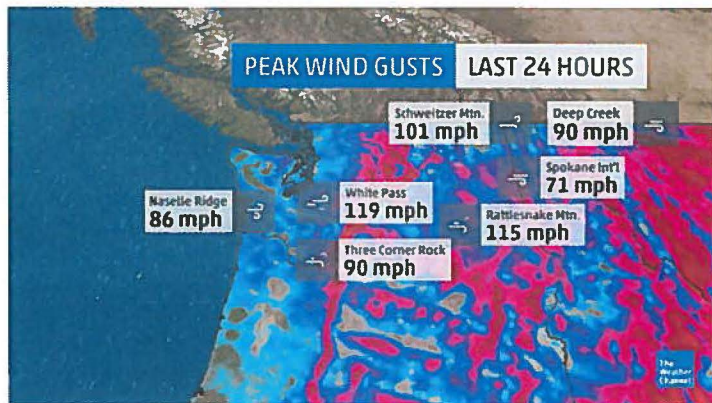
November	12	13	14	15	16	17	18	Total
Quillayute	4.09	1.22	0.61	T	1.91	1.25	0.19	9.27
Hoquiam	1.88	1.46	1.57	0.23	1.73	1.10	0.22	9.83
Astoria, OR	1.05	2.52	2.78	0.37	1.81	1.08	0.44	10.05
SeaTac	0.39	1.32	1.86	0.88	0.08	1.16	0.06	5.75
Olympia	0.83	2.41	2.89	0.69	0.79	2.08	0.14	9.83
Wenatchee	T	T	T	0.04	0.02	0.35	0	0.41
Yakima	0	0	0	0.02	0	0.11	0	0.13
Spokane	0.02	T	T	T	0.03	0.02	0	0.07
Pullman	T	0.10	T	0.02	T	0.51	0	0.63

Runoff from this heavy rainfall resulted in rivers exceeding flood stage on over two dozen western Washington Rivers with 20 river forecast points exceeding the moderate category and ten surging over the major flood category; on November 18 alone, six forecast points were in major flood category (below). The last of the flooding rivers finally receded below flood stage on November 21st.

RIVER	COUNTY	REMARKS
Skokomish River near Potlach	Mason	Major flooding
Skykomish River near Gold Bar	Snohomish	Major flooding
Snoqualmie River at Carnation	King	Major flooding
Snohomish River near Monroe	Snohomish	Major flooding
Snohomish River at Snohomish	Snohomish	Major flooding
Grays River at Rosburg	Wahkiakum	Major flooding

High winds struck across the state on November 17th with the strongest winds recorded in the mountains. Mission Ridge west of Wenatchee had a peak wind of 137mph. White Pass along US Highway 12 near Mt. Rainier peaked at 119mph and Rattlesnake Ridge northwest of Pasco hit 115mph. Spokane International Airport reported a peak wind of 71mph, which is now the highest on record in Washington State for a non-convective (thunderstorm) event. The strong winds combined with soggy soil conditions toppled many trees and knocked out power, gas, and waterlines to thousands of customers in addition to closing many roads. Storm conditions were so bad that the Greater Spokane Department of Emergency Management issued a “shelter in

place” bulletin around 4:30pm Tuesday evening November 17, advising all residents to stay in a sheltered location as extreme winds were resulting in downed trees and flying debris in the area.



Wind gusts were recorded over 70mph in many populated areas and high winds remained in some areas for over six hours, bringing down trees, powerlines, and causing other substantial damages to infrastructure such as blowing off roofs. Homes and businesses were without power for up to eight days during a cold spell which brought nightly temperatures down to 20 degrees Fahrenheit. Many rural

customers were unable to pump water, preventing farmers from watering livestock.

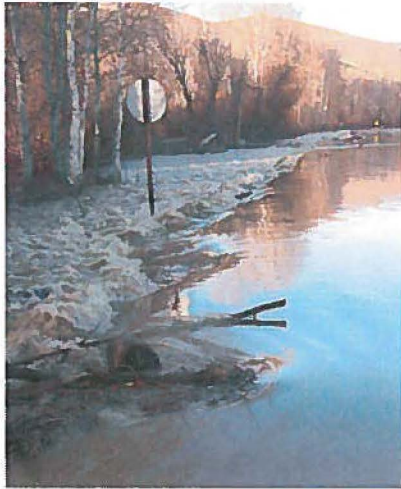
State and Local Impacts

The Washington State Emergency Operations Center activated to a full Phase III on November 18, 2015, after reports of major damages to almost half the counties and many tribes in Washington State. Island County, Jefferson County, Snohomish County, Spokane County, and Whatcom County reported emergency operation center activations. I declared a State of Emergency on November 18, 2015, for all counties within the state due to erosion, landslides, and flooding from this storm resulting in injuries to citizens, significant power outages, evacuations, temporary road closures and detours, rail line closures, ferry system and airline cancellations, and extensive damage to homes, businesses, public utilities, public facilities, electrical power systems, infrastructure, and property.



Jefferson County declared a state of emergency on November 16, 2015, after damages incurred on Oil City Road. Flooding from the Hoh River eroded its embankment and washed away both traffic lanes. This road provides the only access to properties beyond the slide, isolating residences beyond the washout from basic home services including power and phones. Snohomish County proclaimed a State of Emergency on November 17, 2015, due to 150,000 customers

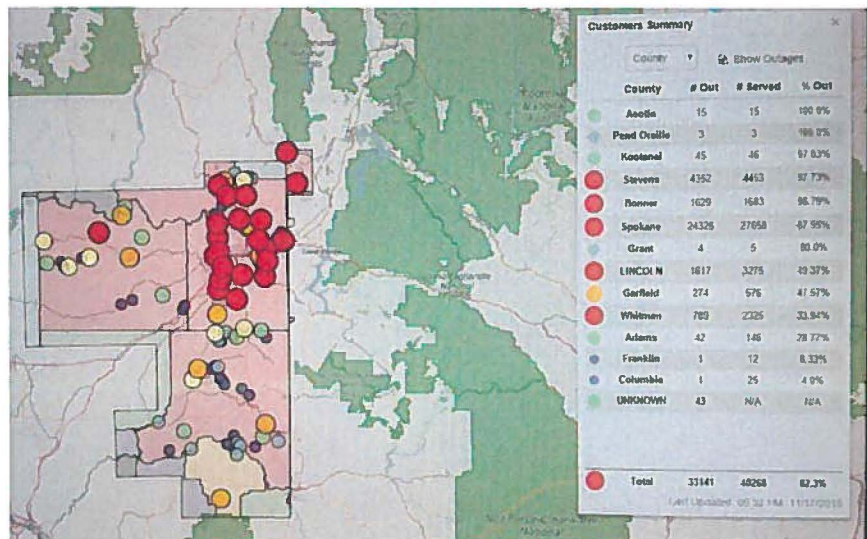
without power, four NWS river gauges at major flood stage and another three predicted to reach major flooding.



Other counties declared local states of emergency after the full extent of damages were realized during their local damage assessment processes. Pend Oreille County declared a state of emergency on November 23, 2015, as a result of the damaging winds and heavy rain causing extensive power outages and damage to both public and personal property. The Kittitas County Board of Commissioners declared an emergency on Tuesday November 24, 2015, for significant flood damage on Ringer Loop Road, other damages on Kachess Lake Road and downed trees on power lines. The peak surface wind reported in Ellensburg was 90 mph. Wahkiakum County declared an emergency on December 1, 2015, due to severe flooding, utility interruptions, road blockages from mudslides and flooding, and private property damages.

Damage from this storm system was truly widespread throughout the state. The largest concentration of damages from this storm event occurred in Spokane County and Snohomish County, which are almost three hundred miles apart. In total, at least 522,000 utility customers in Washington State lost power at some point during the disaster resulting in excess of one million people affected by outages. Power outages were recorded statewide; the largest concentration of outages was observed in Spokane County and Snohomish County. As of 1700 on Thursday November 19, 2 days after the storm, 12 counties were still reporting 145,364 customers without power throughout the state.

On Tuesday, November 17, 2015, Avista Corporation in Spokane County experienced the largest outage in the company's 126-year history with damage to an estimated 700 miles of overhead power lines resulting in 180,000 Spokane County customers without power. In comparison, a historic 1996 ice storm, 1152-DR-WA, that hit the area saw peak outage of 100,000

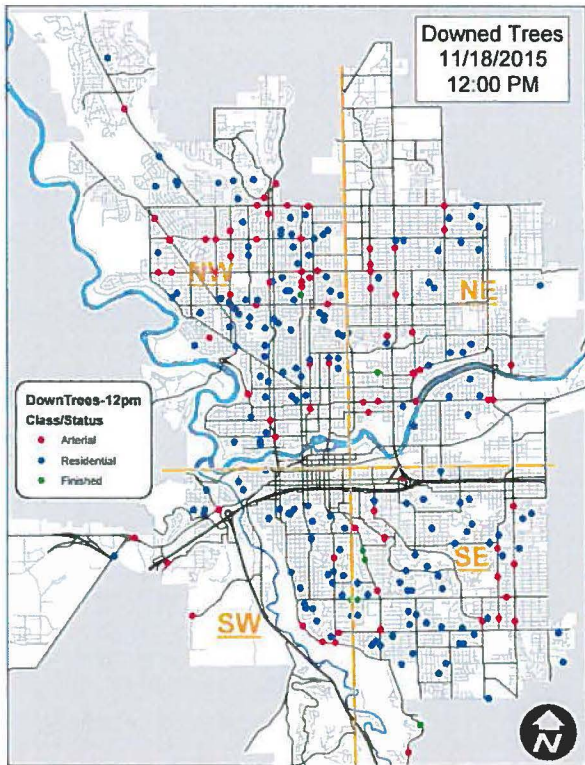


customers. Avista also received and confirmed reports of 26 severed gas lines caused by uprooted trees in one 12 hour shift as compared to November 2014 where the company received and confirmed reports of 23 severed gas lines for the entire month. Due to the extent of outages and downed trees slowing the restoration efforts, 118,000 customers were still without power by

mid-day on Wednesday. Avista reported power restoration to all customers ten days after the storm.

In an area known as South Hill, described as the storm’s “ground zero” by Avista CEO Scott Morris, 83 percent of customers were still without power five days after the storm and leading up to the Thanksgiving holiday. Power crews from as far away as San Francisco traveled to the area to assist Avista with power restoration as freezing temperatures settled into the area. All power companies in the greater Spokane area reported extensive power outages throughout their service areas. As seen on the right, outage numbers far surpassed Spokane County’s previous historic outage numbers resultant from a severe ice storm in November 1996.

Power Provider	Peak w/o Power, Nov 2015	% w/o Power, Nov 2015	Peak w/o Power, Nov 1996
Avista Utilities	180,000	49%	100,000
Inland Power and Light	40,270	81%	10,000
Vera Water and Power	5,600	52%	(35%)* *as reported
Modern Electric Water Company	6,800	68%	n/a
Kootenai Electric Cooperative	13,000	65%	n/a
Northern Lights Inc.	13,000	68%	n/a
Pend Oreille Public Utility District	6,500	81%	n/a



A reported 817 trees were downed in the city of Spokane street right-of-way, and there were 62 city intersections without power. The intersection of Mission and Ruby, which has an average daily northbound traffic of 25,000 vehicles, was without stoplights until Friday, three days after the storm. This intersection is in the heart of the business district as well as in the proximity of Gonzaga and Whitworth Universities.



Snohomish County Public Utility District (PUD) reported 150,000 of its 332,000 customers without power during the peak of the storm on Tuesday, November 17, 2015, and over 19,000 customers were still without power on that Friday. Utility impacts included damages to two major substations and nine transmission lines serving emergency services such as police, fire, and numerous hospitals. Snohomish County PUD had nearly 90 work crews, or about 500 people, in the field working to restore power. This storm tied the historic 1993 Inauguration Day storm, which was the PUD's previous record for the worst outage until the recent August 29, 2015 windstorm (DR-4243), which knocked out power to 175,000 customers. Repairs from the August windstorm are still underway with the total restoration cost in excess of \$1 million. The November outage will exceed \$5.3 million dollars, exceeding the PUD's annual budget of \$2 million dollars for storm damage repair.

Some of the area's worst powerline damage was on Marine Dive on the Tulalip Indian Reservation, where two trees fell on a major distribution line that supplies a large number of homes. This required the repair of more than 3,000 feet of power line carrying 12,470 volts of electricity. Snohomish County PUD also serves Island County customers, including the community of Camano Island. During the height of the storm, three quarters of Camano Island customers were without power, forcing the closure of grocery and department stores, restaurants, and manufacturing facilities. Puget Sound Energy reported damage to 33 transmission lines and impacts to 32 major and minor substations, resulting in a peak of 220,000 customers without power.



Two significant mudslides resulted in the complete closure of US 2 through Stevens Pass, a major transportation route through the Cascade Mountain range that connects eastern and western Washington. The heavy rainfall also resulted in a significant amount of erosion underneath a bridge foundation east of Skykomish (US2 MP54) with no available detour for those who relied on the route for commerce and travel. On a given weekday, about 5,000 vehicles travel over the pass which increases on weekends to 9,000 vehicles. The Washington State Department of

Transportation completed emergency bridge repair work and reopened the bridge on Monday, November 23, 2015.

All mountain passes over the Cascade Mountain range were adversely affected and closed at some point due to impacts of this severe winter storm. In Whatcom County, a mudslide closed the North Cascades Highway (Highway 20) near Newhalem, blocking access to the small town of Diablo and preventing travel of Seattle City Light employees between the two company towns. In Grant County, fifteen miles of Interstate 90 was closed between George and Vantage, Washington due to severe winds. The Snoqualmie Pass portion of I-90 was later closed due to the amount of debris removal that was required. State Route 410 at Chinook Pass and Cayuse Pass closed in both directions due to trees over the roadway and increasing advanced avalanche risk, essentially expediting the seasonal closure of the pass.

Highway 530 in Twin Rivers Park in Snohomish County experienced flood damage which included the jersey barriers being swept across the road and two large holes were created on the west shoulder of the highway. On Suiattle River Road fifteen miles from Highway 530, a motorist was forced to spend a night in his car because the road was blocked by downed trees. The next day he was able to walk ten miles to a state timber sale where the site crew helped him get his car out.



In Lewis County, US Highway 12 was closed due to flooding as the Cowlitz River stopped less than three inches shy of its major flood stage. Parts of Main Street in the City of Centralia were closed for part of the day on November 17 due to standing water. In Cowlitz County, State Route 411 was closed due to a significant mudslide and unstable slope conditions. In Chelan County, Highway 6 was also closed. The wind and rain caused flooding and road damage throughout Chelan County including a large debris flow on South Lakeshore Drive, and a culvert failure occurred on Yodelin Place.

Service to the Edmonds/Kingston ferry route, operated by the Washington State Department of Transportation, one of the major commuting routes across Puget Sound, remained out of service for most of the day on November 17, 2015. The passenger walk way at the Edmonds terminal suffered damages from the storm forcing passengers to load from the car deck, resulting in further ferry delays. The Hood Canal Bridge which links the northern Olympic Peninsula to western Puget Sound cities was also closed for several hours because of high winds which could lead to potential bridge failure.

In King County, a bus near Shoreline College was struck by a falling tree and its driver was transported to a hospital with minor injuries. The weather and subsequent power outages delayed transit services throughout the area.

Thirty-six of fifty-four Spokane Public schools were without power and/or phone service on November 18, 2015. Spokane Public Schools were closed for 5 days after the storm. It took 6 days to remove trees tangled in wires that were blocking a street near Roosevelt Elementary School in Spokane.

The tribal outpatient health clinic and inpatient Youth Regional Treatment Center (YRTC) lost power, resulting in closure of this critical medical facility. The YRTC services the Confederated Tribes of the Colville Reservation, the Spokane Tribe of Indians, and the Kalispel Tribe of Indians. Residents at the YRTC were sheltered at the YMCA until power was restored.

Providence Sacred Heart Medical Center and St. Luke's Rehabilitation Institute in Spokane relied on generators for nearly 17 hours before power was restored. Vulnerable populations were adversely impacted by the outage and the shelter-in-place directive from the Greater Spokane Interagency Incident Management Team. This temporarily stopped patients from being discharged from the hospital, creating a high number of patients along with staffing shortages.

A US Postal Service sorting facility in Spokane suffered a power outage, water, and gas leak resulting in a building evacuation and no mail delivery on Wednesday, November 18, 2015, for most of Eastern Washington including the Tri-Cities and Walla Walla. Due to the power outage, the Washington State Department of Corrections evacuated the Eleanor Chase House Work Release in Spokane.

In Mason County, extensive power outages throughout the service area caused multiple water systems owned by the Public Utilities Department to lose pressure and potentially cause contamination in the water mains. Some 540 customers, or about 1,350 people, lost potable water service for 2 days. The City of Spokane's waste system measured 1,627 tons of debris through Monday, November 23, 2015, with 2,100 tons of debris dropped off at Spokane County's Colbert and Valley transfer stations. Damage and flooding to wastewater facilities in City of Oak Harbor and Town of Coupeville, both located in Island County, created a potential public health and ecological hazards to the community, Penn Cove, and City of Oak Harbor areas.

Tragically, falling trees from the strong winds associated with this storm resulted in three deaths. A 54-year-old woman was killed by a falling tree in Spokane, a 70-year-old woman died of head injuries after a tree landed on her car on Highway 904 (15 miles SW of Spokane), and a man in his mid-twenties died when a tree crushed his car while driving in Snohomish County.



Also in Snohomish County, a Sultan man suffered electrical burns to his leg, back, and hand after a live powerline fell on a fence during the storm. He remains in serious condition

at the Harborview Medical Center's Intensive Care Unit. A public works employee and firefighter medics used a backhoe to reach a woman trapped in her car when rushing waters from the flooding Stillaguamish River overcame her car near Stanwood. Additionally, firefighters and police rescued two women trapped in their car by high water in Bellingham.

In Lewis County, a large maple tree fell on the Curtis Rail line destroying 25ft of handrail and breaking three 16ft wooden railroad ties. This damage makes the railroad impassible and prevents Western Washington Railroad from leasing portions of the line for railcar storage which serves as a source of revenue for the Port of Chehalis. Additionally, this damage has suspended dinner trains which are relied on by the local economy for bringing in tourists. Other railroad damages include a segment of railroad right-of-way on the Mount Rainier Scenic Railroad washed out by flooding from Mineral Creek, canceling scheduled Thanksgiving holiday trips.



Cama Beach and Fort Casey, both popular destination parks in Island County, suffered campground and trail damages that will limit the amount of visitors to the area for day hiking and longer term overnight campers. Tourism and local businesses in the area rely heavily on the recreational use of these parks. Recent budget cuts have already reduced the operating hours of Washington State Parks and restoration will be delayed, dependent on competing priorities, funding, and available manpower. Additional state park damages were reported in Columbia County, Cowlitz County, Grays Harbor County, Jefferson County, King County, Kitsap County, Kittitas County, Lewis County, Mason County, Pierce County, Skamania County, Snohomish County, and Spokane County. Beacon Rock State Park, a popular tourist destination in Skamania County, sustained extensive damages making for dangerous hiking conditions and is closed indefinitely.



Impacts from this storm greatly hindered hatchery operations in Skamania County and Snohomish County including fish acclimation, intake, and effluent removal. In Skamania County, soil and rock from a road washout deposited into an adult fish holding pond; additional sediment is in the C creek intake for the adult fish holding pond that also needs to be removed. Sediment on C Creek Access Road leading to the pond has also been damaged. In addition to debris affecting grating and fish raceways, hydraulic and sluice gates in Snohomish County sustained significant damage. Portions of concrete have also broken off walls downstream of the intake and the boat launch area is also damaged creating a hazardous work environment for personnel in the entire hatchery area.

Twenty-five businesses in Spokane County experienced damages as a result of this storm with two businesses experiencing major damage. Damages to the living areas of the BellaVita Adult Family Home created uninhabitable conditions and forced the relocation of six elderly residents. The Quality Inn at Liberty Lake experienced extensive damages to its roof, which not only decreased viable business but also limited the availability of alternative lodging for residents without power in their homes.



In an incredible show of community involvement, four hundred citizens in the city of Spokane volunteered to support a door-to-door effort to check on those without electricity, reaching 7,200 residences by Tuesday. Spokane Public Schools provided 2,684 free breakfasts and 3,977 free lunches at five locations from November 20, 2015, to November 24, 2015. Catholic Charities in Spokane matched 200 people with necessary assistance or

special equipment.

Recent Disaster History

This event follows an active history of significant disaster events that have hit Washington State in the past two years, which have strained or exhausted already scarce disaster recovery state-level resources. Since March 2014, the state of Washington has seen 4 FEMA Disaster Declarations, 3 FEMA Emergency Declarations, and 20 FEMA Fire Management Assistance Declarations. In addition to this Major Disaster Declaration Request, a Preliminary Damage Assessment is in process for the December 1-14, 2015, Severe Winter Storm event, which followed on the heels of this incident.

Other federal funding and assistance has been made available to Washington State to aid in community and infrastructure recovery including from 14 FHWA Emergency Relief

declarations, 4 Small Business Administration Declarations, and 3 US Army Corps of Engineers PL84-99 Advance Measures as seen in the chart and described below:

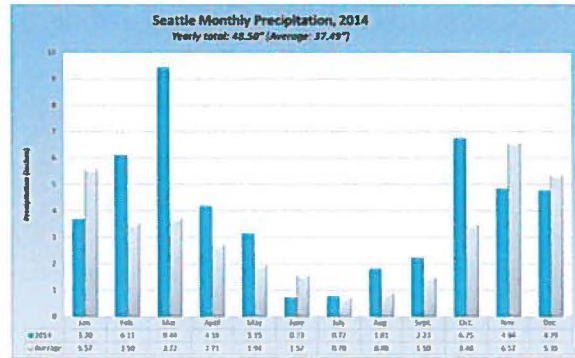
FEMA Declared Emergencies and Disasters		Undeclared Disaster Events	
March 2014	Oso (State Route-530) Landslide, Mudslide, and Flooding Emergency Direct Federal Assistance (3370-EM-WA)	March 2014	Severe Storms, Flooding, Mudslides
March 2014	Oso (State Route-530) Landslide, Mudslide, and Flooding (4168-DR-WA)	August 2014	Flooding
July 2014	Central Washington Wildfires Emergency Emergency-Direct Federal Assistance (3371-EM-WA)	November 2014	Severe Winter Storms
July 2014	2014 Washington Wildfires (4188-DR-WA)	November-December 2014	Severe Winter Storms
August 2015	Washington Wildfires Emergency-Direct Federal Assistance (3372-EM-WA)	January 2015	Severe Winter Storms
September 2015	Washington Severe Windstorm (4242-DR-WA)	November 2015	Severe Winter Storm
September 2015	Washington Wildfires and Mudslides (4243-DR-WA)	December 2015	Severe Winter Storm

On March 22, 2014, the State Route 530 (SR-530) mudslide and subsequent flooding (4168-DR-WA) killed 43 citizens and decimated a neighborhood of 42 homes in Snohomish County. Full-time organized Urban Search and Recovery (USAR) joint operations (FEMA, WA National Guard, local SAR, and local community volunteers) took place from March 22 until April 28 with County-led SAR operations continuing until July 22 when the last victim was recovered. In addition to Emergency Declaration 3370-EM-WA providing Direct Federal Assistance, the following aid was provided in support of the SR-530 Mudslide and Flooding:

\$34,554,536 FEMA Public Assistance Grants
 \$5,950,000 FEMA Public Assistance – Direct Federal Assistance

- \$36,000,000 FHWA Emergency Relief (ER) declaration (WA 14-2)
- \$1,215,300 Small Business Administration (SBA) declaration
- \$1,150,000 US Army Corps of Engineers PL84-99 Advance Measures

Washington experienced heavy rainfall in early 2014 during late winter/early spring, followed by another deluge in late summer/early fall. These rain events contributed to 2014 being the fifth-wettest year on record at Seattle-Tacoma Airport and the wettest year since 1996. Damages incurred from the March 2014 rain events warranted the following federal funding:



- \$8,593,898 FHWA Emergency Relief for Abnormal Rainfall March 2014 (WA 14-3)
- \$350,000 FHWA Emergency Relief for Bridge Damages March 13 and April 14, 2014 (WA 15-5)

The 2014 Central Washington Firestorm (DR-4188) was the previous record-setting fire season that now pales in comparison to 2015. The 2014 wildfires saw 10 state fire mobilizations, 8 approved FMAGS, and burned over 355,000 acres at an estimated fire suppression cost of over \$88 million. Okanogan County and Kittitas County were designated as disaster counties along with the Confederated Tribes of the Colville Reservation for FEMA Public Assistance. In addition to Emergency Declaration 3371-EM-WA providing Direct Federal Assistance, the following aid was provided in support of the Federal aid provided in support of the 2014 Washington Wildfires included:

- \$33,945,000 FEMA Public Assistance Grants
- \$9,236 FEMA Public Assistance – Direct Federal Assistance
- \$3,000,500 Small Business Administration (SBA) declaration
- \$40,000 US Army Corps of Engineers PL84-99 Advance Measures

FMAG Number	Fire Name	Impacted County
FM-5058	Lake Spokane Fire	Stevens County
FM-5059	Mills Canyon Fire	Chelan County
FM-5061	Chiwaukum Fire	Chelan County
FM-5062	Carlton Complex Fire	Chelan County, Okanogan County
FM-5063	Watermelon Hill Fire	Lincoln County, Spokane County
FM-5064	Saddle Mountain Fire	Kittitas County
FM-5071	Snag Canyon Fire	Kittitas County
FM-5072	Hansel Fire	Chelan County

Date	State Fire Mobilization Fire	Impacted County
9/13/2014	Trinidad Fire	Grant
8/21/2014	Sand Ridge Fire	Klickitat
8/06/2014	Snag Canyon Fire	Kittitas
8/01/2014	Rising Eagle Road Fire	Okanogan
7/29/2014	Road C Fire	Douglas
7/29/2014	High Drive Fire	Spokane
7/19/2014	Watermelon Hill Fire	Lincoln, Spokane
7/15/2014	Stokes Road Fire	Okanogan
7/07/2014	Rock Hill Fire	Douglas
6/17/2014	Cottonwood 2 Fire	Yakima

Less than a month after the devastating 2014 Central Washington Firestorm, heavy rains led to flash flooding and mudslides in Okanogan County on land scarred by wildfires. Debris from the floods and mudslides affected major access routes such as Highway 20 and Highway 153. The following federal aid was provided due to the flooding:

\$4,277,285 FHWA Emergency Relief (ER) declaration (WA 14-4)

As the wettest year on record continued for Washington State, two additional winter storms brought damages in November 2014 and November/December 2014.

\$252,000 USACE PL84-99 Emergency Flood Fighting Measures

\$300,000 USACE PL84-99 Emergency Flood Fighting Measures

A severe winter storm in January 2015 including heavy rainfall, flooding, and mudslides brought a significant amount of concentrated damages to Grays Harbor County and Pacific County. A Stafford Act Declaration was not requested as the incurred damages, although significant to the impacted jurisdictions, did not meet the state's Public Assistance Program indicator of \$9.48 million. Grays Harbor County damages of \$4.7 million met over half of the state requirement and combined damages for Grays Harbor County and Pacific County met almost 70 percent of the state's indicator. The following federal funding was provided:

\$605,800 Small Business Administration Severe Storms, Flooding, Mudslides (14215, 14216)

\$500,000 FHWA Emergency Relief for January 3, 2015 Rainfall and Flooding (WA 15-02)

\$750,000 USACE PL84-99 Emergency Flood Fighting Measures

Another Severe Winter Storm in February 2015

\$250,000 USACE PL84-99 Emergency Flood Fighting Measures

Summer 2015 in the state of Washington produced an unprecedented 29 state fire mobilizations costing an estimated \$28,845,000 in fire suppression costs on local lands. Additionally, the state incurred an estimated \$94,872,860 in fire suppression costs on state lands. Due to the level of threat and extreme fire behavior, FEMA approved 12 Fire Management Assistance Grants (FMAG) declarations in 2015:

FMAG #	FMAG Name	Impacted County
FM-5087	Sleepy Hollow	Chelan County
FM-5090	Blue Creek	Walla Walla County
FM-5094	Highway 8	Klickitat County
FM-5098	Nine Mile Fire	Okanogan County
FM-5100	Chelan Complex	Chelan, Okanogan, and Douglas County
FM-5101	Stickpin Fire	Ferry County
FM-5103	Stevens Complex	Stevens County
FM-5104	Okanogan Complex	Okanogan, Ferry, Confederated Tribes of the Colville Reservation
FM-5106	Twisp River Fire	Okanogan County
FM-5108	Renner Fire	Ferry and Stevens County
FM-5109	Goodell Fire	Skagit and Whatcom County
FM-5113	Horsethief Butte Fire	Klickitat County

Date	State Fire Mobilization Fire	Impacted County
9/13/2015	Stateline Fire	Walla Walla
9/13/2015	Horsethief Butte Fire	Klickitat
8/29/2015	Tucannon Fire	Columbia / Garfield
8/25/2015	Upper Skagit Complex Fire	Whatcom / Skagit
8/19/2015	North Star Fire	Colville Reservation
8/19/2015	Twisp River Fire	Okanogan
8/19/2015	Renner Lake Fire	Ferry / Stevens
8/18/2015	Black Canyon & McFarland Creek Fires	Okanogan
8/17/2015	Okanogan Complex	Okanogan
8/14/2015	Marble Valley Fire	Stevens
8/14/2015	Carpenter Road Fire	Stevens
8/14/2015	Reach Fire Complex	Chelan / Douglas / Okanogan
8/14/2015	Stickpin Fire	Ferry
8/09/2015	Coulee Hite Fire	Spokane
8/05/2015	Hwy 8 Fire	Klickitat
8/01/2015	Sunrise Fire	Pierce

7/31/2015	Deckerville Fire	Mason
7/20/2015	Blue Creek Fire	Walla Walla
7/20/2015	Interstate 90 Fire	Grant
7/11/2015	Douglas County Complex Fire	Douglas
7/05/2015	Gilmore Gulch Fire	Asotin
7/05/2015	Beezley Hills Fire	Grant
7/03/2015	Junction Fire	Klickitat
7/03/2015	231 Road Fire	Stevens
7/01/2015	Monument Fire	Grant
6/30/2015	Road 6 Fire	Douglas
6/28/2015	Sleepy Hollow Fire	Chelan
6/27/2015	Les Blair Fire	Benton
6/13/2015	Cold Springs Fire	Douglas



In addition to Emergency Declaration 3372-EM-WA providing Direct Federal Assistance, 4242-DR-WA was declared for a windstorm that impacted the state on August 29, 2015, and 4243-DR-WA was declared on October 20, 2015, for the Washington Wildfires and Mudslides which occurred from August 9, 2015, to September 10, 2015.

The below table portrays the total federal assistance provided to Washington for disasters during 2014 and 2015:

	<i>FEMA Public Assistance</i>	<i>FHWA Emergency Relief</i>	<i>SBA Declaration</i>	<i>USACE PL 84-99</i>
<i>SR-530 Mudslide</i>	\$34,554,536	\$36,000,000	\$1,215,300	\$1,150,000
<i>SR-530 Mudslide – DFA</i>	\$5,950,000			
<i>March 2014 Rainfall</i>		\$8,943,898		\$500,000
<i>Washington Wildfires 2014</i>	\$33,945,000		\$3,000,500	\$40,000
<i>Washington Wildfires 2014 – DFA</i>	9,236			
<i>August 2014 Heavy Rainfall</i>		\$4,277,285		
<i>November 2014 Severe Winter Storm</i>		\$700,000		\$252,000
<i>Nov/Dec 2014 Severe Winter Storm</i>		\$5,000,000		\$300,000

<i>January 2015 Severe Storms</i>		\$500,000	\$605,800	\$750,000
<i>February Severe Winter Storms</i>		\$ 800,000		\$250,000
<i>Washington Wildfires 2015</i>	\$42,337,000			
<i>Washington Wildfires 2015-DFA</i>	\$75,000			
<i>August 2015 Windstorm</i>	\$9,051,900	\$1,500,000		
<i>Totals</i>	\$125,922,672	\$57,721,183	\$4,821,600	\$3,242,000

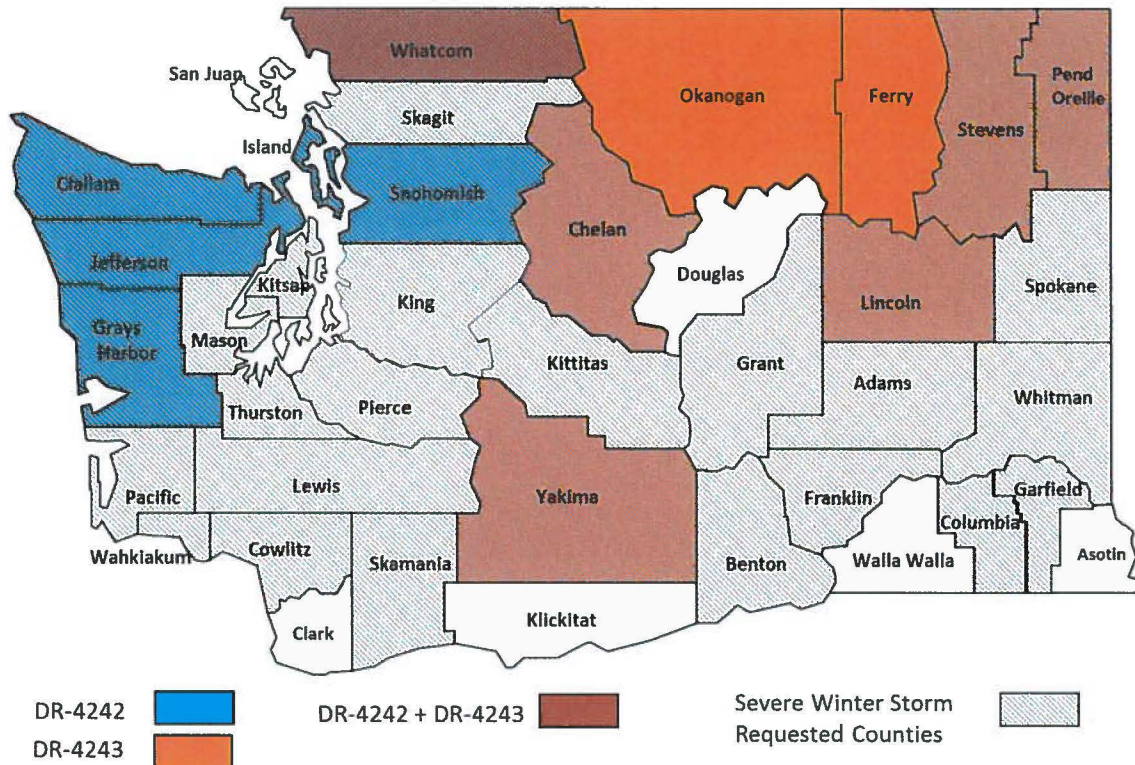
While the assistance provided in response to the impacts from the weather events provides some relief for recovering communities it does not meet the needs of affected our local and tribal jurisdictions. For example, the local jurisdictions sustained \$8 million in damages and response costs from the January 2015 Severe Storms. Residents and property owners in Grays Harbor & Pacific Counties sustained \$4.3 million in uninsured losses of homes and rental housing but were not able to garner any assistance for recovery.

Additionally, the jurisdictions impacted by this windstorm have repeatedly been impacted by severe storms over the last two years. The below events have a combined Public Assistance Initial Damage Assessment (PA IDA) of over \$40 million. However, since damages incurred from each incident failed to meet the state threshold of \$9.4 million, the assistance that comes

	<i>Jan 2014 Severe Storms</i>	<i>Feb 2014 Severe Storms</i>	<i>Nov 2014 Severe Winter Storm</i>	<i>Nov/Dec 2014 Severe Winter Storm</i>	<i>Jan 2015 Severe Storms</i>	<i>Feb 2015 Severe Winter Storms</i>
<i>PA IDA Results</i>	<i>\$1.8M</i>	<i>\$6.2M</i>	<i>\$5.8M</i>	<i>\$8.0M</i>	<i>\$7.3M</i>	<i>\$3.8M</i>
Clallam	X	X	X	X		X
Grays Harbor	X	X		X	X	X
Island	X					
Jefferson	X	X	X	X		X
King		X		X	X	
Lewis					X	
Mason		X		X		X
Pierce		X			X	
Skagit		X		X	X	
Snohomish	X	X	X	X	X	
Whatcom		X		X	X	
Quileute Nation	X			X		X

with a Major Disaster Declaration has never been provided to the counties for these associated events. A number of the counties affected by this severe winter storm were declared counties under 4242-DR-WA and still recovering from the August 2015 Severe Winter Storm.

As illustrated below, this disaster is the third major disaster event to hit our communities in a mere six months. While only one jurisdiction was included in both 4242-DR-WA and 4243-DR-WA declarations, it does not provide an adequate gauge for the damages sustained and impacts felt throughout the entire state. Ten of the impacted counties recovering from declared events of summer 2015 have again been impacted by this winter storm:



Public Assistance

On December 4, 2015, the state requested a joint FEMA-State Preliminary Damage Assessment (PDA) for Public Assistance with FEMA Region X. The counties included in the PDA request were Adams, Benton, Chelan, Clallam, Columbia, Cowlitz, Franklin, Garfield, Grant, Grays Harbor, Island, Jefferson, King, Kitsap, Kittitas, Lewis, Lincoln, Mason, Pacific, Pend Oreille, Pierce, Skagit, Skamania, Snohomish, Spokane, Stevens, Thurston, Wahkiakum, Whatcom, Whitman, and Yakima. The PDA began on December 14 at Camp Murray, Washington and was completed on December 30. The joint FEMA/State PDA teams validated that damages incurred by Washington State due to the November 2015 Severe Winter Storm totaled \$21,743,432.80.

- Category (F) utilities comprised 45 percent of the overall damage at \$9,830,311.91; Snohomish County reported the most damages to utilities at \$5,204,393.00, or almost 53 percent of Category (F).

- Category (A) debris removal comprised 14 percent of the overall damages at \$3,129,313.00.

Listed below are the respective indicators, by county, for the Public Assistance Program:

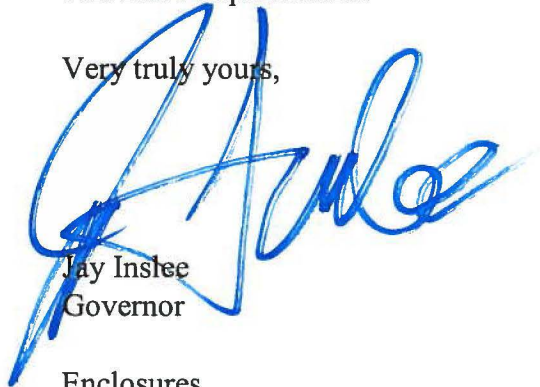
Applicant	Verified	Threshold	Population	Impact Per Capita
Adams County Total	\$55,850.00	\$66,858.96	18,728	\$2.98
Benton County Total	\$180,121.00	\$625,381.89	175,177	\$1.03
Chelan County Total	\$379,131.00	\$258,657.21	72,453	\$5.23
Clallam County Total	\$377,339.00	\$254,912.28	71,404	\$5.28
Columbia County Total	\$3,300.00	\$14,558.46	4,078	\$0.81
Cowlitz County Total	\$20,635.00	\$365,603.70	102,410	\$0.20
Franklin County Total	\$121,775.00	\$279,041.91	78,163	\$1.56
Garfield County Total	\$8,500.00	\$8,089.62	2,266	\$3.75
Grant County Total	\$216,944.00	\$318,158.40	89,120	\$2.43
Grays Harbor County Total	\$127,081.00	\$259,885.29	72,797	\$1.75
Island County Total	\$280,065.89	\$280,266.42	78,506	\$3.57
Jefferson County Total	\$816,893.00	\$106,643.04	29,872	\$27.35
King County Total	\$3,588,019.00	\$6,894,558.93	1,931,249	\$1.86
Kitsap County Total	\$72,419.00	\$896,544.81	251,133	\$0.29
Kittitas County Total	\$161,176.00	\$146,066.55	40,915	\$3.94
Lewis County Total	\$515,297.00	\$269,374.35	75,455	\$6.83
Lincoln County Total	\$38,111.91	\$37,734.90	10,570	\$3.61
Mason County Total	\$356,434.00	\$216,695.43	60,699	\$5.87
Pacific County Total	\$18,000.00	\$74,684.40	20,920	\$0.86
Pend Oreille County Total	\$313,500.00	\$46,413.57	13,001	\$24.11
Pierce County Total	\$843,696.00	\$2,838,953.25	795,225	\$1.06
Skagit County Total	\$184,000.00	\$417,336.57	116,901	\$1.57
Skamania County Total	\$125,400.00	\$39,505.62	11,066	\$11.33
Snohomish County Total	\$6,781,877.00	\$2,546,605.95	713,335	\$9.51
Spokane County Total	\$4,997,079.00	\$1,682,258.97	471,221	\$10.60
Stevens County Total	\$349,654.00	\$155,405.67	43,531	\$8.03

Thurston County Total	\$47,700.00	\$900,582.48	252,264	\$0.19
Wahkiakum County Total	\$27,856.00	\$14,201.46	3,978	\$7.00
Whatcom County Total	\$355,792.00	\$718,069.80	201,140	\$1.77
Whitman County Total	\$301,687.00	\$159,850.32	44,776	\$6.74
Yakima County Total	\$78,100.00	\$868,334.67	243,231	\$0.32
Statewide Total	\$21,743,432.80	\$9,481,601.40	6,724,540	\$3.23

The two most impacted jurisdictions were Snohomish County and Spokane County with combined damage at 54 percent of total reported damages. Snohomish County reported \$6,781,877.00 dollars in damage, which accounted for more than 30 percent of total damages identified, while Spokane County reported 23 percent of total damages at \$4,997,079.00 dollars.

In accordance with 44 CFR § 201.4, the Federal Emergency Management Agency (FEMA) approved the Washington State Enhanced Hazard Mitigation Plan on October 1, 2013. I certify that state and local government obligations and expenditures for this incident comply with all cost share requirements.

Very truly yours,



Jay Inslee
Governor

Enclosures

- A: Public Assistance
- B: Requirements for Other Federal Agency Programs
- C: NWS-Seattle Weather Statement
- D: OMB No. 1660-0009/FEMA Form 010-0-13
- E. State Emergency Proclamation
- F. Local Emergency Declarations

ENCLOSURE A TO MAJOR DISASTER REQUEST

Estimated Stafford Act Requirements for Public Assistance and Preliminary Damage Assessment Cost Estimate Worksheet

Applicant	Category A Debris Removal	Category B Emergency Protective Measures	Category C Roads & Bridges	Category D Water Control Facilities	Category E Buildings & Equipment	Category F Utilities	Category G Parks, Recreation Facilities & Other	Total	Population	Impact Per Capita
<i>Adams County Total</i>	\$5,500.00	\$9,000.00	\$200.00	\$500.00	\$40,350.00	\$200.00	\$100.00	\$55,850.00	18,728	\$ 2.98
<i>Benton County Total</i>	\$2,000.00	\$0.00	\$3,121.00	\$0.00	\$0.00	\$175,000.00	\$0.00	\$180,121.00	175,177	\$ 1.03
<i>Chelan County Total</i>	\$115,540.00	\$135,000.00	\$120,000.00	\$0.00	\$0.00	\$8,591.00	\$0.00	\$379,131.00	72,453	\$ 5.23
<i>Clallam County Total</i>	\$38,100.00	\$80,000.00	\$0.00	\$0.00	\$10,000.00	\$128,239.00	\$121,000.00	\$377,339.00	71,404	\$ 5.28
<i>Columbia County Total</i>	\$1,900.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$1,400.00	\$3,300.00	4,078	\$ 0.81
<i>Cowlitz County Total</i>	\$5,635.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$15,000.00	\$20,635.00	102,410	\$ 0.20
<i>Franklin County Total</i>	\$3,050.00	\$0.00	\$0.00	\$0.00	\$118,725.00	\$0.00	\$0.00	\$121,775.00	78,163	\$ 1.56
<i>Garfield County Total</i>	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$8,500.00	\$0.00	\$8,500.00	2,266	\$ 3.75
<i>Grant County Total</i>	\$8,970.00	\$0.00	\$0.00	\$0.00	\$32,100.00	\$130,000.00	\$45,874.00	\$216,944.00	89,120	\$ 2.43
<i>Grays Harbor County Total</i>	\$2,520.00	\$0.00	\$0.00	\$0.00	\$0.00	\$124,561.00	\$0.00	\$127,081.00	72,797	\$ 1.75
<i>Island County Total</i>	\$104,858.00	\$38,673.00	\$0.00	\$0.00	\$3,279.89	\$128,255.00	\$5,000.00	\$280,065.89	78,506	\$ 3.57
<i>Jefferson County Total</i>	\$38,318.00	\$8,300.00	\$402,500.00	\$3,500.00	\$0.00	\$364,275.00	\$0.00	\$816,893.00	29,872	\$ 27.35
<i>King County Total</i>	\$878,899.00	\$550,789.00	\$349,328.00	\$1,378,553.00	\$0.00	\$200,000.00	\$230,450.00	\$3,588,019.00	1,931,249	\$ 1.86
<i>Kitsap County Total</i>	\$28,640.00	\$11,154.00	\$0.00	\$0.00	\$26,875.00	\$0.00	\$5,750.00	\$72,419.00	251,133	\$ 0.29
<i>Kititas County Total</i>	\$26,036.00	\$9,300.00	\$125,840.00	\$0.00	\$0.00	\$0.00	\$0.00	\$161,176.00	40,915	\$ 3.94
<i>Lewis County Total</i>	\$98,904.00	\$13,000.00	\$20,000.00	\$125,000.00	\$0.00	\$60,000.00	\$198,393.00	\$515,297.00	75,455	\$ 6.83
<i>Lincoln County Total</i>	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$38,111.91	\$0.00	\$38,111.91	10,570	\$ 3.61
<i>Mason County Total</i>	\$39,989.00	\$21,152.00	\$62,500.00	\$0.00	\$20,000.00	\$212,793.00	\$0.00	\$356,434.00	60,699	\$ 5.87
<i>Pacific County Total</i>	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$18,000.00	\$18,000.00	20,920	\$ 0.86
<i>Pend Oreille County Total</i>	\$32,500.00	\$0.00	\$0.00	\$0.00	\$0.00	\$281,000.00	\$0.00	\$313,500.00	13,001	\$ 24.11
<i>Pierce County Total</i>	\$157,025.00	\$0.00	\$0.00	\$103,600.00	\$350,000.00	\$232,871.00	\$200.00	\$843,696.00	795,225	\$ 1.06
<i>Skagit County Total</i>	\$71,000.00	\$10,000.00	\$103,000.00	\$0.00	\$0.00	\$0.00	\$0.00	\$184,000.00	116,901	\$ 1.57
<i>Skamania County Total</i>	\$15,400.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$110,000.00	\$125,400.00	11,066	\$ 11.33
<i>Snohomish County Total</i>	\$687,701.00	\$187,752.00	\$417,157.00	\$141,607.00	\$41,367.00	\$5,204,393.00	\$101,900.00	\$6,781,877.00	713,335	\$ 9.51
<i>Spokane County Total</i>	\$591,064.00	\$984,725.00	\$31,000.00	\$170,934.00	\$461,675.00	\$2,016,557.00	\$741,123.00	\$4,997,079.00	471,221	\$ 10.60
<i>Stevens County Total</i>	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$349,654.00	\$0.00	\$349,654.00	43,531	\$ 8.03
<i>Thurston County Total</i>	\$7,700.00	\$0.00	\$0.00	\$40,000.00	\$0.00	\$0.00	\$0.00	\$47,700.00	252,264	\$ 0.19
<i>Wahkiakum County Total</i>	\$20,545.00	\$0.00	\$0.00	\$0.00	\$0.00	\$7,311.00	\$0.00	\$27,856.00	3,978	\$ 7.00
<i>Whatcom County Total</i>	\$125,610.00	\$60,144.00	\$148,042.00	\$0.00	\$21,996.00	\$0.00	\$0.00	\$355,792.00	201,140	\$ 1.77
<i>Whitman County Total</i>	\$21,909.00	\$41,440.00	\$0.00	\$111,497.00	\$41,841.00	\$85,000.00	\$0.00	\$301,687.00	44,776	\$ 6.74
<i>Yakima County Total</i>	\$0.00	\$0.00	\$0.00	\$0.00	\$3,100.00	\$75,000.00	\$0.00	\$78,100.00	243,231	\$ 0.32
Statewide Total	\$3,129,313.00	\$2,160,429.00	\$1,782,688.00	\$2,075,191.00	\$1,171,309.89	\$9,830,311.91	\$1,594,190.00	\$21,743,432.80	6,724,540	\$ 3.23
Percentage by Category	14.39%	9.94%	8.20%	9.54%	5.39%	45.21%	7.33%	100.00%		

ENCLOSURE B TO MAJOR DISASTER REQUEST

Estimated Assistance from Other Federal Agency Programs

County/ Tribal Area	SBA Home Loans	SBA Business Loans	FSA Loans	NRCS	FHWA	USACE	BIA	OTHER
Chelan County	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD
Clallam County	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD
Garfield County	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD
Island County	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD
Jefferson County	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD
Lewis County	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD
Mason County	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD
Pend Oreille County	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD
Skamania County	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD
Snohomish County	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD
Spokane County	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD
Stevens County	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD
Wahkiakum County	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD
Whitman County	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD
Totals								

Note: Extent of other federal assistance is not known at this time