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PUBLIC INFORMATION STATEMENT
NATIONAL WEATHER SERVICE SEATTLE WA
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...2011…Western Washington Weather Year in Review...

The year began with one of the strongest La Ninas in the past 60 years in full swing and finished with La Nina returning for only the fifth time in back-to-back years since 1950. La Ninas typically bring active winter season weather. Yet La Nina seemed to pause in January and again in December with relatively tranquil weather.

The year was highlighted by February lowland snow, a cool and wet spring via a La Nina hangover, a warm finish to summer and a dry and cool fall.

During the year, adverse weather resulted in three fatalities and four injuries. All except one were related to avalanches. One fatality was the result of a downed tree from wind onto a state dot truck. The two other fatalities were from avalanches along with the four injuries. Reported property damage from adverse weather through October was just over one half million dollars. Property damage results were not yet available for November and December.

The year began with a pause in La Nina and relatively mild weather in January. Temperatures were about one to two degrees above normal. La Nina returned in February with a quite cool month and snow falling in the lowlands during the third week. Temperatures were between three and five degrees below normal. Olympia had its coldest temperature of the year at 5 degrees on February 25th while Bellingham had its coldest reading of 16 on that date. Seatac airport's coldest temperature of the year was 19 degrees on the 26th.

Then La Nina hung on through the spring with temperatures well below average and precipitation above normal. One good example includes Seatac airport having the coldest April ever going back to 1891 when records began in downtown Seattle. The average high temperature was 52.2 degrees while normal is 58.1 degrees. Seatac also had the fourth wettest April ever with 4.47 inches and third wettest May with 3.20 inches. The combined April/May precipitation was also the third wettest ever.

The wet spring also resulted in one of the latest winter season flood events around the end of March and into early April. The Snoqualmie River at Carnation recorded major flood stage on April 1st, the latest ever.

Summer – many felt we did not have one and that it was cool and wet. Yet with the exception of the north coast, June, July, August and September were all below normal for rain. Now June and July were between about one half to one and one half degrees below average. Yet August was close to average and September was quite warm with average temperatures running between two and three degrees above normal. Olympia had their warmest high of the year on September 11th, Quillayute had 86 on the 7th and Bellingham had 83 on the 8th. Seatac airport's warmest reading of the year was 87 on August 21st.

With La Nina returning, temperatures turned cooler in November and December. Precipitation was close to normal for October and November, yet La Nina paused again in December with well below normal precipitation. In fact with only days left in the month, December is on track to be the driest December on record. Through December 18th, Quillayute near Forks had only received 0.65 inches…while the previous record is 3.63 inches set back in 1985. Olympia has had only 0.13 inches and the record is 2.50 inches also set back in 1985. Seatac's record is 1.37 inches set in 1978, and only 0.25 inches has fallen thus far.

Thanks to the dry December, many locations in western Washington are now below normal for precipitation this year. For example, Olympia has had 47.03 inches of precipitation – 0.90 inches below normal through the 18th.

The year will likely be one of the coolest on record as well. As of December 19th, Olympia was the third coolest

on record for average high temperatures with 58.0 degrees – the record is 57.2 degrees in 1955, and Seatac airport's average high temperature of 57.9 degrees was the 9th coolest – the record is 55.3 degrees in 1955.

There were two weak tornadoes in the state in 2011, one in late May just east of Napavine in Lewis County and the other in early October northwest of Saint Johns in Whitman County. Washington averages between one and two tornadoes per year. There was also a brief funnel cloud reported near Mount Vernon in late April. A funnel cloud is defined as a rapidly rotating column of air not reaching the ground. For the second year in a row, there were no lightning fatalities or injuries – a sign that lightning awareness programs are helping reduce loss of life and injury.

A list of significant 2011 events in western Washington is given below, as well as record temperatures and precipitation for selected locations.

Significant events

Tornadoes/Waterspouts/Funnel clouds across Washington

Apr 28 – near Mount Vernon – Skagit County
A short-lived funnel cloud was spotted near Mount Vernon.

May 27 – 1/2 mile east of Napavine – Lewis County
An ef0 tornado touched down just east of Napavine for less than 2 minutes. Several buildings suffered damage to metal roofs with missing shingles and siding damage. Large branches snapped off several trees. No deaths or injuries. Peak wind speed estimated at 75 mph.

Oct 5 – 13 miles northwest of Saint John – Whitman County
An ef0 tornado briefly touched down in a wheat field northwest of Saint John. No damage was reported.

Lightning

Though lightning occurred this year…there were no reported deaths or injuries nor any property damage reported.

Hail

No severe sized hail – 1 inch or greater diameter – was reported during the year although there were a number of reports of 0.25 to 0.5 inch diameter hail across much of western Washington.

High winds

Jan 16 – East Puget Sound lowlands
During an easterly wind event out of the cascade passes, winds peaked at 40 mph. A 66-year old state dot worker was killed when a tree fell on Hwy 203 south of carnation hitting him and his truck.

Feb 12 – North and Central Coast
A passing vigorous low pressure system off the coast generated brief high winds up to 65 mph along the coast for a few hours in the afternoon. No damage or injuries were reported.

Feb 14 – North and Central Coast, Central Puget Sound area
Brief late day strong southerly winds affected the coast and central Puget Sound areas. Power was knocked out to about 20000 homes on the Kitsap peninsula. Damage was estimated near 20000 dollars.

Mar 2 – Coast, North Interior and central Puget Sound area
Winds up to 58 mph were reported in these areas. A tree toppled onto a home in Shoreline. Several trees fell across roads and power lines on the north Coast and in the Admiralty Inlet areas. Some ferry sailings were cancelled. Damages were estimated to be near $72000.

Mar 10 – Central Puget Sound area
Winds of up to 60 mph blew for a few hours during the middle of the day. A few trees were knocked down. Damages were estimated to be near 130000 dollars.

Sep 25/26 – much of western Washington
Strong southerly winds blew along the coast, north interior and Puget Sound region. Winds up to 75 mph blew in Whatcom County and up to 60 mph along the coast and Lake Lawrence near Yelm. 9000 people lost power in Snohomish County and another 9000 lost power on the central coast. The Bellingham area had scattered power outages and a car was damaged by tree limbs.

Nov 21-24 – Coast and North Interior
Several periods of strong winds of up to 58 mph occurred along the coast and north interior. No reported significant damage or power outages.

Winter storms

Jan 11-12 – western Whatcom county and the cascades
Precipitation overrunning a cold air mass brought brief heavy snow to the western Whatcom county lowlands of up to 4 inches before the snow changed to rain. Heavy snow also fell in the cascades.

Feb 22-23 – much of western Washington
Snow fell over much of western Washington. Amounts varied from one to 10 inches with one location in Mount Vernon reporting 16 inches.

Avalanche

Feb 1 – near Snoqualmie pass
A skier was buried and killed when a cornice collapsed.

Mar 4 – Mount Baker
A snowboarder triggered and then was caught by a large slab avalanche that carried him into trees and caused serious injuries.

Mar 27 – near Stevens Pass
A snowboarder was killed in an avalanche.

Apr 3 – just south of Stevens Pass
Two snowboarders triggered and were caught by a cornice collapse triggering an avalanche. One injured.

Apr 6 – near Snoqualmie pass
Two back country skiers were injured in an avalanche just below the summit of Snoqualmie Mountain.

Floods/Heavy Rain/Landslides

Jan 13-19 – much of western Washington
A period of rainfall resulted in flooding and a landslide that impacted a segment of the mountain loop highway east of Granite Falls. Flooding on the north fork of the Skykomish River washed away a cabin near Index. The Snoqualmie River reached major flood stage, closing SR 202 near Carnation and Fall City. The Cowlitz near Randle and the Snohomish River also both reached major flood stage. Other flooding rivers included the Carbon, Cedar, Chehalis from Grand Mound downstream, Green, Newaukum, Nisqually, Nooksack and Puyallup near Orting, Satsop, Skagit, Skokomish, Stillaguamish, Skookumchuck and Tolt. Damages were estimated just over 100,000 dollars.

Mar 10-17 – parts of interior western Washington
A period of rainfall helped create a landslide near Snohomish and push the Chehalis at Grand

Mound…Skookumchuck and Skokomish rivers over flood stage. The landslide damaged four homes on a slope near Snohomish. Damage was estimated near 110,000 dollars.

Mar 30-Apr 3 – much of western Washington
More heavy rainfall produced one of the latest winter season flood scenarios on record. The Snoqualmie River at Carnation exceeded major flood stage – the latest date on record. Other rivers that exceeded flood stage included the Skykomish, Snohomish, Tolt and Stillaguamish. A landslide near bush point on Whidbey Island took out part of Susana drive. No damage estimates were available.

Nov 22-24 – parts of the western Washington interior
A period of heavy rainfall of up to 10 inches in the mountains produced the first flood scenario of the fall/winter season. Rivers that exceeded flood stage included the Stillaguamish, Puyallup at Orting, Deschutes, Newaukum and Skokomish rivers. No damage estimates were available at this time.

Heat

There were no heat waves or temperatures of 90 degrees or above at most key reporting stations. Yet the warm September did have a nine day streak of 80 degrees or better at Olympia and Seatac airport.

Odds and Ends

Given the healthy mountain snowpack during the winter of 2010-11 and the cool wet spring, the snowpack was slow to melt this year. To illustrate, at Paradise on Mount Rainier on August 15th, 44 inches of snow remained – the highest ever on that date.

The March 11th Japan (Tohoku) earthquake did generate a tsunami in western Washington's coastal waters the following day. As an example, Westport reported tsunami waves up to about one and half feet. Other locations including Puget Sound tides gauges recorded waves about that height or less.

On November 23rd, the combination of high tides, high surf, lower atmospheric pressure and onshore winds produced some coastal flooding in Pacific County's Raymond. The tide anomaly was 1.7 feet above the high tide and resulted in up to 8 inches of water covering U.S. 101 and other roadways in town.

And speaking of atmospheric pressure, Seatac airport recorded the highest atmospheric pressure on record going back to 1948. The barometer hit 1043.4 millibars or 30.81 inches of mercury breaking the previous record of 1043.0 millibars set on January 28, 1949.

Record temperatures and precipitation set in 2011

Here are the daily high, low and precipitation records that were broken during 2011. Entries have the month/date of the record, with the record value following. A (t) means that it was tied.

During the previous decade or so, there were far more record high temperatures broken than lows. This year note the greater number of low temperature records as well as precipitation records.

SEA-TAC AIRPORT

HIGH TEMP		LOW TEMP		PRECIPITATION	
01/16	55	02/23	27	03/09	1.47
09/08	85(T)	02/24	24	04/01	1.13
11/27	56(T)	02/25	20	05/14	0.97
		05/12	38(T)	05/15	0.81
		05/17	39(T)	05/25	0.41
				06/18	0.41

		10/11 0.89
		11/22 1.76

OLYMPIA AIRPORT

HIGH TEMP		LOW TEMP		PRECIPITATION	
01/16	56	02/20	19(T)	03/09	1.82
01/26	58(T)	02/25	5	05/11	0.73
09/11	88	02/26	8	05/14	0.93
		05/17	30	10/11	0.96
		06/17	38(T)		

QUILLAYUTE AIRPORT (NEAR FORKS)

HIGH TEMP		LOW TEMP		PRECIPITATION	
09/03	82	02/09	25(T)	01/05	3.05
		02/20	24(T)	03/29	1.37
		04/08	28(T)	03/30	3.58
		04/20	28	03/31	1.23
		05/01	29	08/22	3.22
		05/04	31(T)	09/26	2.08
		07/04	40(T)		
		07/23	44(T)		
		11/19	25		

HOQUIAM AIPORT

HIGH TEMP	LOW TEMP		PRECIPITATION	
NONE	02/20	26	03/30	1.80
	02/25	24	05/11	0.58
	04/07	31	05/26	0.79
	04/20	32(T)	07/15	0.57
	04/29	33(T)	09/26	1.31
	05/17	34	10/11	1.14
	07/04	46(T)	11/22	2.68
	07/09	44		
	08/16	43(T)		
	11/04	30(T)		

BELLINGHAM AIRPORT

HIGH TEMP		LOW TEMP		PRECIPITATION	
09/08	83(T)	07/04	44(T)	01/21	0.96
11/27	60	07/09	42	03/30	1.31
				04/27	0.90
				07/21	0.42
				11/22	0.92

SEATTLE WFO AT SANDPOINT

HIGH TEMP	LOW TEMP	PRECIPITATION

01/14	55	01/02	27	01/12	0.86
01/15	53(T)	02/09	28	01/13	0.57
01/16	56	02/24	28(T)	02/27	0.32
04/23	63	02/25	24(T)	03/09	1.35
07/06	79	02/26	22	04/01	0.79
08/20	85	03/04	32	04/14	0.46
08/21	88	04/06	35	05/11	0.30
09/04	86(T)	04/07	36	05/14	0.67
09/06	83	04/27	37	06/14	0.26
09/08	85	05/01	38	06/18	0.22
09/09	85(T)	05/04	40(T)	07/25	0.06
09/11	86	05/13	42(T)	07/26	0.09
11/27	53(T)	05/19	42(T)	10/07	0.25
		06/16	46(T)	11/22	1.84
		06/17	47	11/27	0.84
		06/26	46		
		07/01	49(T)		
		07/02	50(T)		
		07/04	48		
		07/09	50		
		07/18	51		
		07/22	50		
		08/01	50		
		08/10	55(T)		
		11/20	29		

BUEHNER/BURG/DAMICO/FELTON/GUY