



## Office of the Washington State Climatologist Newsletter

August 14, 2008

### County Coordinators

In addition to observers, we are currently seeking county coordinators, who will assist with various CoCoRaHS operations within their county. Volunteer coordinators will assist in recruiting new observers, answering questions, and monitor for reporting errors. If you are interested in becoming a volunteer coordinator for your local area, or county, please contact us, [climate@atmos.washington.edu](mailto:climate@atmos.washington.edu). We can use your help!



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### In the Works

Over the next month we hope to complete a few projects that will provide additional climate data on our website. We are currently processing hourly cloud observation data to produce cloud climatologies for up to 25 locations around the state, to supplement our MODIS cloud fraction map. This data will include average daily and monthly cloud cover as well as the number of clear, partly cloudy, and cloudy days.

The UW Hydrologic Monitoring and Prediction System for Washington is being transferred over to the OWSC site and will provide analysis of soil moisture, mountain snowpack, and runoff. This will assist in monitoring drought throughout the state.

With funding this year, we were able to hire a summer assistant to help with various projects including a mountain snow depth plotting tool. This tool will make it convenient for comparing historical mountain snowpack data in the Cascade and Olympic Mountains.

We will soon be embarking on some research projects that include homogenizing monthly precipitation for use in extreme precipitation analysis and as part of eWaCH.net, we will be using a regional model to design an optimal climate observing network (more information will be available at a later point).

## Newsletter Survey

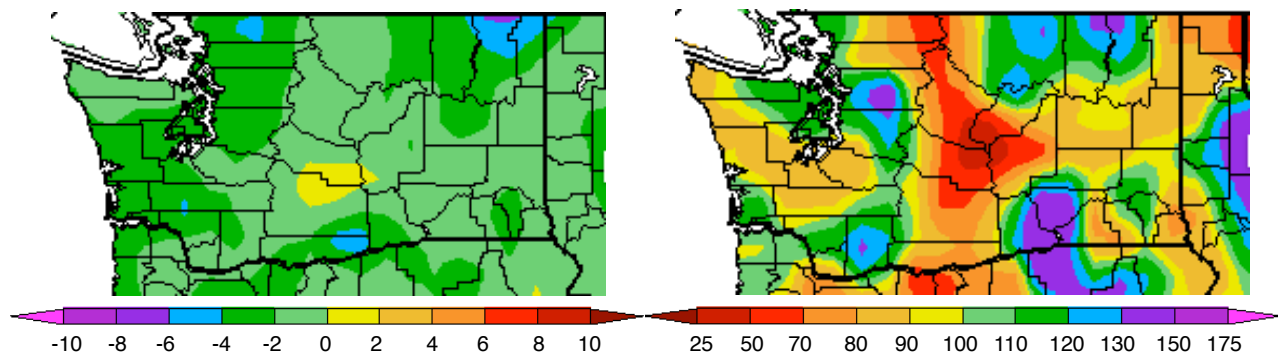
We appreciate the feedback from the 28 people who took our survey, your comments will help us to improve the newsletter! Based on the feedback we received, we will start by improving the readability of our graphics and will begin releasing the newsletter regularly around the 10th of the month.

## Climate Summaries

### June

June began where Spring left off....cold. The first week of the month was the coldest first week of June on record for Seattle. By the second week, snow was falling in Spokane and a windstorm with gusts in excess of 40 mph around Puget Sound made for an unusual June. It had appeared that June was on its way to becoming one of the coldest on record, but that was before warmer weather moved into the region for the remainder of the month.

The statewide average temperature of 58.0°F, was 2.0°F cooler than the 20th century average and ranks as the 21st coldest (1st being the coldest) June out of 114 years. Precipitation varied across the state with the percentage of normal in western Washington ranging from 85% along the coast to 133% for the northwest interior and in eastern Washington, 50% along the east slopes of the Cascades to 150% in the Okanogan and Walla Walla areas.



*June temperature departure from normal (left) and percent of normal precipitation (right).*

*Source: High Plains Regional Climate Center <http://www.hprcc.unl.edu>*

## June Climate Summary for Various Locations

City	Temperature (°F)			Precipitation (inches)		
	Average	Normal	Departure from Normal	Total	Normal	% of Normal
<b>Coast</b>						
Hoquiam	53.9	56.8	-2.9	2.33	2.32	100%
Long Beach	52.3	55.7	-3.4	2.14	2.99	72%
Quillayute	52.7	55.2	-2.5	2.70	3.50	77%
<b>Western WA</b>						
Bellingham	55.3	58.6	-3.3	2.19	1.90	115%
Everett	57.4	59.8	-2.4	2.69	2.26	119%
Olympia	56.5	58.7	-2.2	1.41	1.78	79%
Puyallup	57.7	60.5	-2.8	1.07	1.80	59%
Seattle	58.4	60.6	-2.2	1.64	1.49	110%
Vancouver	61.6	60.7	0.9	1.25	1.73	72%
<b>Cascades</b>						
Mt. Rainier (Paradise)	41.9	44.3	-2.4	5.09	3.90	131%
Ross Dam	57.6	59.3	-1.7	0.58	1.65	35%
Stampede Pass	47.8	48.9	-1.1	4.12	3.87	106%
<b>Eastern WA</b>						
Omak	64.7	65.4	-0.7	1.71	1.50	114%
Ritzville	59.6	61.3	-1.7	0.66	0.74	89%
Spokane	60.8	61.6	-0.8	1.00	1.18	85%
Walla Walla	66.1	67.3	-1.2	0.87	1.16	75%
Wenatchee	65.8	66.3	-0.5	0.05	0.64	8%
Yakima	63.0	64.0	-1.0	0.29	0.62	47%

Normal is defined as the 1971-2000 average. The data above is preliminary and subject to change. The latest official data can be obtained from the National Climatic Data Center (NCDC).

## July

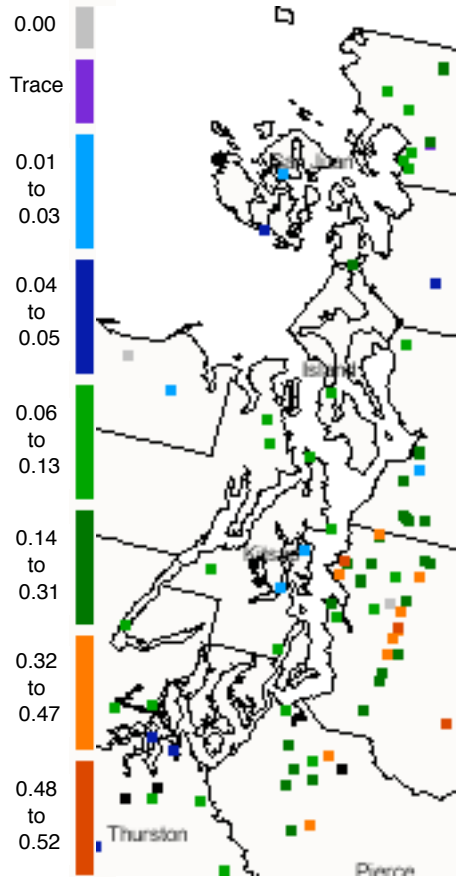
The firework celebration came early for western Washington as mother nature put on its own show. Strong southerly flow pushed moist unstable air northward into western Washington the night of July 2 and morning of July 3, resulting in the rare occurrence of severe thunderstorms. The National Weather Service Office in Seattle, reported over 2500 lightning strikes in the region through 5 a.m. and issued several severe thunderstorm warnings that night.

This was an exciting night for many of our CoCoRaHS observers, who were eager to report their observations. Observers reported the unusual amount of lightning in their areas: from station WA-IS-1, "Unusual amount of lightning and thunder for the Greenbank area of Whidbey Island associated with this rainfall" and from WA-KG-3, "Longest lasting thunderstorm I have seen in Seattle area". Many observers reported heavy rain and a few reports mentioned small hail up-to 3/8".



*Lightning along the water in Bellingham the night of July 2.*

Source: [KOMO-TV](#)



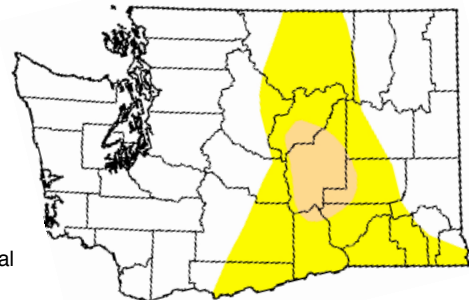
CoCoRaHS precip. reports for July 3  
 Source: [www.cocorahs.org](http://www.cocorahs.org)

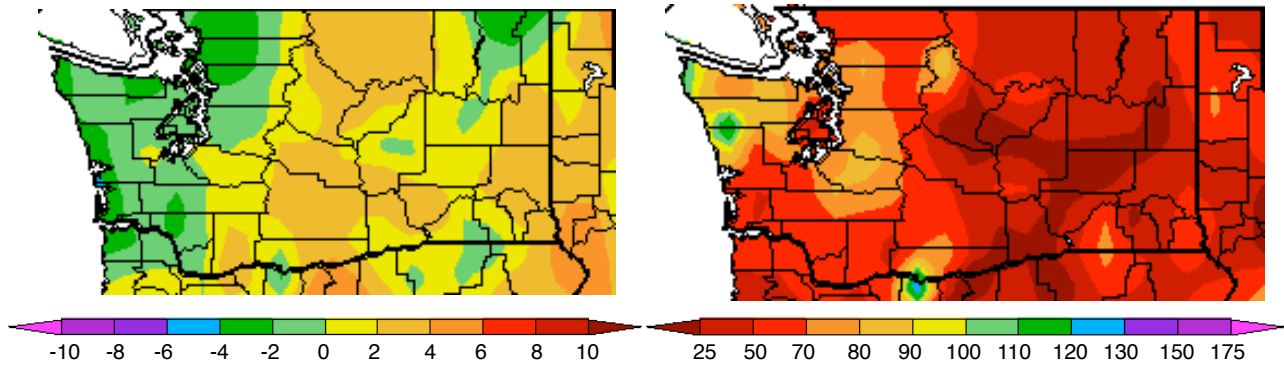
For some observers, this was the first measurable rainfall event to report. Reported in Shelton by station WA-MS-1, "Overnight thunderstorms brought the first precip. to my area in almost a month." Rainfall measurements around Puget Sound ranged from 0.10" to 0.50".

Due in part to the exceptionally cool coastal ocean temperatures, July temperatures were slightly cooler than normal in the western half of the state and slightly warmer in eastern Washington. The statewide average temperature was 65.9°F, 0.2°F warmer than the 20th century average. Precipitation was below normal for much of the state especially in eastern Washington where many areas received little to no precipitation. July on average is the driest month of the year, but it is only the 11th time since 1890 that Spokane has not received any measurable precipitation in the month of July. Due to continued below average precipitation, eastern Washington is currently being monitored closely for a developing drought situation.

**U.S. Drought Monitor**  
 Washington  
 Aug. 12

- D0 Abnormally Dry
- D1 Drought - Moderate
- D2 Drought - Severe
- D3 Drought - Extreme
- D4 Drought - Exceptional





July temperature departure from normal (left) and percent of normal precipitation (right).  
 Source: High Plains Regional Climate Center <http://www.hprcc.unl.edu>

### July Climate Summary for Various Locations

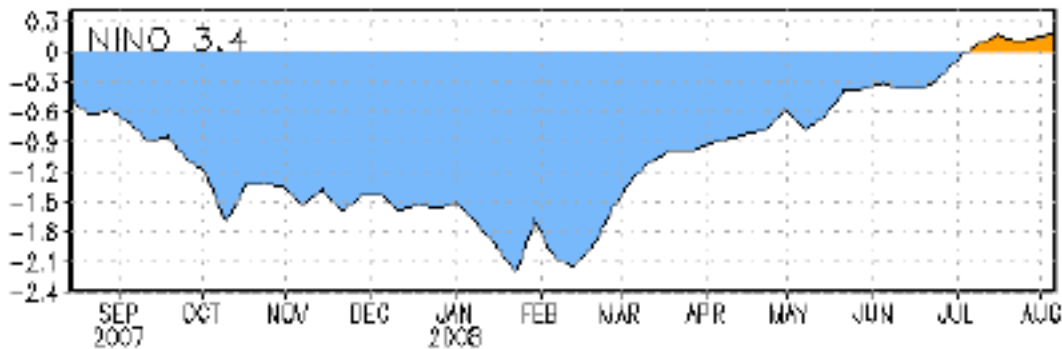
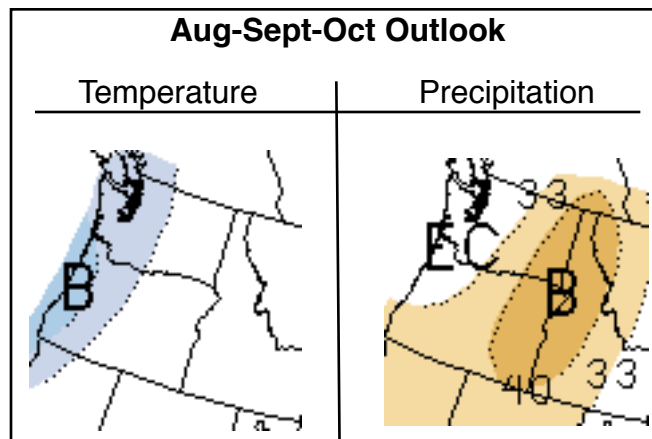
City	Temperature (°F)			Precipitation (inches)		
	Average	Normal	Departure from Normal	Total	Normal	% of Normal
<b>Coast</b>						
Hoquiam	57.8	60.1	-2.3	0.80	1.30	62%
Long Beach	56.0	58.7	-2.7	0.35	1.69	21%
Quillayute	56.7	59.0	-2.3	2.69	2.34	115%
<b>Western WA</b>						
Bellingham	60.4	62.4	-2.0	0.63	1.35	47%
Everett	62.7	63.6	-0.9	0.62	1.30	48%
Olympia	62.6	63.3	-0.7	0.42	0.82	51%
Puyallup	62.9	64.9	-2.0	0.91	0.88	103%
Seattle	64.9	65.3	-0.4	0.48	0.79	61%
Vancouver	68.4	65.4	3.0	0.23	0.80	29%
<b>Cascades</b>						
Mt. Rainier (Paradise)	51.4	51.3	0.1	0.91	2.10	43%
Ross Dam	66.1	65.0	1.1	0.41	1.39	29%
Stampede Pass	56.9	55.4	1.5	0.72	1.89	38%
<b>Eastern WA</b>						
Omak	72.2	73.1	-0.9	0.11	0.65	17%
Ritzville	69.4	68.6	0.8	0.00	0.54	0%
Spokane	70.3	68.6	1.7	0.00	0.76	0%
Walla Walla	74.8	74.8	0.0	0.25	0.72	35%
Wenatchee	74.7	73.2	1.5	0.00	0.30	0%
Yakima	70.7	70.1	0.6	0.05	0.22	23%

Normal is defined as the 1971-2000 average. The data above is preliminary and subject to change. The latest official data can be obtained from the National Climatic Data Center (NCDC).

## Outlook

The Climate Prediction Center’s (CPC) 3-month outlook continues to suggest an increased probability that temperatures will be below normal in western Washington, while in eastern Washington, there is an equal chance for above, below, or normal temperatures for the August-September-October period. For precipitation, conditions are not likely to improve in eastern Washington. The 3-month CPC precipitation outlook calls for a greater than 33% chance that precipitation will be below normal in central Washington and greater than 40% chance further east.

Since summer, the current state of ENSO remains classified as “neutral” by the CPC and is expected to remain neutral through the Fall. The probability is low, but a few models suggest that warmer ENSO conditions will develop and result in a weak El Niño by the end of the year. However, the majority of model forecasts suggest that ENSO neutral conditions will persist through the end of the year and likely through Spring 2009.



*Niño 3.4 Sea-Surface temperature anomalies. La Niña conditions are characterized by negative monthly SST anomalies less than or equal to -0.5°C.*