

Figures 1a and b: a) Departure from Normal Temperature (°F) and b) Percent of Normal Precipitation for June (source: HPRCC)

After the second wettest Spring 2011 in Oregon history (National Climatic Data Center Climate at a Glance), parts of the state were offered some relief from the wet with the climatological start to summer (June 1). In the Willamette Valley, Columbia River Gorge and much of the Oregon coast, precipitation was below normal. In the Rogue Valley/Siskiyou, Columbia Plateau and Steens Mountains, monthly precipitation was above normal for another month, but no single station daily precipitation record was broken in the state.

Spring was also cool in the Northwest and temperatures continued to remain well below normal across much of the state in June. According to NCDC, it was the 13th coolest June statewide in 117 years of record. An average temperature of 56.8 °F is -2.6°F below the 20th century average. Once again, no single station maximum temperature records were broken across the state. This year, many stations saw their first occurrences of 80 °F in June. Corvallis hit 81 °F for the first time on June 5 and Portland in On average, interior cities in NW Oregon see their first occurrence of 90 °F or warmer in the month of June, according to NWS Portland. This year, many stations saw their first occurrences of 80 °F in June. Astoria often sees their first occurrence of 90 °F in July. June temperatures were a bit

warmer in southern Oregon, and Medford managed to break 90 °F three times from June 20-22, with temperatures of 90 °F , 96 °F and 94 °F to coincide with the summer solstice.

At Crater Lake National Park, snow is typically almost completely melted by the beginning of July at park headquarters. This year, three feet of snow remained on the ground at this location. All hiking trails at the park were still under 4.5 feet of snow at the end of June, according to the Park's website.

La Niña, responsible in part for the region's cold and wet spring, officially ended in June as conditions in the equatorial Pacific returned to ENSO-neutral. They are expected to remain that way through the Northern Hemisphere summer, according to NOAA.

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Looking at the first six months of 2011 - has it been cooler than normal?

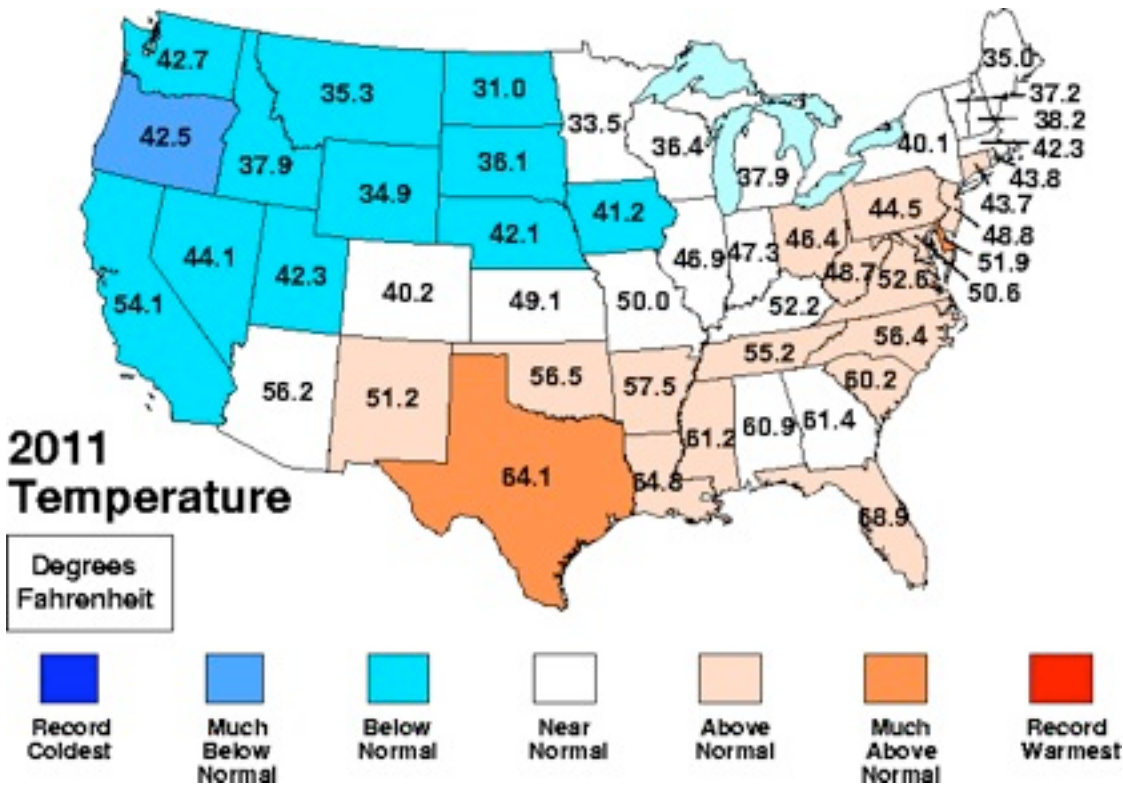


Figure 2. Average temperature, first six months of 2011. Generated by NCDC climate at a glance.

Oregonians are used to the slow climb from a cool winter to a warm summer, from the coldest day of the year, which is usually around January 1 - to the warmest, usually around August 1. At the end of 2010 there was much talk about the strengthening La Niña and associated speculation that we would have a cool and wet winter in the Pacific Northwest. 2011 started off mildly, but by the end of February, the cool and wet weather that we typically see in a La Niña winter set in and played a role in the seemingly endless cold and wet spring. Though La Niña officially ended in early June, the rest of June still remained below average in temperature. Averaged over the past 6 months, it's official - Oregon has been much below normal, the only state in the US to receive this designation (figure 2). NCDC's meaning of "much below normal" means that it is in the bottom 12, or coldest 12 years in recorded history (117 years in the case of Oregon). So if you think that it's been just a bit cooler than normal, you're right. That doesn't mean that we'll have a cold winter or even a cold rest of the summer here in the Pacific Northwest. It's too soon to talk about winter, and we break down NOAA's three-month outlook (July/August/September) on the next page.

However, across the country, the story isn't consistent. The Western US was cooler than normal, but the opposite is true for the South and Southeast. Throughout Spring, there was a striking division across the country between cold and warm, and this is reflected in the graphic above (figure 2). Texas is much warmer than normal and much below normal in terms of precipitation (not shown). Much of the southern US is currently in the throes of a crippling drought of historic proportions, caused both by above average temperatures and below average precipitation.

Three-month outlook



Figures 3a and b. Three-Month Outlook (July, August, September) for a) temperature and b) Precipitation for the Pacific Northwest from Climate Prediction Center/NOAA

NOAA's three month outlook from the Climate Prediction Center for the months of July, August, September reveals equal chances of above or below average temperatures statewide (figure 3a). In terms of precipitation for the same period, the greatest chance for below average precipitation is in southwestern Oregon (corresponding to the darker color) with a slightly lesser chance (corresponding to the lighter color) the rest of the state except for extreme Eastern Oregon (figure 3b).

The hunt for summer: average first dates of $\geq 90^\circ\text{F}$ at selected stations statewide

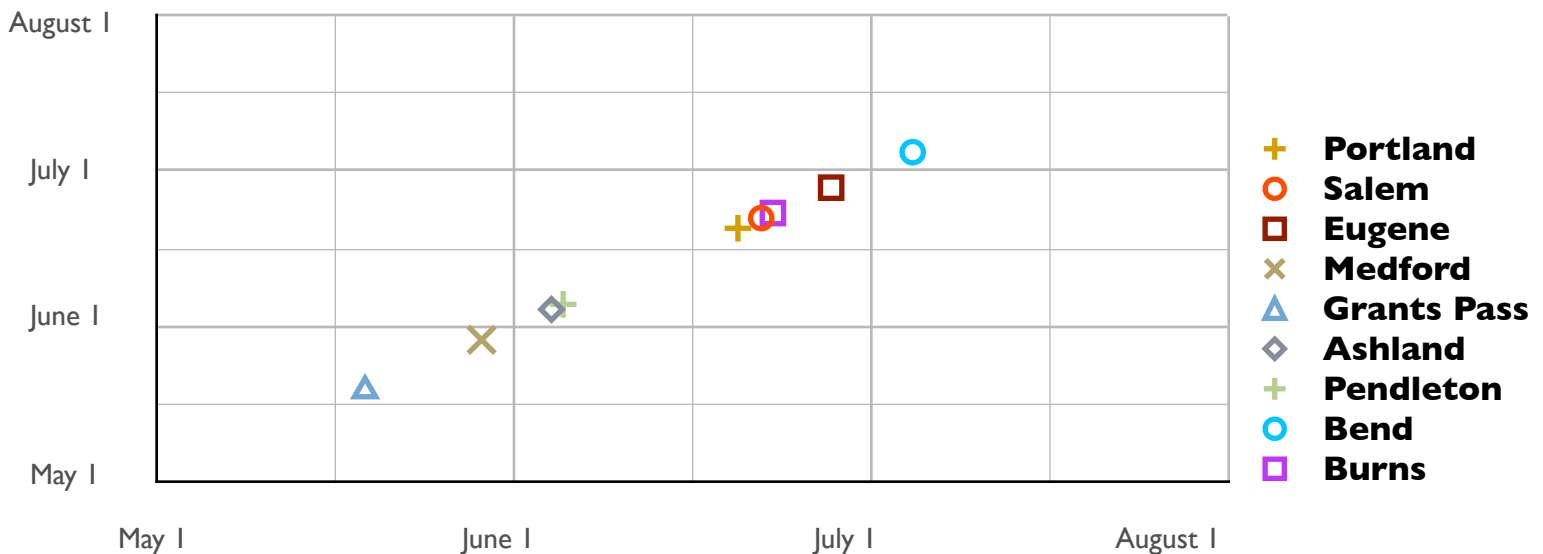


Figure 4. Average first date of $\geq 90^\circ\text{F}$ for stations with 100% probability of reaching that temperature. Data from NWS NOWdata

The slow start to summer is marked by the absence of 90°F temperatures in many stations statewide. In Figure 4, the average first date of 90°F or greater is noted with a shape. Only the cities that have 100% chance of reaching 90°F in any given year are included, so many coastal stations did not fit this criteria. Grants Pass usually reaches 90°F in mid-late May and Bend usually tops 90°F around Independence Day. This year, Salem, Medford, Grants Pass and Burns have all broken 90°F at least once. Data was not immediately available for Bend, but nearby Redmond hit 93°F on July 6. At the time of publication, Portland and Eugene were still searching for a day that passes this threshold, and came close a number of times with a few maximum temperatures in the upper 80s.

June Station Records

Minimum temperatures

station	date	new record (in.)	old record (yr)	yrs in record
La Grande	June 03	36	38 (1987)	124
Pendleton AP	June 03	41 (tied)	41 (1991)	77
The Dalles	June 03	41	42 (1976)	82
Pendleton AP	June 16	42 (tied)	42 (1955)	77
Troutdale	June 17	43 (tied)	43 (1952)	63
Madras 2N	June 20	37	38 (1996)	59
Monument 2	June 20	39 (tied)	39 (1997)	96
Meacham	June 25	32 (tied)	33 (2008)	82

Table 1. Individual station records for precipitation for selected stations in Oregon (via NWS and OSU)

Minimum and Maximum Temperatures

None reported

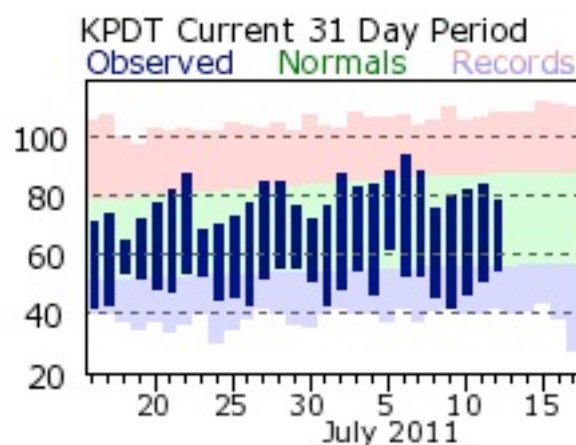
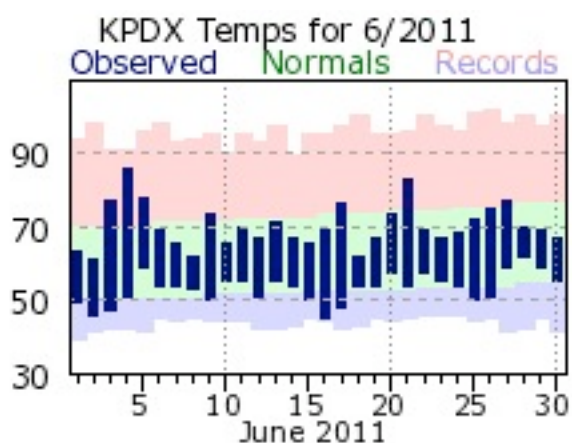


Figure 5. June temperatures plotted against normal for a.) Portland and b.) Pendleton from NWS (Portland and Pendleton)