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August 2010



SERVING NWS BOISE WEATHER SPOTTERS AND COOPERATIVE OBSERVERS

# Sage Winds

## National Weather Service, Boise, Idaho

# Sage Winds

August 2010

<http://weather.gov/boise>

## Looking back at July

Remember the temperature anomaly chart from April? Well here we are with the chart for July. Perhaps you've heard about the heat and fires in Moscow? The chart below shows the large significantly above normal temperatures in Europe and western Asia. Also the eastern half of North and South America are above normal. Here in the northwest our July was near or slightly below normal.

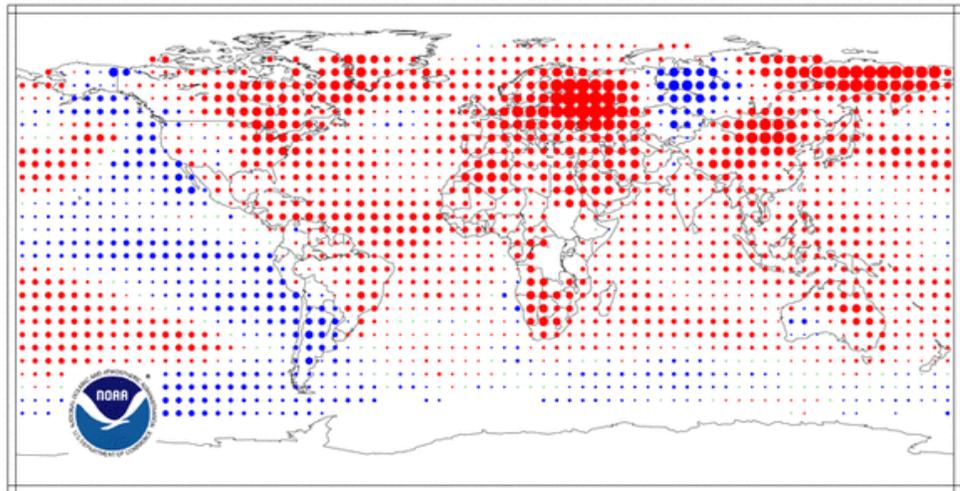
You can read the full story at...

[http://www.noaanews.noaa.gov/stories2010/20100813\\_globalstats.html](http://www.noaanews.noaa.gov/stories2010/20100813_globalstats.html)

### Temperature Anomalies July 2010

(with respect to a 1971-2000 base period)

National Climatic Data Center/NESDIS/NOAA



-5C -4C -3C -2C -1C 0C 1C 2C 3C 4C 5C

Degrees Celsius

# Severe Thunderstorms— Hail Observations and Estimating Wind Speed

As you all know, a Severe Thunderstorm is one where the wind speed is 58mph or greater, and/or there is hail 1" in diameter or greater. Figuring out hail size is not so difficult, just don't go collecting hail stones while the threat from large hail still exists. Picture yourself collecting the largest hailstone in the U.S. at 1 pound 15 ounces, 8.0 inches in diameter and a circumference of 18.62 inches (See the news story at <http://www.crh.noaa.gov/crh/pdf/073010RecordHailVivianSD.pdf> ).

But how do you estimate wind speed? Without an anemometer your best resource is the Beaufort wind scale, named after Sir Francis Beaufort. Beaufort had a keen interest in accurate wind measurements as an English Naval officer around 1800. Accurate wind measurements were difficult if not impossible at that time, especially on a sailing ship. So he came up with the Wind Force Scale. You can see an abbreviated form of this at <http://www.wrh.noaa.gov/boi/awareness/beaufort.html>.

As previously mentioned, severe thunderstorm winds have to exceed 58 mph to qualify as a severe thunderstorm. This is the equivalent of Beaufort Force 10. This is also the level at which substantial damage to structures takes place. Below 50 mph you can get some damage to roofs but it is spotty with only weaker shingles being torn from a roof. When the wind exceeds about 55 mph, even well constructed roofs will start to loose shingles.

So the next time that gust front moves through and the trees are swaying, check out how many branches are broken from trees, how big are those branches, are they any shingles torn from roofs?

Beaufort Force 8



Beaufort Force 9



Beaufort Force 10



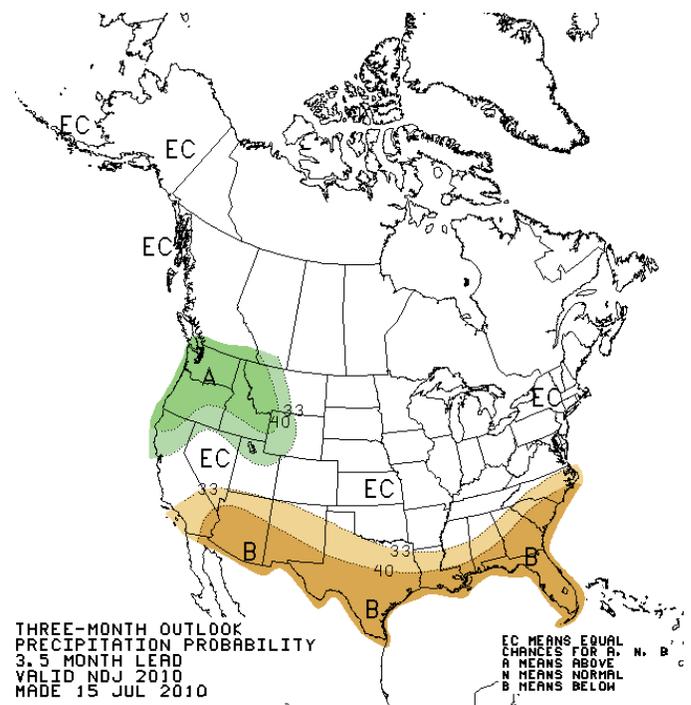
Beaufort Force 11



## ENSO Forecast

El-Nino Southern Oscillation (ENSO) is a phenomena which occurs in the tropical Pacific Ocean that alternates between warm ocean temperatures (El-Nino) and cold ocean temperatures (La-Nina). These oscillations occur at irregular intervals with warm and cool phases lasting from several months up to a year in length with longer periods of neutral conditions. This year, the ocean made an unusually rapid transition from warm El-Nino conditions ,which were present last fall and winter, to cooler than normal conditions. The onset of La-Nina is expected to influence the weather in Oregon and Idaho during the upcoming fall and winter months by bringing wetter than normal conditions.

To the right is the 3 month outlook for precipitation for November, December, and January. See <http://www.cpc.noaa.gov/>



# How close to the ground is the Boise 88D Radar beam?

We need your spotter reports because we can only estimate what is happening on the ground. The closer to the radar we look the better our estimates are, but they remain estimates. The radar is used to estimate both wind speed and the presence of hail and heavy rain. The wind estimates are the most accurate but how high above the ground is the radar looking? Below is a table showing the lowest level of the Boise 88D radar in various communities.

The lowest elevation angle of the 88D radar is .5 degrees above horizontal. As the radar beam extends out in space, atmospheric conditions can bend the beam up, down, or keep it straight. The table below assumes the radar beam goes straight. The curvature of the earth along with the beam going up at a .5 degree angle puts the beam at the given height above ground.

Even at close distances to the radar, your ground truth reports are valuable.

Location      Height above ground in feet

Boise	770
Nampa	1,300
Mountain Home	2,500
Cascade	4,000
Ontario	4,100
Twin Falls	10,000
Baker City	12,000
Burns	15,000

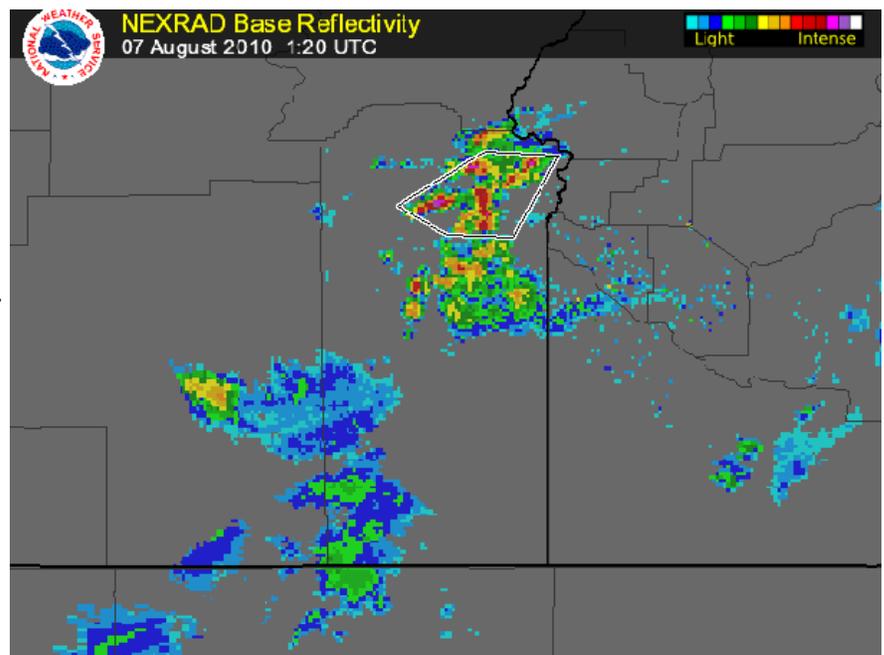


## Recent Weather Events

Late in the evening of August 6th some very strong thunderstorms moved over northern Malheur County Oregon. These storms brought nearly 2 inches of rain in a short time causing all the dry gulleys along Highway 20 to flow mud and debris across the road into the Malheur River.

While the 88D radar could see these strong storms, exactly how much rain was reaching the ground was unknown until reports from spotters were received. Spotters reported between 1 and 2 inches of rain falling in less than 2 hours.

The image to the right shows the radar at the time the Flash Flood warning was issued. The polygon is where the forecaster drew the greatest threat of flash flooding.



## Weather (school) Humor



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## Weather in the News

### Lightning strike kills Idahoan—

<http://www.idahostatesman.com/2010/08/12/1300471/salmon-man-struck-by-lighting.html>

### Flooding has been widespread across Europe & Asia, here are a few links to news stories —

[http://www.msnbc.msn.com/id/38749380/ns/world\\_news-asiapacific/](http://www.msnbc.msn.com/id/38749380/ns/world_news-asiapacific/)

<http://www.msnbc.msn.com/id/38621584/ns/weather/>

<http://www.msnbc.msn.com/id/38621666/ns/weather/>

[http://www.msnbc.msn.com/id/38587501/ns/world\\_news-south\\_and\\_central\\_asia/](http://www.msnbc.msn.com/id/38587501/ns/world_news-south_and_central_asia/)

### Heat / Fires in Moscow, Russia —

[http://www.msnbc.msn.com/id/38736448/ns/world\\_news-europe/](http://www.msnbc.msn.com/id/38736448/ns/world_news-europe/)

[http://www.msnbc.msn.com/id/38712353/ns/world\\_news-europe/](http://www.msnbc.msn.com/id/38712353/ns/world_news-europe/)

### Greenland Ice Chunk breaks off—

[http://www.msnbc.msn.com/id/38648050/ns/us\\_news-environment/](http://www.msnbc.msn.com/id/38648050/ns/us_news-environment/)

### Hurricane Season just enters its peak period in mid August -

<http://www.msnbc.msn.com/id/38557414/ns/weather/>