Summer 2015 started early, and it was much warmer and generally drier than normal. Only parts of the central mountains in Idaho, and Baker County and areas near the Nevada border in Oregon, had above normal precipitation.

With temperatures averaging 4 to 8 degrees above normal and very little precipitation, June resembled a typical July. In fact it was the warmest June on record at the Boise Air Terminal.

Rainfall was less than 25 percent of normal across wide expanses of southeast Oregon and southwest Idaho. During the first week of June, two Pacific weather systems brought meager amounts of rain. It was the only measurable precipitation for the entire month at many locations. For the rest of the month dry westerly flow dominated.

Then during the last week of June a very warm high pressure ridge blossomed over the Great Basin and expanded north over southeast Oregon and southwest Idaho. Temperatures rose into the triple digits at many lower elevation locations.

At Boise, the high of 110°F on June 28th, was the hottest temperature of the summer. On average, temperatures this hot occur once every 10 years.

Monsoon moisture circulating within the ridge fueled daily afternoon and evening showers and thunderstorms over the mountains. But these storms brought little more than gusty outflow winds to the valleys.

Like June, July was a month of unusual weather patterns, although for most of our region temperatures averaged close to normal.

July and August are normally the driest months of the year. But this year July precipitation was two to three times normal across roughly half the area. Very few locations reported below normal rainfall.

By July 5, a low pressure system which had been stalled off the California coast, began to move inland, reaching our area on July 8. Saturated with very moist subtropical air originating off the northwest coast of Mexico, it brought the first significant rain in a month, amounting to most of July’s precipitation.
Meet & Greet
Aviva Braun

We at the National Weather Service in Boise, Idaho, strive to keep the citizens of Southwest Idaho and Southeast Oregon safe at all times. One of the ways we achieve this goal is by working closely with the Emergency Managers in each county we serve. In this edition of Sage Winds, we spoke to Crash Marusich, the Emergency Planner for Ada County.

NWS: Tell me about yourself and how you moved into the emergency management sector.

Crash: I’m from Arizona originally, where I was a Desert Guide for many years, and then became a Park Ranger. I really loved both of these jobs, but my family and I really wanted to move to the Boise area. I had a background in public speaking and community outreach, so the Emergency Management Department offered me this job 8 years ago and I took it! I didn’t know too much about the job when I first started, but I’ve loved every minute of it. It’s been a great crossover. I’m really glad I started out in community outreach – having to learn about emergency management and how to translate the information into layman’s terms. That has been very helpful.

I am now moving into more of a planning role at my office. I’ll be working with the responders more, which I’m very excited about. It’s an interesting new perspective. I’m moving from how do I get John Q. Public prepared properly for disaster, to how do all of these agencies work together to protect 400,000 people. This new shift has been exciting and I’m enjoying it. Actually, I received big news this week! I’m now a certified emergency manager with the International Association of Emergency Managers.

NWS: Hurrah! That’s great news! Congratulations.

Crash: Thanks. There are about 2,600 of us certified internationally. So, now I’ve gone from a certified Parks and Recreation professional to a certified Emergency Manager. My background has really helped me picture what is going on outside of the urban environment. It’s a good place to come from; I have a good understanding of where I want to go, especially in mitigation – how can we reduce the effects of these hazards, how can we build smarter homes, are there places we shouldn’t build, etc.

NWS: Would you describe the nature of your work for us?

Crash: I do mitigation and response planning for the county. We are also currently reviewing our standard operating procedures and emergency operations plans for the county. We want to make sure that our staff is capable of doing their job in any given emergency. We are also working on a wildfire mapping project. We’re going to get a LIDAR (Light Detection and Ranging) into the foothills and we’re going to do some multispectral photography over the entire county. The goal is to clearly define the entire wildland-urban interface. This mapping will hopefully include a number of factors that will assist with both response and mitigation planning.

NWS: What has been the highest impact weather event for Ada County this season?

Crash: That would have to be when that wet thunderstorm hit on July 8th, where the North End and the Bench experienced areas of flooding. We just got a report from the Ada County Highway District detailing all of the calls they received and the responses they took. The storm drains were overwhelmed by the sudden volume, became clogged, and ended up flooding a lot of places where it normally wouldn’t have otherwise.

NWS: What year was it that the big wind event took place at the Ada County Fair?

Crash: August 2010. There was a microburst at the Fair; there quite a few minor injuries sustained due to the winds. A lot of the tents got whipped up and blown away. It was totally unexpected.

NWS: So, how did your office respond in these events?

Crash: We are a coordination and support agency. We try to get the community ready before the disaster so that we sustain as little damage as possible. We coordinate with agencies responding to an event, and after all of that, we plan for the “new normal.” We work in the background, always learning from each event so that we can respond more effectively next time.

NWS: So, when do you use the Emergency Operations Center?

Crash: During a major event we would have it up and running. We will open it as an exercise during the Western Idaho Fair this year. We also had it open for the Special Olympics that were held here in 2009. The National Weather Service was there giving daily morning briefings!

NWS: How does your office get in touch with the public other than through the media?

Crash: For now we have something called “ISAWS” (Idaho State Warning System) that the public needs to sign up for. Communication has been really hard ever since we started moving away from landline phones! There’s nothing linking cellphone numbers to an address, so if we wanted to evacuate a certain area, we would be hard pressed to do so solely using the phone as the main line of communication. We’re currently in the process of moving our County Mass Notification System to a program called “Code Red.” We just hired a new employee whose job will include working on getting our social media outlet established. Now, I do encourage everyone to own a NOAA Weather Alert Radio – that’ll alert you to that 3 AM warning that you probably wouldn’t see or heard anywhere otherwise. It includes all threats and all hazards. It’s a great resource.

NWS: Does the Spotter Network have an impact on the work your office does?

Crash: Yes. A lot of the damage reports that we get are from them through your office; it’s important to track what goes on and why. It helps immensely that you have this network set up and that we have such a great relationship with your office. The open communication that we can call on when needed is fabulous!

NWS: I know that we do a lot of collaborative work, such as our joint river mapping work, which is featured on our website.

Crash: Yes, that is a great example. Because of our work together, one can plot possible minor, moderate, or major flooding events on an Ada County map and see where the river would go. It’s a great resource for everyone.

NWS: Well Crash, that is all I have for you! Thank you for your time!

Crash: Thank you for having me.
On July 8th, 2015 we had a “classic” heavy rain event in Boise. We had three incredible reports from that day: 0.52 inches of rain in seven minutes, 1.28 inches of total rain at the Boise ASOS (Automated Surface Observing System), and 0.64 inches of rain in nine minutes at the McCall Airport! Many reports came in describing local street flooding and general visibility issues. We even had some home and business flood damage reports.

There were many atmospheric factors that culminated in slow moving, wet storms which produced isolated heavy rain. Some of these factors include a generally unstable environment, a high atmospheric moisture content, and a stationary front that set up over Southwest Idaho in the early afternoon.

An outflow boundary coming out of the northeast served as the forcing mechanism for thunderstorm development, allowing for several systems to develop in its wake across the region. In terms of what we saw in Boise, pre-thunderstorm northwesterly flow in the Treasure Valley combined with this outflow boundary, causing vertical lift and thunderstorm development as the two systems collided. As the outflow boundary pushed east, thunderstorms developed along the front of the boundary, leaving the newly developed storm systems behind - moving at a slow 11 mph pace.

On July 11th, 2015 the same system produced heavy rain amounts in Baker County, Oregon. The Baker City Airport received 2.03 inches in under 5 hours, making it the second wettest day in local recorded history. Flash flooding occurred, damaging culverts, fields, fences, and roads across the county.

Amazing Rain Rates
0.52” fell in 7 minutes from 5:42-5:49pm at Boise Airport.
0.64” fell in 9 minutes at from 2:55-3:04pm at McCall Airport.
Robert Diaz—Meteorologist in Charge: Bob grew up in Northern Idaho and attended Boise State University where he completed his BS in Math. He then attended the University of Wisconsin for Meteorology and was hired some 30 years ago by the National Weather Service, where he began his career in Redwood City, California. He has been in ten different positions within the NWS. He is a huge Boise State Football fan and loves to golf and travel.

Tim Barker—Science and Operations Officer: Tim is originally from Phoenix, Arizona. He came here via Salt Lake City, Utah and Missoula, Montana. In his spare time he likes to hike, geocache, and do landscaping.

Troy Lindquist—Senior Service Hydrologist: Troy is originally from Nebraska and attended the University of Nebraska in Lincoln to study meteorology. He has worked at NWS offices in California, Colorado, Kentucky, Maryland, Indiana and Idaho. Outside of work, he enjoys spending time with his family, a variety of recreational sports, gardening and other projects around the home.

Jason Baker—Information Technology Officer: Jason grew up in Las Vegas, NV. He has been the NWS Information Technology Officer in Boise for almost 15 years. In his free time he likes camping, ATVs and fishing with his wife.

Jay Briedenbach—Warning Coordination Meteorologist: Jay is originally from Florida and attended Florida State University for his BS and MS degrees in Meteorology. For fun, he enjoys hiking in the summer and skiing in the winter. He loves living in Idaho!

Travis Mayer—Electronic Systems Analyst: Travis has enjoyed working on computers and electronics since he was in the Marine Corps. He is always amazed at how electronics are integrating with each other. There are many different types of electronics that keep our weather office running so each day is an adventure for the electronics shop. He has lived in Boise almost his entire life. He enjoys camping, fishing and ATVs with his family. Featherville and Island Park are his two favorite recreation destinations but he continues to explore new areas of the state. Travis just went over the 10 year mark of federal service, with six of those years working for the Boise weather office.

Kelly Jardine—Administrative Support: Kelly has lived in Idaho since her senior year of high school and has enjoyed life in Idaho with her kids, family and friends! NWS is the fourth federal agency she has worked for during her career, having also worked for the VA, BLM and the Forest Service. In her free time, she likes to ski, hike, garden and travel.

Dave Groenert: David is a Navy child, so he has moved around quite a bit, but eventually settled in the Washington DC area. He has been a forecaster at NWS Boise for 12 years. In his free time he enjoys getting outdoors.

Stephen Parker: Stephen is originally from a small town in Virginia, and came here by way of Oklahoma, Texas, Nebraska, and Tennessee. He enjoys spending time with family and friends, learning how to increase the amount of love and peace in his life, staying healthy, and following the SF Giants and 49ers, the Virginia Tech Hokies, and of course, the BSU Broncos!

Bill Wojcik: Bill was born and raised in Buffalo, NY – renowned for prolific lake-effect snow storms. His passion for meteorology was developed at a young age due in part to the wild snow storms. He studied meteorology at Oswego State University and SDSM&T. His career with the NWS began in Phoenix, followed by Pocatello and Boise. He enjoys the outdoors and spending time with his family.

Jeanne Allen: Jeanne earned her Meteorology degree at SUNY Oswego, NY. Her first weather job was a summer job while still attending college and worked on the Fire Weather Program at the Fairbanks, AK NWS office. After college Jeanne spent a few years as a civilian weather observer for the Air Force in Niagara Falls, NY. Jeanne then joined the National Weather Service and spent a year in Glasgow, MT before being transferred to Boise, ID. Jeanne has been at the Boise National Weather Service office for almost 25 years. In her spare time Jeanne likes to go hiking and doing photography, but really enjoys spending time with her dogs and doing dog agility.

Korri Anderson: Korri was born in Seattle and raised in eastern Washington. He became fascinated in meteorology at a young age while experiencing the erratic weather of the Palouse, and watching his mother take weather observations for Horizon Air. Korri completed his meteorology degree at MSU of Denver and his MS Civil Engineering at Boise State. He has worked at the Anchorage, Alaska and Boise NWS forecast offices as a student. He enjoys photography, skiing, hiking, traveling, cooking and staying active.

Kelly has lived in Idaho since her senior year of high school and has enjoyed life in Idaho with her kids, family and friends! NWS is the fourth federal agency she has worked for during her career, having also worked for the VA, BLM and the Forest Service. In her free time, she likes to ski, hike, garden and travel.

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If you own a smartphone or tablet download the free mPING app in the App Store or Google Play.

### 2015-2016 El Niño Outlook

**Stephen Parker**

By now, most folks have heard that El Niño conditions are present in the equatorial eastern Pacific Ocean. This means there is warmer-than-normal sea surface temperatures (SST) along and near the equator from roughly 180° W longitude all the way eastward to the coast of South America. Officially, the departure from normal (anomaly) needs to be at least 0.5 °C to be considered El Niño conditions. The latest weekly average temperature departure from normal in the most critical region of the Pacific (the so-called 3.4 region), is 2.1 °C, well above the 0.5° threshold. The figure below shows the anomalies in SST for the week centered on Sep 2, 2015. This has the potential to become a strong El Niño event.

Many models are run by the Climate Prediction Center, part of NOAA, to try to predict how strong and how long this El Niño will be. Results indicate a greater than 90% chance that El Niño conditions will last into the Winter of 2015-16, and an 85% chance they will last into the early Spring of 2016. In addition, multi-model averages indicate that the departure from normal in the critical Niño 3.4 region will be above +1.5°C (making this a “strong” El Niño) during late 2015 and into early 2016.

Historically, conditions here in southeast Oregon and southwest Idaho during an El Niño are slightly drier and warmer than normal. This winter’s official outlook from the Climate Prediction Center is consistent with history, and calls for better chances of above-normal temperatures and below-normal precipitation (see figures to right).

However, it is important to note that these are only averages, and sometimes we end up cooler and wetter during El Niño events. This potential variation from “normal” El Niño patterns is a very important consideration. There are many factors that determine the overall weather pattern, and El Niño is just one of them. For example, right now the SST readings in the northern Pacific, well off the coast of Oregon and Washington, are well-above-normal. This is not always the case with El Niño events, and could lead to significant changes in the average El Niño weather pattern. While the odds favor warmer and drier, this is far and away from a sure thing.

For more information, check out these sites:

- [https://www.climate.gov/news-features/blogs/enso/one-forecaster%20el-ni%C3%B1o-eastern-pacific](https://www.climate.gov/news-features/blogs/enso/one-forecaster%20el-ni%C3%B1o-eastern-pacific)

### National Weather Service StormReady Program

**Bill Wojcik**

The Boise Forecast Office has an excellent relationship with the emergency management community in our forecast area, which includes all of southeast Oregon and southwest Idaho. Weather plays an important role in planning and responding to a severe weather event as an Emergency Manager works with their respective communities. One of the programs established by the NWS in cooperation with local emergency managers is called StormReady. Maybe you have seen one of the road signs. It is one way our office has formalized a working relationship with some of our county Emergency Managers. Recently, Aviva Braun and I had the privilege to give a presentation about the StormReady program at a LEPC (Local Emergency Planning Committee) meeting in Ontario, Oregon. Malheur County has been part of the StormReady program for over a decade. There we talked at length to a group of around 15 representatives of the emergency management community for Malheur County about the program and its advantages. One of these advantages is preparedness, which incorporates weather presentations, tabletop exercises, and spotter training classes. Want to know more about the StormReady program? It’s on the web at [www.stormready.noaa.gov](http://www.stormready.noaa.gov).