Contributors

Ben McMahan
SWCO Editor; Research, Outreach & Assessment Specialist (CLIMAS)

Mike Crimmins
UA Extension Specialist

Stephanie Doster
Institute of the Environment Editor

Dave Dubois
New Mexico State Climatologist

Gregg Garfin
Founding Editor and Deputy Director of Outreach, Institute of the Environment

Paulina Jenney
Institute of the Environment, Communications Assistant

Nancy J. Selover
Arizona State Climatologist

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December Southwest Climate Outlook

Precipitation: Over the past 30 days, Arizona recorded mostly below-average precipitation, while most of New Mexico received normal to above-average precipitation (Fig. 1). This short term variability is typical in the seasonal transition, but looking more generally over the last three months we see a consistent pattern, and one with the fingerprints of El Niño all over it (primarily via enhanced tropical storm activity): both Arizona and New Mexico recorded top 20 precipitation totals for September through November (Fig. 2).

Temperature: November was cooler than average in most of Arizona but average to above-average across most of New Mexico (Fig. 3), a pattern which has persisted over the past 30 days. This cool down is relatively recent; the last three months (September through November) were record warm for New Mexico and near-record warm for Arizona. Year-to-date (January through November) temperatures are among the top five warmest for both Arizona and New Mexico.

Snowpack & Water Supply: We are early in the snow season, and while some early storms brought impressive snow totals to portions of the west for this time of year, snow water equivalent (SWE) percent of average reflects the variability we might expect at this point in the season (Fig. 4). We will have a much better picture of El Niño's contribution to winter precipitation looking back later this spring than we do looking forward, and we will have a better sense of how temperature affected patterns of rain and snow and the contributions to water supply (See page 6 for reservoir totals).

Drought: Long-term drought conditions persist across nearly all of Arizona and portions of northwestern New Mexico (Fig. 5). Average to above-average 2015 precipitation has helped mitigate some of the short-term drought conditions, but multi-year droughts, which we have experienced for much of the 21st century, will require multi-year periods to fully recover. The ongoing El Niño event offers hope for additional drought relief. Above-average precipitation over the winter helps saturate soils and build snowpack in the region, which could lead to higher reservoir storage during springtime snowmelt runoff events.

Tropical Storm Activity: In a normal year, we would have nothing to say about tropical storms in mid-December, but a few late season storms, including major Hurricane Sandra, popped up in late November, long after the typical season. This capped an eastern Pacific tropical storm season that shattered existing records and almost certainly was associated with the current strong El Niño event (see page 5 for recap of tropical storm season).

Precipitation & Temperature Forecast: The December 17 NOAA-Climate Prediction Center seasonal outlook predicts above-average precipitation for most of the Southwest this winter, with progressively increasing chances of above-average precipitation to the south (Fig. 6, top). Temperature forecasts are split, with elevated chances for above-average temperatures along the West Coast and increased chances for below-average temperatures centered over Texas and extending across most of southeastern New Mexico (Fig. 6, bottom).

Tweet Dec SW Climate Outlook

Dec2015 @CLIMAS_UA SW Climate Outlook - SW Climate, El Niño, Tropical Storms Recap, Mosquitos, and Media Coverage http://bit.ly/1QQbi4w

December Southwest Climate Outlook

Online Resources

Figure 1
National Weather Service - AHPS
http://water.weather.gov/precip

Figure 2
NOAA National Centers for Environmental Information
https://www.ncdc.noaa.gov/

Figure 3
High Plains Regional Climate Center - HPRCC
http://www.hprcc.unl.edu/

Figure 4
Western Regional Climate Center
http://www.wrcc.dri.edu/

Figure 5
U.S. Drought Monitor
http://droughtmonitor.unl.edu/

Figure 6
NWS Climate Prediction Center
http://www.cpc.ncep.noaa.gov/

CLIMAS YouTube Channel

Visit our YouTube channel for videos of content pulled from the podcast.

www.youtube.com/user/UACLIMAS/

Podcasts

Visit our website or iTunes to subscribe to our podcast feed.

www.climas.arizona.edu/media/podcasts

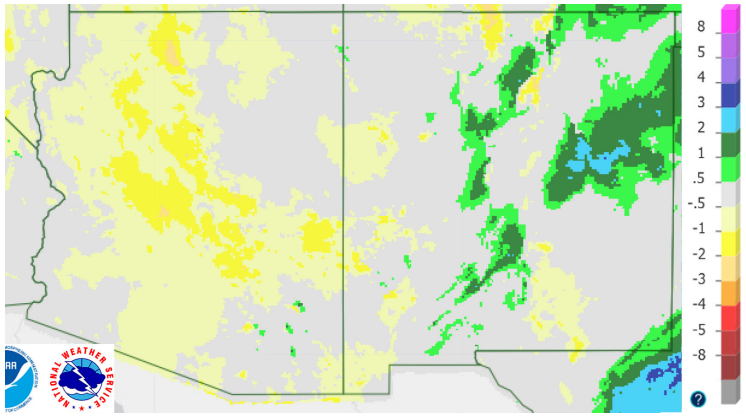

Figure 1: Departure from Normal Precipitation - Past 30 Days

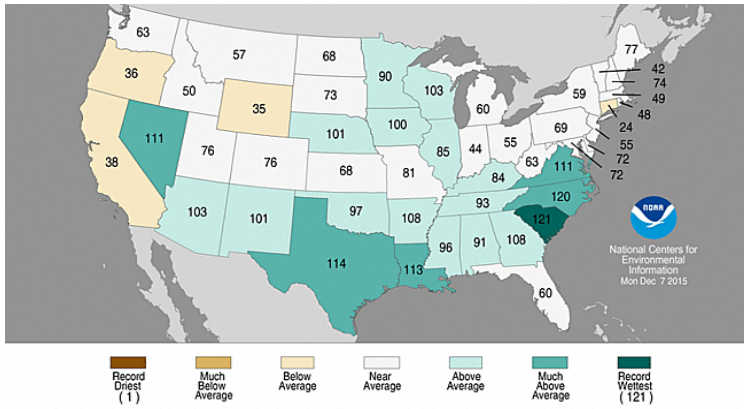

Figure 2: Statewide Precipitation Ranks - Sept - Nov 2015

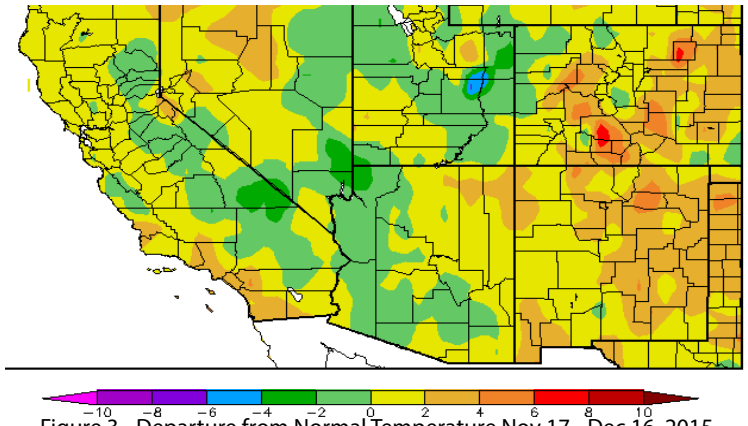

Figure 3 - Departure from Normal Temperature Nov 17 - Dec 16, 2015

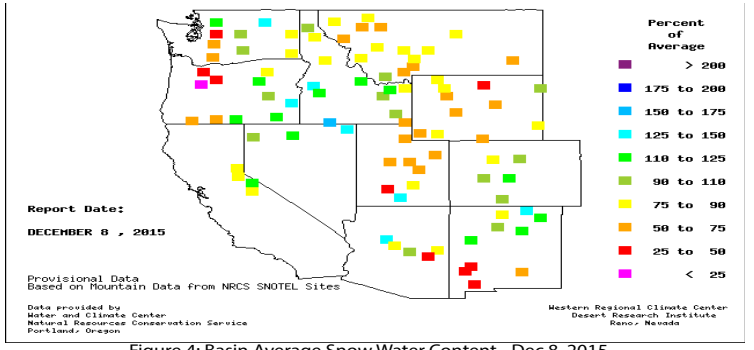

Figure 4: Basin Average Snow Water Content - Dec 8, 2015

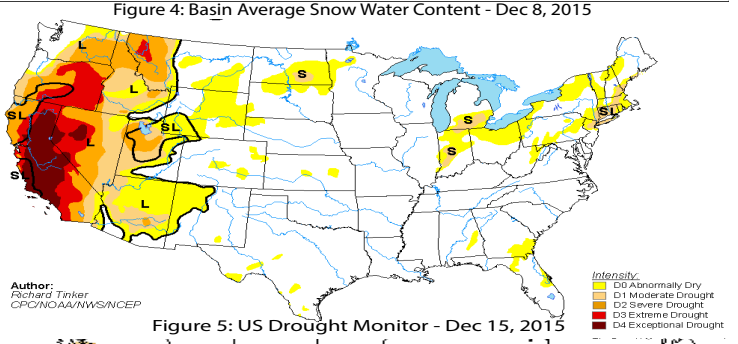

Figure 5: US Drought Monitor - Dec 15, 2015

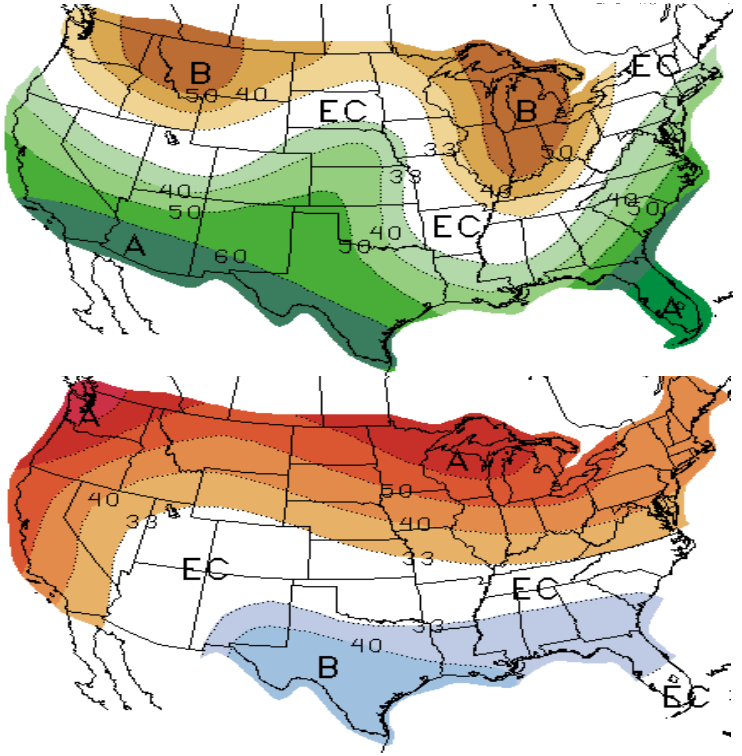

Figure 6: Three-Month Precipitation & Temperature Outlook - Dec 17, 2015

Online Resources

Figure 1
Australian Bureau of Meteorology
http://www.bom.gov.au/climate/enso/index.shtml

Figure 2
NOAA - National Climatic Data Center
http://www.ncdc.noaa.gov/teleconnections/enso/

Figure 3
International Research Institute for Climate and Society
http://iri.columbia.edu/our-expertise/climate/forecasts/enso/

El Niño

Information on this page is also found on the CLIMAS website:
www.climas.arizona.edu/sw-climate/el-niño-southern-oscillation

El Niño 2015-2016

We spent 2014 and the first part of 2015) waiting in anticipation for an El Niño event that was forecast to be one of the stronger events on record. By early 2015, the event in question had not yet materialized, and some questioned whether El Niño would ever arrive. Eventually it did, and has been going strong for months, with most forecasts indicating that it will remain a strong event through the winter. There are numerous impacts we expect to see across the Southwest over our cool season (approximately Oct - Mar). In the coming months, CLIMAS will aggregate news, information, and commentary about the possible and expected impacts of El Niño, from the perspective of what is most relevant and applicable to the Southwest. This will include things we learned from past events, and what forecast models can tell us about planning for this event.

For more information, please visit www.climas.arizona.edu/sw-climate/el-niño-southern-oscillation, our repository for El Niño related materials, which we will update with timely and relevant information about El Niño throughout the winter.

2015 El Niño Tracker

El Niño conditions continued for a 10th straight month, and models continue to forecast a strong El Niño event that will last through spring 2016 and remain strong through the early part of the year. Forecasts focused on the persistence of sea surface temperature (SST) anomalies (Figs. 1–2) and weakened trade winds, enhanced convective activity in the central and eastern Pacific, and El Niño-related ocean-atmosphere coupling. Notably, the SST values in the Niño 3.4 region were at or above the record values in November. Climate scientists have been quick to point out that numerous factors contribute to the overall strength of El Niño, but we are certainly seeing one of the strongest events on record.

On Dec. 8, the Australian Bureau of Meteorology maintained its tracker at official El Niño status, with the event having likely reached its peak. On Dec. 10, the Japan Meteorological Agency identified ongoing El Niño conditions as having reached their "mature stage" in the equatorial Pacific and "remarkably above-normal" SST anomalies and atmospheric convective activity. The agency projected that El Niño would remain in place through spring 2016 before transitioning to ENSO-neutral by summer. Also on Dec. 10, the NOAA-Climate Prediction Center (CPC) extended its El Niño advisory and identified the current atmospheric and oceanic anomalies as reflecting a strong El Niño event that will be one of the three strongest events on record. CPC models indicate the El Niño event will persist through winter, with a transition to ENSO-neutral conditions by late spring or early summer. On Dec. 17, the International Research Institute for Climate and Society (IRI) and CPC forecasts indicated that all oceanic and atmospheric variables were indicative of a strong El Niño event, with consensus centering on strong El Niño conditions that will persist through spring 2016 (Fig. 3). *(cont. on next page)*

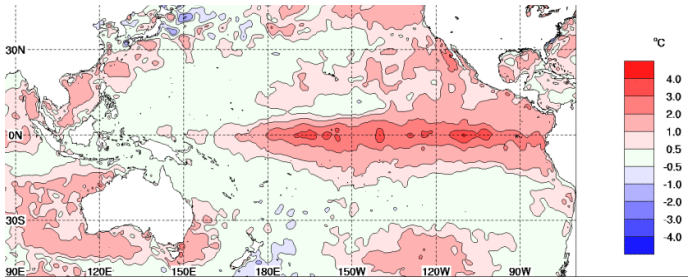

Figure 1: Nov 2015 Sea Surface Temperature (SST) Anomalies

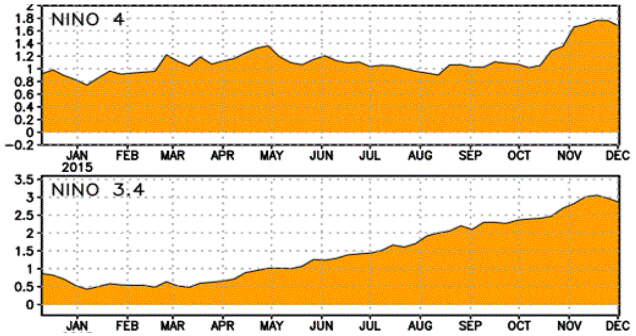

Figure 2: SST Anomalies in Niño Regions 3.4 & 4 (NCDC)

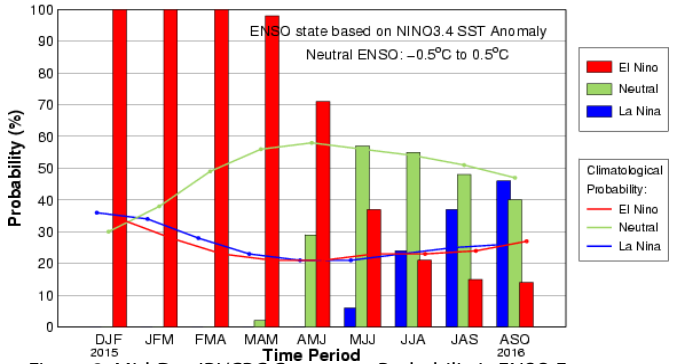

Figure 3: Mid-Dec IRI/CPC Consensus Probabilistic ENSO Forecast

Online Resources

Figure 4
NOAA - Climate Prediction Center
http://www.cpc.ncep.noaa.gov/products/NMME/current/plume.html

Figures 5-8
Westwide Drought Tracker
http://www.wrcc.dri.edu/wwdt/

El Niño

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www.climas.arizona.edu/sw-climate/el-niño-southern-oscillation

2015 El Niño Tracker

The North American multi-model ensemble currently shows a strong event extending into 2016 with gradual weakening heading into spring (Fig. 4). So what does this mean for the region? Seasonal forecasts and past events suggest we should see well above-average cumulative precipitation totals throughout our cool season, but we should also expect periods of inactivity between storms. Past events also suggest the best bets for seeing above-average precipitation will be in February and March, and perhaps later in January. Looking at the 1997–1998 event—the strongest El Niño event on record—most of Arizona and New Mexico received above-average precipitation in December but below-average rain and snowfall for all of January before returning to normal or above-normal precipitation in February and March (Figs. 5–8). At this point, we know a strong El Niño event is underway, and it will likely have a number of projected impacts on the Southwest (and the world), but we will need to wait until seasonal totals are in to accurately gauge the impact of El Niño.

To provide data and analysis regarding possible impacts of El Niño on the Southwest, CLIMAS created an El Niño hub:

climas.arizona.edu/sw-climate/el-niño-southern-oscillation

Please contact Dan Ferguson or Ben McMahan for more information.

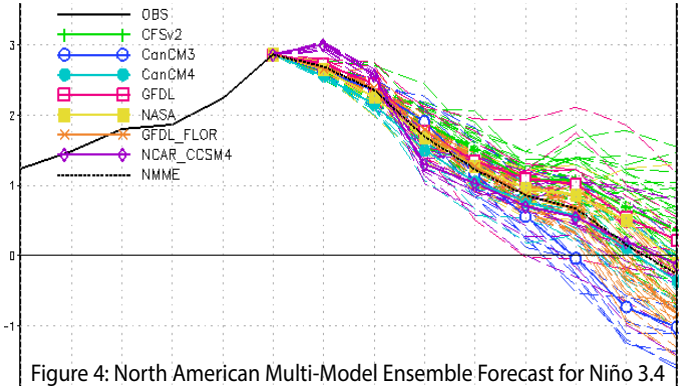


Figure 4: North American Multi-Model Ensemble Forecast for Niño 3.4

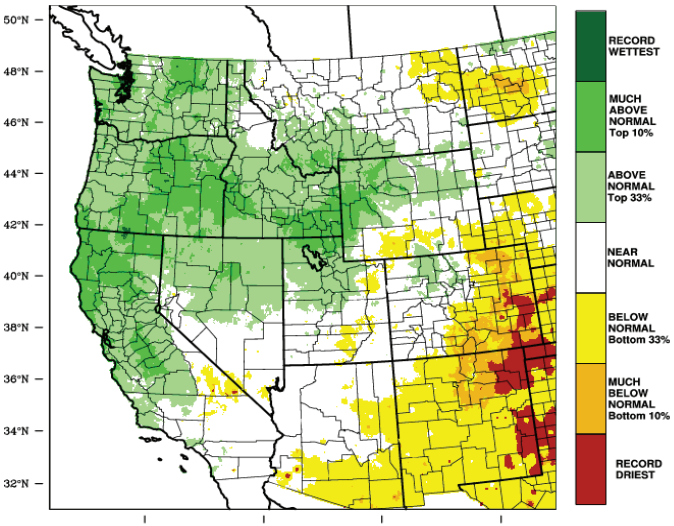


Figure 6: January 1998 Precipitation Percentile - WestWide Drought Tracker

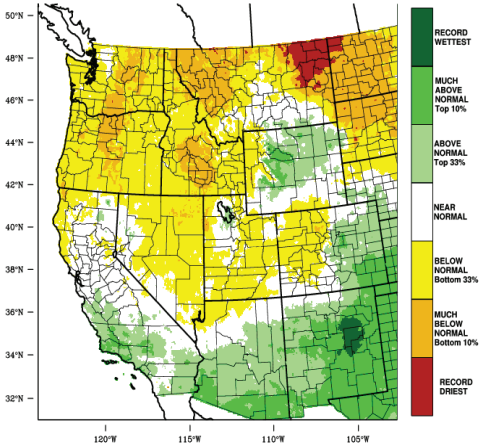


Figure 5: December 1997 Precipitation Percentile - WestWide Drought Tracker

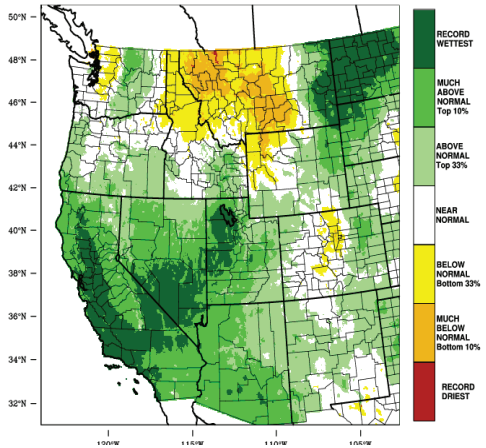


Figure 7: February 1998 Precipitation Percentile - WestWide Drought Tracker

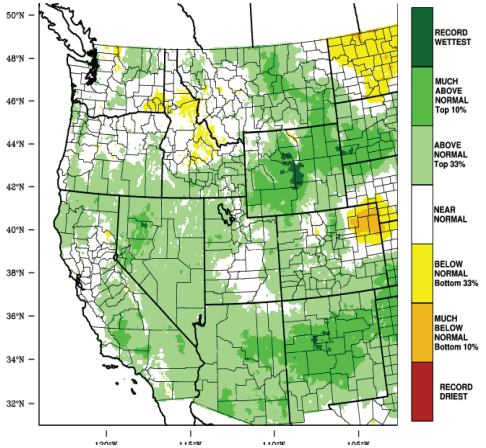


Figure 8: March 1998 Precipitation Percentile - WestWide Drought Tracker

Online Resources

Figure 1
NOAA National Hurricane Center
http://www.nhc.noaa.gov/

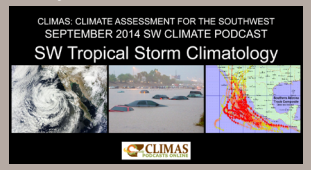
Below-normal Atlantic hurricane season ends; active eastern and central Pacific seasons shatter records http://www.noaanews.noaa.gov/stories2015/120115-below-normal-atlantic-hurricane-season-ends-active-eastern-and-central-pacific-seasons-shatter-records.html

Additional Resouces

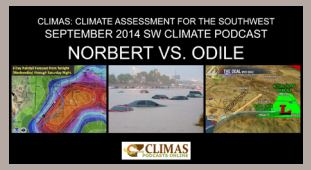
Notes from an Applied Climatologist: Tropical Storms and the Southwest Q&A
http://www.climas.arizona.edu/blog/notes-applied-climatologist-tropical-storms-and-southwest-qa

SW Climate (Video) Podcasts

Southwest Tropical Storms Climatology
https://www.youtube.com/watch?v=IPRQxKI_jrw



2014 Tropical Storms: Norbert Vs. Odile
https://www.youtube.com/watch?v=IPRQxKI_jrw



2015 Eastern Pacific Tropical Storm Recap

The 2015 eastern Pacific tropical storm season was one of the most active seasons on record, with 18 named storms and 13 hurricanes, nine of which reached "major" hurricane status (category 3 or greater). We also saw the strongest hurricane on record, Patricia, in the eastern Pacific in late October, and the latest-forming major hurricane on record, Sandra, in late November (see NOAA's National Hurricane Center for more details). This meets or exceeds the high end of the NOAA-Climate Prediction Center (CPC) seasonal forecast (from May 27), which predicted 15 to 22 named storms, seven to 12 hurricanes, and five to eight major hurricanes. The eastern Pacific hurricane forecast was tied to the ongoing El Niño forecast discussion, as conditions linked to El Niño (e.g., decreased wind shear in the tropical Pacific) also favored increased hurricane frequency and intensity in the Pacific region. Conversely, the Atlantic hurricane season was relatively quiet, with 11 named storms, four of which became hurricanes, including two major ones. This was mostly in line with NOAA-CPC projections of six to 10 named storms, one to four hurricanes, and up to one major hurricane.

The season started off early and strong with two major hurricanes, Andres and Blanca, forming before June 1—Blanca brought considerable moisture into the Southwest—and Hurricane Carlos forming in early June. This start ran counter to the expected early season pattern in which hurricanes remain in the Pacific Ocean and generally head west. Few storms made direct landfall as hurricanes, but numerous systems made their presence felt by driving significant moisture into the Southwest, making substantial contributions to monthly seasonal precipitation totals. The season also was characterized by some relatively anomalous events, in particular, the record-breaking Patricia, which formed very quickly off the coast of Mexico before charging ashore in late October, and the late-forming Sandra. It remains difficult to provide direct attribution of El Niño as the primary cause of specific tropical storm events, but this elevated tropical storm activity and intensity are exactly the sort of patterns that we expect, given the influence that El Niño conditions were forecast to have on the eastern Pacific tropical storm season.

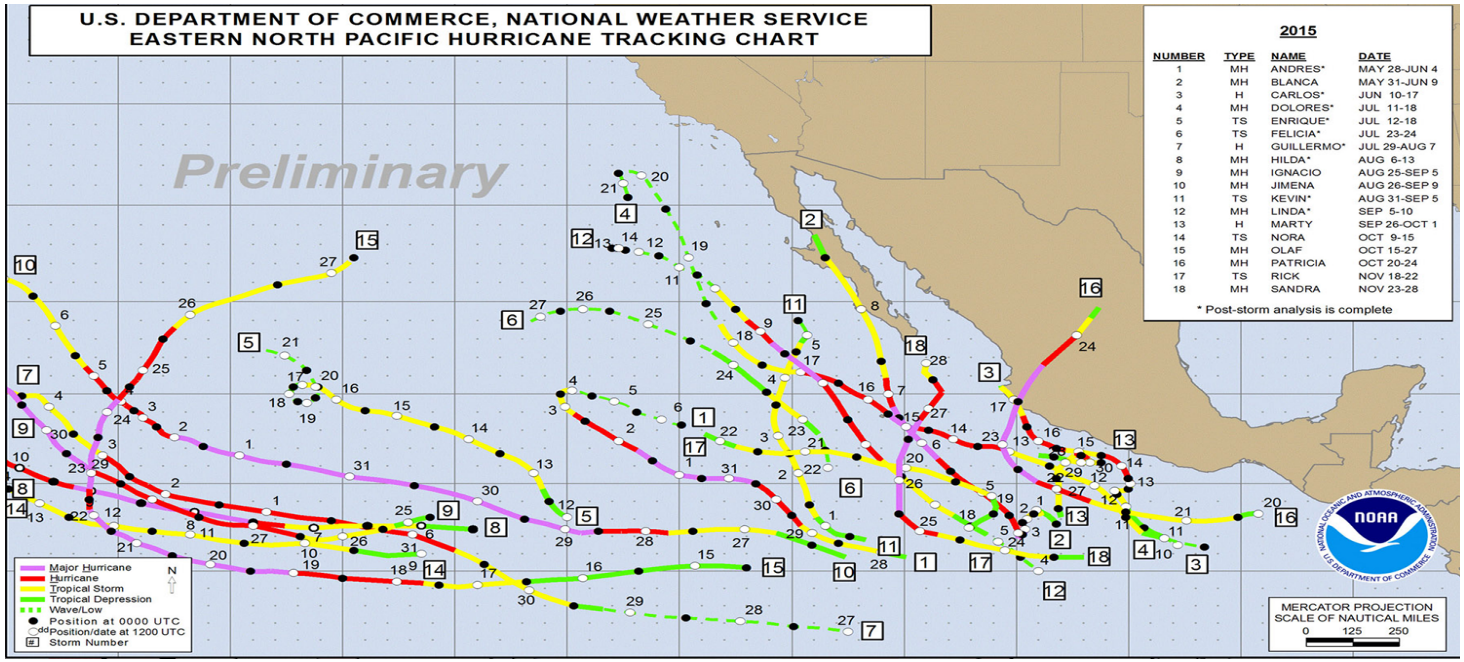


Figure 1: Eastern Pacific Tropical Storm Tracking Chart (NWS/NOAA)

Online Resources

Portions of the information provided in this figure can be accessed at the Natural Resources Conservation Service

Arizona: http://1.usa.gov/19e2BdJ

New Mexico: http://www.wcc.nrcs.usda.gov/cgibin/resv_rpt.pl?state=new_mexico

We are updating our 'max storage' values for numerous NM reservoirs based on conservation storage vs. maximum flood capacity. This alters the percent full calculations, even while 'current storage' numbers are unchanged. Contact Ben McMahan with any questions or comments about these or any other suggested revisions.

Notes

The map gives a representation of current storage for reservoirs in Arizona and New Mexico. Reservoir locations are numbered within the blue circles on the map, corresponding to the reservoirs listed in the table. The cup next to each reservoir shows the current storage (blue fill) as a percent of total capacity. Note that while the size of each cup varies with the size of the reservoir, these are representational and not to scale. Each cup also represents last year's storage (dotted line) and the 1981–2010 reservoir average (red line).

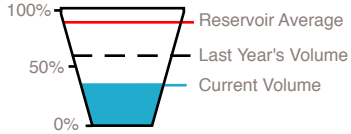
The table details more exactly the current capacity (listed as a percent of maximum storage). Current and maximum storage are given in thousands of acre-feet for each reservoir. One acre-foot is the volume of water sufficient to cover an acre of land to a depth of 1 foot (approximately 325,851 gallons). On average, 1 acre-foot of water is enough to meet the demands of four people for a year. The last column of the table lists an increase or decrease in storage since last month. A line indicates no change.

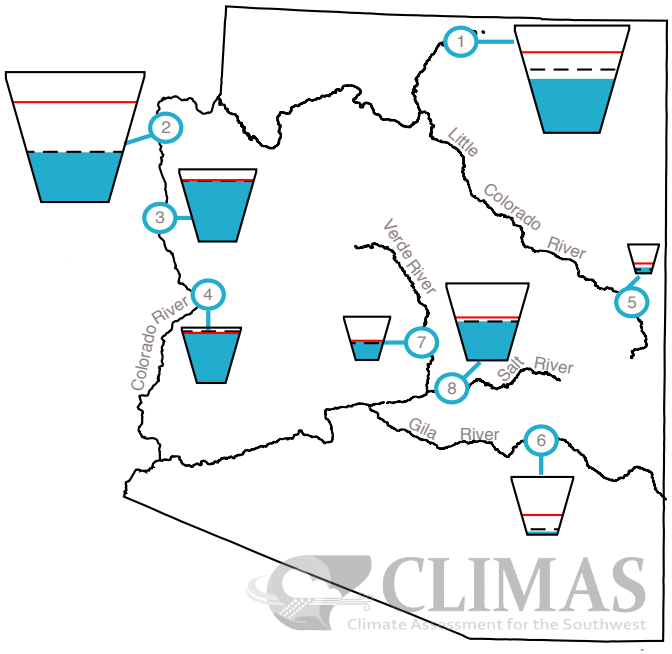
These data are based on reservoir reports updated monthly by the National Water and Climate Center of the U.S. Department of Agriculture's Natural Resources Conservation Service (NRCS).

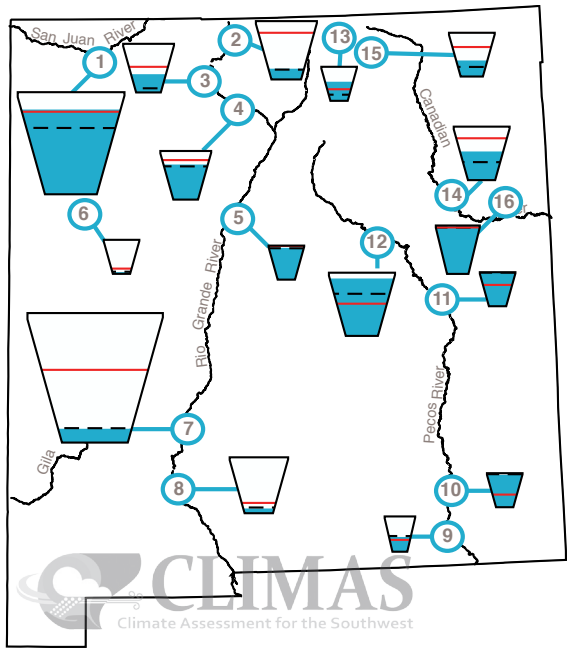
Reservoir Volumes

DATA THROUGH NOV 30, 2015

Data Source: National Water and Climate Center, Natural Resources Conservation Service







Reservoir	Capacity	Current Storage*	Max Storage*	One-Month Change in Storage*
1. Lake Powell	51%	12,286.6	24,322.0	-88.7
2. Lake Mead	38%	9,865.0	26,159.0	-67.0
3. Lake Mohave	84%	1,514.5	1,810.0	11.1
4. Lake Havasu	92%	571.8	619.0	2.0
5. Lyman	20%	6.1	30.0	1.2
6. San Carlos	5%	46.1	875.0	19.0
7. Verde River System	43%	124.6	287.4	-11.7
8. Salt River System	50%	1008.7	2,025.8	33.6

*KAF: thousands of acre-feet

Reservoir	Capacity	Current Storage*	Max Storage*	One-Month Change in Storage*
1. Navajo	83%	1,399.5	1,696.0	7.5
2. Heron	18%	71.3	400.0	-10.0
3. El Vado	37%	70.1	190.3	-5.6
4. Abiquiu	72%	135.4	186.8**	-12.1
5. Cochiti	93%	46.7	50.0**	-0.6
6. Bluewater	5%	2.0	38.5	-0.1
7. Elephant Butte	11%	232.4	2,195.0	49.3
8. Caballo	8%	26.3	332.0	1.2
9. Lake Avalon	42%	1.9	4.5**	0.7
10. Brantley	95%	40.0	42.2**	6.6
11. Sumner	100%	40.2	102.0**	12.1
12. Santa Rosa	91%	96.9	105.9**	-9.2
13. Costilla	56%	9.0	16.0	0.5
14. Conchas	54%	136.0	254.2	1.3
15. Eagle Nest	37%	29.4	79.0	0.2
16. Ute Reservoir	98%	195	200	0.0

Online Resources

Dengue Hemorrhagic Fever
http://www.who.int/mediacentre/factsheets/fs117/en/

Chikungunya Virus
http://www.cdc.gov/chikungunya/

Centers for Disease Control - Building Resilience Against Climate Extremes (BRACE)
http://www.cdc.gov/climateandhealth/brace.htm

El Niño and Vector Borne Disease

What do we know about mosquitos, disease, and climate?

Heidi Brown, Assistant Professor (UA College of Public Health) & CLIMAS Prinicipal Investigator

We are usually able to enjoy the patio by October, but the mosquitoes were still biting. What does the science tell us about El Niño and mosquito-borne disease? Short answer: it's complicated.

With respect to mosquito-borne disease, we tend to think about a mosquito season; the period of the year during which mosquitoes are active. For diseases like West Nile virus, the cycle starts when mosquitoes bite birds, infecting them with the disease. Eventually, often in late summer and early fall, enough mosquitoes and birds are infected that the disease spills over into human and horse populations. This requires that there are enough infected mosquitoes and that these mosquitoes survive long enough to become infectious and bite humans or horses.

That gets us back to the mosquito-season. Immature mosquitoes—egg, larval, and pupal stages—require water to compete their life cycle. This water is provided both by precipitation and by human behavior, collecting in green pools, unprotected water storage, clogged gutters, or saucers under plants. Temperature drives how quickly an immature mosquito becomes an adult; typically, warmer temperatures speed up development. Another important piece is adult mosquito survival and host-seeking activity, both of which are mediated by humidity. Thus, the duration and intensity of any year's mosquito season is going to be strongly influenced by temperature and precipitation.

This year, with respect to precipitation, we had a wet June but then a normal July–September rainfall. The rains are expected to remain above-average through the winter. Despite the mosquitoes we experienced this summer and fall, the implications of the summer lull in precipitation are unknown. Because of the ramping up of West Nile virus in the bird-mosquito cycle, we might actually escape a bad year and hopefully, the bird-mosquito transmission cycle was broken and won't have enough time (enter the effect of cooler winter temperatures) for it to build up again and spill over to humans.

Research results are mixed, being highly dependent on the disease of concern and the region of study. Intuitively we know there must be an association between climate and vector life cycles, as the life cycle of invertebrates are often tightly associated with weather. However, with urban mosquitoes like the Culex species that transmit West Nile in the United States and the Aedes species that transmit dengue and chikungunya, human behavior plays a role in mediating exposure to mosquitoes, the availability of breeding sites, and even mosquito survival. Moreover, the diseases themselves have an intrinsic intra-annual cycle in which the proportion of a given population that is susceptible to infection fluctuates between years, confounding the climate-driven associations with temperature and precipitation.

That leaves us with a dissatisfying 'we don't know' and 'it all depends.' Our experience will depend on the previous years' mosquito abundance, previous years' human or other host disease occurrence, current human or other host susceptibility, and the duration of the anomalous weather. It does leave us with a positive message, though: what we do as individuals does matter. Protect yourself from mosquitoes, empty breeding sites, cover your water storage, repair your window screens, and use mosquito repellent when you go out of doors.

Resources

1. "Summer floods seen as threat to much of nation." The Washington Post. June 3, 1983.

2. "Environment watch." The Age. October 25, 1993.

3. "And now for the weather: Two years from today there will be rain." The Times. March 6, 1996.

4. "International news: El Niño pours could water on LA routine." The Guardian. September 27, 1997.

5. "El Niño smiles on ski resort." St. Louis Post-Dispatch. December 14, 1997.

6. "El Niño gets the blame for weirdness." USA Today. January 8, 1998.

7. "It moved like a conveyor belt, hit like a train." The Ottawa Citizen. January 15, 1998.

8. "El Niño triggers sneezing season, pollen gets kicked up early." USA Today. February 23, 1998.

9. "El Niño's good side: Wildflowers." The New York Times. March 30, 1998.

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13. "Giants expect wealth, stadium raises Magowan's hopes." San Jose Mercury News. February 22, 1998.

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15. "Out and about: Dreaming of a white Christmas." The Santa Fe New Mexican. November 30, 2006.

16. "El Niño rain turns out to be El Floppo." East Valley Tribune. February 23, 2007.

17. "Latest forecast suggests 'Godzilla El Niño' may be coming to California." Los Angeles Times. December 15, 2015.

El Niño and Media Coverage in the Southwest

Gigi Owen, CLIMAS Research Scientist

What do wildflowers, hantavirus, downhill skiing, locusts, and floods all have in common? The answer is El Niño in the Southwest. These subjects represent a small sample of media stories written during the last 33 years that connect regional impacts to the El Niño phase of the El Niño-Southern Oscillation (ENSO) and help illustrate an evolution in our understanding of the significance of El Niño to the region.

El Niño was documented as early as the 19th century by sailors who noticed that in some years, often around Christmas, a warm ocean current off the coast of Peru would bring changes to the regional marine ecosystem. But modern media coverage didn't begin until the 1982–83 El Niño event. This event was particularly strong, and many scientists took note, enticed by the possibility of associating regional climate patterns with ENSO, as this development held the key to future climate forecasting.

Upon reviewing all newspaper articles that reference El Niño impacts in the Southwest, three different phases of scientific coverage emerge. During the first phase, from the early 1980s through 1996, the science of ENSO was still fairly new and most stories discussed the general global, national, and sometimes regional impacts of El Niño. The second phase began during the strong 1997–98 El Niño event. The number of articles about El Niño in the region drastically increased at this time and referenced regional impacts as they were happening or a few months later. During the third phase, 1999–2014, journalists tried to use El Niño as a tool to predict future impacts that might occur in the Southwest.

Phase #1 – Early ENSO Science and Impacts: The first phase was characterized by a handful of articles that were general in scope and discussed the dynamics of the ENSO cycle. For the Southwest, floods and above-average precipitation usually made the news. As this phase progressed, growing scientific evidence allowed for greater attribution of regional impacts in the region to El Niño, and the media slowly started to cover the story. The first news article was written in June 1983. It discussed regional flooding patterns across the U.S. and described the large snowpack on the verge of melting in the Southwest[1]. During this first phase, ENSO became a recognized phenomenon and the general idea that El Niño brought cooler, wetter weather to the region became fairly well established. However, many of the impacts attributed to El Niño were underdeveloped (e.g., killer bees migrating from Arizona to California[2] and the appearance of bubonic plague in New Mexico[3]) This was still early on in our understanding of the predictability of El Niño itself and many news articles grappled with how to cover long-range forecasting.

Phase #2 – Attribution of El Niño Impacts in the Southwest: The second phase began during the very strong 1997–98 El Niño event. A substantial increase in media coverage occurred then, compared to prior events, with more than 100 news articles referencing impacts in the Southwest. By this point, researchers better understood the science of El Niño and its regional impacts. This meant increased attribution of weather and climate events to the ENSO cycle in the media, starting with coverage of Hurricane Nora, which "deposited two years' worth of rain on the small town of Yuma"[4] in fall 1997. El Niño stories that winter discussed huge storms that dumped heaps of snow on ski slopes in Taos, New Mexico[5], but also buried sheep and cattle near Roswell[6], and brought heavy rain to Arizona in February and March[7]. This above-average precipitation promoted vegetation growth across the Southwest, translating into high pollen counts[8] and brightly blooming wildflower patches in Arizona[9]. The healthy desert vegetation also brought droves of locusts to western Arizona in the spring of 1998[10] and boosted deer mice populations, which led to several occurrences of hantavirus in humans in the Four Corners region[11]. Media attention shifted in tone as the 1997–98 El Niño event progressed. Over time, a popular sentiment developed: "Oh, just blame it all on El Niño."[12] Stories focused on the negative impacts of El Niño, and it often became a scapegoat for everything from the San Francisco Giants not getting enough practice time during spring training[13] to increases in food prices[14].

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El Niño and Media Coverage in the Southwest (continued from the previous page)

Phase #3 – The Media Race to Predict the Next El Niño: The strong 1997–98 El Niño generated a lot of scientific and media interest in predicting the next event. The third phase of media coverage was characterized by an effort to stay ahead of the curve and be the first to prepare the region for the impacts of another El Niño. This phase characterizes a time when scientists and journalists were still learning about the different flavors of each El Niño. Some were weak (2004–05) or moderate (2002–03), some quickly fizzled out (2006–07), and some were predicted but never actually started (2014). Each of these different events influenced regional weather patterns in distinct ways and climate information providers weren't always able to clearly communicate the nuances to the media. Many news articles talked up the potential impacts of El Niño leading up to events (e.g., "Out and about: Dreaming of a white Christmas"[15]) only to carry disappointed headlines a few months later (e.g., El Niño rain turns out to be El Floppo"[16]).

It seems that we are currently beginning a new phase of El Niño media coverage with the 2015–16 event. Scientists have an improved understanding of the range of El Niño impacts and can better attribute certain weather events and occurrences to the ENSO cycle. In addition, this information has been translated into local news sources. While some national media outlets and climatologists have portrayed the 2015-16 El Niño as Godzilla[17], not one article referencing Arizona or New Mexico has characterized it as a monster. Perhaps that's because El Niño means a lot of positive things for the region. Despite potential hazards, the desert could use some cooler, wetter weather, especially in contrast to the multi-year droughts that have characterized much of the 21st century thus far. But possibly it's also because on a regional level, scientists and the media are better understanding and representing what El Niño means for the Southwest.

CLIMAS Southwest Climate Podcast

Dec 2015 SW Climate Podcast - El Niño in Full Swing

In the December episode of the CLIMAS Southwest Climate Podcast, Mike Crimmins and Zack Guido discuss the difficulty of characterizing a climate phenomenon (in this case El Niño) on a weather time scale, which is made difficult by the highly variable transition season we see in the Southwest in October and November. This difficulty is especially salient as media, the general public, and climate scientists are all hungry for explanations as to whether day to day events fit into larger climate patterns (i.e. is this an El NIño related impact or not!?). They also go over the recent events of October, November, and early December, before looking forward at what the seasonal forecasts suggest is likely in store for this Winter (Hint: All signs still point to a wetter than average winter!). *Listen: http://climas.arizona.edu/podcast/dec-2015-climas-sw-climate-podcast-el-niño-full-swing-and-fall-recap*

Nov 2015 SW Climate Podcast - The Hunt for Wet October

In the November 2015 episode of the CLIMAS Southwest Climate Podcast, Zack Guido and Mike Crimmins look back on an anomalously wet October, and in particular the effect of one system that made two visits to the Southwest. They also talk about Hurricane Patricia, and the speed at which that tropical system escalated to one of the strongest storms on record. They also talk about October weather in terms of the seasonal transition (between monsoon summer and fall/winter patterns) and the impact of tropical storm systems, as well as the difficulty of attributing specific weather events to longer term patterns (i.e. the El Niño Southern Oscillation). They wrap up by talking about El Niño and the seasonal forecasts, which include projections of above average precipitation in the Southwest, as well as a number of global impacts.

Listen: http://www.climas.arizona.edu/podcast/nov-2015-climas-sw-climate-podcast-hunt-wet-october