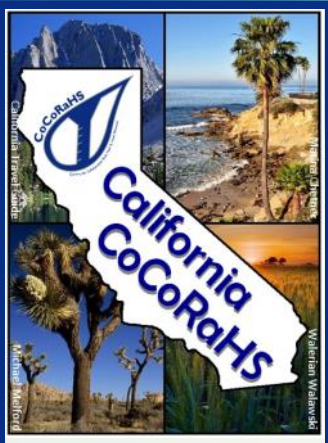


California Cumulonimbus

Spring 2018

Articles in this Edition:

Welcome Message

by Jimmy Taeger

Map of California divided up into different CoCoRaHS regions. Each region has one or more coordinators. *(Source: CoCoRaHS)*

Flowers are in bloom and the days are getting longer which means...it's time for another edition of the *California Cumulonimbus*! The *California Cumulonimbus* is a biannual newsletter for California CoCoRaHS observers that is issued twice a year; once in the spring and once in the fall.

This edition contains articles on California's results in March Madness, summer weather in Davis, CA, the snowpack this year vs. last, an observer spotlight, and a story about third graders learning about the weather.

If you're not a CoCoRaHS volunteer yet, it's not too late to join! CoCoRaHS, which stands for Community Collaborative Rain Hail and Snow network, is a group of volunteer observers who report precipitation daily. Not only is it fun, but your report gives vital information to organizations and individuals such as the National Weather Service, River Forecast Centers, farmers, and others.

Visit cocorahs.org to sign up, or e-mail Jimmy.Taeger@noaa.gov for additional information.

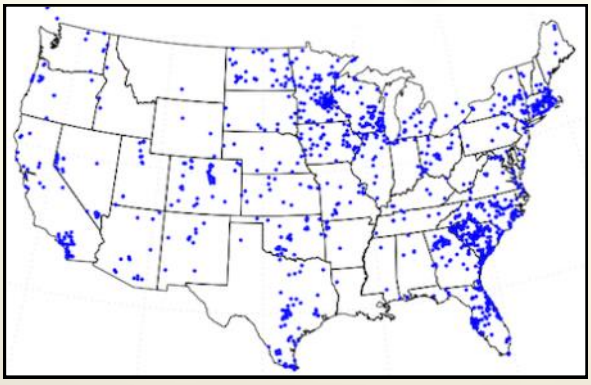
Enjoy the newsletter!

57 New California Observers in March

by Jimmy Taeger

Every year, CoCoRaHS holds a recruiting contest called "March Madness", where states compete to win the "CoCoRaHS Cup" with the most new volunteers by traditional count or per capita.

Nolan holding the CoCoRaHS Cup. *(Source: CoCoRaHS)*



New observers in March 2018 across the CONUS. *(Source: CoCoRaHS)*

This year, California had 57 new volunteers sign up in the month of March. This greatly surpasses last year's number of 18 for March. We placed 7th overall in the traditional count.

Thank you to all of those who recruited new volunteers and helped us to compete. Let's all make a goal of recruiting one new volunteer next year to win the cup for California!

The Dry Season in Davis, CA

by Matthew Igel

The dry season has hit those of us who live in California's Central Valley. The precipitation climatology of the Valley and most of the West Coast is referred to as a "Mediterranean climate" which means we receive most of our rainfall in the winter and nearly no rainfall in the summer. Across the globe, this climatological pattern is quite rare. Among geographic locations with Mediterranean climates, the Central Valley is extreme with very wet winters and very dry summers. It's so extreme that I thought I would look at months with zero rainfall here in Davis.

Using 50 years of daily precipitation data (the kind of data volunteers across the country collect with their rain gauges) from UC Davis' Campbell Tract research meteorology station, I found months without a single day of rain. July is the most likely month to be precipitation-free. Of the past 50 years, Davis has seen rain in just 5 Julys. The data show that in Davis, July is the driest month with just 0.02" of rain on average. If we remove the rainiest July day ever (0.46" on July 8th, 1974) from the calculation of the average July precipitation, it falls by half to 0.01". August is the second driest month in Davis. It has rained in August in just 9 of the past 50 years. June and September have very similar climatology to each another. About 50% of all Junes and Septembers are completely dry, and their average rainfall is 10-times that of July.

On the other hand, January is Davis' wettest month. We average 3.86" (nearly 200-times the July average!) of rain and have never seen an entire month go by without measurable rainfall. The figure shows CoCoRaHS gauge reports from July 2017. Blue square mark locations that did not see any rainfall and red circle mark locations that saw rain.

So, remember to report days without rainfall to CoCoRaHS. Be a hero; report a zero.

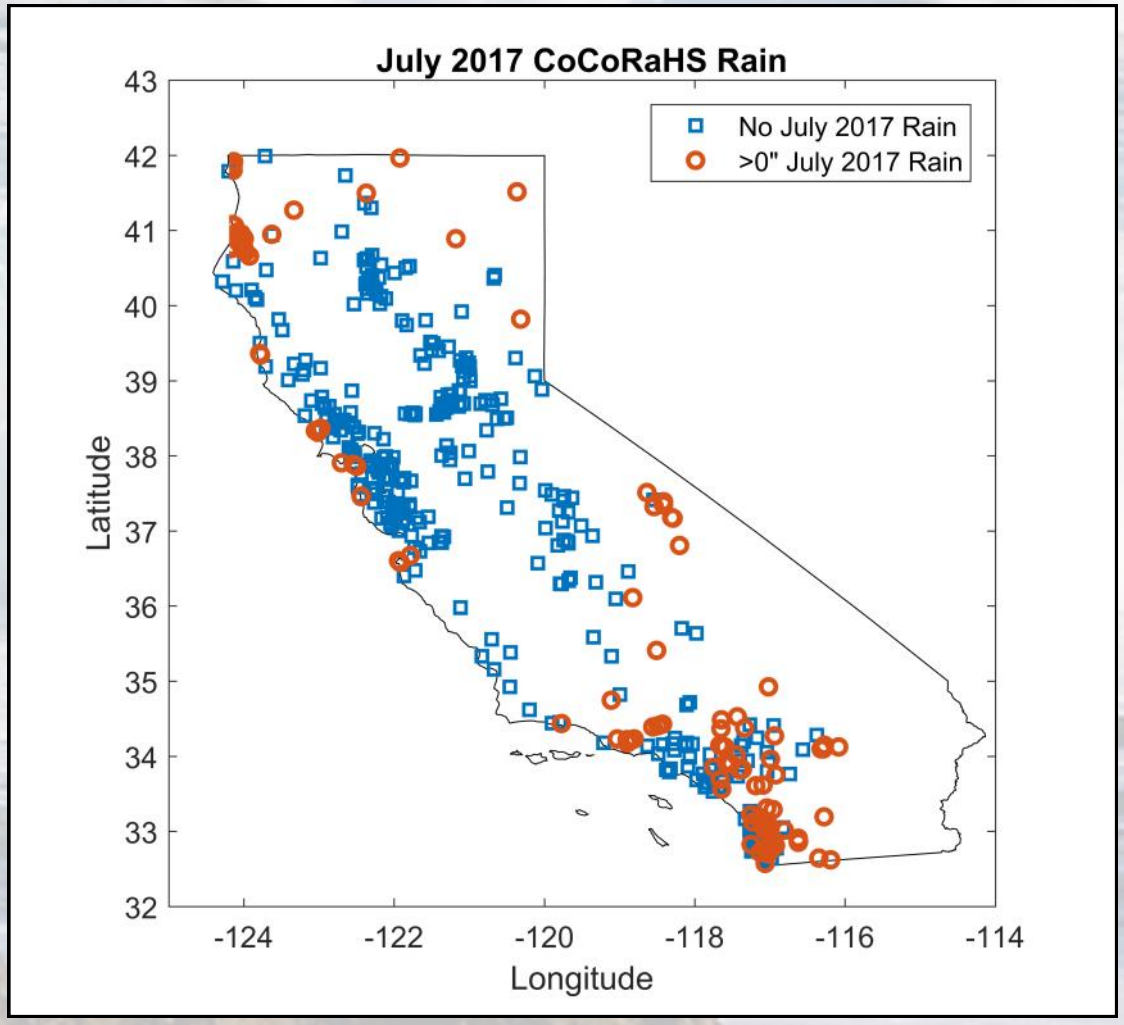


FIGURE 1) CoCoRaHS stations that reported precipitation (red circle) and stations that reported no precipitation (blue square) in July 2017. (*Source: Matthew Igel*)

What a Difference a Year Makes

by Brett Albright

We all felt it this winter, but the folks over at the California Cooperative Snow Survey are the ones with the honor of defining this year's snowfall in the Sierra. A task they have been dedicated to since 1929. This winter started very slow with a limited number of significant storms impacting the state through February. Several late season Atmospheric River events pushed the Sierra snowpack in a positive direction; but still only left the statewide average hovering around 50% by the start of April. The snowpack in the Sierra typically peaks in early April just before temperatures begin to increase, making the early April snowpack the most representative of the season as a whole. From 2017 to 2018, the year over year change is quite stark, with last year's snowpack being around three times higher than this year. The lower snow numbers will impact the amount of available runoff this year, though impacts to the state water supply will be tempered by water reserves stored in reservoirs from the anomalously high snowpack in 2017. Ultimately when it comes to snowpack in California, the one thing you can count on is year to year variability.

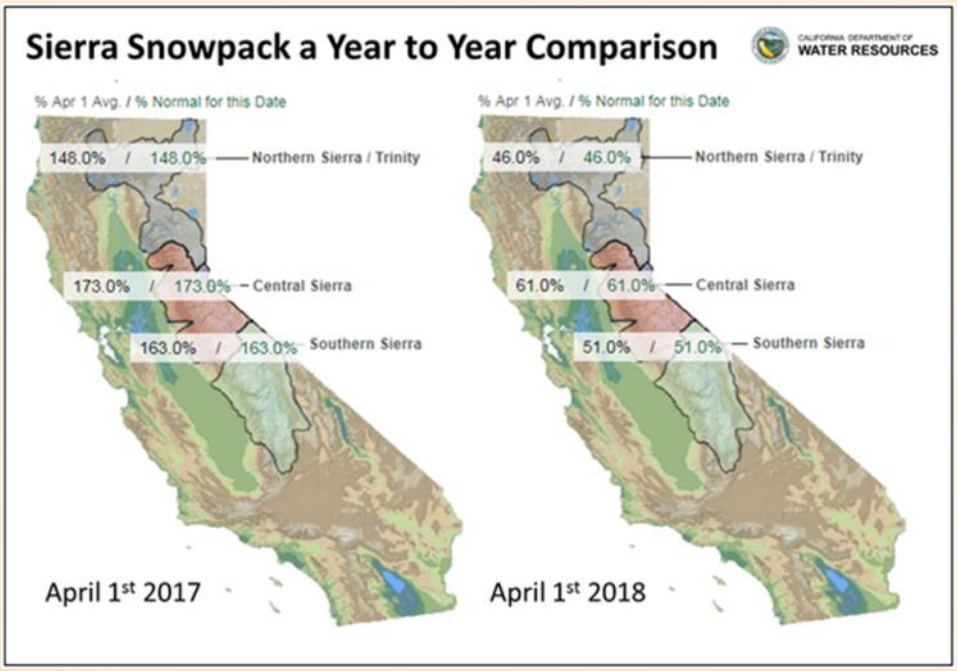


FIGURE 1) A comparison of the Sierra snowpack from April 1st 2017 and 2018. (*Source: CA Department of Water Resources*)

Observer Spotlight: Ron Kolbe

by Jimmy Taeger

Ron Kolbe grew up in North Dakota, and has lived in Minneapolis, Colorado Springs, Sacramento and finally Serene Lakes where he resides today. He worked in construction for much of his professional life, but had dreams of becoming a TV Meteorologist, a geologist or a railroader (like his father). Although he never became a TV Meteorologist, he always enjoyed and followed the weather closely.

FIGURE 1) Ron and his wife, Heidi, on a segment of the PCT with Castle Peak in the background. (*Source: Ron Kolbe*)

In the late 90's, Ron purchased a small cabin in the Sierra Nevada community of Serene Lakes, just below the crest at 6800'. Being an outdoorsman, avid snow skier, and hiker, this was the perfect place for him to spend all of his free time. Because he loved it up there so much, he quit his job in Sacramento and began working on converting an 800 sq ft home into 2000 sq ft home for retirement. Ron started working construction in the summer and ski bumming in the winter out of their new house, rather than the cabin. To keep busy, he works with the California Department of Transportation as a heavy equipment operator, aka snowplow driver.

Weather continues to be an important factor on how he conducts his everyday functions, whether for his job or recreation.

FIGURE 2) Ron's home during the winter of 2016/2017. (*Source: Ron Kolbe*)

Next spring, Ron is planning on taking the month of May off to chase storms across Oklahoma, Kansas, Texas, etc. In the meantime, he said he will continue to report CoCoRaHS from the luxury of what he considers his piece of paradise.

Thank you, Ron, for your daily dedication to observing precipitation for CoCoRaHS for almost 10 years!

Mountain Town Helps fill Observation Gap and Teaches Children about the Weather

from Tracy Cairns

The students at Valley of Enchantment Elementary school in Crestline, California are official weather observers through CoCoRaHS and have recently been added to the Weather Ready Nation Ambassador team. Comprised of mainly third graders, our school has been observing precipitation for our community since December 2017. Every day, students in teams of two go to our rain gauge, located in the center of campus, and observe the precipitation in the gauge. Students then record their finding in a notebook that they take back to class. The student representatives then report the amount to the rest of their class, and graph the data. Each student gets a chance to go with our class "meteorologists" to observe the weather and gauge during the school year.

FIGURE 1) CA-SR-63's gauge with a sign describing the importance of precipitation, along with other fun facts. (*Source: Tracy Cairns)*

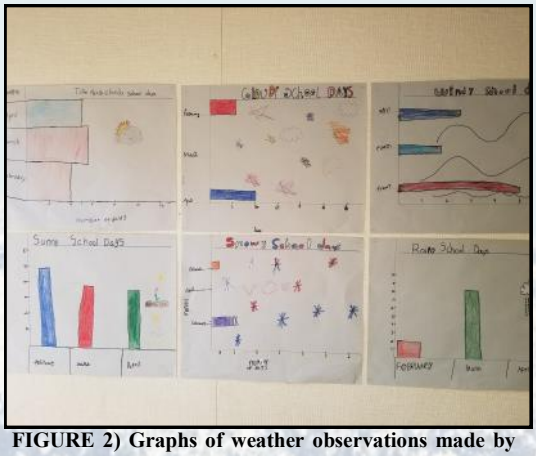


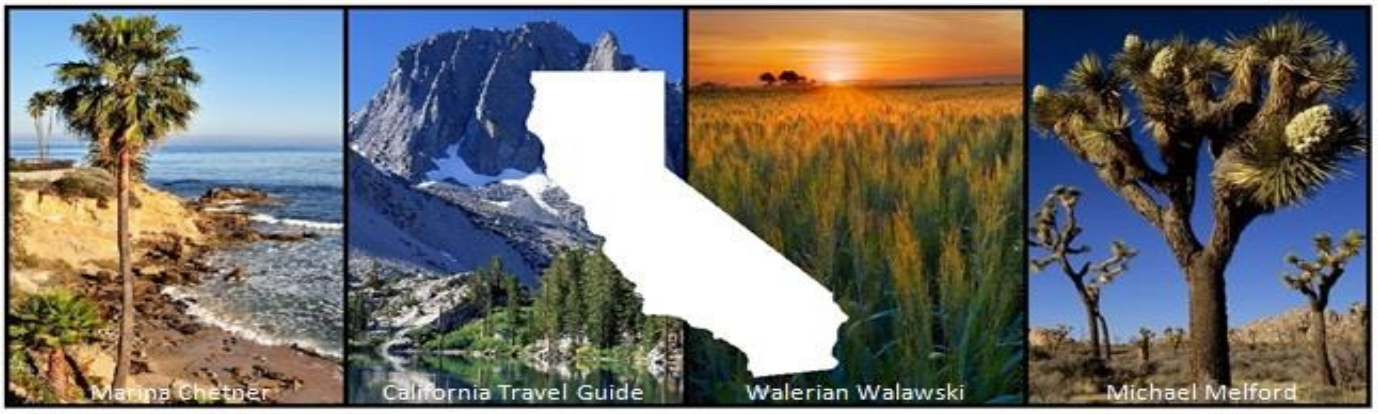
FIGURE 2) Graphs of weather observations made by the 3rd grade class. (*Source: Jimmy Taeger)*

Our students are very protective of our instruments and take very good care of them. Their excitement when it rains is only because they will get a chance to have some water in the gauge, not for inside recess. When it snows, we observe and record the amount as a class, since this is a much more tedious process. Their amazement at the water cycle's process is astounding. They are much more engaged in the watershed of our area, as well as how precipitation and the environment affects their daily lives because of our involvement with NOAA, NWS, and CoCoRaHS. I am proud of these students and the work that they have put in to be important members of these entities and our community.

"Their excitement when it rains is only because they will get a chance to have water in the gauge, and not for inside recess."

FIGURE 3) Tracy's 3rd grade class next to their rain gauge. (*Source: Tracy Cairns)*

California CoCoRaHS



California Cumulonimbus

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What is CoCoRaHS?

CoCoRaHS, which stands for Community Collaborative Rain Hail and Snow Network, is a non-profit group of volunteer precipitation observers. Anyone can join, and it's easy to report the information. All you need is a 4 inch rain gauge, the internet, and a few minutes each day. The website is easy to navigate and has different instructional materials for anyone to learn how to record an observation.

The site also has daily maps of observer's reports showing where precipitation fell the day before. It's fun to compare the different amounts of precipitation that can fall in an area from just one storm. Not only is the information interesting to look at, it is very valuable for organizations such as the National Weather Service, hydrologists, farmers and many others.

Visit cocorahs.org to sign up, or e-mail Jimmy.Taeger@noaa.gov for questions. Join CoCoRaHS, today!

Rain gauge required for the program.

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