

Volume 1, Issue 2

Spring/Summer
2013



The Montana Meso

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Welcome Message

Thank you for participating in the CoCoRaHS program and welcome to the second edition of the Montana CoCoRaHS newsletter! The purpose of this publication is to keep Montana residents and weather observers informed about the latest weather events in the state. We will also include various training tips to help you make the best possible measurements and observations. This newsletter will be issued seasonally and is a collaborative effort between all the Montana CoCoRaHS coordinators.

If you have any requests for information that you would like to see in future editions of this newsletter, as well as comments or questions, please e-mail National Weather Service Meteorologist Megan VanDenHeuvel at: Megan.VanDenHeuvel@noaa.gov.

Thank you again for your time and commitment and for being great weather observers!

CoCoRaHS Montana

By Vickie Stephenson, NWS Billings, South-central Montana CoCoRaHS Coordinator

Would you like to be able to see your state CoCoRaHS web page without having to go through the National page? Well, you can! The “CoCoRaHS Montana” web page is located at: <http://www.cocorahs.org/state.aspx?state=mt>. Here you can view the state map depicting the daily observations from you and your neighbors. Upcoming training sessions might also be posted here by the four (4) National Weather Service offices across the state. This web page was set up by Trent Smith, the CoCoRaHS coordinator from the National Weather Service office in Missoula, MT.

Montana CoCoRaHS observers also have our own online Google community in which to communicate with each other, ask questions, & share weather stories & observations. You can join the online group at: <http://groups.google.com/group/mt-cocorahs>. Trent will approve all new members!

Montana CoCoRaHS is also on Facebook! Just go on Facebook and search for Montana CoCoRaHS and join our group to post and share weather information and photos of weather events! What fun!



The Race to Join CoCoRaHS

By Amy Schnetzler, NWS Glasgow, NE Montana CoCoRaHS CoCoordinator

Montanans, HAM radio operators, and weather enthusiasts are just a few things that Loren Nichols and Sam Moore have in common. They are also friends who happen to be the first to join CoCoRaHS when it expanded into Montana in 2006. By only a few hours, Loren beat Sam to the chase and I was fortunate to interview both of them about their experience with CoCoRaHS.

How does weather affect your daily activities?

Loren: The weather means everything here on the farm. Too wet, too cold, too hot, too dry, it all makes a difference. I check the weather every day so that I can plan my activity such as seeding, spraying or harvesting. It's all weather dependent.

Sam: I do not farm or ranch. However, working with the local farmers delivering fuel, fertilizer and other items needed in their endeavors affects my daily activities just about the same way as it affects them.

What encouraged you to join the CoCoRaHS network?

Loren: When Tanja Fransen (Warning Coordination Meteorologist at the National Weather Service in Glasgow) told me about CoCoRaHS I was very interested because it was a way to get reports where there are no co-op observers.

Sam: It seemed to me that what was needed was more accurate data from lots of field locations. Lots of data builds the micro climate forecast which feeds the local forecast that feeds the regional forecast, just made sense.

What is your favorite aspect of being a CoCoRaHS observer?

Loren: To see how my reports compare with the rest of the area. Also, how my reports have been used to help the neighbors give reports to their crop insurance companies.

Sam: "Watching the data accumulated daily from the observers in the local area. It's amazing to watch how little or how much changes over a very small area.

What challenges do you face at your observing station?

Loren: The biggest challenge is how to measure snow. When it's light and fluffy, and the wind is blowing, it is very hard to be accurate.

Sam: Wind-blown snow - it is always a challenge to try and get an accurate reading on the snow depth. The conversion to moisture is easy, figuring where and when to take the depth core measurement, at times, one has to be creative.

What advice would you share with fellow Montana observers?

Loren: Try to be as accurate and measure as often as you can so that the reports can be added to the data and used to help us all.

Sam: The biggest thing to me is consistency. It can be hard to take the reading at the same time day in and day out and hard to read the rain gauge the same way every time at the same place. One has to practice that a bit. Now that I am gone about half the year at our other place in North Dakota my summer readings are far and few between, but, I try and do multiple day readings every time I get home.

Loren Nichols



Owns and operates a farm located in northern Valley County, northeast of Frazer. He began his career of growing spring wheat and yellow peas once he finished college. After 36 years, he plans to retire this year.

Sam Moore



Retired from the US Army and US Air Force after serving 25 years before moving back to Montana where his wife grew up near Flaxville. He worked for the local Farmers Union Co-Op before fully retiring in 2011.



By Vickie Stephenson, NWS Billings, SE Montana CoCoRaHS Coordinator

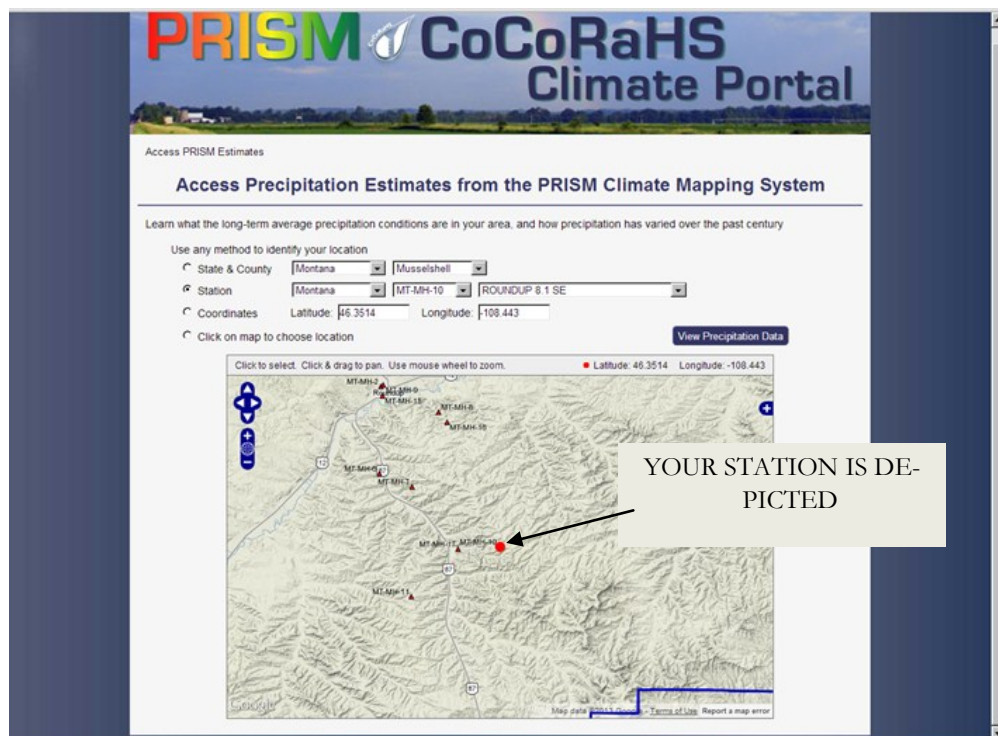
Would you be interested in knowing more about the climate and precipitation at your station location over the past 100+ years? Now you can...

PRISM—CoCoRaHS Climate Portal is a new analysis tool developed to help connect our daily precipitation measurements (weather) to seasonal patterns, long term averages and year to year variations (climate). This portal provides access to estimates of “normal” precipitation for any location in the contiguous United States. PRISM also provides estimates of total precipitation for each month and year since 1895.

Click on this link to watch the YouTube narrated version of the Portal Guide:

http://www.youtube.com/watch?feature=player_embedded&v=sZgXgVlbfMo

You can learn more about your location by logging into your CoCoRaHS account. Go to My Account page and click on PRISM Data shown in the bottom block labeled “My Stations”. Below is a snapshot of the screen that you will see when you select your station PRISM Data:



Enjoy playing with this new tool and share it your family and friends! Maybe they would be interested in signing up so they can look up THEIR location information! This portal is only available to CoCoRaHS Network observers/account holders and only through your account page.

Montana Winter 2012/2013 Recap

By Megan VanDenHeuvel, North-central/Southwest Montana CoCoRaHS Coordinator

"This winter experienced above normal temperatures and near to slightly below normal precipitation."

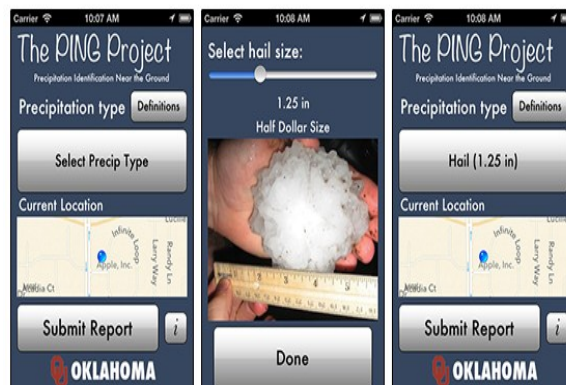
Meteorological Spring began on March 1st so let's recap what has happened in Montana over the winter. December 2012 featured near normal temperatures across the state, though areas along the Hi-line were an outlier with colder than normal temperatures. The wettest areas were over portions of southwest, west and northeast portions of the state while drier conditions persisted elsewhere. A snowstorm affected most of the state on December 8-10, 2012 with anywhere from three to twelve inches reported across the state along with very strong winds and cold temperatures. The coldest period was at the end of December into the beginning of January 2013 where temperatures at West Yellowstone were near -29° F. January featured above normal temperatures statewide with scattered areas of above or below normal precipitation. On January 11, 2013, another snowstorm affected much of the state with blizzard conditions across northeast Montana. Snow amounts ranged from a trace to 12 inches. Mountain ranges across central and southwest Montana measured up to 15 inches of snow. In February, a strong ridge of high pressure promoted warmer and drier conditions statewide. Temperatures averaged near to above normal across the state with below normal precipitation. The exception was an area from Cut Bank to Great Falls where precipitation was above average. February recorded the lowest average snowfall since February 2005 and consequently, winds were above average with the exception of portions of western and far eastern Montana. Overall, this winter experienced above normal temperatures and near to slightly below normal precipitation.



The PING Project

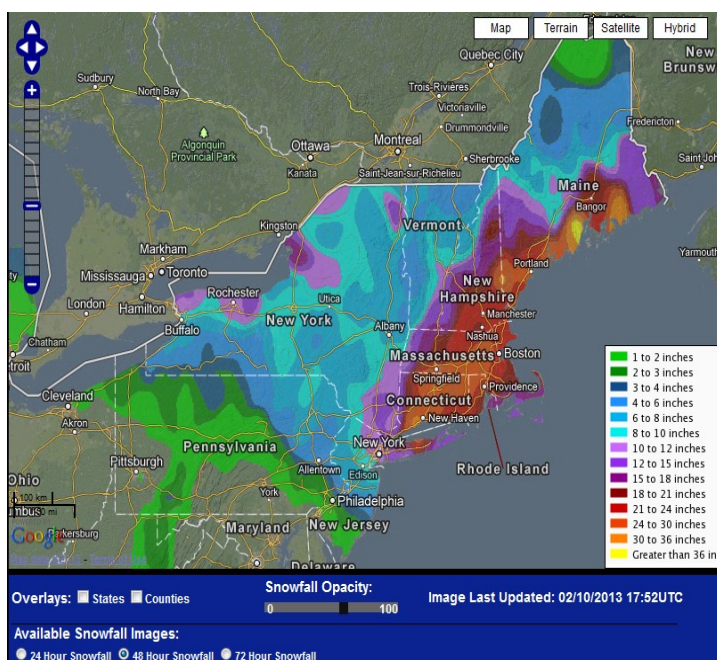
There is a new phone application called mPING that will allow smart phone users to anonymously report precipitation type. All submissions are part of a collaborative research project between the National Severe Storms Laboratory and University of Oklahoma called PING — Precipitation Identification Near the Ground. To learn more about the application, visit:

<http://www.nssl.noaa.gov/projects/ping/>



Winter Extremes Across the Nation

By Megan VanDenHeuvel, North-central/Southwest Montana CoCoRaHS Coordinator



It's been a wild winter for much of the U.S. from blizzards on the East Coast and tornadoes in California to snow in the southern Arizona desert. A Nor'easter brought massive amounts of snow and high winds to areas along the East Coast from New Jersey to Maine on February 9-10, 2013. The most snow fell in Connecticut, Rhode Island, eastern Massachusetts, southern New Hampshire, and coastal Maine where 25 to 35 inches of snow were recorded. In addition, wind gusts of over 80 mph also occurred in parts of these same areas. This storm was one of the more intense snowstorms since the Blizzard of February 1978.

Image Courtesy: www.cocorahs.org

On February 19, 2013, a tornado occurred between Corning, and Red Bluff, California approximately 100 miles north of Sacramento. The tornado lasted only a few minutes and the NWS office in Sacramento, California surveyed the tornado damage and rated it an EF0 with peak winds around 74 mph.



Image Courtesy: NWS Sacramento

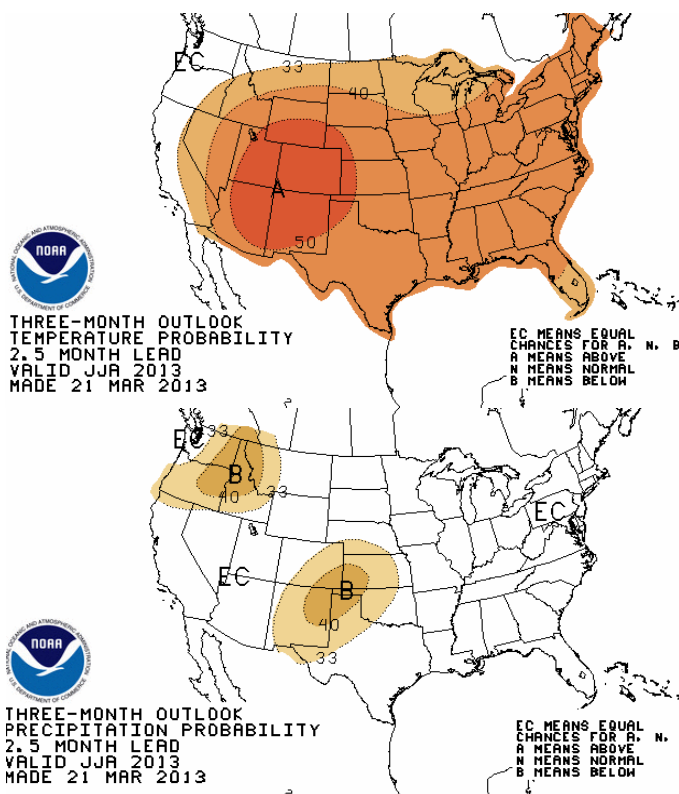


Image Courtesy: NWS Tucson

Lastly, on February 20, 2013, snow fell as far south as the desert regions of southeastern Arizona from Phoenix to Tucson. In Phoenix, most of the precipitation was rain, however there were reports of snow and graupel mixed with the rain at times. Civano, Arizona located on the east side of Tucson measured 2.0 inches of snow.

Summer Weather Outlook

By Trent Smith, NWS Missoula. Western Montana CoCoRaHS Coordinator



Images Courtesy: www.cpc.ncep.noaa.gov Click on the link above for more climate prediction information!

While northwest Montana will have an equal chance of seeing normal or above normal readings. On the flip side, the outlook for precipitation has western Montana at a higher chance of seeing below normal precipitation amounts, with eastern Montana having an equal chance at seeing average precipitation this summer.

One question commonly received during Spring is: What will the coming summer be like? The latest ENSO models, predictors of the El Nino/La Nina cycle, indicate that this coming summer should be around Neutral. As the line chart indicates, the models diverge greatly during JJA (June/July/August), with one showing weak El Nino and another showing weak La Nina. The bold yellow line, which averages all the models, has the mean near zero (Neutral). So what does a Neutral ENSO pattern indicate for Montana? The NOAA Climate Prediction Center is forecasting that southern and eastern parts of Montana should have a higher chance at seeing temperatures above season normals.

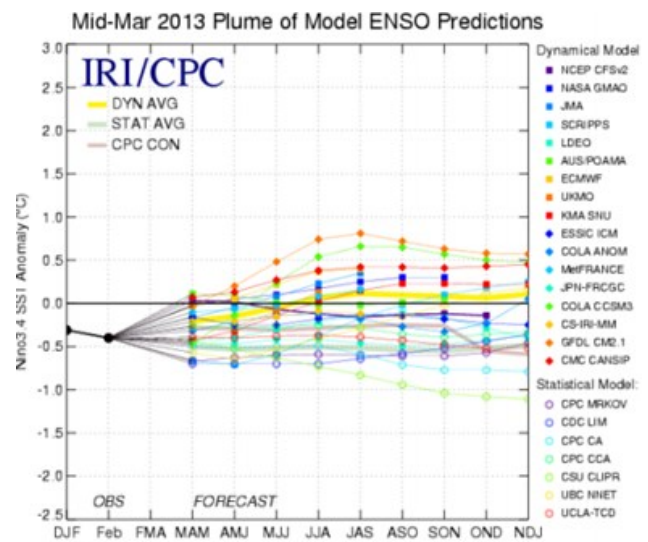


Image Courtesy: www.cpc.ncep.noaa.gov

The following table shows June, July and August averages for maximum and minimum temperatures with average monthly precipitation. At the end of August, check to see how your station compares to the summer prediction.

City	June	July	August
Missoula	75.2/46.6/2.07	85.9/51.4/0.99	84.9/50.1/1.19
Billings	77.6/52.0/1.99	86.7/58.3/0.94	84.7/56.7/1.01
Great Falls	75.3/49.4/2.39	83.9/54.0/1.24	82.2/53.0/1.54
Glasgow	77.4/51.6/2.11	84.7/57.0/1.72	83.4/55.5/1.35

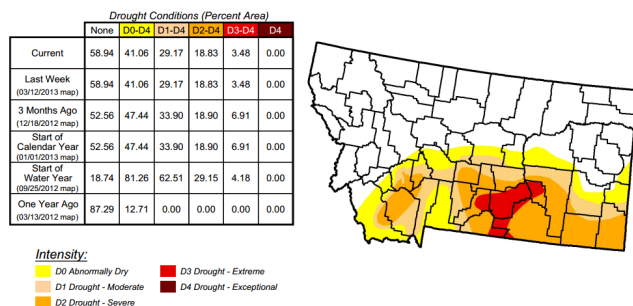
Montana Drought Summary

By Gina Loss, NWS Great Falls, Senior Service Hydrologist

As of March 19, 2013, the primary drought concerns for Montana are over southern Montana where drought conditions are holding steady. As of March 2013, some improvement is anticipated over southwest Montana with near average mountain snowpack and good reservoir storage.

U.S. Drought Monitor Montana

March 19, 2013
Valid 7 a.m. EST



The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. See accompanying text summary for forecast statements.

<http://droughtmonitor.unl.edu>



One concern is the lack of low elevation snowpack and below normal soil moisture. At the end of February, soil moisture over western Montana was above normal while areas in central, south central and southeast Montana were noted to be below normal. Frost depth across the state generally ranges from 2 to 6 inches with some areas reporting no soil frost.

Most areas across the state have a near average snowpack with two basins slightly below historical medians including Bitterroot River Basin and Lower Yellowstone River Basin. Both of these basins are at 89 percent of their median snowpack for mid-March.

The [USGS Water Watch](#) indicates streamflows for most sites west of Continental Divide to be above normal, while along and east of the Continental Divide, streamflows are near to slightly above normal. Ice is affecting most sites in northeast Montana so streamflow conditions are unknown as of mid-March.

Monitoring drought is a multi-agency effort involving NOAA's National Weather Service and National Climatic Data Center, the U.S. Department of Agriculture, state and regional climate climatologists and the National Drought Mitigation Center.

Did You Know?

Observers who report "0" on days when no precipitation occurred are just as important as reporting on wet days!

These reports help in monitoring drought conditions across the United States.

Most of the lower 48 had varying intensities of drought conditions during 2012.

Although some areas have improved over the last few months, severe to exceptional drought conditions continue over a vast area spanning from the southern plains to the high plains and the upper Midwest.

Visit this webpage for the most current drought conditions:

<http://droughtmonitor.unl.edu/>



Visit Us Online:

<http://www.weather.gov/billings>

<http://www.weather.gov/glasgow>

<http://www.weather.gov/greatfalls>

<http://www.weather.gov/missoula>

National Weather Service Mission Statement:

The National Weather Service (NWS) provides weather, hydrologic, and climate forecasts and warnings for the United States, its territories, adjacent waters and ocean areas, for the protection of life and property and the enhancement of the national economy. NWS data and products form a national information database and infrastructure which can be used by other governmental agencies, the private sector, the public, and the global community.



Visit Us Online:

<http://www.cocorahs.org>

CoCoRaHS Mission Statement:

CoCoRaHS is a unique, non-profit, community-based network of volunteers of all ages and backgrounds working together to measure and map precipitation (rain, hail and snow). By using low-cost measurement tools, stressing training and education, and utilizing an interactive Web-site, our aim is to provide the highest quality data for natural resource, education and research applications.

Training Corner—Reporting Zeros



**It's important to report
your observation to
CoCoRaHS even when it
hasn't rained.**

**Please report those zeros
to help us out.**

Courtesy: www.cocorahs.org