

## **Messages of the Day** **October 2014**

Wednesday, October 1, 2014

### **Happy New Year 2015 . . . Water New Year that is!**

Wait a moment, it's not January 1st, is it? No it's October 1st and a special day on the CoCoRaHS calendar. It is the first day of the 2015 Water Year!

What is the water year you ask?

The water year is an approximation for the best consecutive twelve months that span the "water storage/water usage" hydrologic cycle. The water year cycle is particularly obvious in the Rocky Mountains and western U.S. where snow begins to accumulate at high elevations in October and doesn't melt and run off until next spring and summer. But this same important annual cycle takes different forms across the entire country.

Another way to think of the Water Year is the resting/replenishing season followed by the water consuming season where vegetation grows, crops are cultivated and then harvested. For much of the country, the months of October through March are months where precipitation from the sky exceeds evaporation from the ground. This means that soil moisture and ground water can recharge. When next spring arrives, temperatures will warm again, plants will come back from dormancy and once again evapotranspiration will surge.

CoCoRaHS Water Year Summaries

As we celebrate the new year, we will once again generate Water Year Summary reports for every CoCoRaHS station. A first draft of these summaries will be provided in early October in HTML and Excel formats to give all observers the chance to review their observations for the year and make any corrections if necessary. (We'll send out message when they are ready.) Then we will make some improvements to the reports based on the feedback we get, and will regenerate the reports near the end of October once everyone has had a chance to review their observations.

To look at previous year's Water Year Summary Reports please click here: [PAST WATER YEAR SUMMARY REPORTS](#).

Thanks again for helping CoCoRaHS track precipitation across the country. Happy New Year!

Saturday, October 4, 2014

### **Who Uses CoCoRaHS Observations? Weather Forecasters**

#### **1. Weather Forecasters (Private, Media and Government)**

Weather forecasters (Private, Media and Government) look at our rain, hail and snow reports to help their weather prediction and verification. Believe it or not, weather forecasters like to know how their forecasts work out. CoCoRaHS precipitation data allow them to see with great detail where it rained or snowed, where it didn't and how much. Here in Colorado where CoCoRaHS started in 1998, forecasters have learned from CoCoRaHS reports that there are some areas that often get more (less) precipitation than others under certain weather conditions. They have been able to refine their forecasts thanks to these improved detailed local observations. NOAA's National Weather Service Forecast Offices instantaneously receive our "Significant Weather" and "Hail reports" to aid in severe weather prediction, warning and verification. This is why CoCoRaHS strongly encourages volunteers to make use of the "Significant Weather" and the "Hail" report forms whenever severe weather is occurring.

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Wednesday, October 8, 2014

## **Autumn photos of your gauge for potential "2016 and beyond CoCoRaHS Rain Gauge Calendars" . . . Keep shooting!**

Just because the [2015 CoCoRaHS Rain Gauge Calendar](#) is now on sale (see below) doesn't mean that you should put your camera away. As we look ahead to 2016 and beyond, we are in need of a good selection of autumn shots of your gauges to choose from. We are looking for artistic close-ups of your gauge in natural autumnal settings (colored leaves if possible), such as beach-coastal backgrounds, farm backgrounds, mountain backgrounds, lake and pond backgrounds, interesting cloud backgrounds, animals near the gauge, close-ups of droplets on the gauge, etc. All natural photos (no photo shopping please).

These artistic photos should be high-resolution (greater than 1MB and jpeg format). Too many great shots were of low resolution, which we could not use this year. The photos should be of "the gauge" only and should not include people in them. Close-up shots of the gauge are best. Also make sure that they are well lit . . . better in sunlight than in a shadow. They can be creative. You may email in more than one set of photos. We will archive your shots and put them into the pool for our next calendar. We'll let you know if your photo is chosen.

Please e-mail your photos to Henry Reges at: [hreges@atmos.colostate.edu](mailto:hreges@atmos.colostate.edu) with the words "Autumn Rain Gauge Photos" in the subject line. Please include the name of the photographer for credit purposes, as well as the location - city, state - of the gauge (ex- Sam Johnson: Fryeburg, ME). Finally be sure to include in the text of your message that "I give CoCoRaHS permission to publish the photo and use it for other possible CoCoRaHS promotions".

Don't forget to keep your camera handy and continue shooting throughout the year! Our volunteers take some amazing shots! One last thing, if you are so inclined, [order](#) your 2015 calendar today. Thanks . . . the CoCoRaHS headquarters team

Saturday, October 11, 2014

## Who Uses CoCoRaHS Observations? Hydrologists

### 2. Hydrologists

CoCoRaHS data is used in hydrologic prediction. Hydrologists whose job it is to predict stream flows, river levels, reservoir volumes, water supplies and flood potential use all the precipitation data they can get their hands on to try to improve their forecasts. Hydrologists all across the U.S. look at CoCoRaHS data on a regular basis.

Some regular hydrologic users are:

- NOAA's [Weather Prediction Center \(WPC\)](#) a division of NOAA's [National Center's for Environmental Prediction \(NCEP\)](#).

- NOAA's [National Weather Service River Forecast Centers \(RFC's\)](#) are using CoCoRaHS data every day in predicting river levels and potential flooding all across the country. A critical input to river stage and flow prediction models is "Mean Areal Precipitation" -- the precipitation averaged across a watershed. The more rain gauge reports we get, the more accurately NWS RFCs can assess "Mean Areal Precipitation" and that equates to better forecasts.

- NOAA's [National Operational Hydrological Remote Sensing Center \(NOHRSC\)](#) accesses CoCoRaHS snow reports all winter to help in the assessment of snow cover and snow water content across the U.S. and southern Canada. . They particularly appreciate the observers who make the extra effort to report the depth of snow (both old plus new snow on the ground) and the total water content of snow on the ground (snow water equivalent – SWE) in the winter and spring. That is really important stuff.

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Tuesday, October 14, 2014

## CoCoRaHS WxTalk Webinar for October 2014: "Atmospheric Rivers"

The phenomenon of narrow regions in the atmosphere known as "rivers" will be the focus of our next ["WxTalk Webinar"](#) on Thursday, October 23rd. *"Atmospheric Rivers"* will be presented by Marty Ralph, the director of the Center for Western Weather and Water Extremes located at the University of California, San Diego/Scripps Institution of Oceanography in La Jolla, California.

*Space is limited to the first 500 registrants*, so register today! We will notify the first 500 who register of their acceptance to the Webinar. Those who aren't able to attend will be able to watch this episode on-line the following day.

### REGISTRATION INFO

**Title: Webinar #35 - CoCoRaHS WxTalk: Atmospheric Rivers**

Date: Thursday, October 23, 2014

Time: 1:00 PM Eastern, Noon Central, 11:00 AM Mountain, 10:00 AM Pacific

*"Atmospheric Rivers (AR) are relatively narrow regions in the atmosphere that are responsible for most of the horizontal transport of water vapor outside of the tropics. While ARs come in many shapes and sizes, those that contain the largest amounts of water vapor, the strongest winds, and stall over watersheds vulnerable to flooding, can create extreme rainfall and floods. However, not all ARs cause damage – most are weak, and simply provide beneficial rain or snow that is crucial to water supply. In fact, they can also be drought busters.*

*This presentation will provide a brief history of the emergence of understanding of atmospheric rivers as a phenomenon, and as a key factor in precipitation in many regions. An emphasis will be placed on lessons learned from studies in the Western US, with highlights from the emerging exploration of ARs as important elsewhere. An example of a strong AR hitting California in February 2014 will be included, with observations from a research aircraft that flew through the event offshore. Efforts to better monitor and predict ARs will also be summarized."*

Reserve your seat now by registering here: [RIVERS](#)

Our November CoCoRaHS WxTalk Webinar: "NOHRSC - The National Operational Hydrologic Remote Sensing Center", will feature Carrie Olheiser of NOAA's National Operational Hydrologic Remote Sensing Center, located in Chanhassen, Minnesota. It will take place on Thursday, November 13th. Stay tuned for an upcoming announcement on how to register.

Friday, October 17, 2014

## **Who Uses CoCoRaHS Observations? Water Management**

### **3. Water management**

There are an ever-growing number of municipal water providers and regional water managers who use CoCoRaHS data to help assess available water supplies and current and projected customer demands based on local and regional precipitation patterns. Daily observations are important in water management, but so is precipitation accumulated over weeks, months and seasons. CoCoRaHS observations help by providing these seasonal hydrologic panoramas.

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Tuesday, October 21, 2014

## **Water year summary report!!!**

"Water Year Summary Reports and graphs" are now available for every CoCoRaHS rain gauge observer who submitted measurements during the 2014 water year (October 1, 2013 - September 30, 2014).

This is your personal "2014 Water Year Journal". Please take a look.

To view the summary for your station, click on "My Account" at the top of the ["CoCoRaHS homepage"](#). You'll need to be logged in for this to work. You will find all your data reports compiled into monthly and annual totals. Graphs of daily and monthly totals and accumulations are provided. "Comments" from each daily report are also tabulated.

If you find any missing data or incorrect reports for your station, please take this opportunity to fill in or correct them. Changes in your "summary report" will not show up immediately, but will be recompiled and updated in early November when all changes have been compiled.

To correct missing reports, you can do so in the My Data area by clicking the links under the List/Edit My Reports section of the menu on the left side. You can enter missing reports the same way you enter your daily reports, just change the date on the report form.

Water Year summary reports and graphs are also available for 2010 - 2013. With help from the PRISM Climate Group at Oregon State University we also provide monthly estimates for your "normal" (30-year 1981-2010 average) precipitation. We can all see if our monthly and water year totals were wetter or drier than average.

To view data for any CoCoRaHS station in the USA, Canada or Puerto Rico, click here: [WATER YEAR SUMMARY](#).

Enjoy, and thanks for participating.

Friday, October 24, 2014

## **Who Uses CoCoRaHS Observations? Researchers**

### **4. Researchers**

Precipitation has an impact on many parts of nature, commerce and society. More and more scientists in a variety of diverse fields are finding out about CoCoRaHS measurements. Forest pathologists, for example, can sometimes track the spread of certain diseases that propagate best during wet weather. Mountain pine beetles, on the other hand, thrive best during drought. Several scientists and public health officials have used CoCoRaHS day-by-day precipitation patterns to determine where mosquito populations have hatched in order to help track the spread of the West Nile virus. Mosquito control operations in some parts of the country also use CoCoRaHS precipitation data and maps to determine where and when summer spraying may be needed. CoCoRaHS is used in basic climate research. One researcher has asked CoCoRaHS volunteers to measure the pH of the rainfall across their state to determine if there is an acidification of their water from upwind industry. There are many other examples of research applications where observers data play an important role.

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Friday, October 31, 2014

## **Who Uses CoCoRaHS Observations? Agriculture**

### **5. Agriculture**

Precipitation affects agriculture in so many ways. Farmers, ranchers, agribusinesses and commodities investors all follow weather prediction and national/international rainfall patterns. A few examples include monitoring crop development, crop yield prediction and assessment, diseases, insects, and soil moisture assessments. How much it does and doesn't rain affects commodities prices and also affects investment and marketing strategies. Many who are not involved in agriculture may not realize just how much the prices paid to farmers for many commodities vary daily based on observed and predicted weather conditions both here and abroad. Colorado State University's wheat breeding program uses CoCoRaHS observations to better understand the climate situation of the state and thus develop better wheat varieties for Colorado.

The [U.S. Department of Agriculture](#) is looking at CoCoRaHS data regularly to assess crop development, potential drought stress and possible crop damage and erosion from flooding or from drought.

The [U.S. Drought Monitor](#) uses CoCoRaHS data in helping to chart drought throughout the country. Observers reports (especially those zeros) provide an important tool for determining where drought is lurking and to what degree it is effecting the agricultural interests in specific counties.

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