



Wyoming CoCoRaHS

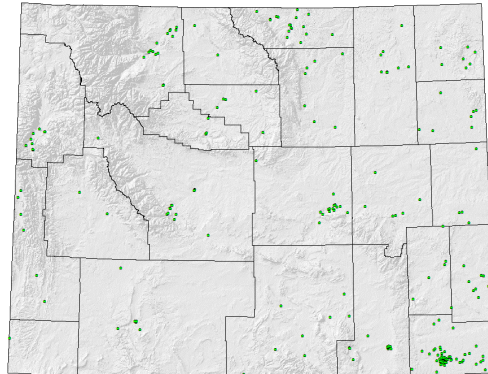
Jul-Sep 2012

Volume 1, Issue 2

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Water Year Summaries Coming Soon



Stations making at least one report in Water Year 2012

The Water Year spans the period from 1 October thru 30 September of the following year. We are now in Water Year 2013 which started 1 October 2012. The first of October was established as the date for the beginning of the Water Year because it is a good break signifying the start of a new snow season. New snow accumulates, forming a snowpack which will replenish streamflows, especially here in the West.

The streamflows during the spring and summer are greatly influenced by the snowpack that begins to form in the latter part of the

previous year so it was decided to create a Water Year which begins about the time this happens. The high evaporation rates, which characterize the summer months, lessen and soil moisture often begins to accumulate, which will be used by vegetation in the following spring and summer.

Each year a Water Year Summary of CoCoRaHS stations is created. This is done a few days after the start of the new Water Year and is available on the CoCoRaHS site. An update is performed later in October to catch the bulk of the late entries; so, if you have not been able to enter all your observations for last year, you still have a little time to do so. Unlike all the other data reports in CoCoRaHS, the Water Year Summary is **not** updated on the fly but rather the reports are only run twice.

To check the completeness of your observations, go to the **Station Precipitation Summary Report** on the **View Data** page. Enter your Station ID and then select 10/1/2011 as a start date and 9/30/2012 as an end date and click **Get Summary**. Dates with “- -” in the Precip column are ones for which no observations were recorded.

Wyoming CoCoRaHS 3rd Quarter 2012

- ◆ Most observations in a day: 167 Reports on July 6th
- ◆ Greatest Amount: 2.10” on July 6th, Sundance
- ◆ Twelve days with no precipitation statewide
- ◆ Sixteen days with a trace or less statewide
- ◆ 13,192 reports submitted
- ◆ 212 active observers

212 Observers Active during 3rd Quarter 2012

212 observers made at least one report between July and September 2012 and 36 of you reported every day (see Never Missed a Drop, page 2) A total of 13,192 daily observations were entered so far which is the most ever for

any quarter since CoCoRaHS started in Wyoming. Over 9400 (>71%) of those reports were “zero”, attesting to the dry conditions that prevailed over much of the state this summer. Thank you for those “zero” reports, they

really helped to quantify the dry conditions. Though there were many “zero” reports, there were two stations which received more than 2” in a day and an additional 46 reports of more than an inch in a day.



What Comes Down Must Go Up

I began measuring Reference Evapotranspiration (ET_o) early last summer and it gave a whole new perspective to how little rainfall I received compared to how much was being lost through evapotranspiration.

This spring observing and reporting ET_o went from a pilot project to being activated nationwide and two other observers joined me in reporting from Sheridan and Campbell counties.

In July, the Water Resources Data System/State Climate Office was able to procure a few gauges and began

making them available to observers with a good record of consistent and timely reporting. So far Wyoming has 15 such stations equipped.

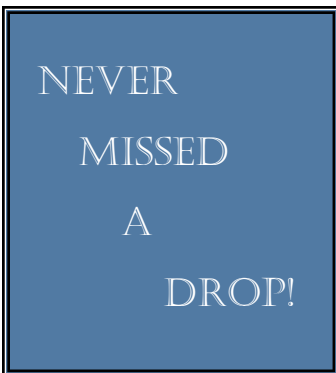
The data are already being used by the US Drought Monitor, and anyone can go to the CoCoRaHS site and view a water balance for the existent stations.

A water balance is simply a running total of precipitation for a period of time with ET_o subtracted from it. In Wyoming for most periods this balance is going to be negative.

To view the water balance charts, go to **View Data** at <http://cocorahs.org> and select **Station Water Balance Chart**. Choose a station from the menu and set a begin and end date. A **Water Balance Summary** may also be generated showing multiple stations.

An accurate water balance is dependent upon the completeness of both the precipitation record and the ET_o record. This is the reason that stations are being selected based upon the consistency of the reporting.

(continued below)



Stations reporting every day 01 Jul thru 30 Sep

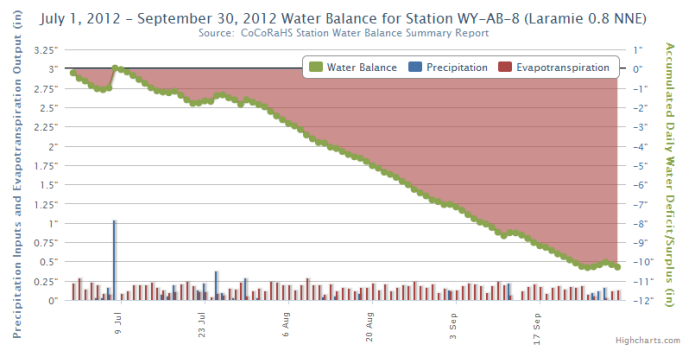
| | | | |
|----------|-----------|-----------|----------|
| WY-AB-1 | WY-GS-20 | WY-LM-107 | WY-PT-14 |
| WY-AB-8 | WY-LM-8 | WY-LM-113 | WY-SH-7 |
| WY-AB-35 | WY-LM-21 | WY-LN-2 | WY-SH-10 |
| WY-CM-9 | WY-LM-23 | WY-LN-14 | WY-SH-14 |
| WY-CM-16 | WY-LM-36 | WY-LN-17 | WY-SH-22 |
| WY-CV-11 | WY-LM-63 | WY-NT-14 | WY-WH-1 |
| WY-FM-1 | WY-LM-92 | WY-NT-24 | |
| WY-GS-7 | WY-LM-96 | WY-PK-8 | |
| WY-GS-8 | WY-LM-102 | WY-PK-11 | |
| WY-GS-9 | WY-LM-106 | WY-PK-16 | |

What Comes Down Must Go Up (continued)

There will be opportunities early next year as winter winds down and spring starts for additional CoCoRaHS observers in Wyoming to receive an ET_o gauge and measure this important parameter. To be considered for receiving a gauge, observers should have a good record of timely reports and a consistent record of observations (85% to 90% complete at a minimum)

We will begin making selections during the 2nd quarter of 2013 and hope to have stations chosen and equipped so that they can begin reporting at the start of the season which generally begins some time in May

It is our hope that as more and more locations in Wyoming begin measuring ET_o, we'll be able to produce real-time maps similar to those currently existing for precipitation.



WY-AB-8 Water Balance for 01 Jul 2012 - 30 Sep 2012

Welcome New Observers & Readers / SnowTime

Six new stations were established in Wyoming during the 3rd quarter of 2012. These stations are in Laramie, Natrona, Platte, and Campbell counties and I'd like to welcome these new observers.

A few of you have started just in time to experience the first snow of the season. As a reminder to all, with temperatures below freezing expected (and already occurring) be sure to pay close attention to forecasted low temperatures in your area if you still have the funnel and inner cylinder in place on your gauge as they are not "all-weather" and can be damaged if subjected to prolonged freezing temperatures. It is getting time to bring the inner cylinder and funnel indoors until Spring.

Measuring snow requires only the outer cylinder and can be done one of a couple ways. The first is to bring the outer cylinder inside and let the snow melt, then pour it into the inner cylinder to measure. If you do this, be sure to cover the top of the outer cylinder to prevent evaporation loss.

Another method is to run some warm water into the inner cylinder and measure how much you put in. Then pour it into the outer cylinder to melt the snow in it. Finally pour all of the water in the outer cylinder into the inner and take your reading. Be sure to subtract the amount of warm water you used!

There is another method that involves weighing which some of you may be interested in using. It is especially handy when taking snow cores. Since this method is a bit involved, I will simply reference the CoCoRaHS training materials related to it.

See: http://www.cocorahs.org/Media/Training/Training_SnowByWeight.html

Welcome!

WY-CR-13
WY-PT-18
WY-LM-127
WY-LM-128
WY-LM-129
WY-NT-49

Observation Milestones

| | | | | | |
|------------------|---------|----------|------------------|----------|----------|
| 3000-3500 | WY-AB-8 | WY-SH-1 | 2000-2499 | WY-NB-9 | WY-SW-1 |
| WY-WH-1 | WY-NT-9 | WY-LM-22 | WY-CR-5 | WY-JN-13 | WY-CR-2 |
| | WY-LM-8 | WY-LM-6 | WY-CV-5 | WY-LM-38 | WY-LN-1 |
| 2500-2999 | WY-GS-9 | WY-WS-6 | WY-PK-11 | WY-LM-24 | WY-LM-48 |
| WY-FM-1 | WY-NT-4 | WY-PT-1 | WY-SH-14 | WY-WH-2 | WY-LM-54 |
| WY-LN-2 | WY-PK-7 | WY-LM-23 | WY-SH-9 | WY-CV-11 | |
| WY-NT-3 | WY-GS-8 | WY-CR-1 | WY-GS-16 | WY-CM-9 | |
| WY-CR-4 | WY-SH-5 | WY-TT-1 | WY-GS-11 | WY-LM-42 | |
| WY-AB-5 | WY-PK-8 | | WY-SH-10 | WY-CK-6 | |
| WY-LM-5 | WY-JN-7 | | WY-BH-7 | WY-WS-5 | |

Congratulations
on 2000+
Observations

Preliminary Water Year Summary

14 Stations with 366 days
238 Stations reporting
50,152 Reports
Most Snow: 177.7"
Most Precipitation: 19.94"
*Least Precipitation: 3.28"

* Of stations with at least 85% of possible reports

So far 14 stations have complete records this year. Counting multi-day reports, 50,152 reports were entered thus far for Water Year 2012. 92 stations have so far made the 85% completeness level, and from those stations some interesting data begin to appear. The five stations with the lowest amounts of precipitation are all in Park County. Despite some large rain events in Laramie County, none of the top five stations with the highest precipitation were in that county. Rather (in order) they were from Lincoln (2), Carbon, Crook, and Teton. The highest precipitation total so far was 19.94" in Lincoln County and the lowest was 3.28" in Park County.

The reason for this (with the exception of the Crook County station) outlines the importance of winter precipitation. The station with the highest amount of precipitation also received the most snowfall (177.7 inches) The stations with the 2nd and 3rd highest precipitation totals had the 2nd and 3rd highest amounts of snowfall (151 and 132.1 inches respectively).

State Coordinator

Tony Bergantino
Dept 3943, 1000 E University Ave
Laramie, WY 82071

Phone: 307-766-3786

Email: antonius@uwyo.edu

<http://www.facebook.com/pages/Wyoming-CoCoRaHS/230236620324909>

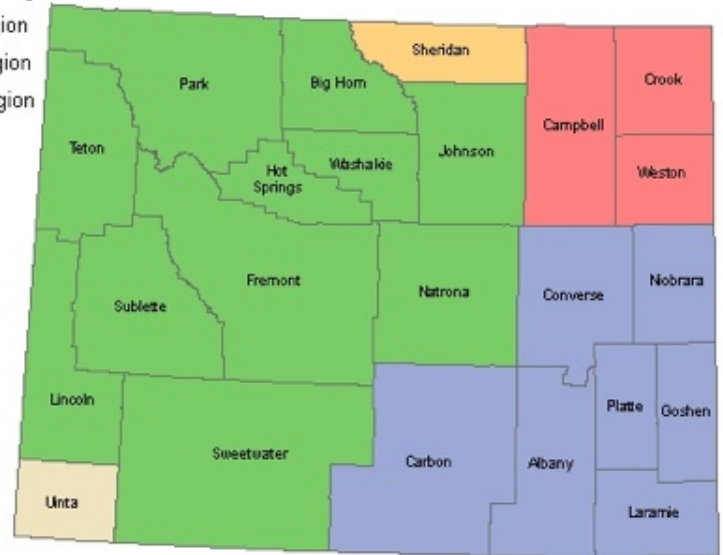
<http://cocorahs.org>

<http://www.wrds.uwyo.edu>

Wyoming Regions

- West-Central Region
- North-Central Region
- Northeast Region
- Southeast Region
- Southwest Region

Wyoming CoCoRaHS Regions



Wyoming Regional Coordinators

Northeast

David King
dking@vcn.com

Southwest

Monica Traphagan
monica.traphagan@noaa.gov

Southeast

Michael Weiland
michael.weiland@noaa.gov

North-Central

Carolyn Willis
carolyn.willis@noaa.gov

West-Central

Dan Berc
daniel.berc@noaa.gov

Arthur Hutcheon

arthur.hutcheon@noaa.gov

We Need You!



End of the storm
Photo by Tony Bergantino

If you are not a CoCoRaHS observer and would like to take part joining is simple.

Just go to <http://cocorahs.org> and click on the **Join CoCoRaHS** link on the left side of the page.

Participation requires only a few minutes a day, an internet connection, and an interest in measuring and reporting rainfall.

Your observations will appear each day on a map and you can see how much you received compared to your neighbors, neighboring counties, and neighboring states.

Meanwhile, your data are used by

various entities throughout the country such as the National Weather Service, the National Drought Mitigation Center, researchers, and those who are just curious about how much rain fell where.

CoCoRaHS helps to fill in holes in places where there are no observers for other networks. CoCoRaHS is a high-density network which allows us to see the variations in precipitation across the country **and** across town.

If you are interested in joining or have any questions, please contact Tony Bergantino at: