CoCoRaHS Collections

"Because Every Drop Counts"

The Ohio Newsletter

Winter

Frozen February

A series of winter storms across the state allowed for this February to be one for the record books. The first storm struck on the 5th and the 6th of February as a low pressure system moved from the Gulf Coast to the Mid-Atlantic region. Although the Washington D.C. area received the bulk of the snowfall, heavy snowfall also impacted the Ohio area due to a secondary area of low pressure and an upper level trough. An example of some of the snowfall values on the 6th is shown below in the picture on the left. On the 9th and 10th of February an area of low pressure moved from near Cincinnati up to Cleveland. The President's Day snowstorm on the 15th and 16th brought additional snowfall across the area adding to the snowfall totals. Additional lighter snowfall amounts fell throughout the month, making this February one of the snowiest on record for many locations.

Historical Perspective

These airports are some of the locations that received their snowiest February on record.

Akron-Canton Airport

37. 2 Inches

Mansfield Lahm Airport

49. 2 Inches

Youngstown Airport

36. 3 Inches

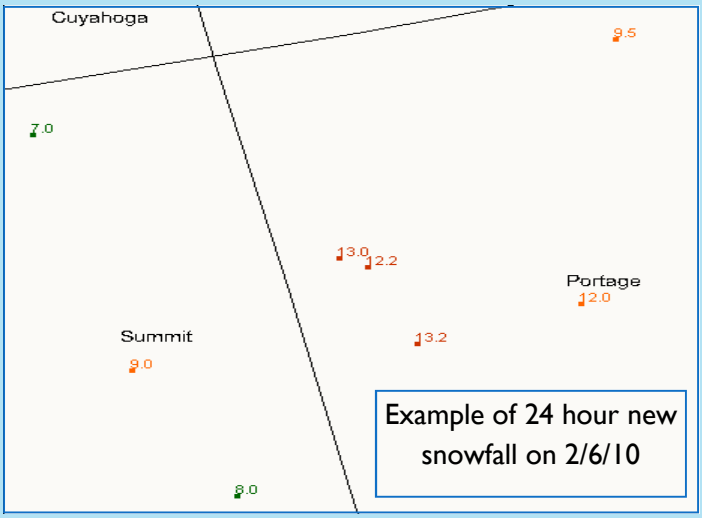
Columbus Airport

30. 1 Inches

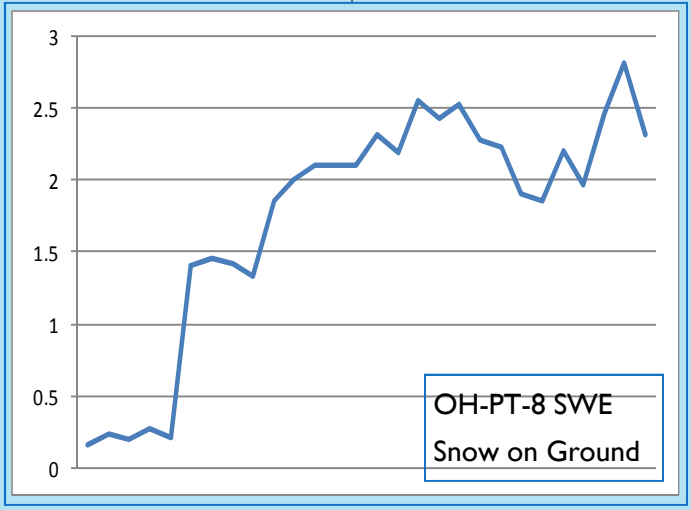
Cincinnati Airport

26. 1 Inches

Inside this issue:



Example of 24 hour new snowfall on 2/6/10



Snow Water Equivalent with Core Samples

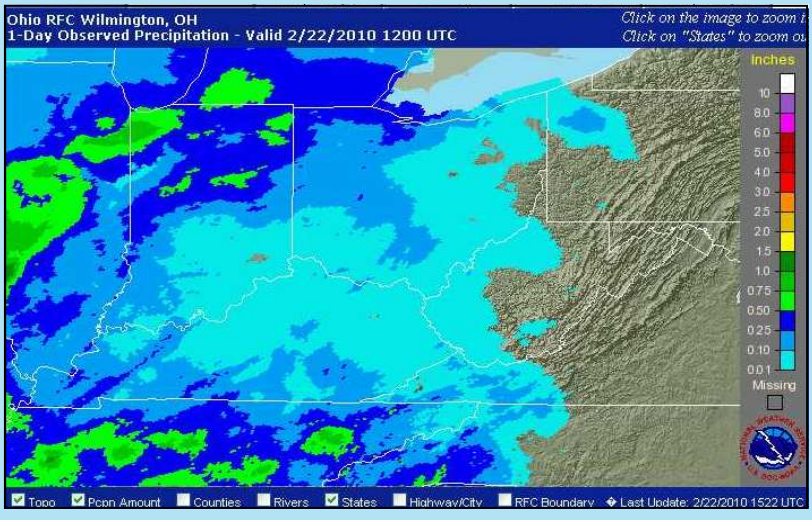
A special thank you to the observers who reported snow water equivalent core sample values during the month of February. These values are very important to the National Weather Service and the River Forecast Centers as you will see in the article on the next page entitled "Your Hard Work in Action." There were over 400 reports of snow water equivalent core samples in February alone. The picture to the right above is an example of the snow water equivalent of snow on the ground during February for observer OH-PT-8. Snow water equivalent values ranged from below a half inch at the beginning of the month to over two inches during the 2nd half of the month. Understandably, these values are not always easy to obtain due to the blowing and drifting of the snowfall. Just do the best you can and try to find a spot with minimal blowing and drifting.

Your Hard Work...IN ACTION!

Please submit your 'how you use CoCoRahS data' to Ashley.Novak@noaa.gov

River Forecast Centers are one of the users of CoCoRaHS data. How do you use CoCoRaHS data?

Across the United States there are 13 River Forecast Centers (RFC). RFCs are one of the users of CoCoRaHS data. One of the 13 RFCs is the Ohio River Forecast Center co-located with the Wilmington National Weather Service. The Ohio RFC hydrologists are tasked with providing daily river stage and flow volume forecasts for locations along nearly the entire length of the Ohio River and all of the tributary rivers and streams that flow into it. The Ohio RFC accomplishes its river and flood forecasting operations through the use of a computer model which attempts to simulate the rises and falls of the actual rivers. Many different parameters are involved in this computer model, but one very important one is the location and amount of rainfall during the past 24 hours. This is where you, the CoCoRaHS observer, come into play. CoCoRaHS observations are an integral part of the data that the RFC uses for their forecasts. The RFC uses observations that cover a time period called a "hydrologic day" from 12Z to 12Z. What does the 'Z' stand for? It means Zulu Time, which is another name for Universal Time. Because Universal Time does not adjust for Daylight Savings Time, there is a difference of what this time translates to in time zones that observe Daylight Savings Time. During the season of Eastern Standard Time, 12Z occurs at 7am. During Eastern Daylight Time, 12Z occurs at 8am. Why is this important? Because the RFCs depend on data that occurs from 12Z to 12Z. Thus for RFC usage, only 8am to 8am reports are able to be utilized during EDT and 7am to 7am reports during EST. In addition to your 24-hour rain and new snowfall amounts, RFCs are also keenly interested in your accurate snow depth reports and especially snow water-equivalent reports of any substantial snow on the ground. Snow-water measurements, utilizing snow on the ground and measured using core samples, are important because these amounts add to whatever rainfall occurs when determining how much runoff is headed for the rivers. In order to get a core sample of snow on the ground, find a good spot, free of drifting and melting. Push the CoCoraHS gauge upside down into the snow to cut a core. Slide a thin, flat object under the core sample in the gauge and carefully lift and flip the gauge. At this point you would follow the same process of melting down your snow. First measure and add warm water. Then measure the entire sample. Finally, subtract the amount of water added from the entire sample in order to get your final reading. For more instruction on this process refer to the training slides on the CoCoRaHS website. After you take this measurement you can enter it on your CoCoRaHS daily precipitation form in the melted value from core location. Thank you for those reports!



The graphic to the left shows gridded precipitation over 24 hours. Several sources of information were used in the creation of this grid, including radar estimates and precipitation reports from CoCoRaHS observers. Radar data is very detailed spatially, but lacks accuracy in terms of precipitation amounts. Rain gauge readings are typically the inverse of this. Sophisticated software at the RFCs attempts to merge the two sources by keeping the spatial detail of the radars and adjusting these precipitation values to match the more precise gauge reports. Accuracy in both spatial detail and precipitation amounts of this grid are key to accurate river stage forecasts and CoCoRaHS observers are a key part of that accuracy.

Special thanks to Mark Fenbers for contributions to this article.

Winter 2009-2010 Honor Roll

From December 1, 2009 through February 28, 2010, these Ohio stations reported every-day. Here are those stations who get a tip of the cap for their dedication!

THANK YOU to all of our observers for their consistent reporting!

OH-AT-1	OH-CY-4	OH-GG-4	OH-LS-1	OH-MY-5	OH-SD-2	OH-TS-1
OH-CK-1	OH-DR-1	OH-HR-2	OH-MD-1	OH-PT-1	OH-SD-3	OH-VN-1
OH-CB-2	OH-FR-3	OH-LK-1	OH-MD-2	OH-PT-8	OH-SN-3	OH-WN-1
OH-CW-3	OH-FR-8	OH-LR-5	OH-MM-1	OH-PB-1	OH-SM-5	OH-WD-3

Happy Birthday Ohio CoCoRaHS

CoCoRaHS in Ohio officially began in February 2009. That means that Ohio CoCoRaHS has now turned one. Happy 1st Birthday Ohio CoCoRaHS. In only one year our numbers have grown to nearly 300 stations. Over 100 of you have kept up that reporting and have reported in 2010. Keep up the good work and year two will be even better!

CoCoRaHS March Madness

During the month of March, CoCoRaHS is holding its friendly annual competition among states, CoCoRaHS March Madness, to see how many new observers can be recruited in each state. Do you know anyone interested in CoCoRaHS? Let's see if Ohio can get top honors this year!

Get to Know Your Coordinators

Julie Dian-Reed is the regional CoCoRaHS coordinator for southwest Ohio and west central Ohio. She was part of the original team who brought CoCoRaHS to Ohio during February 2009. Born and raised in Lake County, Indiana, Julie received her Bachelor's in Meteorology from Indiana University and M.S. in Climatology from the University of Illinois. Julie joined the NWS as an intern in 1992. After an internship with the Ohio River Forecast Center in 1994, Julie entered her current position as Service Hydrologist for the NWS Weather Forecast Office in Wilmington, OH. Julie enjoys gardening, camping and hiking with her husband Tom, and their 2 daughters.

Since the launch of CoCoRaHS in Ohio, Julie recognizes how valuable the additional precipitation reports can be. The detailed snowfall and snow depth reports from dedicated CoCoRaHS observers have helped tremendously in supplementing the NWS spotter reports of snow. When the concern turned to flooding after the record to near record February snowfall, Julie put out the call for snow water equivalent reports. These reports, while tedious to obtain, are critical to river flood forecasts. "I was so thrilled and appreciative of the dedicated CoCoRaHS observers who took the time to gather this critical information." Julie looks forward to joining in the effort to recruit additional CoCoRaHS volunteers, and "spreads the word" about CoCoRaHS in the many talks and presentations she conducts for NWS Wilmington.

Special thanks to Julie Dian-Reed for contributions to this article.

Julie Dian-Reed
SW Ohio
Regional
Coordinator

Newsletter

CoCoRaHS Collections
The Ohio CoCoRaHS Newsletter

E-mail:
Ashley.Novak@noaa.gov

Because Every Drop Counts

www.cocorahs.org

Helpful Links for Ohio CoCoRaHS Observers

Obtain replacement or extra equipment from our official suppliers-

http://www.weatheryourway.com/cocorahs/store.html

http://www.ambientweather.com/strgloteprra.html

Report Local Impacts of Dryness or Drought:

http://droughtreporter.unl.edu/

For information on Ohio Climate:

http://www.geography.osu.edu/faculty/rogers/statclim.html

For Current Forecasts and Severe Weather Warnings:

http://www.weather.gov

For river information:

http://www.weather.gov/ahps/

Reporting Revisited-Flooding

In 1998 a devastating flood occurred in the Fort Collins, Colorado area. From this flood CoCoRaHS was born and has now spread to all 50 states. In honor of Flood Safety Awareness Week, March 15-19, 2010 this reporting revisited section is dedicated to flooding and flood safety. First we will talk about flooding and how you, the CoCoRaHS observer can report flooding or the intense precipitation that can lead to flooding. There are two ways to accomplish this. One way is real time with the Significant Weather Report and the other reporting method is with the Daily Precipitation Report. Both of these reports are found on the CoCoRaHS website. The Significant Weather Report can be used real time to report intense rain or snow. What is intense precipitation? Although there is not a strict definition of what to go by, a good guideline to go by is if there is greater than an inch of rain in an hour or flooding is occurring. There is also an additional information section where you can describe what flooding is occurring at your location. When you submit a significant weather report, this report goes automatically to workstations at the National Weather Service so that they can decide whether they need to issue or continue a flood or flash flood warning. The second way to describe flooding that is occurring at your location is with your Daily Precipitation Report. Your Daily Precipitation Report would still be submitted at your normal observation time. At the bottom of the form is an additional information section. Here you can pick if no, minor, unusual, severe, or extreme flooding is occurring. To review, you can provide extra information about any flooding that is occurring at your location on a daily basis with your daily precipitation form, however when the need arises and intense precipitation of greater than an inch an hour is occurring and/or flooding is impacting your area a significant weather report can be issued real time. Remember that your safety is important to us and to only take an observation if you are safely able to do so. Information on flood safety and Flood Safety Awareness Week can be found at www.floodsafety.noaa.gov National Flood Safety Awareness Week is intended to highlight some of the many ways floods can occur, the hazards associated with floods, and what you can do to save life and property.