



Counting Drops

-The Indiana CoCoRaHS Newsletter

Newsletter

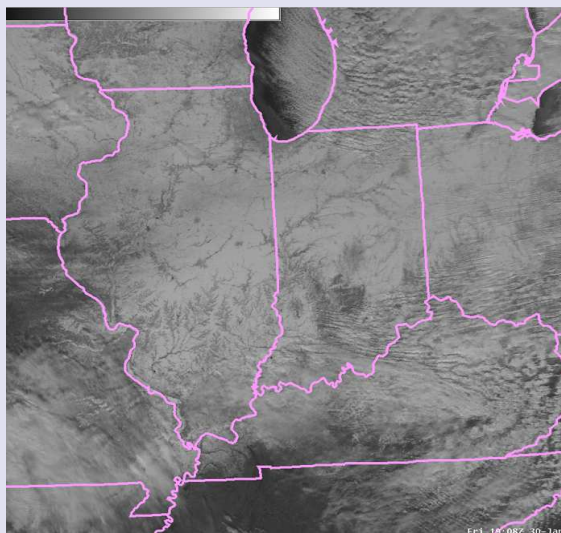
Fall-Winter 2008-2009

Heavy Snowfall Blankets Indiana

The wild weather has continued across Indiana. The Hoosier State has seen a wide variety of weather from snow storms to floods. Thank you for all of your reports.

The Event

A powerful low pressure system that moved from Tennessee through eastern Kentucky brought snowfall across Indiana from January 26th until January 28th. A majority of the snowfall fell during the night of the 27th and the morning of the 28th. After the storm system exited Indiana, more than a foot of snow blanketed many locations.



Above is a visible satellite image of the snow cover after the event on January 30, 2009 for Indiana and surrounding states. The rivers can be seen in this picture and are indicated with the darker lines. The white areas indicate where the snow cover is.

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The Role the CoCoRaHS Observer Played

To the right is a list of many of the top snowfall reports from the January 26th-28th snowstorm. A majority of the reports that the National Weather Service received for the event were from CoCoRaHS reporters. These reports were utilized by both the National Weather Service and various media outlets.

Storm total snowfall measurements of January 26th-28th.

Station Name	County	Snowfall (in.)
4.0 WSW Gosport	Owen	16.3
3 S Paragon	Morgan	13.2
6.9 N Bloomington	Monroe	12.8
2 ESE Muncie	Delaware	12.8
2 SE Brownsburg	Hendricks	12.7
2 ENE Knightstown	Henry	12.7
1 S Castleton	Marion	12.5
Speedway 6.2 SSW	Marion	12.5
0.7 E Martinsville	Morgan	12.5
3.3 SW Nashville	Brown	12.0
1.3 S Plainville	Daviess	12.0
1.1 W Plainfield	Hendricks	12.0



Snow stakes help observer's find snowboards, especially after a heavy snowfall.

Indiana Hits 1000

Recently CoCoRaHS in Indiana hit a new milestone! The network in Indiana officially began in February 2006 and since then over 1,000 Hoosiers have signed up for CoCoRaHS. Keep up the great work!

A special thanks to Al Shipe, Jason Puma, Ken Scheeringa, Julia Dian-Reed, and Logan Johnson for contributions to this newsletter.

Your Hard Work...IN ACTION!

Each issue we will spotlight a specific usage of your CoCoRaHS reports to show just how much your hard work means!

In September, record flooding and widespread power outages affected nearly one quarter of a million Indiana residents. Interstates and other major roads were closed. Record flooding swamped the Kankakee and Calumet River Basins over north-western Indiana. All of these problems were associated with the remains of tropical systems. Your

reports, as ground truth, helped to verify the severity of the situation so that the appropriate flood warnings could be issued or continued. Here are some of the highest reports from the September 12th to the 14th time frame.

IN-PT-51 Portage 0.8 SW 11.46 inches
 IN-PT-44 Crown Point 7.6 ESE 11.23 inches
 IN-SJ-9 South Bend 3.7 SE 10.94 inches
 IN-LK-29 Crown Point 3.1 WSW 10.83 inches
 IN-LP-33 New Carlisle 2.4 NW 9.80 inches
 IN-PT-10 Valparaiso 1.3 SSW 9.78 inches

The brains behind Indiana CoCoRaHS, Ken Scheeringa of the Indiana State Climate Office at Purdue, will answer your tough questions. Submit a question to Ken at cocorahs@purdue.edu

Question: I am tired of melting down snowfall, is there another way?

Answer: The answer is yes! One can just weigh the frozen snow in the outer tube, then with one subtraction and division on your calculator, derive the liquid water equivalent. First you will need a good kitchen weighing scale. The

accurate ones can cost almost as much as a new rain gauge itself but this one time cost may be worth the time you save each day that you find new snow in your gauge. Some possible scales include the American Weigh AMW-1000 scale with a 0.1 gram resolution with a 1 kilogram capacity. This is enough capacity for a CoCoRaHS outer tube when filled with 2.5 inches of water. Another scale is the Escali Primo Digital Multifunctional scale with a 1 gram resolution and 5 kilogram capacity. This would be enough to fill the entire CoCoRaHS outer tube

Ken's Question Korner

with water. Before winter begins you would need to record the weight of the CoCoRaHS gauge outer tube when it is dry and empty. When frozen precipitation occurs, remove the outer tube from its outdoor mount and take the outer tube with its frozen contents inside to a warm place. Weigh your outer tube on your kitchen scale. Write this number down and then subtract the tare weight, that is, the empty weight of the outer tube you measured and recorded before winter began or corrected during a more

recent recheck. This answer is the precipitation weight. Finally we must convert this precipitation weight in grams to its water equivalent in inches. Divide the precipitation weight you just calculated by 200. This final answer is the water equivalent of the frozen contents inside the outer tube in inches. Enter this liquid equivalent into your daily CoCoRaHS web data entry form. Don't forget to enter your new snowfall and total snow cover measurements too!

Frost and Freeze Reporting

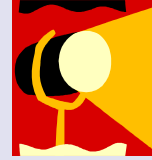
When you think of CoCoRaHS you probably think of rain, hail, and snow reporting. However, there is more information that is valuable to many people, including your local National Weather Service Office, like frost or freeze reports during the growing

season. This is especially true in the fall with the first freeze or frost or in the spring after the growing season has begun. The National Weather Service issues frost advisories or freeze warnings during those time periods. A freeze warning is issued if temperatures are 32F or

colder during the growing season and a frost advisory is issued when temperatures are expected to get down to 35F or 36F with usually light winds and clear skies. So how can you report when you have met this criteria? If you have your own temperature equipment, then on the

daily precipitation form in the comments section simply put what your low temperature was and any other frost or freeze information you would like to provide. This will help the National Weather Service provide to the public additional data on where frost and freeze conditions have occurred.

Coordinators Wanted



Do you enjoy spreading the news about CoCoRaHS to others? Do you like teaching others about the weather? If so then a CoCoRaHS county coordinator position might be right for you! What is a county coordinator? There are actually three levels of involvement and you can pick to be whichever one you feel most comfortable with. A level 1 coordinator serves as a county or regional "point of contact." They handle questions for observers, provide support for them, serve as a go-between for the local observ-

ers and state coordinators, help to recruit new observers through word of mouth or through local organizations, help to publicize training sessions scheduled in the area, and help to encourage volunteers to participate. A level 2 coordinator helps volunteers to install their equipment if they are unable to do so, receives phone calls from volunteers who do not have the internet, keeps in contact with local observers, marks observers as inactive if they no longer wish to participate in the network, and routinely checks the

local county observations for errors. A level 3 coordinator conducts training sessions, organizes social events, finds local sponsors, helps with recruitment, shares information about CoCoRaHS with users who might be interested in using the data, and helps to find others in the county or region who would be willing to help serve as co-coordinators. There are many counties in Indiana that do not have a county coordinator. If your county already has a county coordinator and you are still interested in becoming a

coordinator don't worry. Many county coordinators would not mind sharing county coordinator duties. If you are interested in becoming a county coordinator or if you would just like to get more information about county coordinators please contact me, Ashley Brooks, at

Ashley.Brooks@noaa.gov

For a list of coordinators go to www.CoCoRaHS.org and click on Indiana. On the left hand of the page click on 'state coordinators.' The current coordinators will be listed for each county.

Fall and Winter 2008-2009 Honor Roll

From September 1, 2008 through February 28, 2009, Indiana stations reported everyday. Here are those stations who get a tip of the cap for their dedication!

IN-BN-1
IN-DB-1
IN-EL-8
IN-EL-9
IN-FL-4
IN-HM-5
IN-HM-17
IN-HS-5
IN-HS-18
IN-JS-16
IN-JF-1
IN-JH-4
IN-LP-7
IN-LP-28



IN-MR-3
IN-ML-3
IN-OW-9
IN-PY-1
IN-SN-3
IN-TN-1
IN-WK-5
IN-WK-12
IN-WK-14
IN-WL-3
IN-WY-5



Thanks to all our observers for their consistent reporting!

Welcome Aboard Ohio!

Do you have any relatives in Ohio that have been waiting until the day that they too could become a CoCoRaHS observer? Their wait is over! On February 2nd, Ohio came on board. Every state surrounding Indiana is now a part of the CoCoRaHS program. As the network grows in Ohio we will be able to see how much precipitation falls to our east.

Ohio became the 38th state to join the Community Collaborative Rain, Hail, and Snow Network. As with Indiana, there are many people who are making CoCoRaHS in Ohio possible. The partners in Ohio include: State Climatologist Dr. Jeffrey Rogers of Ohio State University, the Ohio Department of Natural Resources, the Central Raingage Network (organized by Bob Davis of

EMH&T Engineers in Columbus), and the 5 National Weather Service offices serving Ohio.



CoCoRaHS
Ohio
February 2009



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Because Every Drop Counts



www.cocorahs.org

Helpful Links for Indiana CoCoRaHS Observers

Obtain replacement or extra equipment from our official suppliers-

Ambient Weather:

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

Report Local Impacts of Dryness or Drought

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

For information on drought or any other aspect of Indiana Climate:

<http://www.iclimo.org>

For Current Forecasts and Severe Weather Warnings:

<http://www.weather.gov>

Severe Hail Criteria and Reporting

As of April 1, 2009, severe criteria for hail changes from 0.75 inches to one inch in diameter for Indiana. This is based on a study in Kansas where they found that meaningful damage begins at a one inch hail criterion. In addition to this, feedback indicated that fewer warnings for marginal events would allow for the public to be more vigilant to higher end events. CoCoRaHS observers are encouraged to still report all sizes of hail as long as you are safely able to do so. As a reminder, CoCoRaHS observers do not have to wait until their normal ob-

servations time in order to report hail. Hail reports can be submitted at any time by using the hail form on the CoCoRaHS web-page. This report is found under the "enter new reports" section on the left side of the CoCoRaHS reporting page. The CoCoRaHS observer can input as much information as they would like into the report. The information that is of highest priority includes the largest hail size, when the hail began, and when the hail ended, however the more information that is provided the more valuable the report becomes. Did

you know that as soon as you submit a hail report that it immediately alarms warning forecasters at the National Weather Service office? With this knowledge we can instantly take action on the information. With this ground truth information we can make the decision whether to issue a severe thunderstorm warning, continue a severe thunderstorm warning, or cancel a warning if a storm has dropped below severe limits. Thank you for those hail reports and keep those reports coming!

Common Hail Sizes

0.25 inch Pea Size
0.50 inch Mothball or Grape Size
0.75 inch Penny Size
0.88 inch Nickel Size
1.00 inch Quarter Size
1.25 inch Half Dollar Size
1.50 inch Walnut or Ping Pong Ball Size
1.75 inch Golf Ball Size
2.00 inch Hen Egg Size
2.50 inch Tennis Ball Size
2.75 inch Baseball Size
3.00 inch Teacup Size
4.00 inch Grapefruit Size
4.50 inch Softball Size