

TRAINING SLIDE-SHOW



"Because every drop counts!"



WHAT IS CoCoRaHS??

“CoCoRaHS is a grassroots, non-profit, community-based, high-density precipitation network



made up of volunteers of all backgrounds and ages . . .



. . . who take daily measurements of “just precipitation” right in their own backyards”



CoCoRaHS

Snow Netw...

Just Precipitation!



Once trained, our
volunteers collect data
using low-cost
measurement tools



4-inch diameter
high capacity rain gauges




Aluminum foil-wrapped
Styrofoam hail pads



CoCoRaHS

Volunteers report their daily observations on our interactive Web site: www.cocorahs.org



COMMUNITY COLLABORATIVE RAIN, HAIL & SNOW NETWORK
"Because every drop counts"

Home | States | View Data | Maps
My Data | My Account | Admin | Logout

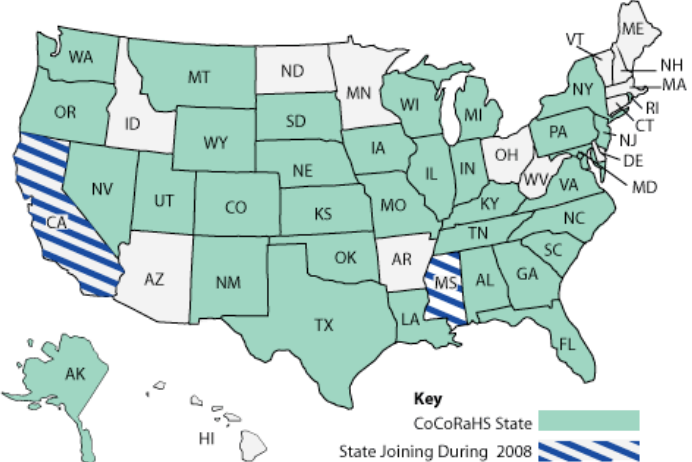
Welcome to CoCoRaHS! "Volunteers working together to measure precipitation across the nation."

Main Menu


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- [Join Cocorahs](#)
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Resources

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


Key
 CoCoRaHS State
 State Joining During 2008



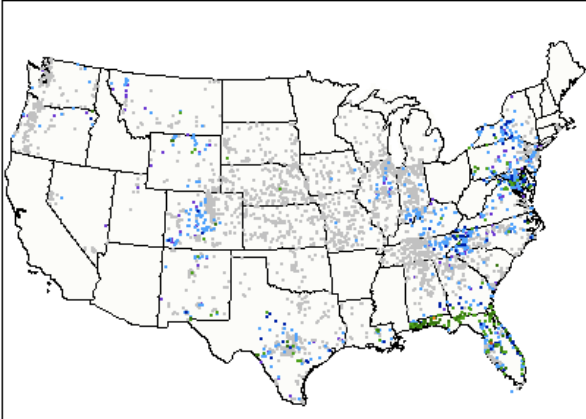


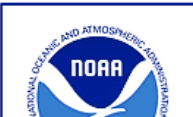
Things to know about...

-  **Rain**
-  **Hail**
-  **Snow**

Daily Precipitation (inches x.xx) USA 7/1/2008

| | |
|-------------|--|
| 0.0 | |
| Trace | |
| 0.00 - 0.21 | |
| 0.21 - 0.42 | |
| 0.42 - 1.04 | |
| 1.04 - 2.50 | |
| 2.50 - 3.75 | |
| 3.75 - 4.17 | |





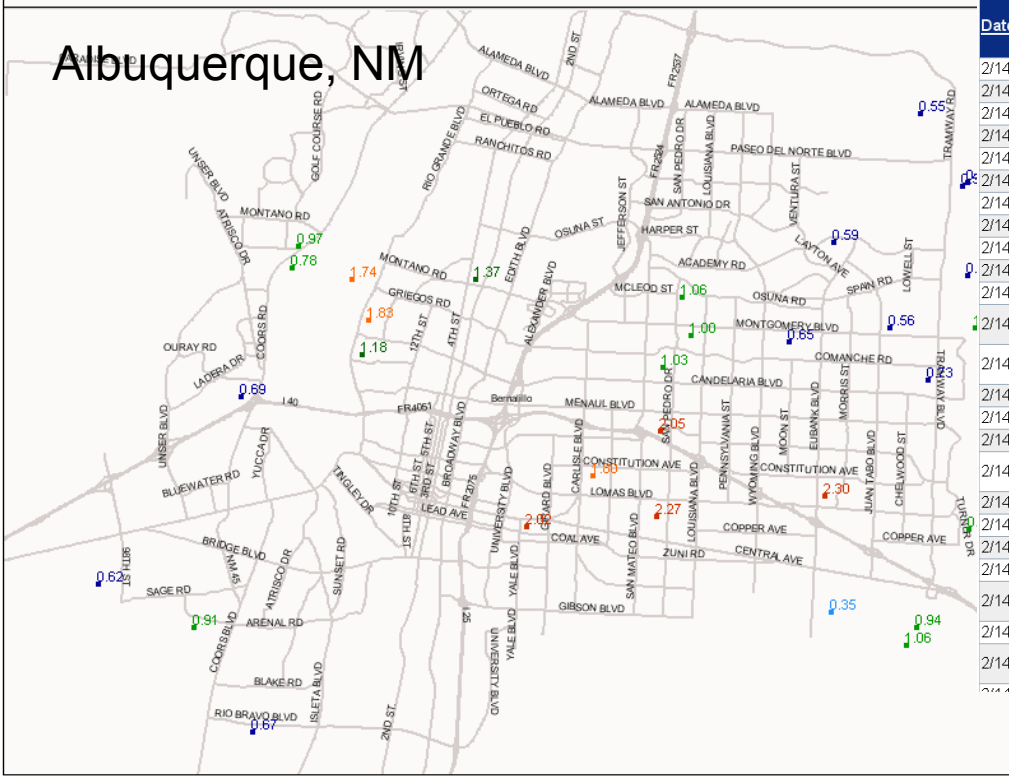
weatherwise
 Read the "CoCoRaHS Article" and find out more about Weatherwise Magazine



CoCoRaHS's main focus is to provide:

precipitation data . . .

Daily Precipitation (inches x.xx), for the 24 hour period ending ~7:00 am
Albuquerque, New Mexico 8/1/2006



| Date | Time | Station Number | Station Name | Total Precip .in | New Snow .in | Total Snow .in | State | County | View |
|-----------|----------|----------------|----------------------------|------------------|--------------|----------------|-------|-----------------|----------------------|
| 2/14/2007 | 7:00 AM | MD-GR-1 | Mc Henry 4.0 SSE | 2.85 | 6.7 | 12.5 | MD | Garrett | View |
| 2/14/2007 | 11:59 PM | MD-MG-8 | Gaithersburg 2 WNW | 2.80 | 4.2 | 4.0 | MD | Montgomery | View |
| 2/14/2007 | 10:00 AM | MD-CR-7 | Westminster 1.0 W | 2.10 | 5.5 | 5.5 | MD | Carroll | View |
| 2/14/2007 | 7:40 AM | MD-MG-1 | Montgomery Village 1.3 SSW | 2.05 | 4.1 | 3.0 | MD | Montgomery | View |
| 2/14/2007 | 5:44 AM | MD-WH-1 | Williamsport 2.8 ENE | 1.92 | 2.6 | 5.0 | MD | Washington | View |
| 2/14/2007 | 7:15 AM | MD-CR-3 | Mount Airy 0.2 SE | 1.90 | 5.1 | 5.0 | MD | Carroll | View |
| 2/14/2007 | 7:00 AM | MD-CR-6 | Taneytown 3.2 NE | 1.83 | 5.0 | NA | MD | Carroll | View |
| 2/14/2007 | 7:00 AM | MD-HW-2 | Sykesville 1.7 SSE | 1.78 | 5.0 | 5.0 | MD | Howard | View |
| 2/14/2007 | 7:00 AM | MD-HW-12 | Sykesville 2.6 SE | 1.61 | 0.0 | NA | MD | Howard | View |
| 2/14/2007 | 8:00 AM | MD-MG-3 | Potomac 0.9 NNW | 1.54 | 3.2 | NA | MD | Montgomery | View |
| 2/14/2007 | 7:00 AM | MD-MG-2 | Redland 0.8 NNE | 1.52 | 4.5 | 4.5 | MD | Montgomery | View |
| 2/14/2007 | 7:00 AM | MD-PG-37 | Brandywine 6.7 ESE | 1.49 | T | T | MD | Prince George's | View |
| 2/14/2007 | 7:00 AM | MD-PG-1 | Bowie 0.5 E | 1.47 | 1.0 | 1.5 | MD | Prince George's | View |
| 2/14/2007 | 7:00 AM | MD-SM-3 | Leonardtown 0.6 NE | 1.42 | 0.0 | NA | MD | St. Mary's | View |
| 2/14/2007 | 7:00 AM | MD-CH-7 | Waldorf 3.2 SW | 1.40 | 0.8 | 0.7 | MD | Charles | View |
| 2/14/2007 | 7:00 AM | MD-HW-11 | Columbia 1.7 W | 1.40 | 3.2 | 3.5 | MD | Howard | View |
| 2/14/2007 | 7:00 AM | MD-PG-7 | Camp Springs 1.6 NNW | 1.38 | 1.8 | NA | MD | Prince George's | View |
| 2/14/2007 | 4:00 PM | MD-BL-7 | White Hall 3.5 NE | 1.38 | NA | NA | MD | Baltimore | View |
| 2/14/2007 | 7:00 AM | MD-CV-1 | Marlton 6.0 E | 1.37 | 0.3 | 0.0 | MD | Calvert | View |
| 2/14/2007 | 7:00 AM | MD-SM-4 | Charlotte Hall 3.6 ENE | 1.37 | 0.3 | T | MD | St. Mary's | View |
| 2/14/2007 | 7:00 AM | MD-MG-24 | White Oak 1.2 N | 1.35 | 2.5 | 2.0 | MD | Montgomery | View |
| 2/14/2007 | 7:00 AM | MD-PG-35 | Brandywine 2.5 NNW | 1.35 | 1.0 | 1.4 | MD | Prince George's | View |
| 2/14/2007 | 7:00 AM | MD-WC-1 | Vienna 11.3 SSW | 1.35 | 0.0 | NA | MD | Wicomico | View |
| 2/14/2007 | 7:00 AM | MD-PG-6 | Friendly 1.0 N | 1.32 | 2.4 | 1.8 | MD | Prince George's | View |
| 2/14/2007 | 7:00 AM | MD-MG-5 | North Laurel 1.0 SE | 1.31 | 3.4 | 3.5 | MD | Montgomery | View |

Daily data
in table form

Daily precipitation maps:
Rainfall, Hail and Snowfall

This data allows CoCoRaHS to supplement existing networks and provide many useful results to scientists, resource managers, decision makers and other end users on a timely basis.

. . . as well as educational opportunities



www.cocorahs.org

THE GAUGE

The CoCoRaHS Network Newsletter

Volume 1, Issue 2 October 2004

A New Look, A New Web site! by Henry Rogers

Those of us who have been active in CoCoRaHS before 2004, some of you familiar with the Web site—the one that was first developed back in 1998 primarily by John Stedman. The evolution of the new improved website since 1998 took the help of our volunteer, Marty Ockler, but the look changed very little. So something needed to be done. And it was a lot like a good head-to-toe check and some skin care.

There's always been 2004. There are still just hundreds of new volunteers joining CoCoRaHS. We were quickly improving our old friend. Furthermore, our sponsors and donations were already being put to develop a more modern website. John Turner, our Web developer, had the proposal of the spirit of data collection and display in a link near 20 months. This spring we finally launched the new site.

We are now using to search over from the old site to the new. Our staff has spent the last few hours looking volunteers have been to find and use their own usernames and passwords and try the new site again. We can now accommodate thousands of more volunteers, and it is much easier to add new sites. We will also have an efficient data access and retrieval data base, making it the backbone for an efficient and accurate volunteer station for meteorological records.

"Because Every Drop Counts!" by Nolan Deakins

Water is a hot hot hot topic these days. It's not just about our need for water. That's why we have adopted the motto "Because Every Drop Counts!"

Some people think when they hear that we measure rainfall in the amount of inches, measured in the amount of a foot, and we even count every millimeter that falls we are measuring just precipitation. But the fact is it does matter. Only by measuring carefully and accurately can we be able to track the devastating storm patterns that threaten to hit our area.

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Inside This Issue:

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The CoCoRaHS Network is headed by the National Volunteer Foundation and CoCoRaHS Chapter Operations.



COMMUNITY COLLABORATIVE RAIN, HAIL & SNOW NETWORK
"Because every drop counts!"

Home | Status | View Data | Maps | My Data | My Account | Admin | Logout

Rain Pad Examples



Rain Drops

Soft Hail Stones

Small Hail Stones



Things to know about...

-  **Rain**
 - [Overview](#)
 - [Weather Radar](#)
 - [Measuring Rain](#)
-  **Hail**
 - [Overview](#)
 - [Hail Facts](#)
 - [Hail Figures](#)
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-  **Snow**
 - [Overview](#)
 - [Measuring Snow](#)



COMMUNITY COLLABORATIVE RAIN, HAIL & SNOW NETWORK
"Because every drop counts!"

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My Data Entry : View Daily Precipitation Report

Message of the Day:

Don't forget to remove the funnel and inner tube from your rain gauge if freezing weather is expected.

We realize that many of you have had to reenter your logs information to get into our system recently. Apparently the server configuration changed with a missed change in our cookies, which caused your saved login information to be lost. We apologize for the inconvenience and would like to thank everyone for the patience.

Now would be a good time to print out and save your login information in case this ever happens again. You can always have your user name and password sent to your e-mail address by clicking on the "Find your login info" link on the Login page.

Confirmation:

- The Daily Precipitation Report was saved.

Daily Precipitation Report **Print**

Station Number: CO-LR-410 Station Name: Fort Collins 2.8.08
 Observation Date: 10/27/2006 7:30 AM
 Submitted: 10/27/2006 9:43 AM
 Total Fresh Amount: 0.00 inches

"HELPING TO PROVIDE THE PUBLIC WITH A BETTER UNDERSTANDING OF WEATHER"

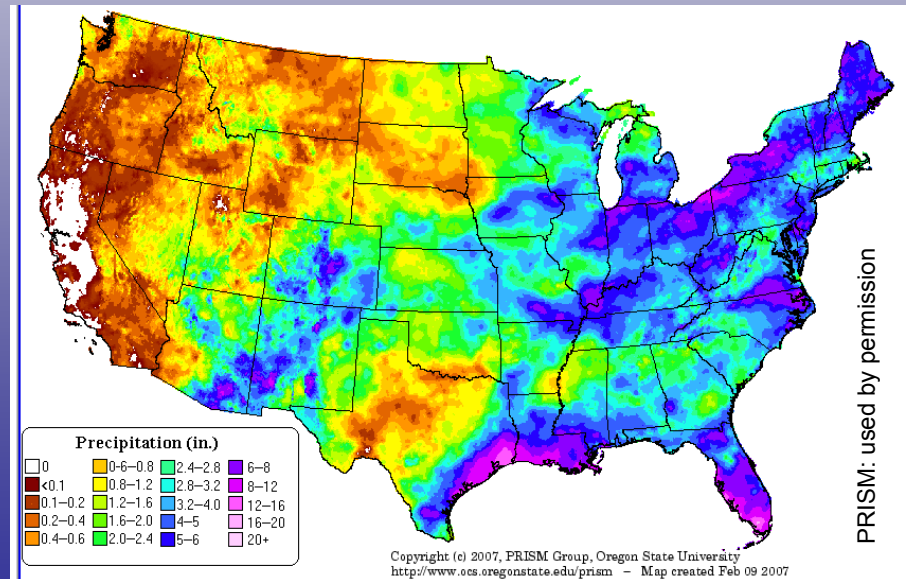
WHY CoCoRAHS ??



1) Precipitation is important and highly variable

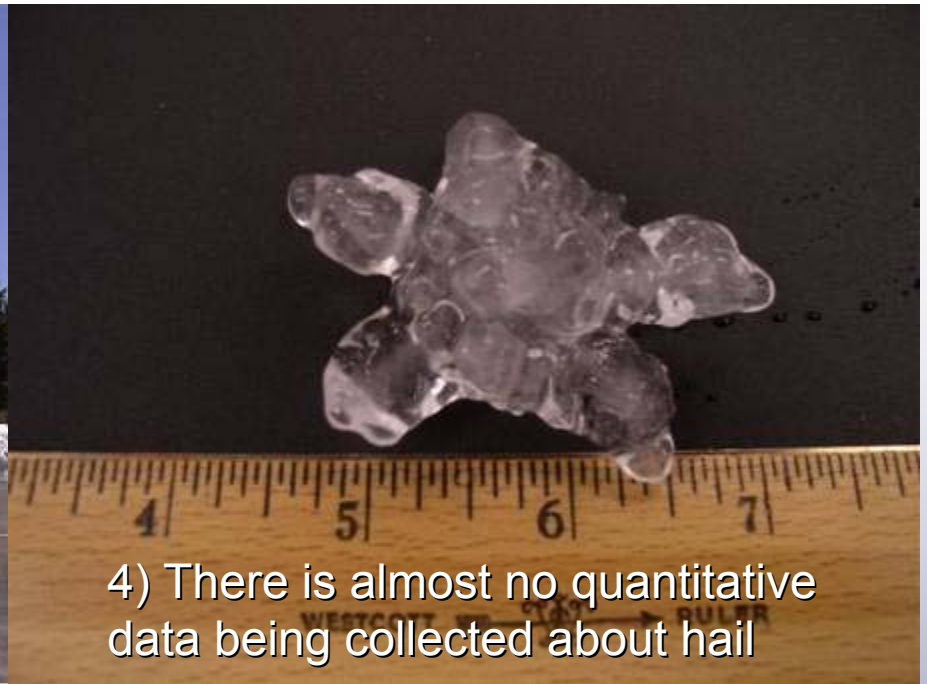


2) Data sources are few and rain gauges are far apart





3) Measurements from many sources are not always accurate (especially snow)

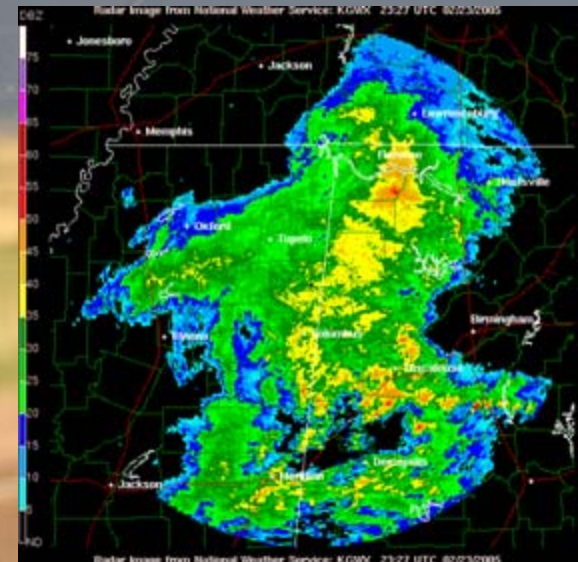


4) There is almost no quantitative data being collected about hail

5) Storm reports can save lives

CoCoRAHS DATA IS USED BY MANY

- National Weather Service
- Other Meteorologists
- Hydrologists
- Emergency Managers
- City Utilities
 - Water supply
 - Water conservation
 - Storm water
- Insurance adjusters
- USDA—Crop production
- Engineers
- Scientists studying storms
- Mosquito control
- Farm Service Agency
- Ranchers and Farmers
- Outdoor & Recreation
- Teachers and Students
 - Geoscience education tool
 - Taking measurements
 - Analyzing data
 - Organizing results
 - Conducting research
 - Helping the community



Who Sponsors CoCoRaHS?

The National Oceanic and Atmospheric Administration

Colorado State University and other universities

USDA, BLM, Cooperative Extension

US Bureau of Reclamation

National Weather Service Local Offices

Individual Contributors

As well as many others

SECTION ONE:

Observer Information

In this section we will:

a) Explain what we will need from you before you become an observer

b) Explain what you will need before you can participate

CoCoRaHS

a) What *we will need from you*
before you can participate as an
observer:

CoCoRaHS

& Snow Network



A completed application form (on-line or paper)



Your location – so we can produce accurate maps. Just having your address may not be good enough. We have to pinpoint it just as close as we can.



Your commitment to collect accurate scientific data

Your willingness to receive CoCoRaHS e-mails

(spam blocking off)



CoCoRaHS

info@cocorahs.org
cocorahsqc@msn.com
nolan@atmos.colostate.edu

b) What *you will need* before you can participate as an observer

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#1

A sincere desire to help study and learn about storms



#2

Training

(In person or on-line)



#3

A unique station number and name
(we will assign you one)



Station Number : CO-LR-368

Station Name : FCL 3.4 SW

CoCoRaHS

Snow Netw...

#4

A CoCoRaHS “4-inch” rain gauge installed in a good location



#5

A login ID and password to enter data

A screenshot of the CoCoRaHS website login page. The page has a blue header with the CoCoRaHS logo on the left and the text "COMMUNITY COLLABORATIVE RAIN, HAIL & SNOW NETWORK" and "Because every drop counts" on the right. Below the header is a navigation bar with links for Home, States, View Data, Maps, My Data Entry, and Login. The main content area is titled "Login" and contains a "Log In:" section with a "UserName:" field containing "username", a "Password:" field containing "*****", a "Save Login" checkbox, and a "Log In" button. Below the login fields are two links: "Find your login info." and "Apply to be a Cocorahs observer." The left sidebar contains a "Main Menu" with links for Home, About Us, Join CoCoRaHS, and Contact Us, and a "Resources" section with links for FAQ/Help, Education, Volunteer Coordinators, Mail List, Distribution/Coord, Help Needed, and Database Form.

CoCoRaHS

Snow Network

#6

Hail pads (some states may not be participating)



#7

Internet or telephone capabilities

The ability to gather accurate data
and transmit it in a timely fashion



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Snow Netw...

SECTION TWO:

Setting Up Your Equipment and Observing Precipitation

In this section we will:

- a) *Show how/where to place your gauge and hail pad*
- b) *Explain how to measure rainfall*
- c) *Illustrate how to observe hail*
- d) *Show how to measure snow depth and water content*

CoCoRaHS

The logo for CoCoRaHS (Coastal Community Observers of Precipitation) is located in the bottom right corner. It features the text "CoCoRaHS" in a bold, blue, sans-serif font, slanted upwards. Below the text is a stylized graphic of a rain gauge, also in blue, with a white interior and a scale on the right side.

a) Placement of your rain gauge



**Location! Location!
Location!**

CoCoRaHS

Places not to place your gauge



The #1, all time worst place to put your rain gauge is to leave it in the box!



Using your gauge to hold up your gutter downspout is not a wise choice either!



Avoid placing it
under trees or
any structure



Although convenient,
the deck is still too
close to the house

Also avoid placing your gauge near:



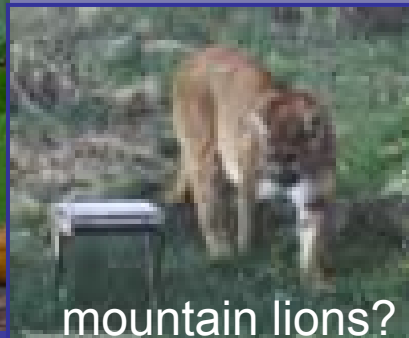
Sprinklers (both big and small)



Steep slopes (a bit exaggerated)



Animals (dogs, birds, etc)



mountain lions?

CoCoRaHS

Snow Net

And finally avoid anything that would artificially increase or decrease your gauge catch



This can cause updrafting during strong winds, which may reduce your gauge catch

Ideal placement of your gauge



Distance from obstacles

- In open areas strive to be twice as far from obstacles as they are high.
- In developed areas strive to be as far from obstacles as they are high.

Distance between Trees



Ideally, place your gauge equidistant from the nearest trees

Height above the ground

In open areas place the gauge top approx. 2 feet off the ground

This is to improve gauge catch by reducing wind speed



In developed areas place the gauge top approx. 5 feet off the ground

This is to improve gauge catch by reducing the impact of nearby obstacles



LEVEL and BEVEL

Make sure your gauge is level



Bevel the top of the post to reduce rain splashing into the gauge.

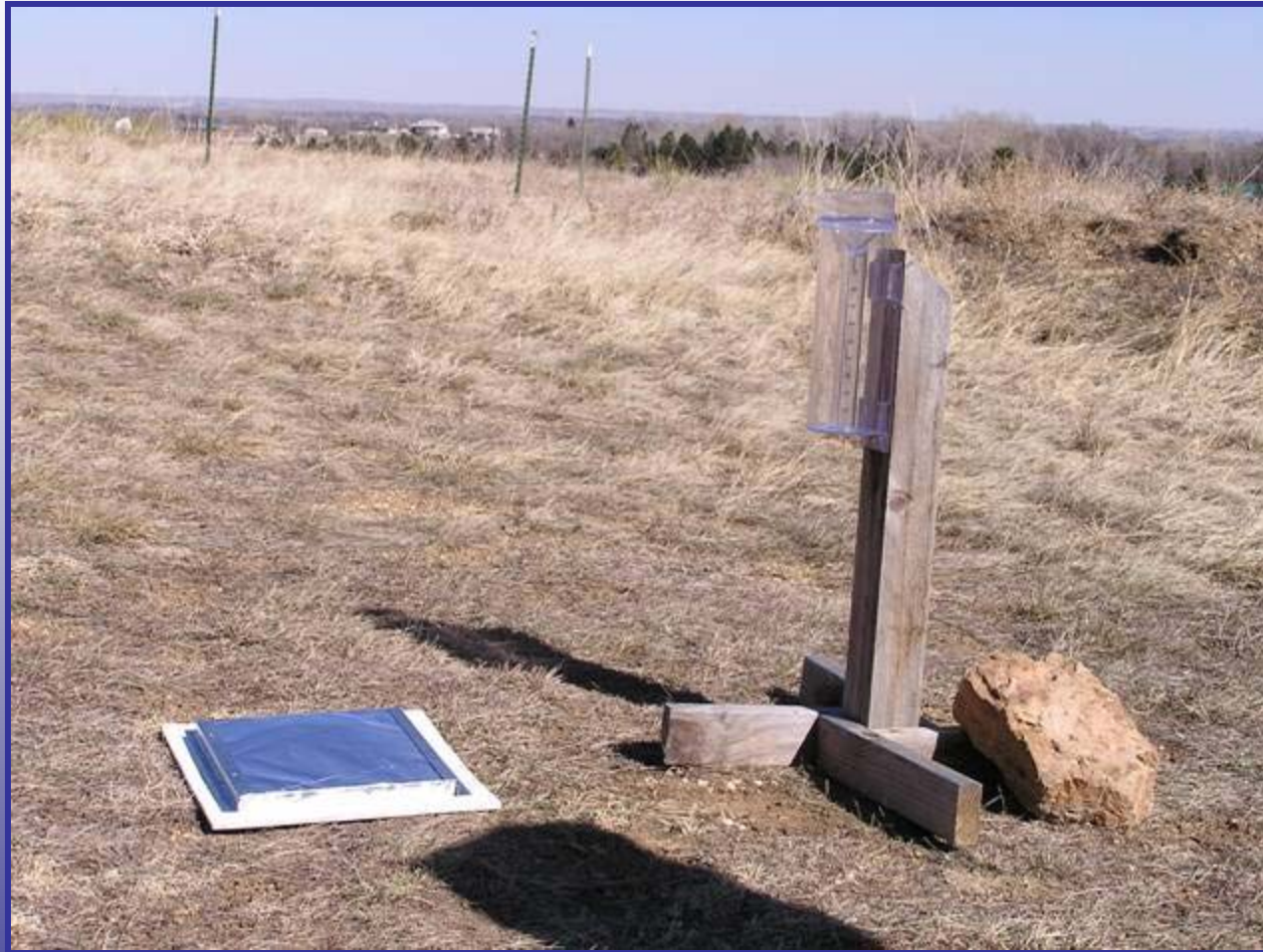
Hail Pad Placement



CoCoRaHS

Snow Netw...

Where should I place my hail pad?



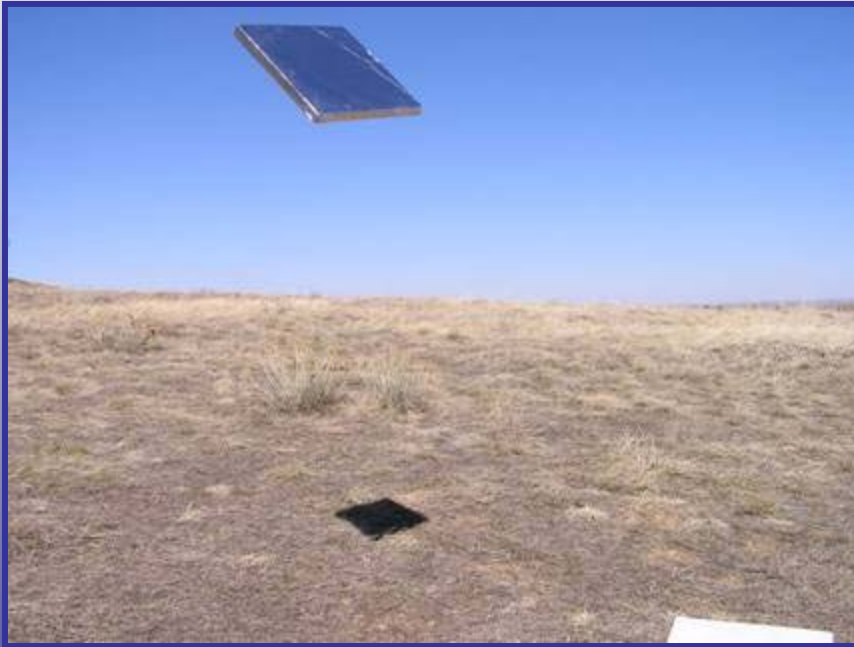
When you've found a good place for your rain gauge, that should be good enough for your hail pad as well.

Elevate and Attach



The pad must be horizontal.
It is best, but not necessary, to elevate the hail pad.
It should also be firmly attached so that . . .

. . . it doesn't blow away!



“When last seen, our hail pad was headed north at 3rd and Elm”

Write the direction the pad is facing on the pad's back



This example shows an "N" for North

b) Measuring Rainfall



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& Snow Network

When should we read our gauges?



7:00AM is preferred

Between 5:00AM and 9:00AM is OK

Other times are accepted, but they will not appear on CoCoRaHS Maps

Reading your rain gauge

- Reading the rain gauge is easy but accuracy & consistency are important.
- Here are the most common situations you may encounter when reading your gauge.



Your most common observation

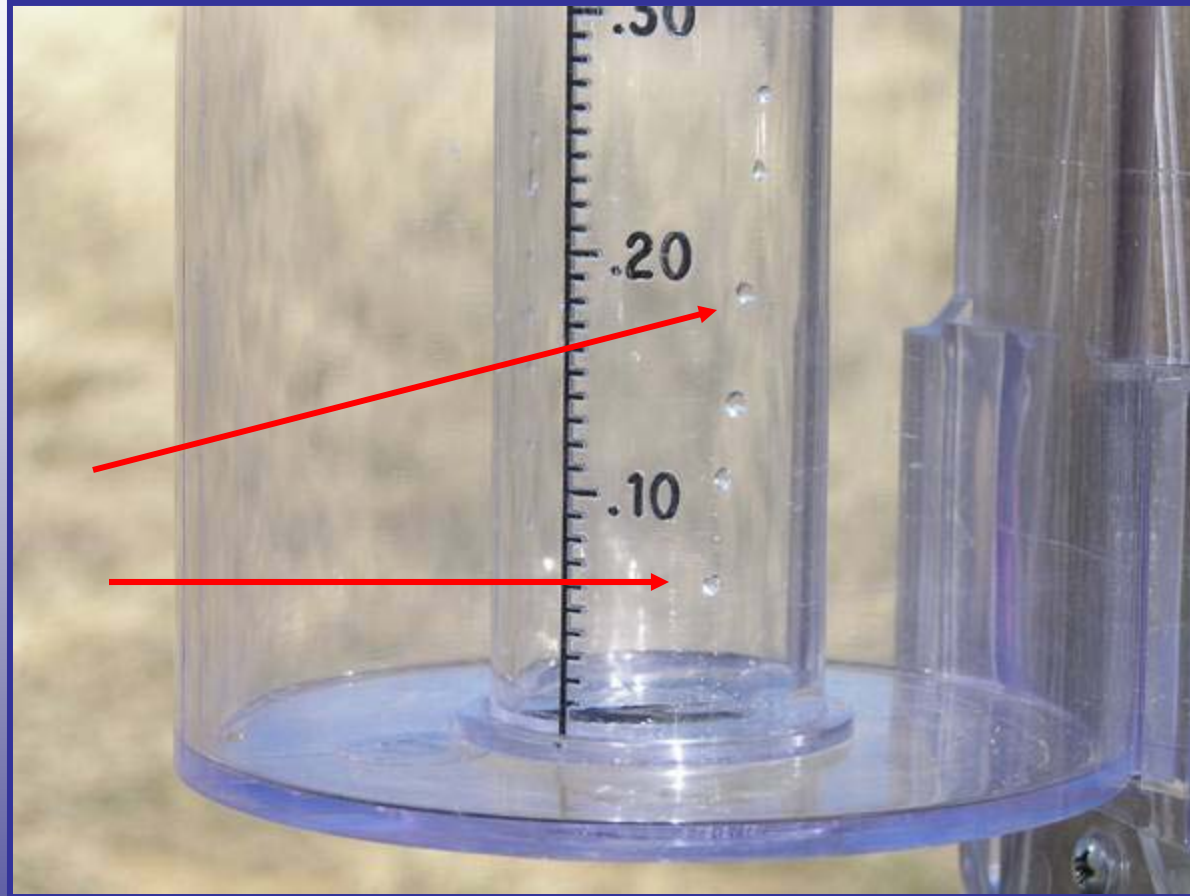


. . . will be zero, (0.00), nada, nothing, zilch!

It is important to know that it did NOT rain. Please report zeros!

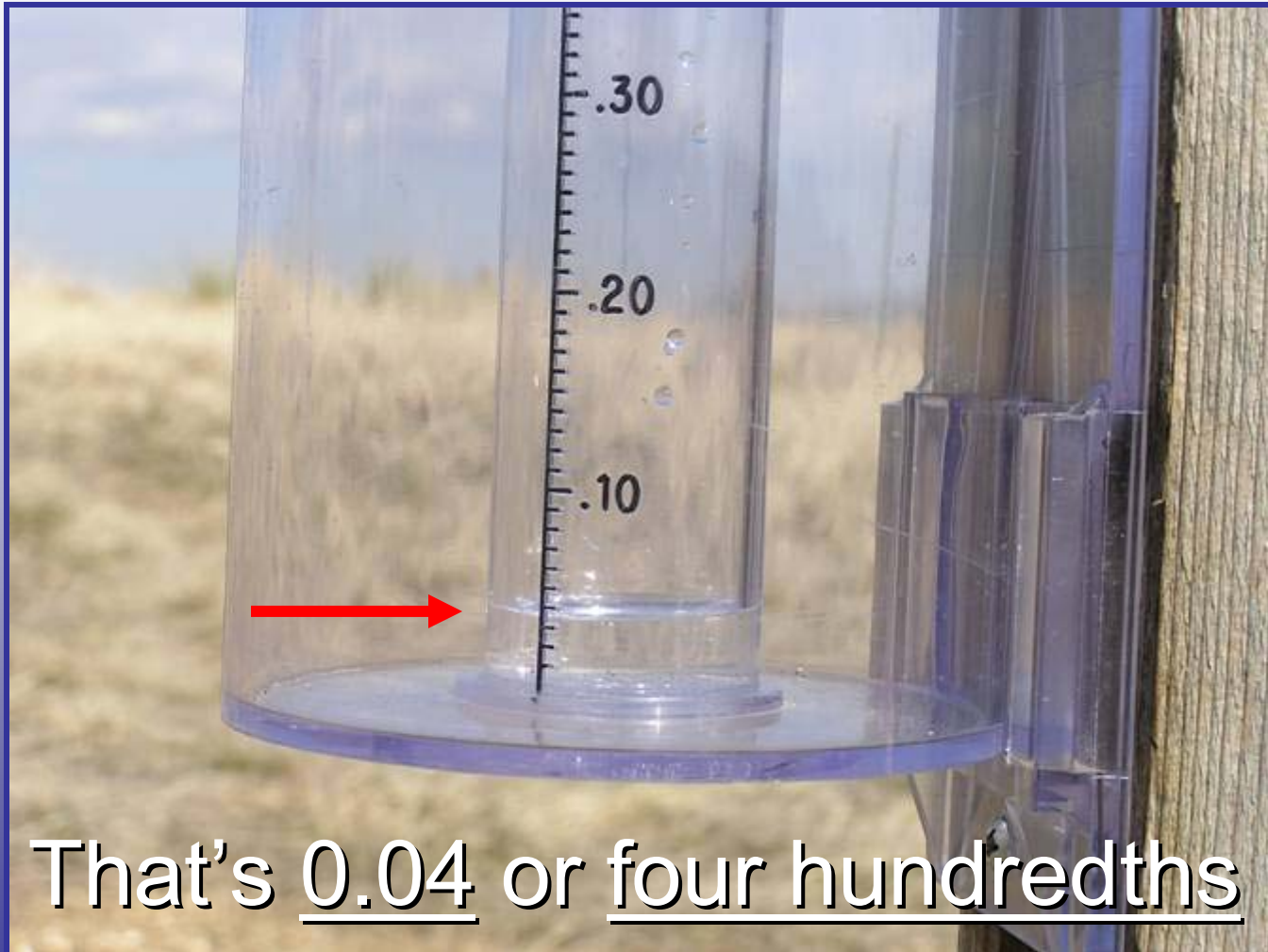
Trace “T”

T



When only a drop or two wet the gauge record a “T” for Trace

Between “T” and “one tenth” of an inch



That's 0.04 or four hundredths

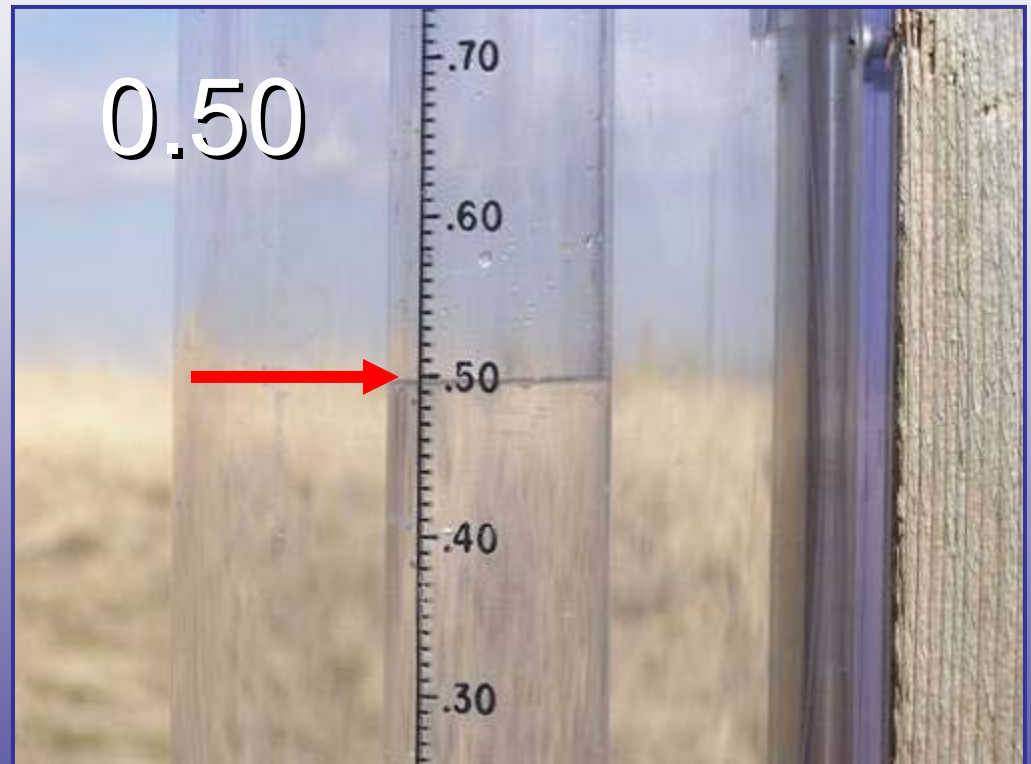
The surface of the water in the gauge looks curved. How do I know where to read?

As water fills up the measuring tube, a curved surface is formed called a **meniscus**. This meniscus is formed by the surface tension of a liquid in contact with the sides of the tube.



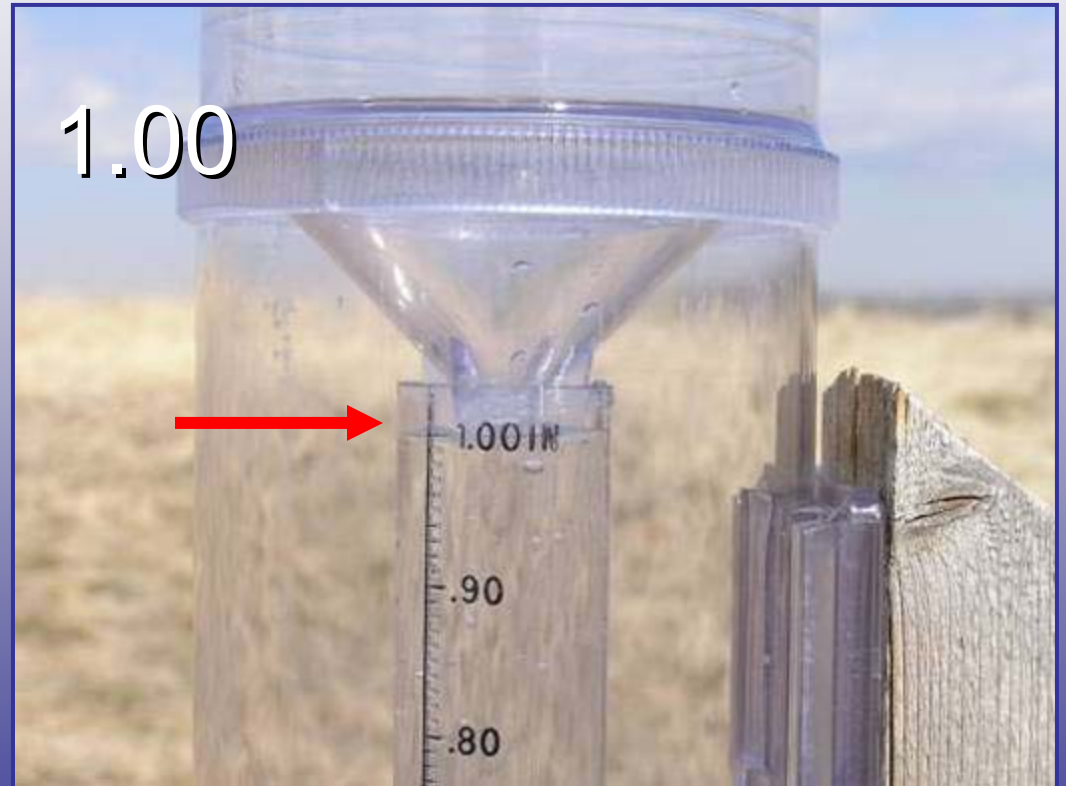
Always read the bottom of the **meniscus**, when the making your daily rain measurements.

A nice soaking rain



This is “one half” inch it’s . . . NOT 5.0, nor 0.05, but 0.50
(kind of like 50 cents out of a dollar)

A good rain



The inner tube holds 1.00 inch

DECIMALS

Getting the decimal point correct is ESSENTIAL

0.40"

There is a large water difference
between 0.40 inches and 4.00 inches

Water! Water! Everywhere!



When more than an inch of rain falls the precipitation will overflow into the outer cylinder. The whole gauge has a capacity to hold 11 inches.

To measure greater than one inch . . .



Pour out the first inch from the inner tube and write it down.



Now pour the remaining water into the funnel & measure using the inner tube.



Continue until all of the water has been measured. Make sure you keep track of your amounts along the way.



c) Observing Hail



CoCoRaHS

& Snow Network

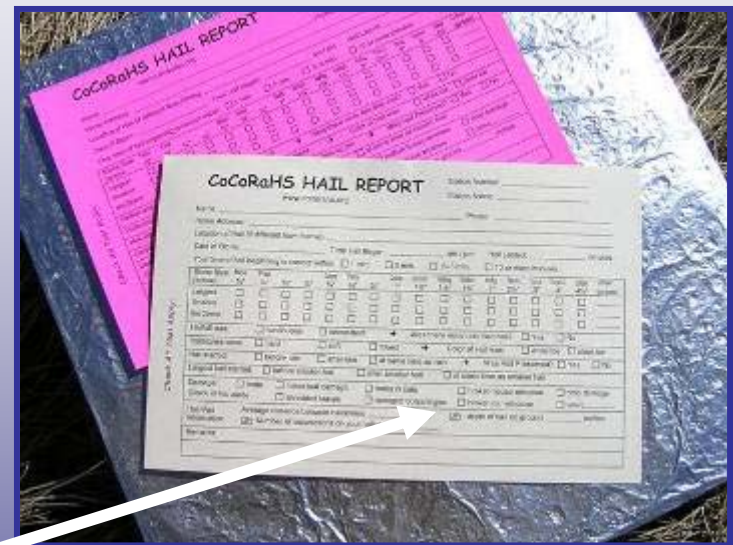


Three steps in
Observing hail

#1

As hail is falling

Fill out your CoCoRaHS Hail Report Card.
After the storm is over attach it the back of the pad.



CoCoRaHS

Snow Netw...

#2 Fill out an on-line hail report

Submit an on-line hail report as soon as you can →

Your report goes right to the the National Weather Service and it may help them in issuing a “Severe Thunderstorm Warning”. →

The screenshot shows the 'My Data Entry: Hail Report Form' on the CoCoRHS website. The form includes fields for Station Number (CO-LR-610), Station Name (Fort Collins 3.5 SW), Date of Hail Storm (8/13/2006), and Time Hail Storm Began. It also has checkboxes for 'Report was taken at registered location?' and 'Hail Lasted' (minutes). There are sections for 'Size of hailstones' (Smallest, Average, Largest) and 'Hailfall was:' (Continuous or Intermittent). A section for 'Hailstones were:' includes checkboxes for Hard, Soft, Mixed, Clear Ice, and White Ice. There are also checkboxes for 'Was there more rain than hail?' and 'Hail Started:' (Before, After, or Same time as rain). The form is titled 'Hail Report Form' and has 'Submit', 'Data', and 'Reset' buttons.

The screenshot shows a 'Severe Thunderstorm Warning' from the National Weather Service. The header includes the NOAA logo and the text 'Hazardous weather conditions for Wind River Basin, WY'. Below the header is a search bar with the text 'Enter Your "City, ST" or zip code' and a 'Go' button. The main content of the warning is as follows:

Severe Thunderstorm Warning

SEVERE WEATHER STATEMENT
NATIONAL WEATHER SERVICE RIVERCROK WY
346 PM MDT TUE JUL 25 2006

WYC013-252230-
/O.CON.KRIM.SV.W.0042.000000700005-06072522305/
PREMONT WY-
346 PM MDT TUE JUL 25 2006

...A SEVERE THUNDERSTORM WARNING REMAINS IN EFFECT FOR SOUTH CENTRAL
PREMONT COUNTY UNTIL 430 PM MDT...

AT 346 PM MDT...NATIONAL WEATHER SERVICE DODDLE RADAR CONTINUED TO
INDICATE A SEVERE THUNDERSTORM CAPABLE OF PRODUCING GOLF BALL SIZE
HAIL...AND DAMAGING WINDS IN EXCESS OF 60 MPH. THIS STORM WAS
LOCATED OVER SOUTH CENTRAL PREMONT COUNTY...OR ABOUT 27 MILES
SOUTHEAST OF LANDER...MOVING SOUTHEAST AT 15 MPH.

#3

Drop off or send in your hail pad



Drop off your hail pad and pick up a new one at one of our drop off locations in your community (see the Web site for locations)

d) Measuring Snow



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Snow Network

If snow is anticipated . . .



Remove the funnel AND inner tube, otherwise snow will clog the funnel

There are two ways in which snow is measured:

1. Liquid water content
 - From the gauge
 - From a core sample
2. Depth of snow
 - 24 hour snowfall accumulation
 - Existing snow depths

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Snow Network

Measuring liquid water content from your gauge



CoCoRaHS

Snow Network

If you live in a protected area many times you will have an accumulation of snow on the rim of your gauge



How do I know what to measure and what not to??



Take your snow-swatter and tap gently on the rim of the gauge

What falls in gauge we measure

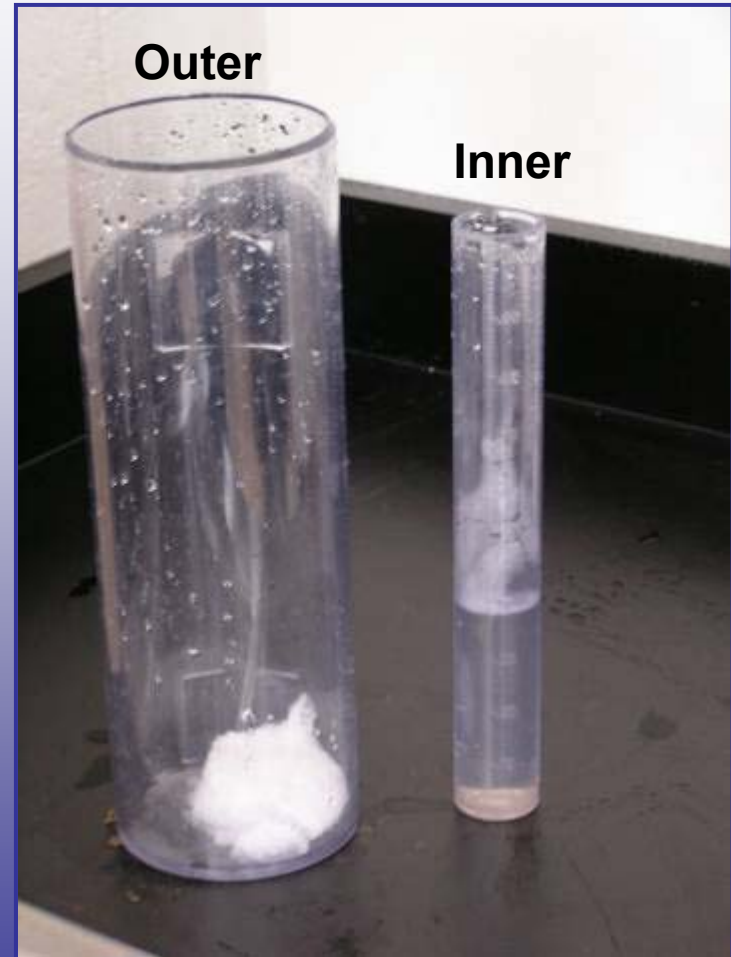


We will disregard the snow that lands outside the gauge.



Go ahead and clear away the snow from the gauge

Melting snowfall



Add some warm water to the inner cylinder Notice that you have two cylinders

Carefully measure your tap water before adding to outer cylinder



Be sure to measure to nearest hundredth of an inch

Add the warm water to the snow sample



Pour water directly into sample



Allow sample to completely melt

Measure the liquefied snowfall sample



Pour snow sample into smaller tube



Remember "Every drop counts!"

Carefully read to the nearest one hundredth of an inch



Remember to subtract the amount of warm water that you've added to the tube

Reading of 0.79 inches of water
minus 0.50 inches of water added
gives a final reading of 0.29 inches

| | |
|---------------|------|
| Tube full | 0.79 |
| - Water added | 0.50 |
| ----- | |
| Final reading | 0.29 |

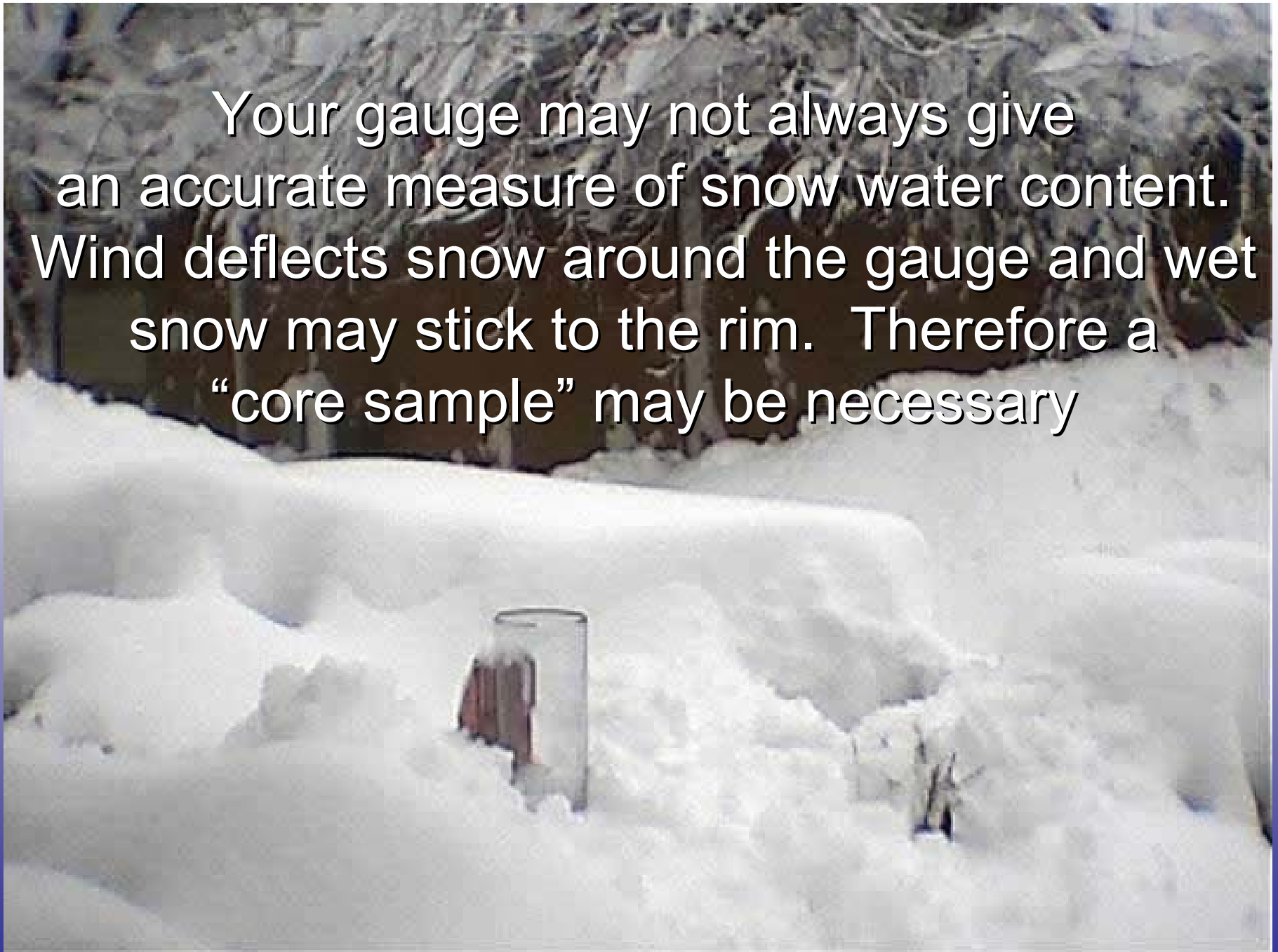
Measuring liquid water content from a core sample



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Your gauge may not always give an accurate measure of snow water content. Wind deflects snow around the gauge and wet snow may stick to the rim. Therefore a “core sample” may be necessary



First find a representative location



The location should have not drifted, melted, or blown clear

Steps to cutting a sample



Place gauge upside down and push down into the snow



Clear snow from around the gauge

Capturing the core

Slide



Slide snow-swatter
under gauge

Lift



Carefully lift and get
ready to flip the gauge

Flip



Bring the sample
inside to melt

Snow Cores in deeper snow

Push
down



Turn



Pull



In wetter snow, the core will come out as one piece



Record your measurement



Enter your data on the precip sheet . . .

or using the CoCoRaHS Web site
www.cocorahs.org

Again, there are two ways in which snow is measured:

1. Liquid water content

- From the gauge
- From a core sample

2. Depth of snow

- 24 hour snowfall accumulation
- Existing snow depths

Now let's look at the second way — Depth of Snow

What is Snowfall ?



Snowfall is the accumulation of new snow and sleet in the past 24 hours prior to melting or settling

When do I measure new snowfall?



Your observation is normally around 7AM. Because snow melts settles and drifts it is wise to measure when the snow first stops.

The goal of reporting new snowfall is to report the maximum accumulation prior to melting and settling

Measuring snowfall



CoCoRaHS

Snow Network

Where to measure new snowfall

Measure newly fallen snow your snowboard if the snow has fallen and accumulated uniformly.



Snow measured under a tree



Notice that only 3.0 inches of snow has accumulated here

Snow measured in the open



Where as 6.5 inches has fallen in the open

Angle of Measurement



Measure at eye level, as an angle will give you an inaccurate measurement

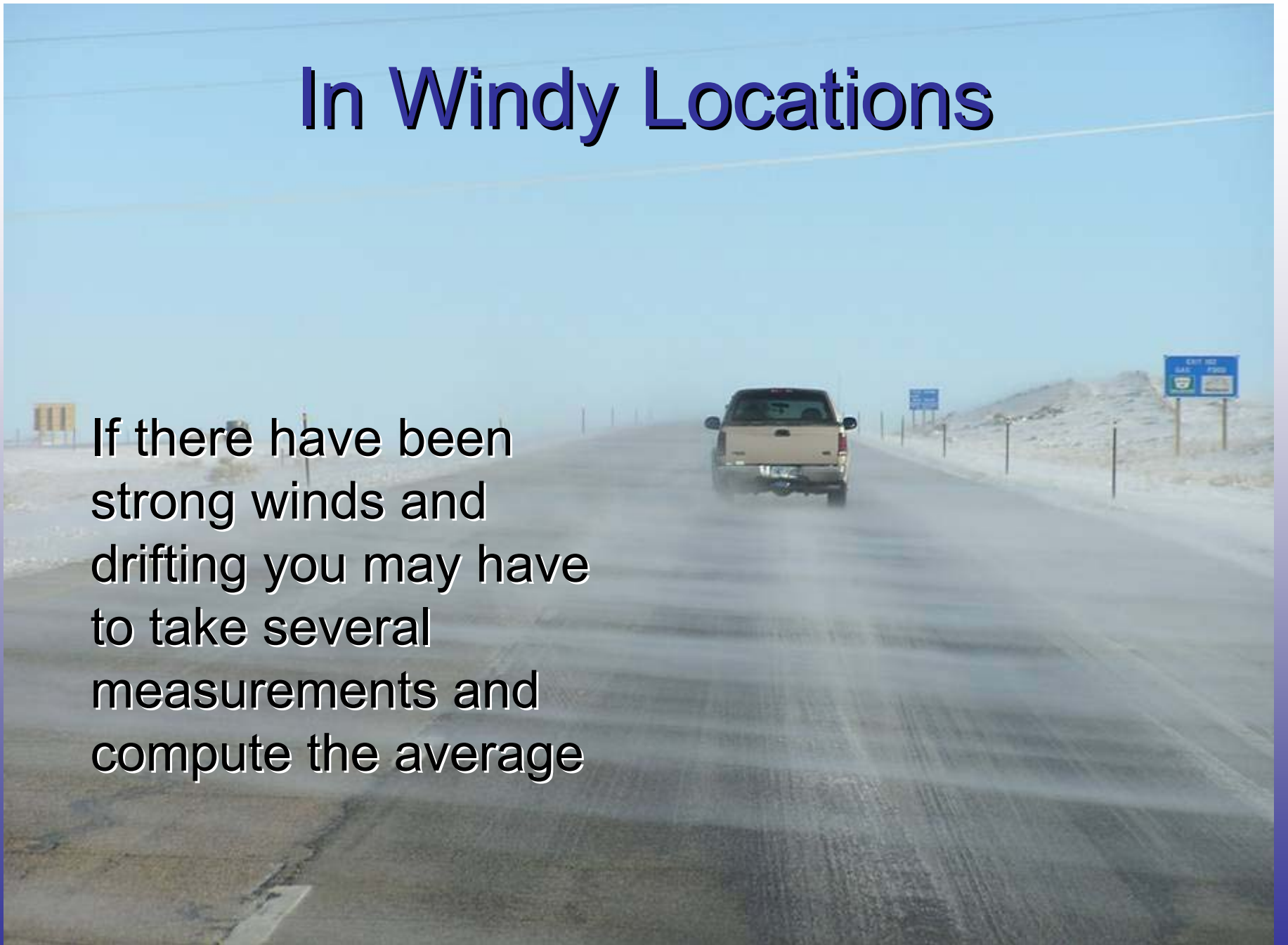
Replace the Board



After you have measured the snow on your board, clean it off and replace it on top of the newly fallen snow. Be sure to mark its location. Now you are ready for the next snowstorm.

In Windy Locations

If there have been strong winds and drifting you may have to take several measurements and compute the average



Snow depth is the average depth of snow (including old snow as well as new) that remains on the ground at a particular time of year.



Reporting snow on the ground



On some days snow will only partially cover the ground. To record this take an average of both covered and bare areas.



←

If half the ground has 2.0" and half the ground is bare, report 1.0" as your total depth.

→

If more than half the ground is bare report "T" (trace) and mention the range of depths in your comments.



How do I measure Freezing Rain?



“Freezing rain” is rain that falls in liquid form but freezes on contact with a surface.

Do NOT report freezing rain as "Snow". Melt and measure the moisture that has accumulated inside your gauge and report that as your daily precipitation amount.

Report ZERO for your new snow amount (assuming that it all fell as rain, and no sleet or snow accumulated).

Report the total depth of freezing rain remaining on the ground at time of observation and enter that in the "Total Snow on Ground" column. Make a note in your comments section so that we know it's freezing rain.

SECTION THREE:

Reporting Observations

In this section we will introduce you to the Web-site and show you how to record your observations

CoCoRaHS

Rail & Snow Network

The CoCoRaHS Web site

www.cocorahs.org

CoCoRaHS COMMUNITY COLLABORATIVE RAIN, HAIL & SNOW NETWORK
"Because every drop counts"

Home | States | View Data | Maps | My Data | My Account | Admin | Logout

Welcome to CoCoRaHS! "Volunteers working together to measure precipitation across the nation."

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- Contact Us
- Donate

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- [Training Slide-Show\(6MB\)](#)
- [Volunteer Coordinators](#)
- [Hail Pad](#)
- [Distribution/Drop-off](#)
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- [Calendar](#)
- [The Catch](#)
- [Message of the Day](#)
- [CoCoRaHS Blog](#)
- [Sponsors](#)
- [Presentations](#)
- [Links](#)

Join CoCoRaHS
Click Here

TRAINING SLIDE-SHOW

Things to know about...

- Rain
- ▲ Hail
- ✖✖ Snow

weatherwise
Read the "CoCoRaHS Article" and find out more about Weatherwise Magazine

Key
CoCoRaHS State
State Joining During 2008

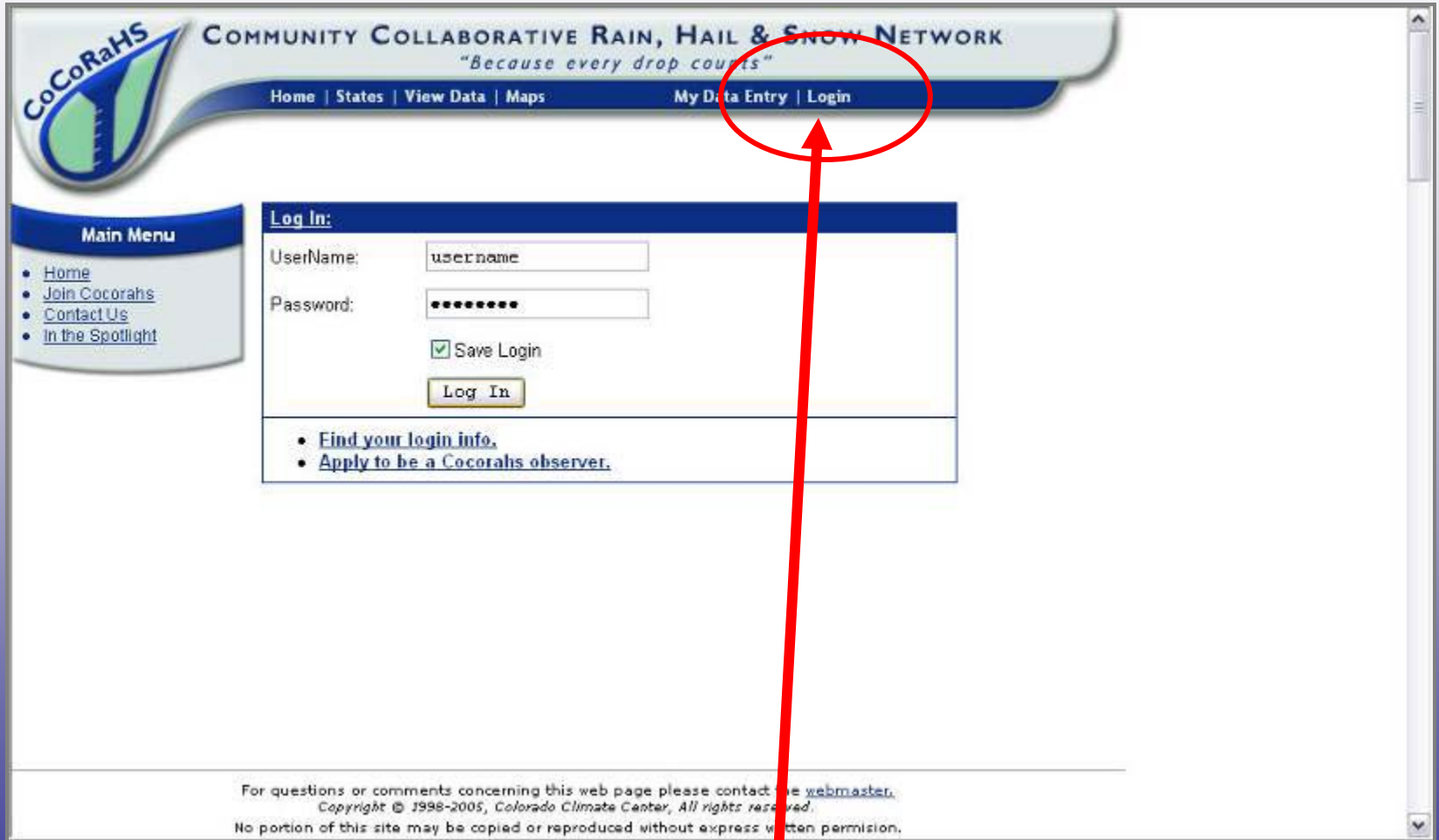
Daily Precipitation (inches x.xx) USA 7/1/2008

| |
|-------------|
| 0.0 |
| Trace |
| 0.00 - 0.21 |
| 0.21 - 0.42 |
| 0.42 - 1.04 |
| 1.04 - 2.50 |
| 2.50 - 3.75 |
| 3.75 - 4.17 |

NOAA
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION

Our Web site is informative and easy to use. Here's how to begin →

Login to CoCoRaHS



CoCoRaHS COMMUNITY COLLABORATIVE RAIN, HAIL & SNOW NETWORK
"Because every drop counts"

Home | States | View Data | Maps | **My Data Entry | Login**

Main Menu

- [Home](#)
- [Join Cocorahs](#)
- [Contact Us](#)
- [In the Spotlight](#)

Log In:

UserName:

Password:

Save Login

- [Find your login info.](#)
- [Apply to be a Cocorahs observer.](#)

For questions or comments concerning this web page please contact the [webmaster](#).
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First, Click to Login

Recording your Daily Precipitation

Customize Links Free Hotmail Windows Marketplace Windows Media Windows

CoCoRaHS COMMUNITY COLLABORATIVE RAIN, HAIL & SNOW NETWORK
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My Data Entry : Daily Precipitation Report Form

Enter My New Reports

- Daily Precipitation**
- Intense Precipitation
- Multi-Day Accumulation
- Monthly Zeros

List/Edit My Reports

- Daily Precipitation
- Hail
- Intense Precipitation
- Multi-Day Accumulation

Precipitation Report Form

Station Number : CO-LR-610

Station Name : Fort Collins 3.5 SW

* Denotes Required Field
*Observation Date ?

AM *Observation Time ?

*Total Rain and Melted Snow in gauge in inches to the nearest hundredth ?

Yes No Report was taken at registered location?

Observation Notes: (This will be available to the public) ?

New Snow

Depth of new snow in inches to the nearest tenth ?

Melted value from core to the nearest hundredth ?

Total Snow on Ground

Depth of total snow in inches to the nearest half inch ?

Melted value from core to the nearest hundredth ?

Duration Information

If a time is unknown or the storm has not ended leave it blank.

Precipitation Began AM PM

Precipitation Ended AM PM

Heaviest Precipitation Began AM PM

Heaviest Precipitation Lasted minutes

These times are: ?

After you login, the screen will automatically take you to the Daily Precip. Report

Enter Your Report

Customize Links Free Hotmail Windows Marketplace Windows Media Windows

CoCoRaHS COMMUNITY COLLABORATIVE RAIN, HAIL & SNOW NETWORK
"Because every drop counts"

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My Data Entry : Daily Precipitation Report Form

Precipitation Report Form

Station Number : CO-LR-610
Station Name : Fort Collins 3.5 SW

* Denotes Required Field

6/12/2006 *Observation Date ?
7:00 AM *Observation Time ?
0.05 *Total Rain and Melted Snow in gauge in inches to the nearest hundredth ?
 Yes No Report was taken at registered location?

Observation Notes: (This will be available to the public) ?

New Snow

0.0 Depth of new snow in inches to the nearest tenth ?
NA Melted value from core to the nearest hundredth ?

Total Snow on Ground

NA Depth of total snow in inches to the nearest half inch ?
NA Melted value from core to the nearest hundredth ?

Duration Information

If a time is unknown or the storm has not ended leave it blank.

Precipitation Began AM PM
Precipitation Ended AM PM
Heaviest Precipitation Began AM PM
Heaviest Precipitation Lasted minutes
These times are:

Record your measurement in hundredths (0.00)

Here you will enter the total precipitation measured in your gauge

Recording Comments

Customize Links Free Hotmail Windows Marketplace Windows Media Windows

CoCoRaHS COMMUNITY COLLABORATIVE RAIN, HAIL & SNOW NETWORK
"Because every drop counts"

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My Data Entry : Daily Precipitation Report Form

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- Hail
- Intense Precipitation
- Multi-Day Accumulation
- Monthly Zeros

List/Edit My Reports

- Daily Precipitation
- Hail
- Intense Precipitation
- Multi-Day Accumulation

Precipitation Report Form

Station Number : CO-LR-610
Station Name : Fort Collins 3.5 SW

* Observation Date ?
 AM * Observation Time ?
 * Total Rain and Melted Snow in gauge in inches to the nearest hundredth ?
 Yes No Report was taken at registered location?

Observation Notes: (This will be available to the public) ?
Brief, but intense thunderstorm at 8PM last night. Several branches broken on tree due to gusty winds.

New Snow
 Depth of new snow in inches to the nearest tenth ?
 Melted value from core to the nearest hundredth ?

Total Snow on Ground
 Depth of total snow in inches to the nearest half inch ?
 Melted value from core to the nearest hundredth ?

Duration Information
If a time is unknown or the storm has not ended leave it blank.
Precipitation Began AM PM
Precipitation Ended AM PM
Heaviest Precipitation Began AM PM
Heaviest Precipitation Lasted minutes
These times are:

Feel free to enter comments about the day's weather under "notes"

Submit your Report

Customize Links Free Hotmail Windows Marketplace Windows Media Windows

CoCoRaHS COMMUNITY COLLABORATIVE RAIN, HAIL & SNOW NETWORK
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My Data Entry : Daily Precipitation Report Form

Enter My New Reports

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- Monthly Zeros

List/Edit My Reports

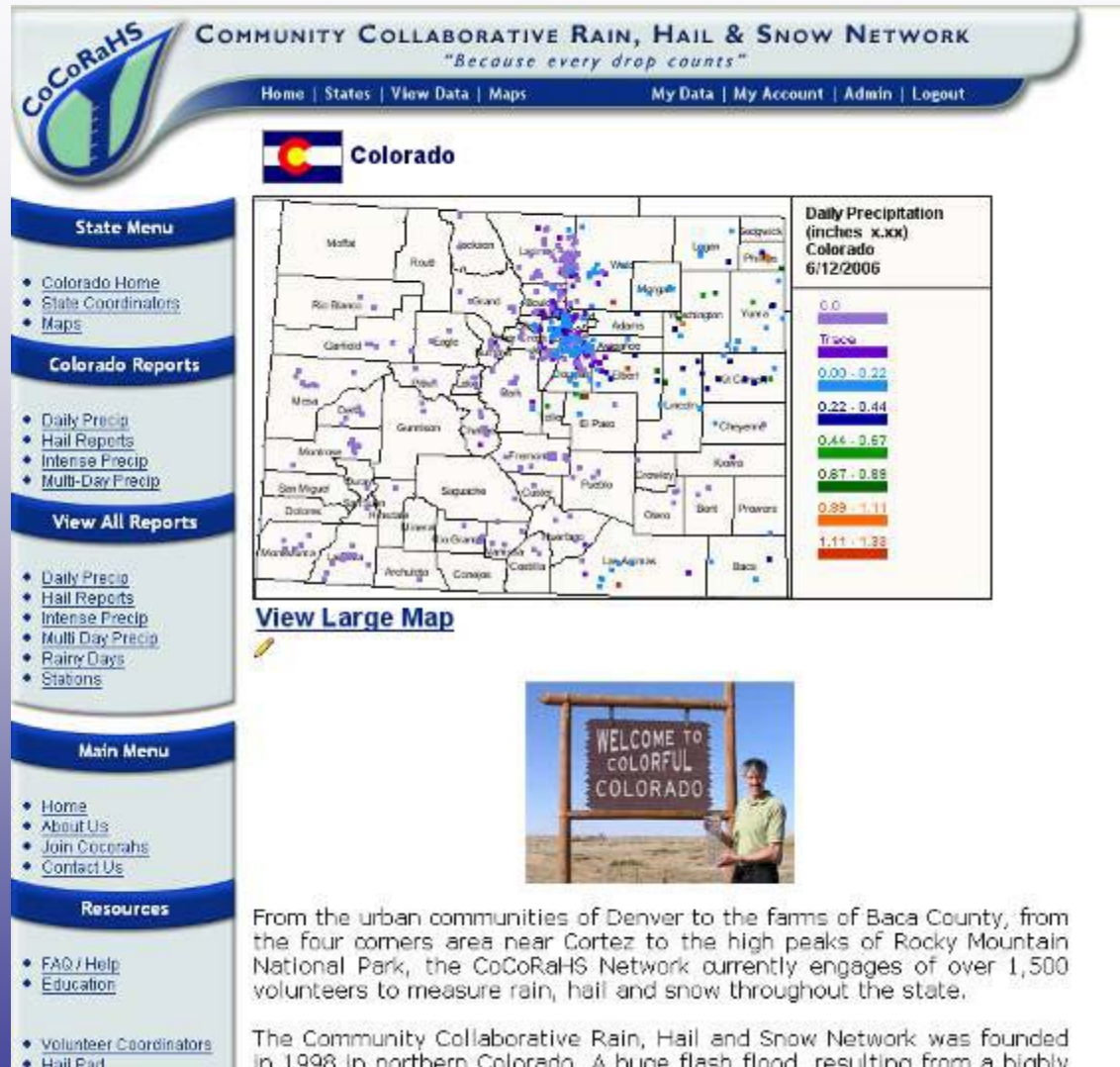
- Daily Precipitation
- Hail
- Intense Precipitation
- Multi-Day Accumulation

| Precipitation Report Form | |
|--|--|
| Station Number : | CO-LR-610 |
| Station Name : | Fort Collins 3.5 SW |
| 6/12/2006 | * Observation Date ? |
| 7:00 AM | * Observation Time ? |
| 0.05 | * Total Rain and Melted Snow in gauge in inches to the nearest hundredth ? |
| <input checked="" type="radio"/> Yes <input type="radio"/> No | Report was taken at registered location? |
| Observation Notes: (This will be available to the public) ? | |
| Brief, but intense thunderstorm at 8PM last night. Several branches broken on tree due to gusty winds. | |
| New Snow | |
| 0.0 | Depth of new snow in inches to the nearest tenth ? |
| NA | Melted value from core to the nearest hundredth ? |
| Total Snow on Ground | |
| NA | Depth of total snow in inches to the nearest half inch ? |
| NA | Melted value from core to the nearest hundredth ? |
| Duration Information | |
| If a time is unknown or the storm has not ended leave it blank. | |
| Precipitation Began | <input type="text"/> <input type="radio"/> AM <input type="radio"/> PM |
| Precipitation Ended | <input type="text"/> <input type="radio"/> AM <input type="radio"/> PM |
| Heaviest Precipitation Began | <input type="text"/> <input type="radio"/> AM <input type="radio"/> PM |
| Heaviest Precipitation Lasted | <input type="text"/> minutes |
| These times are: | Select Time Accuracy ? |

Submit Data **Reset**

Click "Submit" and your data is recorded on our site

To See Your Report on the Map



CoCoRaHS COMMUNITY COLLABORATIVE RAIN, HAIL & SNOW NETWORK
"Because every drop counts"


Home | States | View Data | Maps | My Data | My Account | Admin | Logout

Colorado

Daily Precipitation (inches x.xx) Colorado 6/12/2006

| |
|-------------|
| 0.0 |
| Trace |
| 0.00 - 0.22 |
| 0.22 - 0.44 |
| 0.44 - 0.67 |
| 0.67 - 0.89 |
| 0.89 - 1.11 |
| 1.11 - 1.33 |

[View Large Map](#)



From the urban communities of Denver to the farms of Baca County, from the four corners area near Cortez to the high peaks of Rocky Mountain National Park, the CoCoRaHS Network currently engages of over 1,500 volunteers to measure rain, hail and snow throughout the state.

The Community Collaborative Rain, Hail and Snow Network was founded in 1998 in northern Colorado. A huge flash flood, resulting from a highly

State Menu

- Colorado Home
- State Coordinators
- Maps

Colorado Reports

- Daily Precip
- Hail Reports
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- Multi-Day Precip

View All Reports

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- Rainy Days
- Stations

Main Menu

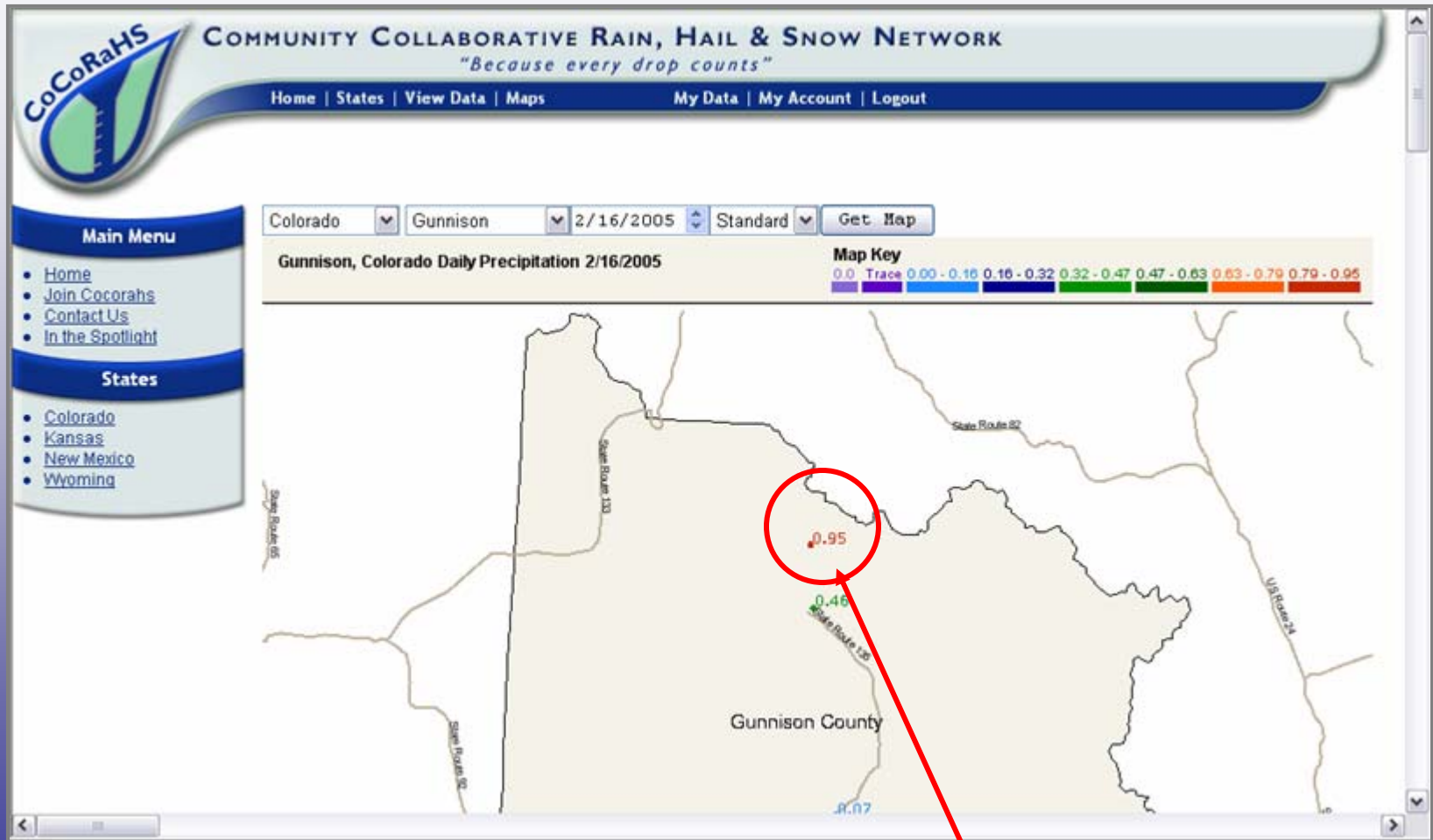
- Home
- About Us
- Join CoCoRaHS
- Contact Us

Resources

- FAQ/Help
- Education
- Volunteer Coordinators
- Hail Pad

Go to your state page and then click on your county

Your Report on our Daily Map



The amount of precipitation you entered shows up at your location on the map

Your state's Page

The screenshot displays the CoCoRaHS website interface for the state of Indiana. At the top, the logo and tagline "COMMUNITY COLLABORATIVE RAIN, HAIL & SNOW NETWORK" are visible, along with navigation links for Home, Status, View Data, Maps, My Data, My Account, Admin, and Logout. The main content area features a map of Indiana with a color-coded legend for "Daily Precipitation (Inches x100) Indiana 11/2/2006". The legend includes categories: 0.0 (purple), Trace (blue), 0.01 - 0.05 (light blue), 0.06 - 0.12 (dark blue), 0.12 - 0.19 (green), 0.19 - 0.24 (light green), 0.25 - 0.39 (orange), and 0.39 - 0.58 (red). A "View Large Map" link is provided below the map. To the left, a sidebar menu contains sections for "State Menu", "Indiana Reports", "View All Reports", "Main Menu", and "Resources".

Upcoming Training Sessions in the Hoosier State

Important Notes:

All new observers must attend a training session, either a live session or a walk-in training session with a county coordinator.

All observers **must** use a Standard 4 Inch Rain Gauge for Daily Reports!

NEW ONLINE TRAINING IS NOW AVAILABLE AT THIS LINK:
<http://www.agry.purdue.edu/climate/cocorahs.asp>

Each CoCoRaHS State has it's own page

Other Reports

- **Hail Report**
- **Intense Precipitation Report**
- **Monthly Zeros**
- **Multi-Day Precipitation Report**
- **Daily Precipitation Report**

Hail Report

CoCoRaHS COMMUNITY COLLABORATIVE RAIN, HAIL & SNOW NETWORK
"Because every drop counts"

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My Data Entry : Hail Report Form

Enter My New Reports

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- Monthly Zeros

List/Edit My Reports

- Daily Precipitation
- Hail
- Intense Precipitation
- Multi-Day Accumulation

Hail Report Form [Submit Data] [Reset]

Station Number : CO-LR-610
Station Name : Fort Collins 3.5 SW

6/13/2006 *Date of Hail Storm ?
 AM *Time Hail Storm Began ?
 Yes No Report was taken at registered location?

Size of hailstones

Smallest: Not Selected
Average: Not Selected
Largest: Not Selected

Hail Lasted
 Minutes This time is accurate within Select Accuracy

Hailfall was: Continuous Intermittent

Hailstones were:
(Check all that apply)
 Hard Soft Mixed (Hard & Soft) Clear Ice White Ice

Was there more rain than hail? Yes No

Hail Started:
 Before rain After rain Same time as rain

Largest Hail Started
 Before smaller hail After smaller hail Same time as smaller hail

Remarks:

Click here to access a Hail Report

Intense Precipitation Report

CoCoRaHS COMMUNITY COLLABORATIVE RAIN, HAIL & SNOW NETWORK
"Because every drop counts"

Home | States | View Data | Maps | My Data | My Account | Admin | Logout

My Data Entry : Intense Precipitation Report Form

Intense Precipitation Report

Station Number : CO-LR-610
Station Name : Fort Collins 3.5 SW

* Denotes Required Field
Observation Date
Observation Time

Total Precipitation since rain began (in inches)
(X.XX) inches of rain has fallen in the past
Minutes

Yes No Report was taken at registered location?

Was There Flooding?
 No
If Yes, how severe?
 Minor (typical). Street or field flooding.
 Unusual street or field flooding (only see this every few years)
 Severe Flooding
 Extreme (never seen it this bad before)

Observation Notes (This will be available to the public)

Click here to access the Intense Precipitation Report

Monthly Zeros



COMMUNITY COLLABORATIVE RAIN, HAIL & SNOW NETWORK
"Because every drop counts"

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Data Entry : Monthly Zeros Form

Enter New Reports

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List/Edit Reports

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- [Intense Precipitation](#)
- [Multi-Day Accumulation](#)

| Monthly Zeros | | | | | | | Submit | Reset |
|---|---|---|--|--|--|---|--------|-------|
| Station Number : CO-LR-133 | | | | Station Name : WEL 8 SW | | | | |
| June 2006 | | | | | | | | |
| Sun | Mon | Tue | Wed | Thu | Fri | Sat | | |
| 28 | 29 | 30 | 31 | 1 <input type="checkbox"/> 0.0 Precip | 2 <input type="checkbox"/> 0.0 Precip | 3 <input type="checkbox"/> 0.0 Precip | | |
| 4 <input type="checkbox"/> 0.0 Precip | 5 <input type="checkbox"/> 0.0 Precip | 6 <input type="checkbox"/> 0.0 Precip | 7 <input type="checkbox"/> 0.0 Precip | 8 <input type="checkbox"/> 0.0 Precip | 9 <input type="checkbox"/> 0.0 Precip | 10 <input type="checkbox"/> 0.0 Precip | | |
| 11 <input type="checkbox"/> 0.0 Precip | 12 <input type="checkbox"/> 0.0 Precip | 13 <input type="checkbox"/> 0.0 Precip | 14 | 15 | 16 | 17 | | |
| 18 | 19 | 20 | 21 | 22 | 23 | 24 | | |
| 25 | 26 | 27 | 28 | 29 | 30 | 1 | | |
| 2 | 3 | 4 | 5 | 6 | 7 | 8 | | |

You can go back in and enter days of zero precipitation on one "simple to use" page

Multi-Day Precipitation

CoCoRaHS COMMUNITY COLLABORATIVE RAIN, HAIL & SNOW NETWORK
"Because every drop counts"

Home | States | View Data | Maps | My Data | My Account | Admin | Logout

My Data Entry : Multi-Day Precipitation Report Form

Multiple Day Accumulation Form

Station Number : CO-LR-610
Station Name : Fort Collins 3.5 SW

6/1/2006 First day of accumulation period. This day should be one day after your last report.

6/7/2006 Date the rain gauge was emptied.

8:45 AM Time the rain gauge was emptied.

Yes No Report was taken at registered location?

0.75 Multi Day Precipitation (in inches)
Total Depth of Snow on Ground (in inches)
Core Precipitation (in inches)

Notes

I was away for a week and read the accumulation in my gauge when I returned.

You can even enter information after you've been away for several days

Daily Precipitation Reports



COMMUNITY COLLABORATIVE RAIN, HAIL & SNOW NETWORK

"Because every drop counts"

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[My Data](#) | [My Account](#) | [Admin](#) | [Logout](#)

View Data : List Daily Precipitation Reports

Search Daily Precipitation Reports

Station Fields: Station Number Station Name

Location: Colorado ALL COUNTIES

Date Range:

Start Date: 6/12/2006 End Date: 6/12/2006

Precip Value: All Precip Values Operator

Searched: Stations in Colorado. Report date on 6/12/2006.

Showing 1 - 50 of 498 Records.

<Back Page 1 Next>

| Date | Time | Station Number | Station Name | Total Precip In - | New Snow In | Total Snow In | State | County | View |
|-----------|---------|----------------|-------------------------|----------------------|----------------|------------------|-------|------------|------|
| 8/12/2006 | 7:04 AM | CO-WE-285 | Keenesburg 4.6 E | 1.33 | 0.0 | NA | CO | Weld | |
| 8/12/2006 | 7:00 AM | CO-EP-12 | Colorado Springs 18.7 N | 1.20 | 0.0 | 0.0 | CO | El Paso | |
| 8/12/2006 | 7:00 AM | CO-LA-44 | Engleville 7.9 E | 1.20 | 0.0 | NA | CO | Les Animas | |
| 8/12/2006 | 7:00 AM | CO-EL-9 | Kiowa 14 ENE | 1.13 | 0.0 | NA | CO | Elbert | |
| 8/12/2006 | 7:00 AM | CO-PH-27 | Holyoke 16 SSW | 1.06 | 0.0 | NA | CO | Phillips | |
| 8/12/2006 | 7:00 AM | CO-WA-54 | Lindon 10.9 NNW | 0.92 | 0.0 | NA | CO | Washington | |
| 8/12/2006 | 7:00 AM | CO-PH-14 | Holyoke .59 SW | 0.85 | 0.0 | NA | CO | Phillips | |
| 8/12/2006 | 7:15 AM | CO-WA-19 | Otis 5.0 NW | 0.85 | 0.0 | NA | CO | Washington | |
| 8/12/2006 | 6:15 AM | CO-EL-2 | Agate 8.8 SE | 0.82 | 0.0 | NA | CO | Elbert | |
| 8/12/2006 | 7:00 AM | CO-WA-55 | Woodrow 4.6 SE | 0.75 | 0.0 | NA | CO | Washington | |
| 8/12/2006 | 8:00 AM | CO-LN-38 | Limon 0.9 SSW | 0.75 | 0.0 | NA | CO | Lincoln | |
| 8/12/2006 | 6:35 AM | CO-PH-33 | Holyoke 13 SE | 0.73 | 0.0 | NA | CO | Phillips | |
| 8/12/2006 | 7:00 AM | CO-EP-17 | Monument 2.1 ENE | 0.68 | 0.0 | 0.0 | CO | El Paso | |
| 8/12/2006 | 8:00 AM | CO-WE-275 | Hudson 1.8 SE | 0.68 | 0.0 | NA | CO | Weld | |
| 8/12/2006 | 7:00 AM | CO-LN-37 | Limon 0.3 NW | 0.66 | 0.0 | NA | CO | Lincoln | |
| 8/12/2006 | 7:00 AM | CO-PH-19 | Holyoke 4 SW | 0.64 | 0.0 | NA | CO | Phillips | |

View Data

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- [Daily Comments Reports](#)
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PA FROST Data

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- [Hail Pad](#)

SECTION FOUR:

Frequently Asked Questions

In this section we will try to answer common questions asked by observers.

CoCoRaHS

Rail & Snow Network

Do I have to be home everyday to participate in CoCoRaHS?

Answer: No. Report when you are able. If you are gone, you may leave your gauge outside and report a multi-day total when you return.

What if I don't have a good place to put my gauge?

Answer: Few people have ideal locations. Do your best. Send site photos if possible to help interpret results.

What if it hails when I'm not at home?

Answer: We still would like your hail pad. Report as much info as you can find out from friends and neighbors.

Do I report morning dew that has collected in my rain gauge?

Answer: No. Dew is not precipitation, but you may note the dew in the comments.

I have an automated weather station with a rain gauge. Can I use that instead of the CoCoRaHS gauge?

Answer: In order to accurately compare CoCoRaHS reports, all observers must use the 4 inch CoCoRaHS gauge. Automated rain gauges tend to underestimate a heavy rainfall and do not accurately measure water equivalent of snow. You are welcome to place the automated gauge beside the 4 inch gauge to compare measurements, but report what falls in the 4 inch gauge





How long is my commitment to CoCoRaHS?

Answer: Ideally, at least one season, but the longer you contribute, the more valuable the data become.

Thanks for joining us today!

You can find out more about the CoCoRaHS Network by visiting our web site or speaking with your local coordinator.



Just 5 minutes a day!

It's easy and fun!

We're Cuckoo For CoCoRaHS!

www.cocorahs.org

