



Training Slide Show

“Because every drop counts!”

What is CoCoRaHS?

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

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



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

Once trained,
our volunteer observers
collect data using low-cost
measurement tools ...



4-inch diameter
high capacity rain gauges



Aluminum foil-wrapped
Styrofoam hail pads



Training Slide Show

"Because every drop counts!"

Training is important to assure
accurate, high quality data

Things to know about...

Rain

- Overview
- Weather Radar
- Measuring Rain

Hail

- Overview
- Hail Facts
- Hail Figures
- CoCoRaHS & Hail
- Hail Pad Examples
- Measuring Hail

Snow

- Overview
- Measuring Snow

www.cocorahs.org

Volunteers report their daily observations on our interactive Web site

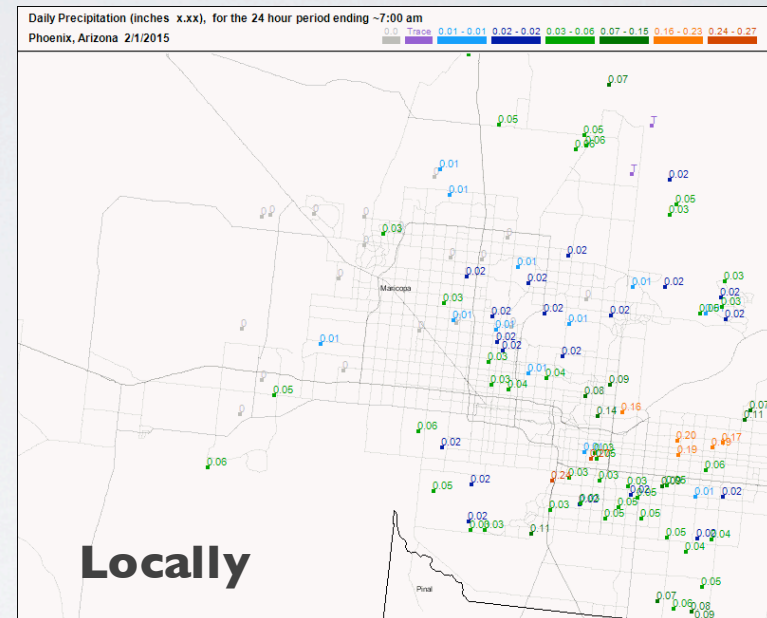
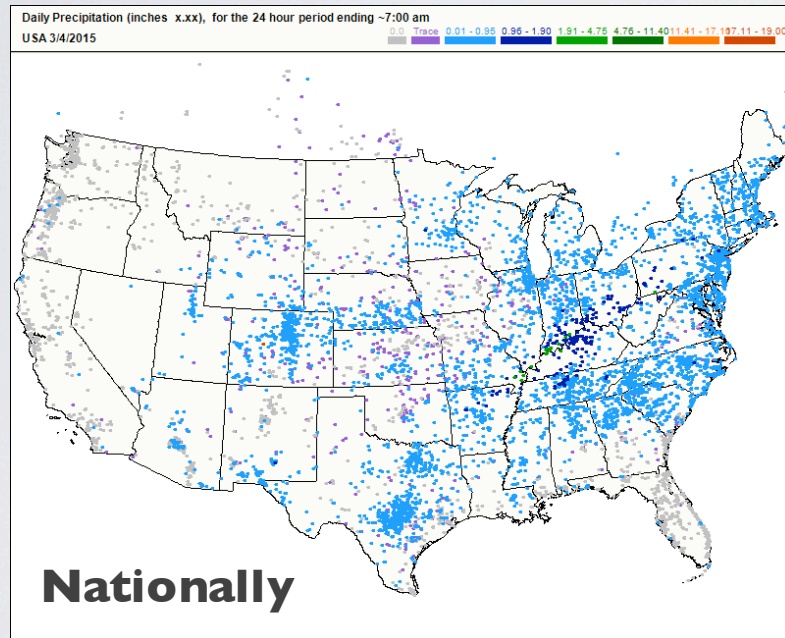
The screenshot shows the CoCoRaHS website homepage. At the top is the CoCoRaHS logo and the text "COMMUNITY COLLABORATIVE RAIN, HAIL & SNOW NETWORK" with the tagline "Because every drop counts". Below this is a navigation bar with links: Home, States, View Data, Maps, My Data, My Account, Admin, and Logout. A welcome message reads: "Welcome to CoCoRaHS! 'Volunteers working together to measure precipitation across the nation.'" The main content area features a "CoCoRaHS March Madness 2015" banner for March 1-31, 2015, asking how many new volunteers can be recruited. Below the banner is a map of the United States showing precipitation reports as of 3/4/2015 3:33 PM EST, with 7,679 reports received. To the right of the map is a legend for daily precipitation in inches (x.xx) for the USA on 3/4/2015, with color-coded ranges: Trace (purple), 0.00 - 0.99 (blue), 0.99 - 1.99 (green), 1.99 - 4.75 (yellow), 4.75 - 11.40 (orange), 11.41 - 17.10 (red), and 17.11 - 19.00 (dark red). On the left side, there is a "Main Menu" with links to Home, About Us, Join CoCoRaHS, Contact Us, and Donate. Below that is a "Resources" section with links to FAQ/Help, Education, Training Slide-Shows, Videos, Drought Impacts, Evapotranspiration, Volunteer Coordinators, Hail Pad, Distribution/Drop-off, Help Needed, and Printable Forms. At the bottom left, there are links to The Catch, Message of the Day, Data Analysis, and CoCoRaHS Blog. On the right side, there is a "JOIN COCORAHHS" button and a "TRAINING SLIDE-SHOWS" button. Below these is a "Things to know about..." section with icons for Rain, Hail, and Snow.

My Data Entry : Daily Precipitation Report Form

Precipitation Report Form		Submit Data	Reset
Station Number : CO-LR-610			
Station Name : Fort Collins 3.5 SW			
* Denotes Required Field			
4/24/2009		*Observation Date ?	
7:00 AM		*Observation Time ?	
0.59		*Rain and Melted Snow to the nearest hundredth inch that has fallen in the gauge during the past 24 hours ?	
<input checked="" type="radio"/> Yes <input type="radio"/> No		Report was taken at registered location?	
Observation Notes: (This will be available to the public) ?			
<div>Heavy rain last evening. Several tree branches snapped off due to high winds. We sure needed that rain!</div>			
New Snowfall			
NA	Accumulation of new snow in inches to the nearest tenth ?		
NA	Melted value from core to the nearest hundredth ?		
Total Snow and Ice on Ground at Observation Time			
NA	Depth of total snow and ice (new and old) in inches to the nearest half inch ?		
NA	Melted value from core to the nearest hundredth ?		

Immediately viewable

Volunteers observations are viewable in
both map and table form within a few minutes



Date	Time	Station Number	Station Name	Total Precip in. ▲	New Snow in.	Total Snow in.	State	County	View
3/4/2015	7:00 AM	AZ-MH-3	Golden Valley 2.6 WNW	0.31	NA	NA	AZ	Mohave	
3/4/2015	7:00 AM	AZ-PN-27	Apache Junction 3.2 N	0.17	NA	NA	AZ	Pinal	
3/4/2015	7:00 AM	AZ-CH-5	San Simon 2.6 S	0.15	NA	NA	AZ	Cochise	
3/4/2015	7:00 AM	AZ-YV-54	Sedona 3.4 W	0.11	NA	NA	AZ	Yavapai	
3/4/2015	6:00 AM	AZ-CN-20	Williams 3.3 SSE	0.10	0.8	12.3	AZ	Coconino	
3/4/2015	7:00 AM	AZ-PM-143	Tucson 11.7 ENE	0.09	NA	NA	AZ	Pima	
3/4/2015	7:00 AM	AZ-YV-17	Prescott 2.9 WNW	0.08	T	4.0	AZ	Yavapai	
3/4/2015	8:30 AM	AZ-GL-3	Pine 0.9 SW	0.08	0.0	0.0	AZ	Gila	
3/4/2015	6:00 AM	AZ-CH-41	Sierra Vista 9.2 SSE	0.07	NA	NA	AZ	Cochise	
3/4/2015	7:00 AM	AZ-GL-1	Payson 1.0 WSW	0.06	0.0	0.0	AZ	Gila	
3/4/2015	7:00 AM	AZ-YV-55	Cornville 0.8 SSE	0.05	NA	NA	AZ	Yavapai	

Why CoCoRaHS?

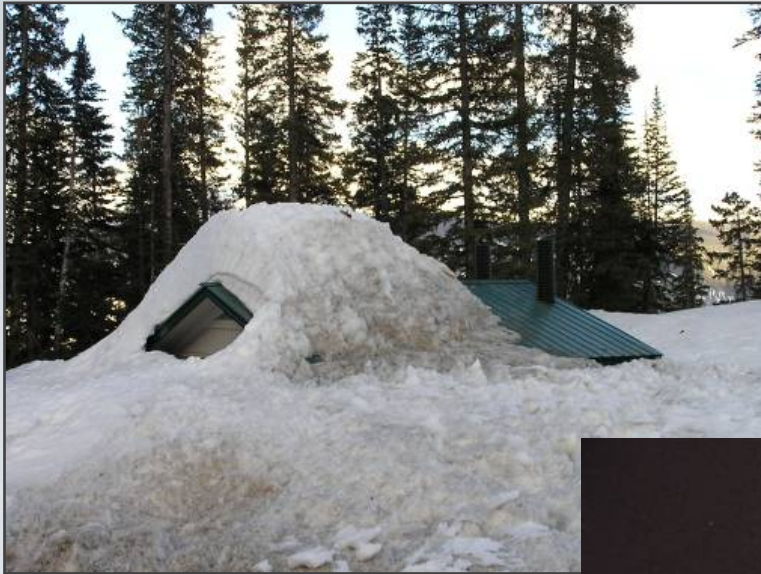
Great question!



Precipitation is important
and highly variable



Data sources are few and
rain gauges are far apart



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



There is almost no quantitative data being collected about hail



Storm reports can save lives

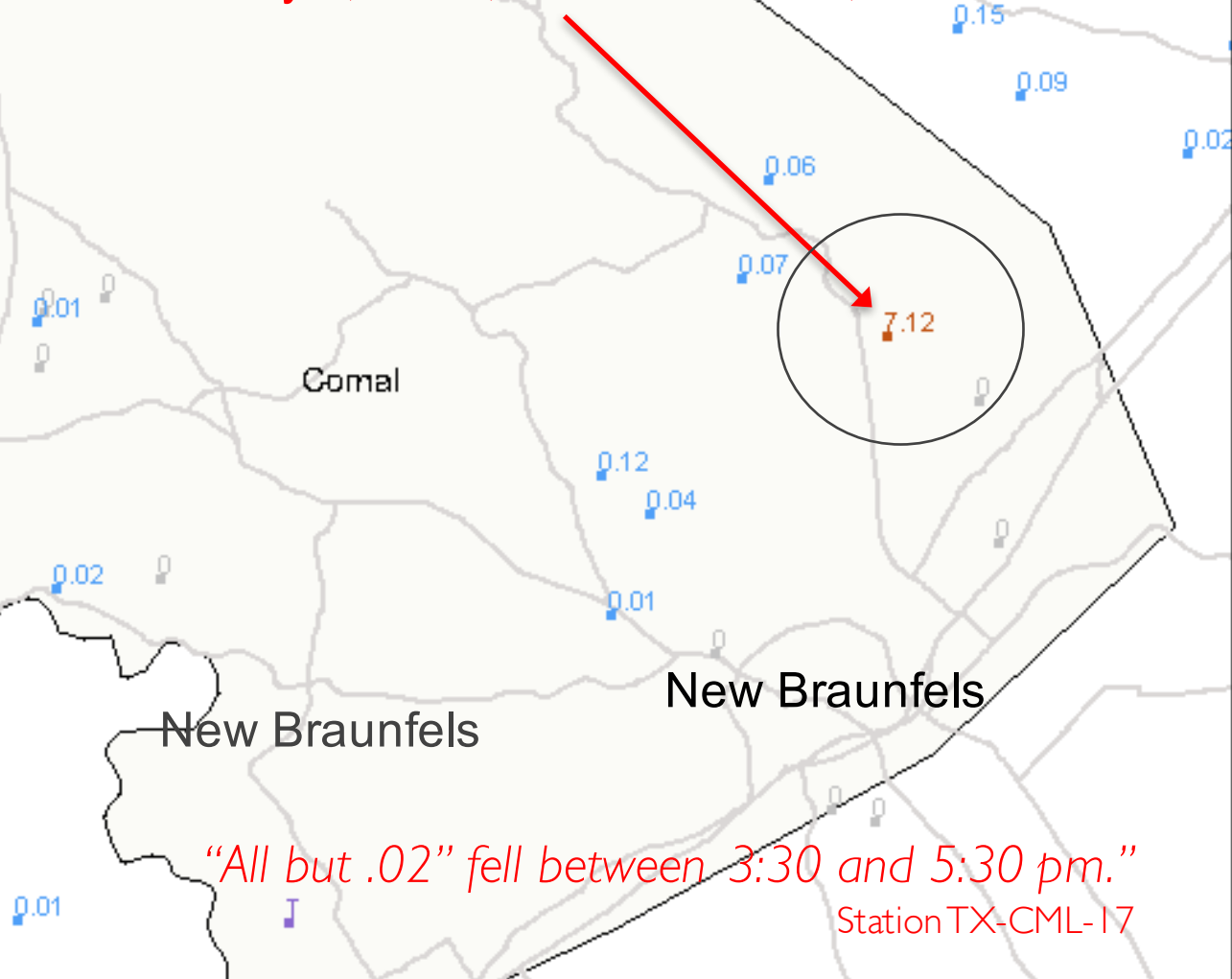
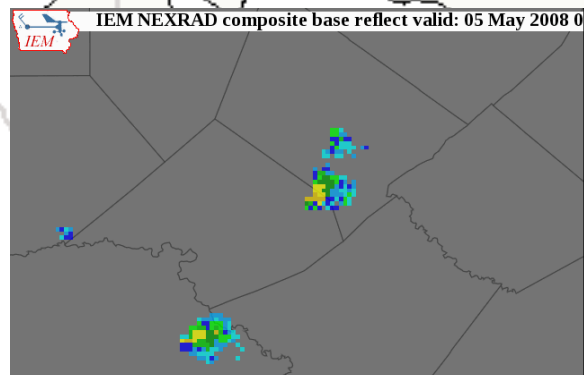
Daily Precipitation (inches x.xx), for the 24 hour period ending ~7:00 am

Comal County, Texas 5/6/2008

0.0 Trace 0.01 - 0.36 0.37 - 0.72 0.73 - 1.79 1.80 - 4.28 4.29 - 6.42 6.43 - 7.12

A great example of one observation making a difference

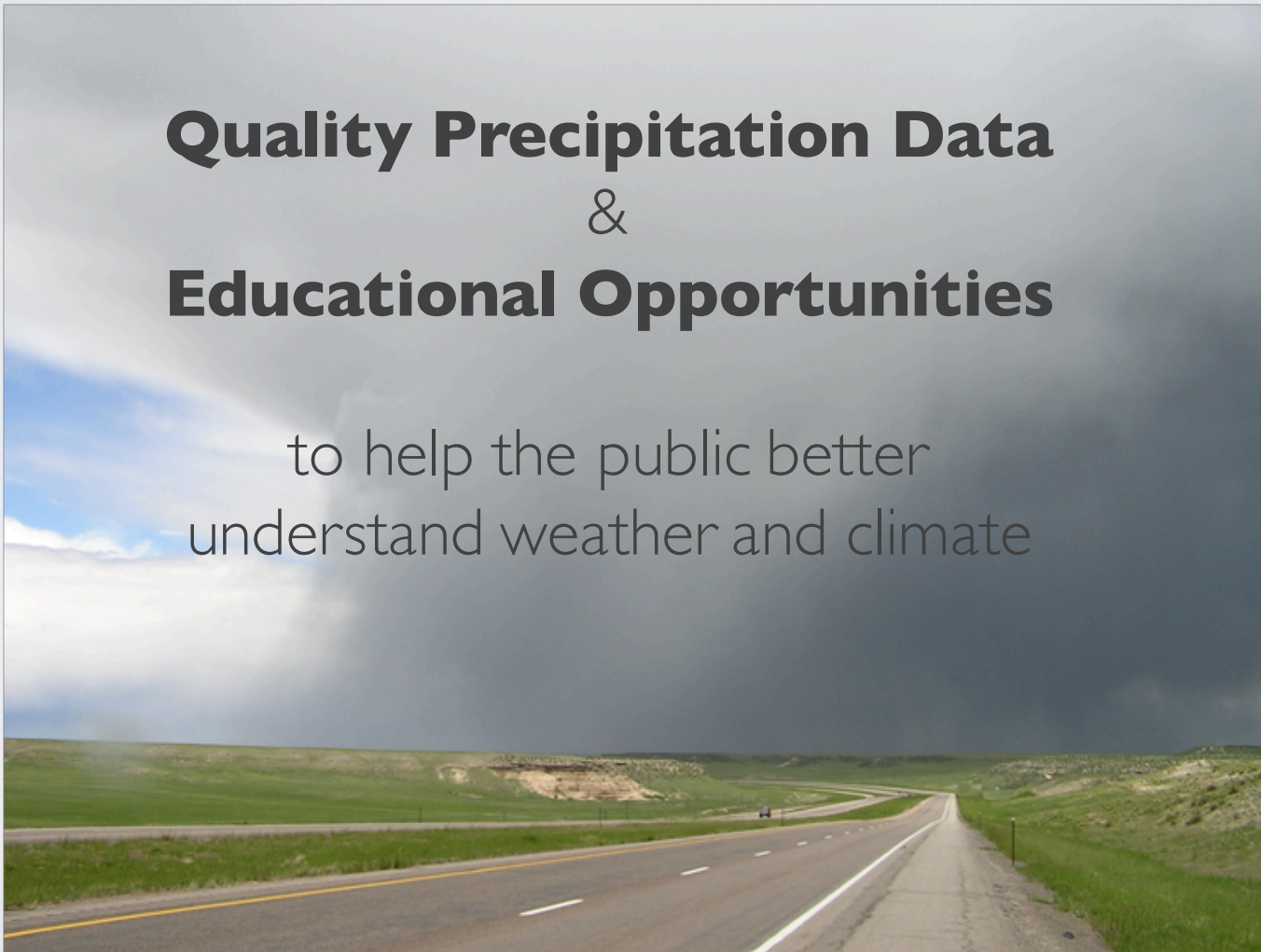
7.12" May 6, 2008, New Braunfels, Texas



CoCoRaHS's main focus is to provide:

**Quality Precipitation Data
&
Educational Opportunities**

to help the public better
understand weather and climate



Examples of CoCoRaHS data users

National Weather Service
Other Meteorologists
Hydrologists
Emergency Managers
City Utilities
-Water supply
-Water conservation
-Storm water

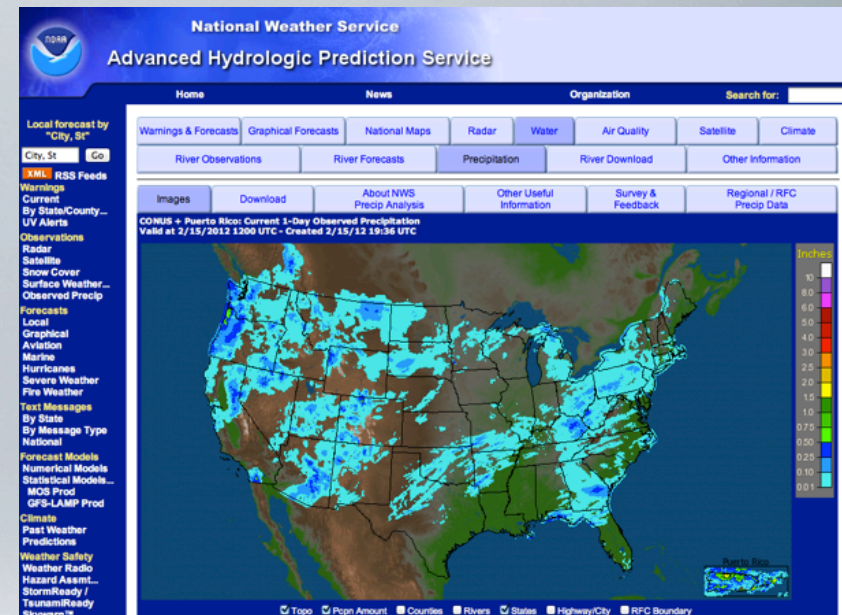
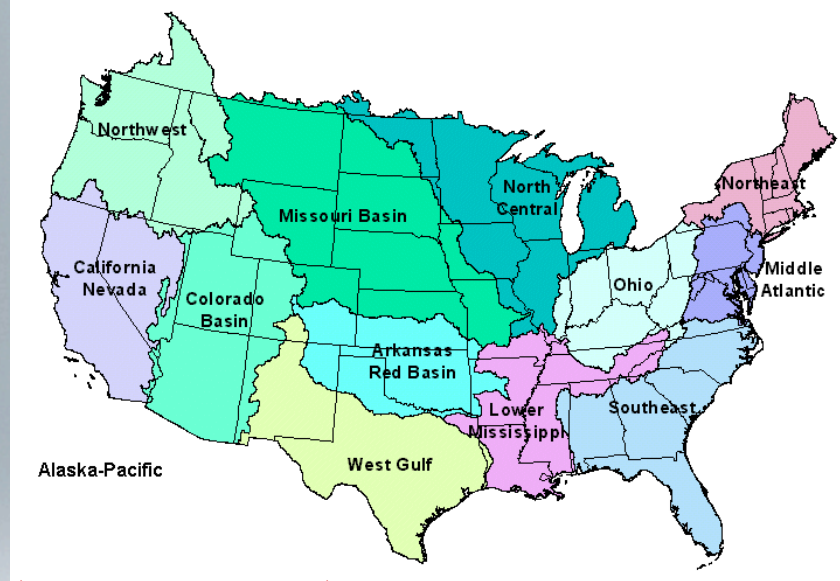
Insurance adjusters
USDA—Crop production
Engineers
Scientists studying storms
Mosquito control
Farm Service Agency
Ranchers and Farmers
Outdoor & Recreation

Teachers and Students
Geoscience education tool
Taking measurements
Analyzing data
Organizing results
Conducting research
Helping the community



NOAA's River Forecast Centers

River Forecast Centers



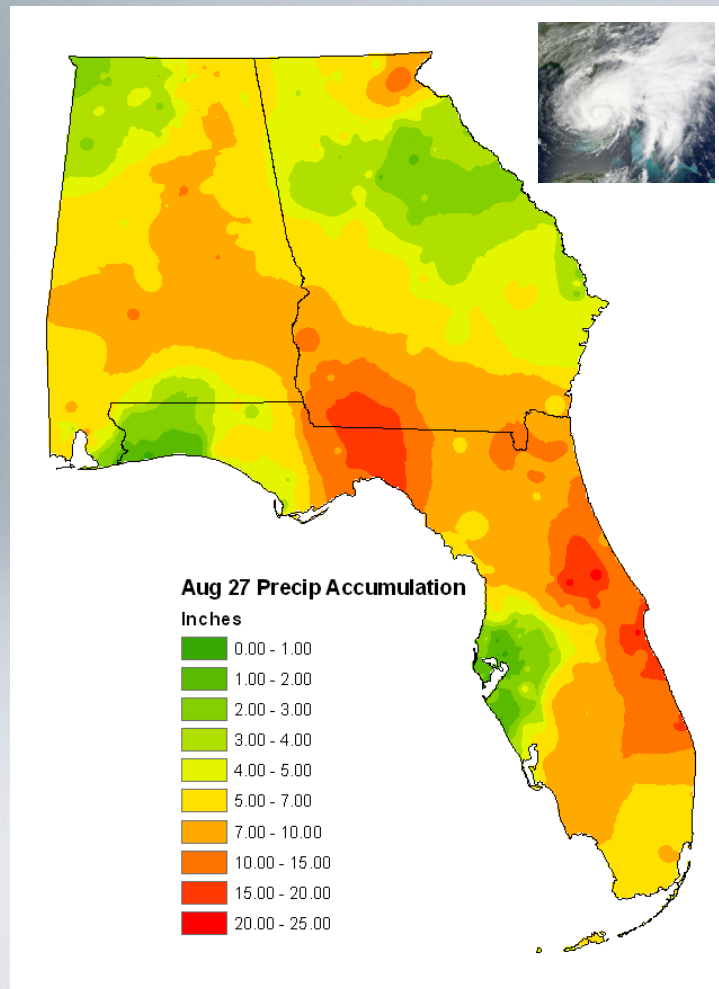
"Your data has filled in the holes in our NWS/USGS gage network. It also is used to improve the bias used in our Multisensor Precip Estimates. The more ground truth - the more accurate our river forecasts are."

Patricia Wnek – Mid Atlantic River Forecast Center

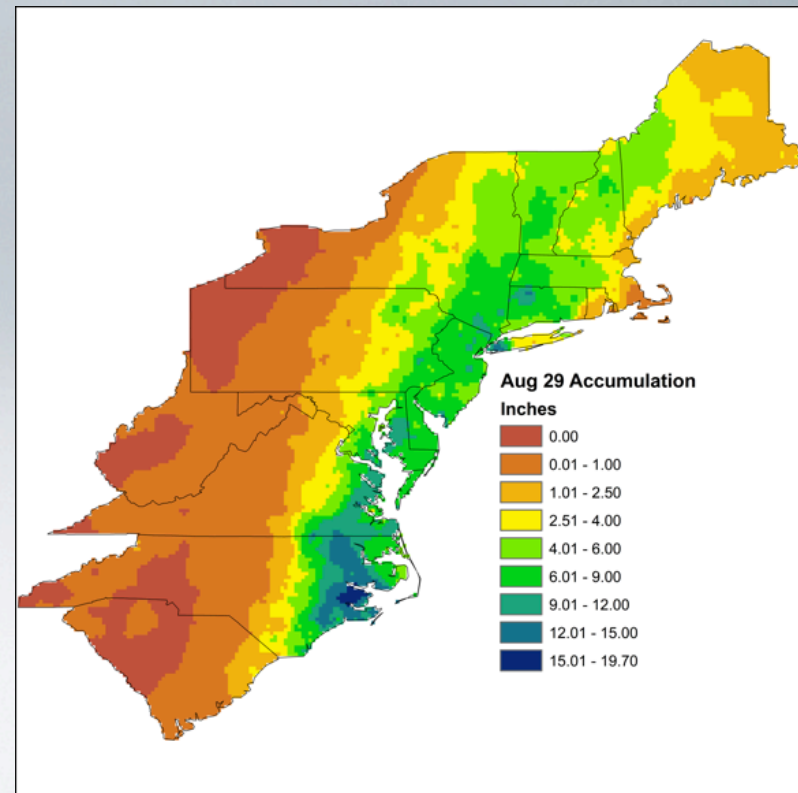
NOAA's National Hurricane Center - Tropical system post storm analysis

"We use the CoCoRaHS data in our post-storm summary to describe the overall impacts of a tropical cyclone event."

Dan Brown - National Hurricane Center



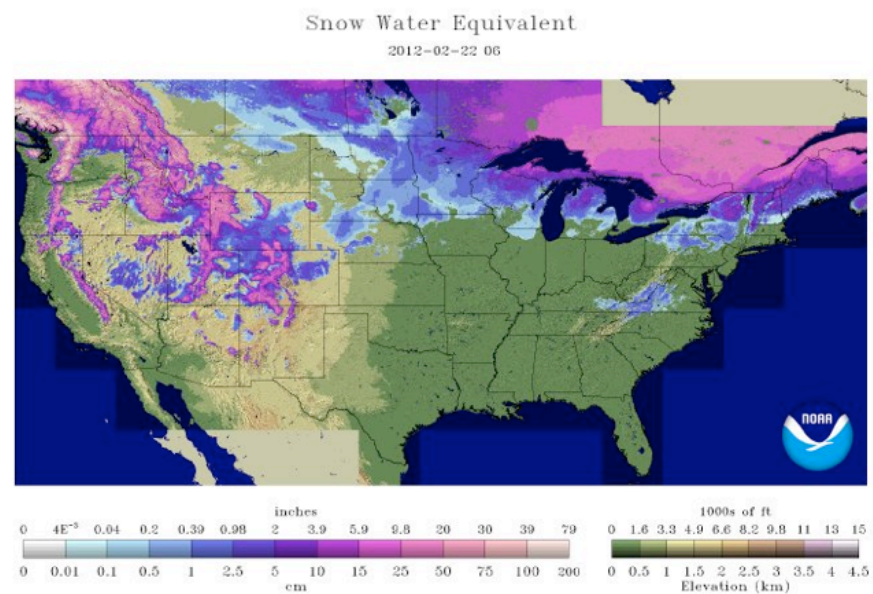
2008 – Tropical Storm Fay



2011 – Hurricane Irene

NOHRSC – National Operational Hydrologic Remote Sensing Center

Snow water equivalent (SWE) for Snowpack monitoring
-- getting a heads up on snowmelt



Over 50% of their
2011 snow
observation reports
came from
CoCoRaHS observers

Section One

Setting up your equipment
and measuring precipitation



In this section we will:

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



Photo: Jim Jones

Placement of your gauge

*“Location is the
key to good data”*



Places **not** to place your gauge



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



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

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



Any steep slopes (a bit exaggerated)



Animals (dogs, birds . . . bears!)



Avoid anything that would artificially increase or decrease your catch gauge



Example: a solid fence

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

Ideal placements for your gauge

residential



rural



urban

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



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



Level and Bevel

Make sure that your gauge is level



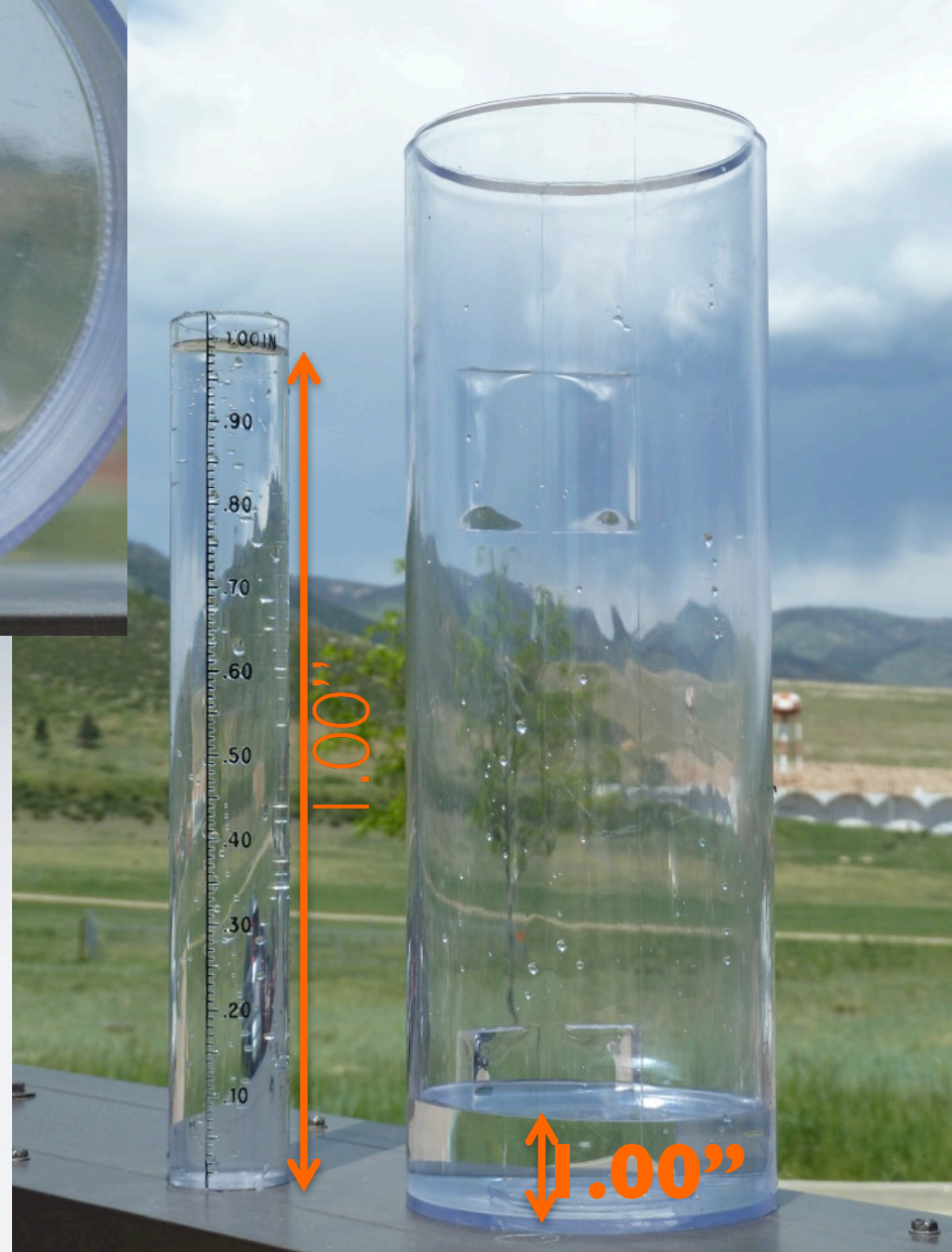
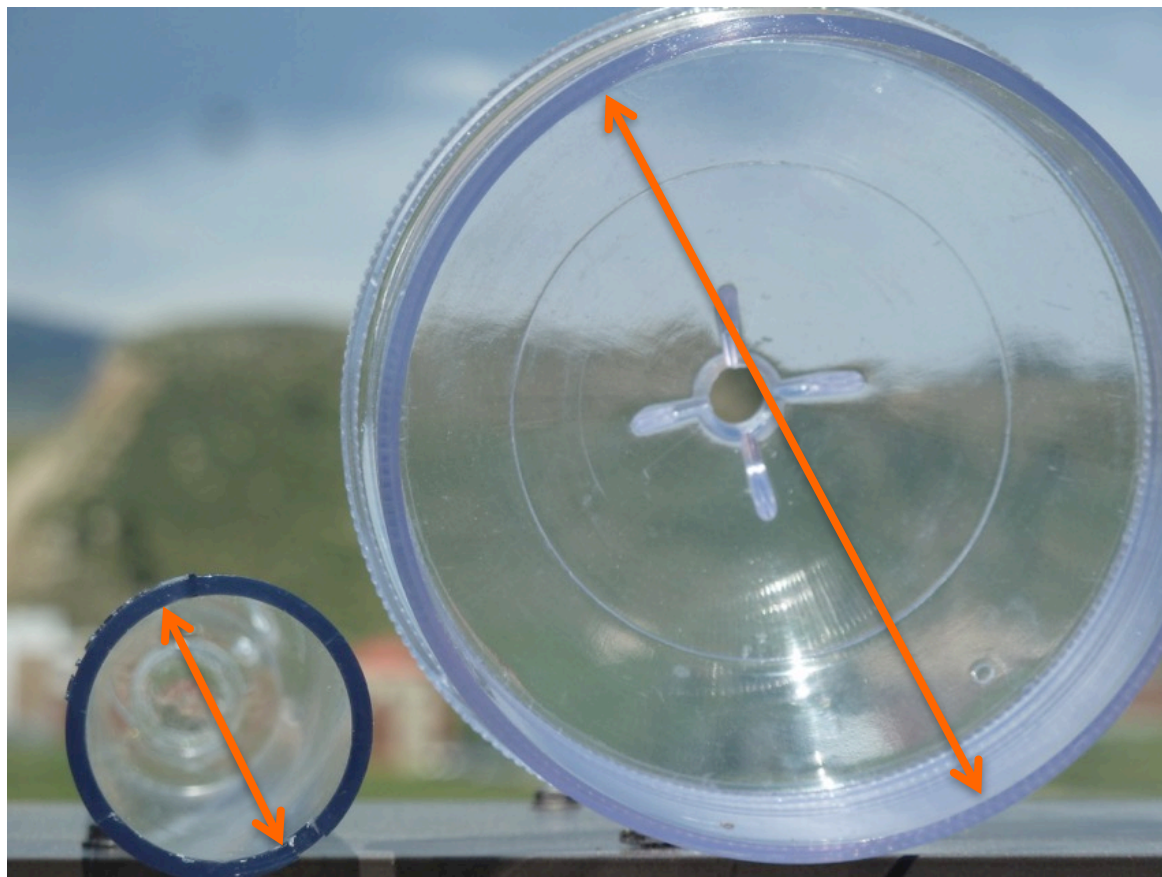
Bevel the top of the post to reduce rain splashing into the gauge

Measuring Rainfall with your Gauge

*“Accuracy and consistency
are very important”*



Photo: Steve Camp



One inch of rain in the inner tube looks different than one inch of rain in the outer tube

A Word about Decimals



Please be careful when recording your measurement. Getting the decimal point correct is essential !

0.40"

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

Photo: Denny Barnes

Please do not round up

*It is very important to record as accurately
to the nearest hundredth of an inch.*

*Please **do not** round up to the nearest tenth!*

***If you measured 0.98" please record that amount.
Do not record it as 1.00"***

When should we take our observations?



7:00AM is preferred

Between 4:30AM and 9:30AM is OK

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

Reading your Gauge

*Here are the most common
situations you will encounter*

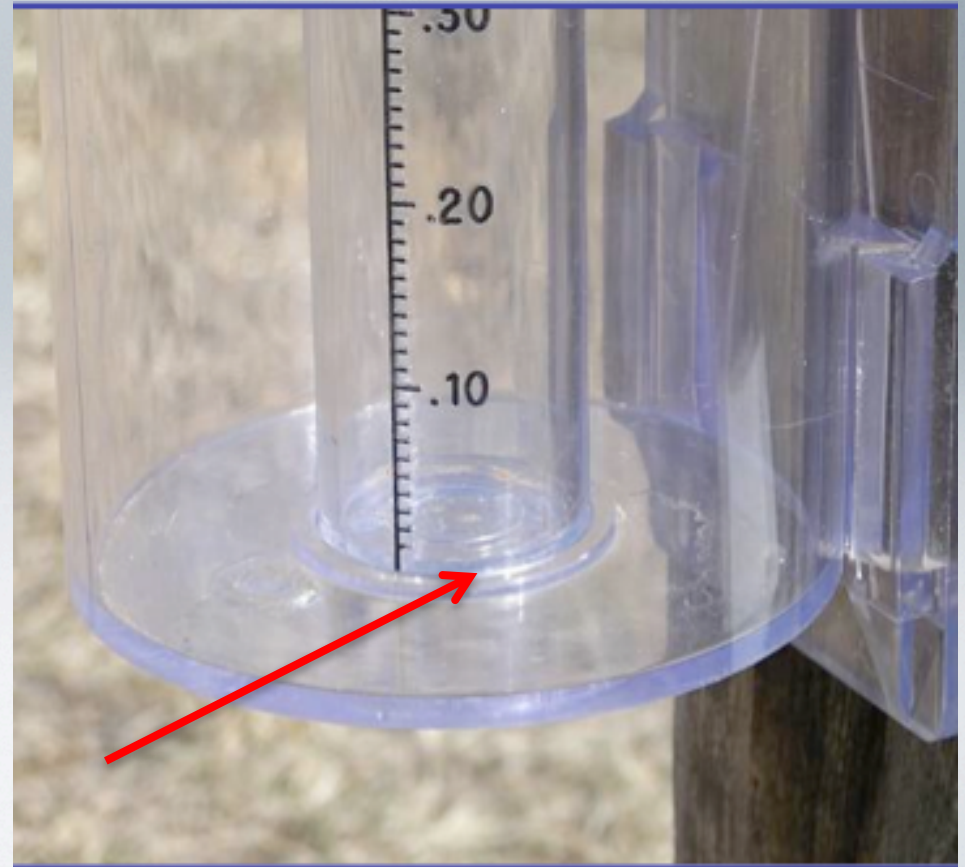


YOUR MOST COMMON
OBSERVATION WILL BE ...

ZERO **0.00"**

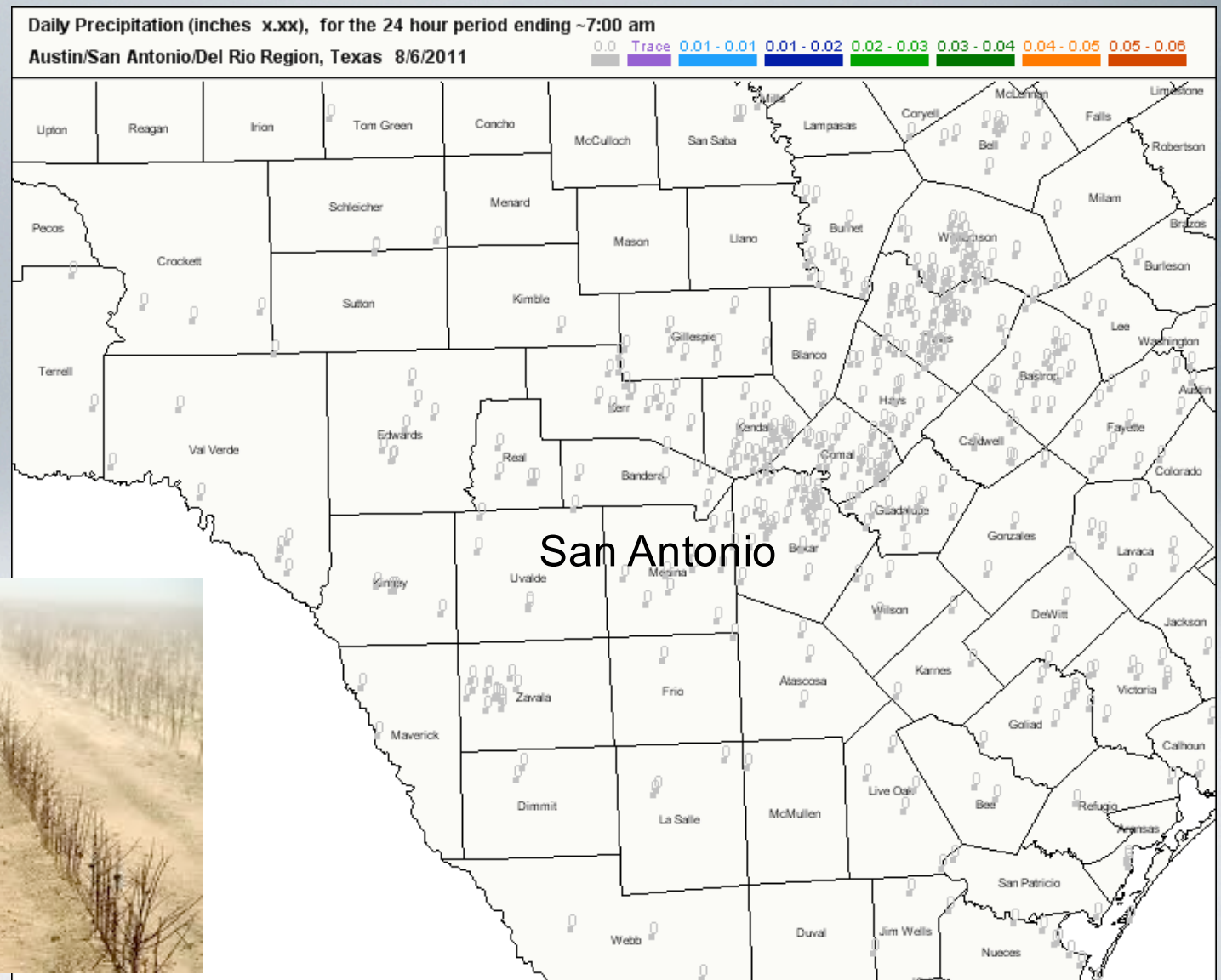
*It is important to know
where it did NOT rain.*

Please report zeros!



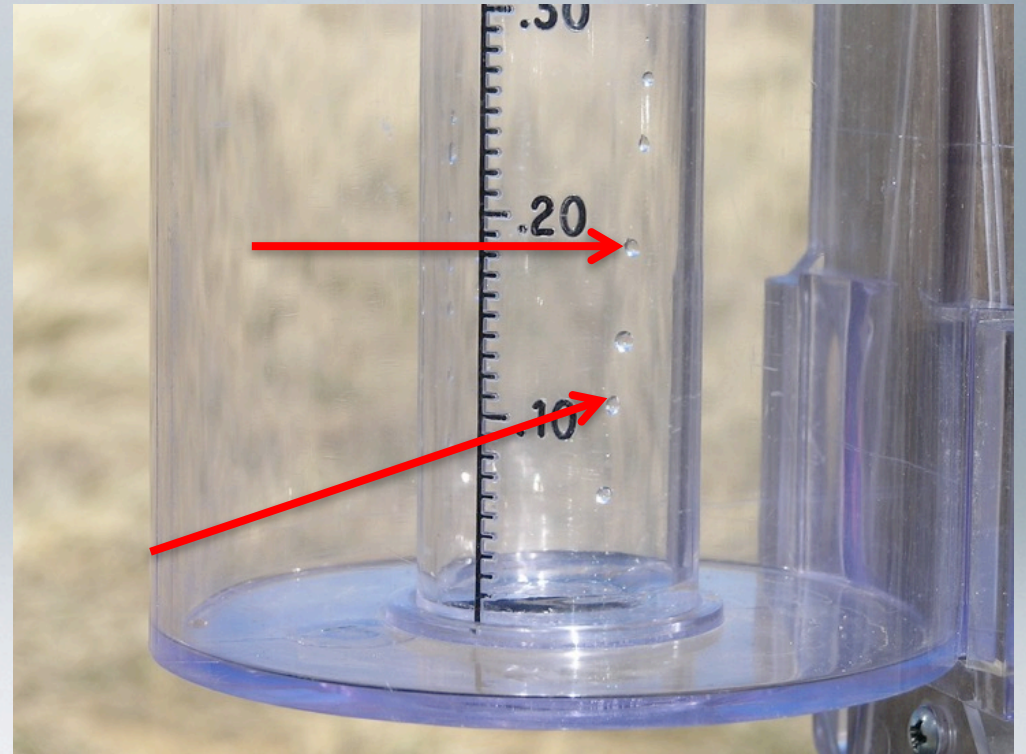
Texas Drought 2011

Reporting
Zeros



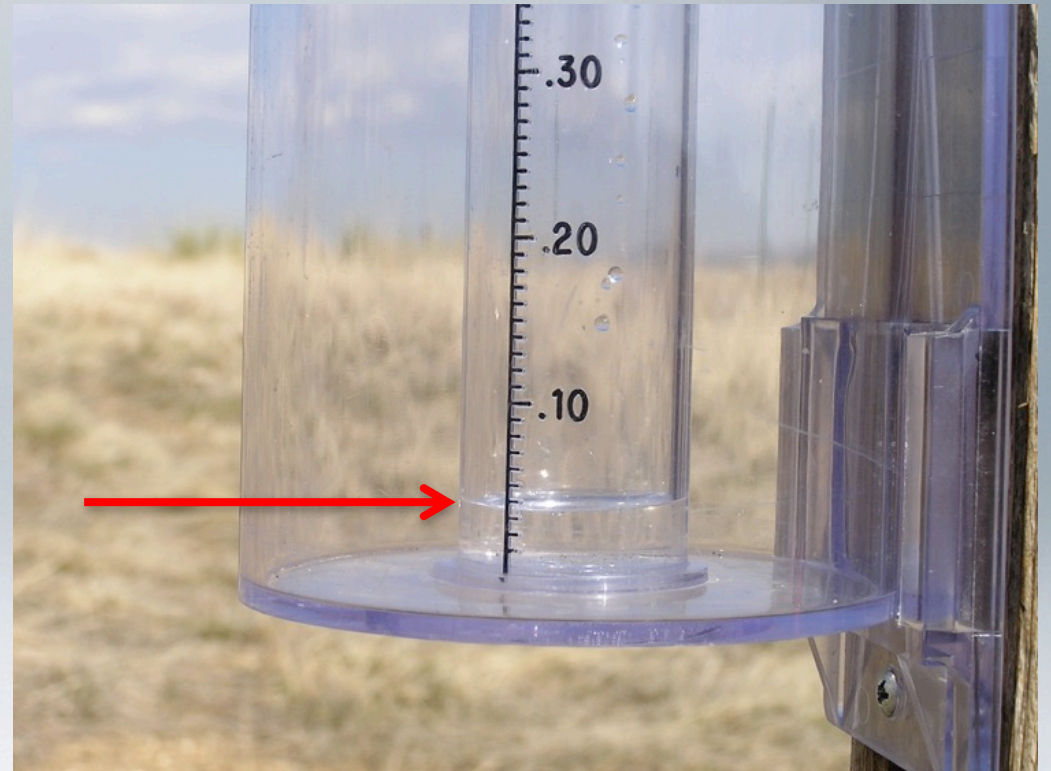
Trace “T”

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



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

“That’s ***0.04***” or four
hundredths

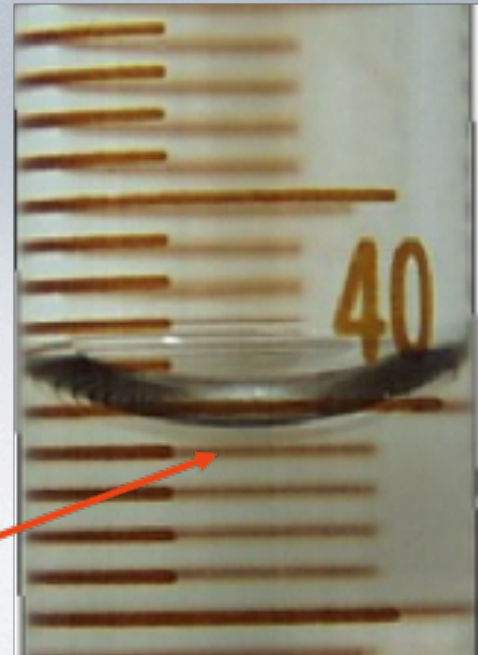


The Meniscus

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

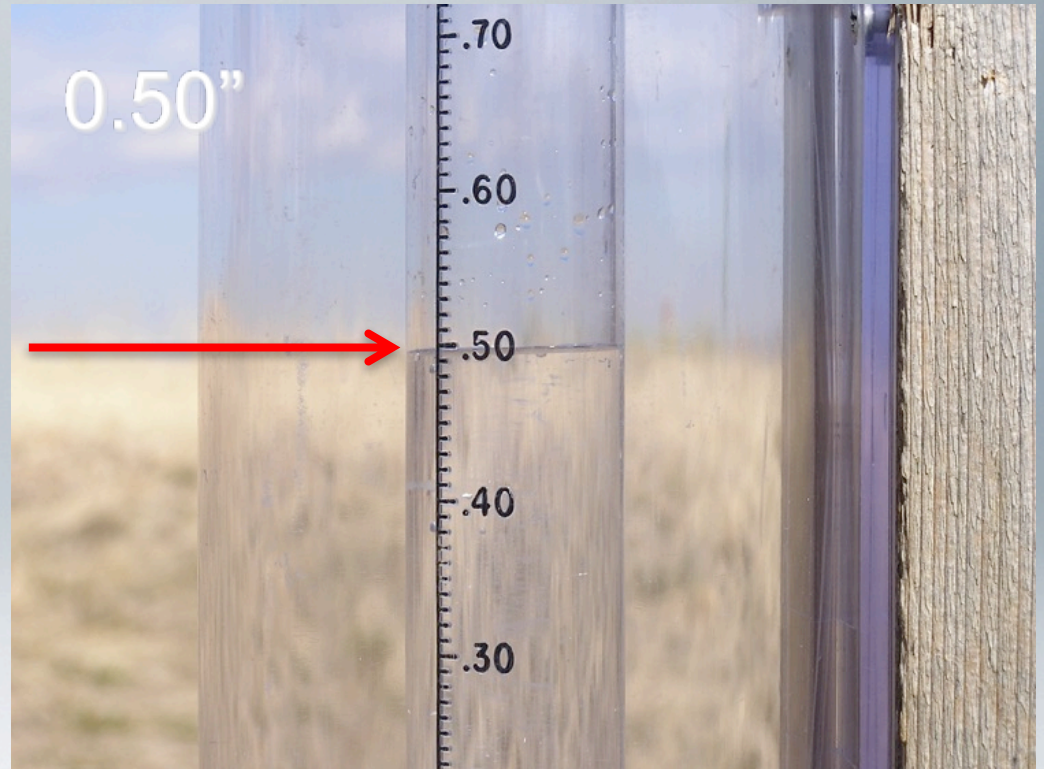
As water fills up the measuring tube, a curved surface is formed called a meniscus. It is formed by the surface tension of a liquid in contact with the sides of the tube.

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



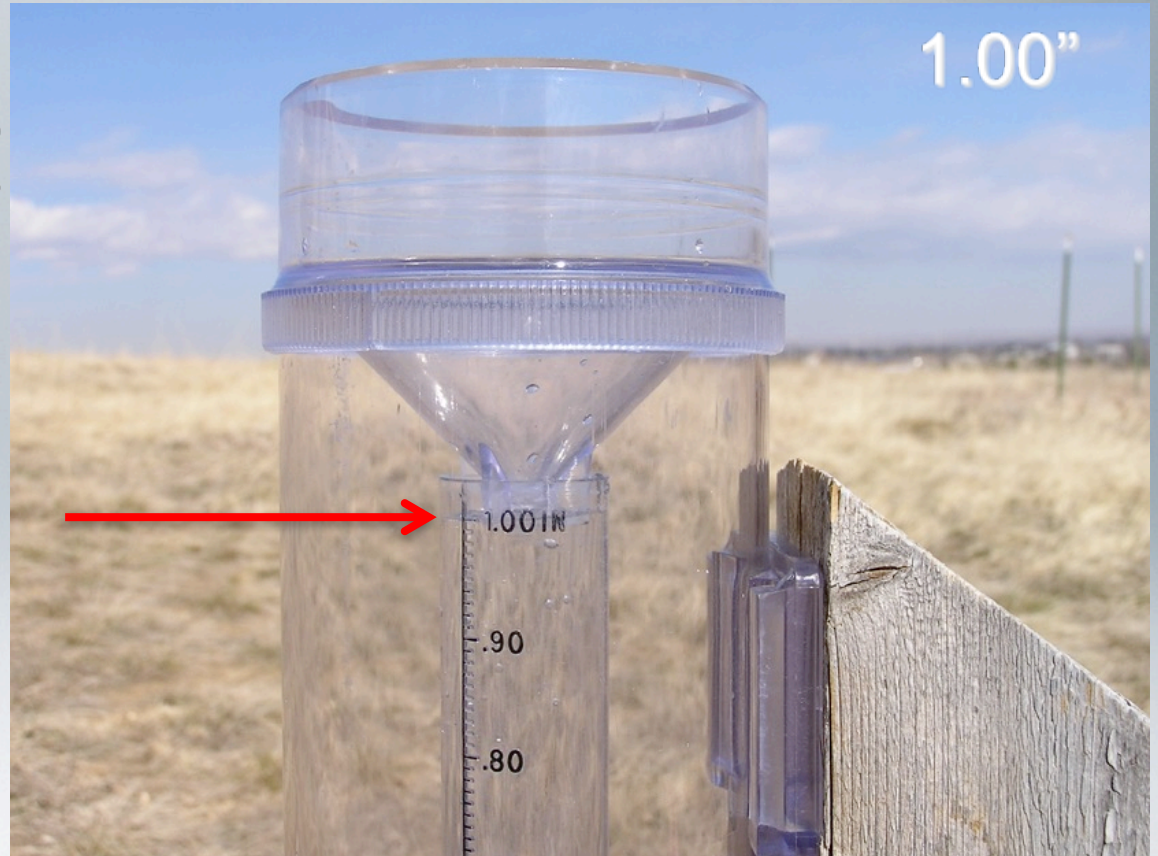
A nice soaking rain

*“This is “one half” inch and is
recorded as 0.50”*



A really good rain !

“This is “one inch” and is recorded as 1.00”





IF THERE IS VERY HEAVY RAIN OR SNOW FALLING

PLEASE submit a

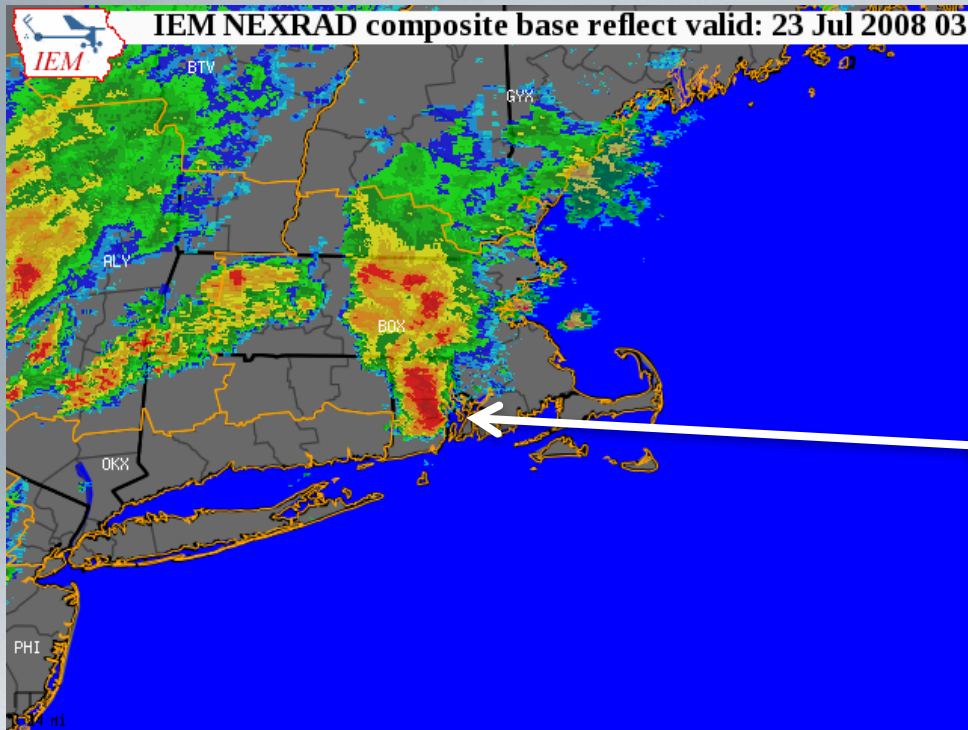
“Significant Weather Report”
via the CoCoRaHS website -- ASAP

*Your report immediately goes to your
National Weather Service Office*

*Your report provides them with much
needed information to issue severe
weather statements such as flash flood
warnings and these can save lives!*

Significant Weather Report		Submit Data	Reset
Station Number : CO-LR-610			
Station Name : Fort Collins 3.5 SW			
* Denotes Required Field			
8/4/2014		*Observation Date	
4:25	PM	*Observation Time	
35	Minutes	Time duration that the report covers	
Rain			
2.45	in.	New Rain and Melted Snow that has fallen during the report duration, in inches to the nearest hundredth	
2.45	in.	Total Precipitation, rain and melted snow, since storm began, in inches to the nearest hundredth	
Snow			
	in.	Depth of New Snow that has fallen during the report duration, in inches to the nearest tenth	
	in.	Total depth of snow and ice on ground at the time of this observation to nearest half inch	
Additional Information			

Significant Weather Reports



View Data : View Significant Weather Report

Significant Weather Report

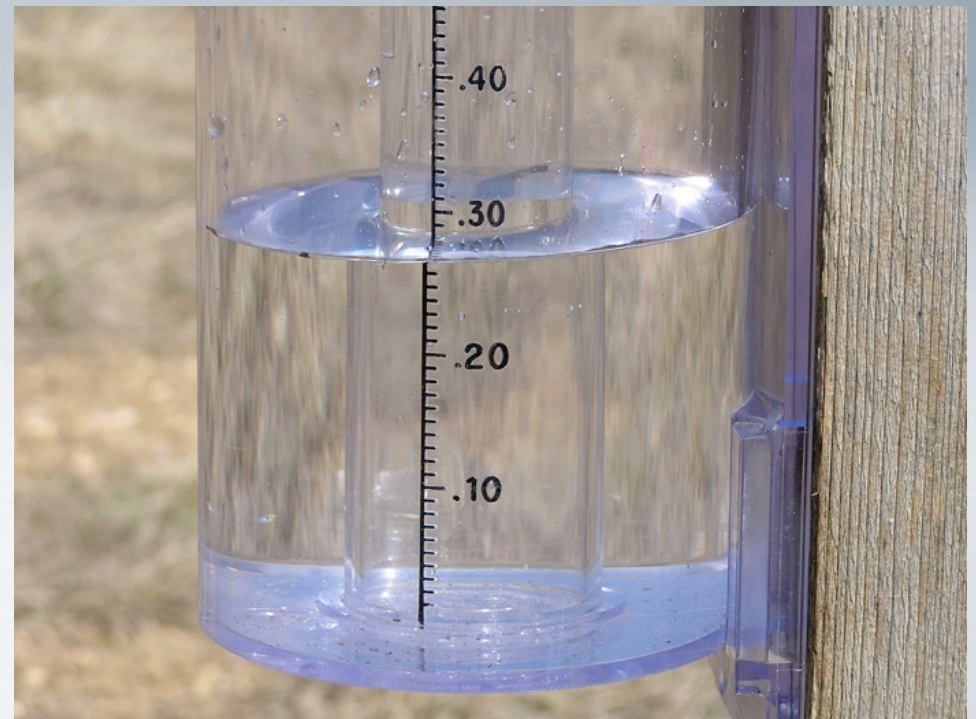
Station Number:	RI-WS-1
Station Name:	Hope Valley 3.7 S
Date:	7/23/2008 3:15 PM
Submitted	7/23/2008 3:23 PM
Notes:	
Taken at Registered Location:	True
Precip Duration Minutes:	15
New Precip Amount:	1.00
Total Precip Amount:	NA
New Snow Depth:	NA
Total Snow Depth:	NA
Flooding:	No

July 23, 2008 – “A CoCoRaHS observer in Hope Valley, RI provided an intense rainfall report which led to the issuance of a timely Flash Flood Warning. Life threatening urban flooding was reported in Warwick and Providence at the start of the evening rush hour, where several cars were stranded in more than 2 feet of water, requiring people to be rescued. Lead time would have been much less without the CoCoRaHS report.” - Joe Dellicarpini, NWS Taunton, MA

Lots of rain !!

When more than an inch of rain falls the precipitation will overflow into the outer cylinder.

The whole gauge has a capacity to hold eleven inches.



To measure greater than one inch . . .



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



Pour the remaining water into the funnel and measure the inner tube.



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

Finally add up all of your
measurements

$$\begin{array}{r} 1.00 \text{ inch} \\ 0.97 \text{ inches} \\ 0.88 \text{ inches} \\ + \underline{0.92 \text{ inches}} \\ \text{Total} = \mathbf{3.77''} \end{array}$$



Observing Hail



If possible submit an

“On-Line Hail Report”

as soon as possible

(a hail pad is not required to submit a report)



*Your report goes right to the
National Weather Service.*

*It provides them with much
needed information to issue
severe weather statements.*

weather.gov

National Weather Service

Watches, Warnings & Advisories

Local weather forecast by "City, St" or zip code City, St

Special Weather Statement

SPECIAL WEATHER STATEMENT
NATIONAL WEATHER SERVICE HOUSTON/GALVESTON TX
225 PM CDT SAT OCT 3 2009

TXZ226-235-032015-
JACKSON-WHARTON-
225 PM CDT SAT OCT 3 2009

...SPECIAL WEATHER STATEMENT...

AT 222 PM CDT...NATIONAL WEATHER SERVICE DOPPLER RADAR INDICATED A STRONG THUNDERSTORM OVER EXTREME NORTHWESTERN JACKSON COUNTY...MOVING EAST SOUTHEAST AT 15 MPH.

HAIL UP TO ONE HALF INCH IN DIAMETER...BRIEF HEAVY DOWNPOURS...ARE POSSIBLE WITH THIS STORM.

Measuring Snow

“Snow is good”
- Nolan Doesken



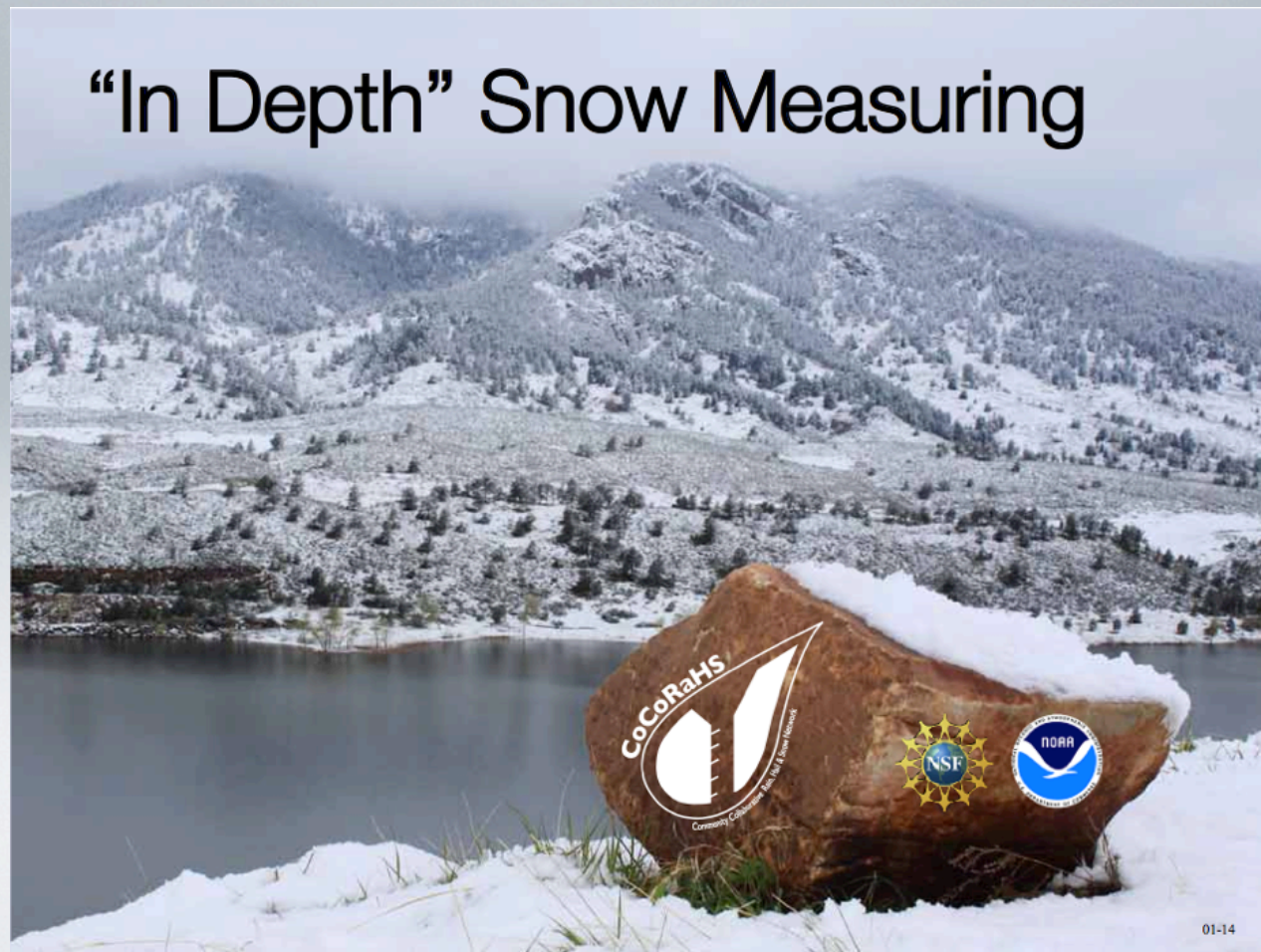
Two ways in which snow is measured

Our observers measure:

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



YOU CAN LEARN MORE ABOUT SNOW
MEASUREMENT BY VIEWING OUR
“IN DEPTH” SLIDESHOW ON THE WEB



Section Two


Reporting Observations

My Data Entry : Daily Precipitation Report Form

Precipitation Report Form		Submit Data	Reset
Station Number : CO-LR-610			
Station Name : Fort Collins 3.5 SW			
* Denotes Required Field			
5/17/2014	*Observation Date ?		
7:00 AM	*Observation Time ?		
0.59 in.	*Rain and Melted Snow to the nearest hundredth inch that has fallen in the gauge during the past 24 hours, or T for trace, or NA for unknown. ?		
Observation Notes: (This will be available to the public) ?			
Quick thunderstorm dumped over a half of inch of rain. Tree branches down do to windy conditions.			
New Snowfall			
NA in.	Accumulation of new snow in inches to the nearest tenth ?		
NA in.	Melted value from core to the nearest hundredth ?		
Total Snow and Ice on Ground at Observation Time			
NA in.	Depth of total snow and ice (new and old) in inches to the nearest half inch ?		
NA in.	Melted value from core to the nearest hundredth ?		

www.cocorahs.org

The CoCoRaHS Web site



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

[Home](#) | [Countries](#) | [States](#) | [View Data](#) | [Maps](#) | [My Data](#) | [My Account](#) | [Admin](#) | [Logout](#)

[e](#) [f](#) [t](#) [v](#)

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

Main Menu

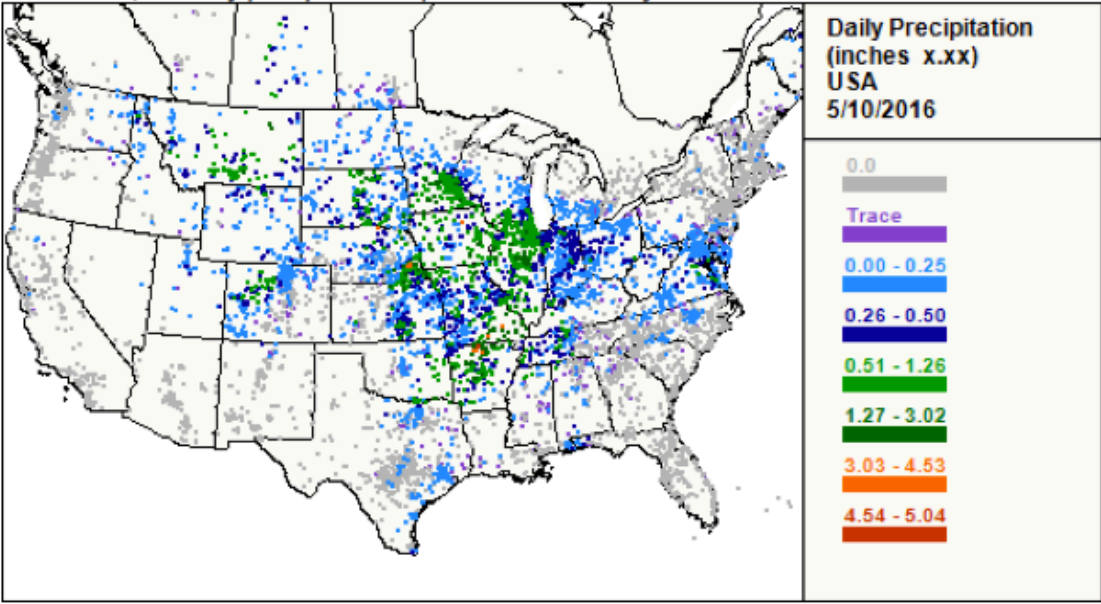
- [Home](#)
- [About Us](#)
- [Join CoCoRaHS](#)
- [Contact Us](#)
- [Donate](#)

Resources

- [FAQ / Help](#)
- [Education](#)
- [Training Slide-Shows](#)
- [Videos](#)
- [Drought Impacts](#)
- [Evapotranspiration](#)
- [Volunteer Coordinators](#)
- [Hail Pad](#)
- [Distribution/Drop-off](#)
- [Help Needed](#)
- [Printable Forms](#)
- [The Catch](#)
- [Message of the Day](#)


Who uses CoCoRaHS Observations?

9,362 daily precipitation reports received today as of 5/10/2016 5:03 PM EDT






Daily Precipitation (inches x.xx)
USA
5/10/2016


0.0
Trace
0.00 - 0.25
0.26 - 0.50
0.51 - 1.26
1.27 - 3.02
3.03 - 4.53
4.54 - 5.04



TRAINING
SLIDE-SHOWS


Things to know about...

-  Rain
-  Hail
-  Snow

 Canada

YOUR DAILY “24 HOUR” OBSERVATION

Click on “My data” from the top menu bar



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

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

My Data Entry : Daily Precipitation Report Form

Enter My New Reports

- [Daily Precipitation](#)
- [Multi-Day Accumulation](#)
- [Hail](#)
- [Significant Weather](#)
- [Monthly Zeros](#)
- [Drought Impact Report](#)
- [Evapotranspiration](#)
- FROST Reports**
 - [Frost](#)
 - [Optics](#)
 - [Snowflake](#)
 - [Thunder](#)

List/Edit My Reports

- [Daily Precipitation](#)
- [Multi-Day Accumulation](#)
- [Hail](#)
- [Significant Weather](#)
- [Drought Impact Report](#)
- [Evapotranspiration](#)
- FROST Reports**
 - [Optics](#)
 - [Frost](#)
 - [Snowflake](#)
 - [Thunder](#)

Precipitation Report Form

[Submit Data](#) [Reset](#)

Station Number : CO-LR-610

Station Name : Fort Collins 3.5 SW

* Denotes Required Field

*Observation Date ?

*Observation Time ?

in. *Rain and Melted Snow to the nearest hundredth inch that has fallen in the gauge during the past 24 hours, or T for trace, or NA for unknown. ?

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

Quick thunderstorm dumped over a half of inch of rain.
Tree branches down do to windy conditions.

New Snowfall

in. Accumulation of new snow in inches to the nearest **tenth** ?

in. Melted value from core to the nearest **hundredth** ?


Total Snow and Ice on Ground at Observation Time

in. Depth of total snow and ice (new and old) in inches to the nearest **half inch** ?

in. Melted value from core to the nearest **hundredth** ?

Duration Information

Enter the total precipitation measured in your gauge.
Record your measurement in hundredths (0.00")



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

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

My Data Entry : Daily Precipitation Report Form

Precipitation Report Form [Submit Data](#) [Reset](#)

Station Number : CO-LR-610

Station Name : Fort Collins 3.5 SW

* Denotes Required Field

* **Observation Date** ?

* **Observation Time** ?

in. * **Rain and Melted Snow to the nearest hundredth inch that has fallen in the gauge during the past 24 hours, or T for trace, or NA for unknown.** ?

Record your measurement in hundredths (0.00)

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

New Snowfall

in. **Accumulation of new snow in inches to the nearest tenth** ?

in. **Melted value from core to the nearest hundredth** ?

Total Snow and Ice on Ground at Observation Time

in. **Depth of total snow and ice (new and old) in inches to the nearest half inch** ?

in. **Melted value from core to the nearest hundredth** ?

Duration Information

Enter My New Reports


- [Daily Precipitation](#)
- [Multi-Day Accumulation](#)
- [Hail](#)
- [Significant Weather](#)
- [Monthly Zeros](#)
- [Drought Impact Report](#)
- [Evapotranspiration](#)
- FROST Reports**
- [Frost](#)
- [Optics](#)
- [Snowflake](#)
- [Thunder](#)

List/Edit My Reports

- [Daily Precipitation](#)
- [Multi-Day Accumulation](#)
- [Hail](#)
- [Significant Weather](#)
- [Drought Impact Report](#)
- [Evapotranspiration](#)
- FROST Reports**
- [Optics](#)
- [Frost](#)
- [Snowflake](#)
- [Thunder](#)

You can enter comments under “notes”

These are very helpful to augment your observation



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

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

My Data Entry : Daily Precipitation Report Form

Precipitation Report Form [Submit Data](#) [Reset](#)

Station Number : CO-LR-610

Station Name : Fort Collins 3.5 SW

* Denotes Required Field

***Observation Date** ?

***Observation Time** ?

in. ***Rain and Melted Snow to the nearest hundredth inch that has fallen in the gauge during the past 24 hours, or T for trace, or NA for unknown.** ?

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

Quick thunderstorm dumped over a half of inch of rain.
Tree branches down do to windy conditions.

New Snowfall

in. **Accumulation of new snow in inches to the nearest tenth** ?

in. **Melted value from core to the nearest hundredth** ?

Total Snow and Ice on Ground at Observation Time

in. **Depth of total snow and ice (new and old) in inches to the nearest half inch** ?

in. **Melted value from core to the nearest hundredth** ?

Duration Information

Enter My New Reports


- [Daily Precipitation](#)
- [Multi-Day Accumulation](#)
- [Hail](#)
- [Significant Weather](#)
- [Monthly Zeros](#)
- [Drought Impact Report](#)
- [Evapotranspiration](#)
- **FROST Reports**
- [Frost](#)
- [Optics](#)
- [Snowflake](#)
- [Thunder](#)

List/Edit My Reports

- [Daily Precipitation](#)
- [Multi-Day Accumulation](#)
- [Hail](#)
- [Significant Weather](#)
- [Drought Impact Report](#)
- [Evapotranspiration](#)
- **FROST Reports**
- [Optics](#)
- [Frost](#)
- [Snowflake](#)
- [Thunder](#)

Submit your report

Click "Submit Data" and your observation is recorded on our site



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

[Home](#) | [States](#) | [View Data](#) | [Maps](#) | [My Data](#) | [My Account](#) | [Admin](#) | [Logout](#)

[e](#) [f](#) [t](#) [v](#)

My Data Entry : Daily Precipitation Report Form

Enter My New Reports

- [Daily Precipitation](#)
- [Multi-Day Accumulation](#)
- [Hail](#)
- [Significant Weather](#)
- [Monthly Zeros](#)
- [Drought Impact Report](#)
- [Evapotranspiration](#)
- FROST Reports**
 - [Frost](#)
 - [Optics](#)
 - [Snowflake](#)
 - [Thunder](#)

List/Edit My Reports

- [Daily Precipitation](#)
- [Multi-Day Accumulation](#)
- [Hail](#)
- [Significant Weather](#)
- [Drought Impact Report](#)
- [Evapotranspiration](#)
- FROST Reports**
 - [Optics](#)
 - [Frost](#)
 - [Snowflake](#)
 - [Thunder](#)

Precipitation Report Form

Station Number : CO-LR-610

Station Name : Fort Collins 3.5 SW

* Denotes Required Field

***Observation Date** ?

***Observation Time** ?

in. ***Rain and Melted Snow to the nearest hundredth inch that has fallen in the gauge during the past 24 hours, or T for trace, or NA for unknown.** ?

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

Quick thunderstorm dumped over a half of inch of rain.
Tree branches down do to windy conditions.

New Snowfall

in. **Accumulation of new snow in inches to the nearest tenth** ?

in. **Melted value from core to the nearest hundredth** ?

Total Snow and Ice on Ground at Observation Time

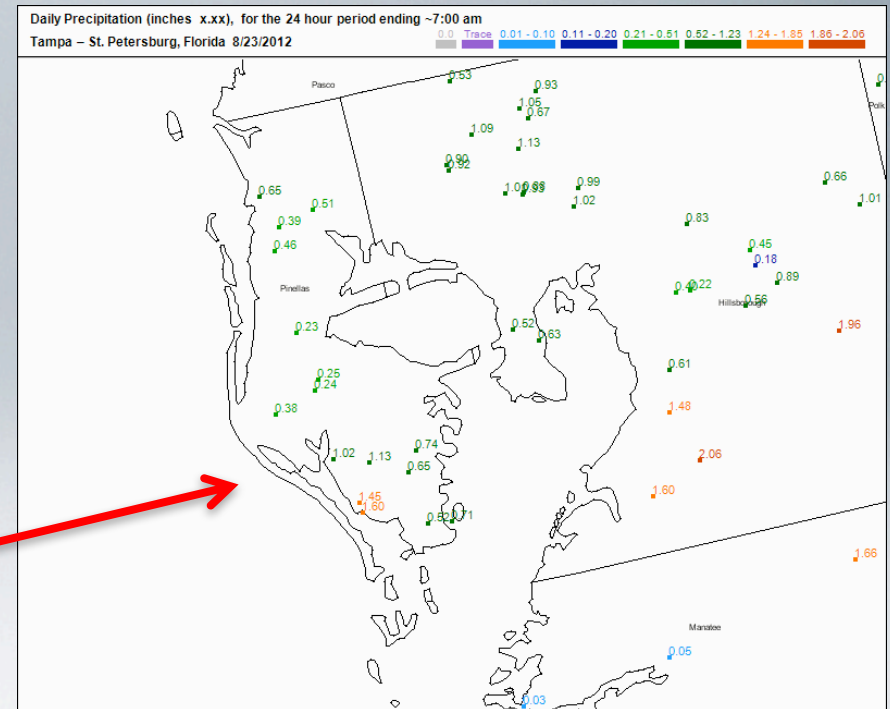
in. **Depth of total snow and ice (new and old) in inches to the nearest half inch** ?

in. **Melted value from core to the nearest hundredth** ?

Duration Information

Click on your state from our main page and then click on your county

Click on your state from our main page and then click on your county

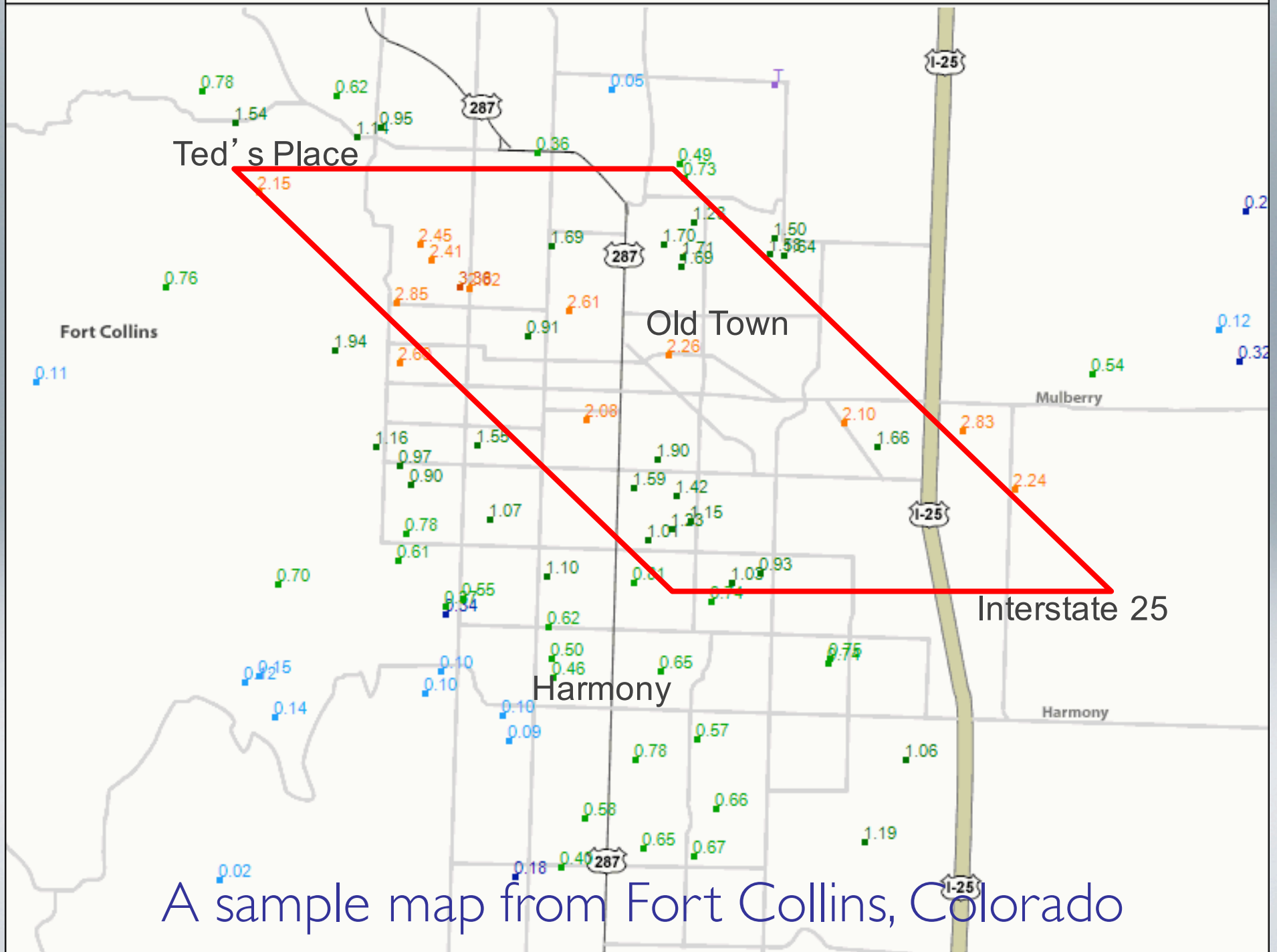


Observations are available (and sortable) in table form by clicking on “View Data” from the main menu.

Daily Precipitation (inches x.xx), for the 24 hour period ending ~7:00 am


Fort Collins, Colorado 7/21/2009

0.0 Trace 0.01 - 0.17 0.18 - 0.34 0.35 - 0.84 0.85 - 2.02 2.03 - 3.03 3.04 - 3.36



A sample map from Fort Collins, Colorado

Re-entering an erroneous report



COMMUNITY COLLABORATIVE RAIN, HAIL & SNOW NETWORK

"Because every drop counts"

[Home](#) | [States](#) | [View Data](#) | [Maps](#) | [My Data](#) | [My Account](#) | [Admin](#) | [Logout](#)

[e](#) [f](#) [t](#) [YouTube](#)

My Data Entry : List My Daily Precipitation Reports

US Units ▾

Enter My New Reports

- [Daily Precipitation](#)
- [Multi-Day Accumulation](#)
- [Hail](#)
- [Significant Weather](#)
- [Monthly Zeros](#)
- [Drought Impact Report](#)
- [Evapotranspiration](#)
- FROST Reports**
 - [Frost](#)
 - [Optics](#)
 - [Snowflake](#)
 - [Thunder](#)


List/Edit My Reports

- [Daily Precipitation](#)
- [Multi-Day Accumulation](#)
- [Hail](#)
- [Significant Weather](#)
- [Drought Impact Report](#)
- [Evapotranspiration](#)
- FROST Reports**
 - [Optics](#)
 - [Frost](#)
 - [Snowflake](#)
 - [Thunder](#)

Showing 1 - 50 of 2079 Records. [<Back](#) Page 1 [Next>](#)

Date ▲	Time	Station Number	Station Name	Total Precip In.	New Snow In.	Total Snow In.	State	County	Actions
5/28/2014	7:00 AM	CO-LR-610	Fort Collins 3.5 SW	0.11	NA	NA	CO	Larimer	
5/27/2014	7:00 AM	CO-LR-610	Fort Collins 3.5 SW	0.02	NA	NA	CO	Larimer	
5/26/2014	7:00 AM	CO-LR-610	Fort Collins 3.5 SW	0.10	NA	NA	CO	Larimer	
5/25/2014	7:00 AM	CO-LR-610	Fort Collins 3.5 SW	T	NA	NA	CO	Larimer	
5/24/2014	7:00 AM	CO-LR-610	Fort Collins 3.5 SW	0.66	NA	NA	CO	Larimer	
5/22/2014	7:00 AM	CO-LR-610	Fort Collins 3.5 SW	0.36	NA	NA	CO	Larimer	
5/18/2014	7:00 AM	CO-LR-610	Fort Collins 3.5 SW	T	NA	NA	CO	Larimer	
5/17/2014	7:00 AM	CO-LR-610	Fort Collins 3.5 SW	0.10	NA	NA	CO	Larimer	
5/13/2014	7:00 AM	CO-LR-610	Fort Collins 3.5 SW	0.00	NA	NA	CO	Larimer	
5/12/2014	7:00 AM	CO-LR-610	Fort Collins 3.5 SW	0.82	NA	NA	CO	Larimer	
5/11/2014	8:00 AM	CO-LR-610	Fort Collins 3.5 SW	1.20	1.0	NA	CO	Larimer	
5/9/2014	7:00 AM	CO-LR-610	Fort Collins 3.5 SW	0.17	NA	NA	CO	Larimer	
5/8/2014	7:00 AM	CO-LR-610	Fort Collins 3.5 SW	1.08	NA	NA	CO	Larimer	
5/7/2014	7:00 AM	CO-LR-610	Fort Collins 3.5 SW	0.03	NA	NA	CO	Larimer	
5/6/2014	7:00 AM	CO-LR-610	Fort Collins 3.5 SW	0.00	0.0	NA	CO	Larimer	
5/5/2014	7:00 AM	CO-LR-610	Fort Collins 3.5 SW	0.00	0.0	NA	CO	Larimer	
5/4/2014	7:00 AM	CO-LR-610	Fort Collins 3.5 SW	0.00	0.0	NA	CO	Larimer	
5/3/2014	7:00 AM	CO-LR-610	Fort Collins 3.5 SW	0.00	0.0	NA	CO	Larimer	
5/2/2014	7:00 AM	CO-LR-610	Fort Collins 3.5 SW	0.00	0.0	NA	CO	Larimer	

For Info on what is happening in your state
visit your state page



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

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

State Menu

- Colorado Home
- State Coordinators
- Maps

Colorado Reports

- Daily Precip
- Multi-Day Precip
- Hail Reports
- Significant Weather

View All Reports

- Daily Precip
- Daily Comments
- Multi-Day Precip
- Hail Reports
- Significant Weather
- Rainy Days
- Stations

Main Menu

- Home
- About Us
- Join CoCoRaHS
- Contact Us
- Donate

Resources

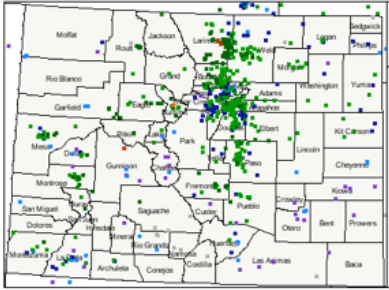
- FAQ / Help
- Education
- Training Slide-Shows
- Videos
- Drought Impacts
- Evapotranspiration

- Volunteer Coordinators
- Hail Pad
- Distribution/Drop-off
- Help Needed
- Printable Forms

- The Catch
- Message of the Day
- Data Analysis
- CoCoRaHS Blog
- Web Groups
- State Newsletters
- Master Gardener Guide
- State Climate Series
- March Madness
- WxTalk Webinars

- Sponsors
- Links
- CoCoRaHS Store

Colorado



Daily Precipitation
(inches x.xx)
Colorado
3/4/2015

0.0
Trace
0.00 - 0.03
0.04 - 0.06
0.07 - 0.14
0.15 - 0.33
0.34 - 0.50
0.51 - 0.55

View Large Map

COLORADO COCORAHNS NEWS

Upcoming In-Person Training Sessions


There are no training sessions scheduled at the current time.
View the CoCoRaHS YouTube training animations by clicking here: [Training Animations](#)
and our training slideshows by clicking here: [Training Slideshows](#)

2013 Colorado Front Range Flood

For information on the historic Colorado flood event in September of 2013, check out the Colorado Climate Center's page at: [2013 FLOOD](#)

Colorado CoCoRaHS Newsletter

View the current [Colorado CoCoRaHS Newsletter](#)



From the urban communities of Denver to the farms of Baca County, from the four corners near Cortez to the high peaks of Rocky Mountain National Park, the CoCoRaHS Network currently engages over 1,900 volunteers to measure rain, hail and snow throughout the state.

Other Important Reports

Hail Report


Significant Weather Report (Rain and Snow)

Monthly Zeros

Multi-Day Precipitation Report

Drought Impact Report

Hail Report

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

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

My Data Entry : Hail Report Form

Enter My New Reports

- [Daily Precipitation](#)
- [Multi-Day Accumulation](#)
- [Hail](#)
- [Significant Weather](#)
- [Monthly Zeros](#)
- [Drought Impact Report](#)
- [Evapotranspiration](#)

FROST Reports

- [Frost](#)
- [Optics](#)
- [Snowflake](#)
- [Thunder](#)

List/Edit My Reports

- [Daily Precipitation](#)
- [Multi-Day Accumulation](#)
- [Hail](#)
- [Significant Weather](#)
- [Drought Impact Report](#)
- [Evapotranspiration](#)

FROST Reports

- [Optics](#)
- [Frost](#)
- [Snowflake](#)
- [Thunder](#)

Hail Report Form

Submit DataReset

Station Number : CO-LR-610

Station Name : Fort Collins 3.5 SW

* Denotes Required Field

*Date of Hail Storm ?

Time Hail Storm Began ?

☒ Yes ☐ No **Report was taken at registered location?**

Size of hailstones

Smallest:

Average:

Largest:

Hail Lasted

Minutes This time is accurate within

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

Monthly Zeros Report



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

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

My Data Entry : Monthly Zeros Form

Enter My New Reports

- [Daily Precipitation](#)
- [Multi-Day Accumulation](#)
- [Hail](#)
- [Significant Weather](#)
- [Monthly Zeros](#)
- [Drought Impact Report](#)
- [Evapotranspiration](#)

FROST Reports

- [Frost](#)
- [Optics](#)
- [Snowflake](#)
- [Thunder](#)

List/Edit My Reports

- [Daily Precipitation](#)
- [Multi-Day Accumulation](#)
- [Hail](#)
- [Significant Weather](#)
- [Drought Impact Report](#)
- [Evapotranspiration](#)

Monthly Zeros

SubmitReset

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

≤

May 2014

≥

Sun	Mon	Tue	Wed	Thu	Fri	Sat
27	28	29	30	1	2	3
				Precip: 0	<input checked="" type="checkbox"/> 0.0 Precip	<input checked="" type="checkbox"/> 0.0 Precip
4	5	6	7	8	9	10
<input checked="" type="checkbox"/> 0.0 Precip	Precip: 0	Precip: 0	Precip: 0.03	Precip: 1.08		
11	12	13	14	15		
Precip: 1.20	Precip: 0.82	Precip: 0	<input type="checkbox"/> 0.0 Precip	<input type="checkbox"/> 0.0 Precip		
18	19	20	21	22		
Precip: T	<input type="checkbox"/> 0.0 Precip	<input type="checkbox"/> 0.0 Precip	<input type="checkbox"/> 0.0 Precip	Precip: 0.36		
25	26	27	28	29		
Precip: T	Precip: 0.10	Precip: 0.02	Precip: 0.11	<input type="checkbox"/> 0.0 Precip		
1	2	3	4	5		

Monthly Zeros

SubmitReset

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

≤

May 2014

≥


Sun	Mon	Tue	Wed	Thu	Fri	Sat
27	28	29	30	1	2	3
				Precip: 0	<input checked="" type="checkbox"/> 0.0 Precip	<input checked="" type="checkbox"/> 0.0 Precip
4	5	6	7	8	9	10
<input checked="" type="checkbox"/> 0.0 Precip	Precip: 0	Precip: 0	Precip: 0	Precip: 0.03	Precip: 1.08	Precip: 0.17
11	12	13	14	15	16	17
Precip: 1.20	Precip: 0.82	Precip: 0	<input type="checkbox"/> 0.0 Precip	<input type="checkbox"/> 0.0 Precip	<input type="checkbox"/> 0.0 Precip	Precip: 0.10
18	19	20	21	22	23	24
Precip: T	<input type="checkbox"/> 0.0 Precip	<input type="checkbox"/> 0.0 Precip	<input type="checkbox"/> 0.0 Precip	Precip: 0.36	<input type="checkbox"/> 0.0 Precip	Precip: 0.66
25	26	27	28	29	30	31
Precip: T	Precip: 0.10	Precip: 0.02	Precip: 0.11	<input type="checkbox"/> 0.0 Precip		
1	2	3	4	5	6	7

Click a empty box and it will automatically fill in a zero (0.00") for that day.

Don't forget to hit submit.

Significant Weather Report

(both rain and snow)



COMMUNITY COLLABORATIVE RAIN, HAIL & SNOW NETWORK

"Because every drop counts"

[Home](#) | [States](#) | [View Data](#) | [Maps](#) | [My Data](#) | [My Account](#) | [Admin](#) | [Logout](#)

[Blogger](#) | [Facebook](#) | [Twitter](#) | [YouTube](#)

My Data Entry : Significant Weather Report Form

Enter My New Reports

- [Daily Precipitation](#)
- [Multi-Day Accumulation](#)
- [Hail](#)
- [Significant Weather](#)
- [Monthly Zeros](#)
- [Drought Impact Report](#)
- [Evapotranspiration](#)

FROST Reports

- [Frost](#)
- [Optics](#)
- [Snowflake](#)
- [Thunder](#)

List/Edit My Reports

- [Daily Precipitation](#)
- [Multi-Day Accumulation](#)
- [Hail](#)
- [Significant Weather](#)
- [Drought Impact Report](#)
- [Evapotranspiration](#)

FROST Reports

- [Optics](#)
- [Frost](#)
- [Snowflake](#)
- [Thunder](#)

Notification:

- Use this form to report heavy rain or snow that has just fallen, or is still falling.

Significant Weather Report

[Submit Data](#) [Reset](#)

Station Number : CO-LR-610


Station Name : Fort Collins 3.5 SW

*** Denotes Required Field**

***Observation Date**

***Observation Time**

Time duration that the report covers


 **Rain**

in.

New Rain and Melted Snow that has fallen during the report duration, in inches to the nearest hundredth

in.

Total Precipitation, rain and melted snow, since storm began, in inches to the nearest hundredth

 **Snow**

in.

Depth of New Snow that has fallen during the report duration, in inches to the nearest tenth

in.

Total depth of snow and ice on ground at the time of this observation to nearest half inch

Multi-Day Precipitation Form

If you are away on vacation or out of town this is the form for you.

Just put in the dates that you were gone and record what you found in the gauge.

There is no need to file an additional daily 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 : Multi-Day Precipitation Report Form

Enter My New Reports

- [Daily Precipitation](#)
- [Multi-Day Accumulation](#)
- [Hail](#)
- [Significant Weather](#)
- [Monthly Zeros](#)
- [Drought Impact Report](#)
- [Evapotranspiration](#)

FROST Reports

- [Frost](#)
- [Optics](#)
- [Snowflake](#)
- [Thunder](#)

List/Edit My Reports

- [Daily Precipitation](#)
- [Multi-Day Accumulation](#)
- [Hail](#)
- [Significant Weather](#)
- [Drought Impact Report](#)
- [Evapotranspiration](#)

FROST Reports

- [Optics](#)
- [Frost](#)
- [Snowflake](#)
- [Thunder](#)

Multiple Day Accumulation Form [Submit Data](#) [Reset](#)

Station Number : CO-LR-610

Station Name : Fort Collins 3.5 SW

First day of accumulation period. This day should be one day after your last report.

Date the rain gauge was emptied.

Time the rain gauge was emptied.

☒ Yes ☐ No Report was taken at registered location?

in. Multi Day Precipitation (in inches), or T for trace, or NA for unknown.

in. Total Depth of Snow on Ground (in inches)


in. Core Precipitation (in inches)


Notes

Was away for a week. Looks like we had some beneficial rain while we were on vacation!

[Submit Data](#) [Reset](#)

Drought Impact Report

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



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

My Data Entry : Drought Impact Report Form

Enter My New Reports

- Daily Precipitation
- Multi-Day Accumulation
- Hail
- Significant Weather
- Monthly Total
- Drought Impact Report**
- Evapotranspiration

FROST Reports

- Frost
- Optics
- Snowflake
- Thunder

List/Edit My Reports

- Daily Precipitation
- Multi-Day Accumulation
- Hail
- Significant Weather
- Drought Impact Report
- Evapotranspiration

FROST Reports

- Optics
- Frost
- Snowflake
- Thunder

Drought Impact Report Form

Submit DataReset

Station Number : CO-LR-610

Station Name : Fort Collins 3.5 SW

The significance of drought is tied directly to the impacts that it causes. Identifying and documenting impacts as they first appear and as they continue is essential for comprehensive drought monitoring. Please refer to the [CoCoRaHS training slide show](#) for reporting drought impacts.

** indicates required field*

Duration

Drought is a gradual, slow-moving phenomenon. The start date is an approximation. End dates are not required.

Impact Start Date

5/1/2013

*

End Date

8/25/2013

Condition Monitoring

☐ Condition Monitoring Report

A **Condition Monitoring Report** allows a regular observer to describe normal conditions that are likely to change during drought, to create a basis for comparison. Please check Condition Monitoring Report if that's what you are submitting. If you aren't sure, please leave it unchecked. [More information on categories of drought impacts and reports.](#)

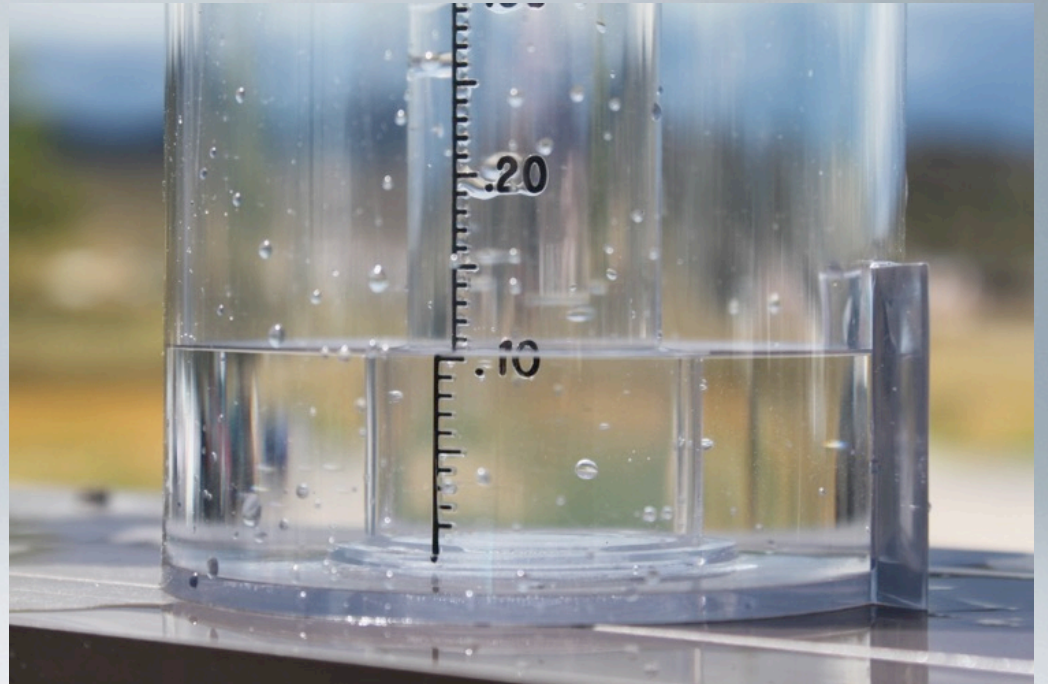
Description

Please provide a description of how dry, normal or wet conditions are affecting you, your livelihood, your activities, etc. *

The pond by our house has dried up over the summer. Many trees have lost their leaves due to the lack of rain. The corn in our field has not materialized this year and this will impact the feeding of our livestock.

Section Three

Frequently asked questions



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



Photo: Fred Naess

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 the results.*

What if it hails when I'm not 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?



Photo: Tanya Phillips

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

How long is my commitment to CoCoRaHS ?



Photo: Chris Johns

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

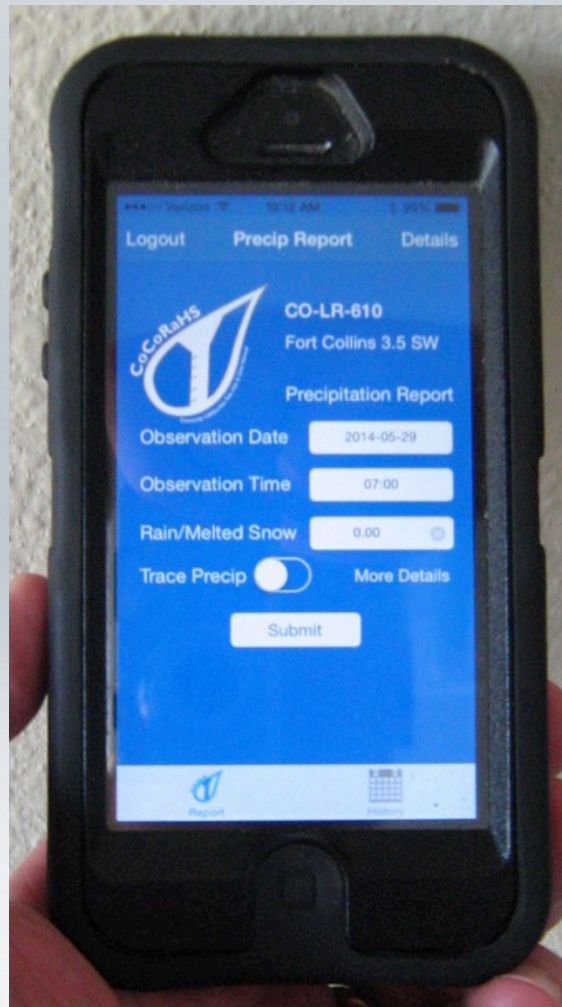
I have an automated weather station with a rain gauge. Can I use that instead of the CoCoRaHS gauge?



Photo: Mabel Whitley

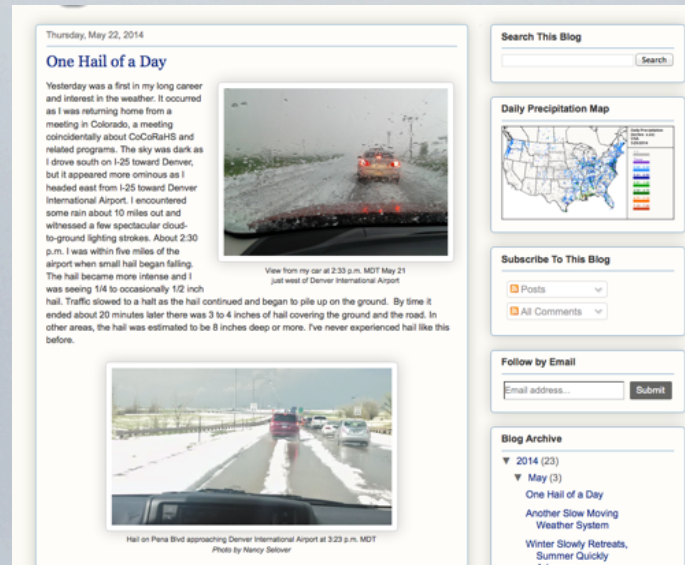
Answer: *In order to accurately compare CoCoRaHS reports, all observers must use the 4-inch CoCoRaHS gauge. Automated rain gauges tend to underestimate a heavy rainfall and do not accurately measure water content of snow. You are welcome to place the automated gauge beside the 4-inch gauge to compare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

Can I file my observations on my mobile device?



Answer: Yes, a CoCoRaHS app is available for both the iPhone and Android Phone

Where can I go for additional resources?



Answer: CoCoRaHS has a variety of resources to connect to from its homepage.

There are educational YouTube videos, the CoCoRaHS Blog, Messages of the Day, State Newsletters, Measuring Evapotranspiration and a climate guide for Master Gardeners just to name a few. You can also connect to CoCoRaHS via social media such as Facebook and Twitter.

You are now ready to measure precipitation
for the CoCoRaHS Network



Thanks for being one of our volunteer observers!