

Observer Information Packet

Temperature & Precipitation



24 Hour Observation

- Your weather observation is based on a 24 hour period
- Usually from 7am this morning to 7am tomorrow morning but can be a time of your choosing
- Report rainfall, snowfall, snow depth, and the liquid water content of the snowfall
 - Rainfall
 - Read your rain gauge at nearly the same time every morning
 - Report the total amount of rainfall that occurred over the last 24 hours to the nearest hundredth (0.01) of an inch.
 - Please do not round to the nearest tenth or to whole or half inches
 - Empty your gauge and return it to its holder in preparation for the next 24 hours



4 inch Rain Gauge



8 Inch Rain Gauge Stick

- Your most common observation will be 0.00. Please report 0.00 when no rain has occurred. It is just as important for us to know that it didn't rain in your area...especially if we forecast it nearby.

▶ Precipitation	<input type="text" value="0.00"/>	x.xx in
▶ Multi-day Accumulation	<input type="text" value="1"/>	days
▶ Precipitation type	<input type="text" value="Rain"/>	

- Report T for a trace of precipitation if there are just a few drops in your gauge or the amount is well less than 0.01 and you feel you shouldn't round up to 0.01
- If you will be missing a few days of observations due to vacation, etc. you can make what is called a multi-day observation. For example, if you're gone for the weekend and return on Sunday afternoon, on Monday morning at your normal observation time report the amount in your gauge and indicate that it is a 3 day report for Saturday, Sunday and Monday

▶ Precipitation	<input type="text" value="0.36"/>	x.xx in
	Reminder: set the accumulation if this value represents more than one observation period.	
▶ Multi-day Accumulation	<input type="text" value="3"/>	days
▶ Precipitation type	<input type="text" value="Rain"/>	

- When the amount of rainfall overflows your gauge, empty the inner tube, place the funnel on top of the inner tube and carefully pour the amount in the outer can into the inner can. Do this with either the large 8 inch can or the smaller 4 inch plastic gauge, depending on which one you have



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.

Preparing for snow and freezing precipitation

- Prior to the onset of frozen or freezing precipitation, remove the funnel and inner tube from your rain gauge and store them inside



- This will allow snow, sleet and freezing rain to collect in the outer tube
 - We melt down what has fallen in the gauge to get our liquid equivalent of the snow, sleet and/or ice and report it in the precipitation box
 - Note that if it is very windy, snow will not collect in your outer tube as in the picture above and will not be representative of the actual snowfall. In this case you will have to take a snow core or use the included chart to estimate your liquid equivalent

- Do not use your measuring stick to measure the amount of snow that has fallen in your outer gauge.
- Snowfall and Snow Depth
 - **Snowfall** is the maximum accumulation of snow that has fallen within your 24 hour period (new snow only)
 - **Snow depth** is simply the total amount of snow on the ground at your designated observation time (new and old snow combined as well as ice)
 - Find an open area away from trees and buildings to place your snow board and make sure you mark it so you can find it



- Measure the accumulated snow on your snow board as soon as it stops snowing if possible but do not wipe it clean
- At your normal observation time, measure the snow on the board again to see if any more snow has fallen over night

- Report the single largest measurement taken during your 24 hour period
- Wipe the snow board clean and place it on top of the old snow in preparation for your next 24 hour observation.



- In windy conditions the snow on your snowboard may not be representative of what actually fell. If this is the case make multiple measurements and average them together to get your snowfall amount
- Stay away from obvious drifts of snow or any locations that may be impacted by a heat source that may have caused melting
- You may use picnic tables, patio decks or other wood structures if you believe they have not been impacted by nearby structures which could have blocked snowfall
- Do not take your measurement on dark pavement or concrete structures unless you have no alternative because of conditions
- Measure to the nearest tenth of an inch (0.1) for **snowfall**
- Do not add multiple snowfall amounts to get one large snowfall amount

- Only report the largest amount of snow that has accumulated during your 24 hour period
- Round to the nearest whole inch for **snow depth**



Example = total 24 hour snowfall is 2.4 inches with a 7am snow depth of 1 inch

- Mixed precipitation (rain, sleet, snow)
 - Sleet IS reported as snowfall
 - Report "T" for snowfall if sleet fell but did not accumulate
 - Report sleet amount to the nearest 0.1 if it did accumulate
 - Melt what collected in your outer gauge and pour amount back into inner tube to get your precipitation amount
- Freezing rain should NOT be reported as snowfall
 - Remove funnel and inner tube prior to event
 - Melt what is frozen in your outer gauge

- Carefully pour that amount into your inner tube
 - Report this amount as precipitation
- Snowfall Water Equivalent
 - This is the liquid equivalent found in the snowfall and reported as precipitation
 - Once your snowfall amount is determined take a “core sample” from an area with that amount or use the included chart



Capturing the core



Slide snow-swatter (spatula works, too) under gauge



Carefully lift and get ready to flip the gauge



Bring the sample inside to melt



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



Add a known amount of hot water to your core sample

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

Snowfall Water Equivalent

Precipitation

▶ Precipitation	<input type="text"/>	x.xx in
▶ Multi-day Accumulation	1	days
▶ Precipitation type	-Select-	
▶ Snowfall	<input type="text"/>	x.x in
▶ Snow depth	<input type="text"/>	x in

Snowfall Amount

Depth of snow at 7am

MELT WATER EQUIVALENT (INCHES)	NEW SNOWFALL (INCHES)						
	Temperature (°F)						
	34 to 28	27 to 20	19 to 15	14 to 10	9 to 0	-1 to -20	-21 to -40
trace	trace	0.1	0.2	0.3	0.4	0.5	1.0
.01	0.1	0.2	0.2	0.3	0.4	0.5	1.0
.02	0.2	0.3	0.4	0.6	0.8	1.0	2.0
.03	0.3	0.5	0.6	0.9	1.2	1.5	3.0
.04	0.4	0.6	0.8	1.2	1.6	2.0	4.0
.05	0.5	0.8	1.0	1.5	2.0	2.5	5.0
.06	0.6	0.9	1.2	1.8	2.4	3.0	6.0
.07	0.7	1.1	1.4	2.1	2.8	3.5	7.0
.08	0.8	1.2	1.6	2.4	3.2	4.0	8.0
.09	0.9	1.4	1.8	2.7	3.6	4.5	9.0
.10	1.0	1.5	2.0	3.0	4.0	5.0	10.0
.11	1.1	1.7	2.2	3.3	4.4	5.5	11.0
.12	1.2	1.8	2.4	3.6	4.8	6.0	12.0
.13	1.3	2.0	2.6	3.9	5.2	6.5	13.0
.14	1.4	2.1	2.8	4.2	5.6	7.0	14.0
.15	1.5	2.3	3.0	4.5	6.0	7.5	15.0
.16	1.6	2.4	3.2	4.8	6.4	8.0	16.0
.17	1.7	2.6	3.4	5.1	6.8	8.5	17.0
.18	1.8	2.7	3.6	5.4	7.2	9.0	18.0
.19	1.9	2.9	3.8	5.7	7.6	9.5	19.0
.20	2.0	3.0	4.0	6.0	8.0	10.0	20.0
.21	2.1	3.1	4.2	6.3	8.4	10.5	21.0
.22	2.2	3.3	4.4	6.6	8.8	11.0	22.0
.23	2.3	3.4	4.6	6.9	9.2	11.5	23.0
.24	2.4	3.6	4.8	7.2	9.6	12.0	24.0
.25	2.5	3.8	5.0	7.5	10.0	12.5	25.0
.30	3.0	4.5	6.0	9.0	12.0	15.0	30.0
.35	3.5	5.3	7.0	10.5	14.0	17.5	35.0
.40	4.0	6.0	8.0	12.0	16.0	20.0	40.0
.45	4.5	6.8	9.0	13.5	18.0	22.5	45.0
.50	5.0	7.5	10.0	15.0	20.0	25.0	50.0
.60	6.0	9.0	12.0	18.0	24.0	30.0	60.0
.70	7.0	10.5	14.0	21.0	28.0	35.0	70.0
.80	8.0	12.0	16.0	24.0	32.0	40.0	80.0
.90	9.0	13.5	18.0	27.0	36.0	45.0	90.0
1.00	10.0	15.0	20.0	30.0	40.0	50.0	100.0
2.00	20.0	30.0	40.0	60.0	80.0	100.0	200.0
3.00	30.0	45.0	60.0	90.0	120.0	150.0	300.0

This table can only be used in determining amounts of newly fallen snow. It cannot be used for determining the water equivalency (933RRR) of "old" snow. Packing and melting/refreezing have substantial effects on the density of the snow pack and are not accounted for by this table.

Table 2-14. New Snowfall to Estimated Meltwater Conversion Table

Weather Coder

WxCoder Site Map ⓘ

Sign in

This is a protected area. Enter your user name and access code (both are case-sensitive) then click the Sign in button.

Username

Access Code

Sign In →

[Having trouble](#) ⓘ


Welcome to WxCoder


Welcome to WxCoder - the official web-based entry system for the National Weather Service (NWS) Cooperative Observer Program (COOP) Combined with IV-ROCS, the telephone entry system. WxCoder offers the means for daily entry of weather records for COOP volunteers. WxCoder is sponsored by the National Oceanic and Atmospheric Administration (NOAA) through the National Weather Service, the Regional Climate Center Program and the National Climatic Data Center.

COOP consists of thousands of dedicated volunteers that take observations on farms, in urban and suburban areas, National Parks, seashores, and mountaintops. The input data are truly representative of where people live, work and play. Since 1890, COOP has fulfilled key mission elements:

- To provide observational meteorological data, usually consisting of daily maximum and minimum temperatures, snowfall, and 24-hour precipitation totals, required to define the climate of the United States and to help measure long-term climate changes
- To provide observational meteorological data in near real-time to support forecast, warning and other public service programs of the NWS

Log in to report your daily observations.



 Created by WRCC » [Privacy Policy](#)

In cooperation with the National Weather Service, Regional Climate Centers, and National Climatic Data Center

WxCoder version: 20151206_001

www.wxcode.org

- Username:
- Access Code:

Click My Observations

The screenshot shows the WxCoder home page. At the top, there is a navigation bar with 'Home', 'Site Map', 'Contact NWS', 'Help', and 'Sign Out'. A left sidebar contains a menu with 'Home', 'My Observations', 'Forums', 'My Information', and 'Field Office Admin'. An arrow points from the text 'Click My Observations' to the 'My Observations' menu item. The main content area displays a welcome message for 'Wichita Wx', followed by 'WxCoder News' with a 'NEW Sep 1 2015' announcement about the updated User's Guide. Below this is a 'Messages for Users' section with two entries: 'Feb 14, 2013 from Wichita' and 'Nov 26, 2012 from Wichita', each with a short description of a system glitch or update.

Click Daily Entry Form

The screenshot shows the 'My Observations' page in WxCoder. The top navigation bar includes 'Home', 'My Observations', 'Site Map', 'Contact NWS', 'Help', and 'Sign Out'. The left sidebar is expanded to show 'Wichita Wx, KS' and a menu with 'Daily Entry Form', 'Monthly form', 'Super Form', 'Download data', and 'Browse previous observations'. An arrow points from the text 'Click Daily Entry Form' to the 'Daily Entry Form' menu item. The main content area is titled 'Observations' and contains instructions: 'The menu provides links to your observations. Enter an observation or browse previous observations. To correct an observation, browse for it and then select **Add Correction**. To download a Weather Service form (B-91, B-92, B-83a) for any month, select **Download data** from the menu. For more information, see the [WxCoder FAQ](#) and for help using the SuperForm, [download the User's Guide \[PDF\]](#).' Below this is an 'End of Month Close-out' section with the text 'No months to close out.' At the bottom of the page, there is a footer with the WxCoder logo, 'Created by WRCC • Privacy Policy', 'In cooperation with the National Weather Service, Regional Climate Centers, and National Climatic Data Center', 'WxCoder version: 20151208_001', and the 'Powered by ACIS Regional Climate Centers' logo.

Wichita Wx

Date and time of observation

Date 2015-12-14

Time 7 AM

00

Type of observation daily (24 hr values/totals)

Correction?

Air Temperature

▶ Max temperature 45 x °F

▶ Min temperature 29 x °F

▶ At observation 30 x °F

Precipitation

► Precipitation

x.xx in

Reminder: set the accumulation if this value represents more than one observation period.

► Multi-day Accumulation

days

► Precipitation type

► Snowfall

x.x in

► Snow depth

x in

-Select-

-Select-

Ice prism

Rain

Freezing rain

Drizzle

Freezing drizzle

Snow

Snow pellets

Snow grains

Ice pellets

Hail

Precipitation Time of Occurrence

Choose

Observed

Estimated

Date	AM												PM											
12/13/2015	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11
12/14/2015	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11

clear all

Weather

▶ Observation period weather

- Fog (check for any occurrence)
- Hail
- Ice pellets
- Damaging wind
- Glaze
- Thunderstorm

Remarks

Only the first 250 characters will be transmitted to NWS. [More info.](#)

Remarks are part of the weather observation.

If you need to send a non-weather related message, [contact your local NWS office.](#)

Submit →

You will need to **Confirm** on the next page.

Confirm observation for

Carefully review your observation. If everything looks good, click the **Confirm** button below. Otherwise, click **Make corrections** to go back and make changes. If not confirmed below, this observation will not be saved.

Observation time December 14, 2015 at 05:00AM

Observation type daily (24 hr values/totals)

Max temperature 45 degrees F

Min temperature 29 degrees F

At observation 30 degrees F

Precipitation 0.36 inch

Multi-day Accumulation No

Precipitation type Snow

Snowfall 3.6 inch

Snow depth 3 inch


Precipitation Time of Occurrence (previous day) Observed: 9 am - 1 pm, 7 pm - midnight

Precipitation Time of Occurrence Observed: 12 am - 1 am

Observation period weather Ice pellets, Thunderstorm

Remark

 Make corrections

Confirm 

Done! Your observation for Dec. 14, 2015 has been saved and will automatically be sent to NWS in the next 5 minutes.

 View it

 Enter previous day

Enter next day 