



*A Web-Based Entry System for
National Weather Service
Cooperative Observers*

User's Guide

Version 2.0.1.1
September 2014



WxCoder Users Guide Introduction:

WxCoder III (WC3), version 2.0, includes a new method using a data entry enhancement, titled the “**Superform.**” This allows observers to submit data quickly via a spreadsheet indicating what days have already been submitted and showing the current day without any data. The end result is no lost days of data, improving overall station data quality.

For those accustomed to the previous methods of either daily or monthly input, these features remain. WC3 decreases the time period between observations reaching National Weather Service (NWS), Regional Climate Center’s (RCCs), and the National Climate Data Center (NCDC). These offices all work to collect, quality control, and redistribute COOP data. Monthly forms automatically sum and average temperature, precipitation, and snowfall observations. WC3 contains “behind-the-scenes” Quality Control/Assurance (QC/QA) functions to assist the observer in an accurate observation. The program allows a supervising Weather Forecast Office (WFO) to customize the weather reporting criteria for a specific COOP station, and update user and station information. WC3 allows a WFO to enter an observer’s observations when they either lose internet connectivity or have personal computer hardware/software problems.

WC3’s QC/QA significantly reduces data errors resulting from manual entry of daily data, keypunch errors, and incorrect administrative information. Examples of some of these checks include:

- Temperature consistency checks (e.g., a minimum temperature cannot exceed a maximum temperature for the same observing period, etc.)
- Precipitation consistency checks (e.g., no negative precipitation values)
- Winter precipitation consistency checks (e.g., if snowfall exceeds three inches, snow depth must increase, etc.)

WC3’s design:

- Provides an efficient, easy-to-use data entry system for participating COOP observers
- Ensures timely availability of COOP data for all customers
- Improves data quality through automated near-real-time data QA/QC
- Achieves a paperless electronic data collection, transmission, and archiving system
- Allows system flexibility to meet demands of integrating data from future observing systems and parameters (including phenology—the study of natural events, e.g., date migrating birds return, when spring flowers bloom, etc.)

Obtaining a WC3 Account:

If you already have an account, see the “**Signing In:**” section below. If not, your servicing WFO creates an account for you. Your account enables WC3 to identify you at login, tailor the information it presents to you, and give access to other features.

To establish an account, provide your NWS contact with the “**Username**” you want to use to login to WC3 and an email address. The username you select should contain between 3 and 255 characters in length. You may have any combination of upper and lower case letters, numbers, the “**at**” (@) sign, and the period. Using your station name as the username makes a great starting point in the selection process.

The email address you provide allows WC3 to send a welcoming message and includes a randomly generated, and usually hard to remember “Access Code.” Your servicing NWS office can create an access code to something easy to remember. This access code, with your username, completes the login process.

Hardware/Software Requirements:

WC3 does not have special hardware requirements. WC3 uses an internet-ready computer connected to either cable, DSL, or a dial-up Internet connection. WC3 needs a functioning web browser like, Google Chrome, Microsoft Internet Explorer, Firefox, etc.

WC3 uses cookies and JavaScript to enable some of its features. Cookies and JavaScript are enabled within your browser for WC3 to function. If either cookies or JavaScript are disabled on your computer, WC3 sends a special message page. The page includes information about cookies or JavaScript along with instructions on how to enable either/both for WC3 operation.

Signing In:

Go to <http://wxcoder.org>. When the WC3 page opens (**Figure 1**), enter your *username* and *access code*. If you forget your access code or are accessing the system for the first time, click on “**Having trouble?**” in the sign-in box and provide either the username or e-mail address you gave your servicing NWS office. A new access code arrives via e-mail. Take care to protect your username and access code from non-WC3 users. Reset the access code if it becomes known to non-users. Both your username and access code are case-sensitive. For example, your username is **smith**. Entries such as **SMITH** or **Smith** will fail and prevent you from signing into your account.

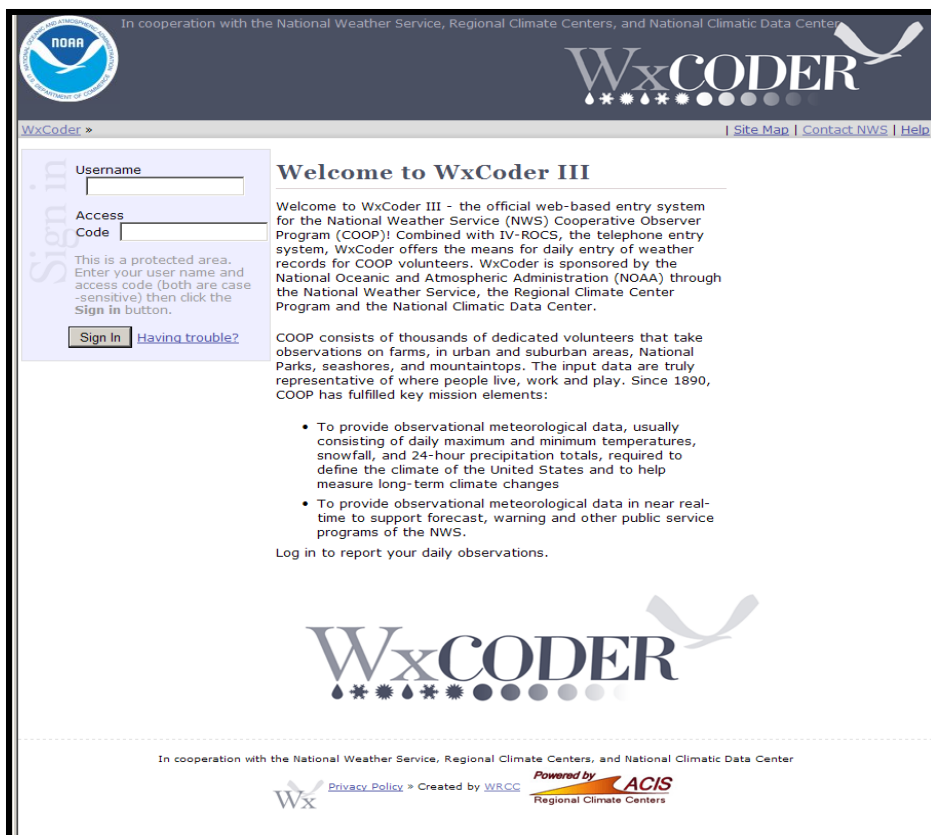


Figure 1: WxCoder Log-in Page

WC3 Home Page (managing your account):

When WC3 opens, it displays the home page and provides any “News” on updates/changes from the WC3 programmers. There are also a number of key navigation features (**Figure 2**):

- 1.) **Main Menu:** Provides access to observation and information pages. Menu item “**My Observations**” provides access to the **superform**.
- 2.) **Time Stamp:** Three dates and times are seen: current date/time; last sign-in; and last observation sent. These serve as a reminder of your frequency of use.
- 3.) **Bread Crumb:** This provides a quick snapshot of where you are within WC3.
- 4.) **Additional Help:** You can find available help throughout the active session pages, including a Site Map, Contact NWS, and Help. Question marks (?) on **Figure 4** provide help for individual entry boxes and pull-down menus. To contact your local WFO cooperative administrator, click on “Contact NWS.” WC3 provides you with an e-mail address and/or other information to contact your local NWS office.
- 5.) **Interface Acknowledgments:** Collaboration between NOAA and its Regional Climate Center, along with reference to the Applied Climate Information System (ACIS), are shown at the bottom of all WC3 web-pages.

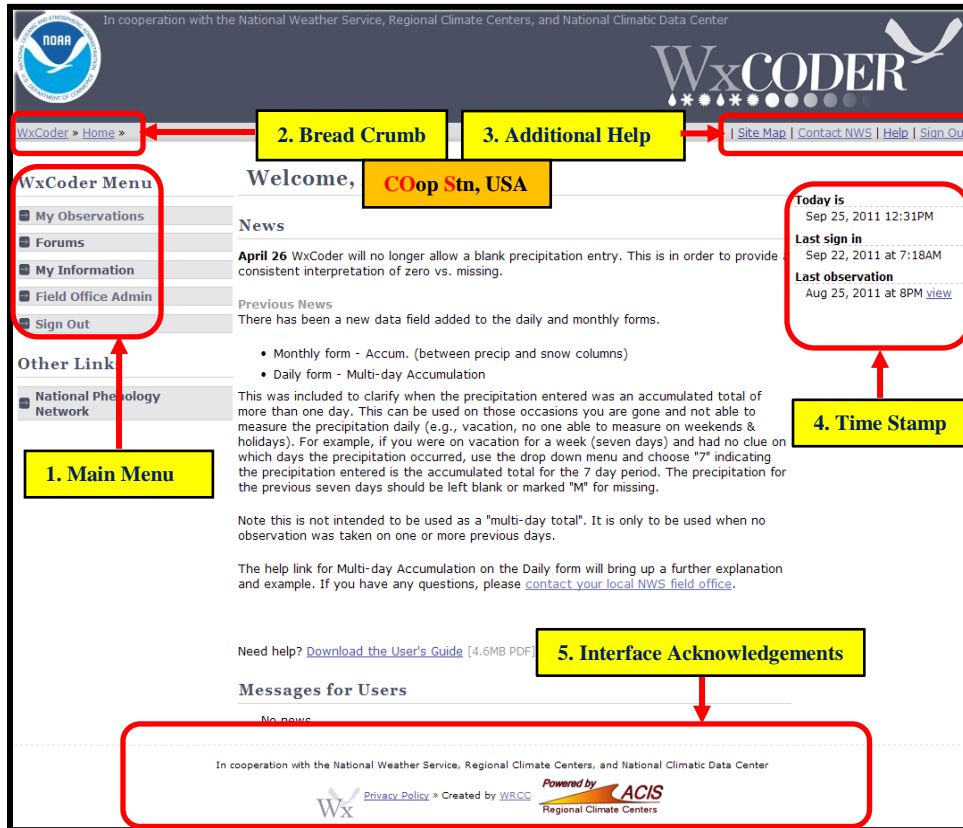


Figure 2: WxCoder Home Page

WC3 Observations Page:

From the WC3 “**Home**” page, selecting “**My Observations**” from the main menu sends you to the entry page for observations (**Figure 3**). This screen allows you to access or retrieve (download) observations. For those with multiple stations, a “**Change Site**” box allows access to the additional station/s.

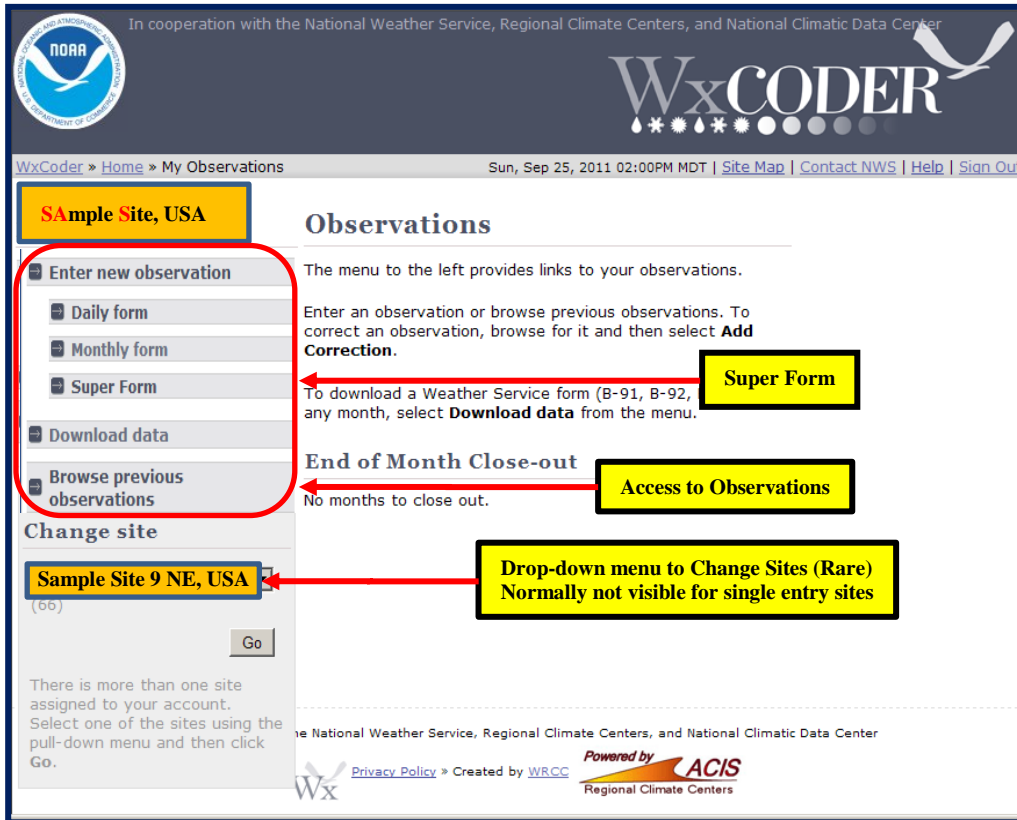


Figure 3: My Observations Page

You can access your NWS Form B-91 observations either for the current month or any previous month using the “**Download B-91**” menu item (**Figure 13**). You can also download and print a blank form (**Figure 13**; blank B-91sample at **Figure 14**) using Windows, Linux, or Macintosh operating systems. **Figure 15** illustrates the data entry sections, including remarks.

The screenshot shows the WxCODER 'Enter' page for a daily observation. The page is titled 'WxCODER' and includes a NOAA logo. The main heading is 'Observation for COop Stn, USA'. The date and time of observation are set to 'Sept 26 / 2011 at 8 AM'. The type of observation is 'daily (24 hr values/totals)'. The page is divided into several sections: 'Air Temperature' (Max, Min, At observation), 'Precipitation' (Precipitation, Multi-day Accumulation, Snowfall, Snow depth, Precipitation Time of Occurrence), 'Monthly Data' (Monthly precipitation), 'Weather' (Observation period, weather conditions like Fog, Hail, Ice pellets, Damaging wind, Glaze, Thunderstorm), and 'Remarks'. A 'Submit' button is at the bottom. Annotations include: 'Current Time' pointing to the date/time; 'Station Information' pointing to the site details; 'On-Screen Help' pointing to help links; 'Multi-day Accumulation' pointing to the accumulation dropdown; '5. Occurrence of Precipitation' pointing to the precipitation occurrence table; '6. Key Weather in 24-hours' pointing to the weather checkboxes; '7. Remarks' pointing to the remarks text area; and 'Submit Observation' pointing to the submit button. A green box titled 'Key Entries:' lists: 1. Temperature (Whole degrees Fahrenheit), 2. Precipitation (Hundredths of an inch), 3. Snowfall (Tenths of an inch), 4. Snow Depth (Whole inches).

Figure 4: Daily Observation Entry Page

Figure 4 shows the Daily Observation “Enter” page and currently the most common page for entering your observation.

Entering Your Data (Example below may vary due to your specific reporting elements):

The following key features can assist in entering your observation:

- 1.) **Station Information:** Provides key metadata (data about the station), including ID, official time of observation, location, elevation, and supervising local NWS office.
- 2.) **Date and Time of Observation:** Defaults to the current calendar day. Your individual observation time spans a 24-hour period. For example: If you report at 8am, then your data spans the 24-hour period from just after 8am the day before to 8 am of the current day. If entering a previous report, change the date using the drop-down menu.
- 3.) **Type of Observation:** Most observers provide information for the 24-hour period preceding their official time of observation. However, you can report additional/supplemental information using the pull-down menu in cooperation with your supervising NWS office.
- 4.) **On-Screen Help:** A mouse-click on a question mark (?), or “**help**” throughout WC3 provides additional information to assist/clarify the meaning of an entry or element.
- 5.) **Observation Entry Areas:** The seven observation areas in **Figure 7** correspond to entry areas on the NWS Form B-91, as shown in **Figure 15**.
 - **Temperature:** Separate entry boxes for maximum, minimum, and at-observation temperatures. All entries are in whole degrees Fahrenheit. Enter an “**M**” for missing data.
 - **Precipitation:** For the measurement period (the last 24-hours), enter the **liquid** total accumulation of rain and/or hail, ice pellets, glaze, and snow in inches and hundredths to include the decimal point. Record “**Trace**” observations with a capital “**T**.” If precipitation is unknown, enter an “**M**” for missing data. When entering a number of preceding days of precipitation, one may prefer either the “**Superform**” or the “**Monthly form**.”
 - a. Open the “**Monthly form**.” Unlock each date with no precipitation entry (click the padlock icon—the lock turns **green** when open). Opening the “**Superform**” does not require unlocking anything-it is ready for data input. Once the day(s) open, enter an “**M**” in (each) precipitation block(s). For the superform, click on the respective blocks and enter an “**M**.”
 - b. Click the drop-down menu under “**Accum. or Multi-day Accumulation**” column for the current day and enter total number of days with no report plus one (you need to include the current day). See **Figures 4, 7, and 10** for the multi-day input locations, for examples.
 - c. Now click the “**Save**” button. You now need to “**Confirm**” each of the day(s) you had open (Daily and Monthly input). For the Superform, click “**Save Changes**.”

NOTE: You can make these entries via the **Daily form**, but it takes much longer to complete than the **Monthly** or **Superform**.

- **Snowfall:** For the measurement period, enter the total of newly fallen snow in inches and tenths, including the decimal point. For trace observations, enter a capital “**T**.” **If none, enter zero (0.0).** Enter at least a trace “**T**” in the snowfall column when reporting hail to indicate frozen precipitation did occur, particularly in hail-prone months. For hail, enter size, if known, or comment the entry is all from hail in remarks.
- **Snow Depth:** At observation time, enter the average depth (accumulation) of all snow and other frozen precipitation on the ground in the vicinity of the station in whole inches. Record “**Trace**” observations with a capital “**T**” (for an average depth greater than zero but less than one-half inch – 0.5”). **If no snow depth, enter a zero (0).**

Precipitation, B-91/92: Indicate each hourly period when you notice/suspect precipitation fell over the course of your 24-hour reporting period. The number in each block indicates the start of the hour (e.g., 6 AM represents the period 6:00 – 6:59). The “**Superform**” does not have this section to save space in the data-base.

Monthly Form: select the appropriate “**Observed**” or “**Estimated**” radio button. Then click on the block for each hour corresponding to precipitation occurrence. Two calendar days are shown (**Figure 7**) to allow you to enter precipitation occurring after your observation time yesterday, to this morning’s observation. Paragraph 5.), above, highlights the observation period for the current mornings report.

- **Key Weather in Past 24-hours:** Click the appropriate box(s) under the “**Weather**” column when Fog, Hail, Ice pellets, Damaging wind, Glaze, and Thunderstorm occur within your reporting period.
- **Remarks:** Enter any additional notes regarding a phenomena not part of the B-91 form. Common examples include sky condition (cloud coverage, cloud type, optical phenomena), astronomical (e.g., eclipses), seismological (e.g., earthquakes), phenology (e.g., killing frost, status of leaves, blooms, pollens, first arrival of migratory birds, etc.), river conditions, details about weather entries (e.g., hail size), or other observations of the natural environment.

6.) **Submit:** When all observation entries are complete, click the “**Submit**” button. Your entries now undergo an evaluation for quality. WC3 displays any errors or entry omissions where corrections/additions are necessary before WC3 accepts the observation.

The most common error is temperature. Using the reporting period of (8am): Yesterday’s “**At observation**” temperature has a value lower than this morning’s low temperature. Replace your current morning’s entry with yesterday’s “**At observation**” temperature (See **Figure 11**, page 16).

Remember, you are reporting a 24-hour observation day, not a calendar day (exception: you report at midnight).

NOTE: Many observers often enter their current morning minimum temperature in “Remarks” to indicate occurrence of the actual observed value. For example, yesterday’s “At Observation” temp = 32 is lower than the morning observed temperature; In “Remarks,” enter the observed minimum temperature, say “AM low 40.” Then, enter yesterday’s “At Observation” temperature in the minimum temperature block. This ensures everyone understands you reported the lowest temperature of your 24-hour **OBSERVATION** day which occurred in the first minute. If you report in the afternoon/evening, the example above normally applies to your maximum temperature when it occurs in the first minute of your 24-hour reporting period (See new example at **Figure 11**, and the **Correcting a Temperature Error:** section beginning on page 42).

Observation Confirmation:

Once you “Submit” an observation from either the daily, or monthly observation entry page, a final display allows you to check the data before final confirmation. This confirmation step ensures against typographical errors and provides an opportunity to make any necessary corrections. Review all elements and make appropriate corrections using the “Make corrections” button) before submission (**Figure 5**). **Figures 6, 8, and 9** show Daily and Monthly examples of observations under review before confirmation. The monthly confirmation window may have multiple entries. Click the small “Confirm” box next to each entry before clicking “Confirm All Checked.”

The Superform avoids the above “Confirm” step as it performs the Quality Control/Assurance (QC/QA) in the background via “Save Changes.”

The screenshot shows the WxCODER 'Confirm observation' interface. At the top, it says 'In cooperation with the National Weather Service, Regional Climate Centers, and National Climatic Data Center'. The page title is 'Confirm observation for COop Stn, USA'. Below this, it asks for the 'Department, ID' with the example '(10-xxxx-10, COSII)'. A status bar on the left shows '1. Data Entered', '2. Needs Confirmation', and '3. Done'. The main content area contains a table of observation data:

Observation time	September 20, 2011 at 08:30AM
Max temperature	76 degrees F
Min temperature	44 degrees F
At observation	47 degrees F
Precipitation	0.00 inch
Multi-day Accumulation	No
Snowfall	0.0 inch
Snow depth	0 inch
Precipitation Time of Occurrence	
Monthly precipitation	
Observation period weather	

Below the table is a 'Remark' field and two buttons: 'Make corrections' and 'Confirm'. Annotations include a yellow box stating 'Accumulations for multiple periods are rare' pointing to the 'Multi-day Accumulation' field, and another yellow box pointing to the 'Confirm' button.

Figure 5: Confirm Daily Input Example

Once you confirm, WC3 returns to the “My Observations” page when using the daily input as shown in **Figure 4**. When using the “Monthly Form,” “the confirmation statement displays on the “Confirm page” as shown in **Figure 6**.

For the monthly format, one may have several days to enter to either bring to currency or to fill in a missed entry. As a suggestion, when a month ends, open the “Monthly Form” or the “Superform” to view your observations. Missing observation(s) are quite noticeable. Simply click on the lock/superform block, make your entry, “Save,” and “Confirm.” This quality control check ensures completion of a monthly set of daily data and emphasizes the importance of documenting all observations on a paper B-91/92/83A (booklets of these forms are available from your supervising WFO).



Figure 6: Confirmed Daily Observation

Figure 7 shows the “Monthly Observation Page.” This page allows you to view your data from a monthly viewpoint while entering/editing daily values.

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Precipitation: None, Observed, or Estimated

WxCODER

WxCoder > Home > My Observations > Monthly Mon, Sep 26, 2011 01:58PM MDT | Site Map | Contact NWS | Help | Sign Out

COop Stn, USA (10-xxxx-10, COSI1)

Download this B-91 as pdf | Open online B-91 for: Jan 2011 | Open

Online B-91 for June 2011

lock	Day	TEMPERATURE			24 HRS Rain	24 HRS Accum.		AT OBS	PRECIPITATION											WEATHER				RIVER STAGE										
		Max	Min	At obs		Snow	Depth	None	Observed	Estimated	1	2	3	4	5	6	7	8	9	10	11	12	F	IP	G	T	H	DW	Gage Reading	Remarks				
<input type="checkbox"/>	1	65	38	51	0.00	1																												
<input type="checkbox"/>	2	73	28	42	0.00	1																												
<input type="checkbox"/>	3	59	32	42	0.00	1																												
<input type="checkbox"/>	4	77	39	43	0.00	1																												
<input type="checkbox"/>	5	80	43	52	0.00	1																												
<input type="checkbox"/>	6	81	44	59	0.00	1																												
<input type="checkbox"/>	7	74	26	44	0.02	1																												
<input type="checkbox"/>	8	70	39	49	0.00	1																												
<input type="checkbox"/>	9	54	34	40	0.38	1																												
<input type="checkbox"/>	10	68	40	45	0.08	1																												
<input type="checkbox"/>	11	64	45	50	0.00	1																												
<input type="checkbox"/>	12	68	44	51	0.30	1																												
<input type="checkbox"/>	13	68	41	50	0.15	1																												
<input type="checkbox"/>	14	72	41	52	0.02	1																												
<input type="checkbox"/>	15	76	47	52	0.00	1																												
<input type="checkbox"/>	16	75	32	48	0.00	1																												
<input type="checkbox"/>	17	66	43	44	0.00	1																												
<input type="checkbox"/>	18	70	44	52	0.00	1																												
<input type="checkbox"/>	19	M	M	M	M	1																												
<input checked="" type="checkbox"/>	20	68	40	53	0.33	2																												
<input type="checkbox"/>	21	53	57	0.00	1																													
<input type="checkbox"/>	22	62	53	57	0.07	1																												
<input type="checkbox"/>	23	64	51	57	0.00	1																												
<input type="checkbox"/>	24	65	42	M	0.00	1																												
<input type="checkbox"/>	25	77	44	53	0.00	1																												
<input type="checkbox"/>	26	78	38	54	0.00	1																												
<input type="checkbox"/>	27	81	49	59	0.00	1																												
<input type="checkbox"/>	28	87	55	64	0.00	1																												
<input type="checkbox"/>	29	89	46	56	0.00	1																												
<input type="checkbox"/>	30	86	44	54	0.00	1																												
sum/avg		74.4	41.9	51.1	1.35	0.0				Sum: rain & snowfall. All others are averages.																								

Rows with a lock icon are for viewing purposes only and will not be saved. To save a row, ensure it is unlocked before clicking save.

Save your work. Then Confirm the Observation(s)

End of Month Closeout
 30 observations entered. Close after ensuring all data is complete: includes "M"

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Wx Privacy Policy - Created by WRCO Powered by ACIS Regional Climate Centers

Figure 7: Monthly B-91 Form with Sample Entries



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WxCODER

WxCoder » Home » My Observations » Confirm **Current Time** Tue, Sep 27, 2011 11:28AM MDT | Site Map | Contact NWS | Help | Sign Out

Status

1. Data Entered
2. Needs Confirmation
3. Done

Carefully review each observation. If everything looks good, click the **Confirm** button. Only observations that have been confirmed will be saved. For multiple observations, confirm all that are correct and return to the monthly form to fix any errors.

COop Stn, USA (10-xxxx-10, COSI1)

September 19, 2011 at 08:30AM

Observation number	8211182
Max temperature	71 degrees F
Min temperature	45 degrees F
At observation	52 degrees F
Precipitation	0.00 inch
Multi-day Accumulation	No
Snowfall	0.0 inch
Snow depth	0 inch
Precipitation Time of Occurrence	
Observation period weather	

Confirm

Click box before Confirm All Checked

Confirm All Checked

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Powered by ACIS Regional Climate Centers

Figure 8: Monthly Confirmation Example

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WxCODER

WxCoder » Home » My Observations Confirm Tue, Sep 27, 2011 12:36PM MDT | Site Map | Contact NWS | Help | Sign Out

Status

1. Data Entered
2. Needs Confirmation
3. Done

Carefully review each observation. If everything looks good, click the **Confirm** button. Only observations that have been confirmed will be saved. For multiple observations, confirm all that are correct and return to the monthly form to fix any errors.

COop Stn, USA (10-xxxx-10, COSI1)

Done. Saved [observation #8211447](#) Sep 23, 2011 at 8:30AM

Done. Saved [observation #8211448](#) Sep 24, 2011 at 8:30AM

No observations to confirm.

Confirmation of Observation - Monthly Input

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Powered by ACIS Regional Climate Centers

Figure 9: Confirmed Multiple Monthly Observations

The Superform:

Day	Max temperature	Min temperature	At observation	Precipitation	Multi-day Accumulation	Precipitation type	Snowfall	Snow depth	Present weather	Past weather	Observation period weather	Remarks
1	81	41	45	T	1	Rain	0.0	0	01 Clear sky (few or no cl...	more than 1/2 sky covered	Thunderstorm	Afternoon Thunderstorms with clouds bursts in the surrounding areas. Only slight trace of prec...
2	83	45	50	0.00	1	0.0	0	01 Clear sky (few or no cl...	more than 1/2 part of time		Afternoon and evening cloud build ups....evening T storms north of the reporting station. Actu...	
3	84	44	50	0.00	1	0.0	0	03 Mostly cloudy or overc...	more than 1/2 part of time		Afternoon Cumulus clouds. Little to no wind. This AM 100 % overcast.	
4	86	46	51	0.07	1	Rain	0.0	0	02 Partly cloudy	more than 1/2 part of time	Thunderstorm	Early evening Thunderstorm with short duration cloudburst here. South Westerly winds before...
5	76	46	48	0.10	1	Rain	0.0	0	53 Drizzle, moderate	Shower(s)	Fog	Afternoon and evening intermittent showers. Dense fog with moderate Drizzle this AM.
6	81	47	48	0.04	1	Rain	0.0	0	02 Partly cloudy	Shower(s)		Light afternoon and evening showers. Warm nights prevail.
7	75	43	47	0.02	1	0.0	0	10 Fog (visibility 1/2 mile o...	more than 1/2 part of time	Fog	Very light shower in the evening, otherwise partly cloudy	
8	77	45	M	M	1	0.0	0					
9	77	38	M	M	1	0.0	0					
10	80	38	M	M	1	0.0	0					
11	82	38	M	M	1	0.0	0					
12	87	45	M	M	1	0.0	0					
13	76	43	M	0.33	6	Rain	0.0	0	97 Thunderstorm with hea...	Rain	Thunderstorm	
14	68	47	50	0.11	1	Rain	0.0	0	97 Thunderstorm with hea...	Rain	Fog, Thunderstorm	Mostly Cloudy and Thunderstorms with rain heavy at times
15	75	39	44	0.00	1	0.0	0	02 Partly cloudy	less than 1/2 sky covered		Mostly clear and warmer. This AM distant thunderstorms to the North.	
16	75	34	36	0.00	1	0.0	0	02 Partly cloudy	more than 1/2 part of time		Mostly Clear with afternoon Cumulus clouds. Windy at times.	
17	76	32	36	0.00	1	0.0	0	01 Clear sky (few or no cl...	less than 1/2 sky covered		Clear Sky with some after noon winds. Clear Sky and cooler night.	
18	80	34	35	0.00	1	0.0	0	01 Clear sky (few or no cl...	less than 1/2 sky covered		Clear Sky and mostly calm winds.	
19	83	35	37	0.00	1	0.0	0	01 Clear sky (few or no cl...	less than 1/2 sky covered		Mostly Clear Sky.	
20	70	37	40	0.08	1	Rain	0.0	0	02 Partly cloudy	Rain	Thunderstorm	Intermittent light Rain with Thunderstorms. Actual night low was 40 degrees.
21	71	36	40	0.00	1	0.0	0	02 Partly cloudy	more than 1/2 part of time		Vary from Clear to partly cloud ,very little wind.	
22	71	34	38	0.00	1	0.0	0	02 Partly cloudy	more than 1/2 part of time		Mostly cloudy at times with little wind.	
23	47	36	41	0.64	1	Rain	T	0	03 Mostly cloudy or overc...	Thunderstorm(s)	Hail, Thunderstorm	By 0930 Intense Thunderstorms continuing through out the day with heavy rain at times and H...
24	58	32	35	0.06	1	Rain	0.0	0	45 Fog, visibility less than ...	more than 1/2 sky covered	Fog	First half day intermittent light rain clearing in the afternoon. Unseasonably cool day.
25	63	35	39	0.00	1	0.0	0	03 Mostly cloudy or overc...	more than 1/2 part of time		Partly cloudy most of the day westerly winds at 3-5 mph. Actual night low was 36 degrees.	
26	62	36	40	0.11	1	Rain	0.0	0	03 Mostly cloudy or overc...	Rain		Intermittent light rain showers day and night. Unseasonably wet weather. 100% overcast this...
27	72	29	34	0.00	1	0.0	0	10 Fog (visibility 1/2 mile o...	less than 1/2 sky covered		Clear sky, warmer day and cooler night.	
28	76	32	35	0.00	1	0.0	0	01 Clear sky (few or no cl...	less than 1/2 sky covered		Clear Sky and Warmer. Calm Winds.	
29	79	32	34	0.00	1	0.0	0	01 Clear sky (few or no cl...	less than 1/2 sky covered		Warm and Dry with afternoon Westerly winds 10-15 mph bringing in Smoke haze.	
	74.86	38.59	41.43	1.56		T						

Figure 10: WxCoder Superform – most COOP stations

Figure 10 is a partial example of a more common cooperative weather station entry.

The superform allows either the observer or supporting WFO, the opportunity to view an entire month of information from a single screen, enter individual days, blocks of days, or an entire month, with the current day empty and awaiting data. In the above example, the superform can display much more data than the observer B-91 (Figures 10 and 12). All quality control/assurance features remain active with the superform as it has for the daily and monthly entry formats. Each station’s superform remains tailored to what the observer has agreed to provide, i.e. high, low, at observation temperatures, precipitation, snowfall, etc.

When the superform opens, click on the first box to the right of the date (max. temp.). Simply tab across for all remaining entries unique to your station. The multi-day column is normally blank but will default to a “1” when any precipitation is entered. Use the drop-down menu for multiple-day accumulations (Figure 11). For remarks, simply double-mouse-click on the space and a small window opens to allow for lengthy remarks, if needed (Figure 11). Once remarks are entered, click the Remarks “Save” button.

Use of the superform does not deny use of the more normal station entry using either the daily or monthly menu entry. Using the more familiar entry mode automatically transfers to the superform. The benefit of the superform becomes evident when you open the form after a few days of making no entries, after returning from vacation, etc. You immediately notice the last entry made and or where a day may have been missed/not transmitted.

Unique features:

1. The form opens in a separate window/browser tab to display all data previously entered for the month, with the current day ready to accept data—A mouse-click opens the box for maximum temperature. Use the Tab key either to move right for further same-day entries, or use the arrow keys for multi-day entries of the same type, i.e., precipitation. Pre-saved entries display a **red triangle** (Figure 11) in the upper left corner of a box.
2. Multi-Day Accumulation column:
3. The hourly precipitation occurrence (Section “5” in Figure 15) was omitted to improve data storage capacity.
4. Observation period weather is a drop-down menu where you can enter key weather events within your **OBSERVATION** day. **If you reported a thunderstorm, did you have hail? If yes, include this element as they will both display. Use Remarks to indicate hail size, if known.**
5. Remarks entries use a pop-up menu. **Double-click** on the remarks box of the spreadsheet.
6. If reportable information is missing, temperature, precipitation, etc., enter an “M.”
7. If no snow fall or snow depth, make a daily zero “0” entry. **Enter at least a trace “T” in the snowfall column when reporting hail to indicate frozen precipitation did occur, particularly in hail-prone months. Comment in Remarks if the entry is exclusively from hail.**

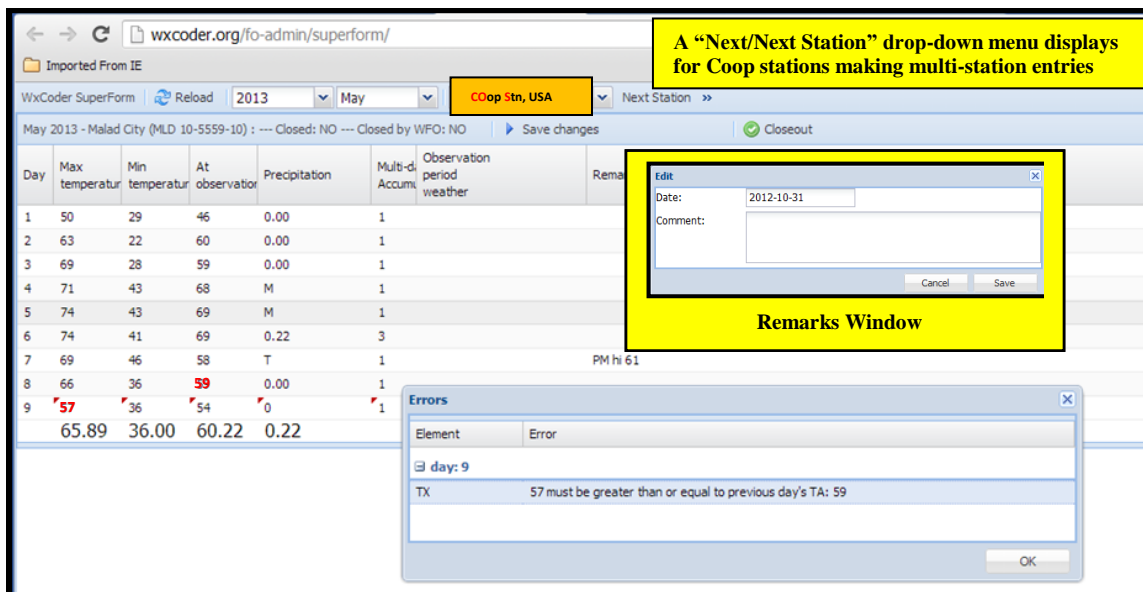


Figure 11: Error flag for Temperature and Remarks Window

Correcting a Temperature Error:

Note Figure 11 above. The high temperature at the start of the 24-hour reporting period was the “At Observation” temperature reported on the 8th at 59F and the high at reporting time on the 9th was 57F. This generates the “Errors” pop-up window.

To fix:

1. Enter **59F** in the “**Max Temperature**” block on the 9th
2. Enter in remarks the current 24-hour high temperature you have read from the NIMBUS recorder. An entry can be “**PM hi 57**” or “**Today’s high 57**” or something similar. Click “**OK**” on the “**Errors**” window, and then “**Save changes.**”

Day	Max temperature	Min temperature	At observation	Precipitation	Multi-d Accum	Snowfall	Snow depth	Evaporation	Max water temperature	Min water temperature	Anemometer dal reading	24 hour movement	Monthly precipitatio	Remarks
1	73	38	42	0.00	1	0.0	0	0.16	72	41	8289	47	0.00	
2	73	39	39	0.00	1	0.0	0	0.20	72	43	8339	50	0.00	
3	72	37	50	0.00	1	0.0	0	0.22	70	42	8408	69	0.00	
4	61	29	34	0.00	1	0.0	0	0.22	65	33	8500	92	0.00	
5	58	31	31	0.00	1	0.0	0	0.14	60	32	8575	75	0.00	
6	55	23	23	0.00	1	0.0	0	0.15	60	32	8639	64	0.00	
7	51	21	22	0.00	1	0.0	0	0.10	59	32	8688	49	0.00	
8	56	20	25	0.00	1	0.0	0	0.11	59	33	8735	47	0.00	
9	63	24	26	0.00	1	0.0	0	0.15	64	35	8792	57	0.00	
10	64	25	29	0.00	1	0.0	0	0.12	65	41	8839	47	0.00	
11	67	28	39	0.00	1	0.0	0	0.13	68	47	8889	50	0.00	
12	70	38	42	0.00	1	0.0	0	0.13	67	46	8928	61	0.00	
13	61	40	42	0.03	1	0.0	0	0.04	62	45	8982	54	0.03	
14	52	32	34	0.00	1	0.0	0	0.05	59	45	9027	45	0.03	
15	60	32	36	0.00	1	0.0	0	0.09	65	47	9072	45	0.03	
16	62	34	40	0.00	1	0.0	0				9122	50	0.03	Evap pan drained--end of season
17	56	31	32	0.16	1	0.0	0				9235	113	0.19	
18	48	24	26	0.00	1	0.0	0				9299	64	0.19	
19	55	23	26	0.00	1	0.0	0	0.00			9346	47	0.19	
20	61	26	44	0.00	1	0.0	0				9390	44	0.19	
21	64	37	44	0.00	1	0.0	0				9461	71	0.19	
22	56	38	40	0.06	1	0.0	0				9540	79	0.25	
23	56	30	30	1.02	1	3.0	3				9656	116	1.27	
24	39	26	27	0.14	1	1.0	2				9725	69	1.41	
25	37	24	25	0.00	1	0.0	1				9761	36	1.41	
26	37	18	20	T	1	T	1				9824	63	1.41	
27	37	18	33	0.00	1	0.0	T				9860	36	1.41	
28	44	30	41	0.00	1	0.0	0				9905	45	1.41	
29	54	36	36	0.00	1	0.0	0				9956	51	1.41	
30	60	32	33	0.00	1	0.0	0				5	49	1.41	
31	56	30	35	0.00	1	0.0	0				52	47	1.41	
56.70.	29.48.	33.74.	1.410000000.		4									

Figure 12: WC3 Superform – Evaporation Station

Figure 12 is an example of an agricultural station reporting evaporation, water temperature, and wind-flow in whole miles (**B-92 Example:** The anemometer mile reading comes directly from the unit and the 24-hour movement is the difference of current-from-past-day reading). These types of stations often include soil temperature.

Remarks are added via double-clicking on the “**Remarks**” column.

Retrieving Data:

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

WxCODER

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Download a Weather Service Form

Select the form, month, year, and output format below and click **Submit** to download a form.

PDF requires a pdf reader, which most computers have. If not, [download Adobe Reader](#).

PNG, JPEG, GIF are popular image formats that web browsers and other graphics programs use.

Completed Form: Select Form type and Month → NWS Form Date 2011 Format

Download a blank form → Download PDF: [blank B-91](#) | [blank B-92](#) | [blank B-83a](#)

Download spreadsheet data

Select a month and year and click **Submit** to download a comma-separated (.csv) file (which can be imported into Excel, etc.)

Date 2011

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

Powered by ACIS Regional Climate Centers

Figure 13: Download Data Access

STATION (Climatological)		(River station, if different)		MONTH	WE FORM B-91 (03-09)		U.S. DEPARTMENT OF COMMERCE NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION NATIONAL WEATHER SERVICE												
STATE		COUNTY		RIVER		RECORD OF RIVER AND CLIMATOLOGICAL OBSERVATIONS													
TIME (local) OF OBSERVATION		TEMPERATURE	PRECIPITATION	STANDARD TIME IN USE															
TYPE OF RIVER GAGE		ELEVATION OF RIVER GAGE ZERO	FLOOD STAGE	NORMAL POOL STAGE															
TEMPERATURE		24 HR. AVERAGE		AT GAGE		PRECIPITATION													
24 HRS ENDING AT OBSERVATION		Draw a straight line (—) through hours precipitation was observed, and a wavy line (~~~~) through hours precipitation probably occurred unobserved.		WEATHER (Observation Day)		RIVER STAGE													
MAX	MIN	AT OBSN	AM	NOON	P.M.	Fog	Ice	Glaze	Thunder	Hail	Damages	Wind	Direction	Force	Condition	Gage reading at	Tendency	REMARKS (SPECIAL OBSERVATIONS, ETC.)	
1																			
2																			
3																			
4																			
5																			
6																			
7																			
8																			
9																			
10																			
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25																			
26																			
27																			
28																			
29																			
30																			
31																			
SUM		CHECK BAR (for wire weight) NORMAL CHECK BAR		READING		DATE		OBSERVER		SUPERVISING OFFICE		STATION INDEX NO.							

Figure 14: Sample Blank B-91 Form

STATION (Climatological)		(River Station, if different)		MONTH		WS FORM 5-81 (03-09)			U.S. DEPARTMENT OF COMMERCE NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION NATIONAL WEATHER SERVICE																			
STATE		COUNTY		RIVER																								
TIME (Local) OF OBSERVATION		TEMPERATURE		PRECIPITATION		STANDARD TIME IN USE																						
TYPE OF RIVER GAGE		ELEVATION OF RIVER GAGE ZERO		FLOOD STAGE		NORMAL POOL STAGE																						
DATE	TEMPERATURE		34 HR. SNOWFALL	34 HR. SNOW DEPTH	PRECIPITATION															WEATHER (Observation Day)					RIVER STAGE			REMARKS (SPECIAL OBSERVATIONS, ETC.)
	24 HRS ENDING AT OBSERVATION				See a straight line (—) through hour precipitation was observed, and a wavy (~~~~) through hours precipitation probably occurred unobserved.															Mark "X" for all times occurring each day.					Gage Reading at			
	MAX	MIN			A.M.	NOON	P.M.	Fig	Ice pellets	Sleet	Thunder	Hail	Damaging with	Reference	Condition	Gage Reading at	Tendency											
AT OBSN		1 2 3 4 5 6 7 8 9 10 11 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					AM						
SUM		CHECK BAR (for wire weight) NORMAL CHECK BAR															OBSERVER					SUPERVISING OFFICE			STATION INDEX NO.			

Figure 15: Entries: Temp.; Precip.; Snowfall; Snow Depth; Hours; Wea.; Rmks

Signing Out:

To sign out of an active session of WC3, click on “Sign Out” in the upper right-hand corner of the Confirmation page (Figure 5 or 9). WC3 returns you to the home page (Figure 16) with a message, in red, indicating success in signing out of WC3.

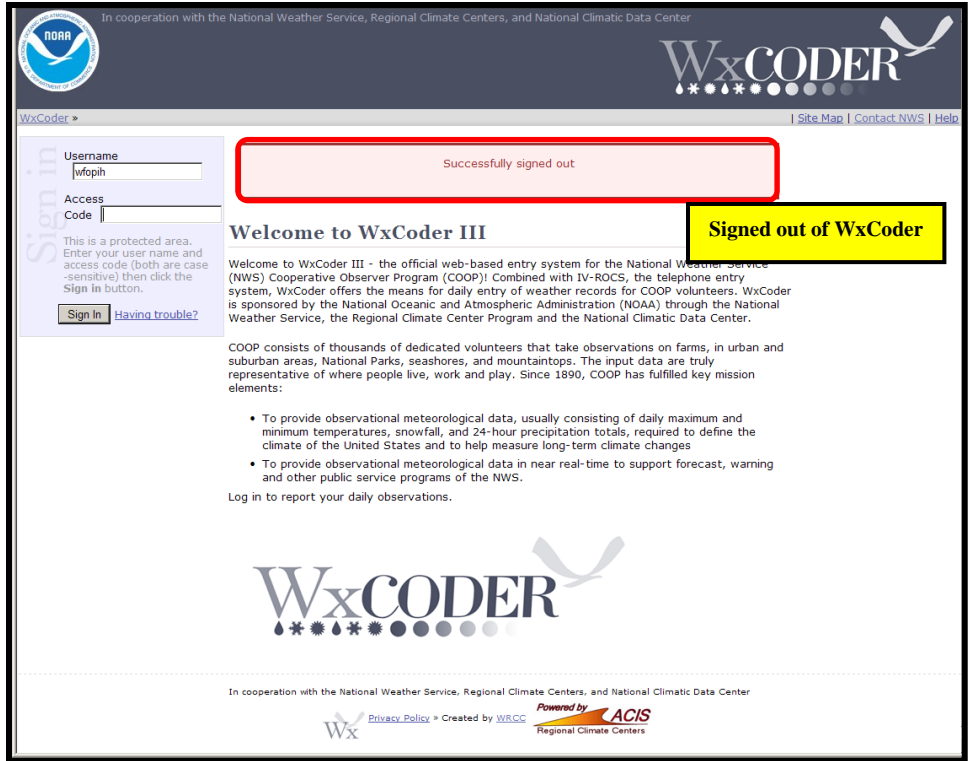


Figure 16: Signed Out of WxCoder