



The Co-Op Contributor

Serving the Co-Op Observer Network of the National Weather Service - Fort Worth Office

Summer 2007 Issue

- ▶ Page 3
B-91 Tips

- ▶ Page 5
Timeliness of
Reports

- ▶ Page 6
Hail Size Guide

- ▶ Page 7
Observers
Needed!

- ▶ Page 7-8
Try This
Recipe!

Welcome!

I'd like to take this opportunity to welcome you to our first issue of the COOP Contributor.

We hope that you find this newsletter informative and useful. It is hoped that we can expand future issues to provide an open dialog for observers to share thoughts and experiences with other observers.

Training and quality control are primary concerns of mine. I hope to utilize this forum as a means by which we can provide informative articles covering all aspects of the program and address issues that affect us all. The overall goal being to improve the data we provide to the National Climatic Data Center.

Please feel free to provide us your comments and suggestions on how we may improve and expand on the future issues of "your" newsletter. I hope you enjoy this inaugural issue.

Sincerely

Gerald Shultz
Cooperative Program Manager

Why Do We Have Cooperative Observers?

The Cooperative Observers Program (COOP) began in the 1890s with a group of less than 1000 volunteers taking daily weather observations. It wasn't until the 1950s that the Weather Bureau (now the National Weather Service) pushed to expand that network nationwide. Today, the COOP Program consists of tens of thousands of volunteer observers in the United States and its territories. It is the daily weather reports from these thousands of volunteers that have formed the backbone for the national climate database that the National Climatic Data Center (NCDC) maintains.

Concluded On Page 2



The Co-Op Contributor

2

The National Weather Service has hundreds of automated weather stations located at airports around the county that often serve as the climate site for official record keeping. However, these airports are spaced few and far between, in most cases, so the COOP Program has been used to fill in the areas between the airports. Without COOP observers, huge areal gaps would exist within the climate network and it would be near impossible to keep track of what really happens at different locations around the United States. This is where the COOP Program and its observers come in.

Right: *The Coop Station located at the National Weather Service Office in Fort Worth.*

Every month, each National Weather Service office sends in its COOP forms (B-91s, B-83s, Fischer-Porter tapes, etc) to NCDC. NCDC then processes, quality controls, and archives the records. These records are entered into the national climate database for future use. Here are just a few of the ways that the COOP Program records are used:



- ▶ Historical Records and Weather Patterns
- ▶ Drought Monitoring
- ▶ Extreme Weather Events (severe weather reports, high and low temperatures, warmest and coldest months on record, record rainfall, etc.)
- ▶ Legal and Insurance Issues
- ▶ Climate Studies and Climate Change
- ▶ Daily weather forecasting for local areas

Regardless of how they are used, the COOP Program is a vital source of climate information for the Meteorology and Climate world. It has been reported that COOP data is the most requested information from the NCDC archives. Your daily weather records are important to thousands of people in so many ways, so keep up the great recording and reporting!



Tips and Reminders When Filling Out Your B-91

Here are some tips and reminders about how to properly fill out your paper B-91 form before you send it in at the end of the month. Use the images below for reference to the box numbers.

STATION (Climatological) 1		(River Station, if different)		MONTH 2	YEAR 3	WS FORM B-91 (12-93)		U.S. DEPARTMENT OF COMMERCE NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION NATIONAL WEATHER SERVICE	
STATE 4		COUNTY 5		RIVER		RECORD OF RIVER AND CLIMATOLOGICAL OBSERVATIONS			
TIME (local) OF OBSERVATION 6		TEMPERATURE 6		PRECIPITATION 7		STANDARD TIME IN USE 8			
TYPE OR RIVER GAGE		ELEVATION OF ZERO		FLOOD STAGE		NORMAL POOL STAGE			
TEMPERATURE		PRECIPITATION		WEATHER (Calendar Day)		RIVER STAGE		REMARKS (SPECIAL OBSERVATIONS, ETC.)	
24 HRS ENDING AT OBSERVATION		24 HR AMOUNTS		AT OB		Draw a straight line (—) through hours precipitation was observed and a wavy line (~~~~) through hours precipitation probably occurred unobserved		Mark X for all types occurring each day	
MAX MIN		RAIN, melting snow, etc. (in and hundredths)		Snow ice pellets (in and hundredths)		Snow ice pellets (in and hundredths)		Fog	
OBSN		T T		T		T T		Ice Pellets	
37 32 34		0.38 0.2		0				Glaze	
34 28 28		T T		T				Thunder	
								Hail	
								Damaging Winds	
								Time of occurrence if different from above	
								Condition	
								Gage reading at AM	
								Tide delay	
51.7 33.2 SUM		0.38 0.2		CHECK BAR (for wire weight) NORMAL CHECK BAR		Fog		Ice Pellets	
CONDITION OF RIVER AT GAGE		READING		DATE		Glaze		Thunder	
A. Obstructed by rough ice						Hail		Damaging Winds	
B. Frozen, but open at gage						Ice Pellets			
C. Upper surface smooth ice						Glaze			
D. Ice gorge above gage						Thunder			
E. Ice gorge below gage						Hail			
F. Shore ice						Ice Pellets			
G. Floating ice						Glaze			
H. Pool stage						Thunder			
						Hail			
						Ice Pellets			
						Glaze			
						Thunder			
						Hail			
						Ice Pellets			
						Glaze			
						Thunder			
						Hail			
						Ice Pellets			
						Glaze			
						Thunder			
						Hail			
						Ice Pellets			
						Glaze			
						Thunder			
						Hail			
						Ice Pellets			
						Glaze			
						Thunder			
						Hail			
						Ice Pellets			
						Glaze			
						Thunder			
						Hail			
						Ice Pellets			
						Glaze			
						Thunder			
						Hail			
						Ice Pellets			
						Glaze			
						Thunder			
						Hail			
						Ice Pellets			
						Glaze			
						Thunder			
						Hail			
						Ice Pellets			
						Glaze			
						Thunder			
						Hail			
						Ice Pellets			
						Glaze			
						Thunder			
						Hail			
						Ice Pellets			
						Glaze			
						Thunder			
						Hail			
						Ice Pellets			
						Glaze			
						Thunder			
						Hail			
						Ice Pellets			
						Glaze			
						Thunder			
						Hail			
						Ice Pellets			
						Glaze			
						Thunder			
						Hail			
						Ice Pellets			
						Glaze			
						Thunder			
						Hail			
						Ice Pellets			
						Glaze			
						Thunder			
						Hail			
						Ice Pellets			
						Glaze			
						Thunder			
						Hail			
						Ice Pellets			
						Glaze			
						Thunder			
						Hail			
						Ice Pellets			
						Glaze			
						Thunder			
						Hail			
						Ice Pellets			
						Glaze			
						Thunder			
						Hail			
						Ice Pellets			
						Glaze			
						Thunder			
						Hail			
						Ice Pellets			
						Glaze			
						Thunder			
						Hail			
						Ice Pellets			
						Glaze			
						Thunder			
						Hail			
						Ice Pellets			
						Glaze			
						Thunder			
						Hail			
						Ice Pellets			
						Glaze			
						Thunder			
						Hail			
						Ice Pellets			
						Glaze			
						Thunder			
						Hail			
						Ice Pellets			
						Glaze			
						Thunder			
						Hail			
						Ice Pellets			
						Glaze			
						Thunder			
						Hail			
						Ice Pellets			
						Glaze			
						Thunder			
						Hail			
						Ice Pellets			
						Glaze			
						Thunder			
						Hail			
						Ice Pellets			
						Glaze			
						Thunder			
						Hail			
						Ice Pellets			
						Glaze			
						Thunder			
						Hail			
						Ice Pellets			
						Glaze			
						Thunder			
						Hail			
						Ice Pellets			
						Glaze			
						Thunder			
						Hail			
						Ice Pellets			
						Glaze			
						Thunder			
						Hail			
						Ice Pellets			
						Glaze			
						Thunder			
						Hail			
						Ice Pellets			
						Glaze			
						Thunder			
						Hail			
						Ice Pellets			
						Glaze			
						Thunder			
						Hail			
						Ice Pellets			
						Glaze			
						Thunder			
						Hail			
						Ice Pellets			
						Glaze			
						Thunder			
						Hail			
						Ice Pellets			
						Glaze			
						Thunder			
						Hail			
						Ice Pellets			
						Glaze			
						Thunder			
						Hail			
						Ice Pellets			
						Glaze			
						Thunder			
						Hail			
						Ice Pellets			
						Glaze			
						Thunder			
						Hail			
						Ice Pellets			
						Glaze			
						Thunder			
						Hail			
						Ice Pellets			
						Glaze			
						Thunder			
						Hail			
						Ice Pellets			
						Glaze			
						Thunder			
						Hail			
						Ice Pellets			
						Glaze			
						Thunder			
						Hail			
						Ice Pellets			
						Glaze			
						Thunder			
						Hail			
						Ice Pellets			
						Glaze			
						Thunder			
						Hail			
						Ice Pellets			



The Co-Op Contributor



Filling Out the Bottom (3 Boxes to Fill In)

- ▶ Box 9: Please sign your name in this box.
- ▶ Boxes 10 and 11: These boxes should already be filled out for you (via a stamp or a sticker). If they are not, Box 10 is our office here in Fort Worth. You can fill in "WFO FWD" which is short hand for "Weather Forecast Office Fort Worth". Box 11 is your 7-digit ID that has two dashes in it. The numbers all begin with "41-". The prefix '41-' refers to Texas.

51.7	33.2	SUM	0.38	0.2	CHECK BAR (for wire weight) NORMAL CHECK BAR										
CONDITION OF RIVER AT GAGE					READING	DATE	Fog	Ice Pel	Glaze	Thund	Hail	Drum Winds	OBSERVER		
A. Obtruded by rough ice	E. Ice gorge below gage													9	
B. Frozen, but open at gage	F. Shore ice														
C. Upper surface smooth ice	G. Floating ice														
D. Ice gorge above gage	H. Pool stage														
							SUPERVISING OFFICE					STATION INDEX NO.			
							WFO Fort Worth					10 11			

Additional Information

- ▶ Please remember to fill in a value for every day of the month! If there was no precipitation on a certain day, please record "0.00" precipitation.
- ▶ Please go back and fill in any missing days before you send in your report at the end of the month. If you do not have data for a certain day(s), please fill in a "M" to indicate missing data.
- ▶ If you took your observation at a time other than your official time, indicate this by filling in the "Time of observation if different from above" column with the time you took your reading(s) at. For example, if your official reporting time is 8 am and you took your reading on the 15th at 9 am, write "9:00" in the "Time of observation if different from above" column on the row for the 15th of the month.
- ▶ You can enhance your weather report by filling in the "Weather" column(s) when the listed weather elements occur. Just place an "X" in the "Weather" column for the type of weather. You can also make comments in the "Remarks" section about the weather (i.e. hail size, thunderstorm wind damage).
- ▶ You can also enhance your weather report by filling in the time of precipitation columns. A straight line indicates that you know for sure when the rain (or snow) fell. A wavy line indicates your best guess of when the precipitation fell, meaning you may not know for sure but you have some sort of idea of when it rained (or snowed).



The Importance of Sending Your Reports on Time

One of the primary concerns with submission of data each month is "timeliness". The National Climatic Data Center (NCDC) receives, processes, and archives thousands of forms each month. After compiling the necessary data, NCDC then prepares and publishes this data in various formats for Governmental, Agricultural, Industrial, Public and Private usage. *It cannot be overemphasized; submission of data each month in a timely fashion is paramount.* Postage paid envelopes are provided to each observer to accomplish this feat. Whether it's a B-91 form or a raingauge tape...sending in the data on or about the 1st of the month is of critical importance. Submission of data as early as possible will ensure NCDC a quality product for publication.

Reporting Severe Weather

There are several things that Coop observers can do to help out the National Weather Service besides just taking daily temperature and precipitation readings. Coop observers can also be very helpful in reporting and recording severe weather when it strikes in their area. As we continue with severe weather season in North Texas, we want to remind you of the many ways that you can report severe weather to the National Weather Service office in Fort Worth. These are listed on the following page...



Left: Hailstones that fell at the National Weather Service Office on April 13, 2007. Some stones up to the size of baseballs (2.75 inches) were also collected.



Reporting Severe Weather (continued)

▶ **Severe Weather Reporting Line -- 1-800-792-2257**

When calling this line, report where you are located, what severe weather event occurred (hail, tornado, flash flooding, etc), the time of the event, and any damage or other important information you can provide us (i.e. the size of the hail, the size of tree limbs that were knocked down, etc.).

▶ **Our Online Reporting Form:** You can now report severe weather using an online form that is located on our webpage (www.srh.noaa.gov/fwd). Just click on the red box on our front page (titled 'Submit Storm Reports'), and the link will take you to the online form. Fill in as much information as you can. When you submit this form, the information comes immediately into our office. This online form can be sent during or after an event. Refer to our webpage for more information about this form.

▶ **B-91 Forms:** You can make comments about severe weather on your monthly B-91 forms. The "Weather" column(s) allows you to mark when hail or damaging winds occurred. Use the "Remarks" column to write more detailed information such as the time of the hail or damaging winds, the size of the hail or any damage that occurred.

The reports you send or call in help us to determine the severity of storms, record damage done by storms, verify our warnings and update our warnings in real-time providing you and the rest of North Texas with the most up-to-date information. We appreciate the time and effort you take to submit storm reports to our office and your information helps us out a great deal when we are in the office working to save lives and property.

Hail Size Guide

- ▶ **0.25": Pea Size** ▶ **1.00": Quarter Size** ▶ **2.50": Tennis Ball Size**
- ▶ **0.50": Marble Size** ▶ **1.50": Half Dollar Size** ▶ **2.75": Baseball Size**
- ▶ **0.75": Penny Size** ▶ **1.75": Golfball Size** ▶ **4.00": Grapefruit Size**
- ▶ **0.88": Nickel Size** ▶ **2.00": Hen Egg Size** ▶ **4.50": Softball Size**



Observers Needed!

We are looking for COOP observers in the following locations. Do you know someone in one of these areas who might be interested in doing what you do? The person needs to live in or within 5 miles of the city. Please tell them to contact Gerald Shultz at Gerald.Shultz@noaa.gov.

▶ Comanche County	Comanche
▶ Eastland County	Rising Star
▶ Falls County	Rosebud
▶ Hill County	Malone
▶ Limestone County	Groesbeck and Mexia
▶ Mills County	Mullin
▶ Montague County	Forestburg
▶ Robertson County	Wheelock
▶ Van Zandt County	Canton

Try This Recipe!

Do you have a favorite recipe that you would like to share with others? Then send it to us, and we'll share it with all the other 120+ COOP observers in North Texas! In each issue we'll include a new recipe for everyone to try out and share. You can send your recipe to Jennifer Dunn at Jennifer.Dunn@noaa.gov or to our office at:

National Weather Service
Attn: Jennifer Dunn
3401 Northern Cross Blvd
Fort Worth, TX 76137

This first recipe is submitted by Jennifer Dunn and is found on the next page. This recipe can be served as either an appetizer or snack:



Glazed Crackers

Ingredients:

- | | |
|---|---|
| 1/2 cup margarine | 1/2 cup unsalted butter |
| 1/2 cup sugar | 1 tsp. vanilla extract |
| 1 cup chopped pecans
(recommend pecan chips) | 3 packs butter flavored crackers
(recommend TownHouse Butter Flavored) |

Instructions:

1. Preheat oven to 325°
2. Arrange crackers in single rows on cookie sheet(s)
3. In a saucepan, melt butter and margarine. Add sugar
4. Boil mixture for 3 minutes and then remove from heat
5. Add vanilla and pecans to mixture
6. Spoon mixture over crackers
7. Bake for 8 minutes (9-10 mins for a little more crunch)
8. Remove from oven and allow to cool slightly
9. Remove the crackers from the cookie sheet and allow to finish cooling

National Weather Service
3401 Northern Cross
Fort Worth, TX 76137