

The High Plains Drifter

NATIONAL WEATHER SERVICE
NORTH PLATTE, NE

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A Look at Drought Conditions across Western & North Central Nebraska

By John Stoppkotte
Science and Operations Officer



"Drought" is a word that, unfortunately, has become common across the western High Plains, including much of Nebraska. But what exactly, does this word mean? To begin to answer that question, we look first at Webster's Dictionary for the definition, which reads "1. A long period with little or no rain. 2. A shortage or dearth.". However, a long period of time with little or no rainfall in arid regions is not as significant as the same period of time in the eastern half of the U.S., so where does Nebraska stand in all of this? The key to this question is to look at the climate history for our area to determine what amounts and durations of precipitation are typical, and which are not.

We'll use North Platte and Valentine for our reference points, since a good climatological history exists for these two areas. On average, North Platte receives 19.66 inches of precipitation

annually, while Valentine receives 19.52 inches. Of that total, a little more than 70% of that rainfall comes in the 5 month period of April through August in both North Platte and Valentine, which is no surprise to those in the agriculture business. But equally important is the period of March and April when crops are non-existent or young and monthly precipitation averages are on the rise, because moisture that is received is allowed to increase soil moisture profiles; preparing them for the upcoming planting season. So we, as meteorologists, must look at the entire year for trends leading us toward or away from drought conditions.

Drought should be considered a long term event, and therefore short term trends in

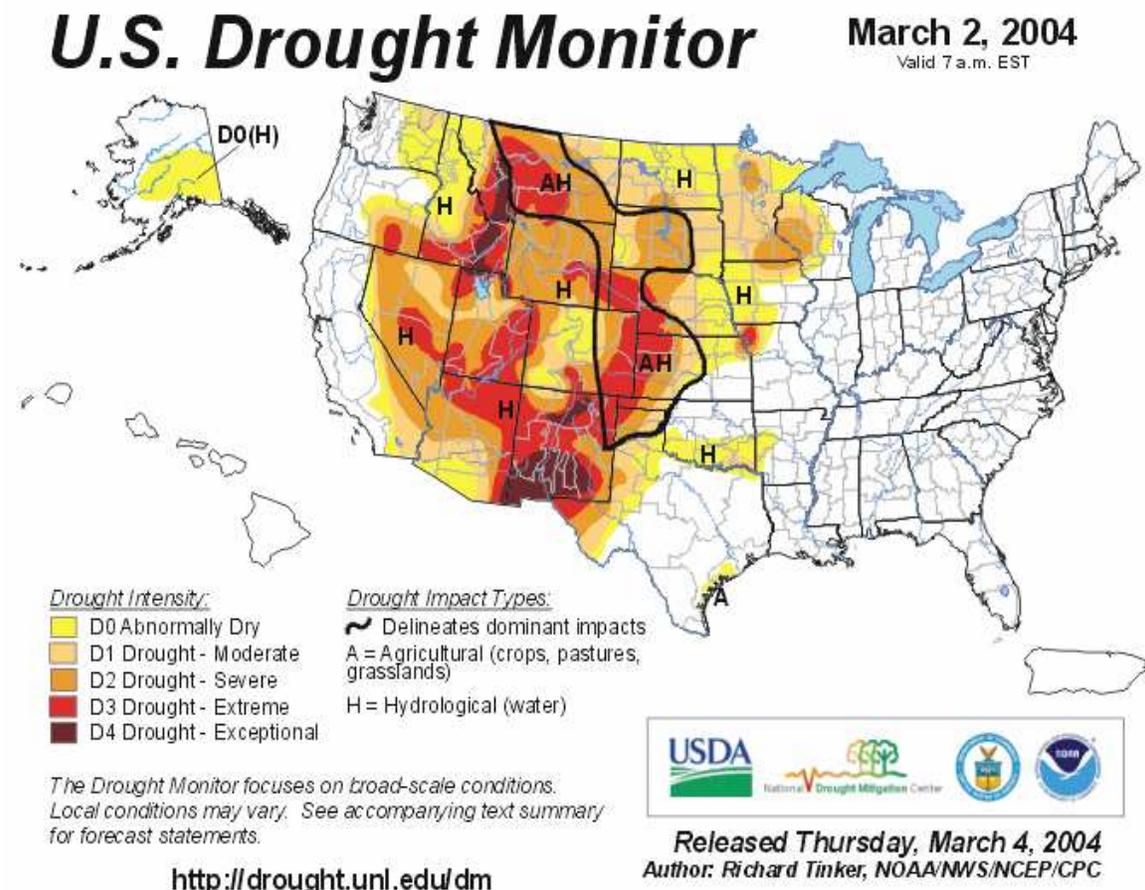
precipitation are not as important as long term trends. Historical droughts in Nebraska, such as those that occurred in the 1930s and 1950s, included years of above average precipitation, with large annual precipitation deficits before and after. In North Platte, for example, 7 out of the last 10 years have experienced below average precipitation. In addition, precipitation in the upper reaches of the Platte River has also been below normal for the last couple years, meaning runoff into the Platte for use in agricultural and environmental purposes is limited even further. This year, snowfall in much of Wyoming (where water eventually comes into the North Platte River) has once again been below average. Even if the area would receive average or even above average rainfall in the

spring months, water levels in reservoirs along the Platte have fallen to levels seen few times historically, so it will take a long period of above average precipitation to alleviate the current drought conditions. Currently (as of February 17, 2004) the southwestern third of Nebraska is listed as experiencing D3 (extreme) drought (with D4 or exceptional, being the worst) by the National Drought Mitigation Center. Recent snowfall in the eastern portion of the state has helped the situation some there, but for much of western Nebraska (including North Platte) precipitation for the winter months this year has been below average once again. Long-term forecasts for precipitation for Nebraska are inconclusive; simply meaning our area has equal chances of seeing below or above average precipitation for the months of March, April and May.

For a look at area climatology on the world wide web, go to : www.crh.noaa.gov/lbf/climate/climate.php

For more information on the current drought status across the U.S., visit the latest drought monitor graphic at : www.drought.unl.edu/dm

Below is the latest drought monitor graphic as of March 2, 2004



SEVERE WEATHER REPORTING TIPS

When Severe weather strikes central Nebraska, you are right in the middle of the action. During severe weather situations, we are only able to tell so much from radar, satellite, and automated weather stations. As Coop Observers, Emergency managers and Law Enforcement personnel, we need your reports to help put out the best warnings and products as fast as possible. When reporting severe weather to us, here are a few things that we need.

What have you seen. This includes tornados, funnel clouds, wall clouds, Hail, etc.

Where you saw it. This would be where the event occurred not necessarily where you were when you saw it.

When you saw it. This is very important to us because the time of the event can help us decide where we need to put out the next warning.

What it was doing. This should be what direction and how fast the storm was moving, and any other details, such as damage and how severe the damage is and size and intensity like hail size and estimated wind speeds.

When reporting hail it is very helpful for us to get an approximate size. The best description for Hail size would be the size of a quarter or half dollar and when larger use descriptions like golf ball, baseball, or oranges. Below is quick list of descriptions and the sizes.

Penny	0.75"
Nickel	0.88"
Quarter	1.00"
Half Dollar	1.25"
Golf Ball	1.75"
Tennis Ball	2.50"
Baseball	2.75"
Grapefruit	4.00"

*** We ask that you please do not use marble size hail, mainly because there are many different sizes of marbles. ***



A hard severe weather event to report is wind. Many people do not own an anemometer, so here are a few descriptions of how to estimate wind speed.

45-57 mph - small limbs will begin to break off and old or weak structures may sustain minor damage.

58-74 mph - Large tree limbs (greater than 4" in diameter) break. Semi trucks overturn. Damage occurs to chimneys, and shingles tear of roofs.

75-89 mph - Widespread damage to trees. Mobile homes are pushed off their foundation or overturned. Minor roof damage to homes.

90+ mph - Many large trees are broken or uprooted. Roofs are partially peeled off homes. Barns/sheds are demolished. Moving automobiles are pushed off roads.

During severe weather, quick reports can help us in saving property and lives, so when possible call in before events occur. To reach us you can call these 2 numbers.

1-800-603-3562 or 308-532-0921

ARTHUR

Arthur Small City with Record Setting Accomplishments

By Jim Sweet HMT

If you're ever in Arthur, stop by the city hall and visit our lovely coop observer there, Carolyn Cerny. If you plan on staying through the dinner hour be sure to bring a sack lunch because the only bar-eatery in town burned down a few weeks back. Arthur is in the Guinness Book of Records, **TWICE**, which might be a record in itself for a town that small. They have the smallest courthouse ever built in the U.S. (no longer in use) and they have a church made out of hay bales...sounds like a nice place to visit (don't forget to bring your lunch)

According to a recent conversation with Carolyn the ongoing drought will go from moderate to serious for Arthur county folks this summer if we don't get

a good dousing of H2O...I imagine others in the state are pretty much sitting in the same boat.

Carolyn, I believe is the county Treasurer, but I may be mistaken and it wouldn't be the first time. She is also an Emergency Medical Technician, active in the local church, and the counties finest bowler (if you count her 140 handicap). Carolyn's husband has been under the weather for a while but is showing signs of improvement and we are thankful for that.

Arthur is in the Guinness Book of Records, TWICE, which might be a record in itself for a town that small.

The Cooperative Observation station in Arthur was first installed on May 1st in 1929 and will soon be celebrating its 75th anniversary in a little over a month. Current Coop Observer Carolyn has been in charge of the station since 1995 and will be closing in on 10 years within the next year.

Well that's about it for Carolyn, Arthur, the hay bale church, and the tiny courthouse. We here at the National Weather Service can't say thank you enough to Carolyn and all of our Coop volunteers.

All Time Records	
High	113 degrees on Aug 25, 1936
Low	-33 degrees on Dec 22, 1989
Precipitation	3.58 inches on Sep 4, 1937
Snow	15.0 inches on Mar 29, 1980

Monthly and Yearly Averages												
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
High	35.0	41.2	49.2	59.4	69.3	79.8	86.6	84.8	75.6	63.4	46.6	37.8
Low	11.2	16.4	24.1	34.1	45.1	54.3	59.9	58.1	47.5	34.1	21.9	13.6
Precip	0.34	0.40	1.16	1.87	3.34	2.66	3.16	1.84	1.71	1.12	0.69	0.36
		High		Low		Mean		Precip		Snow		
30 Year Avg		60.7		35.0		47.9		18.65		29.9		

Ruby Stufft
 Grand Lady of Cooperative
 Weather Observers

By Mark Byrd HMT

For over 70 years Ruby Stufft was a volunteer weather observer for the National Weather Service. She began this work on April 26, 1920, just a few days after marrying Foster Stufft and moving to their ranch located 40 miles southwest of Ainsworth, Nebraska.

During her tenure as observer Ruby not only raised eight children but was also instrumental in starting a church in her area. She also volunteered her time to many community activities including writing for the local paper, working with 4-H clubs and baking cakes for weddings and other special occasions.

In recognition for her faithful service the **Ruby Stufft** Award was created to honor those observers who also complete 70 years of service. The first Ruby Stufft award was presented to Ruby herself in 1992. At the time of her death Ruby was only a few days away from receiving an award for 75 years of service. In response to having the 70 year award named for her Ruby stated, "It means so much for it goes to show I have done something worthwhile for my country and the state of

Nebraska, which I love very much." Lester Stufft, Ruby's son, took the reins as the Cooperative Observer after Ruby thus making it one of the oldest Coop sites in Central Nebraska. The Elsmere site has been run by the Stufft family its entire existence.



The cooperative observer program is the backbone of the nations historical records. It is dedicated volunteers like Ruby whose faithful service continues to build our nations climatological history.

All Time Records	Monthly and Yearly Averages							
High	High	Low	Precip	High	Low	Precip		
111 degrees on Jul 31, 2002	Jan	36.4	9.4	0.55	Jul	89.2	59.3	3.50
Low	Feb	42.1	14.4	0.78	Aug	86.8	57.2	2.69
-33 degrees on Feb 03, 1996	Mar	51.8	22.7	1.88	Sep	78.7	46.3	2.21
Precipitation	Apr	62.7	32.4	2.72	Oct	66.9	34.4	1.68
5.00 inches on Jun 14, 1981	May	73.0	44.4	4.59	Nov	48.5	21.3	1.33
Snow	Jun	83.0	53.8	3.86	Dec	39.1	12.4	
20.0 inches on Dec 27, 1987	30 Year Averages							
	High 63.2	Low 34.0			Mean 48.6			
	Precip 26.34"			Snow 32.2"				

COOPERATIVE WEATHER OBSERVER AWARDS PROGRAM

From its inception, the National Weather Service has relied heavily on cooperative weather observers for establishment and maintenance of the nation's climatic database. It follows that appointing, training, and keeping good observers is a very high priority. Over the years, a method of selecting and rewarding observers for excellence in observing, recording and reporting weather data has evolved into the Cooperative Weather Observer Awards Program.

Thomas Jefferson Award

This award originated in 1959 as a way for the NWS to honor cooperative weather observers for unusual and outstanding achievements in the field of meteorological observations. It is the highest award the NWS presents to volunteer observers. The award is named for Thomas Jefferson, third president of the United States. Jefferson, the statesman-scientist, made an almost unbroken series of weather observations from 1776 to 1816. His old instruments may now be seen at Monticello, his home in Charlottesville, Virginia.

John Campanius Holm Award

The Holm Award, created in 1959, provides the NWS with a way to honor cooperative weather observers for outstanding accomplishments in the field of meteorological observations. The namesake for this award is a Lutheran minister, John Campanius Holm, the first known person to have taken systematic weather observations in the American Colonies. Reverend Holm made observations of climate without the use of instruments in 1644 and 1645, near the present site of Wilmington, Delaware. In later years, his son had his records published.

Earl Stewart Award

This award bears the name of Earl Stewart, a contemporary cooperative observer at Cottage Grove, Oregon. Mr. Stewart completed 75 years of continuous observations in 1992. The criterion for this award is that an observer serves the NWS for a period of 75 years or more.

Ruby Stufft Award

In 1991, Mrs. Ruby Stufft, of Elsmere, Nebraska, completed 70 years as a cooperative observer, thus becoming the first woman to ever reach that plateau. The NWS presents the award in honor of Mrs. Stufft to observers who have attained 70 years of service.

Albert J. Meyer Award

This award bears the name of Albert J. Meyer, a historical figure and observer at Eagle Pass, Texas. In 1870, a joint resolution of Congress established the "Division of Telegrams and Reports for the Benefit of Commerce." The Congress also appointed Mr. Meyer to establish and direct the Division of Telegrams and Reports. This government entity served as the forerunner to the National Weather Service. Anyone serving the NWS as an observer for 65 years is eligible for this award.

Helmut E. Landsberg Award

The NWS created this award in 1986 in honor of Dr. Helmut E. Landsberg, noted professor, author, and lecturer. He was one of the preeminent climatologists of our time; and was, for a number of years, Director of the NWS Climatology Program, before its abolishment in 1973. All observers who have completed 60 years of service receive this award.

Edward H. Stoll Award

This award, created in 1975, honors Edward H. Stoll. Mr. Stoll was the observer at Elwood, Nebraska for over 76 years, and was the first to receive the prestigious Stoll Award. To further honor the "Dean of Weather Observers," as he was called, the NWS flew Mr. Stoll to Washington, D.C., where he met with the President of the United States at the time, Jimmy Carter. To receive this award, an observer must have taken observations for 50 or more years.

Length of Service Emblems and Letters

As with full time employees, the NWS presents cooperative observers with length-of-service emblems every five years, starting at ten years of service to 50 years of service.

Many thanks should go to these and other citizens who have loyally reported observations to the National Weather Service over the years. They make our job much easier!



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***Check out our website at
www.crh.noaa.gov/lbf***