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September 2007 near Medicine Bow, Wyoming - Photo by Glen Roebke - AWDN Electronics Technician

September 2007 Climate Summary

Region Breakdown

Temperatures for much of the region were above normal throughout the month of September. Departures from the 1971-2000 Normal for average temperature ranged from 2-5 degrees above for much of the western half of the region to slightly below normal for portions of eastern Nebraska and eastern North Dakota. This region of slightly below normal average temperature also coincided with the areas receiving near normal to slightly above normal precipitation amounts for the month.

Severe Drought conditions persisted in the panhandle of Nebraska and north into the Black Hills of South Dakota. Fire bans were enacted in September for the Black Hills region of South Dakota. Western Wyoming continues to be in severe drought conditions, but the area considered to be under extreme drought was reduced for far western Wyoming thanks to beneficial rains and snow late in the month.

Severe Weather Summary

September 6 - widespread reports of wind and hail across Kansas and parts of Nebraska.

September 17 - High winds blow down trees 20 feet high 12 miles southwest of Hill City, KS; 76 mph winds recorded at the Norfolk, NE Karl Stefan Memorial Airport.

September 18,19 - 2 inch diameter hail reported at several locations in South Dakota.

September 23 - Winds in North Dakota knock down several trees in the Grand Forks area.

September 24 - 2 Tornadoes reported in South Central Nebraska.

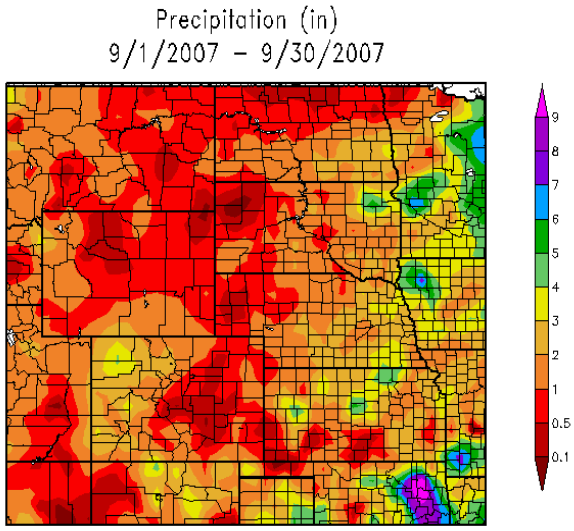
September 28, 29, 30 - Large system sweeps across bringing tornadoes, wind and hail to several states in the High Plains region.

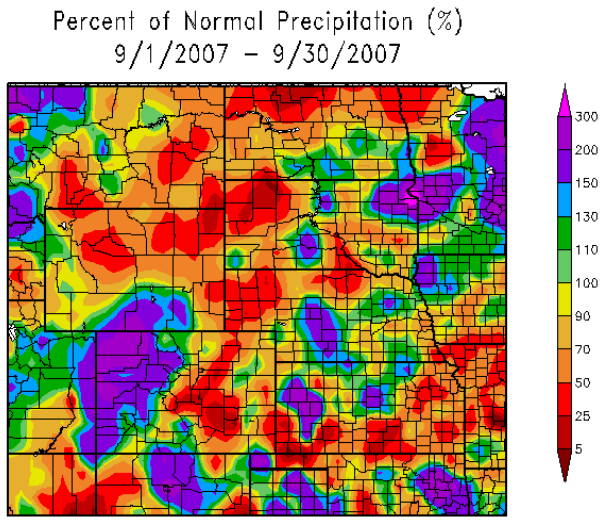
Year to Date Totals - 2007 *				
State	Total	Tornado	Hail	Wind
CO	517	59	403	54
KS	1291	167	755	366
NE	1053	57	741	255
ND	480	44	286	150
SD	874	56	597	221
Total	4215	383	2782	1046

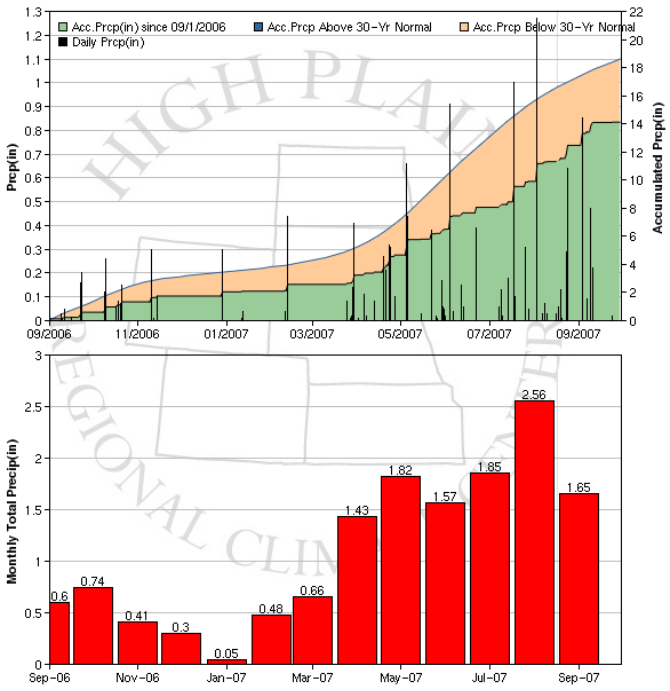
* Through 10/18 - Year to Date Totals are preliminary, and are provided by the NOAA Storm Prediction Center located in Norman, OK. For more statistics, please see: http://www.spc.noaa.gov.

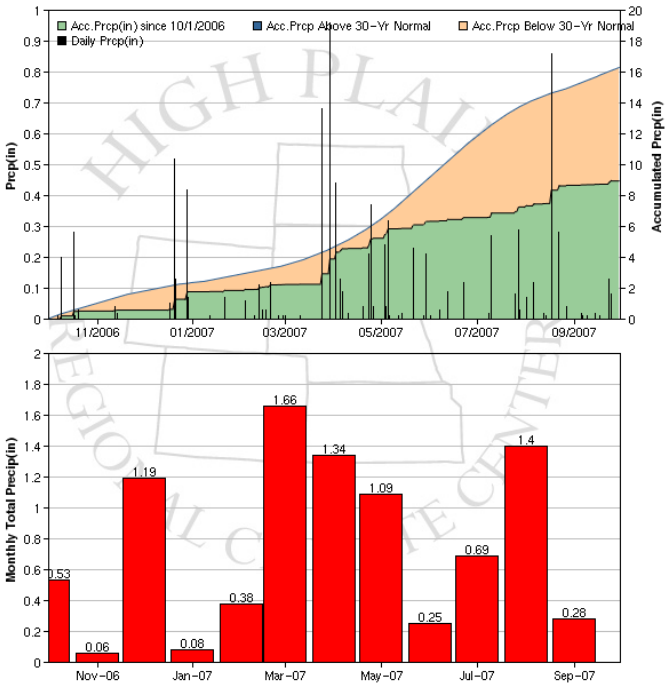
Precipitation Summary

Precipitation for September was near-normal for much of the High Plains region. Pockets of below-normal conditions were present in southern Kansas, and portions of western Nebraska, South Dakota and north-central North Dakota. Soil Moisture Conditions were favorable for much of the east and central High Plains throughout the month of September. The rain which fell was of benefit to late-planted corn and soybeans, but did cause some lowland flooding in portions of Nebraska, Kansas, and Iowa.









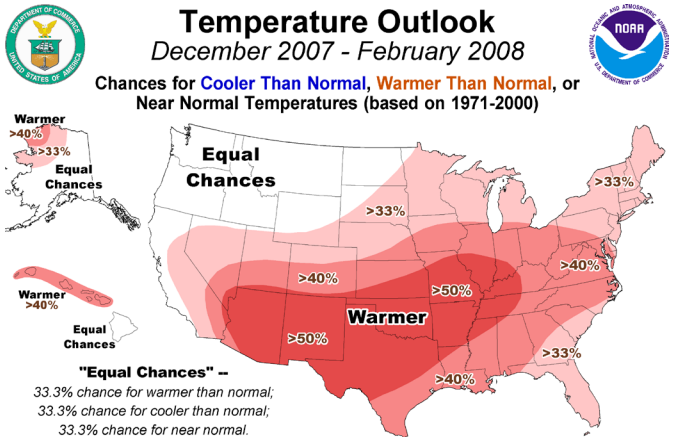
The above graphs show the growing deficit of water as compared to the 1971-2000 Normals for precipitation from October 1, 2006 - September 30, 2007 for Hot Springs, SD and Scotts Bluff, NE. Similar trends can be seen for other locations in the Panhandle of Nebraska and the Black Hills Region of SD. While many lowland areas of Kansas and Nebraska experienced flooding during the month of September, these locations remained 'high and dry'.

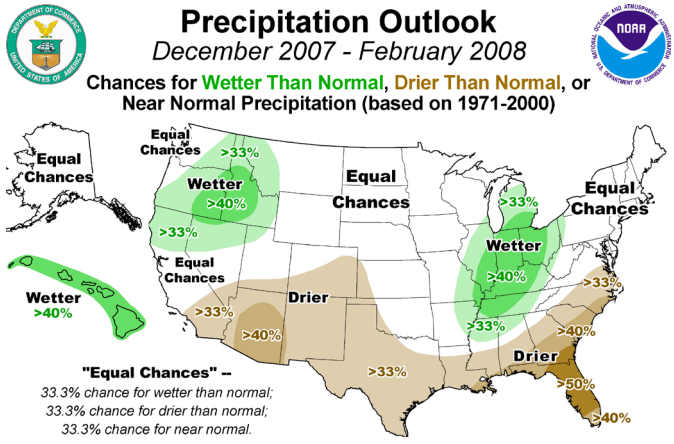
The High Plains Regional Climate Center is one of the NOAA Regional Climate Centers, and is involved in the Applied Climate Information System (ACIS) development and management effort. The data found throughout this publication was derived using products built on the ACIS framework.

ACIS
Applied Climate Information System - NOAA Regional Climate Centers

Climate Outlook

With the expected onset of LaNina ENSO conditions for this winter, NOAA forecasters are calling for above-average temperatures for much of the southern High Plains, and drier than normal conditions for the far-southwest corner of the High Plains Region (Southern to Southwest Colorado and Western Kansas). Equal Chances of both above, near, and below normal precipitation conditions exist for the rest of the region. This winter outlook is produced by scientists at the NOAA Climate Prediction Center. More information can be found here: http://www.cpc.ncep.noaa.gov/.

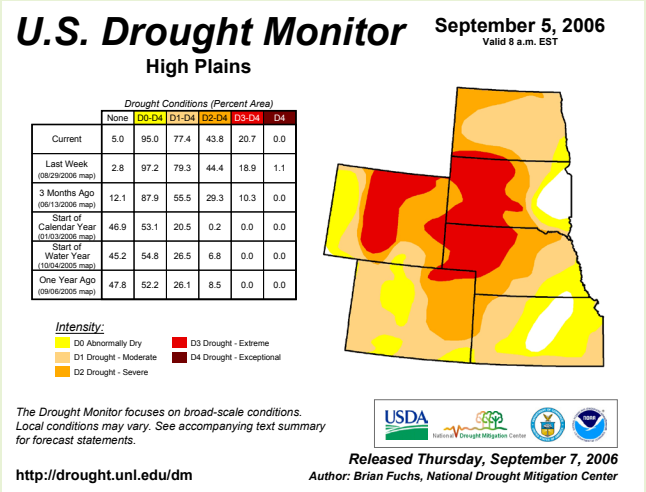


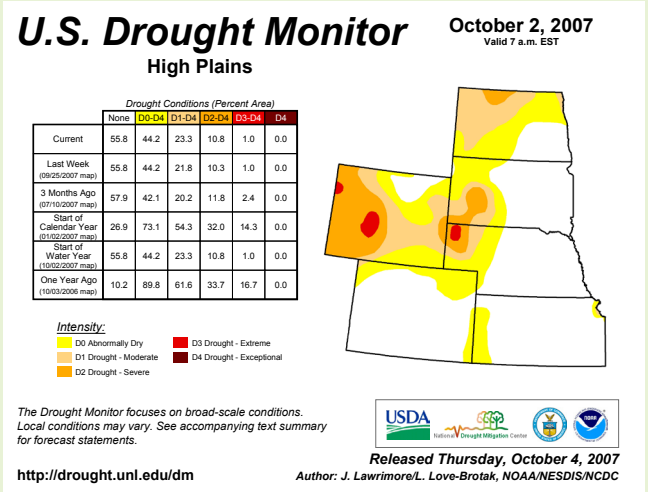


Drought Watch

Thanks in part to abundant precipitation during the month of August, the soil moisture levels remained high enough to stave off drought conditions through the southeast half of the high plains region. The Northeast portion saw an extension of D0 conditions from northeastern North Dakota to northwest South Dakota, as September rainfalls were <50% of normal. Drought affected areas in the panhandle of Nebraska saw little to no reprieve from drought conditions as significant rainfalls fell to the east in central and eastern Nebraska, while the panhandle saw rainfall amounts of less than <0.25 inches.

In this water year, significant improvements to drought conditions have been made. While drought conditions still persist in NW portions of the region, the area under extreme (or D3) drought conditions has decreased significantly.





The U.S. Drought Monitor is produced as a joint effort of the U.S. Department of Agriculture (USDA), National Drought Mitigation Center, U.S. Department of Commerce and the National Oceanic and Atmospheric Administration (NOAA). Real-time data provided through ACIS from the NOAA Regional Climate Centers is often used by the agencies involved in the U.S. Drought Monitor when determining the area and intensity of drought conditions, although the product itself is not produced by HPRCC. For current Drought Monitor information, please see: http://www.ndmc.unl.edu/dm/monitor.html

September 2007 Climate Summary

Station Summary for September 2007

Colorado	Temperatures (degrees F)								Precipitation (inches)		
	Averages				Extremes				Totals		
	Max	Min	Mean	Depart	High	Date	Low	Date	Obs	Depart	% Norm
Akron Washington County Airport	80.5	51.3	65.9	2.8	93	9/5	37	9/25	0.86	-0.06	93
Colorado Springs Municipal Airport	78.9	47.9	63.4	3.6	90	9/16	38	9/26	0.34	-0.89	28
Grand Junction Walker Field Airport	81.5	53.5	67.5	2.1	95	9/2	35	9/30+	1.99	1.08	219
Pueblo Memorial Airport	84.3	48.5	66.4	1.6	96	9/5	34	9/27	0.10	-0.74	12

Kansas	Temperatures (degrees F)								Precipitation (inches)		
	Averages				Extremes				Totals		
	Max	Min	Mean	Depart	High	Date	Low	Date	Obs	Depart	% Norm
Concordia Municipal Airport	80.6	56.9	68.8	0.8	93	9/6	46	9/15	4.55	2.05	182
Dodge City Regional Airport	85.1	57.3	71.2	1.9	98	9/16+	43	9/11	0.24	-1.46	14
Goodland Renner Field	82.0	51.7	66.9	2.9	93	9/20+	40	9/27	1.11	-0.01	99
Medicine Lodge	85.8	61.0	73.4	--	97	9/6	42	9/11	0.41	--	--
Topeka Municipal Airport	84.0	58.7	71.4	3.3	94	9/6+	45	9/28+	1.35	-2.36	36
Wichita Mid-Continent Airport	85.7	62.2	74.0	3.2	96	9/16	47	9/11	0.72	-2.24	24

Nebraska	Temperatures (degrees F)								Precipitation (inches)		
	Averages				Extremes				Totals		
	Max	Min	Mean	Depart	High	Date	Low	Date	Obs	Depart	% Norm
Grand Island Airport	79.3	53.8	66.5	2.1	91	9/17+	40	9/14	1.92	-0.51	79
Lincoln Municipal Airport	80.2	54	67.1	1.1	91	9/17	37	9/15	3.1	0.18	106
Omaha Eppley International Airport	78.9	55.0	66.9	1.5	90	9/17	37	9/15	2.31	-0.86	73
Norfolk Karl Stefan Airport	77	51.4	64.2	0.8	89	9/20+	35	9/15	3.71	1.46	165
North Platte Regional Airport	81.1	50.2	65.7	3.3	96	9/3	34	9/27	1.94	0.62	147
Scotts Bluff Heilig Airport	79.5	48	63.8	3.3	96	9/4+	34	9/11	0.41	-0.81	34
Valentine Miller Field	78.8	49.1	64	2.5	97	9/4	29	9/14	0.9	-0.71	56

North Dakota	Temperatures (degrees F)								Precipitation (inches)		
	Averages				Extremes				Totals		
	Max	Min	Mean	Depart	High	Date	Low	Date	Obs	Depart	% Norm
Bismark Municipal Airport	73.4	45.6	59.5	1.8	97	9/1	32	9/19	1.77	0.16	110
Dickinson Experimental Station	74.2	43.0	58.6	3.2	100	9/4	24	9/14	1.40	-0.22	86
Fargo International Airport	72.5	48.7	60.6	2.6	96	9/5	35	9/12	3.39	1.21	156
Grand Forks International Airport	70.9	45.3	58.1	1.1	93	9/23	31	9/28	0.80	-1.16	41
Williston International Airport	73.4	42.1	57.7	1.6	96	9/3	22	9/14	0.62	-0.73	46

All Data are Preliminary and Subject to Change
Source: National Weather Service Cooperative Observation Network Data
Data is retrieved through the Applied Climate Information System (ACIS)
This data is available for the entire period of record through the CLIMOD system. For more information please see http://hprcc.unl.edu/services.

September 2007 Climate Summary

South Dakota	Temperatures (degrees F)								Precipitation (inches)		
	Averages				Extremes				Totals		
	Max	Min	Mean	Depart	High	Date	Low	Date	Obs	Depart	% Norm
Aberdeen Regional Airport	74.1	46.6	60.4	0.6	93	9/3	32	9/15	1.62	-0.19	90
Huron Regional Airport	76.2	50.2	63.2	2.2	93	9/3	34	9/14	1.01	-0.79	56
Rapid City Regional Airport	78.7	48.6	63.6	3.0	98	9/3	29	9/14	0.83	-0.27	75
Sioux Falls Joe Foss Field Airport	76.2	50.8	63.5	2.6	90	9/20+	30	9/15	2.27	-0.31	88

Wyoming	Temperatures (degrees F)								Precipitation (inches)		
	Averages				Extremes				Totals		
	Max	Min	Mean	Depart	High	Date	Low	Date	Obs	Depart	% Norm
Casper Natrona County International AP	75.2	43.1	59.1	1.5	95	9/3+	31	9/27+	0.71	-0.27	72
Cheyenne Airport	72.0	46.2	59.1	2.5	86	9/1	34	9/25	1.23	-0.20	86
Lander Hunt Field Airport	74.4	44.5	59.5	0.8	93	9/4	29	9/25	0.66	-0.48	58
Laramie Regional Airport	69.7	40.9	55.3	2.4	83	9/1	30	9/11	1.51	0.52	153
Rawlins Municipal Airport	72.0	42.4	57.2	0.3	87	9/2	30	9/27	1.39	0.57	170
Rock Springs/Sweetwater County AP	70.7	43.7	57.2	2.3	87	9/2	30	9/30	0.91	0.04	105
Sheridan County Airport	76.2	42.4	59.3	2.2	99	9/4	30	9/25+	0.96	-0.42	70
Worland	77.0	43.9	60.5	0.2	96	9/4	34	9/26+	0.43	-0.42	51

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About the High Plains Regional Climate Center

The High Plains Regional Climate Center (HPRCC) operates out of the University of Nebraska - Lincoln (UNL) in Lincoln, Nebraska. As one of 6 regional climate centers operated under the National Oceanic and Atmospheric Administration (NOAA), HPRCC works closely with other organizations such as the National Climatic Data Center (NCDC), Local and Regional National Weather Service (NWS) Offices, and other climate services organizations such as the National Drought Mitigation Center (also located at UNL) to provide climate data services and specialized climate products.

For More Information Online

High Plains Regional Climate Center : http://hprcc.unl.edu

High Plains Regional Climate Services: http://hprcc.unl.edu/services

CLIMOD: http://climod.unl.edu

NOAA Regional Climate Centers and ACIS: http://www.rcc-acis.org

National Weather Service: http://www.weather.gov

National Climatic Data Center: http://ncdc.noaa.gov

University of Nebraska - Lincoln: http://www.unl.edu

National Drought Mitigation Center: http://drought.unl.edu

Climate Prediction Center: http://www.cpc.noaa.gov

NOAA Storm Prediction Center :http://www.spc.noaa.gov

Photo of the Nebraska Sandhills by Bill Sorensen - Senior Programmer - HPRCC

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