



NATIONAL  
WEATHER SERVICE  
DES MOINES IA

- Lightning
- Heat Kills



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**Volume 1, Issue 2**

**Summer 2007**

**Lightning - The Underrated Killer**

**ODDS OF BECOMING A LIGHTNING VICTIM**

U.S. 2000 Census population	280,000,000
Odds of being struck by lightning in a given year (reported deaths + injuries)	1/700,000
Odds of being struck in your lifetime (Est. 80 years)	1/5000
Odds you will know or be impacted by a lightning victim (Ten people affected for every one struck)	1/5



In late June, the National Weather Service held its fourth Lightning Safety Awareness Week. Lightning strikes more people than most think. Here are the odds of being hit by lightning. Winning the lottery has much longer odds than being struck by lightning! From 1993 through 2006, there were eight lightning deaths and 28 injuries reported in Iowa. These estimates are likely low. This means almost every year someone in Iowa will die from a lightning strike. For detailed information about lightning safety, please visit the National Weather Service Lightning Safety page at: <http://www.lightningsafety.noaa.gov/week.html>

*Photo Courtesy of James Minot, Slater, IA*

**Heat Kills!**

The combination of heat and humidity is an annual problem here in the upper Midwest. In Iowa, all extreme heat events except one have occurred between July 4<sup>th</sup> and August 5<sup>th</sup>. The exception was an event which occurred in late August, 2000. During the peak five week period in July and early August, annual temperatures are at their warmest. This is made worse by extremely high dewpoint temperatures common in Iowa that time of year. The extremely high dewpoints are at least partly caused by evapotranspiration from the region's corn and soybean crop. The end result from the combination of heat and humidity is periods of dangerous heat index values.

Between 1993 and 2006, five people died and 22 were injured from extreme heat and humidity in Iowa. Nationally, heat waves have killed thousands. Most deaths occur in cities where the heat is amplified by the city itself. The most vulnerable are the elderly in inner cities who do not have air conditioning, do not open their windows due to security concerns, or are physically unable to handle the heat.

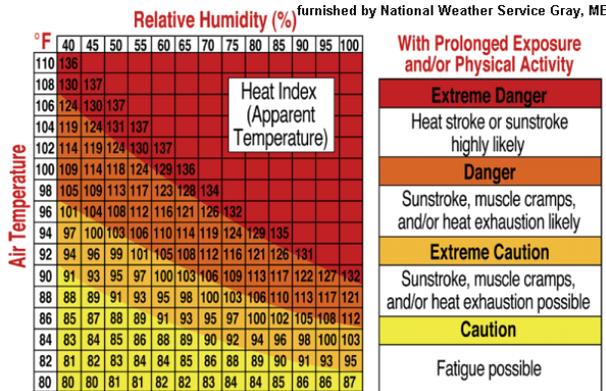
Some safety tips during heat waves include:

- Drink plenty of water or other non-alcoholic fluids.
- Slow down during the heat of the day.
- Dress in light-colored, light-weight clothing.
- Spend more time indoors.
- Don't get sunburned.
- Check frequently on the elderly, youth, and pets during heat waves.

*Continued on next page*

## Heat Kills continued

The Heat Index combines heat and humidity. Here is the Heat Index chart:



For more information, please visit our heat safety and preparedness page at: <http://www.crh.noaa.gov/dmx/?n=summer>

- Highest temperature ever recorded at Des Moines is 110 (Jul 25, 1936 and Aug 4, 1918)
- All-time highest temperature in Iowa is 117 (Atlantic and Logan – Jul 25, 1936)
- Highest temperature ever recorded at Mason City is 107 degrees (Jul 14, 1936)



**Protect yourself, family and pets from excessive Ultraviolet (UV) Radiation!**

## Cooperative Weather Observer Service Awards

On June 3, 2007 a long awaited and planned retirement of an icon in Iowa aviation was celebrated at the Audubon Airport. The festivities were planned around the Annual Audubon Fly-In Breakfast where Charles Goeken retired after 62 years as the airport's Fixed Based Operator (FBO) manager and a birthday where he turns 85 years old on the 11th of June. He also received his 20 yr National Weather Service Cooperative Observer Award. He was very pleased with the turn out and although he's retired from the FBO, he insists on continuing to be a National Weather Service Cooperative Observer. Of course, we can't leave out his wife Beverly who is at his side making sure everything is correct before he sends the observation at 7 am. Charles and Beverly have been great for the National Weather Service and the recognition they received was just a small token of appreciation they deserve along with all the cooperative observers in Iowa and across the nation.



(L) Steve Teachout, National Weather Service Hydrometeorological Technician, (R) Charles Goeken

Congratulations Charles!

## Kelsey Cooperative Observer 15 Year Service Award



Tom and Grace Barter

**Aviation Community Outreach Event**

Des Moines National Weather Service Hydrometeorological Technician, Steve Teachout, General Forecaster, Mindy Albrecht, and Meteorologist-In-Charge, Brenda Brock, participated at an NWS exhibit during the 75<sup>th</sup> Celebration of the Des Moines Airport / 2007 Iowa Fly-In. They talked to the public and aviation community about aviation weather safety and demonstrated internet access for weather safety information.

## Meet the National Weather Service's Newest Employees

Hello, my name is **Melinda Albrecht**. I grew up in Fargo, ND, where my parents, two sisters, and two nephews currently still reside. The many blizzards that characterized the winter of 1996-97, followed by the Red River Flood that spring (all occurring during my senior year of high school) played a large role in why I chose to go into Meteorology.

I was then off to Iowa State University, and graduated with a BS in Atmospheric Science in May of 2001. While attending ISU, I was able to volunteer at KCCI and at the National Weather Service (NWS) office in Des Moines, and spent one summer at the NWS office in Aberdeen, SD. After graduation, I began my career as a Meteorological Intern at the NWS office in Hanford, CA, which is located in the central valley of California. The brief 8 months I spent there provided a very unique experience as valley was surrounded by mountains on three sides. From there I was able to obtain a General Forecaster position at the NWS office in Aberdeen, SD, where I have lived for the past 5 years. I am happy to now make Iowa my permanent home, since I really enjoyed living in central Iowa while attending ISU.



My name is **Ken Podrazik**. I was born in Saint Louis, Missouri, but spent the better part of my childhood in Omaha, Nebraska. My immediate family resides in Kansas City (parents and younger sister) and in Des Moines (older brother). I am not married, yet, but hope to be in the near future to my beautiful girlfriend Tabatha. Tabatha and I met in Oklahoma and we have been dating nearly 2 and a half years.

I attended and received a B.S. in Atmospheric Sciences at the University of Missouri-Columbia in May of 2002. I landed a job in Edmond, Oklahoma, in September of 2002 at a private sector company called WeatherBank. I spent just over 3 years at WeatherBank where I was an operational meteorologist that forecasted weather for the energy, transportation, and various other industries. In November 2005, I accepted an intern position at a Weather Service Office in Williston, North Dakota and began my career in the NWS. In addition to working at NWS WSO Williston, I took an adjunct professor position at Williston State College, where I taught an Introduction to Meteorology course during the fall semester of 2006. I recently transferred to the Des Moines Weather Forecast Office in March of this year as a Meteorologist Intern. I aspire to become a general forecaster some day in the NWS and possibly a management position later in my career.



I am an avid runner and with all these trails Iowa has to offer, there is a lot of running for me to do. I ran the Chicago Marathon back in 2002, and wish to accomplish that once again in the future. In the mean time, I enjoy the half-marathons, 10K, and 5K races. I am progressively riding my bike everyday as well, which is not uncommon in Iowa. I also play slow pitch softball in Ames when my schedule permits.

I love the Saint Louis Cardinals...so I was a little fired-up when they won the World Series last October. I enjoy listening to the games on the radio, but nothing beats catching a game at their new stadium. Some of my other

interests include spending time with Tabatha, camping, hiking, fishing, reading, live music/concerts, disc golf (i.e. Frisbee golf), reading, traveling, cooking, movies, and my dog Bisbee.

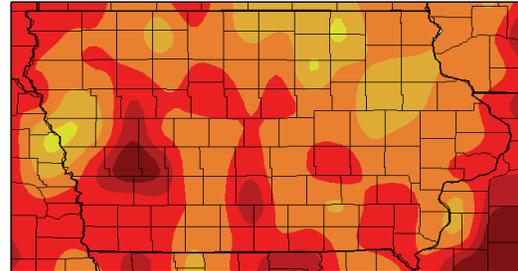
# Spring 2007 in Review - Warm and Wet

by Craig Cogil, General Forecaster

## Temperatures

The spring season covers the months of March through May. The statewide average temperature during this time was 51.2 degrees which was 3.0 degrees above normal. This would be the 14<sup>th</sup> warmest spring over the past 135 years. The warmest readings were generally across the southern half of the state with averages of 4 to 5 degrees above normal. The cooler readings were confined across the northeast portion of the state but still averaged 1 to 2 degrees above normal.

Departure from Normal Temperature (F)  
3/1/2007 - 5/31/2007

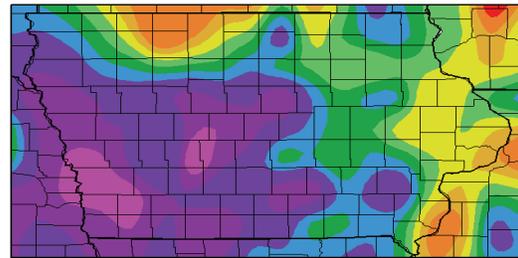


Generated 6/1/2007 at HPRCC using provisional data. NOAA Regional Climate Centers

## Precipitation

Precipitation was quite high in many areas of the state with an average of 12.91 inches during the spring. This is 3.13 inches above normal for the season and ranks as the 11<sup>th</sup> wettest such period in the past 135 years. Heaviest precipitation totals were in Southwest and South Central Iowa where 15 to 20 inches fell. This was 150 to 200 percent of normal rainfall for the spring and produced significant flooding in portions of Southern Iowa. Precipitation was generally lighter across the north and was actually below normal across areas of Northwest and North Central Iowa.

Percent of Normal Precipitation (%)  
3/1/2007 - 5/31/2007



Generated 6/1/2007 at HPRCC using provisional data. NOAA Regional Climate Centers

## Climatological Data for March, April, May, June 2007

Location	Month	Average Temp	Departure	Highest	Lowest	Rain / Snow	Departure
Des Moines	Mar	45.2°	+6.8°	82° (25 <sup>th</sup> )	6° (4 <sup>th</sup> )	3.14" / 7.9"	+0.93" / +3.8"
	Apr	49.0°	-1.6°	88° (29 <sup>th</sup> )	16° (7 <sup>th</sup> )	4.58" / 4.1"	+1.00" / +1.4"
	May	66.3°	+4.4°	88° (14 <sup>th</sup> )	44° (18 <sup>th</sup> )	5.04" / 0"	+1.69" / 0"
	Jun	72.7°	+1.3°	91° (16 <sup>th</sup> , 21 <sup>st</sup> )	51° (9 <sup>th</sup> )	3.02" / 0"	-1.55" / 0"
Mason City	Mar	36.7°	+3.8°	81° (26 <sup>th</sup> )	0° (4 <sup>th</sup> , 6 <sup>th</sup> )	4.09" / 10.3"	+1.85" / +4.3"
	Apr	44.4°	-2.0°	91° (29 <sup>th</sup> )	13° (7 <sup>th</sup> )	4.02" / 6.8"	+0.66" / +4.1"
	May	63.2°	+4.2°	91° (14 <sup>th</sup> )	35° (17 <sup>th</sup> )	6.00" / 0"	+1.66" / 0"
	Jun	69.2°	+0.5°	91° (26 <sup>th</sup> )	46° (9 <sup>th</sup> )	2.39" / 0"	-2.57" / 0"
Waterloo	Mar	40.2°	+5.2°	82° (25 <sup>th</sup> )	4° (4 <sup>th</sup> )	1.60" / 2.5"	-0.53" / -2.3"
	Apr	45.7°	-2.1°	90° (30 <sup>th</sup> )	15° (7 <sup>th</sup> )	4.47" / 4.3"	+1.24" / +2.1"
	May	64.5°	+4.3°	90° (14 <sup>th</sup> )	37° (16 <sup>th</sup> )	4.65" / 0"	+0.50" / 0"
	Jun	69.9°	0°	90° (15 <sup>th</sup> )	47° (9 <sup>th</sup> )	5.11" / 0"	+0.29" / 0"
Ottumwa	Mar	46.0°	+6.4°	80° (25 <sup>th</sup> )	8° (4 <sup>th</sup> )	3.12" / 1.5"	+0.77" / -2.2"
	Apr	48.3°	-3.2°	87° (29 <sup>th</sup> , 30 <sup>th</sup> )	16° (7 <sup>th</sup> )	4.97" / T	+1.69" / -1.9"
	May	65.6°	+2.7°	87° (14 <sup>th</sup> )	39° (17 <sup>th</sup> )	4.87" / 0"	+0.31" / 0"
	Jun	71.2°	-1.2°	92° (16 <sup>th</sup> )	50° (9 <sup>th</sup> )	5.49" / 0"	+0.98" / 0"

**2006-2007 Seasonal Snowfall Statistics (July 1- June 30)**

Location	Season Total	Departure	Previous Season Total
Des Moines	39.3"	+2.9"	24.9"
Mason City	53.1"	+13.5"	31.0"
Waterloo	29.2"	-5.7"	30.9"
Ottumwa	18.6"	-8.5"	16.6"

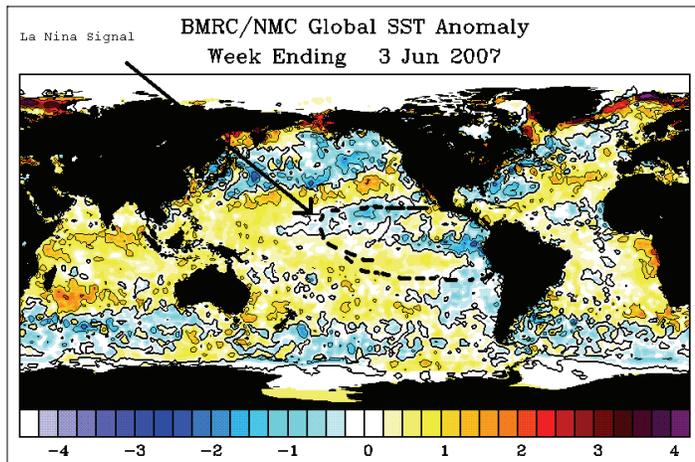
- Mar 1-2, 2007 blizzard the worst in Iowa since April 8-10, 1973
- Most March snowfall at Des Moines is 28" (1912)
- Most March snowfall at Mason City is 33" (1933)

**Outlook for the Middle and End of this Summer** by Miles Schumacher, Lead Forecaster

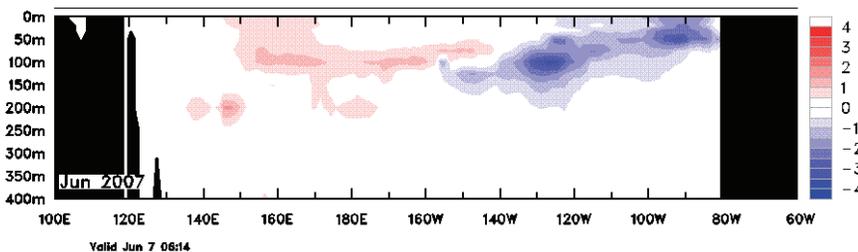
What can be expected for the balance of the summer of 2007? Last time we talked about the possibility of a La Nina developing in the equatorial Pacific region. Changes continued to take place and this may still be a possibility, however the evolution continues to be quite slow.

In Fig. 1, the current state of the equatorial Pacific temperatures is shown. The areas in blue represent water temperatures that are cooler than normal; the warm colors depict water temperatures warmer than normal. Note the plume of cooler than normal sea surface temperature extending from Ecuador and Peru westward into the central Pacific.

Although there has been a significant increase in the extent of the cool water, indicative of La Nina, from South America into the Pacific, there are still questions as to how much further the La Nina will develop. In Fig 2 below, note the area and depth of cooler than normal water below the sea surface from around 80 degrees West to 160 degrees West. This structure has fed the development of La Nina thus far this spring and early summer, however the amount of cool water has diminished over the past month. This is one significant factor that raises questions about future development.



**Fig 1. Recent graphic of sea surface temperature (SST) departure from normal. SST's that are warmer/cooler than normal are in warm/cool colors.**



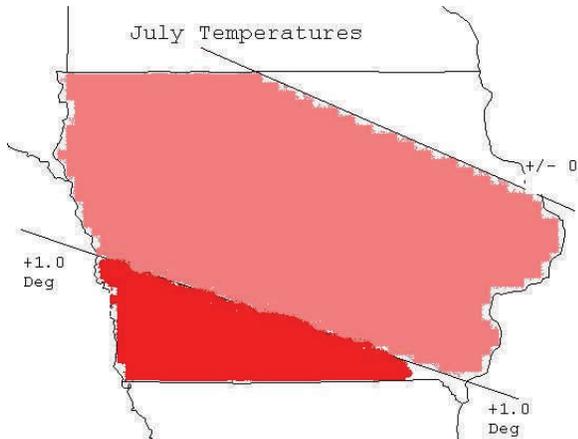
**Fig 2. Depiction of water temperature departure from normal shown with depth in meters along the vertical axis, and longitude along the horizontal axis.**

So, what does this mean for the rest of the summer season? It does suggest that the likelihood of strong La Nina development this summer is quite low. That, in turn, would suggest that the potential for significantly drier conditions than normal has decreased.

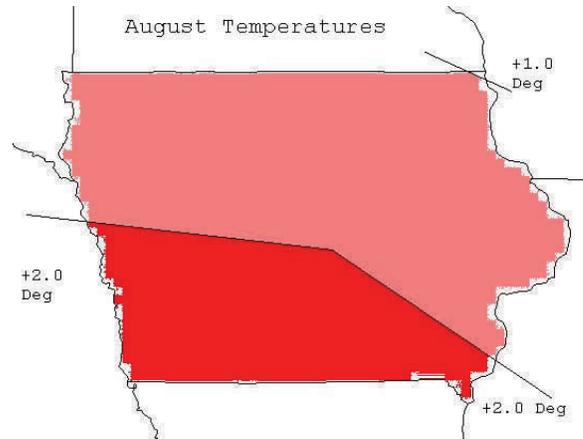
The latest indications are that the summer will most likely average warmer than normal, but it does not look very likely that it will be all that much above normal. Figures 3 and 4 (next page) depict the expected temperature departures for July and August respectively.

*Continued on next page*

## Outlook for the Middle and End of this Summer *continued*



**Fig 3. Expected temperatures for July in degrees F above normal.**



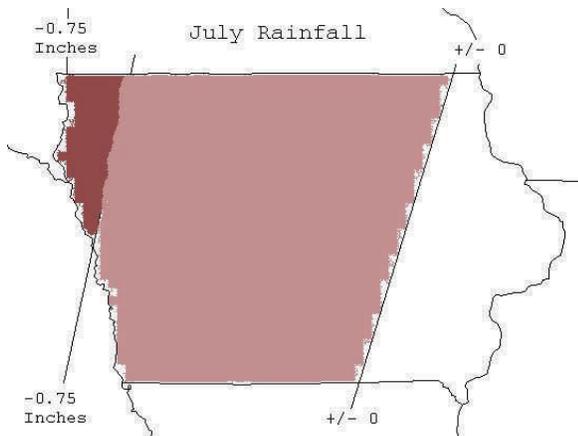
**Fig 4. Expected temperatures for August in degrees F above normal.**

As can be seen in the graphics above, the warmest temperatures are expected to be over the southwest part of the state, with temperatures averaging only slightly above normal over the northeast.

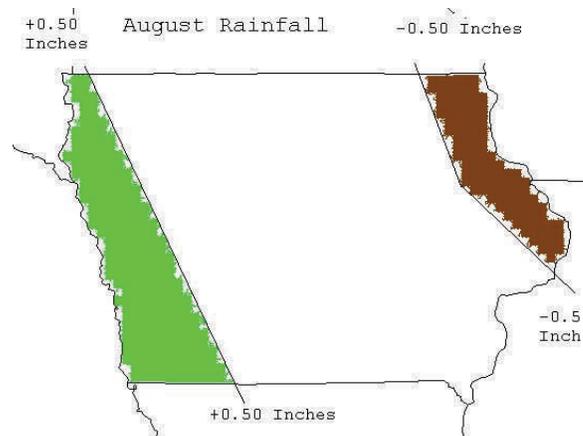
With La Nina conditions expected to be weak, it is not likely that extremely dry conditions will be established across Iowa this summer. Figures 5 and 6 depict the expected departures from normal rainfall for the months of July and August respectively. From the two figures below, it is clear that the departure from normal rainfall this summer is not expected to be all that much. July is likely to be the driest month of the summer with about three quarters of the state falling in the normal, to one inch below normal range. (Fig 5). It appears that much of the state is likely to be close to normal for rainfall in August, ranging from slightly below normal in the northeast, to slightly above normal in the west. (Fig 6).

*Continued on next page*

Normal High/Low Temperatures				
Location	Jul 1	Aug 1	Sep 1	Oct 1
Des Moines	85 / 65	86 / 66	81 / 60	70 / 48
Mason City	83 / 60	83 / 61	77 / 54	67 / 43
Waterloo	85 / 61	85 / 62	80 / 55	70 / 44
Ottumwa	85 / 66	86 / 67	81 / 60	71 / 49



**Fig 5. Expected rainfall departure from normal for July**



**Fig 6. Expected rainfall departure from normal for August**

## Outlook for the Middle and End of this Summer *continued*

Looking briefly into the Fall season, it would appear, statistically, we are most likely to experience temperatures that are a little warmer than normal for the period of September through November. There does not appear to be any favoritism toward above or below normal precipitation during this period. Neither La Nina nor El Nino have a great deal of impact on the fall season.

These outlooks are based more heavily on statistics than many of the methods used by the Climate Prediction Center (<http://www.cpc.ncep.noaa.gov>). The complete set of official forecasts from the Climate Prediction Center can be found on our website ([http://www.weather.gov/climate/climate\\_prediction.php?wfo=dmx](http://www.weather.gov/climate/climate_prediction.php?wfo=dmx)). In addition, sea surface temperature maps provided here were obtained from the Australian Bureau of Meteorology (<http://www.bom.gov.au/bmrc/ocean/results/climocan.htm>) in Melbourne, Australia.

- Greatest daily June rainfall at Des Moines is 5.33" (Jun 12, 1947)
- Driest summer at Des Moines (2.58" in 1886)
- Wettest summer at Des Moines (29.57" in 1993)
- Highest official recorded wind gust in Iowa is 115 mph (Ottumwa - June 28, 1960)



### From the Electronics Technicians by David Reese, Electronics Systems Analyst

The Automated Surface Observation System (ASOS) ice-free wind sensor installations are nearing completion with only two sites yet to be upgraded - Ottumwa and Waterloo airports. The other 6 sites already upgraded are all performing extremely well. Further tweaks to the operational software that controls the new sensors are being made for improved performance and elimination of path errors by software engineering. By the end of July all eight ASOS sites in central Iowa will be completed.

## Severe Weather Spotters Needed in Rural Areas by Brad Small, Lead Forecaster

Real-time damage and weather reports are an integral part of the severe weather warning process. Along with atmospheric conditions and radar data, National Weather Service (NWS) meteorologists utilize these reports to make decisions on Severe Thunderstorm, Flash Flood and Tornado Warnings. They can make the difference on whether a life-saving warning is issued or not. The Des Moines office has over 2800 registered spotters in its 51 county area of responsibility who relay what they see when severe weather threatens their area and are also available when the NWS is looking for more information regarding a particular storm. These spotters should be commended for their community service as they are all volunteers participating on their own time.

Even though 2800 spotters seem like a lot, around 55 per county, there are still several areas where more are needed. Many are clustered in urban areas with little coverage outside of town. As mentioned before, being a spotter is strictly on a voluntary basis. We do not ask for any change in your plans or daily routine when the weather gets active. If severe weather affects your location, we'd appreciate a call. Otherwise we have your location and phone number on hand and may call you if a significant radar signature is observed and nearby.

If you live in a rural part of our forecast area and are interested in being a spotter, please e-mail us at [dmx.spotter@noaa.gov](mailto:dmx.spotter@noaa.gov) with your name, address (residence and mailing if different) and any phone numbers you wish to be contacted by (home, work, cell). If e-mail is not available, that information can be mailed to the following address.

SVN Spotter Program  
NOAA / National Weather Service  
9607 NW Beaver Dr.  
Johnston, IA 50131



Your information is kept strictly confidential and never distributed outside our office. Spotters in rural portions of Appanoose, Clarke, Davis, Decatur, Lucas, Madison, Monroe, Pocahontas, Tama, Union, Wayne and Wright Counties are needed in particular. On-line spotter training, course notes from our 2007 spotter training course and other reference material can be found on our spotter webpage at <http://www.crh.noaa.gov/dmx/?n=spotterinfo>.

NATIONAL WEATHER SERVICE DES MOINES IA

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Central Iowa The Weather Whisper

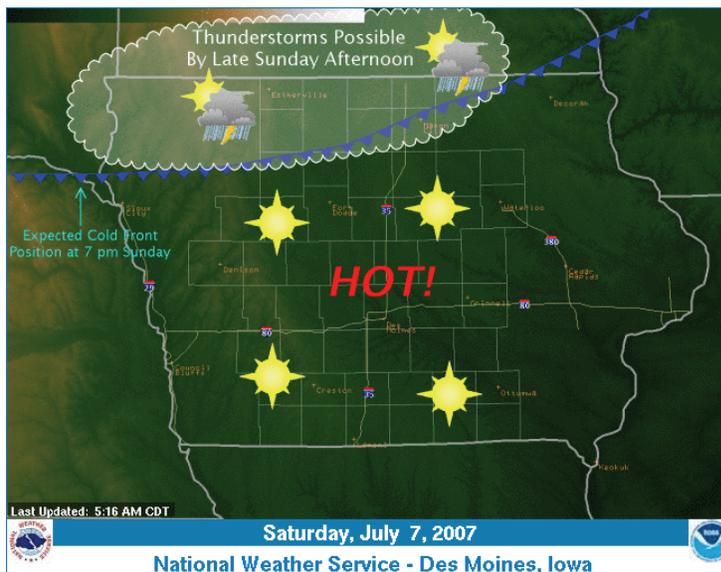
Editors: Ben Moyer Barbara Marlow



New Graphical Product

In late June, WFO Des Moines began producing a daily Weather Story graphic. The purpose of this product is to bring attention to the weather phenomenon that will impact central Iowa the most during the next 7 days. You can find the graphic on our website at: http://www.crh.noaa.gov/wxstory.php?site=dmx or by clicking on the Weather Story link near the top of our homepage.

Sample Weather Story graphic



Last Updated: 5:16 AM CDT Saturday, July 7, 2007 National Weather Service - Des Moines, Iowa