

VALLEY WEATHER WIND



January 2008

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Omaha/Valley, Nebraska

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A Newsletter for Emergency Managers, Core Storm Spotters, Media, and Public Officials in Eastern Nebraska and Southwest Iowa

Comments and suggestions are always welcome. Your feedback is very important to us!

Please contact us by telephone, e-mail, or regular mail.

**National Weather Service
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This publication also is available on-line at

<http://www.crh.noaa.gov/oax/>

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Severe Weather Season Just Around the Corner

by Brian Smith, Warning Coordination Meteorologist

Although we are in the midst of winter, severe weather season is just around the corner. Storm spotting training programs are being scheduled for March and April. I would encourage everyone to attend a storm spotting session. These classes are not just for emergency management, police, or fire department personnel. Anyone in the general public may also attend. Many people misconstrue innocuous clouds as being dangerous. By attending a spotter class, one can learn what cloud features may precede a tornado and what clouds are harmless look-alikes. People who have a fear of storms can ease their fears by becoming more educated in the understanding of storms.

If you are interested in finding out more about storm spotting class you can contact Brian Smith at the National Weather Service at 359-5166. A listing of storm spotter classes is posted on the NWS Valley website at www.weather.gov/omaha. Also, severe weather awareness week this year will be held the first week in April.

Even with severe weather looming on the horizon, winter weather will continue to affect the region this year, at least for a few more weeks. While residents of eastern Nebraska and western Iowa have already experienced numerous episodes of snow, sleet, ice, and bitter cold temperatures, more is probably on the way!

Did You Know...

Check out our website to get daily maps of high and low temperatures, 24 hour liquid precipitation, snowfall, and snow depth. Maps are produced based on cooperative observer and automated reports and are available each day by 11 AM.



Inside This Issue . . .

Severe Weather Season Just Around the Corner.....	1
December 2007 - A Wintry Mess	2
An Early Look at the Upcoming Severe Weather Season.....	4
COOPERative Observer Corner	6
Meteorologist In Charge Steve Schurr Retires.....	7
Ice Jams Will Be Possible Later This Winter	7
Climatological and Astronomical Data.....	8

December 2007 - A Wintry Mess

by Rick Chermok, Lead Meteorologist

The weather across eastern Nebraska and southwest Iowa during much of December 2007 could be characterized as a wintry mess. Freezing rain started the month off on an icy note as it spread across eastern Nebraska and southwest Iowa during the predawn hours of Saturday December 1st. It was estimated that 35 out of the 38 counties in our County Warning Area (CWA) had at least $\frac{1}{4}$ of an inch of ice accumulation, which meets our winter storm criteria. The heaviest fell north through northwest of Columbus where some accumulations reached $\frac{3}{4}$ to 1 inch (Fig. 1).

Temperatures climbed quickly above freezing along and southeast of a line from Lincoln to Omaha that morning, melting most of the ice and helping to prevent significant damage. Although, further to the northwest, temperatures struggled to get much above freezing, even during the afternoon. Wind speeds were moderate which kept the area from seeing a repeat of the dire consequences of the December 31, 2006 ice storm. That storm snapped thousands of power poles in northeast Nebraska, caused around \$200 million dollars in damage and created some power outages that lasted over a week.

Another ice storm hit southeast Nebraska and southwest Iowa December 10th and 11th. This storm brought ice accumulations of at least $\frac{1}{4}$ inch to 19 counties in southeast Nebraska and southwest Iowa (Fig. 2), with the northwest edge of the more significant glazing reported near a Seward to Fremont to Blair, Nebraska line.

Hardest hit were locations in far southeast Nebraska from just south of Beatrice through Falls City. Many trees were severely damaged in that area resulting in widespread power outages from around Wymore through Falls City. Damage alone in Richardson county was reported at \$1.5 million.

The freezing rain mixed with sleet and then changed to snow across the northern sections of the ice storm area, including Lincoln and Omaha. This helped to limit the glazing on trees and power lines across that region thus mitigating the damage.

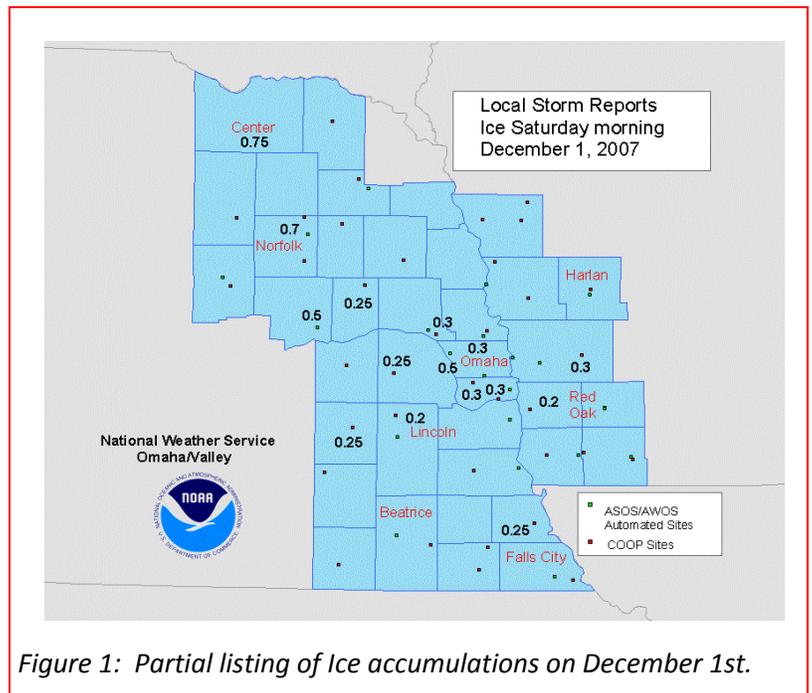
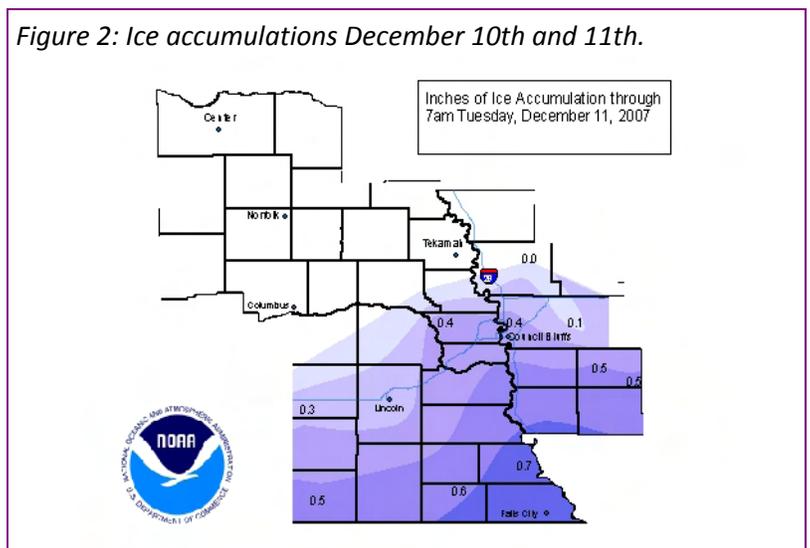


Figure 1: Partial listing of Ice accumulations on December 1st.

Figure 2: Ice accumulations December 10th and 11th.



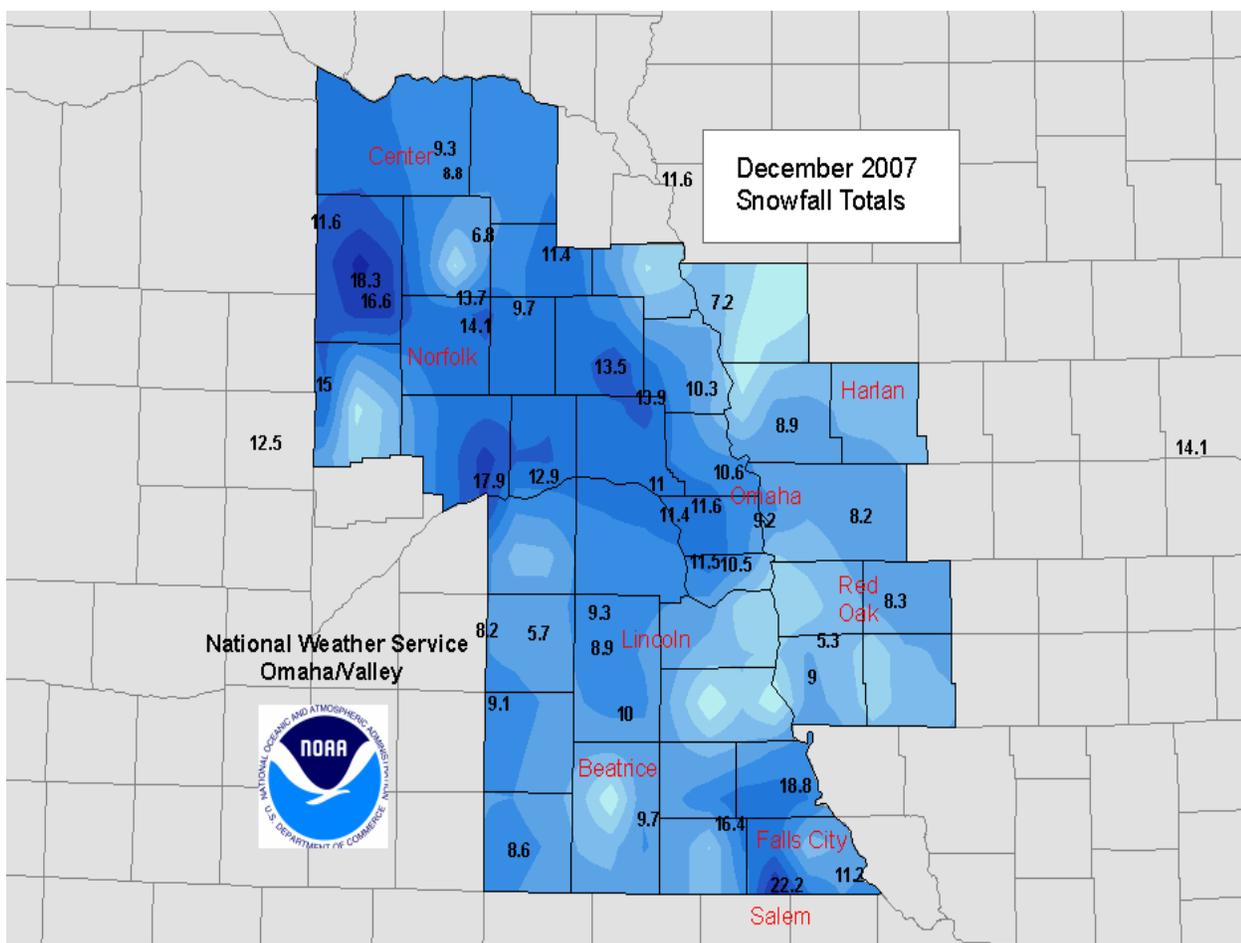
Sandwiched in between the two ice storms were several snow events. The first one on Thursday December 6th dropped 2 to 5 inches of snow across most of the CWA. Another storm on Saturday December 8th brought snowfall of 2 to 7 inches over northeast Nebraska, including a 6 to 7 inch swath across Antelope and Pierce counties.

A mid month snow deposited 2 to 5 inches over most of the area along and southwest of a Neligh to Omaha, Nebraska and Red Oak, Iowa line. Several more light snow events, mostly a few inches or less, finished up the month. Figure 3 lists total December snowfall across the area.

One storm that prompted a winter storm warning for 22 counties in southeast Nebraska and southwest Iowa in late December materialized just to the south and southeast of the region. Lucky for residents of eastern Nebraska and western Iowa but not so for residents of Kansas and Missouri, because reports of over 6 inches of wind blown snow caused traffic pileups and Interstate closures near Topeka, Kansas and Saint Joseph, Missouri.

Overall, 85 county Winter Storm Warnings were issued for the month of December, with an average lead time of 17.1 hours and probability of detection of 97%.

Figure 3: December 2007 Snowfall totals.



An Early Look at the Upcoming Severe Weather Season

by Josh Boustead, Lead Meteorologist, NWS Topeka, KS

Although eastern Nebraska and western Iowa are in the heart of the winter weather season with snow and ice across a large part of the area, forecasters at the National Weather Service in Valley are already starting to think about what we can expect for the upcoming severe weather season. While spring is still a couple of month's away, recent research indicates some preliminary predictions can be made.

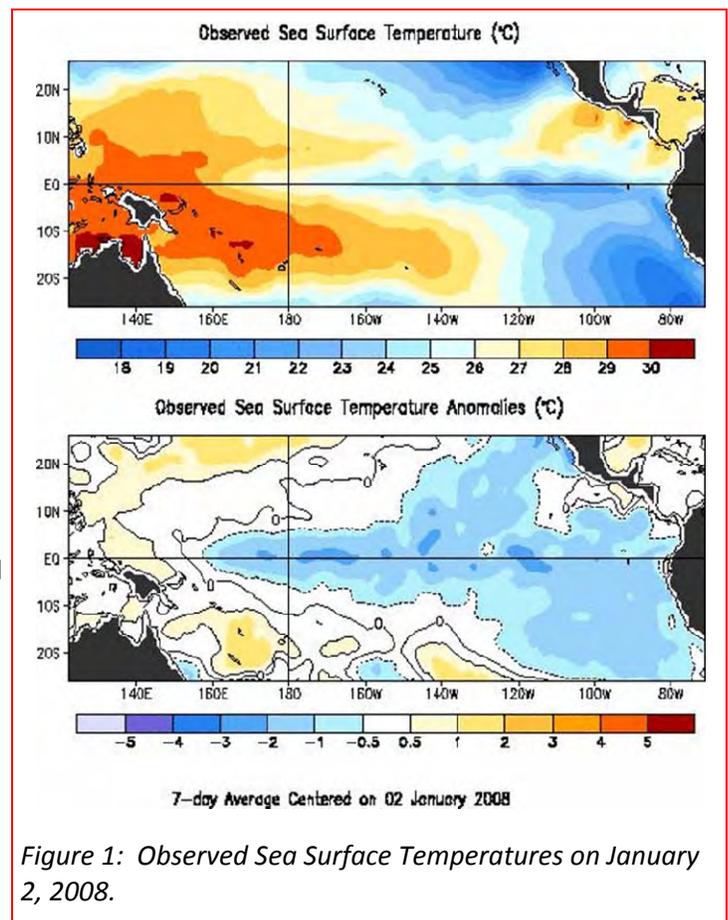
Severe weather in the form of thunderstorms can be a very local event. However, the patterns that support the *production* of these thunderstorms form on a much larger scale. El Nino/Southern Oscillation (ENSO) is one of several phenomenon that is known to affect weather patterns across the United States. Specifically, ENSO, as well as well as other global phenomena, have been shown to affect the position of the upper level jet stream. Although individual occurrences of severe thunderstorms can't be tied the ENSO phase, the amount of severe weather during the entire season can be shown to have a good correlation to the ENSO phase.

Research ongoing (Mayes and Boustead 2007) is attempting to correlate the phase of ENSO to severe thunderstorms, specifically tornadoes, across a large part of the central and northern plains. The current phase of ENSO is a La Nina (Fig 1). This means that oceanic temperatures in the equatorial Pacific Ocean near the equator are below normal.

So how will this impact the severe weather season across eastern Nebraska and western Iowa? Impacts on the area are dependent on whether the current La Nina pattern persists into the spring and early summer. Although the La Nina event is expected to weaken from a moderate event to a weak event by the Climate Prediction Center, indications are that it will continue into at least the spring months.

If this forecast verifies, research indicates an enhanced chance for an above normal tornado season, as well as an enhanced probability of significant tornadoes (EF2 or greater tornadoes) (Fig 2, see next page). The explanation behind the enhanced probability is in the upper level jet stream pattern during periods where a La Nina was occurring heading into and through the spring months. Historically in La Nina years, the upper level jet over North American has allowed for a persistent low pressure in the upper level part of the atmosphere over the western United States (Fig. 3, see next page). This upper-level pattern allows for an enhanced area of surface low pressure long the lee of the Rocky Mountains which would tend to enhance the northward flow of warm moist air from the Gulf of Mexico (Fig. 4, see next page). This large-scale pattern is favorable for severe weather across eastern Nebraska and western Iowa.

So although spring is still a couple of months away, early indications are for an active severe weather season across our area. Stay tuned.



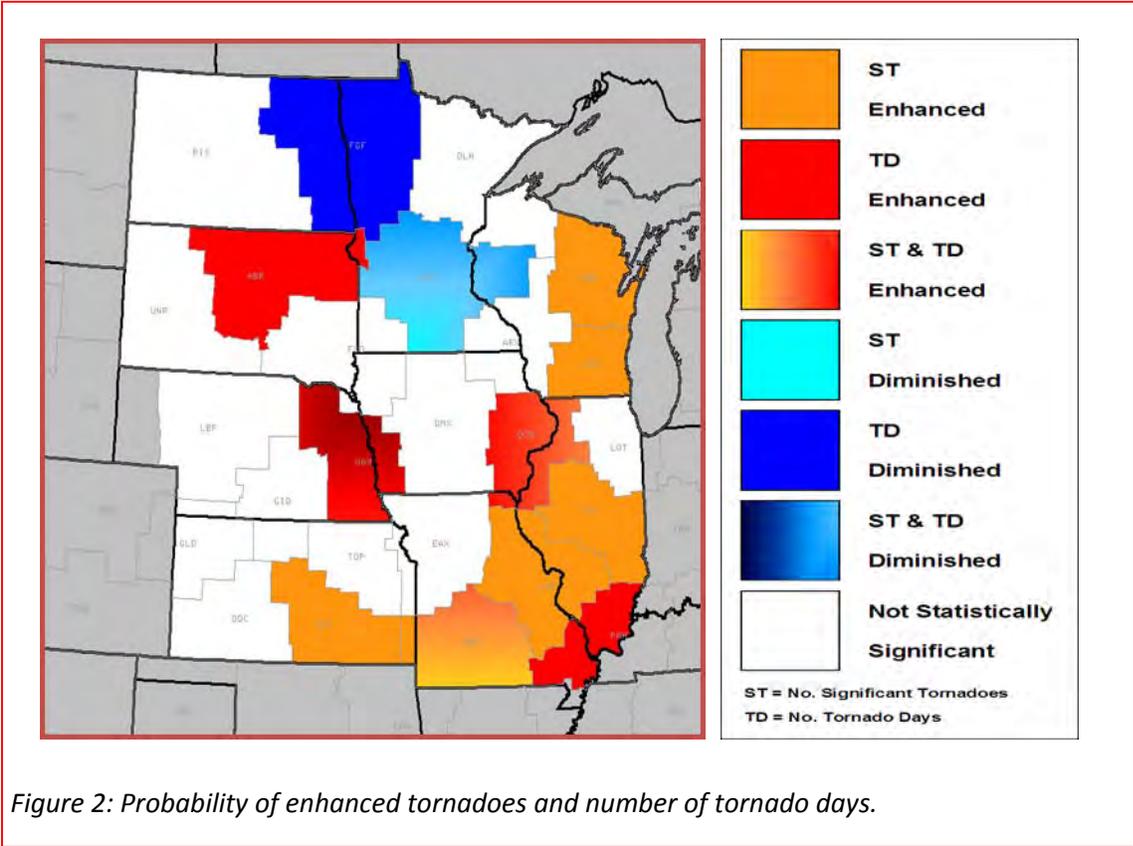


Figure 3: Typical La Nina upper air pattern.

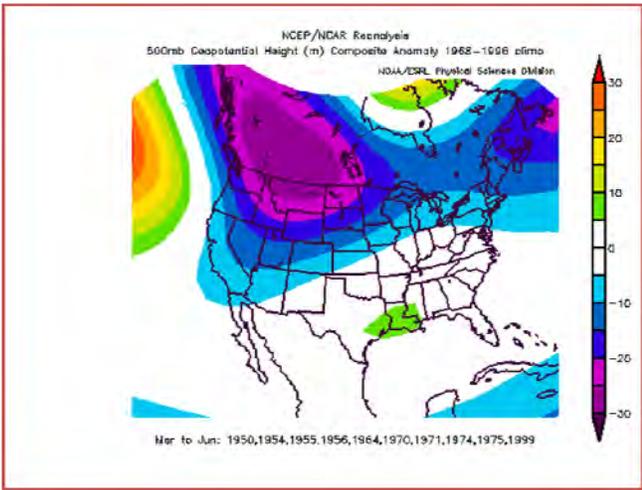
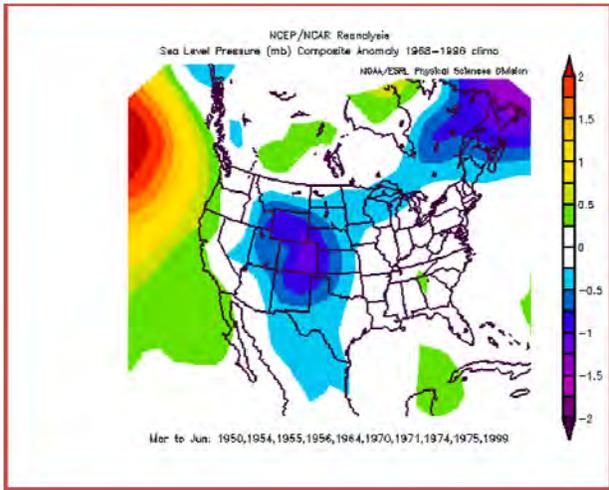


Figure 4: Typical La Nina surface pattern.



COOPerative Observer Corner

by Terry Landsvork, Observations Program Leader

Winter weather arrived in Eastern Nebraska and Southwest Iowa as a mixed bag of precipitation. Many observers were faced with the quandary of how to report the ice accumulation that occurred the first day of December. The shortest explanation is: If it didn't **fall** in a solid form (hail, ice pellets, snow pellets, or snow flakes) but it froze **on contact with the ground**, then report it in the "At Ob. Snow, ice pellets, hail, ice on the ground" column rounded to the nearest whole inch. So if you determined there was four tenths of an inch (0.4) ice coating on everything, you should enter a T for trace (because it fell as liquid, not solid). If there were 2 inches of snow on the ground covered by 0.5 inches of ice, you should report 3. In the REMARKS section indicate how much of the 3 inches is an ice coating (0.5 ICE). When in doubt give the office a call and we'll be happy to guide you through the "tangled web" of winter precipitation reporting.

September 13th was a special day at the forecast office in Valley. About 20 cooperative observers and their spouses attended an open house for coop observers and were treated to a cook out following tours of the office. Three observers received awards during the open house. Lynn Maximuk, the NWS Central Region Director presented the John Campanious Holm award to Robert Brehm of Raymond, Nebraska for his excellent work as a coop observer and for his involvement in community activities. The Edward H. Stoll award was presented to Raymond "Swede" Crosier of Oakdale, Nebraska



commemorating 50 years of continuous service as a coop observer and Daryl Obermeyer received a 30 year service certificate. Daryl was nominated to receive the 2008 Thomas Jefferson award for his outstanding contributions to his community and nation as both a coop observer and for his involvement in numerous community activities during the past 30 years.

Congratulations and thanks are also in order for the following dedicated cooperative weather observers that celebrated years of service milestones since June 1, 2007:

- Alvin Cooper, (Uehling, NE), 10 years; Mavis Black, (Onawa, IA), 10 years; Matt Anderson, (Mead, NE), 15 years; Jamie Curtis, (Royal, NE), 20 years

Anyone interested in becoming the cooperative observer within 6 miles of Hickman, Nebraska should contact us at: W-OAX.Webmaster@noaa.gov or write to:

National Weather Service, 6707 North 288th Street, Valley, NE 68064-9443

Severe weather season is right around the corner and we would like to remind coop observers to promptly report severe weather occurrences to the NWS office in Valley using the unlisted toll free number provided by your coop representative. Your storm report if received in time could prompt the NWS to issue a storm warning that may save someone from sustaining serious injury or even loss of life.

Climatological Data

Climatological Data for October, November, and December 2007

Location	Month	Average	Departure	Rain/Snow	Departure	Highest	Lowest
Omaha	Oct	56.9°	+3.7°	6.23"/T	+4.02"	86° (5th/6th)	30° (28th)
	Nov	38.7°	+0.7°	0.03"/0.2"	-1.79"	73° (19th)	11° (23rd)
	Dec	22.8°	-2.8°	1.79"/9.2"	+0.87"	49° (1st)	-1° (16th)
Lincoln	Oct	57.4°	+3.9°	4.50"/0.0"	+2.56"	89° (5th)	26° (28th)
	Nov	39.5°	+1.4°	0.05/0.4"	-1.53"	78° (19th)	10° (23rd)
	Dec	24.2°	-2.3°	2.09"/8.9"	+1.23"	57° (1st)	0° (16th)
Norfolk	Oct	54.5°	+3.5°	6.81"/0.0"	+5.09"	87° (5th/6th)	28° (28th)
	Nov	38.8°	+3.7°	0.03"/T	-1.41"	73° (11th)	13° (23rd)
	Dec	20.0°	-3.7°	1.83"/14.1"	+1.18"	49° (4th)	-8° (29th)

Normal High/Low Temperatures

Climatological Outlook

Location	Jan 1	Feb 1	Mar 1	Apr 1
Omaha	32/12	34/14	44/23	58/34
Lincoln	33/12	35/13	45/22	58/33
Norfolk	31/10	33/12	42/20	55/31

The climatological outlook for the period February, March, and April calls for an equal chance of above or below normal conditions for temperatures, and slightly below normal precipitation.



Astronomical Calendar

Sunrise/Sunset (http://aa.usno.navy.mil/data/docs/RS_OneYear.html)

Date	Omaha		Lincoln		Norfolk	
	Sunrise	Sunset	Sunrise	Sunset	Sunrise	Sunset
Jan 1	7:50 am cst	5:05 pm cst	7:51 am cst	5:09 pm cst	7:58 am cst	5:08 pm cst
Feb 1	7:36 am cst	5:40 pm cst	7:37 am cst	5:44 pm cst	7:43 am cst	5:44 pm cst
Mar 1	6:58 am cst	6:15 pm cst	7:00 am cst	6:18 pm cst	7:04 am cst	6:20 pm cst
Apr 1	7:06 am cdt	7:50 pm cdt	7:09 am cdt	7:52 pm cdt	7:12 am cdt	7:56 pm cdt



Times given in cst or cdt

Moon Phases

New Moon	First Quarter	Full Moon	Last Quarter
Jan 8	Jan 15	Jan 22	Jan 30
Feb 7	Feb 14	Feb 21	Feb 29
Mar 7	Mar 14	Mar 21	Mar 29
Apr 6	Apr 12	Apr 20	Apr 28



Spring Equinox

March 20th, 2008 at 12:38 AM

Time Change

Set clocks ahead 1 hour at 2 AM on March 9th, 2008