National Weather Service – Omaha/Valley, NE

Severe Weather Season '03

2003

March/April

Special dates of interest:

- Iowa Severe Weather Awareness Week – March 24-28.
- Nebraska Severe Weather Awareness Week – March 31-April 4.
- Lighting Awareness Week – June 22-28.

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NEWSLETTER - Vol. 3 No. 1

Serving Emergency Managers, the Media, COOP Observers, and other Partners in eastern Nebraska and western Iowa.

Editor Cathy Zapotocny, Meteorologist

A Message from the New Meteorologist In Charge *by Steve Schurr MIC*

Hello everyone, my name is Steve Schurr and I am now the Meteorologist In Charge (MIC) of the Omaha/Valley National Weather Service Office. I'm sure many of you became acquainted with Dave Theophilus during his 13 years as MIC. Dave decided to retire this January after more than 35 years of federal service. I want to assure each of you that I am committed to providing services equal to those you have become accustomed to during Dave's tenure. In fact, the staff here and I will continue to search for methods to improve upon that service.

Here are just a few bits of introductory information. I am a native Kansan originally from the small town of St. George which is near Manhattan. I attended Kansas State University (yes, I'm a Powercat fan) and completed a BS degree in Physics in 1970. My career in Meteorology began in the Air Force with a meteorology training program at San Jose State University in CA. Assignments in Houston, TX and Minot, ND followed. I started with the NWS in Topeka, KS in 1977 and served in a variety of positions there for 15 years. I transferred to Wichita, KS in January of 1992 as the Warning Coordination Meteorologist, and was selected as the first MIC of the new Hastings, NE office in June of 1993. After nearly 10 years in charge of the Hastings office, I was promoted to the Omaha/Valley MIC this February.

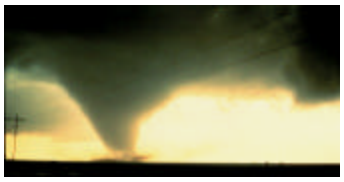
My wife, Elaine, and I have settled in Elkhorn. Elaine plans to continue her career as a Nurse Practitioner in the Omaha area. Our son Greg resides in Topeka, and Jay is an engineering student at Kansas State.

It is my desire for the Omaha/Valley office to provide absolutely the best possible services including warnings, forecasts, climatological data, and hydrologic data and forecasts. These services must be designed to meet the needs of each community and customer in the 30 counties of eastern Nebraska and 8 of western Iowa that comprise the Omaha/Valley County Warning and Forecast Area. I especially want our primary customers including the media, emergency managers, cooperative observers, spotters, and others to understand that they can count on Omaha/Valley to serve their needs and supply the support they need and want.

I hope to meet many of you in the coming months and years.

Our Web Site:
http://www.crh.noaa.gov/oax

Severe Weather Awareness Week



Governor Tom Vilsack, the Iowa Emergency Management division, and the National Weather Service have designated the week of March 24 to March 28 Severe Weather Awareness Week in Iowa. Governor Mike Johanns and the National Weather Service have designated the week March 31 to April 4 Severe Weather Awareness Week in Nebraska. Special programming can be heard on NOAA Weather Radio each day. The statewide tornado drill for Iowa will begin at 10 am Wednesday, March 26. A test tornado warning will be issued at 10:15 am for Iowa. The statewide tornado drill for Nebraska will begin at 10 am Wednesday, April 4. A test tornado warning will be issued at 10:55 am for Nebraska

Severe Weather Reporting Instructions for Dispatchers

by Bryon Miller Senior Forecaster

Your help and cooperation are greatly appreciated during severe weather outbreaks. **Please keep these instructions in a convenient location for future use.**

The primary duties associated with your job come first, but please report these events **as soon as possible** after you receive the information. Timeliness is very important.

Severe weather is defined as one or more of the following events.

A Tornado or funnel cloud. These reports are extremely important. A tornado is a violently rotating column of air in contact with the ground, and causes damage. A funnel cloud is not in contact with the ground, and consequently does not cause damage. Scud type clouds are often mistaken for tornadoes or funnel clouds. If someone is unsure of what they are looking at, they should look for persistent rotation in the vertical (from the cloud base toward the ground).

Damaging Wind. The wind criterion for a severe thunderstorm is 58 mph or greater. If the wind can break healthy tree limbs approximately the size of your wrist, cause damage to antennas or chimneys - it is most likely 58 mph or stronger.

Large Hail. The hail size criterion for a severe thunderstorm is hail with a diameter of 3/4 inch (the size of a penny) or larger. The size of the largest hailstones is what is important. For example, pea size hail covers the ground and there are also a few the size of golfballs. First let us know about the golfball size hail - you can give additional details later.

Flooding or Heavy Rain. Information concerning flooding of rivers, streams or severe street flooding is important. Details about flooding are often hard for the National Weather Service to obtain. Also, heavy rain (over two inches in an hour) should be reported since it may be the first sign that flooding will develop.

Lightning. There is no criterion concerning lightning for severe thunderstorms. However, if you call to let us know about severe weather, please tell us if there is frequent cloud to ground lightning. This can be just as deadly as any of the above items.

(Continued on page 3)

Tornado Watch
A tornado watch means that weather conditions are favorable for tornadoes in and close to the watch area.

Tornado Warning
A tornado warning means a tornado is imminent or has been sighted in the warned area.

Severe Thunderstorm Watch
A severe thunderstorm watch means that weather conditions are favorable for the development of severe thunderstorms in and close to the watch area.

Severe Thunderstorm Warning
A severe thunderstorm warning means that severe weather is expected or is occurring in the warned area.

(Continued from page 2)

If you have access to a NAWAS phone - please call OMAHA WEATHER to relay the information. If you do not have access to NAWAS - use the toll free number **1-800-452-9074** This number is for OFFICIAL USE ONLY. Please understand that the forecasters are very busy during Severe Weather episodes - just like you are. Try to keep the reports brief.

Thank You Very Much for your help, we really appreciate it.

StormReady
NATIONAL WEATHER SERVICE

Is your community StormReady?

For more information—http://www.stormready.noaa.gov/

Local Warning Success Story

Early Warning and Quick Action Saves the Lives of Moviegoers—VAN WERT, OHIO

A late season tornado outbreak took the lives of 35 people on November 10-11, 2002. The total could have been much higher. Thanks to quick action by the Van Wert, OH Cinema manager, Scott Shaffer and his staff, 50 adults and children were lead out of the theaters to safer shelter in a hallway and restrooms after hearing a warning. Minutes later, an F4 tornado tore off the building's roof and tossed cars into the screen and front seats.

The Twins Cinema theater office was equipped with a Federal Signal Corporation "Informer" local warning alert system, which was activated when Van Wert County Emergency Manager, Rick McCoy, sounded his county-wide Federal Signal siren system. The "Informer" was activated via a digitally-encoded pager signal that automatically turned the unit on and sounded an alert. After the initial tone alert, the "Informer" broadcast the National Weather Service (NWS) Tornado Warning live from the Fort Wayne, IN NWS Forecast Office (WFO). The tornado touched down in Van Wert County with 13 minutes of lead time and struck the movie theater 28 minutes after the warning was issued.

On December 10, 2002, the first-ever StormReady Community Hero Award was presented to Van Wert County Emergency Manager Rick McCoy, County Commissioner Gary Adams, and Van Wert City Mayor Stephen Gehres for establishing the county's StormReady program with the NWS. Van Wert Cinemas assistant manager Scott Shaffer was given the NOAA NWS Public Service Award for ushering moviegoers to safety after hearing an NWS tornado warning.

Van Wert County was designated StormReady by WFO Northern Indiana on January 10, 2002.

As part of the StormReady process, Van Wert used grant money to purchase seventy of the alert units and a number of NOAA Weather Radio receivers.

The F-Scale

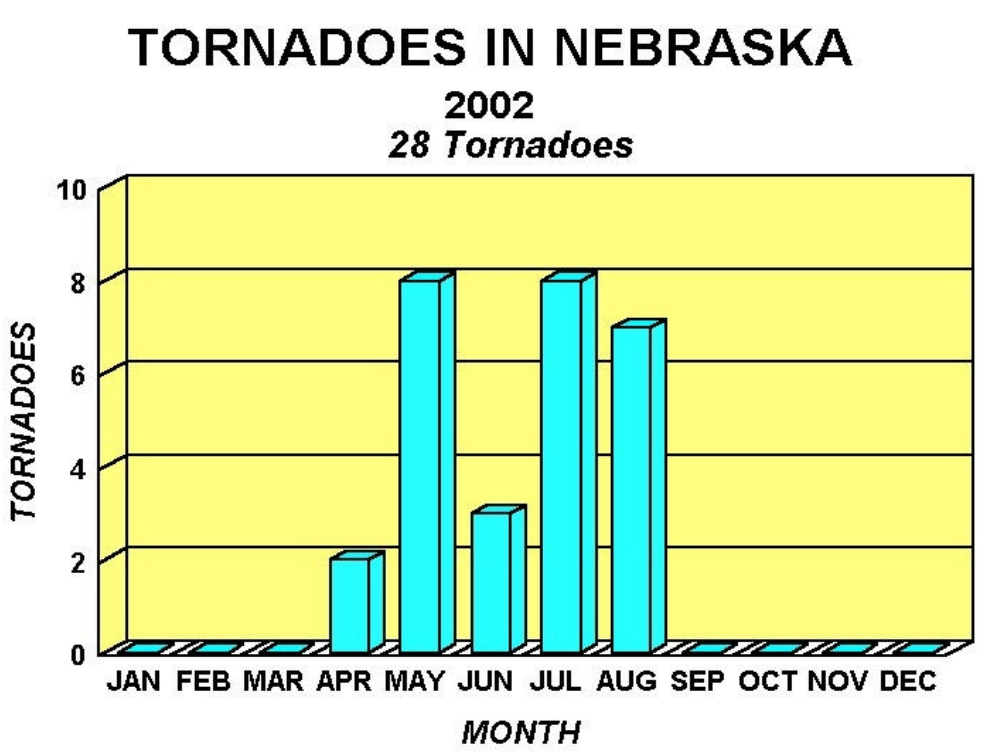
To rate the intensity of tornadoes, the National Weather Service utilizes the F-Scale. The F-Scale was developed by Dr. T. Theodore Fujita of the University of Chicago in 1971.
The F-scale is divided into six intensity categories; F0 to F5 that reflect maximum wind speed estimates based upon damage done to buildings and structures.

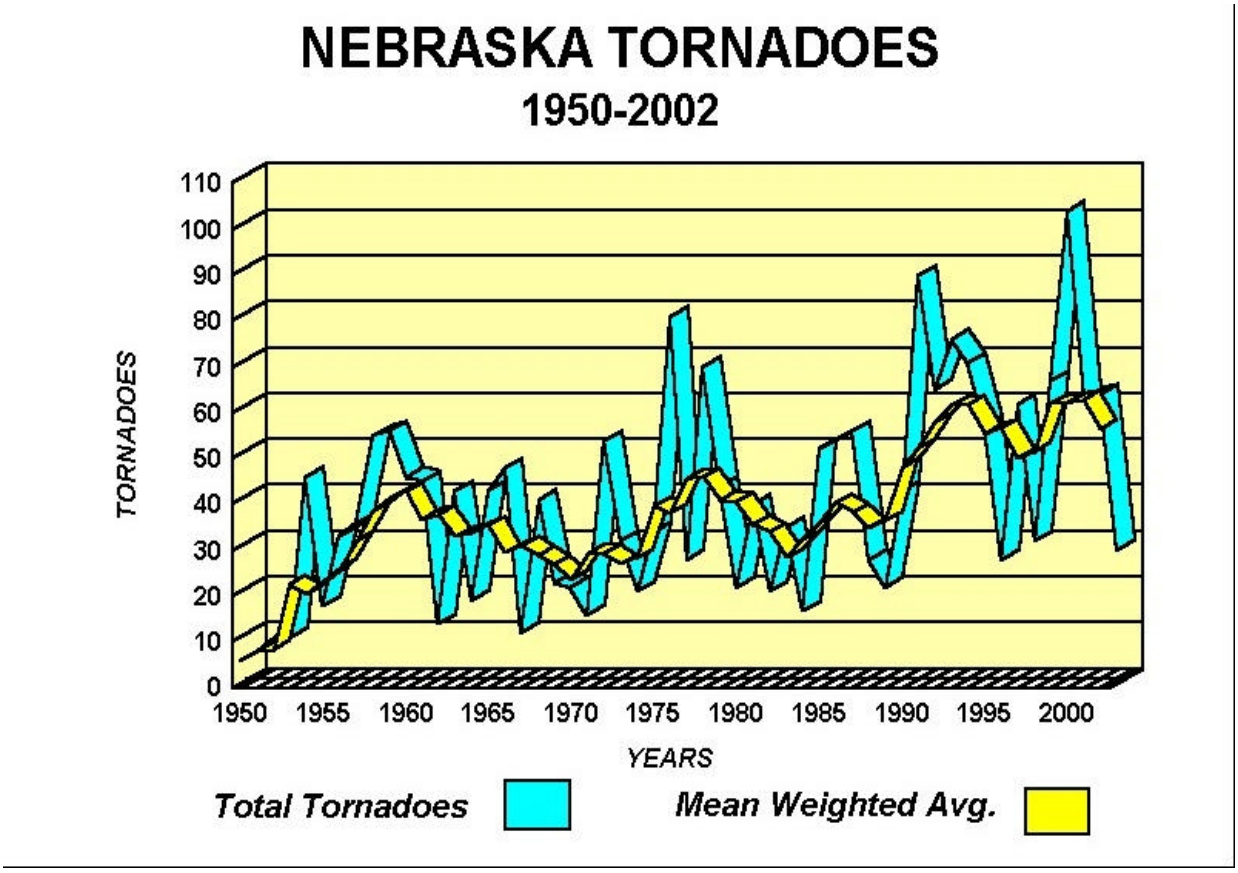
Fujita Tornado Damage Scale

Scale	Classification	Wind Estimate
F0	Weak	40 - 72 mph
F1	Weak	73-112 mph
F2	Strong	113-157 mph
F3	Strong	158-206 mph
F4	Violent	207-260 mph
F5	Violent	261-318 mph

Typical Damage

F0 - Light damage. Some damage to chimneys; branches broken off trees; shallow-rooted trees pushed over; sign boards damaged.
F1 - Moderate damage. Peels surface off roofs; mobile homes pushed off foundations or overturned; moving autos blown off roads.
F2 - Considerable damage. Roofs torn off frame houses; mobile homes demolished; boxcars overturned; large trees snapped or uprooted; light-object missiles generated; cars lifted off ground.
F3 - Severe damage. Roofs and some walls torn off well-constructed houses; trains overturned; most trees in forest uprooted; heavy cars lifted off the ground and thrown.
F4 - Devastating damage. Well-constructed houses leveled; structures with weak foundations blown away some distance; cars thrown and large missiles generated.
F5 - Incredible damage. Strong frame houses leveled off foundations and swept away; automobile-sized missiles fly through the air in excess of 100 meters (109 yds); trees debarked; incredible phenomena will occur.





Tornado Statistics

by Brian Smith Warning Coordination Meteorologist

NOAA Weather Radio
All Hazards Alert

http://www.crh.noaa.gov/oax/nwr/nwr_main.shtml

The OAX forecast area now has eight transmitters that cover eastern Nebraska and western Iowa.

Omaha, NE -- KIH-61 -- 162.400 MHZ
Lincoln, NE -- WXM-20 -- 162.475 MHZ
Carroll, NE -- WXL-77 -- 162.550 MHZ
Shubert, NE -- KWN-41 -- 162.500 MHZ
Essex, IA -- KZZ-50 -- 162.550 MHZ
Hancock, IA -- KZZ-52 -- 162.525 MHZ
Beatrice, NE -- KZZ-69 -- 162.450 MHZ
Columbus, NE -- WNG-549 -- 162.450 MHZ

NWR is not only one of best sources of tornado, severe weather, and flash flood warning, but is also used to broadcast civil emergency messages (chemical spills, nuclear accidents, train derailments etc.), terrorist attacks, and AMBER alerts.

The AMBER Plan was created in 1996 as legacy to 9-year-old Amber Hagerman, a girl who was kidnapped and brutally murdered while riding her bicycle in Arlington, Texas. The Fall of 2001 the National Center for Missing & Exploited Children (NCMEC) launched the AMBER Plan - **A**merica's **M**issing: **B**roadcast **E**mergency **R**esponse nationwide. The goal was to assist cities and towns across the United States with creating their own emergency alert plan. *So far, the AMBER Plan has been credited with the recovery of 49 abducted children.* For more information: http://www.missingkids.com/html/amberplan.html.

Left-Moving Severe Thunderstorm Produces Wind Damage at Fort Calhoun *by Daniel Nietfeld*

Science and Operations Officer

Our severe thunderstorm season ended in 2002 with a misbehaved storm. It was misbehaved for two reasons: it produced extensive damage, and it had a left-turning movement, which was different from most thunderstorms. For anyone living along a path from the Elkhorn and Fort Calhoun areas into Mondamin Iowa, you may remember getting blasted with large hail driven by 60 to 100 mph winds during the evening of October 1st, 2002. This severe weather was caused by a thunderstorm that developed near the Platte River on the Douglas-Saunders county line, then took a left-moving path as opposed to a right-moving path. Most thunderstorms in the northern hemisphere either track along a straight line, or they turn to the right.

The primary reason this thunderstorm veered to the left was because of the unique "shear" caused by the winds from the ground into the middle levels of the atmosphere. Typically these winds result in severe thunderstorms splitting in two, then the southernmost storm strengthens and turns to the right while the northern storm dissipates. However the winds on October 1st favored the strengthening of the northern storm, and an associated left-turning route.

These left-moving supercells are rare. Instead of rotating in a counter-clockwise direction, they rotate in a clockwise direction. The odds of seeing a tornado from a left-moving supercell are extremely low, but these storms can be prolific hail producers. They can also persist for several hours, and can produce "downburst" winds. The storm that moved through eastern Nebraska and western Iowa on October 1st produced large hail and strong winds, which injured two people in Fort Calhoun, and caused extensive structural damage along its path.

A damaged home in the Fort Calhoun area as a result of the severe left-moving thunderstorm on October 1, 2002.

The storm track of the left-moving supercell thunderstorm on October 1, 2002.

Important Changes to the NWS Product Headers

Effective Tuesday, March 25, 2003 at 100 am CST, the product header for eight public warning products will transition to the end state WMO (World Meteorological Organization) headers. These products include:

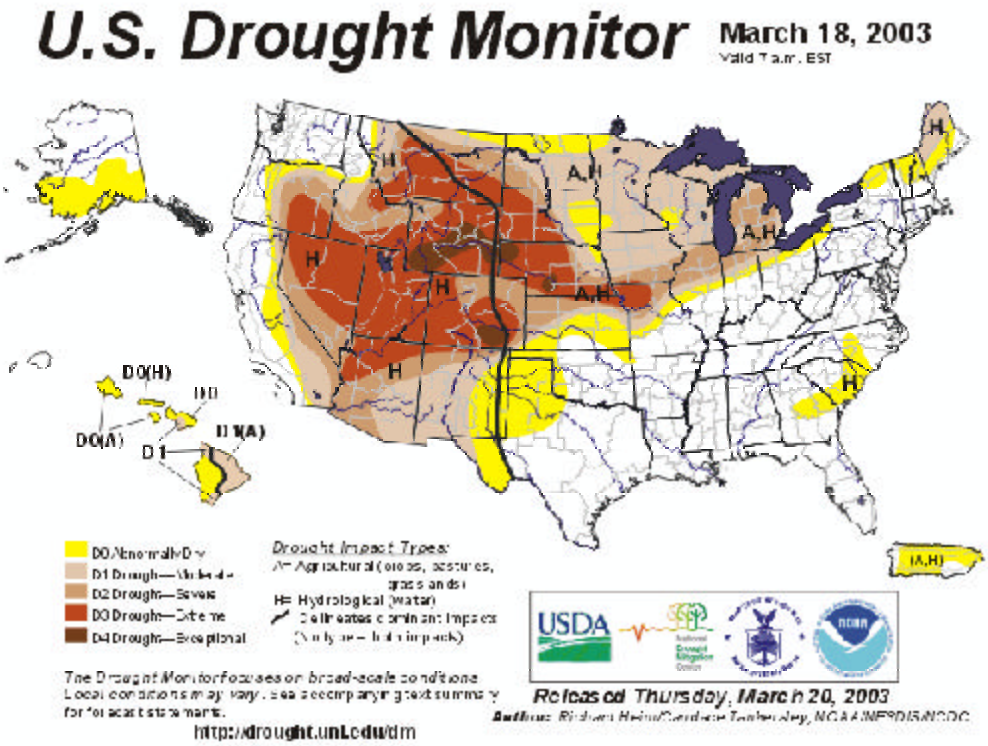
TOR	TORNADO WARNING	FFW	FLASH FLOOD WARNING
SVR	SEVERE THUNDERSTORM WARNING	FLW	FLOOD WARNING
SPS	SPECIAL WEATHER STATEMENT	FFS	FLASH FLOOD STATEMENT
LSR	LOCAL STORM REPORT	FLS	FLOOD STATEMENT

The second line of the product header will also be changed. The following list shows the old and new headers for the Omaha/Valley National Weather Service Forecast Office.

WFO	Current AWIPS	Current WMO	New AWIPS	New WMO
OAX	TOROMA	WFUS53 KOAX	TOROAX	WFUS53 KOAX
OAX	SVROMA	WUUS53 KOAX	SVROAX	WUUS53 KOAX
OAX	SPSOMA	WWUS35 KOMA	SPSOAX	WWUS83 KOAX
OAX	LSROMA	WWUS30 KOMA	LSROAX	NWUS53 KOAX
OAX	FFWOMA	WGUS53 KOAX	FFWOAX	WGUS53 KOAX
OAX	FLWOMA	WGUS43 KOAX	FLWOAX	WGUS43 KOAX
OAX	FFSOMA	RWUS32 KOMA	FFSOAX	WGUS73 KOAX
OAX	FLSOMA	RWUS42 KOMA	FLSOAX	WGUS83 KOAX

Seasonal Outlook for April-June

The latest seasonal outlook for April-June for Nebraska and Iowa is calling for above normal temperatures for southeast NE and southwest IA with near normal temperatures elsewhere and near normal precipitation. For subsequent updates, check out: http://www.cpc.ncep.noaa.gov/products/predictions/90day/lead02/index.html



Drought Monitor

For the latest on drought conditions, visit: http://www.drought.unl.edu/dm/index.html

WEATHER WATCHERS

The "Weather Watchers" section of our newsletter is dedicated to those COOP observers that have recently reached length of service milestones. Their tireless efforts are greatly appreciated by the National Weather Service!

25 Years of Service

Farley Amick—Weeping Water

Bob Fendrick—Pender

Kelly Hodson center, Luella Hodson right, and back-up observer Jerry Wingert left– Osmond

WEATHER WATCHERS Con't

20+ Years of Service

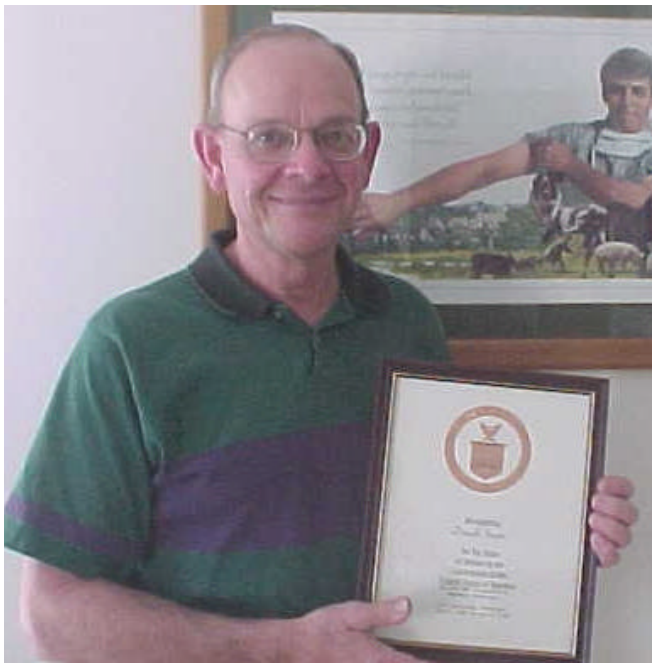
John Ramsey—Dawson

Bob Yost—Coleridge

15 Years of Service

10 Years of Service

Donald Sweat—Syracuse



Jim Perley—Little Sioux, IA

National Weather Service – Omaha/Valley, NE

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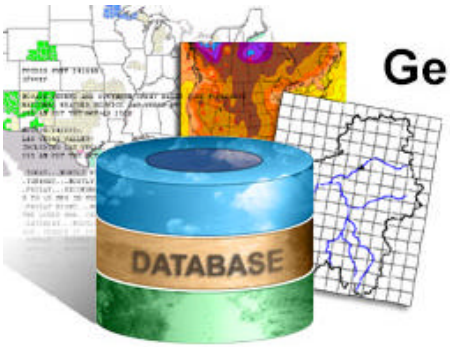
We're on the Web!
www.crh.noaa.gov/oax/

NOAA Weather Radio Saves Lives



General Information

NDFD
NWS National Digital Forecast Database

NDFD General Information is Now Available and NDFD Grids Can Be Downloaded to Your PC

Check out the following sites for more information on the National Digital Forecast Database and how you can download this experimental database.

http://weather.gov/ndfd/generalinfo/newprocess.htm

GRIB2 decoding software: http://www.nws.noaa.gov/mdl/NDFD_GRIB2Decoder

OAX Adds Van DeWald to Senior Forecaster Staff

I was born and raised near Daykin, NE, and have 7 brothers and sisters that live in Daykin, Fairbury, Lincoln, and also Colorado Springs. Most of my aunts and uncles, and over half my first cousins live in the Omaha forecast area. I attended College at the University of Nebraska in Lincoln, where I met my wife Deirdre of ten years, who teaches 6th grade reading and language arts. We have a daughter who is 7 years old, and is currently in the first grade and is actively involved in Girl Scouts and dance. All of my wife's immediate family live in the Omaha vicinity as well.

I started my NWS career in Limon, Colorado where I worked for one and one half years, transferred to Waterloo, Iowa where I worked for about one year, and have been a forecaster in Louisville for the last 8 years. Over the course of my career, I've been involved in nearly all aspects of meteorology, including operational forecasting, outreach efforts, storm spotter training, and local research. I have attended and presented at several AMS conferences throughout my career, and have published several articles in weather-related journals. Over the last three years, I've been a member of a regional Web Services Team, and have helped chart and direct web services for the National Weather Service, including the Advanced Hydrologic Prediction Services, Interactive Graphical Forecasts, standardized forecast pages, and other new weather-related web technologies.

Outside of the office, I enjoy the outdoors, hiking, working in the yard, computers, travel, photography, astronomy, amateur radio, coin collecting, and watching movies.