The Great Plains Gazette

National Weather Service Hastings, Nebraska

Vol. 1 Issue 3

Greetings from the Meteorologist-in-charge

This is the welcome back issue of the NOAA – National Weather Service – Hastings newsletter. It's an appropriate time to be resurrecting the newsletter as it coincides with one of my favorite seasons; Fall. With the Fall comes an occasional tinge of winter, the days get shorter; temperatures begin to creep ever lower. The harvest has started and the gardens are being put to rest. On the other hand, the mums are beginning to show up with one last round of color splashed across the porches and lawns, the trees are starting to turn and school has reached a routine.

The National Weather Service in Hastings is going through a similar transition. After a long, hot and relatively dry summer, fall is a quiet time as we begin the preparations for winter. Historically, there is a period from mid September through late October where severe weather has struck the region. Additionally, there are many historical accounts of late fall winter storms producing blizzard-like conditions ripping through the Central Plains in October and November.

Rest assured that the staff at the Hastings office is ready and is constantly working on improving our knowledge and ability to forecast and warn potentially life threatening events. To further enhance our ability to reach and inform the people we serve, several initiatives are under development for the upcoming year.

By spring of 2007, the Warning Coordination Meteorologist, **Steven Kisner**, will have implemented a voluntary community-based advisory group to provide us with feedback regarding our NOAA All-Hazards Weather Radio services. This group will be asked to suggest ways to improve our severe weather NWR services. Participation will be voluntary and represent a broad cross-section of people.

During February, the Hastings Office will be conducting spotter and first responder training throughout the region. This year we are going to try to work with our media partners to provide a spotter training certification process. More information will be published on our webpage, newspapers and other media outlets.

Over the next 12 months, outreach activities will find the National Weather Service at various agricultural, trade and business shows in North Central Kansas and South Central Nebraska. Our staff will be available to answer questions and provide other information about the services offered by our agency. Over the past several years our booth has been set up at Husker Harvest Days, the Adams County Fair, the Kearney Home Show, the Water Jamboree at Harlan Lake and we have even had booths at a few airports and fly-ins.

The National Weather Service stands ready to serve you. Whether it is directly through the reception of a warning via NOAA

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

Inside This Issue

Editor: James Reynolds

Greetings from the Meteorologist-in-charge

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Weather Radio, obtaining climate data from one of the many dedicated Cooperative Observers, participating on our NOAA Weather Radio advisory group, obtaining certified spotter training or taking a tour of the office, we stand ready and willing to provide you with the best imaginable service around.

If you have any questions, please contact me. I look forward to seeing you this year.

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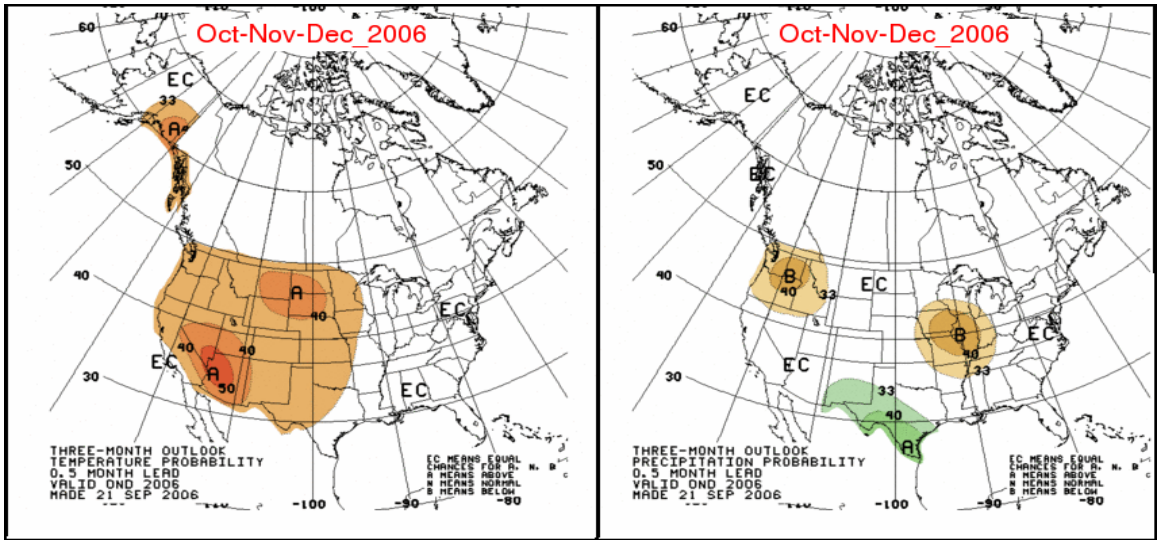
Climate Connection

We all remember when we were a kid and the summers were hotter and the snow drifts deeper. Some of us may remember the coldest day ever on Christmas, or a record rainfall. Others may remember the year grasshoppers ravaged the crops or winter during which we hardly wore a winter coat. All of those memories and observations tell us about the climate of an area in some way or another.

Today, the science of climate has evolved beyond just observations of the past, and now includes predictions of the future. Those predictions are not only based on the science of the atmosphere, but ocean science, geologic science, and literally the science of the entire globe. The upcoming fall and winter months may be strongly influenced by one such global phenomenon: El Ninõ.

El Ninõ is a warming of the Pacific Ocean near the equator. It occurs every 3 to 7 years. Simply put; the changing sea surface temperature translates to a change in the atmosphere. So called "normal weather patterns" are shifted. Places that are normally dry in the winter become wet. Locations usually cold in the winter become warmer. Predictions for October, November and December (OND) 2006 call for warmer than normal temperatures across the Plains states, including Nebraska and Kansas. Precipitation is expected to be near normal. These predictions take into account the influence of the developing El Ninõ.

So, as we have all become more "connected" by technology, so has our knowledge and understanding of the "climate connection" around the globe which influences our weather so very much.

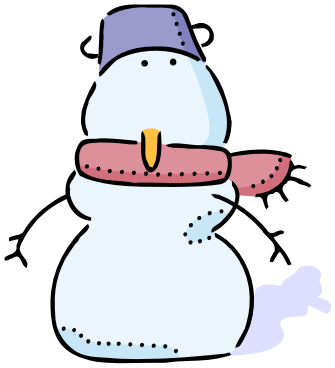


Average Temperature for OND 2006 (***orange*** is warmer than normal)

Average Precipitation for OND (***green*** is above normal and ***brown*** is below normal)

Notes from M O M

I N D F A R L A



Fun in the snow, if we get enough.

Will it be a snowy winter or will our string of warmer than normal winters continue? One thing we can count on is the fact we will receive some snow and we will have some cold days. We just don't know how much of either. In preparation for the snow season, please be sure and remove the funnel and inner tube from your 8 inch rain gage. Sites with the recording rain gage should remove their funnel as well.

Just a few reminders for your winter reports:
A Snow Measurement Guideline is attached and should be reviewed prior to our first snowfall. This way you can call if you have any questions. One favor I would like to ask, please do not use the hash marks **(")** to indicate inches. The column header already indicates this. When you have light snow and it really doesn't amount to much, or it is just a few flakes, you will record this as a trace **(T)** in both the first and second columns of the 24-Hour Amounts. If it has resulted in a dusting of snow cover on the ground by observation time, this is also a trace **(T).**

Our observer family has changed a little over the summer months. We added a new station at Dannebrog 4NW with Karmen Mackey as the observer. Jim Bolin has signed on as the river reporter near Gibbon and Deidra Werner is our new observer at Naponee. Lawrence and Viola, long time observers at Naponee, will now serve as backup observers for Deidra. The Sheriff's Office in Beloit is our new river reporter for the Solomon River. We were not able to find a suitable location for the gage at Long Island, Kansas, so the station has been inactivated. Unfortunately this means we have had to say good-bye to Brett and Lynette Hammond. They have done a wonderful job over the years. If anyone knows of someone in the Long Island area interested in measuring the precipitation, please let me know.

COOP Observer Mike Overturf of Rural Clay Center presented the John Campanius Holm Award on September 1st, 2006

Pictured above presenting the Holm Award to Michael Overturf of rural Clay Center, Nebraska are: Bob Bonack (CRH Cooperative Programs Manager), Steve Carmel (HMT at WFO Hastings, NE), Michael Overturf of rural Clay Center, Michael Lewis (MIC at WFO Hastings, NE), and Marla Doxey (Data Acquisitions Program Manager at WFO Hastings).

This award is to honor cooperative observers for outstanding accomplishments in the field of meteorological observations. It is named for John Campanius Holm, a Lutheran minister, the first person known 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. No more than twenty-five Holm awards are given annually. The certificate is signed by the Administrator of the National Oceanic and Atmospheric Administration (NOAA).

The first extensive network of cooperative stations was established late last century as a result of an 1890 Act of Congress that established the Weather Bureau (although many of its stations began gathering data long before that time). John Campanius Holm's weather records, taken without the benefit of instruments in 1644 and 1645, were the earliest known observations in the United States. Subsequently, many persons, including George Washington, Thomas Jefferson, and Benjamin Franklin, maintained weather records. Jefferson maintained an almost unbroken record of weather observations for 40 years, and Washington took his last weather observation just a few days before his death. Because of its many decades of relatively stable operation, high station density, and high proportion of rural locations, the Cooperative Network has been recognized as the most definitive source of information on U.S. climate trends for temperature and precipitation.

Attendance at the Holm Award Presentation, conducted at the American Legion Post 61 located in Sutton, Nebraska was very high, as many of Mike Overturf's friends, family and co-workers attended the event. Representing the National Weather Service from Hastings were Mike Lewis, Meteorologist-in-Charge of the Hastings office, Merl Heinlein - Senior Forecaster from NWS Hastings, Marla Doxey - Data Acquisition Program Manager, and Steve Carmel, who nominated Mike Overturf for the Holm Award. Representing the National Weather Service Central Region Headquarters office from Kansas City was Mr. Bob Bonack - Regional Cooperative Program Manager.

Mike Overturf was presented with a book containing all the nomination letters that were written in support of his Holm Award, as well as another notebook which had synoptic maps from the March 13th, 1990 tornado outbreak. Letters of Appreciation were presented to Mike from U.S. Senator E. Benjamin Nelson, U.S. Senator Chuck Hagel, U.S. Representative (and former Nebraska head football coach) Tom Osborne, and from Nebraska Governor Dave Heineman.

Mike Overturf became the observer at the rural Clay Center site on July 13, 1978, reporting daily precipitation and snowfall data for the National Weather Service. Mike Overturf has continued reports from the historical location for which data was first collected on January 1, 1894. He provides critical precipitation information affecting Little Sandy Creek, which begins near the Overturf farm.

Mike Overturf is also a long time provider of accurate and timely information during severe convective weather or in harsh winter conditions such as our recent November 29th, 2005 blizzard – where his reports were invaluable.

(COOP Observer Mike Overturf Honored - continued on page 5)

(COOP Observer Mike Overturf Honored - continued from page 4)

Some of Mr. Overturf's most memorable storm recollections follow. In September 2001 a tornado passed very close to the Overturf farm, destroying two neighbors' farmsteads. On March 13th, 1990 a family of tornadoes first touched down 3 miles south of Red Cloud. In Clay County, one business was destroyed, 11 businesses were damaged, and 49 homes were damaged. A pickup truck was overturned with 3 injuries, and a police car was overturned with one injury. Twenty farms were damaged in rural areas. During this traumatic event, one of the Overturf's closest neighbor's farmstead was completely destroyed. At the time of this tornado, Michael Overturf was finishing up a caesarian birth at the Meat Animal Research Center. This tornado turned out to be a multiple vortex storm, and produced a main damage path within 400 yards of the Overturf residence. This tornado took out a couple trees, and moved a garage at their residence. Luckily a neighbor called to report the tornado to Sandy and Anna Overturf who moved to the safety of their basement immediately. As this was a multi vortex tornado event, it passed across the Overturf farm and twisted a tree in their yard, which has been known ever since as the "Tornado Tree". Mike's wife has asked about trimming back some of the dead branches within the tornado tree, but Mike has deftly maneuvered his way around this!

May of 2004 proved to be a very rocky month, with tornado outbreaks on May 22nd and May 24th. Mike Overturf provided numerous reports to the National Weather Service in Hastings of train derailments, significant damage to the USDA Animal Research Center including the loss of a calving barn, pole barn and center pivots. On the outbreak of May 24th, 2004 – Michael Overturf had the very first report of a tornado during a multiple tornado event. Warning Coordination Meteorologist Steven Kisner stated, "Mike Overturf's reports that day were invaluable, since the first tornadoes were weak landspout types, thus hard to detect on radar".

One of Mike's biggest hobbies is the restoration of antique cars. He has restored a 1930 Plymouth Business Coupe. This car performed as a stock car, and Mike's father served as part of the pit crew. When Mike restored this Plymouth coupe, he restored it back to full racing condition. After the restoration was completed, Mike's first stop in public was a surprise visit to Dale Toele, the former owner of the stock car. This brought great joy to Dale and it also shows what a big heart Mike Overturf possesses.

Another project Mike tackled was the restoration of a 1949 Ford Pickup. He totally restored this truck and uses it to pull the restored stock car to shows and exhibitions.

The NWS Hastings office would like to thank Mike Overturf for his many years of meritorious service as a cooperative weather observer from rural Clay Center, as well as his excellent spotter reports and frequent calls to the office during inclement weather situations. Kudos to Mike!

NWS Hastings Electronic Technicians Improve Local Automated Surface Observation Systems

During the past year Hastings NWS Electronics Technicians have installed improved sensors for three Automated Surface Observation Systems (ASOS) in central Nebraska. The sensors are a part of the ASOS platform which is being used at over 800 airports across the United States. ASOS provides weather observations 24 hours a day and is designed to support weather forecasting activities, aviation operations and the needs of the meteorological, hydrological and climatological research communities.

An All-Weather Precipitation Accumulation Gauge (AWPAG) was installed at the Central Nebraska Regional Airport in Grand Island in October of 2005. This gauge replaced the heated tipping bucket (HTB) gauge which was prone to under-reporting frozen and freezing precipitation. The AWPAG is a heated gauge which melts collected snow and weighs the total accumulation. It also compensates for evaporation and wind-induced vibrations, giving a more accurate precipitation measurement.

Conventional wind speed and direction sensors were replaced with ultrasonic Ice-Free Wind Sensors at Grand Island's Central Nebraska Regional Airport, Hastings Municipal Airport and Evelyn Sharp Field at Ord. The ultrasonic wind sensor determines the horizontal wind speed and direction and provides greater accuracy and reliability during high wind events. The design of the special ice-free model prevents the buildup of freezing rain and snow, and ensures uninterrupted operations, even during the harshest Nebraska winter storm.

Water Jamboree

Meteorologists Jeremy Wesely, Jim Reynolds and Scott Bryant taught over 300 fourth, fifth and sixth grade students about weather and the environment at the 2006 Water Jamboree on April 25 and 26 at Harlan County Reservoir near Alma, Nebraska.

The two day event was sponsored by the Tri-Basin Natural Resources District and six other state and federal organizations from Kansas and Nebraska. This was the 14th year for the Water Jamboree and the 6th year WFO Hastings has participated. The Water Jamboree emphasizes the interdisciplinary water activities of water quality, conservation, the hydrologic cycle and environmental awareness.

Jeremy, Jim and Scott coordinated a program of 6 physics experiments, which were chosen to demonstrate basic weather concepts. Upon arriving at the NWS station, groups of students were first given the challenge of piercing a raw potato with nothing but a drinking straw. Students learned that by folding over one end of a straw and then wrapping their fingers around the straw, they could pierce a potato with the straw. This was made possible because of a buildup of air pressure in the straw during the piercing process that caused the straw to become rigid and kept if from breaking. Next, the attendees were shown that it is possible to suck a hard-boiled egg into a glass bottle due to differences in air pressure.

In the third experiment, students were shown how rock salt added to small volumes of water can actually cool the water because of the salt's ability to absorb heat. This was followed by the fourth experiment where a square piece of cardboard was placed on top of the rim of a cup of water. While the demonstrator held his hand on top of the piece of cardboard, the water cup was inverted. The demonstrator then took his hand out from underneath the cup of water. Because of the lower air pressure inside of the cup, the cardboard stuck to the rim of the cup and the water stayed inside of the cup.

For the fifth experiment, students were shown the "tornado-in-a-bottle". To make this weather teaching tool, two 2-liter plastic bottles were connected by the screw-top threads on the necks of the bottles with a special coupling that allowed water in the bottles to flow from one bottle to another. When the connected bottles were stood upright on a flat surface and spun a little bit, a small vortex would form in the water flowing from the top bottle to the bottom one.

The most excitement was saved for the last experiment in the program. Here, 3 pieces of Mentos candy were tied together, dropped into a 2 liter bottle of diet cola, at which time the bottle was recapped. The candy made the cola violently spew upwards of 20 feet out of the bottle through a small hole in the cap. For complete details on the event, and more thorough explanations of the experiments, please visit http://www.crh.noaa.gov/gid/?n=jamboree2006

WINTER WEATHER TERMS YOU SHOULD KNOW

Each year, the National Weather Service issues numerous watches, warnings and advisories. Knowledge of those products is a critical element in winter weather preparations.

Winter Storm Watch: Adverse winter weather (heavy snow, ice, blizzard) is expected within the next two to three days, but the exact timing, location or occurrence of the storm is still uncertain. This is the time to get prepared for the storm.

Winter Storm Warning: A combination of snow, wind and/or ice is likely. If not already occurring, it is expected to occur within 6 to 24 hours. Travel will be hazardous, if not impossible. You should be ready for a winter storm by this time.

Blizzard Warning: The most dangerous of all winter weather will occur in your area. A combination of winds 35 mph or greater and significant snow and/or blowing snow with visibilities less than 1/4 mile for three or more hours is expected in the warning area. Blinding snow ("white out"), deep drifts and life threatening wind chill will occur. Travel will be dangerous and should not be attempted. **You should seek refuge immediately!**

Ice Storm Warning: Significant ice accumulations, greater than ¼ inch, which causes damage to power lines and trees and widespread slick roads.

Heavy Snow Warning: A snowfall totaling 6 inches or more to fall in 12 hours or 8 inches or more to fall in 24 hours.

Snow Advisory: A snowfall totaling 3 to 5 inches to occur in 12 hours

Freezing Rain Advisory: Ice accumulation of less than ¼ inch, which causes slick conditions.

Winter Weather Advisory: A combination of winter weather conditions are expected to cause significant inconveniences and may be hazardous. If caution is exercised, these situations should not be life threatening. The greatest hazard is often to motorists.

Wind Chill Advisory: Wind chill index readings from -20° to -30° Fahrenheit.

Wind Chill Warning: Wind chill index readings colder than -30° Fahrenheit.

NWS Hosts Students from Hastings College

For the eleventh consecutive year, our office will host several students from Hastings College who have an interest in the weather. Four students will come to the office once a week during the autumn semester to participate in a lab class for which they receive college credit. This group is part of a larger class taking an introductory meteorology course at the college. During their time at our office, the students will study various topics including, NWS operations, winter weather, convective weather, radar meteorology, storm spotting, hydrology, hurricanes, etc.

Several staff members assist in this venture by teaching one of the sessions. Many of the sessions are interactive with the students utilizing our AWIPS workstations, plotting weather maps, and taking the stage reading for a river. They also participate in a severe weather case scenario where they issue simulated warnings.

This program has proven to be beneficial to both the college and WFO Hastings. To date, over 40 students have completed the course. Meanwhile, the college has been very accommodating when our office needs a place to hold a meeting or conference. In addition, the college students are able to observe the inter-workings of a NOAA operational office, while our staff can interact with another cross section of our customer demographic.

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For more weather information, check us out on the internet at www.crh.noaa.gov/gid