

Nebraska

Severe Weather Awareness Week

March 14 - 18, 2011

Tornado Safety Drill

Wednesday, March 16th
Between 10 & 11 a.m. CDT

Nebraska Weather Awareness Committee Partners:



KRVN
880 Rural Radio



**American
Red Cross**

Omaha World-Herald
Omaha.com



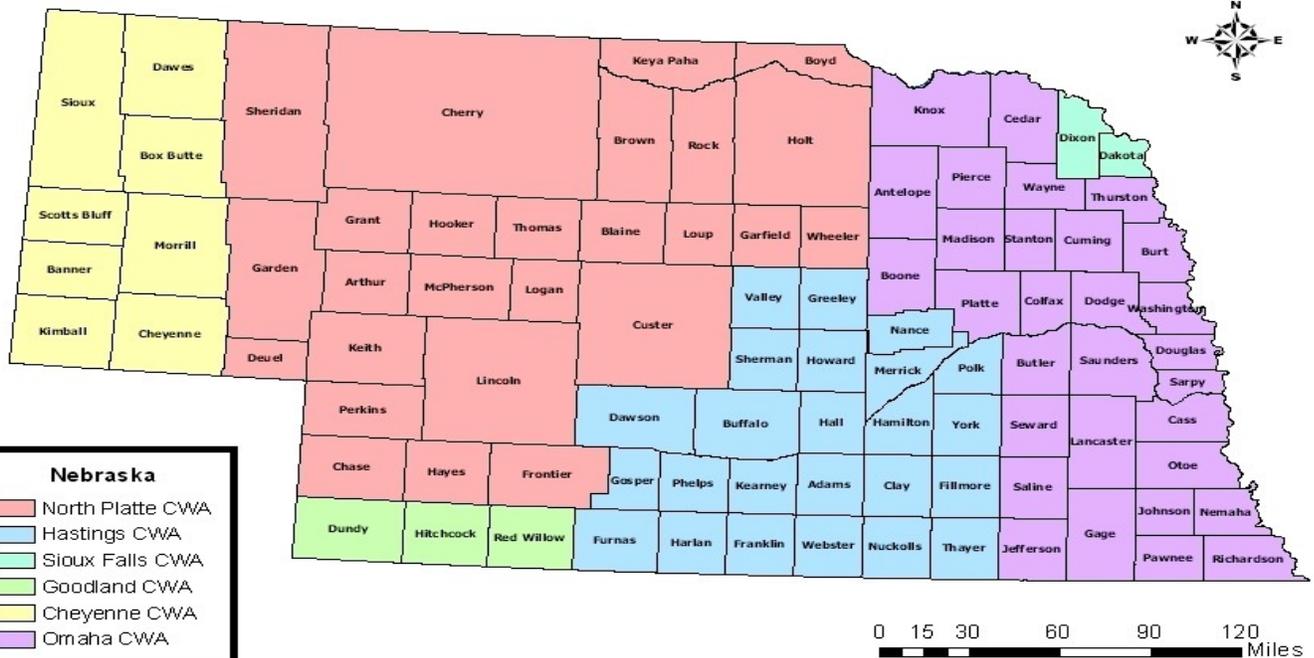


National Weather Service Offices Serving Nebraska

Severe Weather Awareness Week March 14 - 18, 2011



National Weather Service Coverage Area



Far West

National Weather Service
1301 Airport Parkway
Cheyenne, Wyoming 82001
(307) 772-2468

<http://www.weather.gov/cys>

West and North Central

National Weather Service
5250 E. Lee Bird Drive
North Platte, Nebraska 69101
(308) 532-4936

<http://www.weather.gov/lbf>

Southwest

National Weather Service
920 Armory Road
Goodland, Kansas 67735
(785) 899-7119

<http://www.weather.gov/gld>

South Central

National Weather Service
6365 North Osborne Drive West
Hastings, Nebraska 68901
(402) 462-4287

<http://www.weather.gov/gid>

East

National Weather Service
6707 North 288th Street
Valley, Nebraska 68064
(402) 359-5166

<http://www.weather.gov/oax>

Far Northeast

National Weather Service
26 Weather Lane
Sioux Falls, South Dakota 57104
(605) 330-4247

<http://www.weather.gov/fsd>



2010 Severe Weather Summary

Severe Weather Awareness Week March 14 - 18, 2011



2010 Nebraska Tornado Facts

Tornadoes: 38 (4 below the 1950-2010 average of 42 & 13 below the 30 year average of 51)

Deaths: 0 **Injuries: 0**

Longest Track: 19 miles (June 7th - Scotts Bluff County - 0.3 east Scottsbluff to 4.5 east of McGrew)

Greatest Width: 1300 yards (June 20th - Nuckolls County)

Strongest: EF2 (May 22nd - Keya Paha County & June 20th - Nuckolls County)

Most in a county: 5 (Kimball and Scotts Bluff Counties)

Days of occurrence: 19

Most in one day: 7 (June 7th)

Most active hour of the day: 9 tornadoes from 6-7 p.m. CDT

Most in one month: 22 (June)

First tornado of the year: April 29th (EF1 - Jefferson County)

Last touchdown of the year: September 13th (EF0 - Jefferson County)



----- 2010 Monthly Tornado Totals -----

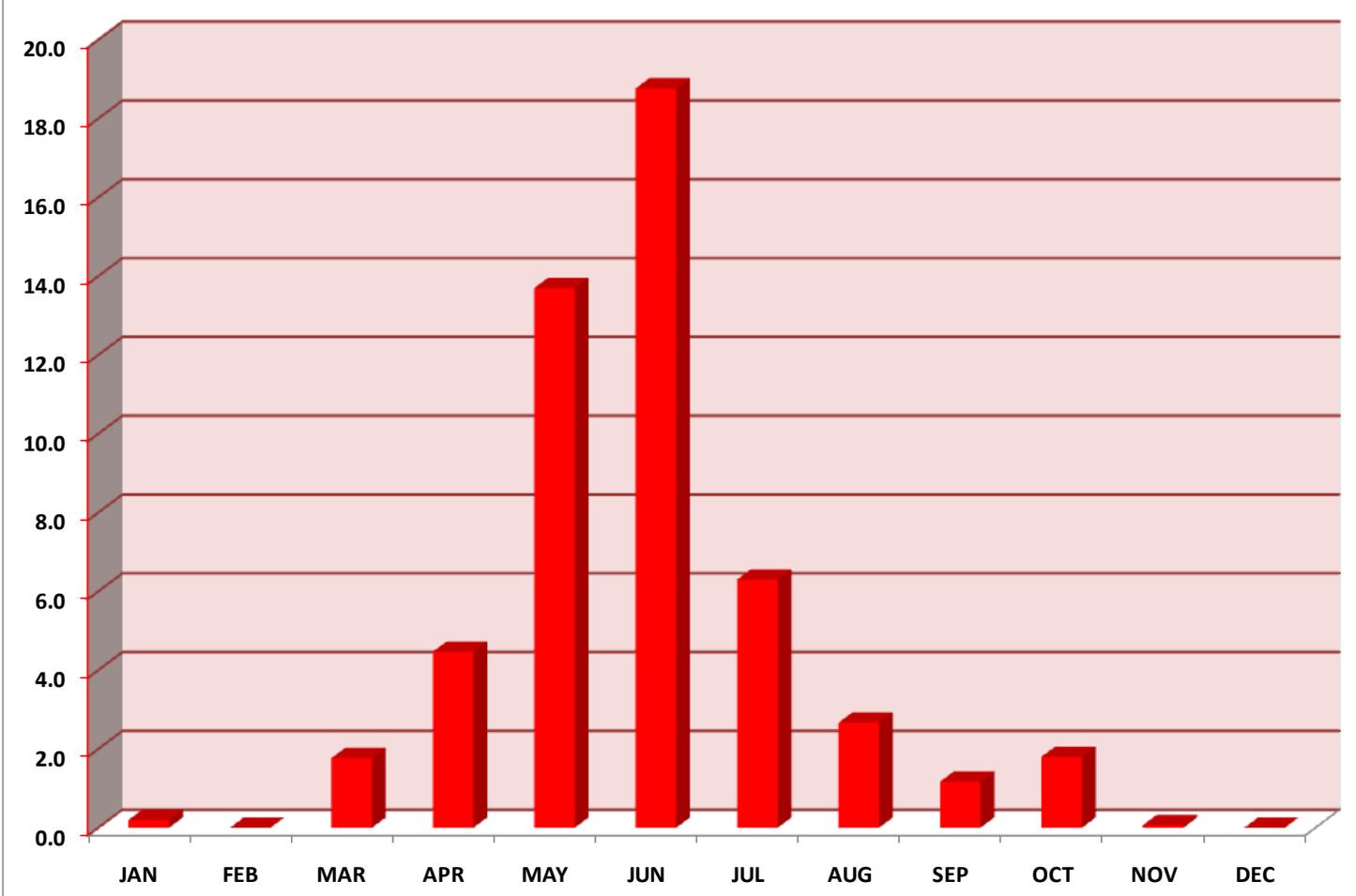
| Month | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Total | |
|--------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-------|-------|
| Total | 0 | 0 | 0 | 1 | 9 | 22 | 5 | 0 | 1 | 0 | 0 | 0 | 38 | 100 % |
| EF5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 % |
| EF4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 % |
| EF3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 % |
| EF2 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 5 % |
| EF1 | 0 | 0 | 0 | 1 | 0 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 5 | 13 % |
| EF0 | 0 | 0 | 0 | 0 | 8 | 17 | 5 | 0 | 1 | 0 | 0 | 0 | 31 | 82 % |

2010 Season Peak...

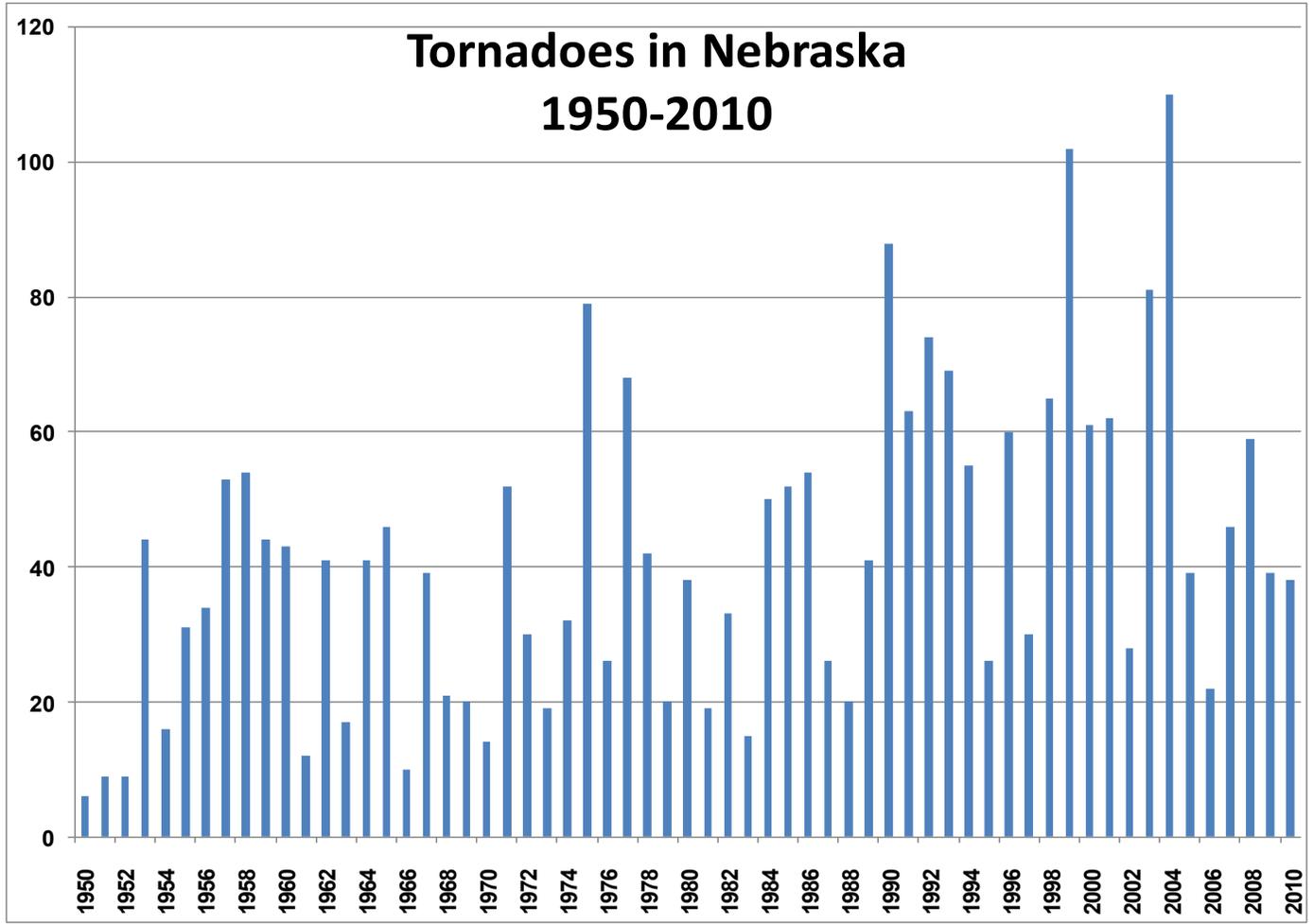
Hail Size - 4.25" (Softball size) on May 24th (Kimball County)
September 22nd (Knox County)

Wind Gust - Estimated: 90 mph on July 17th (Buffalo County)
Measured: 94 mph on July 11th (Dawson County)

Nebraska Tornadoes Monthly Mean Totals 1981-2010



Tornadoes in Nebraska 1950-2010



Three Actions

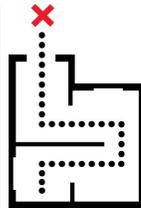
1 Get a Kit



Have at least 3 days of supplies in an easy-to-carry evacuation kit, with additional supplies on hand. Remember to check your kit and replace the stock every 6 months.

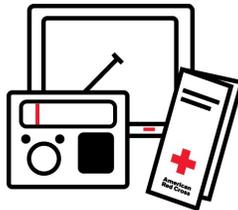
- Water & Food
- Flashlight
- First Aid Kit
- Medications
- Radio
- Batteries
- Tools
- Clothing
- Personal Items
- Money
- Map
- Contact Information
- Pet Supplies
- Sanitary supplies

2 Make a Plan



Planning ahead will help you have the best possible response to an emergency. Talk with your family and establish responsibilities. Learn how and when to turn off utilities. Practice evacuating your home twice a year. Include your pets.

3 Be Informed



Learn what emergencies may occur where you live, work or play. Know how your local authorities will notify you, and the names of surrounding towns and counties. Check the weather forecast before heading outdoors, and be aware of the signs of an approaching storm. Know where to get updated weather information, whether it be from NOAA Weather Radio, AM/FM radio, or television. Share what you have learned with your family, friends, and neighbors and encourage them to be informed too.

When we come together,
we become something bigger than us all.

For more information contact your local chapter or go to www.redcross.org



Severe Weather Terminology

Severe Weather Awareness Week March 14 - 18, 2011



SEVERE THUNDERSTORM — A thunderstorm is considered severe when it produces any of the following: Hail 1" (quarter size) or larger in diameter, winds which equal or exceed 58 MPH or a tornado.

FUNNEL CLOUD — A funnel shaped cloud, usually extending from a convective cloud, which is associated with a violently rotating column of air that is NOT in contact with the ground.

TORNADO — A violently rotating column of air that extends from a convective cloud and is in contact with the ground. The entire column of air associated with a tornado is not always visible. A tornado may only be visible once it has picked up enough dirt and debris.

HAZARDOUS WEATHER OUTLOOK — A product which is issued daily, highlighting any potential significant weather in the area for the next 7 days.

WATCH — Issued when conditions are favorable for the development of severe weather in and close to the watch area. The size of the watch can vary depending on the weather situation and is usually issued for a duration of 4 to 8 hours. During the watch, people should review severe weather safety rules and be prepared to move to a place of safety if threatening weather approaches.

WARNING — Issued when severe weather is detected by radar or reported by storm spotters. Information in this warning will include the location of the storm, what areas will be affected, and the primary threat associated with the storm. People in the affected area should seek safe shelter immediately. Remember that severe thunderstorms can produce tornadoes with little or no advance warning. Warnings can be issued without a watch already in effect.

SIGNIFICANT WEATHER ADVISORY — Issued for "near" severe thunderstorms. Typically issued for storms with 3/4" (penny sized) hail and wind gusts near 50 MPH, but can also be issued for large amounts of small hail covering the ground. It is used as a "heads up" for ongoing severe storms which may move into the area.

SEVERE WEATHER STATEMENT — A product issued which provides follow-up information on any severe weather warnings in effect and conditions which have occurred or are occurring. This information includes updated storm paths and any storm reports, such as hail size or damage, received from spotters.

FLASH FLOOD — A rapid rise in water that occurs with little or no advanced warning, usually as the result of intense rainfall over a relatively small area in a short amount of time. Flash Floods can also be caused by dam or levee failures, ice jams, and topography.

FLASH FLOOD WATCH — Issued to indicate current or developing hydrologic conditions that are favorable for flash flooding in and close to the watch area. When a watch is issued, be aware of any potential flood hazards. Those in the affected area are urged to be ready to take quick action if a Flash Flood Warning is issued or flooding is observed.

FLASH FLOOD WARNING — Issued when flash flooding is in progress, imminent, or highly likely. Those in the affected area should evacuate immediately or move to higher ground if possible. Information in this warning will include the locations in the flood and any areas which may be impacted. Flash Flood Warnings can be issued without a Flash Flood Watch in effect.



Thunderstorm Safety

Severe Weather Awareness Week March 14 - 18, 2011



Thunderstorms are a common occurrence across Nebraska, and if the right conditions exist, some will become severe. Recall that if a thunderstorm produces hail equal to or greater than one inch in diameter (quarter size), winds equal to or greater than 58 miles per hour, or a tornado, it is considered severe. Even though thunderstorms can and do occur at any time of the year, the most common time for thunderstorms, and especially severe thunderstorms, is during the spring, summer, and early fall.

There are many dangerous aspects of thunderstorms, severe or not, that pose a threat to life and property.

Lightning – Occurs with ALL thunderstorms.

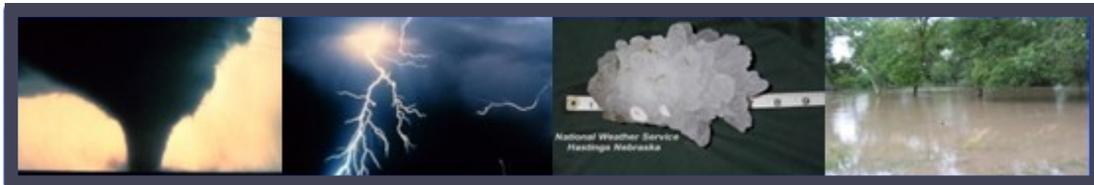
Floods – Kill more people on average than any other severe weather hazard.

Straight-Line Winds – Can exceed 100 miles per hour with damage comparable to a tornado.

Large Hail – Causes millions of dollars each year in crop and property damage.

Tornadoes – Nature's most violent storm, with winds over 200 miles per hour possible.

Each year, many people are killed or seriously injured by tornadoes and severe thunderstorms despite advance warning. Some did not hear the warning, while others heard the warning but did not believe it would happen to them. The following preparedness information, combined with timely severe weather watches and warnings, could save your life. Once you receive a warning or observe threatening skies, **YOU** must make the decision to seek shelter before the storm arrives. It could be the most important decision you will ever make.



Did you know...

- The average forward speed of a tornado is 30 miles per hour, but can also be nearly stationary or roar through at close to 70 miles per hour.
- Lightning can occur from cloud-to-cloud, within a cloud, cloud-to-ground, or cloud-to-air.
- A downburst is a small area of rapidly descending air beneath a thunderstorm. Once this air hits the ground, it spreads out, causing potentially damaging straight-line winds. Downbursts present an extreme danger to aviation.
- Large hail stones can fall at speeds greater than 100 miles per hour.
- The largest hailstone ever recorded in the United States fell in Vivian, South Dakota, on July 23, 2010. This hailstone had a 8 inch diameter and weighed 1.94 lbs.



Tornado Safety

Severe Weather Awareness Week March 14 - 18, 2011



Tornadoes can happen at any time of the year, and at any time during the day or night. Though more common in the afternoon and evening hours, tornadoes can happen and have been reported at 2 or 3 o'clock in the morning! Many people think a tornado is always visible, but there are times in storms which have high amounts of precipitation, it can be completely wrapped in rain, making it indistinguishable from surrounding clouds. Contrary to what some may believe, tornadoes can and do cross rivers, mountains, and big cities. For these reasons, it is very important to have a plan of action in case of a tornado.

What should I do when a tornado is approaching or a warning has been issued?

- **SEEK SHELTER IMMEDIATELY!** Once in shelter, take the protection position.



Where do I go?

- **Reinforced shelters** – A basement or underground shelter is the best option. Protect your head and eyes from deadly flying debris. If no basement is available, go to an interior area on the lowest floor, such as a bathroom or closet. If possible get under something sturdy like a bench or table.
Stay away from windows!

What should I do if I am located...

- **Outdoors** – If you cannot quickly walk to a shelter, immediately get into a vehicle, buckle your seat belt and try to drive to the closest sturdy shelter. If flying debris occurs while you are driving, pull over and park. *You do have the following options as a last resort:* Stay in the car with the seat belt on. Put your head down below the windows, covering with your hands and a blanket if possible. If you can safely get noticeably lower than the level of the roadway, exit your car and lie in that area, covering your head with your hands. **NEVER** seek shelter under a bridge or overpass.

Your choice should be driven by your specific circumstances!

The important thing to understand is that if you find yourself outside or in a car and you are unable to get to a safe shelter, you are at risk from a number of things outside your control, such as the strength and path of the tornado and debris from your surroundings. This is the case whether you stay in your car or seek shelter in a depression or ditch, both of which are considered last resort options that provide little protection. The safest place to be is always an underground shelter, basement or safe room.

- **In a Mobile Home** – Evacuate immediately! Mobile homes are particularly vulnerable to overturning and destruction from strong winds and tornadoes. Tie-downs generally will not protect a mobile home from tornadoes. If possible, leave the mobile home and go to a community shelter. If none is available, a ditch, culvert, or other low lying area may offer better protection. Have a plan of action prepared before a storm hits.
- **At School, Work, Shopping or in Other Buildings** – Stay indoors! Avoid cars, buses, or any other vehicle. Follow plans made in advance to go to a basement, an interior room or hallway on the lowest floor. Avoid the end of any hallway that opens to the outside as well as rooms with windows or outside walls. Stay out of auditoriums or any other structure with wide free-span roofs, as these types of structures are quite vulnerable to tornadic winds. Once you are in shelter, crouch down and cover your head!



Lightning Safety

<http://www.lightningsafety.noaa.gov>



One dangerous aspect of weather that sometimes is not taken as seriously as others is lightning. Summer is the peak season for one of the nation's deadliest weather phenomena, but don't be fooled, lightning strikes happen at all times of the year. In the United States, an average of 58 people are killed each year by lightning. In 2009, 34 people died due to lightning. In 2010, 29 people were struck and killed, while hundreds of others were permanently injured. Of the victims who were killed by lightning in 2010:



- 100% were outside
- 76% were male
- 73% were males between the ages of 10 - 49
- 34% were under or near a tree
- 21% were near or in water

***When Thunder Roars,
Go Indoors!***

The reported number of injuries is likely far lower than the actual total because many people do not seek help or doctors do not record it as a lightning injury. People struck by lightning suffer from a variety of long-term, debilitating symptoms, including memory loss, attention deficits, sleep disorders, and numbness.

***Avoid getting caught in a dangerous situation!
If you can hear thunder, you are close enough to be struck by lightning!***

- Move into a sturdy building or an automobile with a metal top. The frame of the building or of a metal car body will allow the charge to be conducted away from you.
- Outdoor activities such as golfing and baseball can present a risk to those in attendance, as these take place on a fairway or ball field, both of which are wide open. Those attending rodeos or concerts in open arenas, sitting on metal bleachers or under a metal overhang, are also at risk.
- Get out of boats and away from water, as water is an electrical conductor. On the open water, you may become the tallest object and a prime target.
- When indoors, avoid using any corded and electrical appliances. Also stay away from pools, tubs, showers, or any other plumbing. Electricity can travel through wiring and plumbing, posing a risk to those in contact.
- If someone is struck by lightning, get medical help immediately. With proper treatment, including CPR if necessary, most lightning victims survive.

Did you know...

Thunderstorms do not have to be large in size or severe in nature to create potentially fatal lightning strikes!!

As a thunderstorm grows, areas of rising and descending air cause a separation of positively and negatively charged particles within the storm. At the same time, oppositely charged particles are gathering on the ground below. The attraction between the particles in the cloud and at the ground quickly grows, and once the force is strong enough to overcome the air's resistance, lightning occurs.



Flash Flood Safety

<http://www.floodsafety.noaa.gov>



On average, more people are killed by flooding than by any other single severe weather hazard, including tornadoes, lightning, and hurricanes. Most of these deaths occur at night, when it is more difficult to recognize flood dangers, and when people are trapped in vehicles. Do you and your family know what to do in case of a flood?

Remember...

- **DO NOT** drive onto a flooded roadway.
- **DO NOT** drive through flowing water.
- If you approach a roadway that is flooded, **TURN AROUND - DON'T DROWN**.
- Drive with extreme caution if roads are even just wet or it is raining. You can lose control of your vehicle if hydroplaning occurs, which is when a layer of water builds up between your tires and the road, causing there to be no direct contact between your vehicle and the road.



If a Flash Flood Warning is issued for your area...

- **If advised to evacuate, do so immediately!** Act quickly to save yourself, you may not have much time.
- Get out of areas that are subject to flooding and move to a safe area before access is cut off by flood waters. Low spots such as dips, canyons, and washes are not the places you want to be during flooding!
- **DO NOT** camp or park your vehicle along streams and washes, particularly during threatening conditions.
- **DO NOT** drive if not necessary. If driving is necessary, do not attempt to drive over a flooded road, as the depth of the water is not always obvious, and the roadway may no longer be intact under the water. Never drive around a barricade, they are placed there for your protection! If your vehicle stalls, leave it immediately and move to higher ground before water sweeps you and your vehicle away.
- **DO NOT** try to walk, swim, or play in flood water. You may not be able to determine if there are holes or submerged debris, or how quickly the water is flowing, and you may be swept away. If water is moving swiftly, as little as 6 inches of water can knock you off of your feet! There is also a danger of hazardous materials polluting the water. Also remember that water is an electrical conductor, if there are power lines down, there is a possibility of electrocution.
- Always continue to monitor the situation through the National Weather Service website, your NOAA Weather Radio All-Hazards, or favorite local television or radio stations.

Why is "Turn Around - Don't Drown" so important?

Each year, more deaths occur due to flooding than from any other severe weather related hazard. The main reason is people underestimate the force and power of water. More than half of all flood related deaths result from vehicles being swept downstream. Of these, many are preventable.



NOAA Weather Radio All Hazards

<http://www.weather.gov/nwr>



NOAA Weather Radio All Hazards (NWR) is a nationwide network of radio stations broadcasting continuous weather information directly from the nearest National Weather Service office. NWR broadcasts official Weather Service warnings, watches, forecasts and other hazard information 24 hours a day, 7 days a week.

Working with the Federal Communication Commission's (FCC) Emergency Alert System, NWR is an "All Hazards" radio network, making it your single source for comprehensive weather and emergency information. In conjunction with Federal, State, and Local Emergency Managers and other public officials, NWR also broadcasts warning and post-event information for all types of hazards, including natural (such as tornadoes or floods), environmental (such as chemical releases or oil spills), and public safety (such as AMBER alerts or 911 Telephone outages).

Known as the "Voice of NOAA's National Weather Service," NWR is provided as a public service by the National Oceanic and Atmospheric Administration (NOAA), part of the Department of Commerce. NWR includes 1000 transmitters, covering all 50 states, adjacent coastal waters, Puerto Rico, the U.S. Virgin Islands, and the U.S. Pacific Territories. NWR requires a special radio receiver or scanner capable of picking up the signal. Broadcasts are found in the VHF public service band at these seven frequencies (MHz):

| | | | | | | |
|---------|---------|---------|---------|---------|---------|---------|
| 162.400 | 162.425 | 162.450 | 162.475 | 162.500 | 162.525 | 162.550 |
|---------|---------|---------|---------|---------|---------|---------|

Coverage information and SAME Codes for every county in Nebraska can be found at:

<http://www.weather.gov/nwr/Maps/PHP/nebraska.php>



Severe Weather Facts & Myths

Severe Weather Awareness Week March 14 - 18, 2011



Myth: Highway and interstate overpasses are safe shelters against a tornado.

Fact: Overpasses can concentrate the tornado winds, causing them to be significantly stronger. This places the people under them in an even more dangerous situation. In recent years, several people seeking shelter beneath overpasses have been killed or severely injured. Being above ground level during a tornado is dangerous.

Myth: The low pressure with a tornado causes buildings to explode. Opening the windows will equalize the pressure, saving the building.

Fact: Opening the windows in an attempt to equalize pressure will have no effect. It is the violent winds and debris that cause most structural damage. It is more important for you to move to a safe area away from windows and exterior walls. With a tornado, every second counts, so use your time wisely and take cover.

Myth: Thunderstorms and tornadoes always move from west to east.

Fact: More often than not, thunderstorms move from west to east. Conditions in the atmosphere dictate how and where storms will move, and it can be in any direction. Tornadoes have been known to act erratic, and can change directions and speed very quickly. Never try to outrun a tornado in a vehicle.

Myth: It's not raining here, and skies above me are clear, therefore I am safe from lightning.

Fact: Lightning can strike many miles away from the thunderstorm. If storms are in your area, but skies happen to be clear above you, that certainly does not imply you are safe from lightning. Though these "Bolts from the Blue" are infrequent, lightning strikes 10 to 15 miles away from the storm are not out of the question.

Myth: Since I am inside my house and out of the storm, I am completely safe from lightning.

Fact: Just because you have taken shelter inside, you are not automatically safe. While inside waiting out a storm, avoid using the telephone or electrical appliances and do not take showers or baths. Also stay away from doors and windows. Telephone lines, cords, plumbing, even metal window and door frames are all lightning conductors and pose a threat.

Myth: Large and heavy vehicles, such as SUVs and pickups, are safe to drive through flood waters.

Fact: It is a common belief that the larger the vehicle, the deeper the water it can drive through. Many people do not realize that two feet of water can float most vehicles, including SUVs and pickups. If the water is moving rapidly, vehicles can be swept away.

Myth: Flash floods only occur along flowing streams.

Fact: Flash floods can and do occur in dry creek or river beds as well as urban areas where no streams are present.



Is Your Community StormReady?

Severe Weather Awareness Week March 14 - 18, 2011



Nearly 90% of all presidentially declared disasters are weather related, leading to around 500 deaths per year and nearly \$14 billion in damage. To help Americans guard against the ravages of severe weather, NOAA's National Weather Service designed the StormReady program. StormReady helps arm America's communities with the communication and safety skills they need to save lives and protect property.

Many laws and regulations exist to help local emergency managers deal with hazardous material spills, search and rescue operations, medical crises, etc., but there are few guidelines dealing with the specifics of hazardous weather response. The National Weather Service recognized this need and designed StormReady to help communities of all kinds implement procedures to reduce the potential for disastrous weather-related consequences. To be recognized as StormReady, communities must meet guidelines established by the National Weather Service in partnership with federal, state, and local emergency management professionals.

Benefits of Your Community Becoming StormReady

The StormReady program encourages communities to take a proactive approach to improving local hazardous weather operations. The program is a "win" situation for everyone involved: community leaders; the NWS; emergency managers; and, the general public. Here are just a few of the benefits your community will realize once you become StormReady:

- Improves the timeliness and effectiveness of hazardous weather warnings for the public.
- Provides detailed and clear recommendations which will help local emergency managers establish and improve effective hazardous weather operations. It can also help justify costs and purchases needed to support hazardous mitigation and emergency response plans.
- Rewards local hazardous weather mitigation programs that have achieved a desired performance level.
- Provides a means to possibly acquire additional Community Rating System points assigned by the National Flood Insurance Program (NFIP).
- Provides an image incentive to communities, which once recognized, can identify themselves as being StormReady.
- StormReady can help ensure your community is prepared for other civil emergencies.

What it Takes to Become StormReady

StormReady is a voluntary program with no cost to apply. Your community may need to upgrade your emergency preparedness operations to meet StormReady program guidelines. Established emergency management programs should incur little or no additional expense. The Warning Coordination Meteorologist at your local NWS forecast office will gladly help you with the process. Here is what needs to get done:

- Incorporate your community's severe weather threats into your community's hazard mitigation and emergency response plans.
- Establish a 24-hour Warning Point and Emergency Operations Center.
- Establish multiple ways to receive severe weather warnings and forecasts and to alert the public.
- Create a system that monitors weather conditions locally.
- Promote the importance of public readiness through community seminars, severe weather spotter training and by conducting emergency exercises.



2010 Nebraska Severe Weather Summary

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Nebraska Panhandle - Cheyenne, WY

The first significant event occurred on May 18th when severe storms developed in northern Colorado and moved north into Nebraska. These storms produced a tornado with a brief touchdown 5 miles southwest of Bushnell in Kimball County. Several reports of quarter to golf ball size hail were also reported across Kimball County with one report stating the ground was white with hail 14 miles south southwest of Kimball. The storms continued into the evening hours and produced heavy rain which caused some flash flooding in two draws that feed into Lodgepole Creek. Some erosion damage was reported along Interstate 80 near the Nebraska and Wyoming state line.

The most significant round of storms hit the panhandle on May 24th and initially the most serious storms focused on Kimball County. Shortly before noon, storms developed along a cold front moving through the panhandle. Around 11:30 AM golf ball to baseball size hail was reported along Interstate 80 just to the south of Kimball. Many cars and trucks were damaged. The storms moved to the north into the town of Kimball and according to the Kimball County Sheriff produced over an estimated five million dollars worth of damage in Kimball. Many windows were broken on the south side of Kimball. Some businesses and especially the Kimball County Courthouse had extensive damage. A report of hail 4.25 inches in diameter was received from a spotter two miles north of Kimball. In addition, the Kimball County Sheriff reported a weak tornado 8 miles west northwest of Kimball on the ground 3 to 5 minutes as it crossed a state recreational area but caused no damage. Storms continued throughout the panhandle with severe storms moving across Scotts Bluff County. Around 11:15 AM tornadoes were reported by law enforcement and emergency management near Gering and 6 miles northeast of Scottsbluff with no damage reported. In addition, at this same time, downburst winds in Scottsbluff and one mile east of Minatare knocked down trees and power poles. Hail up to 3 inches in diameter occurred in Scottsbluff. Severe storms continued to develop across most of the panhandle into the early afternoon with reports of large hail and damaging thunderstorm winds in almost the entire area. Shortly after 1 PM a tornado was reported by the public 10 miles northwest of Alliance in Box Butte County. The tornado made a brief touchdown in open areas with no damage. However, strong winds at this same time caused near \$100 thousand damage to a farm 6 miles north of Alliance and approximately 40 power poles were blown down on the west side of Alliance. Other reports of wind damage were also received from Box Butte County.

On May 26th large hail occurred in Cheyenne County. The largest stones reported were baseball size 8 miles west of Sidney. A funnel cloud was sighted between Gurley and Dalton.



2010 Nebraska Severe Weather Summary

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Nebraska Panhandle Severe Weather Summary Con't.

On June 1st a severe thunderstorm once again produced significant hail in Cheyenne County. Between 6 and 9 PM from just west of Sidney through Lodgepole, hail up to 2.5 inches fell and reports of significant damage in Sidney were reported. Emergency management stated many homes had siding damaged and trees had their leaves stripped. Many cars also had damage. One family reported that their vehicle had the windshield shattered and the side mirrors broken while they were in Legion Park. An estimate of damage exceeded \$40 thousand.

June 6th saw severe thunderstorms develop in Morrill and Cheyenne Counties. Many reports of hail in the 1 to 1.5 inch range were received.

June 7th produced the most significant event of the season. During the late afternoon and evening hours severe thunderstorms developed across the panhandle. Initially the storms were located in northern Sioux County and produced large hail. A report of baseball size hail in Harrison was received. Around 6:20 PM, a weak tornado was sighted in southern Sioux County approximately 10 miles north of Scottsbluff. A trained spotter reported seeing debris but a NWS damage survey the next day found no damage.



Scottsbluff EF1 tornado—Photo by Roger Hill

The storms moved to the southeast into Scotts Bluff County and reports of large hail, up to 4 inches 2 miles northwest of Morrill were received by the NWS. There were also many reports of homes and crops being damaged by the hail. A classic supercell moved across the city of Scottsbluff and produced significant damage. A NWS storm damage team from Cheyenne determined an EF-1 touched down on the east side of Scottsbluff and damaged an automobile dealership. The supercell continued to move southeast and produced several spin-up tornadoes and caused damage in and along Highway 26. The tornado finally dissipated near Chimney Rock. Damage to a mobile home park on the west side of Scottsbluff was attributed to strong straight line winds. Wind estimates from the damage with this tornadic supercell were in the 93-98 mph range. Minor flash flooding also occurred in southern Sioux County caused by the heavy rain.



2010 Nebraska Severe Weather Summary

Severe Weather Awareness Week March 14 - 18, 2011



Nebraska Panhandle Severe Weather Summary Con't.

Severe weather returned on June 9th with a combination of hail and flash flooding. Early in the afternoon hail began to fall in Morrill County along with heavy rain. Hail over one inch in diameter was reported. By 3 PM law enforcement officials were reporting flash flooding on Highway 385 and county roads between Angora and Bridgeport. For a period of time Highway 385 was closed. Emergency management reported the North Platte River at the Bridgeport Bridge was overflowing its banks. A few hours later storms were producing significant hail across Scotts Bluff County. Baseball size hail was reported in Henry. Around midnight storms had moved into Dawes County and a thunderstorm wind gust of 60 mph was recorded by a sensor at the Chadron airport. Heavy rain from these storms also caused flash flooding in Chadron with 6 to 8 inches of water over 5th Street.

June 10th and 11th saw hail, strong winds and flash flooding in the southern panhandle.

Up to golf ball size hail fell in Box Butte and Cheyenne Counties on June 16th. June 19th, 20th, 21st saw large hail falling across the panhandle with the largest report being baseball size 2 miles north of Scottsbluff on the 19th.

The public reported a tornado on June 22nd 4 miles south of Harrisburg in Banner County and a storm chaser reported the tornado crossed Highway 71 2 miles of Harrisburg. The storm also produced golf ball size hail. The last report of the tornado was by law enforcement officials 11 miles east southeast of Harrisburg. There were no reports of tornado damage.

During the afternoon of June 26th, the Alliance airport reported a thunderstorm wind gust of 59 mph.

July 3rd produced a significant storm in Morrill County. During the late afternoon a severe thunderstorm began dropping quarter to golf ball size hail in and around Bridgeport. Around 5 PM the thunderstorm produced a microburst with estimated 75 mph winds. These winds caused significant damage in and around Bridgeport. Two 70 foot grain bins were blown off their foundations and a 100 foot radio tower was blown over. In addition many trees and power poles were either uprooted or snapped off. These storms also produced heavy rain and flash flooding in Bridgeport with some basements flooded.



Wind damage in Bridgeport—July 3, 2010



2010 Nebraska Severe Weather Summary

Severe Weather Awareness Week March 14 - 18, 2011



Nebraska Panhandle Severe Weather Summary Con't.

The microburst winds continued east and an estimated gust of 63 mph occurred 6 miles southeast of Broadwater. During this same time storms were producing quarter size hail in Box Butte and Cheyenne Counties.

July 4th brought more severe weather to the southern panhandle. Between 5 and 6 PM, there were reports of a tornado in southwest Kimball County. One spotter reported the tornado was on the ground for only around 30 seconds and caused no damage. These storms were also producing hail up to the size of golf balls and heavy rain. Emergency management reported flash flooding along Lodgepole Creek and underpasses in Kimball 10 feet underwater. Highways 30 and 71 around Kimball had several inches of water flowing over them. As these storms moved to the east they produced heavy rain in Cheyenne and Morrill Counties which produced flash flooding. Highway 30 and County Road 131 were closed in eastern Cheyenne County.

July 6th produced another significant event in Cheyenne County. A supercell produced a brief tornado south of Potter. As the storm moved east it produced a downburst with winds of 71 mph being measured at the Sidney airport. These winds caused damage to local wheat crops and blew several railroad cars off an overpass in Sidney.



Derailed train near Sidney—July 6th

Large hail was reported with these storms. As the storm moved east of Sidney, it produced very heavy rain, which resulted flash flooding along Lodgepole Creek. An earthen dam north of Highway 30 was in danger of breaching. Reports of water being five foot deep in Lodgepole were reported. Over \$80 thousand damage was estimated as a County Sheriff's car was flooded and a section of UP Railroad tracks washed out.

Hail up to the size of golf balls occurred in Box Butte County on July 11th.

Severe weather was reported on July 19th in the northern panhandle as a supercell moved out of Wyoming and produced large hail in Sioux, Dawes, and Box Butte Counties. The largest hail was the size of baseballs and was reported in Hemingford. There were several reports of homes being damaged by the hail.



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Nebraska Panhandle Severe Weather Summary Con't.

A storm produced half dollar size hail, heavy rain, and wind gusts to 70 mph in Sioux county on July 21th.

Widespread severe weather occurred across the panhandle on July 22th. Hail up to the size of golf balls was reported. Hail damage to cars and windows was reported at the Wal-Mart in Chadron and several mobile homes were also damaged. One was flipped on its roof. In northern Sioux County house and car windows were broken by hail. The emergency manager in Kimball County reported power poles being blown over by downburst winds.



Flooding near Lodgepole—July 6th

A thunderstorm produced 60 mph outflow winds at the Sidney airport on August 9th.

The last severe weather event in the panhandle occurred on September 9th when thunderstorms developed across Sioux and Scotts Bluff Counties. The area hardest hit area was Melbeta where golf ball size hail fell. Wind gusts of 60 mph occurred near the South Dakota border in Sioux County.

New Hail Record - Vivian, SD - July 23, 2010

The Aurora, NE hail record for diameter (7.0 inches - June 22nd, 2003) and the Coffeyville, KS record for weight (1.67 pounds - September 3rd, 1970) were surpassed on July 23rd, 2010. The new records for hail occurred with the Vivian, SD hailstone with a diameter of 8 inches and a weight of 1lb 15/16 oz (1.9375 lbs). The 2003 Aurora, NE hailstone will retain the circumference record; 18.75 inches.



Diameter = 8.0 inches



Circumference=18.625 inches



Weight=1lb 15/16 oz. (1.9375 lbs)



2010 Nebraska Severe Weather Summary

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Extreme Southwest Nebraska - Goodland, KS

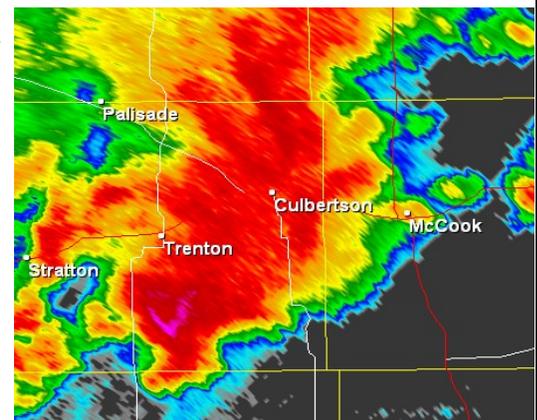
The first three months of 2010 were quiet in terms of weather in our three Nebraska counties. Several strong low pressure areas brought winds gusting to 45 mph in January, February and March, but little in the way of precipitation fell. On April 13th, a low pressure area produced winds of 50 to 70 mph across the entire region for much of the day, with a peak wind of 63 mph reported near McCook.

The severe thunderstorm season eventually got underway May 6th in extreme southwest Nebraska when strong storms developed during the afternoon and evening hours. Hail up to the size of quarters fell southeast of McCook. On May 16th, a tornado occurred in far northern Dundy County. Isolated rain showers developed during the afternoon. One of the showers moved across a surface wind shift line and was able to generate a brief tornado that lasted 3-4 minutes. No damage was reported. The month of May brought only four days of severe weather, with May 23rd and 24th rounding out the month. Wind gusts of 75 mph occurred on the 23rd near Benkelman where trees were uprooted in the town park and numerous branches were down across town.

The month of June was similar to May in terms of severe weather. Storms occurred on four days, each bringing only a few reports. Severe hail (greater than one inch in diameter) occurred on the 1st, 2nd, 20th and 21st of June with golf ball sized hail falling near Max in Dundy County on the 1st, and again on June 21st.

July brought only one day of severe weather to extreme southwest Nebraska. Dundy and Hitchcock counties reported large hail on July 10th, with hail to the size of baseballs falling SW of Palisade during the afternoon. The hail resulted in several broken windows.

The weather became more active in August starting on the 3rd. In addition to baseball sized hail in Dundy County in the evening, measured winds of 85 mph were reported south of Culbertson in Hitchcock County, and gusts to 70 mph occurred at the McCook airport. The radar image above shows the massive storm complex responsible for the large hail and strong wind. The month ended on a big note when a microburst occurred in McCook on the 30th when estimated 80 mph winds tore a large section of roof from the local lumberyard.



Doppler radar showing storms which produced 70-80 mph winds on August 3rd.

The last report of severe weather occurred on October 22nd after a quiet September. A few hail reports up to quarter size were reported in the early evening hours.



2010 Nebraska Severe Weather Summary

Severe Weather Awareness Week March 14 - 18, 2011



Western & North Central Nebraska - North Platte, NE

Tornadoes, severe thunderstorms and flooding impacted the area in the spring and summer of 2010. Below is a sample of the most significant events which hit the area during the past severe weather season.

A total of 11 tornadoes were confirmed from May through July. Ten of the tornadoes were rated EF0 with estimated winds of 65 to 85 MPH. Of those tornadoes, nine were in open areas with no damage reported. One EF0 tornado hit the southern side of Sparks, Nebraska on May 22nd, where it damaged some outbuildings and a rodeo arena grandstand. A second, stronger tornado occurred the same night in northwestern Keya Paha County. This tornado had a path length of 11 miles and damaged numerous outbuildings on two farmsteads. This tornado was rated an EF2 with estimated winds of 111 to 135 MPH.

Numerous severe thunderstorms hit the area from April through October. Of all the hail reports received during the period, baseballs were the largest and occurred on three occasions in Cherry, Blaine and Sheridan Counties. In addition to hail, severe thunderstorms produced damaging wind gusts in July and August. North Central Nebraska bore the brunt of these storms with widespread crop damage reported in Holt County in August. On August 30th, severe thunderstorms pounded North Central Nebraska including Ainsworth where 80 MPH winds were reported. Wind gusts from this severe thunderstorm, were a result of a wet microburst which can be seen in the photo to the right. This storm destroyed buildings, led to downed power lines and uprooted trees on the north side of Ainsworth.



Photo courtesy of Deb Blondin taken at the Weston farm 10 miles northwest of Springview.



Photo looking north into Ainsworth, August 30th. Courtesy of Graig Kinzie KBRB Radio.



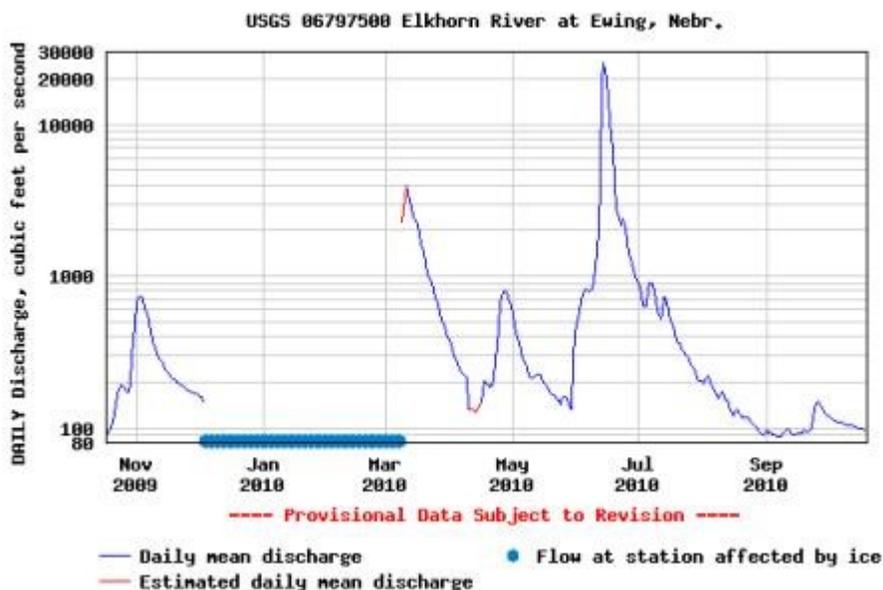
2010 Nebraska Severe Weather Summary

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Western & North Central Nebraska - North Platte, NE Con't.

In June, heavy rainfall led to flash flooding, river flooding and dam failures across north central Nebraska. The North Loup river near Taylor reached its highest flow in 73 years of records, while the Elkhorn river near Ewing, reached its highest stage in 62 years. The USGS graph below indicates a rapid increase in flow beginning in early June, reaching a peak of 25,400 cubic feet per second. This also corresponds to a historic record stage of 13.13 feet on June 14th.



13.13 feet on June 14th. Flooding from the Elkhorn and Loup rivers caused significant damage to property and infrastructure. Along the Elkhorn river near Ewing, a community effort of sandbagging and building a dike, spared the town from widespread flooding. In Holt County alone, nearly 30 bridges were washed out, along with numerous roads. Damage to bridges, roads and property, was estimated at 3.5 million dollars.

From June 11th to June 13th, three private dams failed, including Morgan and Gracie Creek dams. This sent floodwaters into the Calamus Reservoir near Burwell, and Ericson Dam in Wheeler County, impacting 15 homes and farmsteads. A second major flooding event from July 21st through the 22nd occurred as six to nine inches of rain fell across hilly terrain in far northwestern Holt and southwestern Boyd County on the evening of July 21st. Runoff from the heavy rain drained into the Niobrara River upstream of Spencer Dam. By the morning of the 22nd, full capacity at the Spencer Dam was reached, forcing staff to open several emergency gates to avoid failure.



Photo of the failed Ericson Dam in Wheeler County where water from the Cedar river flows freely.



2010 Nebraska Severe Weather Summary

Severe Weather Awareness Week March 14 - 18, 2011



South Central Nebraska - Hastings, NE

The 2010 Severe Weather Season kicked off in April with a couple of hailstorms, but the activity picked during the month of May, starting off on May 6th when locations near the Kansas border saw hail up to the size of golf balls and wind gusts near 70 mph. The town of Chester in Thayer County reported tree branches down and damage to an empty grain bin. Focus turned to the west toward the end of the month with a round of thunderstorms on the 24th over areas along and west of Highway 281. Half dollar size hail and wind gusts approaching 80 mph were reported. A funnel cloud was also sighted near Gothenburg.

June was a real doozy of a month, as the area dealt with plenty of large hail, strong winds, flooding, and even a couple tornadoes. The first few days of June brought a sampling of what would lie ahead. No part of the area was spared from the 1st through the 5th, with numerous reports of large hail up to golf ball size and wind gusts approaching 65 mph, along with locally heavy rainfall. On June 4th and 5th, a prolific hail producing supercell dumped golf ball to baseball size hail on portions of Valley, Greeley, and Howard Counties. Another severe thunderstorm later on resulted in damaging winds near Shelby in Polk County, uprooting trees, overturning an irrigation pivot, and causing considerable crop damage.

A large complex of severe thunderstorms rolled into the area just before midnight on June 7th, passing through during the early morning hours on the 8th. Damaging winds gusts of 60 to 70 mph were common across areas west of Highway 281 and north of Highway 6. The most significant damage impacted the Lexington area in Dawson County, especially the north side of the city, where an apartment complex sustained considerable roof and ceiling damage. Based on a storm damage survey, winds in this area were estimated to reach 105 MPH. There was plenty of tree damage along with several other reports of damage in town.

June 11th brought multiple rounds of severe thunderstorms, mainly producing damaging winds and torrential rainfall across the area. A brief tornado occurred in central Gosper County, with no damage reported. Toward midnight, wind damage became increasingly common, with Adams and Dawson Counties the hardest hit areas. Much of the area received 2 to 4 inches of rain, resulting in some flooding. In Valley county, the failure of the Bredthauer Dam on the Mira Creek resulted in 1 to 2 feet of water inundating much of North Loup. Evacuations were needed for the safety of residents.



A view of the Mira Creek as it inundated North Loup on June 13th.



2010 Nebraska Severe Weather Summary

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South Central Nebraska - Hastings, NE Con't.

June 13th brought a short lived EF1 tornado about 5 miles southeast of Beaver City in Furnas County. The tornado struck a farmstead, causing minor damage to the home and outbuildings. Locally heavy rain also fell in the area resulting in more flash flooding and subsequent road closures. An unprecedented 2nd dam failure in the area (Ericson Dam) caused flooding on the Cedar River in northern Greeley County. By nightfall, 6 inches of water was flowing over the Highway 281 bridge near the Greeley-Wheeler County line. The flooding continued downstream to Spalding Lake, which reached its capacity the next day, with water occasionally overtopping Spalding Dam. Several county roads and bridges were washed out in the Spalding area.



Damage from the tornado which pounded Superior, NE on June 20th.

An extremely active 4-day stretch of severe weather pounded the area between June 19th and 22nd. The brunt of the activity affected locations along and south of Interstate 80. The main event during this period was an EF2 tornado in the town of Superior in Nuckolls County on the 20th. With wind speeds estimated at 120 mph, this tornado resulted in significant tree damage, downed transmission lines, and overturned railroad cars. A warehouse building and several other small buildings were destroyed. To wrap up June, 70 mph winds in Geneva caused power outages, substantial tree damage, along with some structural damage. Hail up to quarter size and heavy rain exceeding 2 inches was also reported.

Severe weather reports slowed initially in July, but returned in force during a 5-day period from the 10th through the 14th. A supercell which moved across Dawson County provided most of the activity on the 10th in the form of hail up to the size of golf balls and 60 mph wind gusts, with another storm moving through Sherman and Valley County bringing 60 mph winds and dropping ping pong ball size hail. Dawson County was the center of attention again on the 11th, as another supercell pushed through bringing a measured 94 mph wind gust to the northwest corner of the county and quarter size hail toward Lexington. On the 12th, a cluster of thunderstorms affected Sherman and Buffalo Counties, dropping hail to the size of ping pong balls along a 15 mile swath from near Hazard to southeast of Ravenna. The rough stretch of severe weather ended on the 14th as hail up to the size of golf balls and locally heavy rainfall affected primarily York, Webster, Clay, Fillmore and Thayer Counties.



2010 Nebraska Severe Weather Summary

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South Central Nebraska - Hastings, NE Con't.

The 17th was another active day across the area, starting off with early morning thunderstorms which brought 60 mph winds, quarter size hail, and heavy rainfall stretching from Dawson to Franklin County. The main show was later that evening, and ended up being one of the more significant severe weather episodes of the summer. A merger of



An outbuilding blown apart by high winds on July 14th, 2010 in Buffalo County

storms moving in from Southwest Nebraska and others dropping south from North Central Nebraska resulted in a fast moving storm complex which barreled near the Interstate 80 corridor through Dawson and Buffalo Counties. There was a concentrated swath of damaging 60-90 mph wind gusts, with the worst damage in Buffalo County. Numerous damage reports were received, including a roof torn from a home, tree and crop damage, and grain bins damaged or destroyed. The

Nebraska Public Power District estimated that 32 miles of power lines and 218 individual power structures were destroyed across Buffalo County, resulting in widespread power outages. Severe wind gusts were reported further east through the rest of the evening, with Hastings recording a 68 mph wind gust and Aurora with a gust of 61 mph.

It was an active start to August, with the night of the 3rd in a starring role as a supercell thunderstorm brought large hail and wind gusts estimated at 60-70 mph to portions of Dawson, Gosper, and Phelps County. A several mile long path of quarter to golf ball size hail damaged crops, and even larger hail to the size of baseballs was reported northeast of Farnam. Quarter size hail and estimated wind gusts of 70 mph returned on the 5th, affecting the towns of Litchfield and Pleasanton.

Taking a cue from events earlier in the summer, the 23rd saw a round of slow moving thunderstorms which resulted in locally very heavy rainfall and some flooding. Over 5 inches of rain fell over southeastern Adams County, causing water to briefly flow over Highways 74 and 281. The Little Blue River near Deweese went into flood, and pockets of heavy rain between 3 and 5 inches were reported in Clay, Franklin and Thayer Counties.

As the summer came to a close, thunderstorm activity diminished considerably in September, with reports of severe weather on only 3 days. The most widespread event was on the 13th, numerous reports of penny to quarter size hail, isolated reports of golf ball size hail, along with some heavy rain. Most notable was a thunderstorm which pounded parts of Kearney, Phelps, and Harlan Counties with very large hail up to the size of baseballs. Considerable hail damage occurred in the town of Wilcox.



2010 Nebraska Severe Weather Summary

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Eastern Nebraska - Omaha/Valley, NE

Recap of 2010 Severe Weather events in eastern Nebraska

The 2010 convective season across eastern Nebraska can be best summarized as a period of several weeks of heavy rains in June that produced significant if not record flooding across parts of the area. The season also consisted of several exceptionally strong wind episodes and the usual large hail reports.

Other than those events, there were only 4 weak tornadoes officially recorded in the Nebraska counties of the Omaha coverage area in 2010, the longest of which tracked around 3 miles. The tornadoes location, strength, track length, and date include...

| | |
|-------------------------|--|
| Jefferson County | EF1, around 3 miles, April 29th |
| Wayne County | EF0, around 1.25 miles, June 1st |
| Cass County | EF1, Brief touchdown, June 1st |
| Jefferson County | EF0, 1/4 mile, September 13th |

April brought the first tornado to the Omaha coverage area as mentioned above, but otherwise April and May were relatively uneventful.

June was easily the most active month of the 2010 season. On June 1st thunderstorms developed over eastern Nebraska, and one complex gave birth to a Derecho that raked across the Omaha area and eventually caused damage in 4 states. In Omaha, especially hard hit from this storm was the far northern sections where numerous trees were downed one or two miles either side of Highway 36 from near Bennington toward 72nd Street. This started a 2 to 3 week period of heavy-rain producing thunderstorms that tracked across eastern Nebraska. Especially hard hit were the Elkhorn and lower Platte River valleys where monthly rainfall totals were in the **10 to 15+ inch range** (image next page). Record or near record flooding was observed along the Elkhorn River. Flooding along the Platte and other rivers and streams in the region, eventually caused record or near record flooding along the lower Nebraska portion of the Missouri River.

Significant flooding along the Elkhorn produced record stages in Neligh and Norfolk and a near record at Waterloo. On June 15th a railroad bridge near Norfolk was washed away along with 3 people on it who were assessing damage, 1 person drowned. Hundreds of homes, cabins and businesses were flooded; some totaled, along the Elkhorn from Clearwater downstream to Kings Lake. In addition, large amounts of sand were deposited on farm fields and in some cases the river changed its course, upstream of Norfolk.



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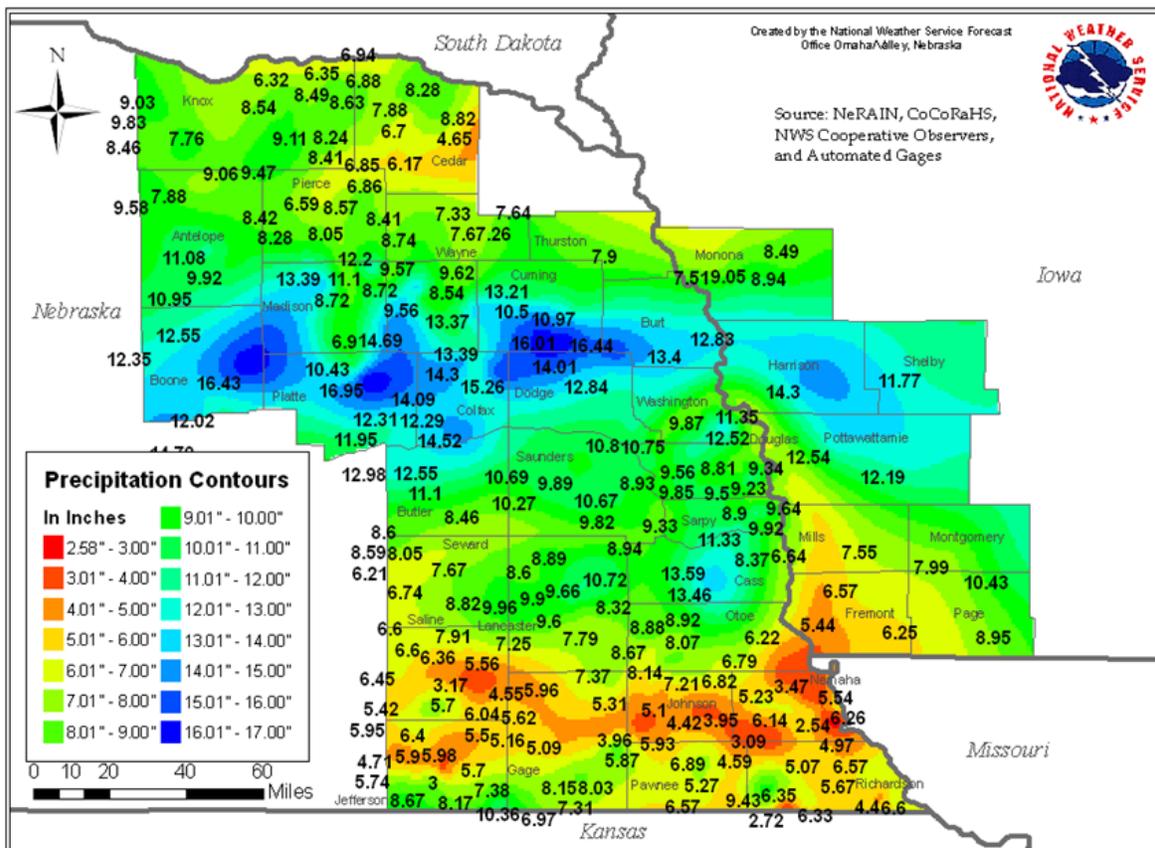


Eastern Nebraska - Omaha, NE Con't.

Serious flooding was not only confined to areas along the Elkhorn River. Over 200 homes and businesses in Schuyler flooded along Shell Creek and its tributaries in mid June. Significant flooding was also observed along Weeping Water Creek south of Omaha. A prolonged period of flooding was observed along the Missouri River, especially from Brownsville downstream through Rulo. Brownsville recorded its second highest stage ever, second only to 1993, and Rulo crested at an all-time high on June 23rd. June flooding caused over **\$20 million dollars** in damage in Nebraska and 53 counties were designated for Federal Disaster Funds.

On June 20th a storm produced up to a 10 to 15 mile wide hail swath that caused at least **\$25 million** in crop damage, in many cases shredding crops to the ground, from near Beatrice to Falls City. The devastation from this storm was seen on visible satellite pictures for days following. It prompted one 18-year insurance veteran to claim that the storm was **"probably the most devastating as far as a large area goes"** that she had seen. Later that day a period of slow-moving thunderstorms dropped considerable amounts of hail up to baseball-size on sections of Lincoln.

June Rainfall 2010





2010 Nebraska Severe Weather Summary

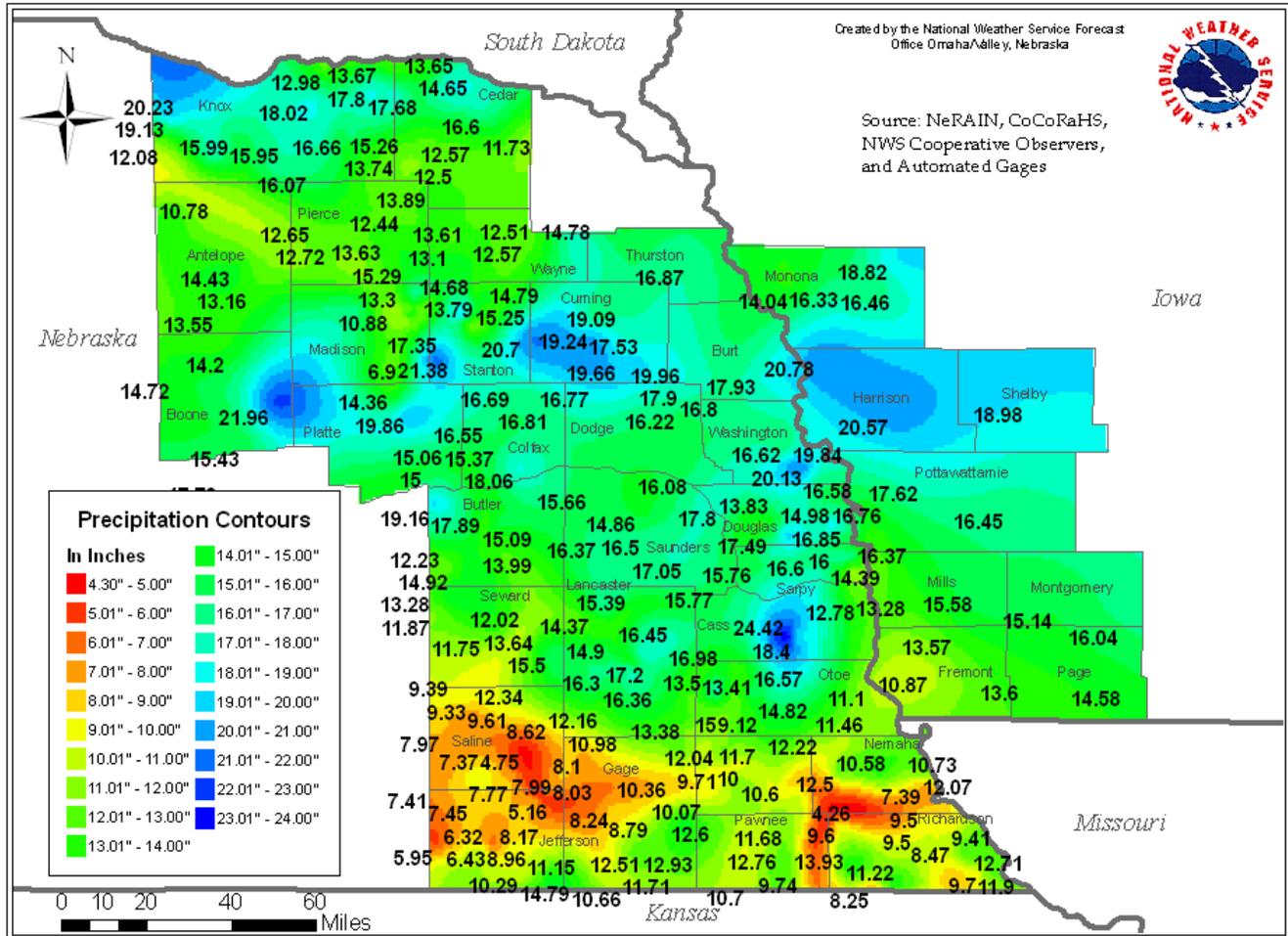
Severe Weather Awareness Week March 14 - 18, 2011



Eastern Nebraska - Omaha, NE Con't.

On July 14th thunderstorms followed exceptionally hot weather that was observed over eastern Nebraska with heat index values of 105 to 115 degrees. As a cold front crossed the region later that day a southwest to northeast line of severe thunderstorms developed. The storms produced very heavy rain and wet micro-bursts. One storm produced 67 mph winds at the NWS office in Valley which snapped power poles near the office.

June and July Rainfall 2010



August brought several relatively small severe weather episodes, including one storm that dropped 3 inch hail across parts of Omaha on the 3rd and another that caused significant tree damage in a small area of Bellevue on the 10th, with a 74 mph gust recorded at Offutt AFB.



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Eastern Nebraska - Omaha, NE Con't.

However, periodic heavy-rain producing thunderstorm events in July, August and even in September, combined with high upstream reservoir releases, kept the Missouri River (around and downstream of Omaha) near or above flood stage for much of the summer and into early October.

Most of the significant severe weather wrapped up on Sept. 13th as several supercell thunderstorms crossed the area. One produced the short-lived tornado in Jefferson County. Another supercell produced significant damage as it tracked south-southeast from near Wahoo toward Falls City. A damage assessment team from the NWS estimated wind speeds from this storm hit at least 60 to 80 mph. Hail up to and exceeding golf ball-size accompanied the strong winds. The storm caused \$1.5+ million worth of damage structures and vehicles at the UNL Agricultural Research Center in Saunders County. It blew semi-trucks off of highways, knocked down at least 100 power support towers, and tore the roof off of a motel near Greenwood. Houses and vehicles along the path also sustained significant damage. This particular storm caused at least \$2.5 million worth of damage to public infrastructure alone.



Wind-driven hail damaged every building in Ithaca, NE—September 13, 2010



80+ mph winds tore off the roof of the Big Inn, Greenwood, NE



Widespread 60 to 80 mph winds produced a swath of tree and property damage from near Wahoo, NE in Saunders County southeast through Cass, Otoe, Nemaha, and Johnson Counties.

At left, auto damage in Syracuse, NE.

Pictures by Cathy Zapotocny and Terry Landsvork



2010 Nebraska Severe Weather Summary

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Northeastern Nebraska - Sioux Falls, SD

Notable events from this severe weather season included:

- A high wind event on the evening of May 24th – no reports were received from Dakota and Dixon county but high winds were reported in the surrounding counties
- A supercell event on June 1st – no reports were received from Dakota and Dixon county but severe hail and tornadoes were reported in the surrounding counties
- A high wind event during the late evening and overnight on June 10th
- A high wind event on the evening of June 22nd with more organized supercells to the east (tornadoes in NW IA)
- An afternoon severe weather event on June 26th – no reports were received from Dakota and Dixon county but severe hail, damaging winds, and tornadoes were reported in the surrounding counties
- A high wind event on the afternoon of August 8th
- A large hail event during the early afternoon on September 22nd – no reports were received from Dakota and Dixon county but severe hail was reported in the surrounding counties throughout the severe weather season in 2010.

Flooding:

Dakota and Dixon counties were not impacted by the flooding that was reported across much of southeast South Dakota and northwest Iowa this summer. The Omaha Creek at Homer and Logan Creek at Wakefield stayed below flood stage

Severe weather reports:

- 1.00" hail – 3 NNW of Dixon on May 29th
- 65 kt wind gust – In Jackson on June 11th
- 61 kt wind gust – In Coburn on June 11th
- 61 kt wind gust – In Dakota City on June 11th
- 56 kt wind gust – In South Sioux City on June 11th
- 61 kt wind gust – In Ponca on June 23rd
- 52 kt wind gust – In Dixon on August 8th
- 56 kt wind gust – In South Sioux City on August 8th
- 52 kt wind gust – In Newcastle on September 25th

Rainfall by month:

- Apr: Wakefield = 2.87", Newcastle = 3.58"
- May: Wakefield = 2.51", Newcastle = 1.63"
- Jun: Wakefield = 9.18", Newcastle = 6.65"
- Jul: Wakefield = 8.45", Newcastle = 8.76"
- Aug: Wakefield = 2.07", Newcastle = 3.59"
- Sep: Wakefield = 2.28", Newcastle = 4.19"

None of these totals were records



Central Plains Severe Weather Symposium

Saturday, April 9th, 2011 from 9 a.m. - 4 p.m.



Central Plains Severe Weather Symposium and Family Weatherfest

History

The Central Plains Severe Weather Symposium (CPSWS) began in Lincoln in 2000, and is a free public event open to the public with information for all ages. CPSWS events are organized by the High Plains Regional Climate Center, UNL's School of Natural Resources and the Lancaster County Office of Emergency Management as a combined effort to increase severe weather awareness. It is the commitment of CPSWS to create an outlet that puts severe weather information into as many homes and businesses in the region as possible.



The underlying theme for all CPSWS events is: "Surviving the Storms". Exhibitors and Severe Weather Experts are brought in each event to touch upon this theme and its varying aspects. One unique aspect of the CPSWS has been its ability to bring together different organizations and agencies under one roof to promote its underlying theme.

In an effort to keep the event a free event, the CPSWS has been sponsored by several businesses and organizations since its beginning. CPSWS has always been, and will always remain, a free public event in order to reach as many people as possible.

The CPSWS has been able to bring together broadcast meteorologists from all major local network broadcast stations on an annual basis. CPSWS encourages the media's responsibility to the public in disseminating severe weather information.

The CPSWS is closely tied to the efforts associated with Nebraska Emergency Management's Severe Weather Awareness week.

Recent Sponsors

Department of Geosciences, UNL
High Plains Regional Climate Center, UNL
Lancaster County Office of Emergency Management
Midland Radio
National Drought Mitigation Center, UNL
School of Natural Resources, UNL
State Farm Insurance

Weatherfest - Weather for Everyone



The CPSWS has always been a family-friendly event, filled with interactive displays full of information on severe weather and severe weather safety. While speakers are presenting in the auditorium, an annual 'Weatherfest' for families is taking place both indoors and outdoors. Past events have included weather-balloon launches, tornado generators, search & rescue teams with equipment on-site, interactive displays for question/answers about weather, all with the common purpose of educating children and parents alike about the many aspects of severe weather and severe weather preparedness.



For more information, visit <http://cpsws.unl.edu>