National Weather Service
Wichita, KS

Storm Fury on the Plains

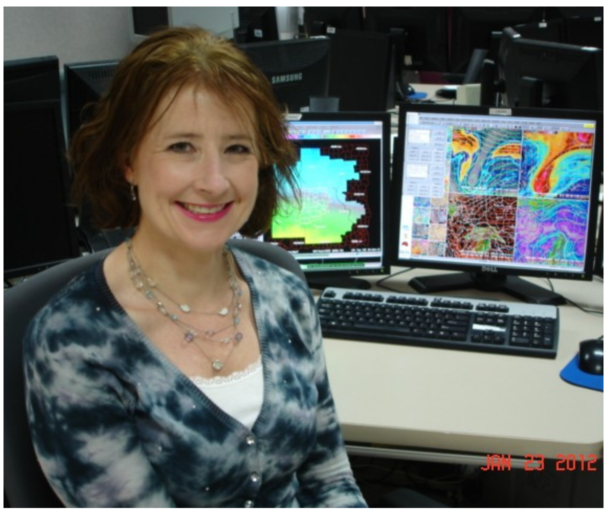
Spring Spotter Newsletter

April 2012

Inside this issue:

The Wichita National Weather Service Welcomes a new Meteorologist-in-Charge

By: Jerilyn Billings and Suzanne Fortin



Welcome Suzanne!

If you recall from the Fall 2011 Newsletter, Wichita's longtime Meteorologist-in-Charge, Dick Elder retired at the end of 2011. As we start a new year, the Wichita National Weather Service would like to welcome Suzanne Fortin as the newest member of our staff and as our new Meteorologist-in-Charge.

Suzanne is the daughter of a career Air Force officer, and though she was born in Stillwater, Oklahoma, her family moved to many locations as she was growing up, including: Alabama, Ohio, Colorado, New Mexico, Virginia, Kansas and Maryland. She has a strong affinity for the state of Kansas though, as her mother's family hails from the Goodland, Osborne and Kansas City areas. Suzanne's grandparents helped fuel her interest in meteorology, especially her grandmother Dorothy who would send Suzanne clippings on all varieties of Kansas weather wherever the family happened to live at the time. Suzanne cites the Topeka, Kansas tornado of June 8, 1966 as the event that sparked her interest in weather. June 8th was my grandmother Dorothy's birthday, and I remember my mother telling me that we tried to reach her that day to wish her a happy birthday, not knowing at the time that massive tornado was passing within one mile of their home. In fact, Suzanne sighted her first tornado, coincidently in Kansas, while travelling to her grandparents for Thanksgiving in 1973. We were making the traditional trip to grandma's house in the family sta-

“Suzanne has worked for the parent agency of the NWS, the National Oceanic and Atmospheric Administration (NOAA), for over twenty-five years.”

tion wagon from our home at the time in Albuquerque and ended up out-racing a tornado along highway 56 outside of Great Bend, Kansas. Dad’s navigation and combat skills came in handy that day! Suzanne has worked for parent agency of the NWS, the National Oceanic and Atmospheric Administration (NOAA), for over twenty-five years.

She began her career with NOAA while she was still pursuing a Bachelor in Science degree in meteorology at the University of Oklahoma in Norman, Oklahoma. She worked as a student research aide for Dr. Ed Brandes at the National Severe Storms Laboratory (NSSL) from 1984-1987. Aside from assisting Dr. Brandes with his research, Suzanne was one of the core team members of the NSSL Tornado Intercept Team, whose mission was to deploy a portable meteorological observatory that was comprised of a variety of weather instruments, the TOtable Tornado Observatory (TOTO), in the path of a tornado to collect data that could help research scientists understand the atmosphere in the vicinity or inside a tornado vortex. In addition to working at NSSL, she also worked as a student aide and NOAA Weather Radio operator at the NWS Weather Forecast Office located in Oklahoma City, Oklahoma.

Upon graduation in 1987, she decided to pursue operational meteorology but decided to focus on a different branch of operational weather other than severe local storms to start her career. Suzanne’s first professional job was as a marine meteorologist with the NOAA Ocean Prediction Center, then part of NOAA’s National Ocean Service, located in Camp Springs, Maryland. Her first professional move came in 1989 when she transferred to a computer analyst position at the National Ocean Service’s Estuarine and Ocean Physics Branch in 1989 in Rockville Maryland where she worked on a weather-ocean forecast model. “My tenure in NOS was short-lived as I accepted my first position at the NWS as a meteorological intern at Norman, Oklahoma Weather Service Office and completed my intern requirements in 1990, just in time to head to the newly established Weather Forecast Office located in Tulsa, Oklahoma that was established as part of the NWS modernization in the ‘90s.”

In May 1993, she decided to make a new move into another modernization position as hydrometeorological analysis support forecaster at the NWS Arkansas-Red Basin River Forecast Center. While there, she was promoted to senior hydrometeorological analysis support forecaster while simultaneously working towards her M.S. in meteorology at the University of Oklahoma with an emphasis in hydrology. She received her Master’s degree in 1998.

Suzanne was on the move again in 1999, to the NWS Kansas City/ Pleasant Hill, Missouri Weather Forecast Office where she worked as a senior forecaster before becoming the Science and Operations Officer (SOO) in 2003. In addition to serving as the SOO since 2003, she served as the acting meteorologist in charge for the majority of 2006 and again from July 2010 through July 2011. She also served as an emergency response meteorologist for the Deepwater Horizon/Gulf of Mexico and the Enbridge/Kalamazoo River oil spills.

During her over twenty years with the NWS, Suzanne has been provided award-winning warning and forecast services with her NWS colleagues for numerous high impact weather and water events, including: November 11, 1987 Mid-Atlantic Blizzard/Snowstorm, April 26, 1991 Kansas/Oklahoma tornado outbreak, 1993 Great Mississippi, Missouri and Arkansas River floods, May 3, 1999 Oklahoma City/Tulsa tornado, January 28-31, 2002 Central Plains Ice Storm, May 4-10, 2003 Central Plains tornado outbreak, August 24, 2004 Kansas City Flash Flood, March 12, 2006 Missouri/Kansas/Illinois tornado outbreak, 2007-2008 Mississippi/ Missouri River Flooding, Christmas Blizzard of 2009, Groundhog's Day Blizzard of 2010 and the 2011 Mississippi/Missouri River Flooding. Her work and experiences during these events has strengthened her resolve to help build a Weather-Ready Nation in her grandparents' home state and making sure Kansas citizens and their livelihoods are protected from severe weather.

Her peers have nominated her and she has been honored for her work with two national Isaac M. Cline Awards, one for hydrology for 2002-2003 and another for diversity in 2008-2009. She also has been the recipient of several regional awards, and most recently completed an eighteen-month tenure in NOAA's Leadership Competency Development Program, where she had the opportunity to work with Undersecretary of NOAA, Jane Lubechenco, two deputy Undersecretaries of NOAA—Dr. Kathryn Sullivan and Mary Glackin, John (Jack) Hayes the Director of the NWS and Laura Furgione, the deputy Director of the NWS.

In her spare time, Suzanne is an avid cyclist and looks forward to participating in the Ride Across Kansas at some point in the future. She also enjoys running and snow skiing. Suzanne enjoys travelling across the United States and abroad, most recently researching her Irish and French heritage with trips to Ireland and France. Her next big adventure will be to a trip up the Amazon in the coming year. Aside from meteorology, Suzanne has an avid interest in geology and paleontology only last summer finding a baby stegosaurus skull in a quarry located in Utah. Closer to home, she dreams of another football national championship shot for her Sooners, working in the yard, wine-tasting, and enjoying a good cup of coffee, and admittedly likes to work! She looks forward to exploring the bike paths and cafes of Wichita, that is, when she's not working. Suzanne reported to NWS Wichita in April 2012.

How many risk signals does it take to get you to react?

By: Chance Hayes—Warning Coordination Meteorologist

In light of the tragedies that occurred during the tornadic outbreak in Mississippi, Alabama, and Missouri this past year, a common theme has been discovered. The theme revolves around "risk signals" and how many it takes before you react accordingly to the situation. The "risk signals" that aroused Joplin residents' attention, prompted their belief in the threat of the tornado, and informed their decisions to act included, in no particular order:

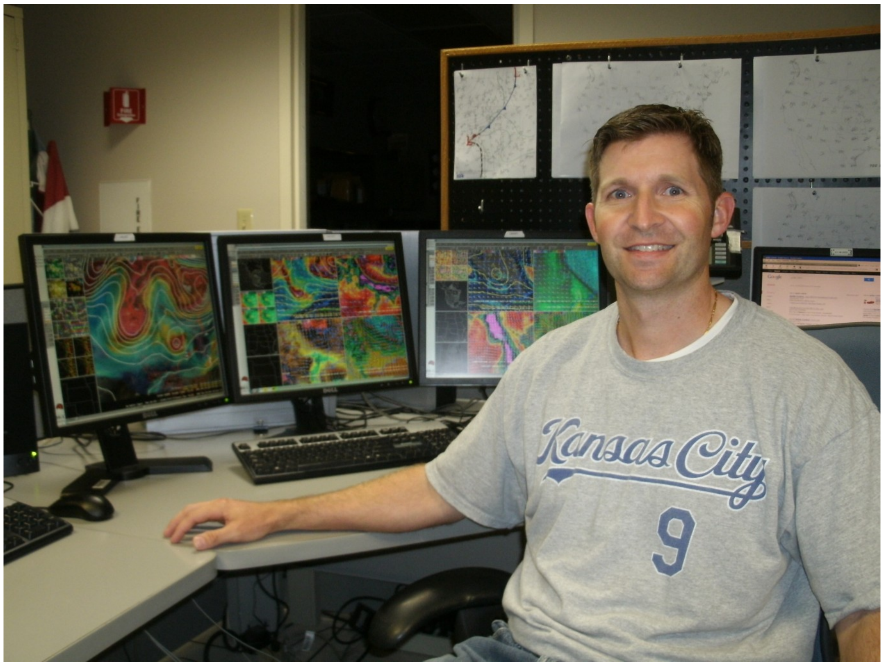
- Broadcasts made on television and radio,
- NWS watches and warnings obtained via commercial and government web pages
- The activation and deactivation of the 1st siren
- The activation of the 2nd siren
- Text messages
- Posts to social media networking sites
- Information transmitted over NOAA Weather Radio (NWR)
- Observations of the physical environment
- Messages from family, friends, neighbors, and coworkers

It was noted for this particular event, it took between 2 and 9 "risk signals" before the citizens of Joplin took action. In a rapidly changing weather environment, it is unacceptable to need that many "risk signals." I understand each situation is different; however, it is our hope that you accept personal responsibility for your actions and react with as few "risk signals" needed to keep you and your family safe.

Even though both of the tornadic outbreaks mentioned above were viewed as successful from a warning standpoint, one can't ignore the unfortunate loss of life with these events. Therefore, it is our hope that you take the time to truly interrogate the weather situation at hand and realize that the warnings being relayed to you through the NWS, media, internet, or other sources should be taken seriously at all times. [Do I expect you to always run for cover with the first risk signal? No, that would not always be prudent?] However, I do ask that you comprehend the message being provided and make a decision that is appropriate. At times, it will be to head directly to shelter and other times it may mean to turn on the television or radio to get more clarification. More importantly, it should get your attention and make you more aware of the impending situation so when the significance of the situation increases, you will have ample time to get to shelter.

-Meet the Wichita NWS Staff-

Meteorologist Chris Jakub



Meteorologist Chris Jakub

Chris Jakub joined the Wichita National Weather Service staff in November 2001 after beginning his Weather Service career in Jackson, Mississippi.

Chris grew up in the small Nebraska town of Schuyler which is about a one hour drive north of Lincoln, Nebraska. His interest in weather started in third grade when he remembers his dad constantly monitoring the scanner and listening to the local National Weather Service broadcasts for severe weather warnings. Chris enjoyed following his dad's excitement of running to the windows and outside to gaze at approaching severe thunderstorms. After graduating from high school, Chris went to Platte Community College for two years before transferring to the University of Nebraska in Lincoln (UNL). At UNL Chris received his Bachelor's Degree in Meteorology. After college he took a temporary meteorology position at the Jackson, Mississippi National Weather Service office then shortly after he was hired as a full-time intern. Chris worked in Mississippi for almost two years when he was offered a position to work as a general forecaster at the Wichita, Kansas National Weather Service office.

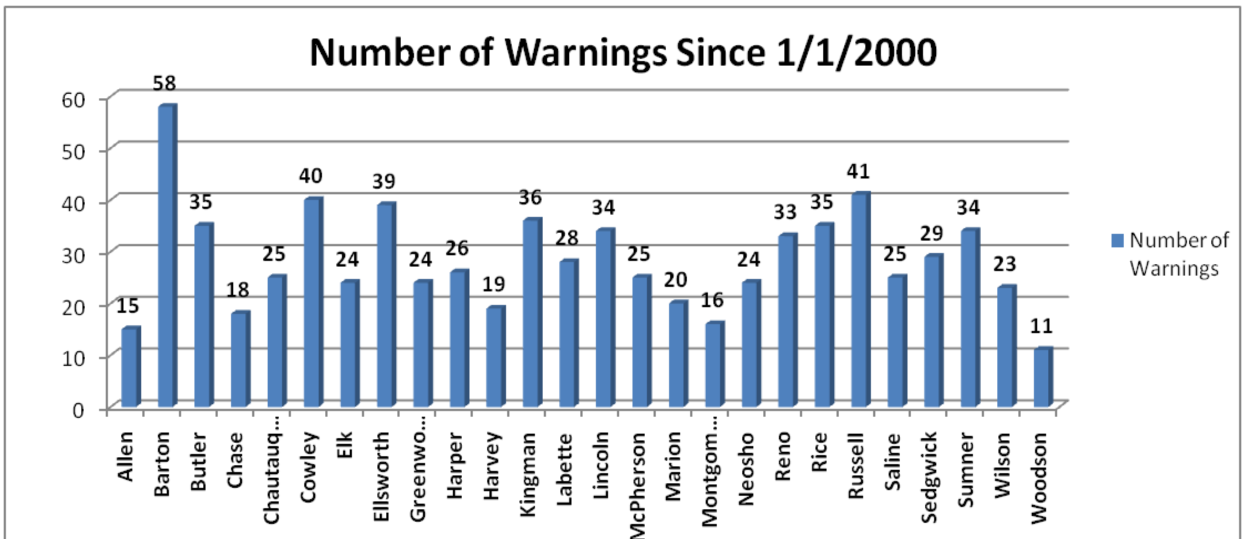
Once in Kansas, Chris went on his first tornado chase on May 7th, 2002 with his uncle and brother. On this chase, they witnessed a strong F-3 tornado near the small town of Bucklin, Kansas. Mobile computer technology was just in its infancy at that point, so his chasing tools were confined to looking at a Kansas Gazetteer for navigation, listening to NOAA weather radio, and staring out the car windows.

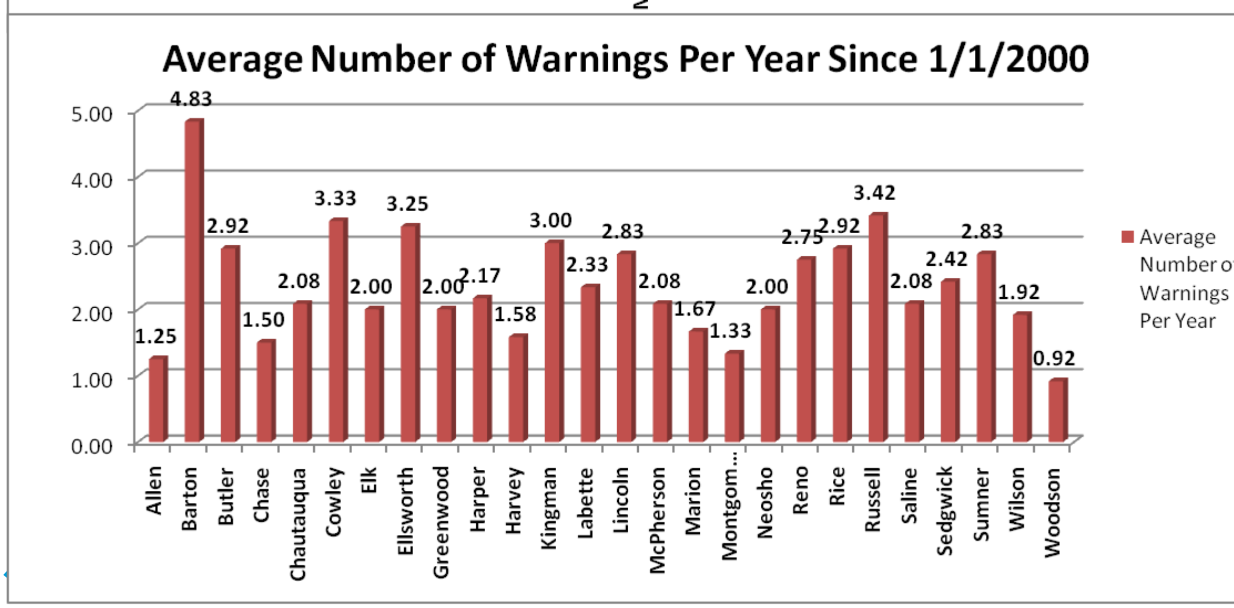
Outside of work Chris is an avid golfer usually playing some 60 to 80 rounds of golf per year depending the weather season and also competes in several local golf tournaments. He also enjoys league bowling during the fall and winter months when peak golf season is over. His other hobbies include watching dirt track racing at 81 Speedway and other local dirt track venues. Chris especially enjoys the super late model and sprint car classes for dirt track racing. In addition to his sporting activities, Chris also does a lot of home improvement projects both inside and outside of his home. Being from Nebraska and a UNL graduate, Chris is a Husker fan for life and follows the Husker football program.

Severe Weather Warning Complacency

By: Chance Hayes—Warning Coordination Meteorologist

Another reoccurring theme from the tornadic outbreaks this past Spring was there were too many warnings issued, and the sirens were sounded too often. Do you really believe that finding? If so, I would beg to differ with your opinion. We looked back at the number of tornado warnings issued for each of the 26 counties that we serve and found some interesting statistics. The information was taken from January 1st, 2000 through October 31st, 2011. That is a total of 12 years worth of data. The number of total warnings per county ranged from a high of 58 to a low of 11. So when you break that down to a yearly average, the highest yearly average was 4.83 warnings per year to 0.92 warnings per year. When looking at that information, I ask this, are you really being warned to often? You make the call.





National Weather Service Fire Weather Wichita, Kansas

Fire Weather Program-Overview

The Fire Weather Program also called the Red Flag Program exists to alert land management agencies of developing weather conditions, when coupled with critical fuel conditions (dry grasses), could lead to dangerous wildfire behavior. Criteria for Red Flag events are site-specific and will be discussed below. Red Flag events should be thought of as another form of severe weather in that these events threaten lives and property, and timely alert of the conditions is critical.

Red Flag Warnings and Fire Weather Watches enable fire agencies to manage fire suppression resources and prepare appropriate suppression responses.

The NWS in Wichita issues a routine Fire Weather Planning Forecast at least once a day. Fire Weather Planning Forecasts contain predictions for our area of responsibility through the next week. Land management personnel use these products to direct pre-suppression activities and for other planning.

Fire Weather Products:

- **Grassland Fire Danger Index**
- **Fire Weather Planning Forecast**
- **Fire Weather Watch**
- **Red Flag Warning**

What is the Grassland Fire Danger Index?

The GFDI conveys the potential for a grassfire to become difficult to contain. It uses a mathematical function that involves temperature, relative humidity, wind, and a curing value (dryness of grasses). The level of grass curing in concert with wind speed is the most influential factors determining the magnitude of fire danger (drier grass and higher wind speed equals higher GFDI value). When the GFDI reaches the very high category the NWS talks about elevated fire danger in the Hazardous Weather Outlook. When it climbs into the extreme category a Fire Weather Watch or Red Flag Warning is issued.

GFDI Scale:

(L) LOW	0 TO 2
(M) MODERATE	3 TO 7
(H) HIGH	8 TO 19
(V) VERY HIGH	20 TO 49
(X) EXTREME	50+

What is a Fire Weather Planning Forecast?

A fire weather planning forecast provides timely weather information for the next week geared specifically to the fire community and is useful for operational decision making.

What is a Fire Weather Watch?

This product alerts land management agencies of the potential for a Red Flag event in the near future. The forecaster is reasonably confident that Red Flag criteria will be met and Fire Weather Watches are generally issued 12-72 hours in advance of an event.

What is a Red Flag Warning?

This product warns of a Red Flag event and is issued when the forecaster has a high degree of confidence that Red Flag conditions will occur in the next 24 hours.

Both the Fire Weather Watch and Red Flag Warning result in actions taken by land management agencies related to placement and activation of resources. These actions can include assigning more fire fighters to an incident, changing attack strategies, and/or moving fire fighters to areas of safety.

Ideal Burning Conditions:

Wind Speed: *5-15 mph*

Wind Direction: *away from sensitive areas*

Mixing Height: *1800 ft or higher*

Relative Humidity: *30-70%*

Temperature: *55-80°F*

Cloud Cover: *up to 70% coverage*

These products can be found on our web page at the following url:

www.weather.gov/wichita/?n=firewx

Do you know why the sirens sound in your community?

By: Chance Hayes—Warning Coordination Meteorologist

One of the offshoots of the perceived to many warnings issued was already covered in another article is the fact that people generally feel that the outdoor warning devices (sirens) sound off too much. First off, let me address this from the standpoint that “sirens” are actually outdoor warning devices meant to warn people that are at local parks, ball fields, lakes, camp grounds, etc. of impending danger. They are not meant to be utilized for indoor purposes. That is a byproduct or perk of the outdoor warning device. Knowing that the “sirens” are meant for outdoor purposes only, you need to know exactly what the outdoor warning device policy is for the area you live. Some policies are county based, while others may be governed by the city. I would like to encourage you to contact your local county Emergency Manager and ask them what the siren policy is for your location.

“ ‘Sirens’ are actually outdoor warning devices meant to warn people that are at local parks, ball fields, lakes, camp grounds, etc. ...”

Your local sirens can sound for many different reasons, not just tornado warnings. The following list gives you a few reasons why the outdoor warning devices may be sounded at your location;

- Tornado Warning from NWS
- Tornado spotted by county storm watcher, chaser, or public
- Funnel Cloud spotted by county storm watcher, chaser, or public
- Rotating Wall Cloud spotted by county storm watcher, chaser, or public
- Straight Line winds of 75 mph or greater
- Severe Thunderstorm Warning

As you can see, the outdoor warning devices can be utilized for many different scenarios. All of which would affect those that are outdoors, but not all will affect those indoors. So, just because the outdoor warning devices are sounding doesn’t always mean a tornado is on the ground. It means that those that are outdoors are in danger and need to seek indoor shelter. You then need to utilize other risk signals, which were addressed in the article on page 4 of this newsletter, to find the best combination that works for you and your family to stay safe.

Abnormally Warm, Wet and Snowless Winter of 2011-12

By: Andy Kleinsasser, Meteorologist

Winter 2011-12 proved rather warm, wet and snowless across the region. In fact with the exception for portions of the western states, nearly the entire lower 48 was well above normal December through February (see Figure 1). Why so much warmth? There were likely many factors that came into play, but it appears two weather patterns over the Arctic and the North Atlantic (called the Arctic Oscillation and the North Atlantic Oscillation respectively) played a key role in the warmth. These two weather patterns well to the north and northeast of Kansas tended to greatly overpower the relatively weak La Niña conditions that were present this past winter. Moderate to strong La Niña's (Equatorial Ocean cooling off the west coast of South America) typically help produce relatively cold winters especially over northern portions of the lower 48.

Locations across central, south-central and southeast Kansas experienced one of the warmest winters on record. As Figure 1 depicts, December-February temperatures over the eastern half of Kansas were generally 3-7 degrees above normal. Wichita's average winter temperature (average of each daily high and low temperature) was 38.4 degrees, ranking 5th warmest since the late 1880s (see Figure 4); Salina's average December-February

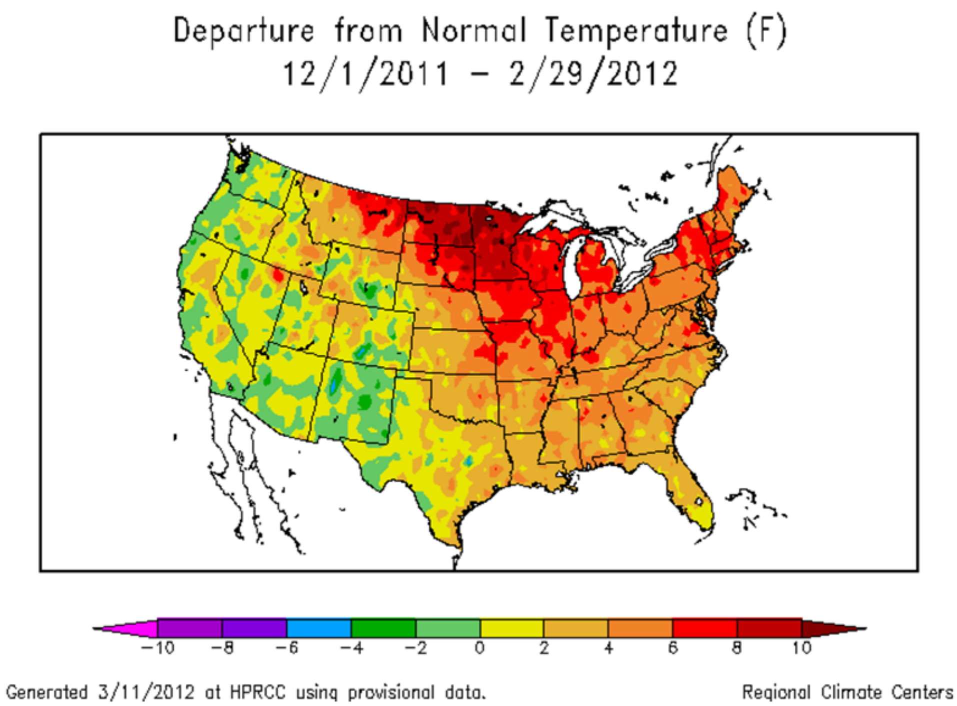


Figure 1. Lower 48 December-February departure from normal temperatures. Courtesy High Plains Regional Climate Center.

Be sure to find

US National Weather Service Wichita Kansas

on facebook

Also be sure to check if your county Emergency Manager has a facebook page.

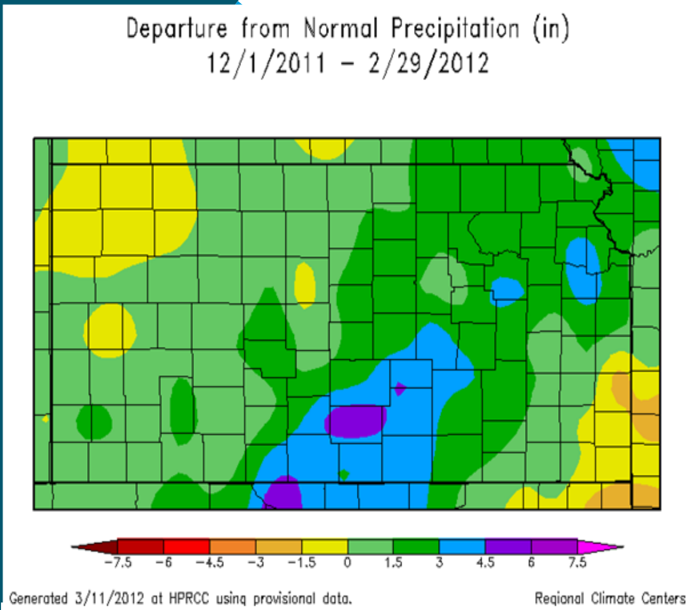


Figure 2. Kansas December-February departure from normal precipitation. Courtesy High Plains Regional Climate Center.

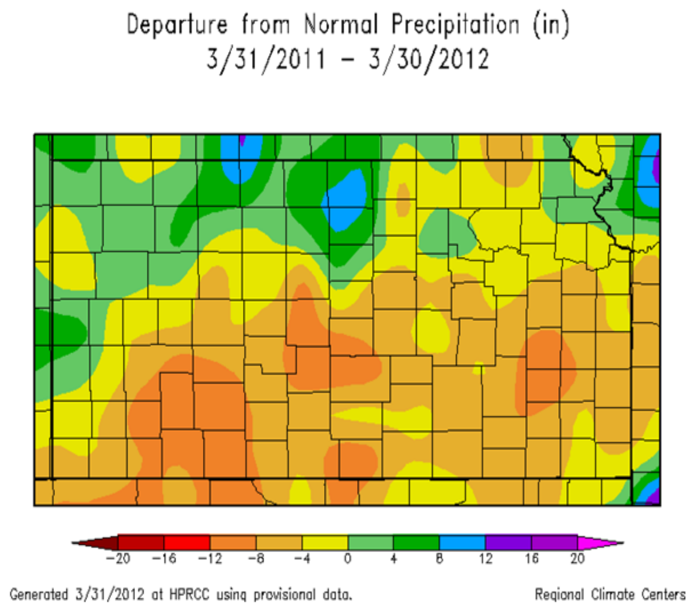


Figure 3. Kansas March 2011-March 2012 departure from normal precipitation. Courtesy High Plains Regional Climate Center.

temperature was 35.6 degrees, tied for 9th warmest on record (see Figure 7). Chanute's average December-February temperature was 39.0 degrees, ranking 8th warmest on record (see Figure 8).

On average each winter, Wichita experiences around 18 days in which daily temperatures remain below the freezing mark (32 degrees). This past winter bucked that trend tallying only 5 such days, one of the lowest on record. Additionally, Wichita typically experiences around 10 days each winter in which the daily low temperature drops to 10 degrees or lower. This past winter bucked that trend as well tallying ZERO such days. Consequently, this is only Wichita's 3rd winter sea-

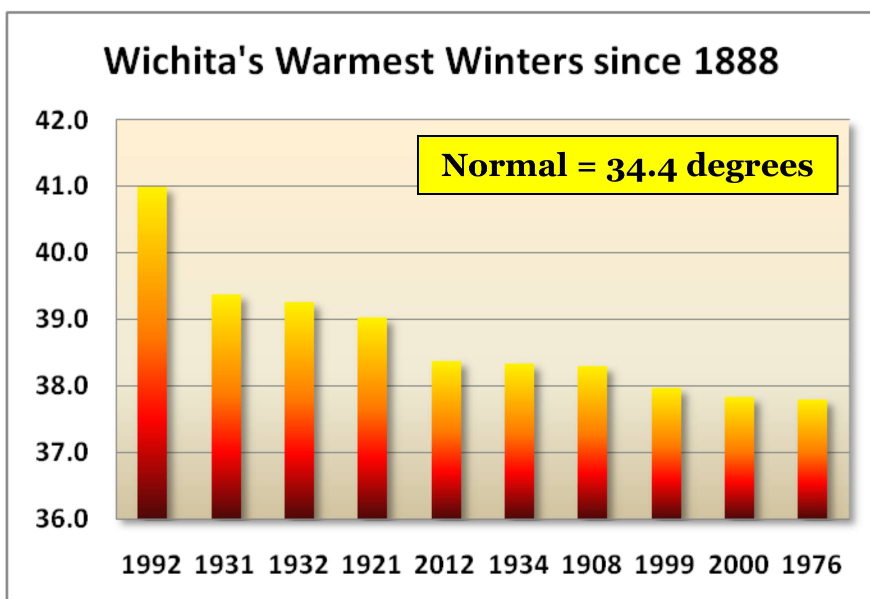


Figure 4. Wichita top-10 warmest December-February average temperatures.

"Wichita experienced 7.29 inches of precipitation from December-February, which was the 3rd highest winter total on record ..."

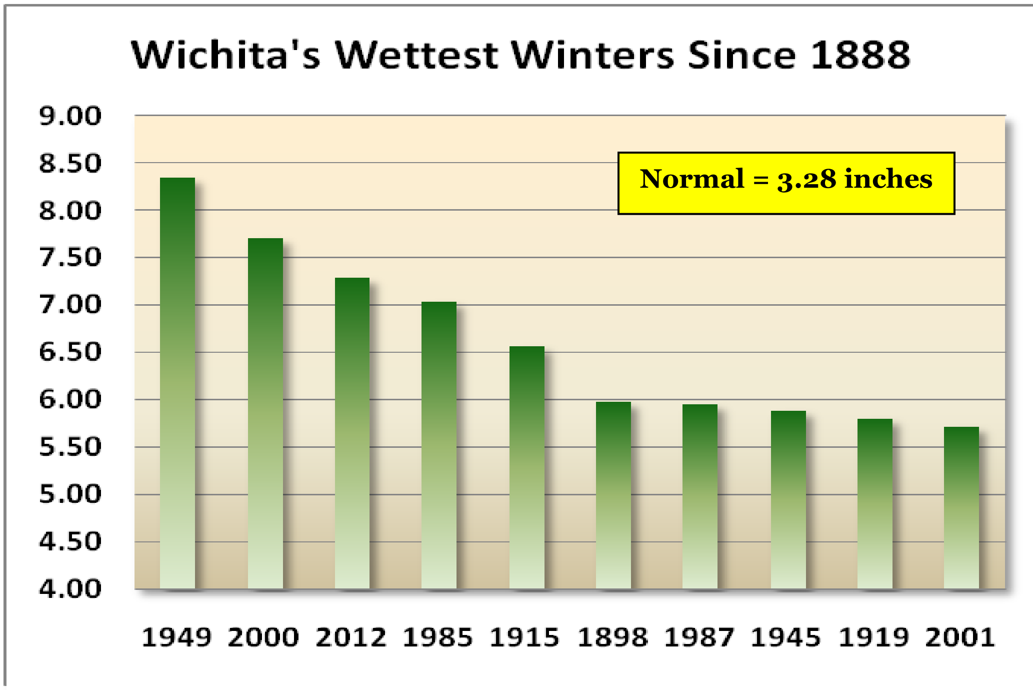


Figure 5. Wichita top-10 wettest December-February periods.

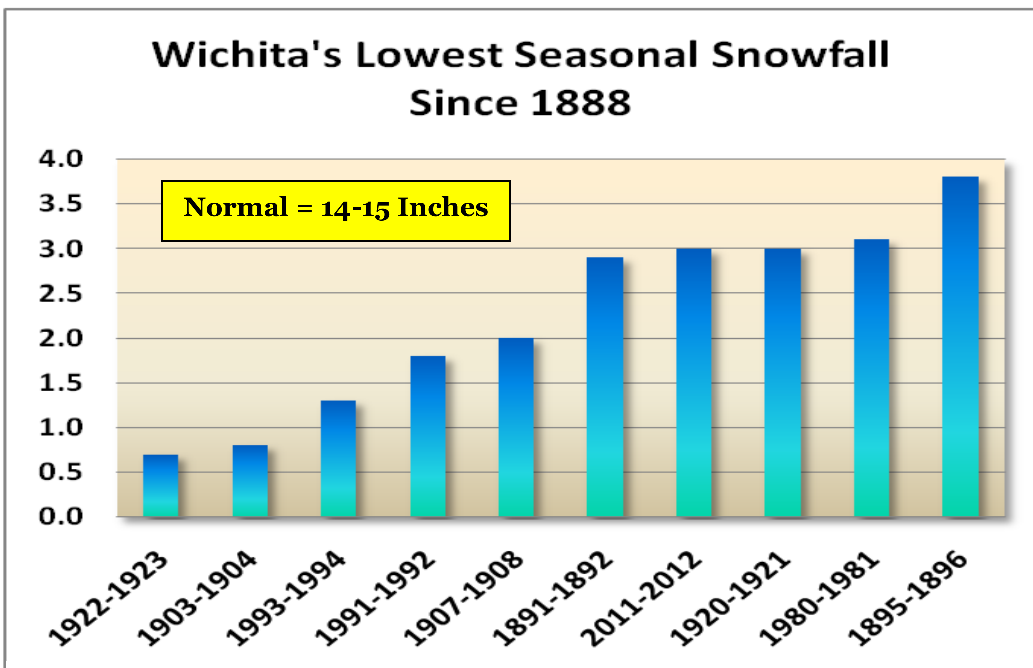


Figure 6. Wichita top-10 least snowiest October-March periods.

son that daily low temperatures remained above 10 degrees joining the winters of 1940-41 and 1991-92.

Due to the warmth, precipitation fell mostly in the form of liquid. It was actually rather wet across much of Kansas with much of the state experiencing

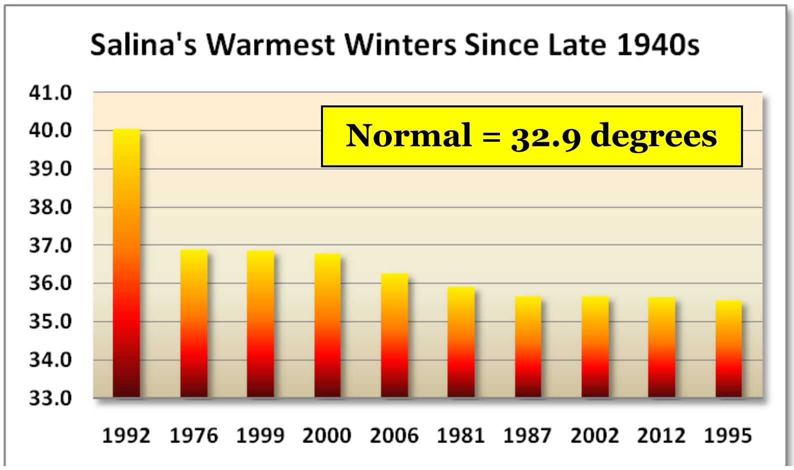


Figure 7. Salina's top-10 warmest December-February average temperatures.

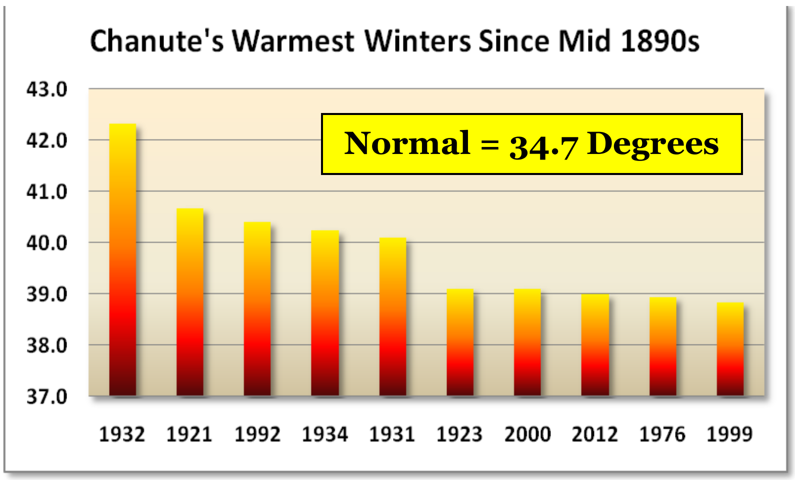


Figure 8. Chanute's top-10 warmest December-February average temperatures.

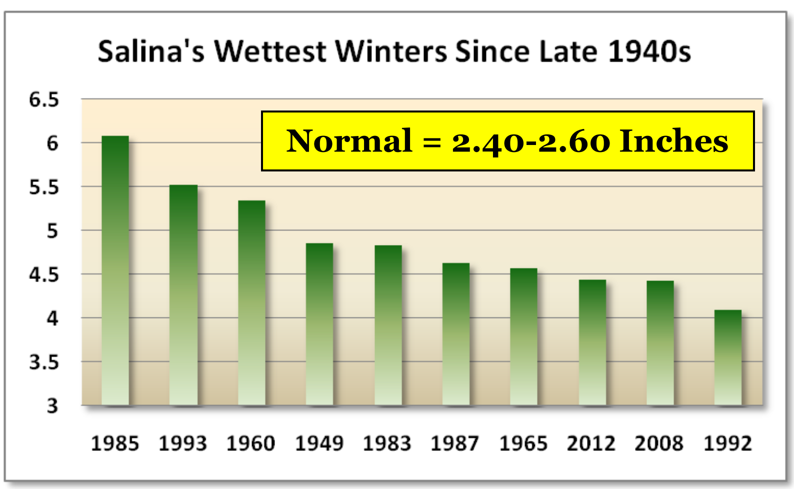


Figure 9. Salina's top-10 wettest December-February periods.

at least somewhat above normal precipitation for the December-February period although portions of far northwest and far southeast Kansas were below normal (see Figure 2). Very wet conditions prevailed from south-central through northeast Kansas with departures running as high as 4-5 inches above normal. This inserted a modest dent in the long-term rainfall deficit that contributed to drought conditions last summer and fall although wasn't enough to completely overcome the moisture deficit. Much of Kansas was still at least 4-8 inches below normal since late March 2011 (see Figure 3).

Wichita experienced 7.29 inches of precipitation from December-February which was the 3rd highest winter total on record (see Figure 5). Salina experienced its 8th wettest winter on record totaling 4.44 inches (see Figure 9). Chanute missed out on some of the beneficial rainfall that Wichita and Salina experienced but still tallied 5.51 inches which was the 27th wettest winter on record.

As stated earlier, snow was rather sparse across the region this past winter. In fact, Wichita experienced only 3.0 inches of snow from October-March, tying 1920-21 for the 7th least snowiest winter on record (see Figure 6). Normal winter snowfall is typically between 14 and 15 inches for the Wichita area.

April 4th, 2012 Funnel Clouds

By: Kevin Darmofal—Lead Meteorologist ,
Jerilyn Billings and Robb Lawson—Meteorologists

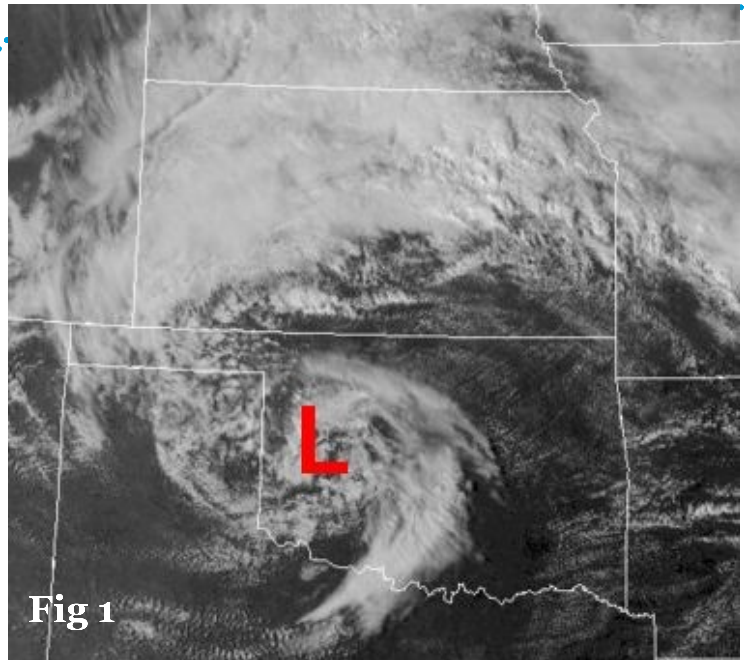
Several funnel clouds (images 1 and 2) were sighted in the Wichita area during the late afternoon of April 4th, 2012. These funnels were quite small and did not touchdown, though some persisted for as long as 15 minutes. At a brief point, as many as three separate funnels were viewed at one time just southwest of the city limits of Wichita. While funnel clouds and tornadoes are not rare across Wichita and tornado alley, the type of funnel clouds that hovered over Wichita and other parts of south central Kansas on Wednesday posed a very low risk of touching down and causing significant damage.

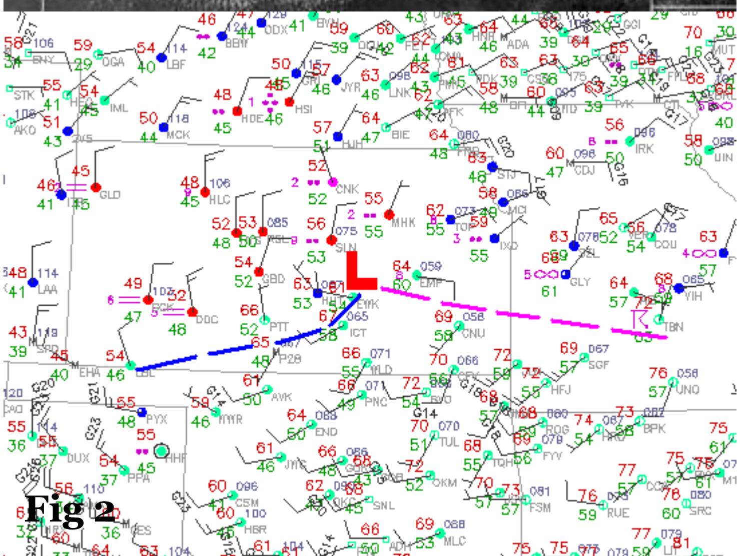
Low pressure aloft was spinning just to the south-southwest of south central Kansas (Fig. 1) during the afternoon across western Oklahoma. This helped create the larger scale, background spin, or vorticity, in the atmosphere. Meanwhile, low pressure at the surface was situated just north of Wichita (Fig. 2) with surface fronts or boundaries oriented east-southeast from the low across eastern Kansas and also southwest from the low across the Wichita metro area and south central Kansas. The relatively colder air aloft combined with the daytime sun and heating resulting in weak or modest instability which fueled the development of thunderstorms (Fig 3 and 4).

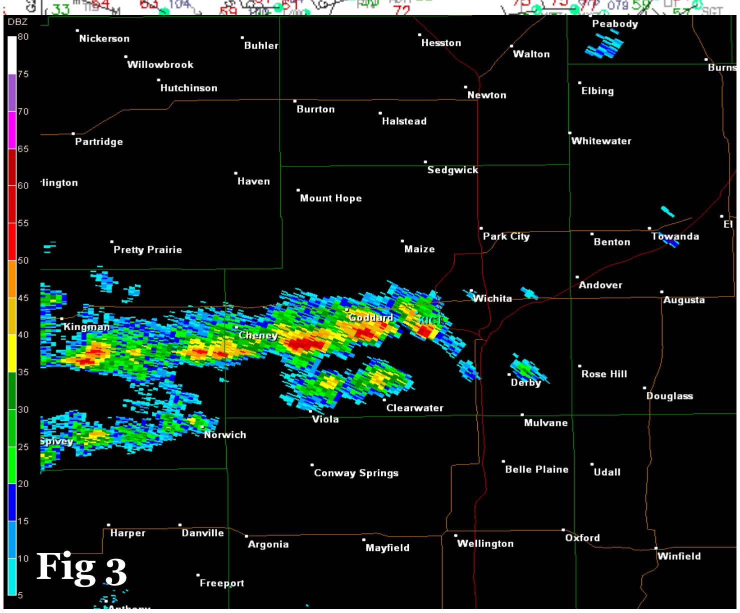
The storms that formed along the surface boundaries were the locations that where most prone to spin-up these funnels where the converging air within these updrafts interacted with the stretching of the relatively weak spin or vorticity in the developing thunderstorms. The funnel clouds occurred along both such boundaries (Fig. 1) on Wednesday afternoon with one over Chase County, near Bazaar and the others across the Wichita area. While there is some debate as to how to classify these types of funnels that formed (cold air or landspouts), they posed a relatively low risk of touching down on Wednesday afternoon. This was mainly due to the combination of weak instability and wind shear in the atmosphere.

(Image 1) Funnel over southwest Wichita around 515pm. Picture courtesy of NWS Wichita

(Image 2) Funnel over southwest Wichita around 515pm. Picture courtesy of Mike Urban.







So what is the difference between these funnel clouds and funnel clouds that eventually become destructive tornadoes? Well the difference is how they are formed. As described above, these funnel clouds are formed with some relatively weak background spin in the atmosphere while funnel clouds that eventually become destructive tornadoes usually form from supercell thunderstorms that have a large rotating updraft called a mesocyclone. Why does this matter? Think of the funnel clouds that were visible on April 4th as having the energy/power of an old large drill with only 5-7 volts. This larger old drill is about as effective as a thumbtack at putting a hole in wood or drywall. The power of this drill is like the energy or background spin in the environment that could produce the funnels that occurred on April 4th. If these funnel clouds would have touched down becoming a tornado, they would have relatively little energy which could cause minor damage but do not pose a large risk to life and property. Supercell thunderstorms are more like a small compact 18-volt drill. This compact drill has more power on a smaller scale (like a supercell thunderstorm). The funnel clouds that develop from these storms can touch the ground becoming tornadoes. These tornadoes have the ability to cause more damage from the greater energy they contain from their parent system, the supercell thunderstorm, ultimately posing a greater risk to life and property.

(Top left) Visible satellite image from around 4 pm showing the location of the upper level low pressure system.

(Middle) Surface analysis from around 3 pm showing the two boundaries which storms developed on.

(Bottom left) Radar image from around 515pm showing the storms over the southwest portion of Sedgwick County which produced the funnel clouds.

2011 Cooperative Observer Awards

By: Jerilyn Billings, Meteorologist and
Leon Wasinger, Operations Program Leader

The following Cooperative Observers were presented 2010 Length of Service Awards. We would like to thank and congratulate our observers for volunteering their time in providing us with the climatic data which is published by the National Climatic Data Center on a monthly basis and made available to the private, public, and government entities. Their dedication to service is greatly appreciated!

Observer	Station	Years	Observation
Tim Howell	Hillsboro	10	Precipitation
Stanton Neufeld	Inman	10	Precipitation
Marvin Wheat	Eureka 1 E	10	Precipitation and Temperature
Tim Razey	Peck/River 3 SW	10	River
Tammy Razey	Peck 2 S	10	Precipitation
Eric Stites	Mount Hope	10	Precipitation
Ray Barnes	Chanute 3 N	15	Precipitation and Temperature
Leonard Moore	Mulvane 1 W	15	River
Tim Plett	Cassoday 2 SW	15	Precipitation and Temperature
Lafaye Noble	Bartlett	15	Precipitation
G Robert Watkins	Wonsevu	25	Precipitation
Kenneth Stone	Cherryvale 5 S	30	Precipitation
Priscilla Rivers	Grenola 1 N	30	Precipitation

Handy Severe Weather Reporting Reference Card

Weather to Report:

Hail ≥ 0.75” in Diameter
Wind Speeds ≥ 58 mph
Tree and Structural Damage
Rotating Wall Clouds
Funnel Clouds
Tornadoes

Include with Each Report:

Your Name
Your Call Sign (If Applicable)
Your Spotter Number (i.e. BU100)
Your Location
Time and Date of the Event
Location of the Event

National Weather Service

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"The National Weather Service (NWS) provides weather, hydrologic, and climate forecasts and warnings for the United States, its territories, adjacent waters and ocean areas, for the protection of life and property and the enhancement of the national economy. NWS data and products form a national information, database and infrastructure which can be used by other government agencies, the private sector, the public, and the global community."

Online: www. weather.gov/Wichita

NWS Wichita Word Search

Fire Weather Terms
NWS Wichtia, KS

Various terms used with Fire Weather and fighting a Wildfire. For definitions, please see: www.srh.noaa.gov/images/lzk/pdf/aop2012.pdf

L	S	X	E	O	M	E	A	D	E	E	I	A	F	E	V
I	P	E	R	N	T	I	L	R	A	I	R	C	I	F	R
C	O	D	I	G	N	I	H	C	R	O	T	C	R	R	G
E	T	N	F	N	E	O	E	U	L	I	T	T	E	R	L
Y	T	I	D	I	M	U	H	E	V	I	T	A	L	E	R
F	I	S	E	L	P	I	I	O	R	N	R	N	I	T	E
E	N	E	B	D	A	B	L	U	T	E	E	I	N	A	T
P	G	N	I	N	R	A	W	G	A	L	F	D	E	R	P
F	R	I	R	A	T	C	U	R	I	N	G	P	H	D	M
L	O	A	C	C	N	K	L	C	C	M	I	O	O	A	R
N	G	H	S	X	E	F	S	W	P	U	T	G	X	N	H
F	I	R	E	W	H	I	R	L	A	S	P	E	C	T	B
R	U	M	R	E	E	R	I	F	P	M	A	C	O	R	F
U	O	E	P	L	E	E	F	O	T	N	K	M	U	A	A
N	N	I	L	R	I	K	T	T	I	F	P	S	V	F	D
I	I	R	M	S	T	N	A	U	E	C	H	T	A	L	E

Aspect	Backfire	Brush	Campfire
Candling	Curing	Entrapment	Fire Whirl
Fireline	Fuels	Haines Index	Hotspot
Litter	Nomex	Prescribed Fire	Red Flag Warning
Relative Humidity	Retardant	Spotting	Torching

Answer Below: