

# STORM FURY!

## Inside this issue:

PLEASE HELP US  
KEEP COSTS DOWN  
FOR FUTURE NEWS-  
LETTERS! 2

2008 STORM SEASON-  
-ARE WE READY? 3

WINTER 2007-2008  
PROVED WILD AND  
WINDY FOR THE  
SOUTHEAST QUAR-  
TER OF KANSAS 4

NEW ENHANCED  
FIRE WEATHER IN-  
FORMATION AVAIL-  
ABLE BEGINNING  
APRIL 9TH! 7

NEW WEATHER RA-  
DIO STATIONS COM-  
ING TO KANSAS 8

2007 COOPERATIVE  
OBSERVER AWARDS 9

CONTACT INFORMA-  
TION AND MISSION  
STATEMENT 10

## ICY AND WHITE DECEMBER 2007

By: Brad Ketcham, Chris Bowman & Andy Kleinsasser Meteorologists

### DECEMBER 8-11TH SOUTHERN AND CENTRAL KANSAS ICE STORM

An extensive and devastating ice storm affected much of Southern and Central Kansas from December 9th through the 11th. Ice accumulated up to two inches across parts of Central Kansas, with generally one-quarter to one-inch amounts across portions of South-Central and Southeast Kansas.

As is the case with most severe ice storms, power lines and trees were hardest hit. The weight of the ice encrusting everything, which normally adds nearly 2 tons of weight to a typical power line span, resulted in thousands of downed power poles, and tens of thousands of downed power lines. This resulted in tens of thousands of Central and Southern Kansas residents losing power, some for more than a week. At one point it is estimated that the number of households and businesses without power was nearly 200 thousand across the state. The ice also inflicted widespread, and at times severe, tree damage across the area. Various communities experienced some form of damage on more than 80 percent of their trees. Exact damage amounts are nearly impossible to calculate due to the overwhelming coverage and magnitude of the damage. However, it is estimated that damage to the electric infrastructure alone easily exceeded \$100 million, with tree damage likely adding millions of dollars more to the final tally.

Throughout the entire event, 5 injuries and 2 fatalities occurred, all due to traffic accidents. One fatality occurred on I-70 in Russell County when a pickup collided head-on with a semi. The other fatality and 5 injuries occurred in Neosho County, when two vehicles collided head-on on U.S. 59 High-  
way.



Figure 1. Ice accumulation around one inch near Cassoday in Butler County.

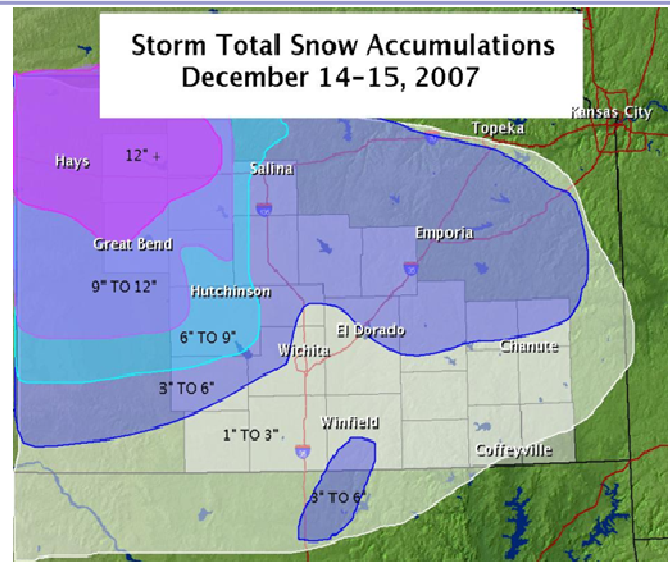
### DECEMBER 14-15TH CENTRAL KANSAS HEAVY SNOW

Another strong storm system produced an extensive swath of heavy snowfall across Central Kansas, with accumulations ranging from 6 to 12 inches. The highest

amounts occurred over Barton, Russell, Ellsworth and Lincoln counties. Unfortunately, The heavy snowfall hit some of the exact same areas that were affected by a crippling ice storm one week earlier, which greatly hampered clean-up efforts that were in full-swing.

### **DECEMBER 22<sup>ND</sup> TURNPIKE CORRIDOR HEAVY SNOW AND NEAR BLIZZARD CONDITIONS**

Heavy snow and near blizzard conditions prevailed across portions of central, south-central and southeast Kansas on December 22nd, as a third powerful area of low pressure moved through the area. A swath of 6 to 9 inches of snow accumulated in a relatively short period of time, generally along the Kansas Turnpike corridor. The heavy snow in concert with 25 to 40 mph winds reduced visibilities to less than one-quarter mile for several hours across the area, and in fact near whiteout conditions were periodically reported. Numerous traffic accidents and slide-offs occurred, and flights at the Wichita Mid-Continent Airport were either delayed or canceled.



**Figure 3. Storm total snow accumulations December 14-15th.**

## **PLEASE HELP US KEEP COSTS DOWN FOR FUTURE NEWSLETTERS!**

First off, I would like to thank you for your services in allowing us at the National Weather Service (NWS) to call you during times of inclement weather. Several of you have also gone above and beyond in your services by calling us and giving us a report of what was occurring at your location. We hope that you have enjoyed reading the semi-annual newsletter that we produce each spring and fall just for you.

However, the creation, labeling, stuffing, and mailing of the newsletter has become quite time consuming and expensive. For this reason, we at the NWS want to try and deliver as many newsletters as possible electronically via email. If you received this newsletter via regular mail, please allow us the opportunity to send this to you electronically or paperless through email to help alleviate the costs associated with a mass mailing. If you do not have email or you do not wish to receive the newsletter in an electronic format, that is fine; we'll continue to send you the newsletter via regular mail.

When sending me your information, please ensure that you include your name and NWS Spotter ID. If you have forgotten your ID, it should be on the label below your name.

Here is an example ID

**Please let us know if we can send you this semi-annual newsletter through email.**



**Figure 2. Impressive drifts in the NWS Wichita parking lot in wake of the December 22nd near blizzard event.**

Chance Hayes

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Thanks for your help, and we look forward to our continued partnership!



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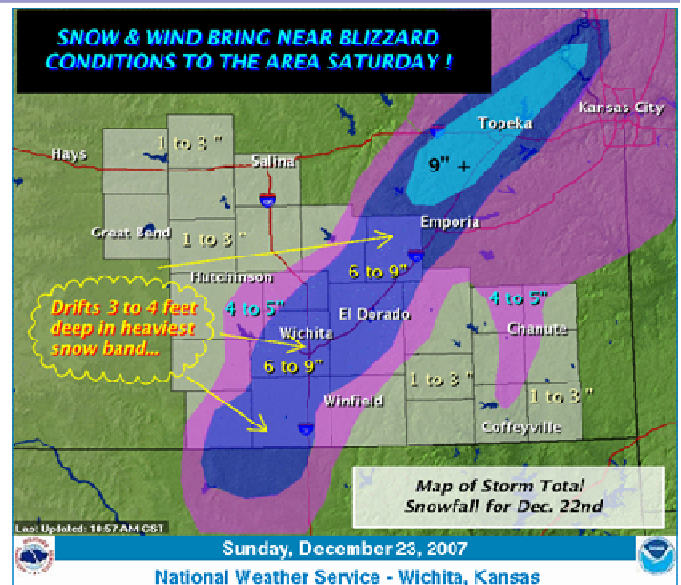


Figure 4. Storm total accumulations December 22nd.

## 2008 STORM SEASON--ARE WE READY?

By: Dick Elder, Meteorologist-In-Charge

The 2008 Convective Storm season has certainly started off with a vengeance. Approximately 460 tornadoes have occurred across the nation from January 1st through March 15th. To put this into perspective, in all of 2007 there were a total of 1074 tornadoes, so we have already had nearly one-half as many tornadoes compared to all of 2007!

So far in 2008, tornadoes have been occurring in locations where we don't normally see them this time of year. For instance, on January 29th tornadoes tore through parts of Indiana, killing 3 people. Do we typically think of killer tornadoes in Indiana in January? On February 5th, 22 people were killed in Tennessee when tornadoes ripped through that area at night. Five tornadoes were rated as EF-4 on the Enhanced Fujita Scale.

It just goes to show that deadly tornadic storms don't just occur through the spring months, in the afternoon and evening. They can occur whenever the atmospheric conditions are ripe for their generation. This can occur in the winter. It can occur late at night. What's important is that we're ready.

For the events that have occurred so far this year, they were well forecasted. Warnings were out well ahead of time. With that in mind, why is the death toll so high (over 5 dozen so far)? One reason may be that real-time reports were few and far between. Having storms occurring this time of year and at night, what is going to get the public to take shelter? The answer is they need validation that they are truly at risk, and have that information in time to take action. That is why YOU, the storm spotter, is so vital to the warning process.

When deadly storms are expected in your area, please keep your eyes to the sky. Look for those indications of tornadoes, high winds, large hail and flooding. Pass that information on so that it gets back to us and we can disseminate it through the media outlets. Your information is key to getting people to go to shelter. As we have already learned this year, we

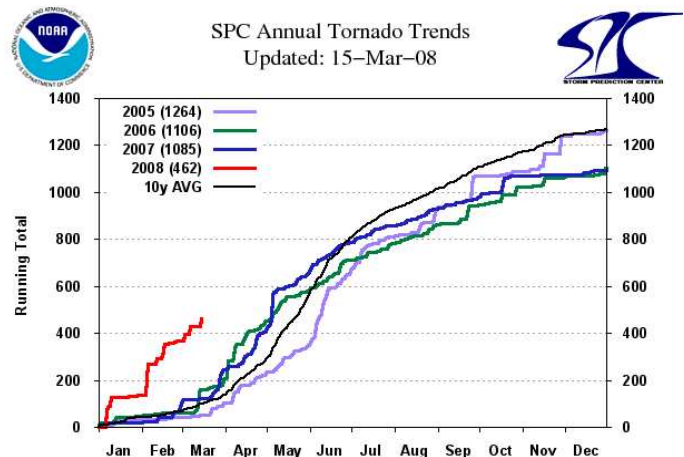


Figure 5. Annual number of tornadoes across the nation since 2005. The red line (2008) depicts the very active year the nation has already experienced.

can tell people up to a week ahead of time that severe weather is expected, and we can put tornado warnings out with an average lead time of 15+ minutes. However, without your reports as to what is actually occurring, people are slow to react. I have said many times before that "Together we Save Lives." From what has already occurred across the nation, it just brings home how important our partnership is.

The following is a list of weather events that we need to know about *immediately*:

Tornado  
 Funnel Cloud  
 Hail (penny size or larger)  
 Wind Damage (tree limbs the size of your wrist or larger snapped)  
 Wind Speeds of 50 mph or more  
 Heavy Rain of one inch per hour or greater  
 Flooding of Small Streams & Creeks or Rivers

***Please call us if you witness severe weather! Your severe weather report could save a life! We're here 24 hours/day, 7 days/week. 1-800-367-5736***

***If any of the above is witnessed, please call us immediately at the following number:***

**1-800-367-5736**

Remember, together we save lives! Thank you for keeping your eyes to the sky and relaying what you see!

## WINTER 2007-2008 PROVED WILD AND WINDY FOR THE SOUTHEAST QUARTER OF KANSAS

By: Eric Schminke, General Forecaster and Climate Services Focal Point

With numerous, significant, weather systems traversing the Great Plains in nearly an assembly line manner, the Winter of 2007-2008 proved quite eventful for residents of Central, South-Central and Southeast Kansas. The types of weather experienced came in numerous varieties: Rain, freezing rain, freezing drizzle, sleet, snow, blowing snow, blizzards, and thunderstorms (a few of which were severe). Oh, and the *wind*. With low pressure centers that were frequently wound up tighter than alarm clocks, "Old-Man-Winter" was quite sociable, shooting the breeze quite often by serenading Kansas with tunes that often reached sustained speeds of 30-40 mph and gusts that whistled to tunes of 40-50 mph.

**Weather Tidbit #1: Flash floods and floods are the number one storm related killer across the United States.**

From a wind standpoint, perhaps the most bizarre period was a 5-day span that enveloped January 27th-31st. During that 5-day period, winds of 30-40 mph with gusts to near 50 mph were prevalent. What was unusual was how these winds changed direction frequently, blowing from the south on the 27th and 28th, the north on the 29th, back to the south on the 30th, and finally back to the north on the 31st.

With so many strong fronts visiting Kansas, the air mass experienced numerous mood swings, some of which were quite volatile. As already reported in the first article, December was particularly stormy, with an ice storm on the 8-11th, heavy snow on the 14-15th, and heavy snow and near blizzard conditions on the 22nd.

Thunderstorms made an early debut in 2008, when skies lit up over Southeast Kansas the evening of January 7th. One thunderstorm achieved severity, when one inch hail landed in far Northeast Neosho County.

February also started off with a bang. Early in the morning on the 5th, severe thunderstorms pelted parts of Wichita with  $\frac{3}{4}$  to one-inch hail and heavy sleet. These thunderstorms occurred with temperatures in the lower 20s. Early in the

**In general, the winter of 2007-2008 was colder and snowier than normal across central, south-central and southeast Kansas.**

morning on the 11th, skies over South-Central and Southeast Kansas were lit profusely by thunderstorms that pelted these areas with heavy sleet, ¼ to ½ inch hail and then coated these same areas with freezing rain resulting in ½ inch ice accumulations that turned roads and highways into skating rinks. On the 21st, February scored a convective 'hat trick' when thunderstorms spreading across South-Central and Southeast Kansas pelted these areas with 1.5 to 3 inches of sleet and freezing rain.

February also recorded large temperature changes. During the evening of the 4th, an Arctic front invaded the region (and would set the stage for the month's first hail and sleet event) and caused temperatures in South-Central Kansas to plunge from highs in the mid-upper 60s on the 4th, to the lower 20s on the 5th. In Southeast Kansas, temperatures nose-dived from record highs in the mid 70s on the 4th to around 30 on the 5th. In fact, on the 4th, Chanute set a record high of 76 degrees. [A brief, pronounced warm spell also occurred in Southeast Kansas from January 5th-7th, when Chanute set record highs on the 5th (66), as well as on the 6th and 7th (72). During this brief record-setting warm spell, Chanute also set a record for warmest low temperature, 55 degrees on the 6th.]

During the afternoon of the 14th, a 2nd Arctic Front roared southeast across Kansas, sending temperatures tumbling down a spiral staircase from highs of 60-65 degrees across southern Kansas that afternoon, to between 15 and 20 degrees by the morning of the 15th. Winds pulled a complete 180. On the 13th, they whistled from the south from 30 to 40 MPH. On the 14th, they flipped to the north at very similar speeds.

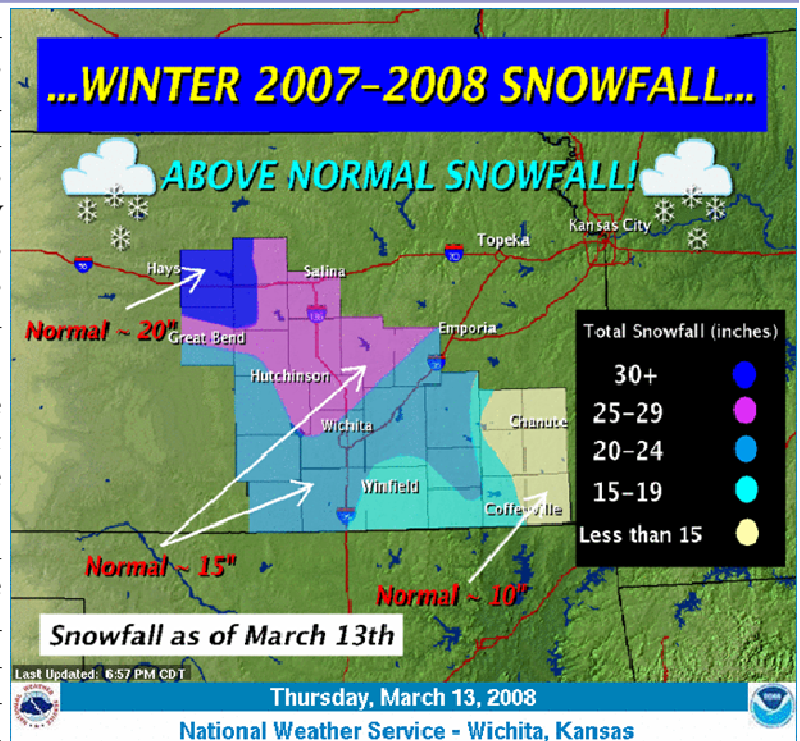
**Salina set a December precipitation record by measuring 3.20 inches of water equivalent.**

On the 19th a 3rd Arctic Invasion occurred, sending temperatures free-falling from highs in the mid-upper 50s the afternoon of the 19th, to between 10 and 20 degrees by the morning of the 20th; the colder temperatures gripping Central Kansas. There was, of course, the wind. Prior to the Arctic Front's arrival, south winds of 30-40 MPH prevailed. After frontal passage, winds swung to the north at similar speeds.

On the 25th, yet another cold front surged southeast across Kansas, but this time, the cold front was of Pacific origin, meaning that temperature changes wouldn't be quite as drastic as those that occurred with it's Arctic predecessors. However, associated with a low pressure center wound up tighter than an alarm clock, the winds more than compensated, especially in Central Kansas, where they just *howled*. On the 24th, Russell was whiplashed by south winds of 40-50 MPH. On the 25th, the winds swung to the north at the *same speeds*. These very strong northerly winds would invade South-Central and Southeast Kansas later that afternoon and would whistle and moan well into the night. With such dramatic changes in velocities, the wind vanes must've experienced a 2nd bout of dizzy spells.

The following are a few quick stats from selected cities/towns this winter which, meteorologically, runs from December 1st-February 29th. Departures from normal are in "( )".

**Weather Tidbit #3: Lightning kills more people in an average year than tornadoes.**



**Figure 6. Winter 2007-2008 snowfall (November through March 13th).**

**Weather Tidbit #2: The large majority of flash flood deaths are due to people driving through flooded areas.**

**WICHITA:**

|                          |   |
|--------------------------|---|
| Average Temperature:     | 32.9 Degrees (-1.5)                         |
| Warmest:                 | 68 on February 4 <sup>th</sup>              |
| Coldest:                 | 2 on February 2 <sup>nd</sup>               |
| Precipitation:           | 4.54 Inches (+1.33)                         |
| Snowfall:                | 19.6 Inches (+7.5)                          |
| Winds:                   | Average: 11.1 MPH                           |
| Peak Gust:               | North at 52 MPH on January 29 <sup>th</sup> |
| Number of Days           | >=35 MPH: 23                                |
| Number of Days           | >=40 MPH: 13                                |
| Peak 2-Minute Sustained: | South at 40 MPH on January 30 <sup>th</sup> |
| Number of Days:          | >=30 MPH: 20                                |
| Number of Days:          | >=35 MPH: 9                                 |

Wichita measured 6.6 inches of snow on December 22<sup>nd</sup> a snowfall record for that date.

**SALINA:**

|                          |   |
|--------------------------|---|
| Average Temperature:     | 29.8 Degrees (-2.4)                         |
| Warmest:                 | 67 on December 4 <sup>th</sup>              |
| Coldest:                 | on December 16 <sup>th</sup>                |
| Precipitation:           | 4.43 Inches (+1.63)                         |
|                          | (December: 3.20 Inches; Wettest on Record)  |
| Winds:                   | Average: 10.3 MPH                           |
| Peak Gust:               | North at 49 MPH on January 29 <sup>th</sup> |
| Number of Days:          | >=35 MPH: 19                                |
| Number of Days:          | >=40 MPH: 9                                 |
| Peak 2-Minute Sustained: | North at 40 MPH on January 29 <sup>th</sup> |
| Number of Days:          | >=30 MPH: 12                                |
| Number of Days:          | >=35 MPH: 8                                 |

Weather Tidbit #4: Lightning can strike 10 to 15 miles away from a thunderstorm.

**CHANUTE:**

|                      |  |
|----------------------|--|
| Average Temperature: | 33.8 Degrees (-0.2)                                    |
| Warmest:             | 76 on February 4 <sup>th</sup>                         |
| Coldest:             | 4 on December 16 <sup>th</sup>                         |
|                      | 4 on January 24 <sup>th</sup>                          |
| Precipitation:       | 5.90 Inches (+0.83)                                    |
| Winds:               | Average: 10.0 MPH                                      |
| Peak Gust:           | West at 53 MPH on January 8 <sup>th</sup> (Convective) |
|                      | South at 47 MPH on January 28 <sup>th</sup>            |
| Number of Days:      | >=35 MPH: 19   |

Weather Tidbit #5: A Severe Thunderstorm Warning is issued by the National Weather Service when 58 mph winds or greater and/or 1 inch size hail or larger are expected.

Number of Days: >=40 MPH: 7  
 Peak 2-Minute Sustained: West at 41 MPH on January 8<sup>th</sup>  
 January 8<sup>th</sup> event (Convective)  
 South at 37 MPH on January 28<sup>th</sup>  
 Number of Days: >=30 MPH: 10  
 Number of Days: >=35 MPH: 2  
 Records Set:  
 High Temperatures: January 5<sup>th</sup> (66), January 6<sup>th</sup> (72), January 7<sup>th</sup> (72)  
 February 4<sup>th</sup> (76)  
 Warmest Low Temperatures: January 6<sup>th</sup> (55)

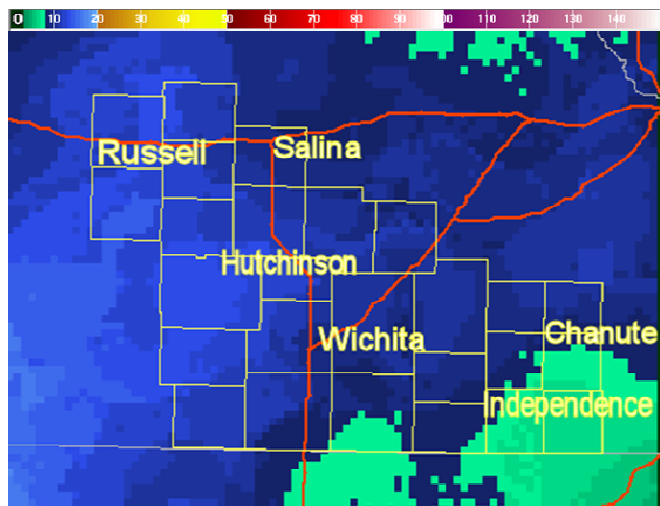
**Weather Tidbit #6: Severe Thunderstorm winds can be stronger than most tornadoes. Damaging Severe Thunderstorm winds are more common than tornadoes.**

## NEW ENHANCED FIRE WEATHER INFORMATION AVAILABLE BEGINNING APRIL 9TH!

By: Mary-Beth Schreck, General Meteorologist

The National Weather Service in Wichita will begin issuing a new experimental Grassland Fire Danger Index (GFDI) product on April 9<sup>th</sup>, 2008. This new index will provide similar values such as low, moderate, high, very high, and extreme to indicate the chance that a fire will become hard to contain as did the previous Rangeland Fire Danger Index (RFD). However, this new product will include a text table of these values every 3 hours for each county along with a maximum value for the day, and these values will be available for the following 6 days. There will also be a graphic of the same index available on our web page, which will show these values at a resolution of about 2 miles. Links to both the text and graphical versions of this product can be found by going to the "fire weather" page under the "Forecasts" section of our Internet homepage.

This index will give anyone planning to do outside burning a better idea what the weather conditions will be, how long they may be too high to burn, and will provide an opportunity to plan for conditions in the next week. Since this is an experimental product and we are investigating its strengths and weaknesses, so we are interested in any feedback you may have about this new product. Please send an e-mail to [marybeth.schreck@noaa.gov](mailto:marybeth.schreck@noaa.gov) with any comments.



**Figure 7. An example of the graphical version of the new Grassland Fire Danger Index (GFDI).**

**The new Grassland Fire Danger Index will allow for up to 6 days of planning for those with outdoor burning interests.**

**Weather Tidbit #7: Two feet of water can easily carry most vehicles.**

Examples of what the Grassland Fire Danger Index will look like:

**GFDI SCALE :**

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

**Weather Tidbit #8: A Tornado Warning is issued by the National Weather Service when a tornado has been sighted or indicated by Doppler radar.**

ALL TIME REFERENCES BELOW ARE IN CST.

**SEDGWICK COUNTY**

| DAY/DATE   | 24HR INDEX | * | MID  | 3AM | 6AM | 9AM | NOON | 3PM | 6PM | 9PM |
|------------|------------|---|------|-----|-----|-----|------|-----|-----|-----|
| THU DEC 20 | MODERATE   | 3 | * MM | MM  | L   | L   | M    | L   | L   | L   |
| FRI DEC 21 | MODERATE   | 5 | * L  | L   | M   | M   | M    | M   | L   | L   |
| SAT DEC 22 | MODERATE   | 7 | * M  | M   | M   | M   | M    | M   | M   | M   |
| SUN DEC 23 | LOW        | 2 | * L  | L   | L   | L   | L    | L   | L   | L   |
| MON DEC 24 | LOW        | 2 | * L  | L   | L   | L   | L    | L   | L   | L   |
| TUE DEC 25 | MODERATE   | 3 | * L  | L   | L   | L   | M    | M   | L   | L   |

## NEW WEATHER RADIO STATIONS COMING TO KANSAS

By: Dick Elder, Meteorologist-In-Charge

New NOAA "All Hazards" Weather Radio Stations are going to be coming on-line through parts of Central Kansas. The first one, which should be operational sometime this spring, will be transmitting from a tower about 6 miles north of Sharon, Kansas, which is located in extreme northeast Barber County. The transmitter is expected to provide service through Harper, Barber, Pratt, Kingman and Reno Counties of Kansas, and through Woods, Alfalfa and parts of Grant County in Oklahoma. Its call sign will be WZ2511 and will operate on a frequency of 162.400 MHz.

**Great news! Two new weather radio transmitters are going up! One in Barber County and another in Barton County.**

The next transmitter, planned for later this year, will be transmitting from a tower 4 ½ miles north of Great Bend, in Barton county. This radio is expected to broadcast on a frequency of 162.500 MHz. It will serve Barton, Stafford, Pawnee, Rush, Rice, Southeastern Ellis, Southern Russell, Western

Ellsworth, and may get into Northwest Reno Counties.

Once these two transmitters are operational, everyone across the 26 counties of Central and Southeast Kansas, which the Wichita National Weather Service warns for, will have access to weather radio reception. Stay tuned as to when these "All Hazards" radios become operational. If you are one that lives in these areas that up till now, weather radio reception has been nonexistent or quite poor, please consider getting a Weather Radio. The technology now allows you to program it to tone alert just for the county or counties that are of interest to you and the type of warning you want to hear. Time and again weather radios, and the tone alerts they provide, have been identified as the key component to alerting someone to a life-threatening weather situation and prompted them to take cover. In addition, they provide a continuous broadcast of current and forecasted conditions specifically for that area.

**Please think about getting a weather radio if you don't already own one. It's like having your own personal siren!**



## 2007 COOPERATIVE OBSERVER AWARDS

By: Gloria Dill, Administrative Support Assistant & Joe Rosner, Data Acquisition Program Manager

If you don't have a NOAA "All Hazards" Radio, please think about getting one. They are available at most stores where radios and other electronic equipment may be purchased. It's like having your own personal siren so you know when hazardous weather is headed your way!

The following Cooperative Observers were presented 2007 Length of Service Awards, including Emerson Travinchek, who also received the Richard Hagemeyer Award. 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!!

| <u>Observer</u>      | <u>Station</u>  | <u>Years</u> | <u>Observation</u>          |
|----------------------|-----------------|--------------|-----------------------------|
| Evert Bengston       | Windom 5SE      | 10           | Precipitation               |
| Ross & Jack Janssen  | Geneseo         | 10           | Precipitation               |
| Tom Stevenson        | Chanute No. 1   | 10           | Precipitation & Temperature |
| Larry Hall           | Smolan 1NE      | 10           | Precipitation & Temperature |
| Ron Dellinger        | Howard 5NE      | 10           | Precipitation & Temperature |
| David Leroy          | Albert 5SE      | 10           | Precipitation               |
| Anne Wilson          | Elmdale 8WNW    | 10           | Precipitation               |
| Deborah Wall         | Cedar Vale 5SSE | 15           | Precipitation               |
| Lewis Martin         | Pretty Prairie  | 20           | Precipitation               |
| Ferdinand Burmeister | Galatia 1NW     | 25           | Precipitation               |
| Leo Noland           | Longton         | 25           | Precipitation               |
| Emerson Travinchek   | Rosalia         | 45           | Precipitation               |

**THANK YOU cooperative observers and spotters! We couldn't do it without you!**

For future reference, please let us know if we can send you this semi-annual newsletter through email instead of through regular mail. Contact Chance Hayes at [chance.hayes@noaa.gov](mailto:chance.hayes@noaa.gov), or call him at 316-942-8483 extension 726.

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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 governmental agencies, the private sector, the public, and the global community.”*