MidWest Severe Storm Tracking Response Center, Inc.

MidWest Spotter

January, 2007

Happy New Year!
Dale Bernstein, President/CEO
MidWest 107

I'd like to wish all of our members, Board of Advisors, Board of Directors and all those who support MidWest a very happy, prosperous and safe New Year! We hope that everyone enjoyed great holiday season.

Once again MidWest and others within the severe weather community were kept very busy in 2006 and it appears that 2007 will be no different. As we look back, we see that our friends in the UK experienced a tornado in December '06 and see that Texas and Florida had multiple tornados in December '06.

So what does this tell us? The very first thing that comes to mind is that tornadoes can occur any time, and any place, as long as the conditions are present. This varies from the general public, who think tornadoes only happen during the summer and only in areas that they conceive are tornado prone areas. We all know differently and this is just one of the many reasons why MidWest reaches out to our communities, to educate. Education, knowledge, training and experience are your best means of protection from severe storms.

As you will observe in this issue of our newsletter, several members have already taken the FEMA courses ICS-100 and ICS-700. MidWest is looking forward to having all MOD's (managers on duty), NCO's (net control operators) and Board Members certified on these courses. MidWest encourages all members to take these courses as well and become certified in the ICS-100 and ICS-700.

These courses can be taken on-line by going to http://training.fema.gov web site and then going to FEMA Independent Study. The courses are accredited and college credit can be earned. Drop by the site, take a tour and jump in! The water is fine. After the course is complete and you receive your certifications, please email the certifications to dale.bernstein@midwestsstrc.org and I will forward the information to our files. Your name will then be added to our ICS training completed list, and also will go into your training file.

As MidWest continues to work alongside of the many different agencies and organizations, it becomes imperative that we learn and know how to do so in the most efficient manner. The ICS courses are a means to achieve those objectives more effectively.

As the NWS spotter class training is rapidly approaching, many of us are upgrading and or doing tidy up work at our weather bases. Network, network, network to gain the most out of our bases. We also encourage MidWest participation in any NWS spotter class that is offered through the many locations.

MidWest Trivia
At what size does hail meet severe weather reporting criteria? Answer on bottom of page 7.

Tim has a great idea of combining multiple Web Cams and I personally have some work cut out for me in the base set up and the web cam. It takes time folks, it all takes time and time is often the enemy we face in our continued efforts to serve our communities.

Yet somehow we manage to get things done, we manage to find the time, the means, not only because we have the interest, yet because we care, and we do make a difference. That is the bottom line folks, you do make a difference. Thank each and every one of you!

Congratulations!!!
The following people are certified in ICS-100, ICS-700:

Dale Bernstein -- MidWest 107
Tim Shriver -- MidWest 122
Dave Willow -- MidWest 160
Chad Woodward -- MidWest 101
Want to get certified? http://training.fema.gov

MidWest Membership News
Tim Shriver, MidWest 122

I have had many members asking about 2007 membership information. On the whole, not much of a change. Below is a summary of the MidWest SSTC Inc. membership requirements for 2007.

The Membership Maintenance Fee (MMF) needs to be submitted for each person wishing to be a member. The fee remains at $10.00.

A completed MidWest SSTRC Inc. Application must be received and the membership approved by the Board of Directors. Please do not send in applications or MMF's prior to January 1st, 2007. Some changes will be made as to where to send them, so stay tuned.

The following requirements must be met in order to maintain an "active" membership with MidWest SSTRC Inc.

A. Members must attend at least one meeting per quarter.
B. Those with radios, Business Band or Ham must check in to the MidWest Radio Check-in once per month. These are the weekly radio check-ins and not severe weather nets.

Wednesday Night Nets

Radio check-ins begin at 7pm on the Ham Radio side on 444.375 MHz.

Then again at 7:30PM on the Business Band side on 451.275MHz.

The last two items were voted on and approved by the MidWest SSTRC Inc. Board of Directors. Our thoughts are that we need to insure that our members continue to be well trained, up to date on severe weather tracking and reporting as well as capable and ready to use the radio communications MidWest has. These ideas came from many members and the Board thought is was a good idea.

The Board of Directors reserves the right to hear and rule on any and all situations as they arise or are presented.

Please feel free to email myself or any of the Board Members if you have any questions.

Upcoming Meetings and Events
Steve Fitzsimmons, MidWest 136

Dane County – January 15th **Special Guest:** *Rusty Kapela, Warning Coordination Meteorologist.*
General meetings are held on the third Monday of every month at 7PM.

Rock County – January 24th
General meetings are held on the fourth Wednesday of every month at 7PM.

April 2, 2007 – NWS Spotter Training (Dane)
Location to be determined

"Which Comes First?"
by George E. Hrabovsky
President, MAST

There are three primary characteristics that a tornado has: an updraft (the tornado extends from the ground to the base of the thunderstorm), a rapid circulation (it has to be violently rotating), and a lower than normal atmospheric pressure. It is important, from the perspective of a spotter, to know (or at least think about) which of these phenomena comes first. In this article I will explore each possibility.

Does the updraft come first? As we all know the updraft is where the storm gets its fuel from. It is where thunderstorm development first takes place. Could this be the origin point of tornadoes? As air rises it begins to rotate. The faster the air rises, the more it rotates. Why does this happen? These updrafts occur on too small a scale for the Coriolis force of the earth to have much influence. As the air rises some of the air that was near the ground has been lifted up creating a lower pressure (there is not as much air as there was before), it reduces the atmospheric pressure at the bottom of the updraft. This explains, in part, the lower pressure experienced near a tornado. As this lower pressure continues, air from the surroundings spiral in to equalize the pressure, this causes the updraft to rotate at its bottom. It will take a long time for this rotation to reach the cloud base; but it is possible. I doubt that the rotation produced only in this way would be strong enough to produce anything but a very weak tornado.

Does the rotation come first? What can get air to rotate? A wind shear effect, two or more streams of wind converging from different directions, is all it takes to get a rotation. We see this all the time as converging winds occur around buildings. We have all seen whirlwinds of leaves happen in this way. The problem here is that unless the convergence continues for a long time these circulations are very short-lived. So long as the convergence continues, new circulations will be generated. These rotations are usually insufficient to generate tornadoes, though they do generate gustnadoes. As the air rotates it can act a bit like a centrifuge and rotate air out of the center of the vortex, creating a lower atmospheric pressure. Should this begin to happen, it can cause the vortex to become longer-lived.

Does the pressure decrease, come first? Probably not, as this would be the result of rising air.

So, what is the answer? Either the updraft, or the circulation will come first. All three play a significant, if not entirely understood, role in the formation of tornadoes. The spotter needs to be aware to watch for signs of updrafts and convergence. Especially watch for gustnadoes or vertical plumes near or beneath updraft bases or wall clouds. These are early signs that something significant is happening.

MAST is Madison Area Science and Technology, a non-profit science education and research organization. We do research in all areas of science, including severe weather meteorology. We have numerous educational and research programs for the severe weather enthusiast. We can be reached at our web site www.madscitech.org or by calling 608-276-6832 and talking to one of us or leaving a message.

$ Sell/Trade/Buy/Barter
Do you have something to sell or are you shopping for a good deal? This is your spot! Just send me a note and I will include it below next month.

Radios for Sale
Frank Weisensel, MidWest 103

I have both Mobile & HT, UHF radios for sale & are preprogrammed with all the frequencies that MidWest SSTRC uses. The Mobile radios are Midland XTR trunk mounted radios where the radio head, microphone & speaker are all that are under the dash & take up little space.

The HT's are Motorola P110's. I have two channel Radios for members that don't have a ham license & are only going to be using the Business band or eight channels for using the business band & all of MidWest's ham frequencies. Accessories can be added to the HT's as seen in one of the photos. I either have on hand or can get the accessories for you.

An HT can be set up to be used as a base or mobile by connecting larger antennas & adding external power supplies to them.

If interested write me at freefallfrank88@juno.com & I can set you up with what you need.

Volunteers Needed
Scott Winter, Midwest 143

I am in need of a number of Amateur Radio volunteer Operators. This is an excellent event to hone your Ham Radio skills. The events provide volunteer opportunities for one day, multiple days or the entire week long event. The RABAAWRÂ®, SAGBRAW and Northwoods Bike Tour events cross the state involving hams from many areas of the state. Two meter radios and multiple frequencies are utilized to pass traffic relating to course hazards, cyclist conditions and safety, medical emergencies, broken down cyclist, weather hazards, and coordination of supplies and volunteers. To receive an informational volunteer brochure or have questions contact Scott Winter Midwest 143 (KB9PVI) at scottkb9pvi@twobicycles.com.

El Niño Update, Outlook, Impact
Rusty Kapela, Warning Coordination Meteorologist

On Thursday, December 7, 2006, the Climate Prediction Center will release its monthly El Niño/Southern Oscillation (ENSO) Diagnostic Discussion. It will discuss oceanic and atmospheric conditions, interactions, outlook, and impacts associated with the ongoing El Niño event. A short NOAA web article is also planned for release the same day.

The current eastward propagating oceanic Kelvin wave (see description below) is likely to cause a substantial increase in SST anomalies along the west coast of South America possibly leading to rainfall in the region by the end of December 2006, or the beginning of January 2007. At about the same time coupling between SST anomalies and atmospheric convection should become established in the central equatorial Pacific. This will set the stage for the typical El Niño effects over the U.S. during January-March 2007, i.e., a periodic storm track leading to wetter-than-average conditions across the southern tier of the U.S. from central and southern California across the Southwest to Texas and across the Gulf Coast to Florida and the south Atlantic Coast, and drier-than-average conditions in the Ohio and Tennessee Valleys, the northern Rockies and Hawaii.

Recent weather extremes in the West (e.g., flooding in the Northwest and dryness in the Southwest) were not directly related to El Niño. In fact, there has been considerable blocking activity in the Bering Sea region, which has contributed to the heavy rains in the Pacific Northwest and the dry conditions in southern California. Blocking in the Pacific sector is not a characteristic of El Niño. To the contrary, El Nino typically features fast zonal flow over the North Pacific and an absence of blocking.

Most of the statistical and coupled model forecasts, including the NCEP Climate Forecast System (CFS) indicate El Niño conditions peaking during the Northern Hemisphere (NH) winter (December

2006-February 2007) and then weakening during the NH spring (March-May) 2007.

[Kelvin wave description - The leading edge of an oceanic Kelvin wave is characterized by reduced upwelling and warming in the upper ocean, while the trailing edge of a Kelvin wave features increased upwelling and cooling of the upper ocean. Kelvin waves are initiated by sudden changes in strength of the surface winds, and propagate eastward with time. Currently, upper ocean heat content in the tropical Pacific will continue being modulated by the fourth in a series of oceanic Kelvin waves]

Impacts

Media interest in El Niño and its impacts is expected to continue through winter as typical winter weather extremes will periodically appear consistent and inconsistent with media expectations. The latest ENSO Diagnostics Discussion, and the December 7 update, can be found tomorrow at:

http://www.cpc.ncep.noaa.gov/products/analysis_monitoring/enso_advisory/index.html
Editor's note from link: Synopsis - El Niño conditions are likely to continue through May 2007.

New Feature on NWS Website
Rusty Kapela, Warning Coordination Meteorologist

Folks...we've started a new feature in the Top News of the Day section on our web site.....it's called "Did you Know?"

Go to the top of our web page to find the Top News of the Day section to find this feature...
http://www.weather.gov/milwaukee
http://www.crh.noaa.gov/mkx/.

We're thinking of making this a permanent feature...and if so, will have to move it to some other part of our web site. I'll let you know if this happens.

Our staff will introduce other weather/safety/preparedness ideas as the weeks go by.

Everyone is invited to contribute If you can think of something that is appropriate, then email the info (question/answer type thing) to me or to our webmaster email address on our web site. If you have a weather-related message you want people to read...this is the place to put it.

Possible topics include road safety, big storms, myths, how we do something, statistics, spotters, observations, - anything that is remotely related to weather. Pictures and images are welcomed. We will give credit, but keep in mind everything on our web site is "public domain."

Dane/Rock County Forum Highlights
http://groups.google.com/group/midwest-dane-wi?start=0&sa=N

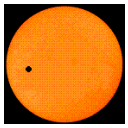
12/7 - Tornado Tears Through London Street
12/8 - Training options available
12/8 - Solar storms
12/11 - Website survey
12/13 – 2006 Wisconsin had 13 tornadoes (Avg 21)
12/15 – Interesting tornado stats
12/16 – FCC code requirement to be dropped
12/18 – Cool pictures from 12/14 aurora
12/24 – Illinois shatters record with 126 tornadoes
12/24 – Iowa and Minnesota below average tornado
12/26 – Interesting weather links provided by Rusty
12/29 – President moved to armored vehicle during tornado warning
12/29 – 1 dead as tornadoes move across Texas
1/2 - MidWest Eyes on the sky effort
1/4 - Records fall as temperatures rise
1/5 – Tornadoes near Spartan, SC
1/5 – Cars piled like Matchbox cars Liberty, SC
1/6 – Donation request from Kelly
1/8 – Will 2007 see more tornadoes?
1/8 – Average tornadoes in 2007?
1/9 – More or Less (Tornadoes)
1/10 – Monday's upcoming meeting with Rusty
1/10 – National Storm Conference Info (Texas)

MidWest SSTRC Inc. Mission Statement

The MidWest Severe Storm Tracking/ Response Center (*MidWest SSTRC Inc.*) is comprised of members whose primary purpose is to assist in providing early detection of severe weather. We communicate this critical information to government officials, other recognized agencies and organizations including the National Weather Service allowing for timely public severe weather warnings and providing emergency response as appropriate.

MidWest SSTRC Inc. endeavors to assist in any way it can in the protection if life and property from any threat, be it natural or man made.

MidWest SSTRC Inc. is a 501c3 Non-Profit Corporation



Q&A with Thomas W. Schlatter
Cooperative Institute for Research in Environmental Sciences
University of Colorado at Boulder

Steve Fitzsimmons, MidWest 136

Question: In 2005, Wisconsin saw 3X its average number of tornadoes with a gut wrenching 62 tornadoes. I noticed that this same year the sun was quite active with some very impressive sun spots and solar flares. Sometimes that energy from the sun would hit the earth. Although I can't find any connection between increased solar activity and increased levels of severe weather here, I can't help but notice the coincidence. Is there a connection?

Answer: Steve, since at least the 1960s, many attempts have been made to correlate sunspot activity with weather or climate events. For example, there seems to be some correlation between drought on the Great Plains and the 11-year sunspot cycle. The connection is rather tenuous, however. To my knowledge, no one has established a strong connection between the sunspot cycle and specific weather events. It is nearly certain that the excess of severe weather is connected instead with frequent large-scale flow patterns that favor the intrusion of warm, moist, and unstable air into Wisconsin and triggering mechanisms that release this instability when thunderstorms form. In summary, I think it is a coincidence, not a scientific connection.

Do you have a question about weather? Please send your questions to MidWestEditor@charter.net and I will try and find the answer.

What is the Backbone?
Tim Shriver, MidWest 122

The backbone is a network of ham repeaters that the NWS in Sullivan uses to receive severe weather reports from authorized spotter groups.

The radios are maintained and manned by members of SWARA. Sullivan Weather Amateur Radio Association. SWARA is responsible for all amateur radio operations within WFO MKX. SWARA is part of a consortium called the Sullivan Committee (SC) who governs the multi-organization amateur radio program for severe weather data collection efforts in support of WFO MKX. SWARA is registered with the Wisconsin Section ARRL SEC as an ARES/RACES organization. An amateur radio station is located at WFO MKX and carries the call sign of WX9MKX. SWARA is not paid for their work and are not part of the National Weather Service.

Reports from the spotters out in the field are taken by the spotter groups base and then relayed to the SWARA radio operators via VHF Ham radio. To submit a report via the backbone the spotter group must be preauthorized to do so.

MidWest Repeater

In Dane county the NWS-MKX West backbone repeater is the BARS 146.685. the backup to the BARS repeater is the Yellow Thunder machine in Baraboo on 147.315.

For Rock county we currently take reports from the spotters and use the NWS-MKX West backbone repeater. But when Rock has its own MidWest structure they will use the Cambridge 147.360 VHF repeater.

Each group is assigned a designator for communications. Dane county is 375 relay. Rock county is 75 relay. These designators are derived from the main repeater they use. Dane uses the 444.375 thus 375 relay. Rock uses 444.750 thus 75 relay. All reports transmitted to SWARA-MKX Weather are done in the TLCS format.

The radios are within about 10 feet of the meteorologist at Sullivan weather. This allows for quick transfers of weather reports to the meteorologist and also they can feed us needed weather information as well.

When a net is active on the backbone they take reports and give us information. They can also ask the spotter base to send someone to a certain area of the county to see what is occurring. They might see something on radar and suspect activity there, but need a spotter to check it out.

At times, when a net is not active MKX will call us via phone and ask for us to check something out. They have the Board of Directors phone numbers on file and speed dial. For more information check out http://www.sulcom.org/

MidWest Trivia Answer
If you answered: Hail ¾ inch or larger…CONGRATULATIONS!
Note: For those of you who answered ½ hail, you might view this as a kind of trick question since we ask for reports of ½ or larger. We ask this for NWS Sullivan. You were close!

2007 Stats		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
	Dane												
	Rock												

The *MidWest Spotter* is a monthly newsletter produced by the MidWest Severe Storm Tracking Response Center, Inc. Its purpose is to communicate MidWest activities and events to our members and the community as well as offer education to our spotters. Please send your welcome comments to Dale Bernstein at dale.bernstein@midwestsstrc.org.