



Metro Skywarn



Editor: Dave Johnson, NØKBD

Spring 2003

**Practice Net on
Tornado Awareness Day
April 10, 2003, 6:45pm**

New Slides and Video for '03!

by John Wetter KØWDJ

Notes from the Chairman

Happy New Year!

As I write this, it's New Year's Day, certainly a good time to think over the past year, and look forward to the next.

The weather was generally quiet here in the Metro area this past year... as it has been for several years. Actually, it's a mixed blessing: it's wonderful to not have the damage and upset caused by severe weather disrupting our lives, but at the same time, our skills as spotters, and net operators may suffer from the lack of practice. This is one reason we require spotters to re-certify every two years: we try to make up with training what we lack in "on the job experience!"

Even with the generally low level of activity, there were a number of net activations. Most spotters (myself included) spend a few minutes to maybe an hour for each activation, and then the severe weather moves out of our area and we go on about our lives. However, Net Control operators at the EOCs and the NWS offices spend many long hours on duty, from the moment the net is called up until it is released by the forecasters at NWS. These folks are dedicated, and to be commended for their efforts. Thank you!

In 2003, our MetroSKYWARN instructors get certified themselves to teach Skywarn classes, and there will be new material added to the basics we've used for years. MetroSKYWARN will be conducting more than 20 Skywarn classes around the metro area to certify (or re-certify) spotters. The first classes are scheduled for Saturday, 1 March with the last class currently scheduled for Saturday, 31 May. Check the schedule elsewhere in the newsletter, and posted on the MetroSKYWARN web pages (www.skywarn.ampr.org) for locations, dates, and times.

At the December Board meeting, the Directors approved an updated Mission and Objectives statement. We also adopted an "Action Plan," to enable us to live up to our revised Mis-

As always, we would like to invite everyone to come to a Skywarn training session this spring. While Metro Skywarn only requires training every other year, it can only help you to attend more often. New research and understanding of severe storms are constantly coming out, and attending classes is your source for that information!

This spring will be an especially good year to attend a class even if you are not required to do so. Todd Krause, Marc Kavinsky and I are hard at work on a new video and slide set that will be used for classes this spring. The video will feature much new material from the Upper Midwest over the past few years, including some of the major events that affected Minnesota.

Come to training this spring so see this exciting new material!

The 2003 Metro Skywarn Training Schedule

Remember, if you didn't train last year, you must train this year to remain active as a spotter. Please check the website for class updates and changes: www.skywarn.ampr.org

March 1, Sat.
9 am - 1 pm
Stillwater Amateur Radio Association
Stillwater Fire Department Bldg
Training Room
216 North 4th Street
Stillwater, MN.
Tom Gillen 651-430-2174
KC0FWY@arri.net

March 8 Sat
Noon - 4 pm
Anoka Cty Amateur & ESC
Blaine Baseball Complex,
1150 Paul Parkway
(behind Blaine Brook Bowl)
Cordell, Bob W. 651-784-7090
kb0gip@juno.com

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POSITIONS AVAILABLE:

Net Operators Metro Skywarn is looking for weather wise Amateur Radio Operators in the Mpls/St.Paul area to take a major role in Skywarn Nets. The Emergency Operation Center at the National Weather Service Field Office in Chanhassen is looking for Amateur Radio Operators with flexible hours to work during severe weather events in East Central Minnesota and Western Wisconsin. Contact John Kelly at 952-944-3572 or johnmkelly@frostbit.com.

The Emergency Operations Center at the Golden Valley Public Safety Building, sponsored by the Twin Cities FM Club is looking for Amateur Radio Operators with flexible hours to work during severe weather events in the Metro Area. Contact Tim Arimond at 952-593-9641 tarimond@aol.com.

Assistant Webmaster(s) - Under supervision of the Webmaster, monitor, maintain and update "Skywarn Central" (www.skywarn.ampr.org). Preference given to experience with Website operations, design and setup. Direction and training available, if needed. If interested, contact Dave Johnson NØKBD, 952-888-3015 or email at n0kbd@arrl.net.

Committee Members - We need more active members participating in the operations of Metro Skywarn. Expectations should not exceed more than two meetings a month and a few hours working on the task at hand. The Board wishes to form standing committees to work on: Newsletter, Spotter Appreciation, Spotter Notification, Web page, Organization Collaboration, Public Relations, Fund Raising, and Club Affiliation.

To apply, please contact Dave Johnson NØKBD, 952-888-3015 or email at n0kbd@arrl.net.

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sion and Objectives. The Action Plan covers several years; we won't be able to do everything at once. A list of more than 20 items, mostly suggested by you, have been categorized into three broad groups. The entire document is published on the web site www.skywarn.ampr.org

* Do now, or in the next year; an example here is to facilitate Spotter notifications via pagers, cell phones, etc.

* Do within the next two years; such as producing our own training and educational materials, and providing a means for spotters to build cohesiveness and a close sense of "community" by promoting events where spotters can gather for formal and informal information exchange.

* Do as resources become available; the biggest one in that category is to produce a video on Skywarn spotting.

We'll report progress on our Action Plan during the year, and report a "score card" each January.

Finally, I'd like to thank all of the many people who make MetroSKYWARN work: the many spotters (more than 600 !); the clubs and organizations sponsoring and hosting Skywarn classes; the Skywarn Instructors; those who support the MetroSKYWARN Board of Directors; and certainly the National Weather Service at Chanhassen, without whose cooperation we simply wouldn't exist!

A happy and prosperous New Year to all. And may the severe weather all be just funnel clouds!!

73 Donn Baker, WA2VOI
Chairman, MetroSKYWARN
Board of Directors

SKYWARN UPDATE STARTS FEBRUARY 15 9PM

Skywarn and Emergency Communications Update is a radio show airing most Saturday nights at around 2100 central time. Skywarn and Emergency Communications Update is a live interactive and educational program for severe weather spotters and emergency communicators in and around the Twin Cities metro area. The program includes news, commentary, questions (sometimes answers) and announcements. Spotter training opportunities in Minnesota and western Wisconsin are announced. Discussions about weather and disaster occurrences with guests from responding agencies such as NWS, Salvation Army, Red Cross, Div. of Emergency Management, radio group and others are featured. You are all invited to participate. This show is part of Saturday Ham Talk which starts at 1900 hours local central time (7:00 p.m.). Saturday Ham Talk program is aired on the 145.21,444.000,145.450 repeaters in the Twin Cities metro area.

Joe Chesney KCØGYJ
kc0gyj@arrl.net



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| | | |
|--|--|---|
| March 15, Sat 8 am - 12 pm | Twin Cities FM Club Golden Valley Safety Center 7800 Golden Valley Road (1 bk east of Winnetka) Gale R. Allen 952-941-5264 n0mgq@arrl.net | CCE Bldg, 7411 85th Ave. N. Brooklyn Pk. (Intended for the General Public) \$10 fee/Pre-registration Required Mel Xiong, Director 763-424-0880 |
| March 15 Sat 9 am - 1 pm | Twin Cities Repeater Club Burnsville City Hall Civic Center Drive & Nicollet Ave. Shannon Haralson, TCRC President sharalson@mn.rr.com 612-586-5991 Jeff Goodnuff, WØKF, SkyWarn Contact w0kf@trcr.org | April 12, Sat. 9 am - 1 pm St Paul Radio Club & Red Cross St Paul Red Cross 176 So. Robert Street St. Paul, MN. Dale Maroushek 651-777-5309 NOPEY@arrl.net |
| March 17 Mon. 6 pm - 10 pm | Radio City 2663 County Road I Mounds View Dan Fish 763-786-4475 radiocty@skypoint.com | April 14, Mon. 6 pm - 10 pm Radio City 2663 County Road I Mounds View Dan Fish 763-786-4475 radiocty@skypoint.com |
| March 26, Wed. 6 pm - 10 pm | SMARTS Carver County Government Center Chaska, MN. Dean Anderson 952-466-3808 N0EN@uscorp.net | April 23, Wed. 6 pm - 10 pm Robbinsdale Radio Club Robbinsdale Public Safety Center 4101 Hubbard Avenue, Crystal, MN. James Hammock 763-542-8862 |
| March 27, Thur. 6 pm - 10 pm | Ramsey Cty Emergency Services 3383 North Rice Street, Shoreview SW Corner Rice St. & I-694 Bill Hughes 651-482-5238 n0qhp@amsat.org | April 23, Wed. 6 pm - 10 pm Ramsey Cty Emergency Services 3383 North Rice Street, Shoreview SW Corner Rice St. & I-694 Bill Hughes 651-482-5238 n0qhp@amsat.org |
| March 31, Mon 6 pm - 10 pm | ARES Chisago County St. Bridigets Church Hwy 8 in Lindstrom Ed LaPlant 651-257-1313 kc0asx@aol.com | May 3, Sat. 9 am - 1 pm SEMARC Fire Station #2 8641 80th Avenue Cottage Grove, MN. Denny Erickson, 651-459-3983 n0xwpmn@aol.com |
| April 1, Tues. 6 pm - 10 pm | SEMARC Fire Station #2 8641 80th Avenue Cottage Grove, MN. Denny Erickson, 651-459-3983 n0xwpmn@aol.com | May 10, Sat Noon - 4 pm Anoka Cty Amateur & ESC Blaine Baseball Complex 1150 Paul Parkway (behind Blaine Brook Bowl) Cordell, Bob W. 651-784-7090 kb0gip@juno.com |
| April 5, Sat. 8 am - 12 pm | Bloomington Emergency Com. Fire Station # 1 10 West 95th Street Bloomington, MN. Gene Clemens, 952-831-3089 scoutgc@earthlink.net | May 15, Thur. 6 pm - 10 pm Ramsey Cty Emergency Services 3383 North Rice Street, Shoreview SW Corner Rice St. & I-694 Bill Hughes 651-482-5238 n0qhp@amsat.org |
| April 10, Thur. 1 pm - 5 pm & 6 pm - 10 pm | Forest Lake Public Safety Dept. 210 North Lake Street, Forest Lake Forest Lake City Hall, Council Rm. David Schwartz, 651-464-5877 401@flpd.com | May 29, Thur. 6 pm - 10 pm Ramsey Cty Emergency Services 3383 North Rice Street, Shoreview SW Corner Rice St. & I-694 Bill Hughes 651-482-5238 n0qhp@amsat.org |
| April 12, Sat. 8:30am - 12:30 | North Hennepin Community College Center for Trng & Development | May 31, Sat. 8:30am - 12:30 North Hennepin Community College Center for Trng & Development CCE Bldg, 7411 85th Ave. N. Brooklyn Pk. (Intended for the General Public) \$10 fee/Pre-registration Required Mel Xiong, Director 763-424-0880 |



Midwest Shelf Cloud
© Melanie Metz

Ham Radio Helps in Storm Coverage at KSTP

by Meteorologist/Storm Chaser Rob Koch

This past July KSTP Weather Center 5 installed a Kenwood TM-261A FM transceiver in our weather office. Why would a weather department at a TV station need a Ham radio? To stay even more informed and provide us with even better visual knowledge of severe thunderstorms we are monitoring on Power 5 Live Doppler. The radio is just steps from the meteorologist on duty, and was installed to be used strictly as a listening device. When there is a risk of severe weather, we leave it on in scan mode. We have it set up to scan North and South Metro, Avon, Paynesville, Willmar, Hutchinson/McLeod, Mankato/Blue Earth, Waseca, Red Wing/Goodhue and state warning point. Because the antenna was installed at only 150 feet, reception more than 60 miles out of the Twin Cities is limited.

With only two months left in last year's severe weather season, the amateur radio didn't provide much more than a few conversations. On the night of the Albertville tornado the Skywarn net was not up and running, and with our antenna it was not possible to reach into Polk County, Wisconsin, for the Ladysmith tornado. But with severe weather season less than three months away, we, like many of you, are excited to try out our new tool this spring!



Striated Base in Mayer, MN
© Melanie Metz

Metro Skywarn

Website Review: Storm Prediction Center

(<http://www.spc.noaa.gov>)

The Storm Prediction Center's website is a "must-visit" for those who are interested in severe weather. Within this site are **convective outlooks** for the current day as well as days 2 and 3. These outlooks are updated regularly during the day; in addition **mesoscale discussions** are issued when the SPC forecasters feel severe weather is imminent, usually just prior to issuance of a watch. Watches and warnings, storm damage reports, and radar and satellite imagery can also be found on this site.

If you are interested in a little more detail, visit the **mesoanalysis graphics** page, which can be found under the heading **experimental techniques**. On this page you will see a list of parameters used to identify mesoscale areas where severe weather is most likely to strike. The maps associated with this page are "floating", that is they are centered on whichever region is the area of concern, so we aren't likely to see Minnesota as the center point for a while yet!

The **Significant Tornado Parameter** and **Supercell Composite** maps are a good place to start. These maps are created from several recognized indices of severe weather used together to create bullseyes. They are a nice summary of what many of the other parameters are indicating. Recently, a similar map has been added called the **Craven Significant Severe** parameter. This particular map incorporates deep layer shear and "mixed layer" CAPE, and in my experience has been the most successful at forecasting the location of recent significant severe events.

To go into a bit more detail, look at **LCL height** and **0–3 km effective storm relative helicity**. LCL (lifting condensation level) is the level at which water vapor condenses to form clouds, and a low LCL (1000 meters or less) is indicative of large amounts of low-level moisture. 0–3 km effective storm relative helicity is a reflection of the turning of the winds from the surface to 3000 meters; values of 250 m²/s² or greater represent a reasonable possibility that supercells in this area will produce a tornado. Taken together, low LCL and high 0–3 km effective storm relative helicity are the parameters I rely on most when attempting to pinpoint an area of concern for tornadoic storms.

There are enough "goodies" on this website to keep most weather enthusiasts busy for quite a while. Take a look, and don't be surprised if you become a regular visitor!

—Peggy Willenberg KCØKZB (www.stormtours.com)



Dust in the Wind

By Scott Woelm - WXÆV

How many times have you seen an area of dust get kicked up by the wind and turn into a circulation? Plenty of times I'm sure. I particularly enjoy the little circulations I see in wintertime during snowstorms; they fool me into thinking it's somehow *warmer!* Dust devils in the summer are also fun to watch.

Are any of these little items *tornadoes*, or even dangerous? Well, of course not! *Silly goose!*

Storms by their very nature have plenty of wind around them, all fully capable of kicking up harmless circulations and areas of dust/dirt. The problem is, some of these are being given way too much credit, and they're being reported as *tornadoes*.

[As a base for this document, here's my definition of a tornado; a thunderstorm supported rotating column of air with ground contact, capable of damage and personal injury.]

For years in the spotter classes, we have been taught to watch for dust as one of the first signs of a tornado. Sometimes spotters take that a bit too literally, and *any* area of dust near an updraft base turns into a *tornado*. See the

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Another issue is the spotter community is becoming more and more tornado focused. As a spotter, nothing is more thrilling than seeing a tornado, and the desire to see that process is very high on a spotter's wish list. This desire can sometimes influence our judgement when out in the field, especially when the adrenaline is pumping! Suffice it to say, reports of false tornadoes are on the increase.

Here are some suggestions to help you make the right call:

Most tornadoes come from supercells (storms with a persistently rotating updraft). First, look for the signs of updraft rotation (banding/striations; a "cinnamon roll" or "swirl" shape) in the parent storm itself. However, the BIG key here is that most supercells do NOT produce tornadoes! So, we have to watch for further signs. A wall cloud is a good indicator, but a *rotating wall cloud* is truly one of the best. Once you've seen a rapidly rotating wall cloud, you'll never forget it!

Even a proximate rotating wall cloud doesn't guarantee your area of dust is a tornado. Watch the area for persistent organized rotation; it should be a fairly substantial area of dust/dirt as well. Debris from damage (called a *debris cloud*) would obviously be a slam-dunk, so that warrants an immediate report. A funnel cloud above it is also a slam-dunk, but make sure the funnel is not just

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Downburst in Chokio, MN
© Melanie Metz

UI-View, APRS, and the Weather by Clay Bartholow, WØLED

I know some of you out there are interested in APRS and how you might apply it to severe weather spotting. Well, I think I may have something for you. I've used a variety of different APRS plotting applications in the past: the original APRSdos by Bob Bruninga, the "father" of APRS, WinAPRS, APRS+, and they have all been useful. Now, I don't know about you, but I'm cheap! In order to get the full functionality out of these applications you have to register them — read that as "Pay the author some \$\$\$". I don't have any problem paying software developers for their time, effort, and creativity. And I've noticed that some hams can be pretty whiney when software doesn't work the way they think it should, so, if a registration fee helps cover good customer support and new features, then I can see shelling out some cash for these things. The problem is, most of these packages have a registration fee of around \$70! Like I said, I'm cheap.

So, I went searching for "the Holy Grail" of APRS apps, and I think I've found it: it's called UI-View. UI-View is written by Roger Barker, G4IDE. In some ways it's what you might expect any APRS app to be, it sets up your

TNC to operate in unconnected (UI) mode, it sends a periodic data stream to the TNC to generate an APRS-correct beacon, it receives data recovered by the TNC and displays the data on a map so you can see where everyone is. All pretty standard stuff.

What originally drew me to UI-View was it's ability to use maps from Street Atlas (by Delorme). Since I already had SA, and I knew the quality of its maps was far superior to what was commonly used in APRS maps just a couple of years ago, I thought I'd give it a try. There was (and still is) a free 16-bit version of the program available to try out some of the main features of UI-View. But, I wanted to use this software to set up an I-gate as well.

An I-gate, for those of you that aren't familiar with APRS, is an internet-connected gateway between the local RF scene (on 144.39 MHz) and what is called the APRSIS or APRS Internet System. I had been operating an APRS WX station for awhile but I wanted to be sure my weather data reached the APRSIS where it could be used by the NWS for climate model testing and so on. There were no reliable I-gates at the time so I figured I'd do it! To use UI-View to connect to the APRSIS and upload data from the local RF network you must use the

32-bit version which requires registration and a corresponding fee. Darn! There I was staring at the old \$\$\$ again. The registration fee for UI-View32 (the 32-bit version) is 10 GBP or 10 pounds sterling. Well, I had no idea how much that was in US\$ but a quick check indicated it was only about \$15. Wow! What a deal!

I figured even if I was disappointed with the software I'd be out less than the cost of a twelve-pack of cold 807s! Well, the rest is history and I'd have to say that my \$15 investment in UI-View32 is one of the best I've made in software. There is a UI-View SIG on Yahoo. Roger Barker is in constant attendance to answer questions about the software. His customer support is excellent! And, it's continually being upgraded to add more features. That's what brings me to the topic at hand. Recently, UI-View32 has added the ability to display on its maps the locations of NWS-issued weather advisories, watches, and warnings. When one of these colored areas pops up on your map just double-click on it and the basic information regarding the weather announcement is displayed.

Two caveats: first, you must be connected to the APRSIS (via the internet) to receive these announcements — they're not transmitted over RF, and second, they are not the complete NWS-issued weather announcements. But they are a visual, map-oriented "heads up" as to what is, or could be, happening with regards to the weather.

I'll leave you with a couple URLs for your pleasure.

First is the UI-View web page: www.ui-view.com

Second is a little project of mine: www.skypoint.com/~bc010001/aprs_in_the_tc_metro_area.htm

On this page you'll find a "snapshot" of my UI-View map as it appears on my home computer. The snapshot is taken at five minute intervals and FTP'ed to the web server. It's not real-time but (if everything is working) it's not ancient history either. Check the time stamp on the map to be sure. There's additional information about how I do this on the web page if you're interested.

Well, 73 and happy APRS'ing!

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some piece of scud first.

The surface underneath a storm's updraft has all sorts of turbulence. Both outflow and inflow winds can lift dust that can fool a spotter. These can create brief areas of rotating dust as they make ground contact. These have been dubbed *gustnadoes*, although I really hate that term (by using *nado*, it implies more potency than really exists; I prefer *gust devils*). These, in **VERY RARE** cases, can cause damage, but this is more likely related to the outflow winds. These are **NOT** true tornadoes. Again, watch for the signs I previously listed, and please do not be fooled by these! Putting an entire County on alert with a Tornado Warning for a dust devil is a disservice to the warning process.

Another feature responsible for many false tornado reports is called a *wind plow*. Wind plows are created as a strong downburst (outflow) hits the ground and causes an area of dust to be kicked up in an arc-like shape. The curled area of dust can sometimes even reach back to the cloud base. They can look like tornadoes, especially from a distance, but if you look closely, you will see no rotation. In addition, most of these blow out and away from the storm. Eventually, a wind plow will dissipate as the downburst weakens.

Although not comprised of dust, rain shafts are another item that can fool you, especially if the rain shaft is thicker than the surrounding areas of precip. These situations are pretty well covered in the spotter classes.

The toughest part about the advice I just gave is a spotter's distance (I typed "dustance" in my first draft!) away from the area in question. It can be difficult to define these things when you are far away. That's where multiple spotters can be of great help. **Since I have the floor here, I want to thank all of you for your efforts as spotters. The warning process is greatly enhanced by your dedication, and by your presence during severe weather events. THANK YOU!**

I realize that much of what I have stated here is common knowledge, but I've seen quite a few of the examples I cited here being labeled as tornadoes over the past few years. Incorrect reports not only hurt tornado climatology, but more importantly, can damage the warning process. Hopefully, my ramblings here will help you differentiate a *real* tornado from just *dust in the wind*.

Scott Woelm - WXÆV
Metro Skywarn ID #777

A Look at Problems With Estimating Wind Speeds

By Kenny Blumenfeld, Hennepin D26

I beg you: please, please do not attempt to estimate high wind speeds without the aid of an accurate and calibrated anemometer. Why am I so fussy about this? Well, we are asked not to report the f-scale of a tornado in progress, or to report “marble-sized hail.” And we shouldn’t, because the f-rating gets figured out after the damage has been surveyed...and marbles come in so many different sizes. Just the same, we should not try to take a stab at wind speeds. Let the experts do that. Most of us are in over our heads if try to estimate how fast the wind is and I will explain why.

We experience wind in two ways. First is the sensory or physical experience of wind, as it blows through our hair, nudges our car along the interstate and whooshes through the treetops. Second, at least for weather enthusiasts, we have our numerical experience with the wind: the wind speeds we get from the broadcast media (including NOAA weather radio), or in rare cases, our own instruments. We use these wind speed values to help us understand our own sensory experiences, so that each of us knows that a 15 m.p.h. wind provides a decent impedance to our bike ride but makes for excellent sailing, or that no wind at all does just the opposite.

We have a problem, however, because the two ways we experience wind are fundamentally different.

First, what is wind? It is air in motion, and anything that has motion also has speed, velocity and kinetic energy. The wind speed reports we get are just that: wind *speed*. But our physical experience with wind is something else. The air is invisible (on most days), so we do not see its actual motion, fascinating as that would be. Instead we see, hear and feel its influence on objects. What we are observing then, is the *force* the wind exerts on these objects. And force is a product of the energy of motion, also known as *kinetic energy*. Harkening back to high school physics, remember that *as the speed of an object increases, its kinetic energy goes up exponentially*, as shown by the equation:

$$KE = \frac{1}{2} \times \text{mass} \times \text{velocity}^2$$

Essentially this equation tells us that relatively small increases in the wind’s velocity or speed yield larger increases in its kinetic energy

and hence, the force it exerts. Doubling the wind velocity, for example, quadruples the force exerted by the wind, and a 90 mph will be 9 times stronger than a 30 mph wind; 20.3 times stronger than a 20 mph wind! Considering that most folks have not experienced even 50 or 60 mph winds, do you really think you could identify a 90 mph wind without instrumentation?

To put it another way, think of how a 40 mph wind feels. If you could imagine a scenario in which you felt twice that effect—branches seemed to be blowing around twice as violently, the wind whistled twice as loud, and it was two times more difficult to walk—you might guess that the wind speed was then 80 mph, because 80 is two times 40. But, if we could be certain the force you experienced was indeed twice that of a 40 mph wind, your guess would be wrong. Instead the wind just described was only about 57 mph. So a 57 mph wind feels like an 80 mph wind! Or at least we think it does, because we confuse force with speed.

A number of studies have shown that real, predictable damage, either to trees or structures does begin at around 50 knots (57.5 mph). Yet I have heard spotters and chasers alike saying, for example, “winds in this area were 60-80 mph.” Why then, aren’t these statements followed by “...and damage was widespread and incredible?” A 60-80 mph wind will pack between two and four times the punch of a 40 mph wind. To be sure, an 80 mph gust would cause major damage to trees, power lines and structures.

One alternative to trying to estimate the wind speed would be learning the Beaufort wind scale. The Beaufort scale, developed in 1806 to describe sailing conditions, has 13 categories of wind, broken into three broad classes: *breezes*, *gales* and *storms*, plus a *hurricane* superclass. Most useful for spotters are the effects-on-land descriptions for each category (see table 1).

Learning this scale, at the very least, would temper our tendencies to exaggerate wind speed reports, because the scale now includes at least generic wind speed equivalencies. These wind speeds might help us understand where our observations really lie along the wind speed continuum. More importantly, learning the scale would focus attention back to what is most important: reporting what the wind does, rather than what its speed is. I highly doubt that a warning coordinator is going to bicker about whether or not winds have reached 58 mph if you are reporting trees being uprooted. In any event, all high wind reports will be more credible, not to mention more understandable, if they describe what the wind is doing, rather than guessing its speed.

Table 1. A modified Beaufort scale. More complete versions are available in most weather books and also on the web...e.g., <http://www.spc.noaa.gov/faq/tornado/beaufort.html>

| | | | |
|----|-----------------|--|-------|
| 0 | Calm | Smoke rises vertically | <1 |
| 1 | Light air | Rising smoke drifts | 1-3 |
| 2 | Light Breeze | Leaves rustle | 4-7 |
| 3 | Gentle breeze | Leaves, small twigs move | 8-12 |
| 4 | Moderate Breeze | Small branches move; dust, leaves and paper rise | 13-18 |
| 5 | Fresh breeze | Small trees sway | 19-24 |
| 6 | Strong breeze | Large branches move, wires whistle | 25-31 |
| 7 | Near gale | Entire trees sway, becomes difficult to walk | 32-38 |
| 8 | Fresh gale | Twigs and small branches broken from trees | 39-46 |
| 9 | Strong gale | Branches break off trees | 47-54 |
| 10 | Storm | Trees broken or uprooted, some building damage | 55-63 |
| 11 | Violent storm | Widespread structural damage | 64-74 |
| 12 | Hurricane | Devastation | 75+ |

FREE STORM WARNINGS BY E-MAIL!

You no longer have any excuse to be without warning when severe weather strikes. Storm tracking software developer SWIFT WX is now supplying storm warnings via e-mail, pager, or even cell phone as a **free** service to the storm spotting community. Just go to this address to sign up:

<http://www.swiftwx.com/warnme.aspx>

How It Works

- § Warning bulletins are issued by the National Weather Service and are distributed over a direct satellite connection
- § Local servers process the bulletins and send e-mails to customers registered for warned counties
- § The entire process takes less than 60 seconds—in many cases, you will receive the warning before it is broadcast on NOAA weather radio!

—Rory Groves KCØCGY

***Metro Skywarn, Inc.
2014 Radatz Ave.
St. Paul, MN 55109***

Address Correction Requested

How to Reach Us

- * By snail mail: Metro Skywarn, Inc., 2014 Radatz Ave., St. Paul, MN 55109
- * By phone: Donn at 612-781-1359
- * By email: skywarn@skywarn.ampr.org.
- * On the World Wide Web: The Metro Skywarn Homepage, URL= <http://www.skywarn.ampr.org>
- * The Board always needs more help. Anyone wishing to participate in Board activities is invited to attend the meetings held the first Monday of each month.

