

Metro Skywarn Newsletter

Editor: Dave Johnson, NØKBD
Spring 1996

1996 Metro Skywarn Schedule

March 13 Wednesday
Sherburne County Gov't Center -- 6:30 PM
13880 Hwy. 10 Elk River, MN
Talk-in 146.775, Greg, N0WEM 441-0122

March 15 Friday
Anoka County Radio Club -- 6:30
Blaine City Hall Community Room
91st Street (Hwy. 118) & Central Ave., Blaine

March 16 Saturday
Saturday March 16 -- 9:00 AM
Richfield City Hall Council Chambers
6700 Portland Ave. So.
Tom Fitzhenry 861-4912

March 20 Wednesday
Robbinsdale Radio Club -- 6:00 PM
Terrace Mall Education Center
3500 France Ave. North, Robbinsdale
(1 blk. West of 81 on 36th)
Dennis Anderson 535-4155

March 21 Thursday
EMARC -- 6:30 PM
United Methodist Church
520 East Main Street, North Branch
David Johnson 689-4120

March 27 Wednesday
Southwest Metro Amateur Radio Transmitting Society (SMARTS)--7:00 PM
Carver Co. Courthouse--Commissnr Bd Rm
600 4th Street East Chaska
Talk-in on 147.165 PL 107.2
Audrey Zellman 466-5852

March 28 Thursday
Ramsey Co. Emergency Services -- 6:00 PM

Ramsey County Emergency Operations Center
3383 North Rice Street (Rice & 694)
Bill Hughes 772-9159

March 30 Saturday
Twin City FM Club -- 8:30 AM
Golden Valley Safety Center
(1 blk. E of Winnetka on Golden Valley Road)
Gale Allen 941-3920

March 30 Saturday
Twin City Repeater Club -- 9:00 AM
Burnsville City Hall
Nicollet Ave. & Civic Center Parkway
Steve Filek 891-4047

April 13 Saturday
Southeast Metro Amateur Radio Club (SEMARC) -- 9:00 AM
Cottage Grove Fire Station #2
8641 80th Street S.
Dave Harrell 459-8678

April 20 Saturday
St. Paul Radio Club -- 8:30 AM
St. Paul Technical College Auditorium
235 Marshall Ave. (across from cathedral)
Don Greenheck 483-1214

April 27 Saturday
Bloomington Amateur Radio Club
Bloomington City Council Chambers
2215 West Old Shakopee Road
Jerry Jensen 888-6187

METRO SKYWARN GOES DIGITAL

Digital technology has burst into Metro Skywarn operations this year. Net operations will be facilitated by packet and digital pagers. The latest Metro Skywarn information is available via the World Wide Web!

WXTALK packet BBS on 145.67 continues operations. It provides the area's sole link from the Internet to AX25 packet BBSs. You too can receive Internet email on packet! It runs JNOS version 1.10l currently with NETROM connections to WBØGDB and the Internet gateway at Augsburg College via the 9600 baud data repeater on Moos Tower at the University of Minnesota. The BBS located in East Bethel runs a Motorola Mitrek UHF transceiver running 20watts into a 13 element beam at 35 feet on the 449.4/444.4

data repeater, and a Kenwood TR-7625 running 25 watts into a Hustler G6 at 60 feet on 145.67.

WXTALK serves as the Internet gateway to 1200 baud packet on 145.67. WXTALK contains several mail lists from the Internet to packet users in the Metro Area via the TwinsLAN packet network node TLANN. Included is the SKYWARN, a nationwide discussion forum on our favorite topic, WX-CHASE, a discussion list for the serious severe weather chaser and photographer, WX-TALK, a discussion list for all weather fanatics including some of the most talented meteorologists from around the country, and CQ-Contest, a mail list for the serious ham radio contester. WX-STORM mail list includes advanced thunderstorm and winter weather advisories for the entire US. If you'd prefer to receive one of these mail lists at your local Internet service provider instead of WXTALK packet BBS, check out the Metro Skywarn Homepage, (URL and description below) or email me at daveej@winternet.com and I'll send you information on how to do so.

BBSNWS is now up and testing operations on 145.03 from the new National Weather Service office in Chanhassen. When completed, the WMOX BBS will contain many of the latest bulletins from the National Weather Service. To find out the latest forecast or Severe Weather Outlook, you will be able to connect, list and download what you want. Recent NEXRAD radar images will also be available for downloading. Watches and Warnings and live-time severe weather updates will be forwarded to Skywarn Emergency Operating Centers (EOCs) in Rosemount, Bloomington, and Ramsey County as well as posted on the WXTALK and BBSNWS.

BBSNWS is a sophisticated packet node and BBS. In a National Weather Service provided computer (486DX50), the station is running WORLI BBS software and JNOS 1.101 TCP/IP software accessing the frequency via G8BPQ Netrom node interface software. The BBS software will be the primary public interface. The TCP/IP software will be used for remote configuring and forwarding Severe Weather Outlooks to EOC Supervisors to give them better lead time for possible severe weather days. The configuration is a unique project put together by Metro Skywarn Packet Consultant Ron McFarland KC6RCO. Details on the packet configuration can be obtained by sending email to daveej@winternet.com or packet mail to n0kbd@wb0gdb.#msp.mn.usa.noam or calling Dave evenings at 434-0600.

This year spotters will have the option of obtaining a pager that will tell them when a net has been activated. The pager will also be available for personal use. Details of the pager offer is elsewhere in this newsletter.

The Metro Skywarn Homepage is now up and running! The page is dedicated to educating spotters in basic principles of weather and exchanging information with Skywarn programs nationwide. On board you will find the latest forecast information for Minneapolis/St. Paul, a link to the latest weather map, and NEXRAD radar summary for Minnesota. There is a detailed description of the Metro Skywarn program and Skywarn programs in St. Louis, Indiana, Kansas, Florida and North Carolina. A half dozen other

Skywarn Homepages have built in links on the page as well a link to a Skywarn Internet BBS in Milwaukee. There are pages of in-depth discussion of the uses of packet radio and pagers in Skywarn operations as well as a detailed description of the next generation weather radio system that will send geographic markers in the warning beacons that will tell your receiver when the Metro area has a warning, but not awake you to the warning in Wilmar.

There are pages and links to detailed training and weather information including our local net operations manual, a WWW Skywarn Spotter Training Guide as well as an advanced spotter WWW tutorial. Also on board are links to the Storm Chasers Homepage and all current National Weather Service Homepages including our very own in Chanhasen. The URL is <http://www.winternet.com/~daveej>. Stop by see for yourself. Comments are welcome.

GOV'T BACKED EXPERIMENT UNLOCKS TORNADO SECRETS

NOAA Press Release 95-48

A team of government-supported scientists has completed a series of scientific intercepts of tornadic storms that should revolutionize our understanding of tornadoes and dramatically improve tornado forecasts and warnings, the Commerce Department's National Oceanic and Atmospheric Administration announced today.

Government and university scientists intercepted and studied 10 tornadoes close up in the southern and central plains states during the 1994 and 1995 tornado seasons from April 1 to June 15, during the Verification of the Origin of Rotation in Tornadoes Experiment, or VORTEX.

VORTEX scientists collected a rich data set of observations documenting the entire life cycle of a tornado, information that will allow scientists to make important new insights into how tornadoes form, develop into full-fledged tornadoes, then dissipate. One tornado intercepted by VORTEX, the Dimmitt, Texas, tornado of June 2, 1995, is now the most thoroughly observed tornado in history.

VORTEX director Erik Rasmussen said, "VORTEX has been a huge success so far, but only the data collection phase of the experiment is complete. The real work of analyzing and interpreting the data is just beginning.

"Right now we're securing the data. Next we'll begin making the data accessible in a quality-assured form on the Internet. Then data analysis begins in earnest. Important new findings into how tornadoes form and behave should begin appearing in the formal scientific literature over the next two years.

"In addition to important new insights into the conditions that lead to the formation of tornadoes, those processes that maintain tornadoes, and those that lead to their demise,

we believe we will also make important discoveries about the factors that prevent supercell storms from producing tornadoes when we would expect them to form, as well as factors that produce tornadoes in non-supercell storms," Rasmussen said.

In a typical intercept, a small armada of 18-20 specially equipped chase cars and vans were deployed to intercept and study severe storms that were expected to generate tornadoes, based on general NOAA severe storm guidance. The chase vehicles were equipped with sophisticated meteorological instruments, still and video cameras, and two-way communications and guided by overflights by NOAA's P-3 storm chaser aircraft, the NCAR Electra, and the entire suite of National Weather Service forecast products. Chases often ranged over hundreds of miles and covered part of a day to several consecutive days on the road.

The largest tornado field experiment ever staged, VORTEX was based at NOAA's National Severe Storms Laboratory in Norman, Okla., and jointly sponsored by NOAA and the National Science Foundation.

NOAA Administrator D. James Baker said, "While the field stage of VORTEX has only just ended, we are confident that countless lives will be saved in future storms because of what VORTEX researchers learned about tornadoes. "This experiment could not have happened without the extraordinary dedication of participating scientists and meteorology students, and the federal funding through NOAA and the National Science Foundation. It's a prime example of a synergy of government and university scientists and of tax dollars being well spent for the direct benefit of the public."

Approximately 20 scientists and 100 graduate and undergraduate students from NSSL, NSF, the National Center for Atmospheric Research, Environment Canada, and 10 universities participated in the experiment.

The university participants included Oklahoma University, Texas A&M University, Texas Tech University, New Mexico Tech University, UCLA, the University of Nebraska, the University of Illinois, the University of Mississippi, the South Dakota School of Mines and Technology, and Southwest Missouri State University.

To request an annotated listing of the 10 tornadoes intercepted, more detailed information on VORTEX observations, a color photograph of the VORTEX "radar on wheels," or a 3/4-inch video copy of tornado highlights, call Dane Konop at (301) 713-2483 or fax your request to (301) 713-1460.

New Weather Service Office Takes Shape

By Jim Richardson, WM0X, Forecaster, National Weather Service

The transition and consolidation of the Twin Cities forecast office to the new facility in Chanhassen is now complete. The facility actually includes three offices: The NWS Forecast Office, the North Central River Forecast Center, and the National and Hydrologic Remote Sensing Center.

The final phase of the forecast office transition included three changes in operations. The most important change was the commissioning of the new WSR-88D Doppler radar Nov. 1 of 1995. At the same time, the old conventional radar (WSR-57) at the airport was shut down. The old radar had been in operation since the early 1960's. It was nice to have that radar during the major tornado outbreak around the Twin Cities in May of 1965!

The other change in operation was the contracting out of surface observations at the airport. A private contractor will be taking the manual surface observations until the automatic observing system is commissioned some time this summer. There will continue to be some manual augmentation to the automatic system. The augmentation would include elements such as beginning and ending time of thunderstorms ..freezing rain..hail and hail size.

These operational changes brought the remaining NWS observing staff out to the new office by the first week in November. The upper air observations were transferred to Chanhassen from St. Cloud in June of 1995.

We have one season of severe weather at the new office with the new radar "under our belt". This includes an additional 28 counties in our area of warning responsibility bringing the total to 51 counties. We also do the programming for two additional Weather Radios in St. Cloud and Mankato.

The early part of the 1995 severe weather season (April, May, June) was relatively quiet. Things became quite active by early July. The most active day was the July 21. This outbreak produced several small tornadoes around the Twin Cities and east central Minnesota. Spotters played an active and important role in the severe weather event. Twenty-two tornado warnings were issued that evening and fourteen of these were issued before tornadoes occurred. The new radar, supplemented by excellent spotter reports, provided the necessary information to issue the timely warnings.

We haven't had an early severe weather season for a few years. This may have been partially due to the effects of "El Nino" which had been quite persistent up until this past fall. It's not too early to get geared up! May 15th comes very soon!

Tornado Outbreak on July 21st a Rare Event

by Dave Johnson, NØKBD

This past July 21st has been the most memorable day for Metro area spotters in several years. Unfortunately, it did not provide a typical experience for spotters.

First of all, the storms were very slow moving, most moved east at 10 MPH. Its not unusual for severe storms to move as fast as 45 MPH!

Secondly, the cells that developed were mostly classic super cells. This sort of storm is a relatively rare event in Minnesota. In fact, the storm that dropped two tornadoes in

Cambridge and North Branch appeared to by an even more rare (in these parts) high precipitation super cell. Just before the funnel developed, the "rain free base" completely wrapped in rain totally obscuring the tornado. One unofficial estimate said ten inches of rain fell in Cambridge from this one cell.

Nation Weather Association Wants You!

For those of you interested in learning more about operational weather and climatology, the National Weather Association is encouraging Skywarn Spotters to join the organization.

The National Weather Association invites you to become a member of their organization. The NWA's objectives are to exchange information that promotes weather observing and forecasting and the effective use of that information in practically all walks of life.

Since you have a special interest in weather information and its applications, we believe that you will find membership in this organization very useful and rewarding. As a member you will not only benefit from the monthly newsletter and quarterly Digest, but you can also participate by contributing articles and by attending the annual meeting where many training courses and other important sessions are held.

The membership dues are \$25 per year. Dues include membership, 4 issues of the National Weather Digest, 12 issues of the NWA Newsletter, and reduced fees at the NWA Annual Meeting.

For more information feel free to contact Floyd Hauth at 703-709-8859 or E-mail the NWA Newsletter at NatWeaAsoc@aol.com