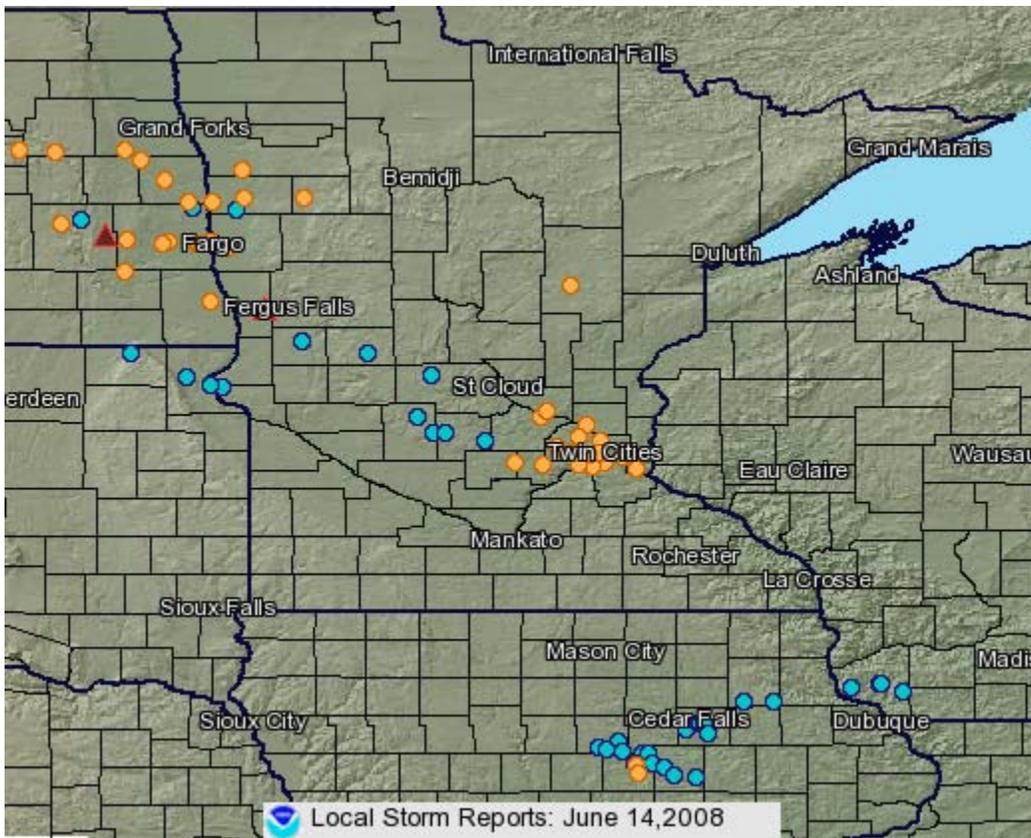


# June 14, 2008: Damaging Winds in the Twin Cities

## Event Synopsis

An upper level disturbance combined with plenty of daytime surface heating and a 100 mph jet core to produce a round of severe thunderstorms across the region on the evening of June 14th. The fast moving system initiated a slew of hail and wind reports across portions of central Minnesota on this second Saturday in June.

## Storm Reports



PRELIMINARY LOCAL STORM REPORT...SUMMARY  
NATIONAL WEATHER SERVICE TWIN CITIES/CHANHASSEN MN  
830 PM CDT SUN JUN 15 2008

..TIME...	...EVENT...	...CITY LOCATION...	...LAT.LON...
..DATE...	....MAG....	..COUNTY LOCATION..ST..	...SOURCE....
	..REMARKS..		

0713 PM HAIL ALEXANDRIA 45.87N 95.38W  
06/14/2008 E0.75 INCH DOUGLAS MN TRAINED SPOTTER

WIND GUST OF 56 MPH MEASURED AT ALEXANDRIA AIRPORT.

0808 PM HAIL MELROSE 45.68N 94.81W  
06/14/2008 M0.88 INCH STEARNS MN AMATEUR RADIO

0818 PM HAIL 4 W ATWATER 45.14N 94.86W  
06/14/2008 M0.25 INCH KANDIYOHI MN TRAINED SPOTTER

0834 PM HAIL ST CLOUD 45.55N 94.17W  
06/14/2008 M0.88 INCH STEARNS MN TRAINED SPOTTER

0838 PM TSTM WND GST 7 S HILLMAN 45.91N 93.89W  
06/14/2008 M60.00 MPH MORRISON MN TRAINED SPOTTER

0844 PM HAIL 4 N SPICER 45.29N 94.94W  
06/14/2008 M0.75 INCH KANDIYOHI MN TRAINED SPOTTER

0848 PM HAIL ATWATER 45.14N 94.78W  
06/14/2008 M0.88 INCH KANDIYOHI MN TRAINED SPOTTER

COUNTY RD 2 AND 28

0855 PM TSTM WND GST MONTICELLO 45.30N 93.80W  
06/14/2008 M63.70 MPH WRIGHT MN TRAINED SPOTTER

0858 PM TSTM WND GST CLEARWATER 45.41N 94.04W  
06/14/2008 M53.00 MPH WRIGHT MN MESONET

0900 PM HAIL GROVE CITY 45.15N 94.68W  
06/14/2008 M0.75 INCH MEEKER MN TRAINED SPOTTER

0900 PM TSTM WND DMG MONTICELLO 45.30N 93.80W  
06/14/2008 WRIGHT MN TRAINED SPOTTER

11 INCH BRANCHES DOWN

0900 PM TSTM WND GST MILACA 45.76N 93.65W  
06/14/2008 M57.00 MPH MILLE LACS MN MESONET

0908 PM TSTM WND GST LESTER PRAIRIE 44.88N 94.04W  
06/14/2008 M66.00 MPH MCLEOD MN MESONET

0910 PM TSTM WND DMG BIG LAKE 45.34N 93.75W  
06/14/2008 SHERBURNE MN TRAINED SPOTTER

8 INCH TREE DOWN 4.6 MILES NORTH OF HWY 10 ON COUNTY ROAD  
5

0910 PM TSTM WND DMG MAPLE GROVE 45.11N 93.46W  
06/14/2008 HENNEPIN MN BROADCAST MEDIA

SIX TO TEN INCH DIAMETER TREE DOWN

0912 PM TSTM WND GST WINSTED 44.97N 94.05W  
06/14/2008 E60.00 MPH MCLEOD MN TRAINED SPOTTER

0912 PM TSTM WND DMG WAYZATA 44.97N 93.51W  
06/14/2008 HENNEPIN MN TRAINED SPOTTER

60 FOOT TREE DOWN ACROSS POWER LINES WITH POWER OUTAGE IN  
AREA

0915 PM TSTM WND DMG ST LOUIS PARK 44.95N 93.36W  
06/14/2008 HENNEPIN MN TRAINED SPOTTER

ONE FOOT DIAMETER TREE DOWN WITH STRUCTURE DAMAGE TO ROD  
IRON RAILING

0915 PM TSTM WND GST MAPLE PLAIN 45.01N 93.66W  
06/14/2008 E60.00 MPH HENNEPIN MN TRAINED SPOTTER

0917 PM TSTM WND DMG WACONIA 44.85N 93.79W  
06/14/2008 CARVER MN NWS EMPLOYEE

3-FOOT DIAMETER TREE SNAPPED OFF TWO TO THREE FEET ABOVE  
GROUND

0917 PM TSTM WND DMG WACONIA 44.85N 93.79W  
06/14/2008 CARVER MN LAW ENFORCEMENT

LARGE TREES DOWN

0919 PM HAIL DASSEL 45.08N 94.31W  
06/14/2008 M0.75 INCH MEEKER MN TRAINED SPOTTER

0920 PM TSTM WND DMG CHASKA 44.82N 93.61W  
06/14/2008 CARVER MN PUBLIC

SHINGLES TORN OFF ROOFS AT THE UNIVERSITY OF MINNESOTA  
ARBORETUM.

0925 PM TSTM WND DMG ANOKA 45.21N 93.39W  
06/14/2008 ANOKA MN AMATEUR RADIO

4 INCH DIAMETER BRANCHES DOWN

0926 PM TSTM WND GST FRIDLEY 45.08N 93.26W  
06/14/2008 M60.00 MPH ANOKA MN AMATEUR RADIO

AT INTERSTATE 694 AND HWY 65

0928 PM TSTM WND DMG EDINA 44.89N 93.36W  
06/14/2008 HENNEPIN MN TRAINED SPOTTER

SEVERAL TREE BRANCHES 3-4 INCHES IN DIAMETER FELLED.

0928 PM TSTM WND DMG EDINA 44.89N 93.36W  
06/14/2008 HENNEPIN MN TRAINED SPOTTER

THREE INCH BRANCH DOWN AT HWY 62 AND TRACY AVENUE

0930 PM TSTM WND DMG 3 NNW BLOOMINGTON 44.87N 93.34W  
06/14/2008 HENNEPIN MN TRAINED SPOTTER

RETIRED NWS EMPLOYEE REPORTS AT LEAST 8 UPROOTED LARGE TREES IN A CONCENTRATED AREA ON HIBISCUS AVENUE BETWEEN A SMALL LAKE AND LAKE EDINA PARK. ESTIMATED SPEEDS OF 75 MPH OCCURRED. TIME ALSO ESTIMATED.

0930 PM TSTM WND DMG EDEN PRAIRIE 44.85N 93.46W  
06/14/2008 HENNEPIN MN FIRE DEPT/RESCUE

TWO 24-INCH TREES DOWN AT EDEN PRAIRIE ROAD AND JUST NORTH OF HWY 5

0930 PM TSTM WND DMG 5 NNE MINNEAPOLIS 45.03N 93.23W  
06/14/2008 HENNEPIN MN TRAINED SPOTTER

THIRTY TO 36 INCH DIAMETER TREE DOWN AT 3417 BELDEN DRIVE IN ST. ANTHONY.

0935 PM TSTM WND DMG 5 NNE MINNEAPOLIS 45.03N 93.23W  
06/14/2008 HENNEPIN MN TRAINED SPOTTER

A 20 AND 30 INCH DIAMETER TREES TOPPLED. DAMAGE OCCURRED IN ST. ANTHONY AT 2415 30TH AVE.

0935 PM TSTM WND DMG 5 NNE MINNEAPOLIS 45.03N 93.23W  
06/14/2008 HENNEPIN MN TRAINED SPOTTER

A 28 INCH DIAMETER TREE FELLED AT 30TH AND STINSON AVE IN THE CITY OF ST. ANTHONY.

0935 PM TSTM WND DMG 5 NNE MINNEAPOLIS 45.03N 93.23W  
06/14/2008 HENNEPIN MN TRAINED SPOTTER

AN 18 INCH DIAMETER TREE TOPPLED AT 3205 BELLE LANE IN  
ST. ANTHONY.

0936 PM TSTM WND GST MINNEAPOLIS 44.88N 93.22W  
06/14/2008 M62.00 MPH HENNEPIN MN ASOS

0940 PM TSTM WND DMG MINNEAPOLIS 44.96N 93.27W  
06/14/2008 HENNEPIN MN AMATEUR RADIO

TWO FOOT DIAMETER TREES DOWN AT 43RD AND XERXES AVENUE  
SOUTH

0941 PM TSTM WND GST ST PAUL 44.93N 93.06W  
06/14/2008 M60.00 MPH DAKOTA MN ASOS

0941 PM TSTM WND DMG MINNEAPOLIS 44.96N 93.27W  
06/14/2008 HENNEPIN MN AMATEUR RADIO

6 TO 8 INCH BRANCHES DOWN AT CEDAR AVENUE AND NAKOMIS

0943 PM TSTM WND DMG COTTAGE GROVE 44.82N 92.93W  
06/14/2008 WASHINGTON MN TRAINED SPOTTER

TENTS AND STAGE ITEMS BLOWN OVER AT CITY FESTIVAL. TWO  
PEOPLE RECEIVED MINOR INJURIES WHEN TENT STRUCK THEM.

0958 PM TSTM WND DMG BLOOMINGTON 44.83N 93.32W  
06/14/2008 HENNEPIN MN TRAINED SPOTTER

6 TO 8 INCH BRANCHES DOWN AT HWY 169 AND OLD SHAKOPEE RD.

1002 PM TSTM WND DMG COTTAGE GROVE 44.82N 92.93W  
06/14/2008 WASHINGTON MN TRAINED SPOTTER

SMALL TREE FELL OVER ROAD

1003 PM TSTM WND DMG MAPLEWOOD 44.99N 93.02W  
06/14/2008 RAMSEY MN TRAINED SPOTTER

FOUR INCH TREE DOWN

1028 PM TSTM WND DMG CLAYTON 45.32N 92.17W  
06/14/2008 POLK WI TRAINED SPOTTER

THREE TO FOUR INCH DIAMETER BRANCHES DOWN.

## **Tornadoes/Gustnadoes**

The evening of June 14th saw a rash of severe weather across central Minnesota, as a powerful squall line raced down I-94 through western Minnesota and into the Twin Cities. Trained spotters and law enforcement agencies provided many valuable reports of hail as large as nickels, measured wind speeds as high as 65 mph, and downed trees, tree limbs, and structural damage from the high winds.

However, those are not the only reports received at the NWS in Chanhassen on that Saturday evening. There were also many independent reports of tornadoes, as the line of storms swept southeastward across central Minnesota. The first reports came from the Alexandria and Long Prairie vicinities, with the emergency dispatch centers from Douglas, Pope, and Todd counties calling to notify us of reported tornadoes in their respective counties. Not long after these reports were received, calls began pouring in from Kandiyohi, Meeker, and Stearns counties, including a report near New London, where two law enforcement officers and two trained spotters independently reported a tornado.

As these calls flooded the NWS office, the meteorologists watching and warning for the storms were a bit surprised. The radar data showed no rotation conducive to even a small tornado spin-up, and the very dry atmosphere made the environment unfavorable for tornado development. As the reports were coming into the office, personnel concluded that these were likely "gustnadoes" on the gust front boundary emanating from the squall line, and these thoughts were relayed to the various law enforcement agencies and other spotters in the area. Photos and video of several of these tornado reports have been received and reviewed, confirming the initial thoughts that these were harmless "gustnadoes".

Some of you may be asking... What is a gustnado? Is it a tornado? Is it dangerous?

A gustnado is a rotating column of air that forms as a result of turbulence along a thunderstorm gust front boundary. Gustnadoes are associated with shelf clouds, a cloud structure that is often confused with a wall cloud, which is sometimes a tornadic cloud feature. A gustnado is not a tornado, and it is not typically dangerous.

On that Saturday evening, the gust front boundary was clearly evident in radar data from the Chanhassen Doppler radar, and often, many of the reports occurred several miles ahead of the main area of precipitation with the squall line, which is where the gust front was located. As the shelf cloud associated with the squall line moved over the NWS office in Chanhassen, meteorologists observed the turbulence within it, seeing how it could be confused with a more dangerous wall cloud feature and consequently, result in the volume of tornado reports.

We very much appreciate all of the valuable reports from the volunteers that we receive during active weather in Minnesota and Wisconsin, and we would like to thank you all for the service that you provide for us and the safety of the communities you live in.