



National Weather Service

Storm Data and Unusual Weather Phenomena



June 2004

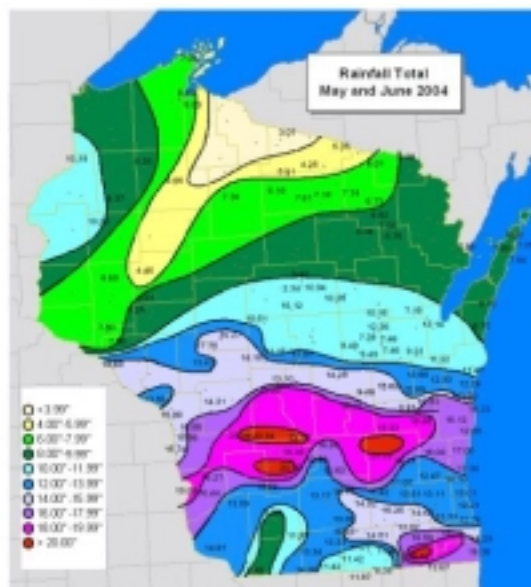
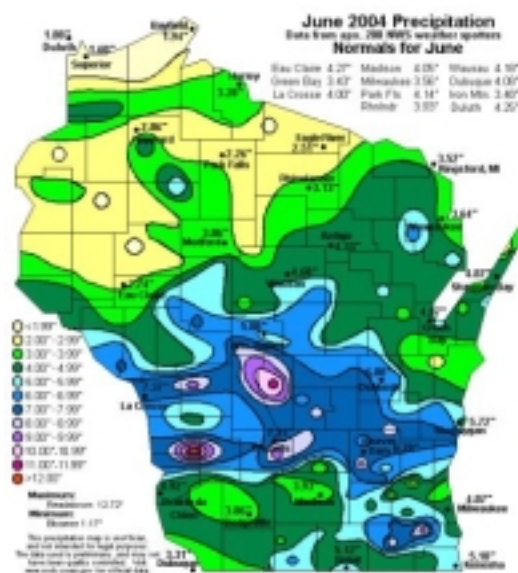
Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons Killed Injured	Estimated Damage Property Crops	Character of Storm
----------	------	----------------------------	---------------------------	--------------------------	-------------------------------------------	------------------------------------------	--------------------

LAKE MICHIGAN

LMZ645	North Pt Lt To Wind Pt Wi						
Wind Point	23	1605CST			0	0	Marine Hail (0.88)
LMZ646	Wind Pt Lt Wi To Winthrop Hbr II						
Kenosha	23	1620CST			0	0	Marine Tstm Wind (MG41)
LMZ645	North Pt Lt To Wind Pt Wi						
Cudahy	23	2035CST			0	0	Marine Hail (0.75)
LMZ644	Pt Washington To North Pt Lt Wi						
2 E Mequon to Mequon	23	2059CST			0	0	Marine Tstm Wind (EG52)
LMZ646	Wind Pt Lt Wi To Winthrop Hbr II						
1 S Wind Point	23	2108CST			0	0	Marine Hail (1.00)
LMZ646	Wind Pt Lt Wi To Winthrop Hbr II						
1 S Wind Point	23	2108CST			0	0	Marine Tstm Wind (MG69)
LMZ646	Wind Pt Lt Wi To Winthrop Hbr II						
Kenosha	23	2205CST			0	0	Marine Tstm Wind (MG38)
Two separate lines/small clusters of thunderstorms moved east out over Lake Michigan. The thunderstorms dumped large hail and generated strong wind gusts.							

WISCONSIN, Southeast

WIZ046>047-051>052-056>060-062>072	Marquette - Green Lake - Fond Du Lac - Sheboygan - Sauk - Columbia - Dodge - Washington - Ozaukee - Iowa - Dane - Jefferson - Waukesha - Milwaukee - Lafayette - Green - Rock - Walworth - Racine - Kenosha						
01	0000CST				0	0	35.5M 216M Flood
30	2359CST						



Scattered to widespread heavy rains across south-central and southeast Wisconsin during the period of June 9-12, 2004 kept many rivers and streams at or above flood stage for a good part, or most of the month. Monthly rainfall totals generally ranged from 4 to 7 inches across south-central and southeast Wisconsin, with some scattered spots in Sauk, Columbia, Dodge, Walworth, Racine, and Kenosha Counties picking up 7 to 9.5 inches, or 50 to 100% above normal. In some cases, stretches of some rivers actually went above flood stage in May, 2004. Refer to flood and flash flood events in May, 2004, for additional information. During June, 2004, the high water levels kept much of the low, bottom-land under water near rivers and streams; closed some major state highways; forced water into basements; damaged corn, soy bean, and alfalfa crops; delayed planting of entire fields; washed out gravel road shoulders; or damaged foundations of homes and businesses. Two flash flood events occurred on June 9th (Columbia and Dodge



National Weather Service

Storm Data and Unusual Weather Phenomena



June 2004

June 2004									
Location	Date	Time	Path	Path	Number of		Estimated		Character of Storm
		Local/ Standard	Length (Miles)	Width (Yards)	Killed	Injured	Property	Crops	

WISCONSIN, Southeast

Co.) - refer to those event narratives for additional information. In general, the June flooding was the worst since 1993 on a widespread basis, but locally it was the worst in the past 25 to 30 years. Federal Disaster Declaration 1526 covered all 20 counties in south-central and southeast Wisconsin for storms, tornadoes, and flooding for the period of May 19-July 3, 2004. All counties qualified for "individual assistance" and "individual assistance & public assistance became available for the counties of Marquette, Green Lake, Fond du Lac, Columbia, Dodge, Ozaukee, Jefferson, and Kenosha. Below is a county-by-county breakdown (keep in mind that flood stage for rivers in these counties is 1 foot above bankfull - ponding of water in lowlands continues at between bankfull and flood stage).

Marquette Co: Minor basement damage to 354 homes, and major basement damage to 17 homes. Estimated private property damage of \$1M. Total damage to public infrastructure totaled \$205,000. At least 28K acres of farm crop ruined for a crop loss of about \$10M.

Green Lake Co: The Fox River at Berlin continued to remain above flood stage for all of June. The river rose above flood stage of 13 feet on May 25th at 2115 CST, crested at 16.24 feet on June 18th at 0500 CST, 3.24 feet above flood stage (major flooding, new, all-time river stage record). On July 9th, the river fell below flood stage. At least 30,000 sand bags were used in Berlin to minimize property damage. The Fox River at Princeton rose above flood stage of 9.5 feet on June 10th at 2130 CST, crested at 12.19 feet on June 19th at 0900 CST, 2.69 feet above flood stage (major flooding). The river fell below flood stage on July 1st. Consult the July 2004 edition of StormData for more information. County-wide, minor basement flood damage to 22 homes, and major damage to 9 homes. At least 3 houses were completely destroyed. Estimated private property damage of \$2M. Total public infrastructure damage totaled \$716,000. Crop losses about \$15M.

Fond du Lac Co: At least 3869 houses reported basement flooding. Minor damage to 1040 homes, and major damage to 31 homes (total of \$4.21M). Minor damage to 8 businesses, and major damage to 1 business (total of \$231K). Total private sector flood damage about \$4.4M. Total damage to public infrastructure totaled \$363K. Crop losses estimated at \$63M.

Sheboygan Co: The Sheboygan River at Sheboygan rose above flood stage of 8 feet on June 11th at 1036 CST, crested at 10.36 feet on June 12th at 1700 CST, 2.36 feet above flood stage (moderate flooding). The river fell below flood stage on June 13th at 1720 CST. Crop losses estimated at \$15M. Private property damage estimated at \$1M.

Sauk Co: The Baraboo River at Baraboo rose above flood stage of 16 feet again on June 10th at 0127 CST, after flooding once before during May. It crested at 18.69 feet on June 12th at 0445 CST, 2.69 feet above flood stage (minor flooding). The river fell below flood stage on June 17th at 1206 CST. The Rock River at Rock Springs rose above flood stage of 18.5 feet on June 14th at 0859 CST, crested at 18.67 feet on June 15th at 0105 CST, 0.17 feet above flood stage (minor flooding). The river fell below flood stage on June 15th at 1745 CST. Minor basement flood damage to 67 homes, with major damage to 6, and 5 houses completely destroyed. Total estimated private property damage at \$2M. Estimated public infrastructure damage of \$100K. Total crop losses estimated at \$10M.

Columbia Co: The Wisconsin River at Portage rose above flood stage of 17 feet on June 13th at 0000 CST, crested at 17.61 feet on June 16th at 0703 CST, 0.61 feet above flood stage (minor flooding). The river fell below flood stage on June 17th at 1229 CST. Sixty-nine houses reported basement damage. Total damage to public infrastructure totaled \$1,938,500. Estimated private property damage of \$2.0M. Estimated crop damage of \$20M.

Dodge Co: The Beaverdam River at Beaver Dam rose above flood stage of 9 feet on June 9th at 1915 CST, crested at 10.68 feet on June 14th at 1615 CST, 1.68 feet above flood stage (moderate flooding). The river fell below its flood stage on June 25th at 2242 CST. The Rock River at Horicon rose above flood stage of 8.5 feet on June 12th at 0000 CST, crested at 9.06 feet on June 21st at 1730 CST, 0.56 feet above flood stage (moderate flooding). The river fell below flood stage on June 22nd at 0645 CST. Minor basement flood damage to 196 homes. Estimated private property damage of \$2M. Total public infrastructure damage about \$800K. Estimated crop damage about \$3M on 7000 acres.

Washington Co: Estimated crop damage about \$6M. Estimated private property damage of \$2M. Estimated public infrastructure damage about \$1M.

Ozaukee Co: The Milwaukee River at Cedarburg rose above flood stage of 11 feet on June 11th at 1900 CST, crested at 12.97 feet on June 13th at 1730 CST, 1.97 feet above flood stage (minor flooding). The river remained above flood stage until June 16th at 2300 CST. One-hundred and nine houses reported basement flooding, with 1 house reporting major flooding and 8 houses being inaccessible. Estimated private property damage of \$2M. Total damage to public infrastructure totaled \$612,700. Estimated crop damage of \$5M.

Iowa Co: Estimated crop losses of \$2M.

Dane Co: Lake levels were 1 to 3 feet above normal. Minor basement flood damage to 127 homes, and major damage to 3 homes. Estimated private property damage of \$1M. Estimated crop losses of \$3M.



National Weather Service

Storm Data and Unusual Weather Phenomena



June 2004

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons Killed Injured	Estimated Damage Property Crops	Character of Storm
----------	------	----------------------------	---------------------------	--------------------------	----------------------------------------	---------------------------------------	--------------------

WISCONSIN, Southeast

Jefferson Co: The Rock River at Jefferson, the Rock River at Fort Atkinson, and the Crawfish River at Milford remained above flood stage for most of June. The Rock River at Jefferson rose above flood stage of 10 feet on May 24th at 1632 CST, crested at 11.51 feet on June 2nd at 1900 CST, 1.51 feet above flood stage (moderate flooding). The river fell below flood stage on June 30th at 0809 CST. The Rock River at Fort Atkinson rose above flood stage of 6 feet on May 26th at 1200 CST and crested at 7.29 feet on June 4th at 2335 CST, 1.29 feet above flood stage (moderate flooding). The river fell below flood stage in early July. Consult the July 2004 edition of StormData for more information. The Crawfish River at Milford rose above flood stage of 7 feet on May 25th at 0400 CST and crested at 8.57 feet on June 2nd at 1700 CST, 1.57 feet above flood stage (minor flooding). The river fell below flood stage on June 26th at 0100 CST. The Rock River at Watertown rose above flood stage of 5.5 feet on June 10th at 0700 CST, crested at 6.09 feet on June 12th at 0115 CST, 0.59 feet above flood stage (moderate flooding). The river fell below flood stage on June 15th at 0126 CST. Minor basement flood damage to 187 homes, and 37 were inaccessible (especially on Blackhawk Island southwest of Ft. Atkinson). Total cost for public infrastructure reached \$263,530. Estimated private property damage of \$2.0M. Estimated crop damage of \$20M.

Waukesha Co: Estimated private property damage of \$1.0M. Estimated crop damage of \$5M.

Milwaukee Co: Basement flooding damage to 236K homes. Estimated private property damage of \$1M.

Lafayette Co: Estimated private property damage of \$500K. Estimated crop losses of \$1M.

Green Co: The Sugar River at Brodhead rose above flood stage of 5 feet on June 2nd at 0350 CST and crested at 5.04 feet on June 2nd at 0650 CST, 0.04 feet above flood stage (minor flooding). The river fell below flood stage on June 2nd at 1450 CST. Estimated private property damage of \$100K. Estimated crop losses of \$1M.

Rock Co: The Rock River at Afton continued to remain above flood stage for all of June. The river rose above flood stage of 9 feet on May 24th at 0122 CST, crested at 10.96 feet on June 1st at 0300 CST, 1.96 feet above flood stage (minor flooding). The Rock River at Afton remained above flood stage until July 8th. Consult the July 2004 edition of StormData for more information. The Rock River at Newville rose above flood stage of 10 feet on May 26th at 1430 CST, crested at 11.49 feet on June 5th at 2300 CST, 1.49 feet above flood stage (moderate flooding). The river fell below flood stage in early July. Consult the July 2004 edition of StormData for more information. The Rock River at Indianford rose above flood stage of 10 feet on June 1st at 1215 CST, crested at 15.29 feet on June 4th at 1045 CST, 0.29 feet above flood stage (minor flooding). The river fell below flood stage on June 9th at 0522 CST. Basement flood damage was noted as well as pier damage along the Rock River. Estimated private property damage of \$1M. Estimated crop losses of \$2M.

Walworth Co: Estimated private property damage of \$500K. Estimated crop losses of \$3M.

Racine Co: The Root River Canal at Raymond rose above flood stage of 9 feet on June 17th at 1545 CST, crested at 9.56 feet on June 18th at 0330 CST, 0.56 feet above flood stage (minor flooding). The river fell below flood stage on June 18th at 1900 CST. Estimated private property damage of \$1M. Estimated crop losses of \$5M.

Kenosha Co: The Fox River at New Munster rose above flood stage of 10 feet on May 14th at 0145 CST, crested at 13.73 feet on May 24th at 1345 CST, 3.73 feet above flood stage (moderate flooding). The river fell below flood stage on June 6th at 1726 CST. Minor basement flood damage occurred to 115 homes, and 10 others had flood damage. Total damage to public infrastructure about \$1M. Estimated private property damage of \$2M. Estimated crop losses of \$8M.

Columbia County

Cambria

09	1600CST	0	0	1M	Flash Flood
10	0600CST				

Dodge County

Randolph

09	1800CST	0	0	2M	Flash Flood
10	0900CST				

Clusters of thunderstorms with heavy rains generated WSR-88D Doppler Radar rainfall estimates of 5 to 6 inches within 4 to 6 hours in Cambria (Columbia Co.), resulting in flash flooding. Further east, Randolph (Dodge Co.) was hit with a flash flood after torrential rainfalls (unofficial) of 8.6 inches fell during the evening hours of June 9th, followed by another 2.20 inches overnight. Interestingly, Randolph picked up 13.6 inches of rain in May, 2004, and 13 inches in June, 2004. Between May 7, 2004 and June 11, 2004, this city measured 25.60 inches of rain (normal for the entire year is about 33 inches). Randolph sits a large bowl-shaped depression that has no outside drainage, which applied the flooding problem. The flash flood in Randolph flooded at least 300 homes, in some cases up to the 1st-floor windows. At least 15 homes had major flood damage, and 24 businesses were damaged. Numerous families were evacuated, and flood waters didn't recede until June 12th. In Cambria, Tarratt Lake on Duck Creek burst through a dam that supported STH 146. At least half of the road was washed away at that location, resulting in closure of that road for much of the remainder of the summer due to repairs. Luckily the dam didn't have a complete collapse, and no homes or businesses were damaged.



National Weather Service

Storm Data and Unusual Weather Phenomena



June 2004

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons		Estimated Damage		Character of Storm
					Killed	Injured	Property	Crops	

WISCONSIN, Southeast

Washington County

3 S Thompson	12	0200CST			0	0	3K		Lightning
--------------	----	---------	--	--	---	---	----	--	-----------

Washington County

Kewaskum	12	0220CST 0228CST			0	0	150K		Lightning
----------	----	--------------------	--	--	---	---	------	--	-----------

Lightning struck a barn just outside Kewaskum, burning it to the ground. South of Thompson, lightning damaged the siding of a home.

Racine County

Waterford	16	1700CST 1810CST			0	0			Heavy Rain
-----------	----	--------------------	--	--	---	---	--	--	------------

Marquette County

Endeavor to Packwaukee	16	1747CST			0	0			Hail(0.75)
---------------------------	----	---------	--	--	---	---	--	--	------------

Marquette County

Endeavor to Packwaukee	16	1747CST 1757CST			0	0			Thunderstorm Wind (MG52)
---------------------------	----	--------------------	--	--	---	---	--	--	--------------------------

Scattered thunderstorms developed across south-central and southeast Wisconsin during the late afternoon into early evening hours. A few storms became severe and produced isolated areas of damaging winds or hail. Heavy rain across Racine County resulted in urban and small stream areas to flood.

Milwaukee County

Hales Corners to Greenfield	23	1525CST 1530CST			0	0			Hail(1.00)
--------------------------------	----	--------------------	--	--	---	---	--	--	------------

Racine County

5 NE Union Grove	23	1550CST			0	0			Hail(0.75)
------------------	----	---------	--	--	---	---	--	--	------------

Racine County

Racine	23	1605CST 1610CST			0	0			Hail(0.88)
--------	----	--------------------	--	--	---	---	--	--	------------

Racine County

3 W Racine to Racine	23	1605CST 1615CST			0	0			Hail(0.88)
-------------------------	----	--------------------	--	--	---	---	--	--	------------

Marquette County

4 N Oxford	23	1855CST			0	0			Thunderstorm Wind (EG57)
------------	----	---------	--	--	---	---	--	--	--------------------------

Marquette County

3.5 NNW Packwaukee to 4 SE Montello	23	1900CST 1915CST	11	200	0	0	1M	500K	Tornado (F2)
----------------------------------------	----	--------------------	----	-----	---	---	----	------	--------------

A strong tornado spun up about a half-mile east of Interstate 39/STH 51, near the intersection of Fawn Ct. and CTH M, or 3.5 NNW of Packwaukee. This tornado increased to F2 strength (estimated 140-150 mph) as it tore east/southeast through the southern part of Montello. Numerous trees were uprooted. Four homes were destroyed, 25 sustained major damage, and 142 had minor damage. In addition, 9 agricultural buildings were damaged or destroyed. The tornado ended in a swampy, Fox River bottom-land area about 4 miles southeast of Montello (1 mile short of the county line and south of CTH C and east STH 22). The responsible supercell also spun up a different tornado earlier in Adams County. Prop damage estimated at \$1.0 M. Average path width was about 175 yards.

Sauk County

4 NW La Valle	23	1900CST			0	0			Thunderstorm Wind (EG61)
---------------	----	---------	--	--	---	---	--	--	--------------------------

Marquette County

Montello	23	1905CST			0	0	2K		Hail(1.75)
----------	----	---------	--	--	---	---	----	--	------------

Dane County

2 WNW Marxville to 1.9 WNW Marxville	23	1923CST	0.1	25	0	0	3K		Tornado (F0)
-----------------------------------------	----	---------	-----	----	---	---	----	--	--------------

A brief tornado spun up along Old Settlers Rd., just south of the Township line (or about 0.2 mile south of the intersection of Old



National Weather Service

Storm Data and Unusual Weather Phenomena



June 2004

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons		Estimated Damage		Character of Storm
					Killed	Injured	Property	Crops	

WISCONSIN, Southeast

Settlers Rd. and Katzenbuechel Rd.). One home had a couple windows damaged by flying debris, and several large trees were uprooted or twisted/sheared on a couple properties. The typical sequence of events was observed by the home's owner's - heavy rain and some wind, then calm, then the freight-train noise, and they could barely close the front door. The responsible supercell moved southeast toward Madison and eventually spun up another tornado on the southwest side of Madison.

Green Lake County

2 E Kingston	23	1924CST			0	0			Funnel Cloud
--------------	----	---------	--	--	---	---	--	--	--------------

Dane County

Middleton	23	1930CST			0	0			Hail(0.75)
-----------	----	---------	--	--	---	---	--	--	------------

Green Lake County

Markesan	23	1930CST			0	0	2K		Hail(1.75)
----------	----	---------	--	--	---	---	----	--	------------

Green Lake County

2 N Manchester to 6.4 SE Markesan	23	1933CST 2005CST	9.4	400	0	0	1.4M	500K	Tornado (F3)
--------------------------------------	----	--------------------	-----	-----	---	---	------	------	--------------

A strong tornado spun up near the intersection of STH 73 and CTH H, about 2 miles north of the village of Manchester. It increased its strength to F3 (estimated 175-200 mph) as it moved southeast across the southern part of the city of Markesan. Numerous trees were uprooted. At least 18 homes or ag-buildings had minor damage, at least 9 homes or ag-buildings had major damage, and at least 21 homes or ag-buildings were destroyed. This tornado exited Green Lake County at a point 6.4 miles southeast of Markesan, just south of Lake Maria Rd., and continued southeast through Fond du Lac County. The responsible supercell also spun up different tornadoes earlier in Adams and Marquette Counties. Newspaper headline: "A Day Like No Other." Average path width was about 350 yards.

Columbia County

6.5 SW Wyocena to Pardeeville	23	1935CST 1940CST			0	0			Thunderstorm Wind (EG56)
----------------------------------	----	--------------------	--	--	---	---	--	--	--------------------------

Dane County

2.5 SW Middleton to 2.3 S Madison	23	1935CST 1944CST	7.8	200	0	0	1.5M		Tornado (F1)
--------------------------------------	----	--------------------	-----	-----	---	---	------	--	--------------

A weak F1 tornado (100-110 mph) spun up just west of the southwest Beltline at a point 2.5 miles SW of Middleton (half-mile north of intersection of CTH S and Pleasant View Rd.). It moved east-southeast across the West Town Mall, through the UW-Madison Research Park, ultimately ending about 1/3 mile east of STH 151/Park St (2.3 miles south of Capitol Square). In the Research Park many windows were blown out of business offices, and damage was inflicted to UW-MSN agricultural buildings. At least 194 residential homes had minor damage (roof/siding), and 11 had major damage (windows/roofs - total of \$410K). At least 8 businesses had minor damage, and 1 had major damage (roof partially torn off and 1 wall damaged). Total business damage was about \$246K. The UW-Madison Research Park had about \$729K in damage. Many vehicles sustained some degree of damage (\$100K), and one semi was blown over. At least 1000 large trees were damaged. Estimated total tornado damage is \$1.485M. An additional cleanup cost of about \$347K was reported. At least 2000 customers lost their electrical power. Average path width was about 150 yards.

Green Lake County

4.2 SSE Markesan to 6.8 SE Markesan	23	1935CST 1942CST	4	300	1	1	675K	300K	Tornado (F3)
----------------------------------------	----	--------------------	---	-----	---	---	------	------	--------------

A strong tornado spun up about a mile directly east of Lake Maria in southeastern Green Lake County, or about 4.2 miles SSE of Markesan, moved east along Sunny Drive with F3 strength (estimated 175-200), and exited Green Lake County along Mielke Rd., or about 6.8 miles SE of Markesan. Numerous trees were uprooted. At least 8 homes or ag-buildings had minor damage, at least 5 homes or ag-buildings had major damage, and at least 5 homes or ag-buildings were destroyed. Near the intersection of Sunny Drive and Pleasant Drive, two people and most basement items were "sucked" out of their home's basement while the home was being destroyed. The husband was found dead and his wife was critically injured. Average path width was about 275 yards. M53PH



National Weather Service

Storm Data and Unusual Weather Phenomena



June 2004

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Killed	Persons Injured	Estimated Damage Property	Crops	Character of Storm
----------	------	----------------------------	---------------------------	--------------------------	--------	--------------------	---------------------------------	-------	--------------------

WISCONSIN, Southeast

Dane County

3.3 W Madison	23	1940CST			0	0	10K		Thunderstorm Wind (EG65)
---------------	----	---------	--	--	---	---	-----	--	--------------------------

Dodge County

3 N South Beaver Dam to Horicon	23	1940CST 1945CST			0	0			Thunderstorm Wind (EG52)
---------------------------------	----	--------------------	--	--	---	---	--	--	--------------------------

Fond Du Lac County

4 SW Alto	23	1940CST			0	0	3K		Hail(1.75)
-----------	----	---------	--	--	---	---	----	--	------------

Fond Du Lac County

2 SW Alto	23	1942CST			0	0			Hail(0.75)
-----------	----	---------	--	--	---	---	--	--	------------

Fond Du Lac County

4.7 SW Alto to Waupun	23	1942CST 1950CST	7.2	400	0	0	6M	700K	Tornado (F3)
-----------------------	----	--------------------	-----	-----	---	---	----	------	--------------

This tornado was a continuation of the tornado that moved through the southern part of the city of Markesan (Green Lake Co.). It entered Fond du Lac County just south of Lake Maria Road, about 4.7 miles SW of Alto. It moved east-southeast on a line toward Waupun at F3 strength (estimated 175-200 mph), and actually merged with the Lake Maria tornado that moved east out of extreme southeastern Green Lake County. The merger took place just east of a dogleg/bend of Oak Grove Rd., about 2.2 miles SSW of Alto. The civil Town of Alto reported that 19 residential homes had major damage and 1 was destroyed. One business had major damage. Fourteen farms were affected with a tally of 8 ag-buildings/homes with minor damage, 19 with major damage, and 16 destroyed. Crop damage was severe. Public sector damage (roads/bridges) was about \$225K. In the city of Waupun (Fond du Lac side), 4 homes had major damage, and roughly 150 had minor roof/siding damage due to severe tree damage. Average path width was about 300 yards.

Fond Du Lac County

5 SW Alto to 2.5 SSW Alto	23	1942CST 1945CST	3.6	300	0	0	1.6M	300K	Tornado (F3)
---------------------------	----	--------------------	-----	-----	---	---	------	------	--------------

This tornado was a continuation of the tornado that moved east from the Lake Maria area of extreme southeastern Green Lake County. It maintained its F3 strength (175-200 mph) and moved east along Marshview Rd, only to merge with the F3 tornado moving east/southeast out of the Markesan area of southeast Green Lake County. The merger took place just east of a dogleg/bend of Oak Grove Rd., about 2.2 miles SSW of Alto. The civil Town of Alto reported that 8 residential homes had major damage. Four farms were affected with a tally of 8 ag-buildings/homes with minor damage, 19 with major damage, and 16 destroyed. Crop damage was severe. Public sector damage (roads/bridges) was about \$100K. Average path width was about 275 yards

Dane County

4.6 N Madison	23	1945CST			0	0			Hail(0.75)
---------------	----	---------	--	--	---	---	--	--	------------

Dodge County

Waupun	23	1945CST			0	0	3K		Hail(1.75)
--------	----	---------	--	--	---	---	----	--	------------

Columbia County

1.5 N Friesland	23	1947CST			0	0			Thunderstorm Wind (EG56)
-----------------	----	---------	--	--	---	---	--	--	--------------------------

Columbia County

1.2 ESE Otsego	23	1950CST			0	0			Thunderstorm Wind (EG56)
----------------	----	---------	--	--	---	---	--	--	--------------------------

Dodge County

Waupun to 2 SSE Lomira	23	1950CST 2005CST	16.7	400	0	0	8M	500K	Tornado (F3)
------------------------	----	--------------------	------	-----	---	---	----	------	--------------

This tornado was a continuation of the tornado that moved east-southeast from Markesan (Green Lake Co.) through the southwest corner of Fond du Lac County (civil Town of Alto). In Dodge County it maintained its F3 strength (175-200 mph) as it moved east-southeast through the city of Waupun and through rural areas of northern Dodge County to a point 2 miles southeast of Lomira, where it dissipated just west of U.S. Highway 41. Many homes and vehicles in the Dodge County portion of Waupun were damaged. Toward Lomira, several dozens of agricultural buildings and homes were damaged. Numerous trees were uprooted from



National Weather Service

Storm Data and Unusual Weather Phenomena



June 2004

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons		Estimated Damage		Character of Storm
					Killed	Injured	Property	Crops	

WISCONSIN, Southeast

Waupun to near Lomira, and some crop damage was noted. Estimated damage in Waupun was about \$3M, and \$2.5M in the civil Towns of Lomira and Le Roy. Average path width was about 300 yards.

Dodge County 2.5 NW Farmersville to Farmersville	23	1958CST 2000CST			0	0			Thunderstorm Wind (EG56)
---------------------------------------------------------------	----	--------------------	--	--	---	---	--	--	--------------------------

Dodge County Juneau	23	2000CST			0	0	3K		Thunderstorm Wind (EG56)
-------------------------------	----	---------	--	--	---	---	----	--	--------------------------

Fond Du Lac County Oak Center	23	2000CST			0	0			Thunderstorm Wind (EG52)
-----------------------------------------	----	---------	--	--	---	---	--	--	--------------------------

Jefferson County Cambridge	23	2001CST			0	0			Hail(0.75)
--------------------------------------	----	---------	--	--	---	---	--	--	------------

Fond Du Lac County 6 SW Campbellsport to 4 SSW Campbellsport	23	2010CST 2015CST	4.6	150	0	0	100K	200K	Tornado (F1)
---------------------------------------------------------------------------	----	--------------------	-----	-----	---	---	------	------	--------------

A weak F1 tornado (90-100 mph) spun up about 6 miles southwest of Campbellsport in southern Fond du Lac County, at a point ½ mile east of the Dodge County line on Superior Drive. It tracked east-southeast to 4 miles south-southwest of Campbellsport and moved into Washington County where Lake Bernice Dr. intersects with ST. Kilian Dr. Mainly moderate tree and crop damage was noted, but one pole shed was destroyed. Average path width was about 125 yards.

Jefferson County 2 W Ft Atkinson	23	2015CST			0	0			Hail(0.88)
--------------------------------------------	----	---------	--	--	---	---	--	--	------------

Jefferson County 5 SW Ft Atkinson to Ft Atkinson	23	2015CST 2020CST			0	0			Thunderstorm Wind (EG80)
---------------------------------------------------------------	----	--------------------	--	--	---	---	--	--	--------------------------

Washington County 4 WNW Kewaskum to 1.5 NW Kewaskum	23	2015CST 2018CST	3	150	0	0	10K	50K	Tornado (F1)
------------------------------------------------------------------	----	--------------------	---	-----	---	---	-----	-----	--------------

This tornado (80-90 mph) was a continuation of the tornado that moved east-southeast from the area southwest of Campbellsport in southern Fond du Lac County. Originally this tornado was rated as F1 in Fond du Lac County, but after crossing the Washington/Fond du Lac County line near the intersection of Lake Bernice Dr. and St. Kilian Dr. it weakened to F0 status. It finally dissipated 1.5 miles northwest of Kewaskum, north of STH 28 and west of STH 45. Mainly light tree and crop damage was noted. Average path width was about 100 yards.

Washington County 4 NNE Jackson	23	2019CST	0.1	25	0	0			Tornado (F0)
-------------------------------------------	----	---------	-----	----	---	---	--	--	--------------

A very brief F0 tornado (50-60 mph) spun up 4 miles north-northeast of Jackson in an open rural area just north of STH 143 and east of CTH G, or 0.6 miles northwest of Keown's. The tornado traveled southeast 0.1 miles and dissipated. No damage was reported.

Washington County 1 S West Bend	23	2019CST			0	0			Hail(1.00)
-------------------------------------------	----	---------	--	--	---	---	--	--	------------

Jefferson County Ft Atkinson	23	2021CST			0	0	10K		Hail(1.75)
----------------------------------------	----	---------	--	--	---	---	-----	--	------------

Jefferson County 1.8 SE Cold Spg to 3.2 SW Palmyra	23	2023CST 2033CST	7.1	150	0	0	150K		Tornado (F1)
-----------------------------------------------------------------	----	--------------------	-----	-----	---	---	------	--	--------------

A weak F1 tornado (90-100 mph) spun up 1.8 miles east-southeast of Cold Springs and traveled east-southeast to the Jefferson/Walworth County line about 3.2 miles southwest of Palmyra. Shortly after it spun up this tornado destroyed a garage, one vehicle, a wind mill, and hay wagon. Later on, severely damaged a pole shed, damaged a couple vehicles, and suck a fair amount of insulation into a relatively new home that had closed windows and doors. Otherwise, many trees were uprooted or twisted. Average path width was about 125 yards.



National Weather Service

Storm Data and Unusual Weather Phenomena



June 2004

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons		Estimated Damage		Character of Storm
					Killed	Injured	Property	Crops	

WISCONSIN, Southeast

Sheboygan County 3 SW Beechwood to Beechwood	23	2025CST			0	0			Thunderstorm Wind (EG61)
-----------------------------------------------------------	----	---------	--	--	---	---	--	--	--------------------------

Walworth County 1 S Whitewater to East Troy	23	2025CST 2040CST			0	0			Thunderstorm Wind (EG56)
----------------------------------------------------------	----	--------------------	--	--	---	---	--	--	--------------------------

Ozaukee County 1 N Saukville	23	2028CST			0	0			Hail(0.75)
----------------------------------------	----	---------	--	--	---	---	--	--	------------

Walworth County 7 ENE Whitewater to 3 NNW La Grange	23	2033CST 2034CST	0.7	150	0	0	5K		Tornado (F1)
------------------------------------------------------------------	----	--------------------	-----	-----	---	---	----	--	--------------

This tornado is a continuation of the Jefferson County tornado. Once it crossed the Jefferson/Walworth County line about 7 miles east-northeast of Whitewater, or about 1 mile west of CTH H, this tornado continued east-southeast and dissipated a short time later 3 miles north-northwest of La Grange. Only tree damage was noted. Average path width was about 100 yards.

Milwaukee County .5 W Milwaukee to Cudahy	23	2035CST			0	0			Hail(0.75)
--------------------------------------------------------	----	---------	--	--	---	---	--	--	------------

Waukesha County 3 SW Eagle	23	2038CST			0	0			Thunderstorm Wind (EG56)
--------------------------------------	----	---------	--	--	---	---	--	--	--------------------------

Sheboygan County Hingham	23	2040CST			0	0			Funnel Cloud
------------------------------------	----	---------	--	--	---	---	--	--	--------------

Ozaukee County 5 N Waubeka	23	2045CST			0	0			Thunderstorm Wind (EG56)
--------------------------------------	----	---------	--	--	---	---	--	--	--------------------------

Washington County 1 N Fillmore	23	2052CST			0	0			Thunderstorm Wind (EG52)
------------------------------------------	----	---------	--	--	---	---	--	--	--------------------------

Dane County Oregon	23	2053CST			0	0			Thunderstorm Wind (EG65)
------------------------------	----	---------	--	--	---	---	--	--	--------------------------

Racine County 2 S North Cape to 1 S Wind Pt	23	2055CST 2108CST			0	0			Thunderstorm Wind (MG69)
----------------------------------------------------------	----	--------------------	--	--	---	---	--	--	--------------------------

Ozaukee County Thiensville	23	2059CST			0	0			Funnel Cloud
--------------------------------------	----	---------	--	--	---	---	--	--	--------------

Ozaukee County Thiensville	23	2059CST			0	0	50K		Hail(3.00)
--------------------------------------	----	---------	--	--	---	---	-----	--	------------

Ozaukee County Thiensville to 2 E Mequon	23	2059CST			0	0			Thunderstorm Wind (EG52)
-------------------------------------------------------	----	---------	--	--	---	---	--	--	--------------------------

Racine County Racine	23	2106CST			0	0			Thunderstorm Wind (EG52)
--------------------------------	----	---------	--	--	---	---	--	--	--------------------------

Racine County 4 W North Bay to 1 SE Wind Pt	23	2108CST 2112CST			0	0			Hail(1.00)
----------------------------------------------------------	----	--------------------	--	--	---	---	--	--	------------

Waukesha County New Berlin	23	2130CST			0	0			Thunderstorm Wind (EG56)
--------------------------------------	----	---------	--	--	---	---	--	--	--------------------------



National Weather Service

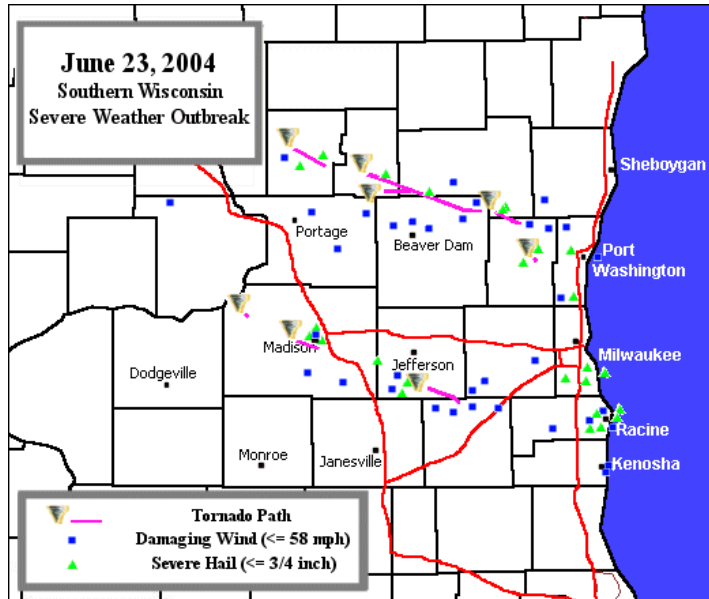
Storm Data and Unusual Weather Phenomena



June 2004

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons Killed	Number of Persons Injured	Estimated Damage Property	Estimated Damage Crops	Character of Storm
----------	------	----------------------------	---------------------------	--------------------------	--------------------------------	---------------------------------	---------------------------------	------------------------------	--------------------

WISCONSIN, Southeast



Two rounds of severe weather affected parts of south-central and southeast Wisconsin on June 23rd, with the second round featuring 8 tornadoes, large hail (up to golf-ball size), and powerful straight-line downburst winds. A warm front moving north through the area resulted in favorable vertical wind shear to allow for supercell development.

The 1st round of severe weather was due to a broken line of intense thunderstorms moving across Walworth, Milwaukee, Racine and Kenosha counties. Hail of up to 1 inch in diameter and torrential rainfall accompanied these storms before they moved over Lake Michigan and weakened. The 2nd round of severe weather was dominated by 2 cyclic supercells - one moved east/southeast through Marquette, Green Lake, Fond du Lac, and Washington Counties, spinning up 5 separate tornadoes, dumping hail stones up to 3 inches in diameter, and hurricane-force downburst winds. The large hail dented several vehicles. Two of these were rated F3. Refer to the individual tornado reports for more details. A more southerly supercell tracked across extreme southern Sauk County and then made a partial right turn and headed southeast through Dane County, spinning up 2 tornadoes in the process, as well as large hail and downburst winds. One powerful downburst wind in Madison (Dane Co.) blew equipment off the roof of a business at the Midvale Shopping Mall. A semi southwest of Ft. Atkinson was blown over by straight-line wind gusts. This southern supercell eventually spun up another tornado in south-central Jefferson County which moved into north-central Walworth County. Refer to the individual tornado reports for more details.

Both supercells had downbursts that generated large hail and powerful, hurricane-force winds north and south of their tracks. Over all of Wisconsin, 16 tornadoes were documented on June 23rd, which is the 4th highest single-day total (record is 24 on May 8, 1988). For south-central and southeast Wisconsin, the 8 tornadoes on June 23rd was tied for the 4th highest single-day total (record is 11 on May 8, 1988).