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Tornado Ready Chicago Team Unveils Public Service Announcement

By Gino Izzi, Senior Forecaster

It has been nearly 23 years since a violent (EF4+) tornado has struck the Chicago metropolitan area, which has averaged a violent tornado about once every ten years. With each passing year without a major tornado most Chicagoans likely grow more complacent about the tornado vulnerability of the region. The more someone thinks that it can't or won't happen here, the less likely they are to take actions to be prepared for when it does happen. Following the destruction and large loss of life other cities experienced from taking direct hits from violent tornadoes in recent years, a team consisting of local television meteorologists, emergency management officials, and National Weather Service meteorologists, assembled with the goal of raising awareness and the preparedness of Chicagoans for tornadoes.

The team's work has focused on a few different projects including: a campaign to get large venues officially sanctioned as StormReady, exploring warning dissemination via IDOT electronic message boards over interstates, and creating a PSA (Public Service Announcement). A media/PSA subcommittee was formed consisting of Andy Avalos (NBC 5 Chicago), David Gervino (Dupage County Emergency Management), Gino Izzi (National Weather Service), Maricela Vazquez (Univision Chicago), Matt Wintz (Lakeshore News Tonight), Phil Schwarz (ABC 7 Chicago), and Ricky Castro (National Weather Service), to work to create a PSA. After several months of meeting and searching for video, the team settled on a script and a message for the PSA. NBC 5 Chicago and Andy Avalos voluntarily donated many hours of work and manpower into creating a professionally produced and attention grabbing PSA. Maricela Vazquez and Univision Chicago then took the PSA and translated the script into Spanish and produced it to reach the Chicago area's large Spanish speaking population.

The PSA has been distributed to all local Chicago television stations to be aired this spring. The National Weather Service Chicago and Dupage County Emergency Management have also used the PSA to promote Illinois Severe Weather Awareness week. The completed PSAs can be viewed on the Illinois Emergency Management web site http://www.ready.illinois.gov, or on National Weather Service Chicago's YouTube page here:

http://www.youtube.com/watch?v=IUZ8YaFQi4U (English version)

http://www.youtube.com/watch?v=S6WXdgo_eIM (Spanish version)

Winter or Summer; A Night and Day Comparison of March 2013 Versus March 2012

By Kevin Birk, Forecaster and Ricky Castro, Meteorological Intern

We all remember March of 2012, when spring to summer-like conditions made a very early return to the area. The month was by far the warmest March on record at both Chicago and Rockford, and was so warm that it actually ranked within some of the warmest Aprils on record. In Chicago, there were a total of 19 days (61 percent) that were 63 degrees or warmer during the month. Notice from table 1 below, which displays the probabilities of exceedance of daily high and low temperatures during March, that typically only ten percent of the time (or about 3 days) does the daily high temperature in Chicago break 63 degrees in March. Similar statistics were noted with the daily low temperatures during the month, with 20 days (65 percent) at or warmer than 40 degrees. Rockford also experienced similar statistics to those in Chicago during March 2012.

Another interesting statistic that indicates how exceptionally warm March 2012 was, is the fact that there were 8 (6) days in which the mercury toped 80 degrees in Chicago (Rockford). Prior to this, there had only been a total of 10 (12) 80+ degree days recorded during the month of March in the entire 100+ year historical record at Chicago (Rockford).

Table 1 Probabilities of exceedance for high and low daily temperatures during March.

March		
Probability of Exceedance	***High Temperature***	***Low Temperature***
10%	63	40
20%	57	36
30%	51	33
40%	48	31
50%	*45*	*29*
60%	*42*	26
70%	39	24
80%	36	21
90%	31	17

So what about March 2013? There were 13 days (42 percent) in Chicago and 20 days (65 percent) in Rockford with high temperatures at or below 36 degrees. Climatology tells us that high temperatures this cold only occur about 20% of the time during March. Similarly, a total of 25 of the 31 days (74%) of the month had high temperatures at or below the median. Aside from the last couple days of the month, in which temperatures climbed above 57 degrees, there were no abnormally warm days. The average temperature for the month was only 32.6 (29.5) degrees in Chicago (Rockford), which was 5.3° (7.7°) below average. These values rank as tied for the 29th coldest March in Chicago and the 11th coldest on record in Rockford. Another interesting fact is that these values make March 2013 colder than December 2012 by 3.5 degrees in Chicago and by 3.9 degrees in Rockford. This is impressive given that the average temperature during December is 10 to 12 degrees colder than the average March temperature. For reference, March 2012 Chicago had a monthly average temperature of 53.5 degrees and Rockford was 52.4 degrees. So we are almost literally experiencing night and day differences this March relative to the March of 2012.

Winter or Summer; A Night and Day Comparison of March 2013 Versus March 2012 (cont)

The big question that arises is why were there such large differences from this March relative to last year? In order to understand this, we have to consider the large scale atmospheric flow pattern across United States and North America, and how this affected the typical March thermal pattern across the country. The top left of figure 1 below displays the typical March temperature pattern in degrees Celsius across the U.S. at 850 mb (~5,000 feet above ground level-AGL). The main thing to notice in this figure is the typical temperature gradient from just below 0 degrees across Northern Illinois (light blue) to the much warmer 6-9 degree temperatures across the lower Mississippi Valley and Gulf Coast states (yellow). The top right of figure 1 below depicts the anomalous lower atmospheric flow pattern during March 2012. Overall, a strong and very persistent area of atmospheric high pressure set up across the eastern United States, likely in association with a positive North Atlantic Oscillation (NAO). This resulted in strong and persistent southerly flow across a large portion of the central United States from the Plains eastward across the Great Lakes region (represented as the arrows in the figure below, shaded colors represent the magnitude of the wind speed anomalies). Due to the prolonged nature of this anomalous flow pattern, the air mass more typical across the Gulf Coast States, shown in the first figure, was transported northward across the Great Lakes region. This resulted in temperatures running 6-8 degrees Celsius above average across the region during March 2012 (lower right figure).

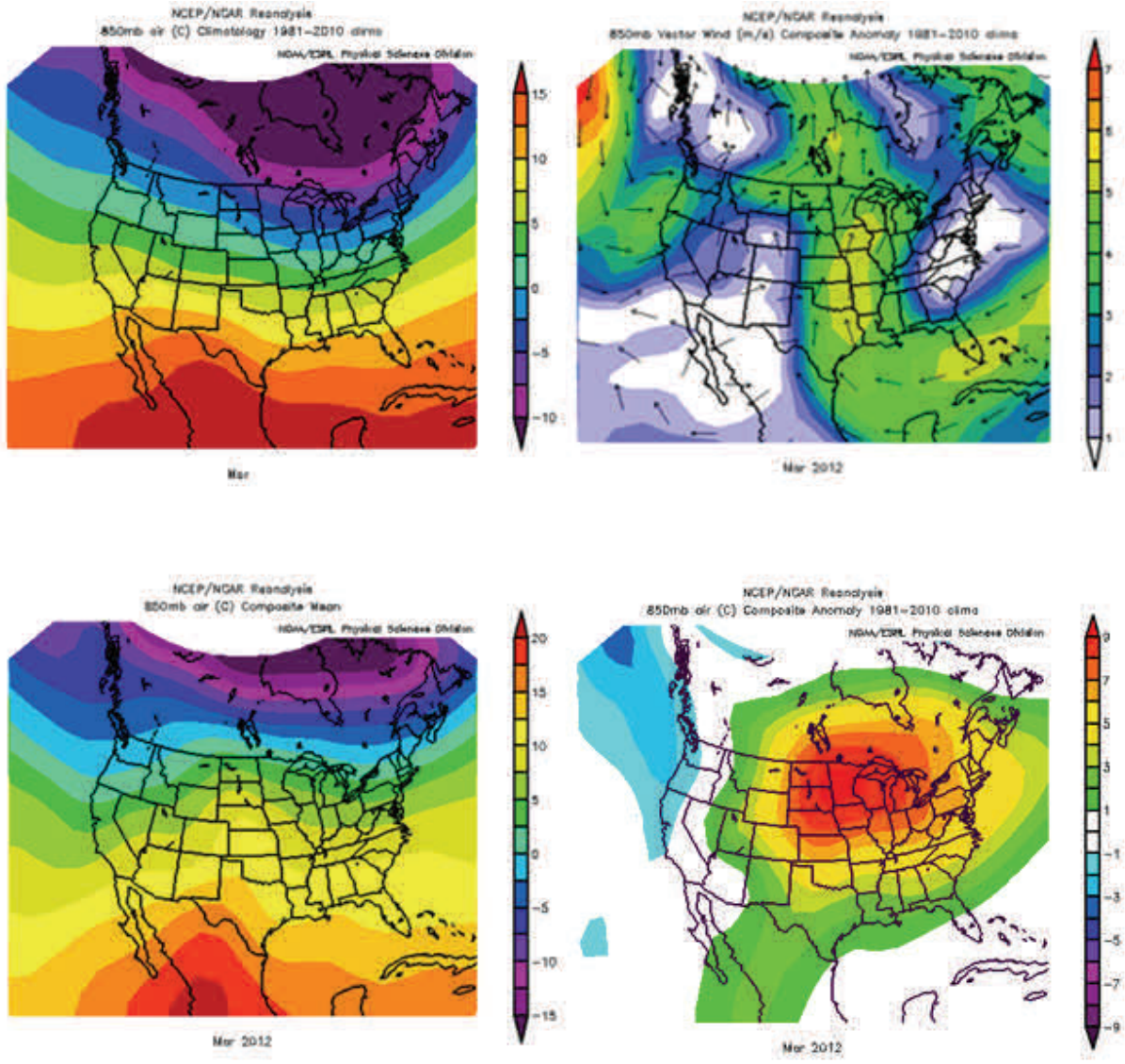


Figure 1. Long term average 850 mb temperatures during the March (top left), 850 mb wind anomalies during March 2012 (top right), March 2012 850 mb temperatures (bottom left), and March 2012 850 mb temperature anomalies (bottom right).

Winter or Summer; A Night and Day Comparison of March 2013 Versus March 2012 (cont)

In stark contrast, in March 2013 the large scale weather pattern across North America was dominated by negative phases of both the Arctic Oscillation (-AO) and North Atlantic Oscillation (-NAO). These oscillations refer to atmospheric pressure anomaly patterns of opposite signs between the high latitudes and the middle latitudes of the Northern Hemisphere. The NAO is similar to the AO, except that it is a measure of these pressure anomaly patterns over the North Atlantic. The top left hand side of figure 2 below displays the atmospheric pressure anomalies across North America for the first 29 days of the March 2013. For comparison, the bottom portion of figure 2 displays the pressure anomalies during March 2012. The warm colors are positive anomalies, while the cool colors are negative anomalies. Notice all of the red colors across the high latitudes of Canada and the Northern Atlantic, with lower pressures confined the mid-latitudes of North America and the Atlantic during March 2013. These are classic signals for a strong negative NAO and AO. These positive height anomalies indicate the presence of high latitude blocking.

This blocking redirects the strength and position of the jet stream from its normal position and becomes favorable for cold air to spill southward across the mid-latitudes, hence resulting in colder than normal conditions across much of the eastern United States, similar to that shown in the top right hand side of figure 2 below. The conditions during March 2012 indicate lower pressures in the high latitudes with higher pressures across the mid-latitudes. This was a strong positive phase of the NAO and AO, and likely contributed to the very warm conditions across the country, with a stronger and farther north jet stream keeping all of the cold trapped up in Canada and Alaska.

Acting in tandem with the positive phase of the AO and NAO in March 2012, also notice on the lower left image in Figure 2 the cold colors stretching from the Pacific Northwest all the way to north of Alaska. This is indicative of much lower than normal atmospheric pressures over this region and is a key feature in the temperature regime over our area during the cool season. Low pressures in the vicinity of Alaska, similarly to the positive phase of the AO and NAO, also prevent very cold air from dropping southward from the coldest locations in the Northern Hemisphere, Siberia and the Arctic.

On the other hand, higher pressure setting up near Alaska allows for what is known as cross polar flow, in which true Arctic air masses plunge southeastward toward southern Canada and the US. This is often is a precursor to significant outbreaks of cold in our region. While this wasn't a persistent feature in March 2013, the fact that pressures were closer to normal near Alaska, along with an extremely negative AO and negative NAO, enabled the cold pattern for much of the month. On the other hand, the very low pressures near Alaska, and the positive AO and NAO in March 2012 certainly were a contributor to the unprecedented warmth. Furthermore, the lower pressures near Alaska were commonplace during the very warm winter of 2011-2012 and also contributed to the very warm conditions in December 2012 despite a predominantly negative AO that month.

Winter or Summer; A Night and Day Comparison of March 2013 Versus March 2012 (cont)

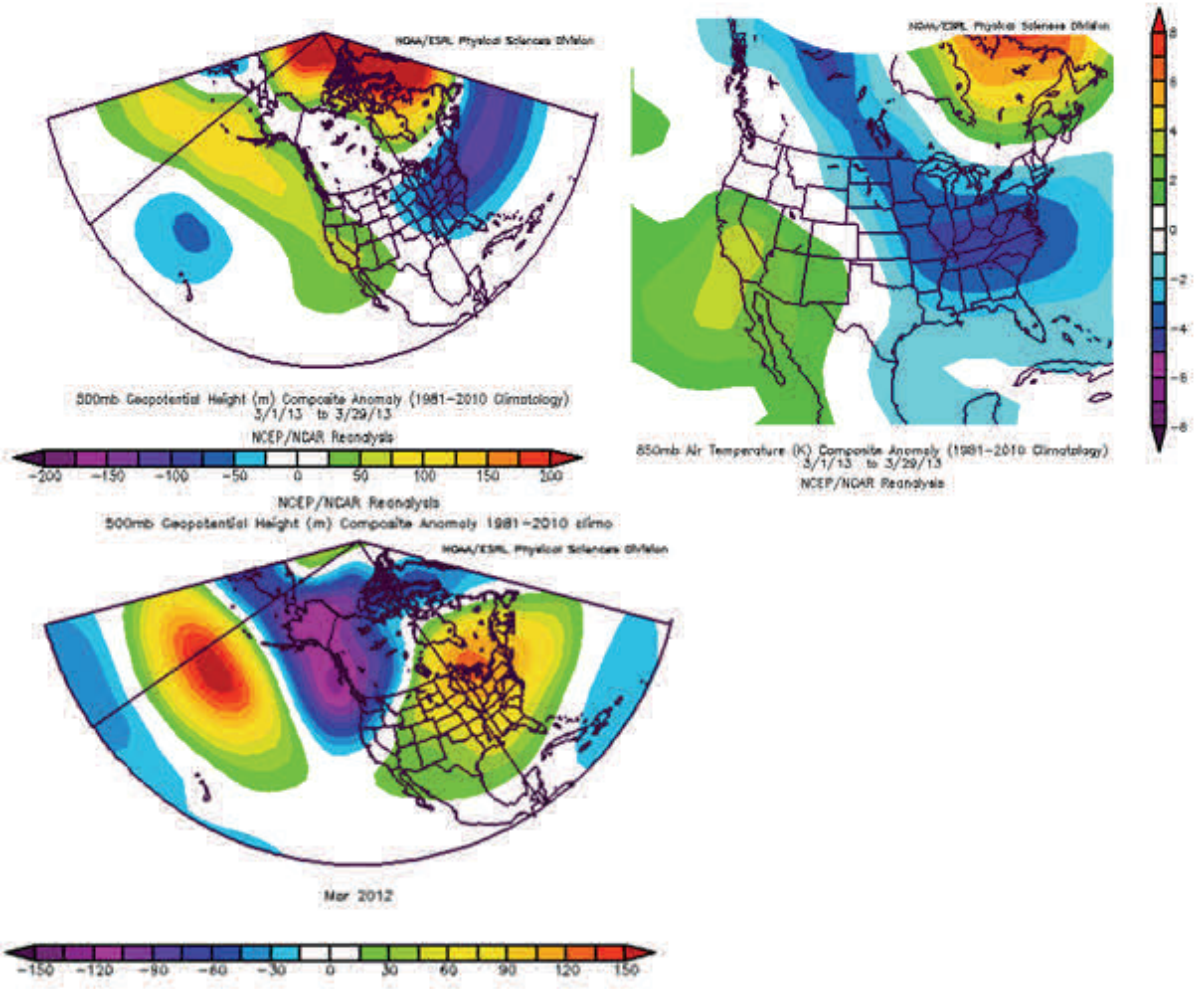


Figure 2.

Figure of the 500 mb height anomalies during March 1-29th 2013 (top left), 850 mb temperature anomalies March 1-29th 2013 (top left), and 500 mb height anomalies during March 2012 (bottom).

The strength and position of the upper level jet on the large scale largely dictates the type of weather conditions that will be experienced during the cold season. In the cases of March 2012 and 2013, we experienced large differences with nearly opposite large scale jet stream configurations across North America, and as a consequence the weather experienced across the area was also very different. These two particular years illustrate that variability from year to year and even from month to month can be extremely high, especially during the cold season. The large scale weather pattern can lock into given patterns and persist for several weeks to more than a month. Thus weather patterns favored for warm or cold conditions can persist for extended periods of time, leading to either abnormally warm or cold conditions. Unfortunately, due to some of the complex interactions that take place to set up these persistent large scale patterns, long range seasonal forecasting with long lead times is difficult. However, once these patterns set up, forecaster confidence with extended forecasts increases above what it might be otherwise.

Winter or Summer; A Night and Day Comparison of March 2013 Versus March 2012 (cont)

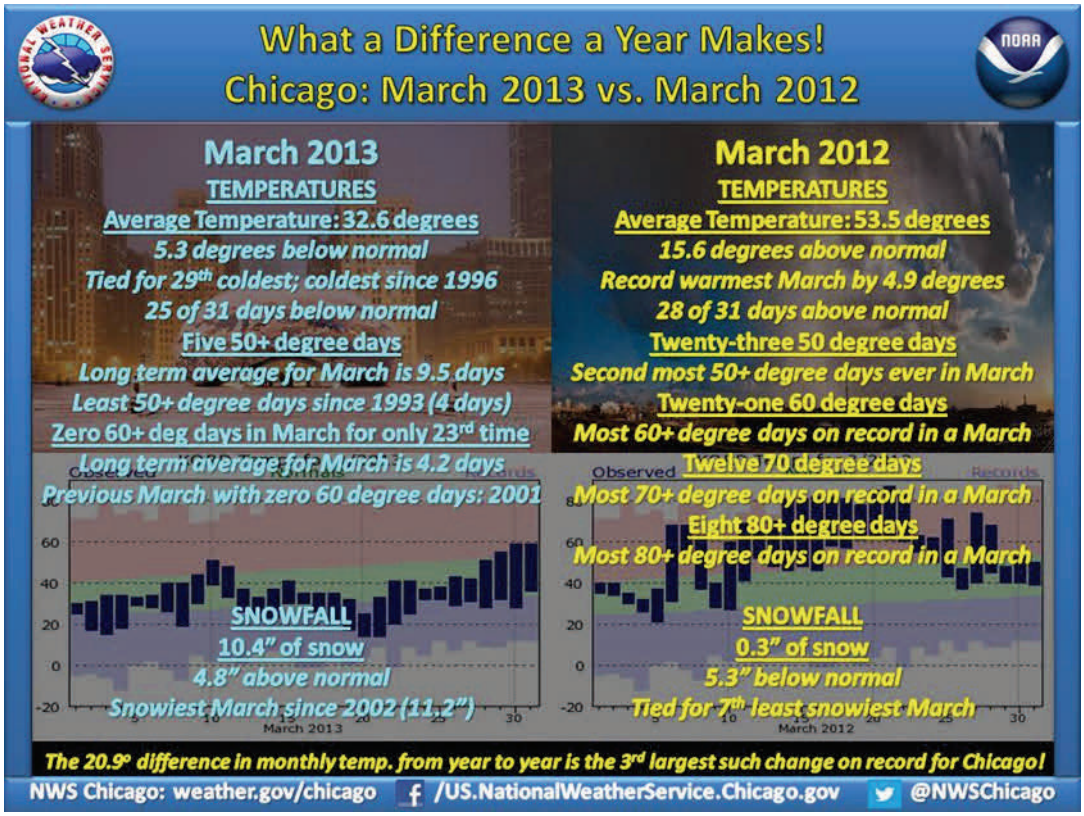
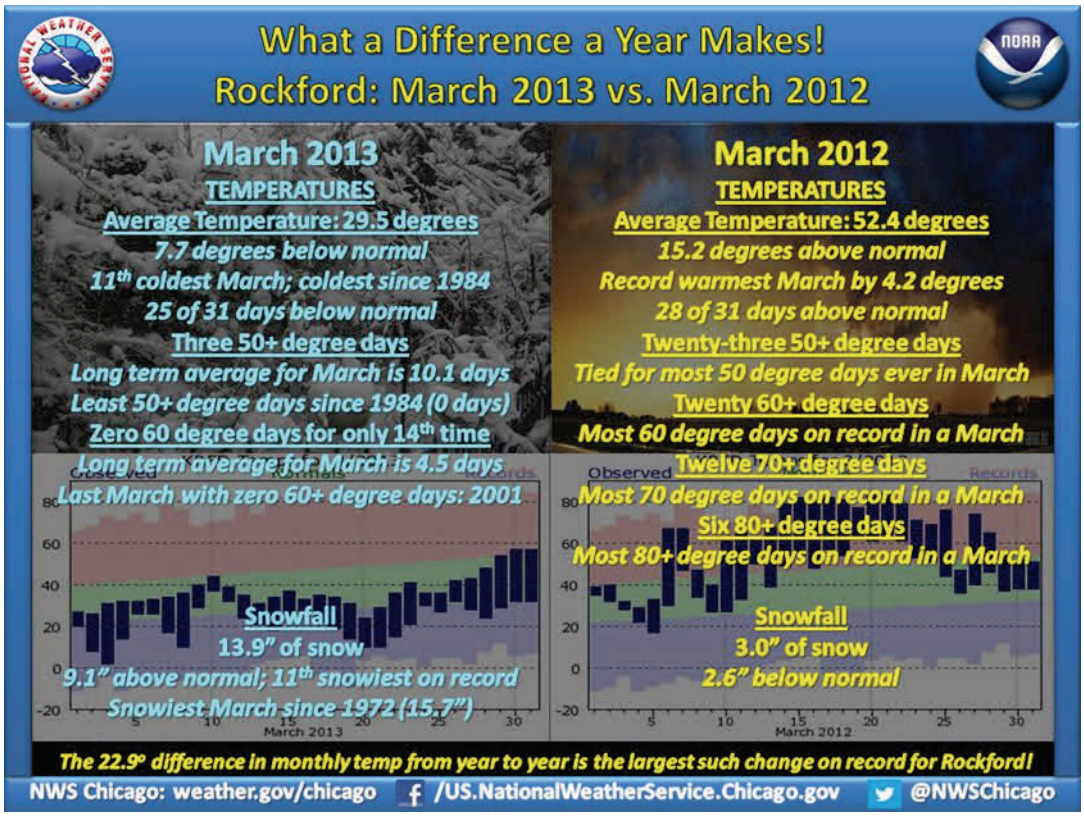


Figure 3: Comparing March '13 vs. March '12 in Chicago (top) and Rockford (bottom)



Winter or Summer; A Night and Day Comparison of March 2013 Versus March 2012 (cont)

For more on March 2012 and March 2013, go to:

Reflecting on the Historic & Unprecedented Warmth of March 2012- One Year Later,

What a Difference One Year Makes! and **March 2013 Climate Summary; No 60° Temperatures**

Violent, Long-Tracked Tornado Struck Kankakee County and Northwest Indiana 50 Years Ago

By Jim Allsopp, Warning Coordination Meteorologist

ntroduction

April 17, 1963 was a warm, humid, and breezy spring day. Farmers were busy preparing fields for spring planting, kids arriving home from school were anxious to go out and play. Around 330 PM a tornado developed near a gravel pit northwest of Essex in northwest Kankakee County, Illinois. Nearly 2 hours later, and 70 miles away, the tornado finally dissipated just north of Medaryville in Pulaski County, Indiana. In its wake was a continuous path of damage, which left a young mother dead, and 70 people injured. The hardest hit areas were Bourbonnais and Exline in Kankakee County, Illinois and the small farming community of Gifford in Jasper County, Indiana. The path width of the tornado varied from 10 yards to 500 yards but averaged 100 yards. There was $3 million dollars in damage in 1963 dollars. That would be the equivalent of $22.5 million in 2013. This was one of the most powerful and long-tracked tornadoes to ever occur in northeast Illinois or northwest Indiana.

Photo of tornado taken by an Illinois State Trooper from Momence. Photo courtesy of Olivet Nazarene University Archives Department

Violent, Long-Tracked Tornado Struck Kankakee County and Northwest Indiana 50 Years Ago (cont)

Tornado Documentation and Records

National Weather Service has a good record of tornadoes going back to 1950. There is incomplete data, mostly about killer tornadoes and especially destructive tornadoes, going back to 1916. Tom Grazulis' *Tornado Project* documents significant tornadoes (tornadoes rated F2 or greater, and/or tornadoes that caused fatalities or at least 10 injuries) for the local area back to the mid-1800s. Today, tornadoes are documented more thoroughly and most tornado damage paths are surveyed. There was a lot more variability in the way tornadoes were surveyed or documented in the past. The U.S. Weather Bureau did perform a damage survey of the 1963 tornado on April 18 and 20. The damage survey lists the tornado as having a 57 mile path. However, Dr. Fujita of University of Chicago and Joe Goldman of the Severe Storms Research Project of University of Illinois also surveyed the tornado's path and determined there was continuous damage for 70 miles.

Fujita later went on to develop the F scale for rating a tornado's damage. It was adopted by the National Weather Service in 1973. The scale was then applied to all tornadoes, retroactively, back to 1950. Ratings were somewhat subjective based on pictures, damage reports, and newspaper accounts. The Kankakee-Medaryville tornado was rated F4 with winds estimated 207 to 260 mph. In 2007, the F scale was revised by a group of wind engineers and tornado damage experts. On the Enhanced Fujita (EF) scale, an EF4 tornado would produce winds of 166 to 200 mph.

Since 1950, there have only been 9 other tornadoes over northeast Illinois and/or northwest Indiana that have been rated F4 or greater. Because most tornadoes were not thoroughly surveyed in the past, and the concept of cyclic tornadoes was not well understood, some tornadoes that are listed as having long damage paths may have actually been multiple tornadoes, known as cyclic tornadoes, with breaks in the damage. But the 70 mile path from Essex to Medaryville would, without a doubt, be one of the longest continuous damage paths ever to occur in the local area. Only one tornado had both an F4 rating and a longer damage path. That tornado was part of the April 3, 1974 Superoutbreak. It began in Benton County, Indiana, ripped through Monticello and ended near Oliver Lake in LaGrange County, Indiana. It had a damage path of 108.7 miles. Looking back before 1950, there was an F4 tornado (rated by Grazulis) on April 7, 1948 which traveled from near Manteno in Kankakee County to Hebron in northern Jasper County. It was a multiple vortex tornado which killed 4 and injured 40 along a 40 mile path.

Northeast Illinois and northwest Indiana's most powerful tornadoes since 1950

Location	Date	F/EF scale	Path Length (mi)	Path Width (yd)	Killed	Injured
Kankakee-Medaryville	4/17/1963	F4	70	500	1	70
Crystal Lake	4/11/1965	F4	9.1	400	6	75
Belvidere	4/21/1967	F4	25.5	1200	24	450
Lake Zurich	4/21/1967	F4	8.8	150	1	100
Oak Lawn	4/21/1967	F4	15.0	200	33	500
North Chicago	9/18/1972	F4	5.2	220	0	20
Monticello, IN	4/3/1974	F4	108.7	1760	18	285
Deep River-Michigan City, IN	3/12/1976	F4	25	200	0	7
Lemont	6/13/1976	F4	3.3	1760	2	23
Plainfield	8/28/1990	F5	16.4	600	29	350

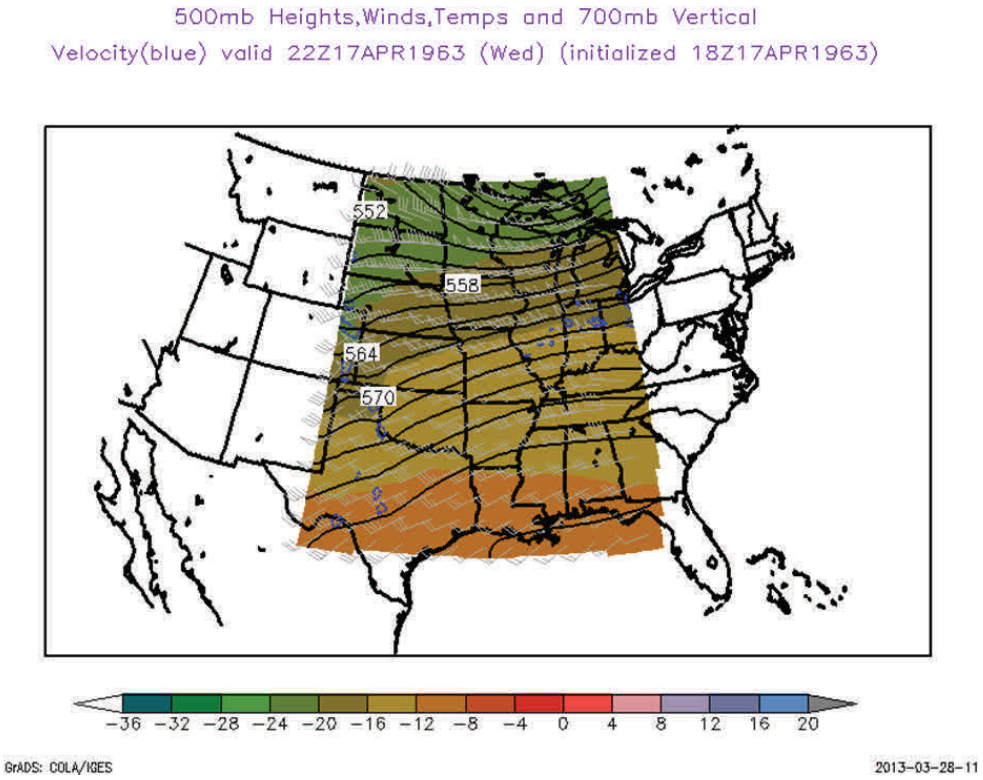
Violent, Long-Tracked Tornado Struck Kankakee County and Northwest Indiana 50 Years Ago (cont)

Sequence of photos taken by Joseph Hlousek, 1 to 11/2 minutes apart from 416 PM to 430 PM. Courtesy Kankakee County Historical Society.

Meteorology

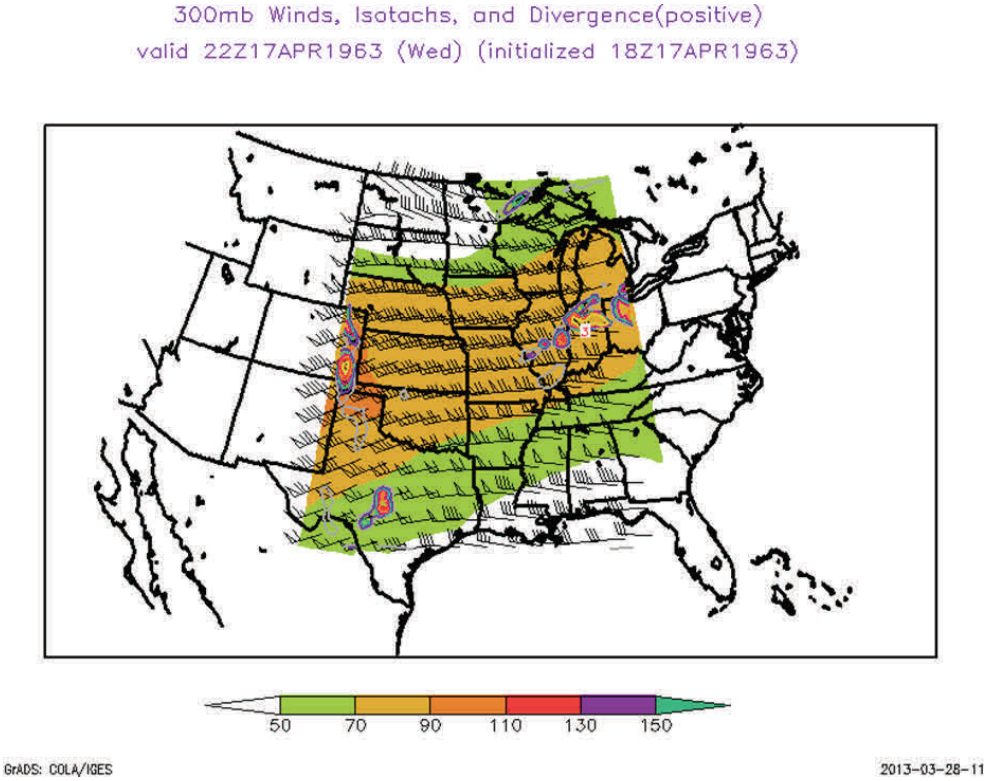
Using local Weather Research and Forecasting (WRF) models, meteorologists are able to generate simulated weather maps for past events. The 600 AM CST (12Z) April 17, 1963 data was used to generate a WRF model run for various parameters and various times throughout the day.

Violent, Long-Tracked Tornado Struck Kankakee County and Northwest Indiana 50 Years Ago (cont)



At 500 mb, or roughly 18,000 feet, broad ridge of high pressure was over the southeast part of the country and a strong area of low pressure was over Hudson Bay. A short wave trough was moving through the western Great Lakes during the afternoon of April 17.

500 mb map for 400 PM CST

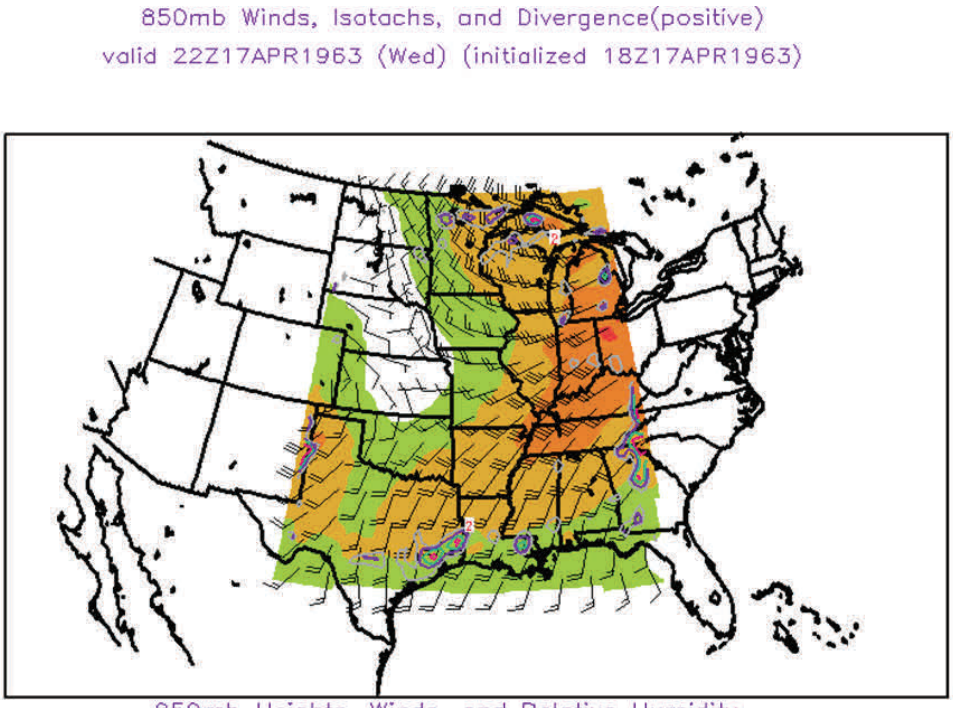


In the upper atmosphere, at 300 mb, (roughly 30,000 feet) a strong west-southwesterly jet stream in excess of 70 knots was over the Midwest. Winds aloft were divergent over east central Illinois and northern Indiana, with west-southwesterly winds over the Great Lakes and winds turning west-northwesterly over the Ohio and Tennessee Valleys. This pattern would induce upward vertical motion which would aid in thunderstorm updraft strength.

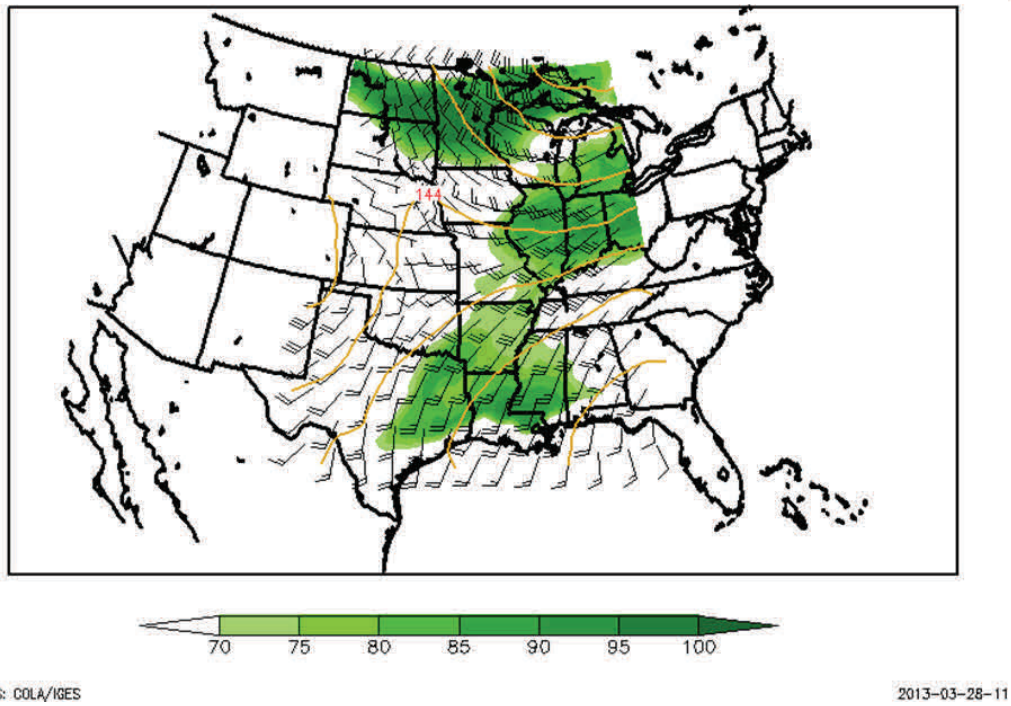
300 mb map for 400 PM CST

Violent, Long-Tracked Tornado Struck Kankakee County and Northwest Indiana 50 Years Ago (cont)

At 850 mb (around 5000 ft) a strong, warm, moist southwesterly flow in excess of 35 knots was present from the Ohio Valley into the Lower Great Lakes.



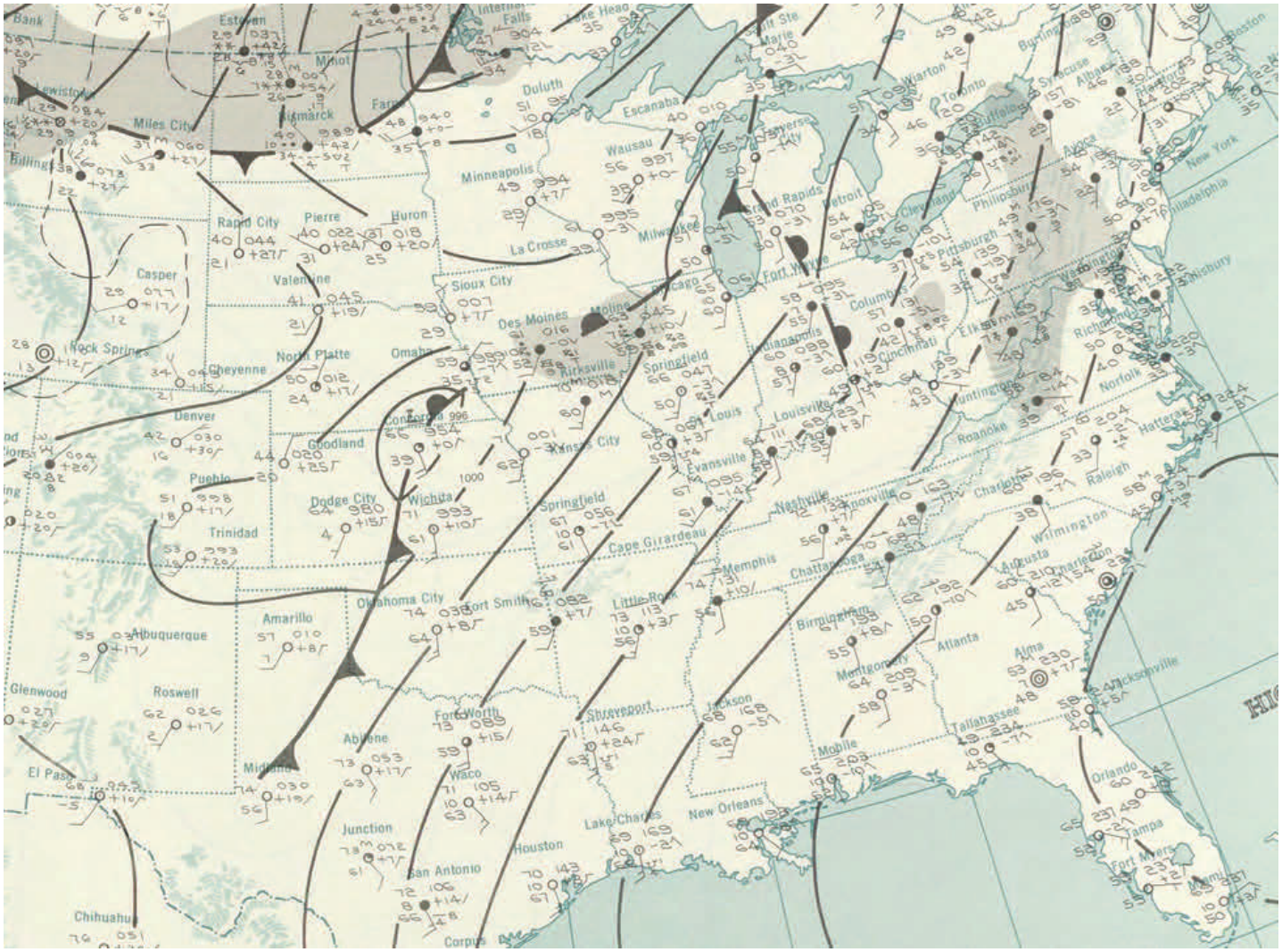
850 mb winds at 400 PM CST



850 mb relative humidity at 400 PM CST

Violent, Long-Tracked Tornado Struck Kankakee County and Northwest Indiana 50 Years Ago (cont)

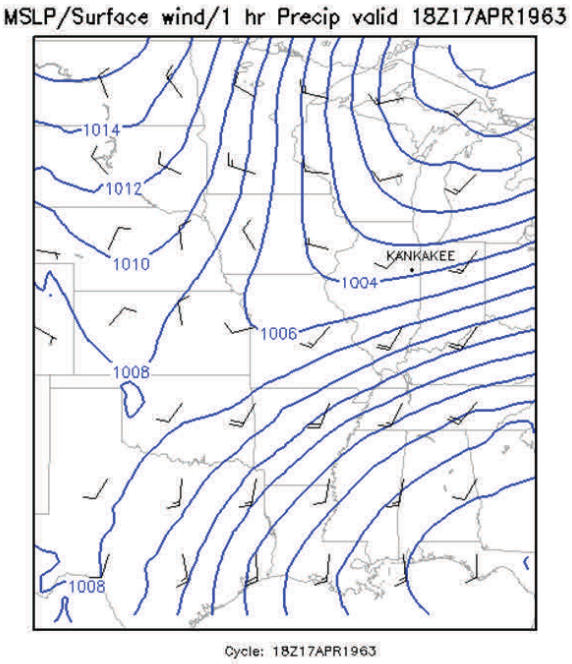
At the surface, a weak wave of low pressure was over Iowa at midnight with very humid air streaming up the Mid-Mississippi River Valley into northern Illinois and northwest Indiana along and ahead of a nearly stationary front. Dew point temperatures were already near 60F. A stronger low was over James Bay, Ontario, Canada.



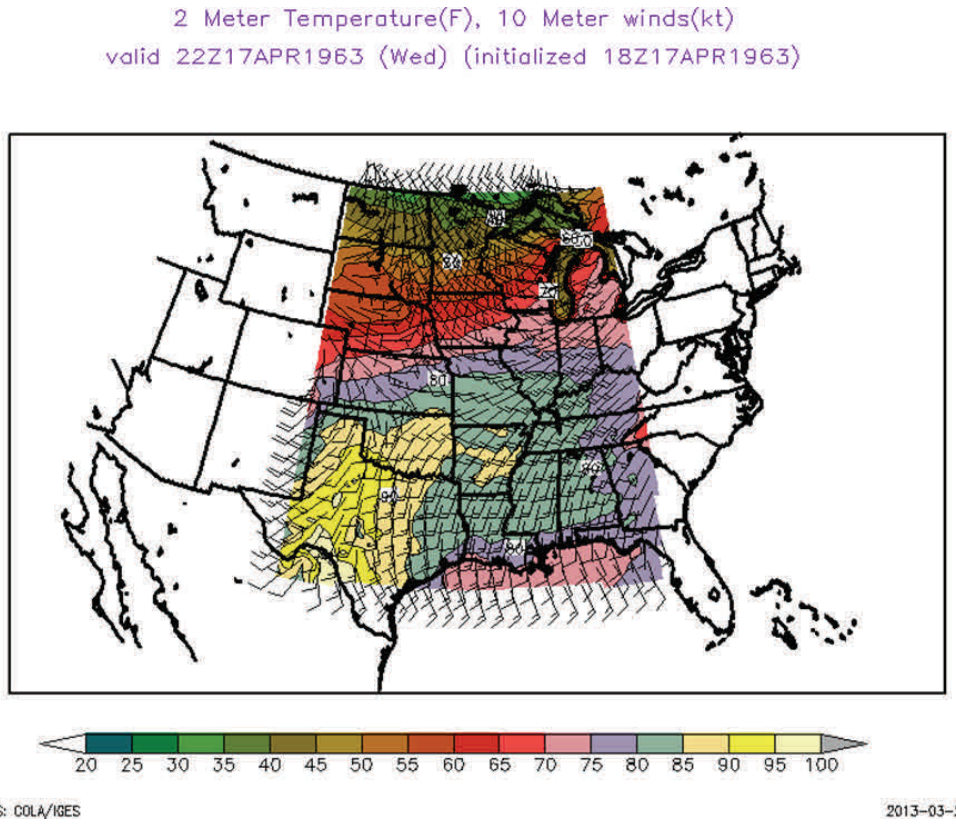
Surface map at 1200 Midnight CST

Violent, Long-Tracked Tornado Struck Kankakee County and Northwest Indiana 50 Years Ago (cont)

By afternoon, the front was slipping south through northern Illinois and northwest Indiana. Temperatures were in the low to mid 70s and dew point temperatures were in the low to mid 60s. The model was indicating that precipitation would be breaking out ahead of the front, from central Illinois to southeast Lower Michigan.

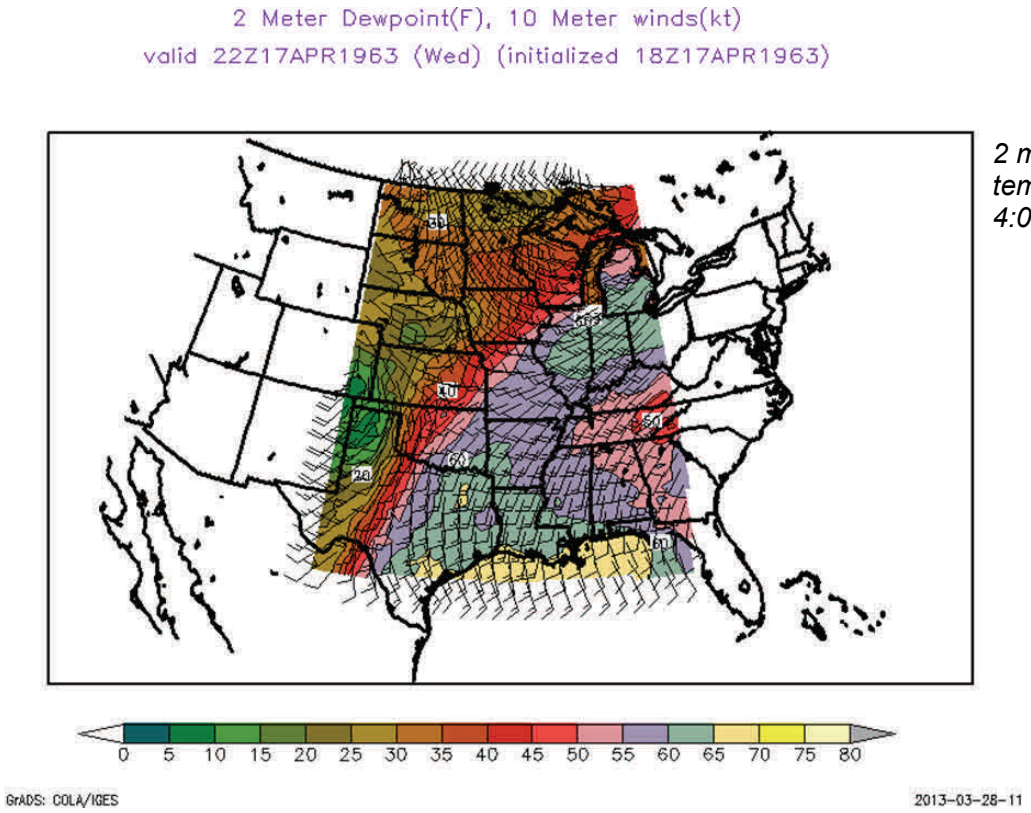


Surface map at noon CST

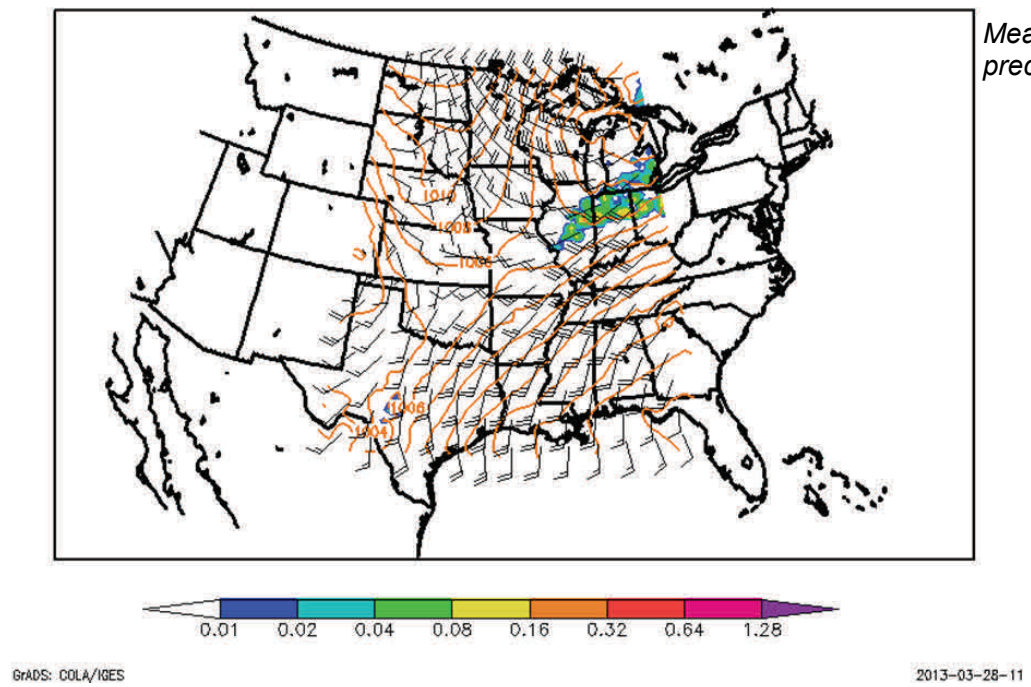


2 meter temperatures and 10 meter winds at 400 PM CST

Violent, Long-Tracked Tornado Struck Kankakee County and Northwest Indiana 50 Years Ago (cont)



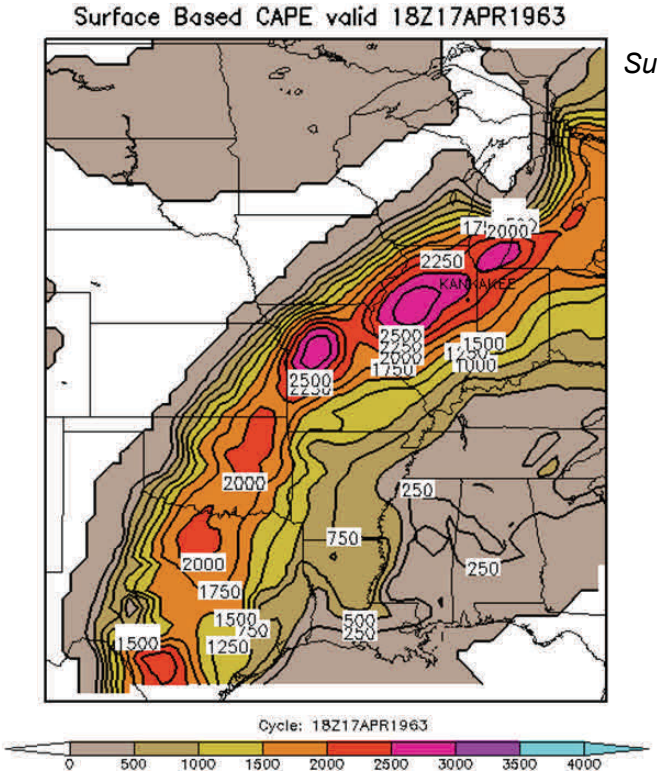
2 meter dew point temperatures and winds at 4:00 PM CST.



Mean sea level pressure and precipitation at 400 PM CST

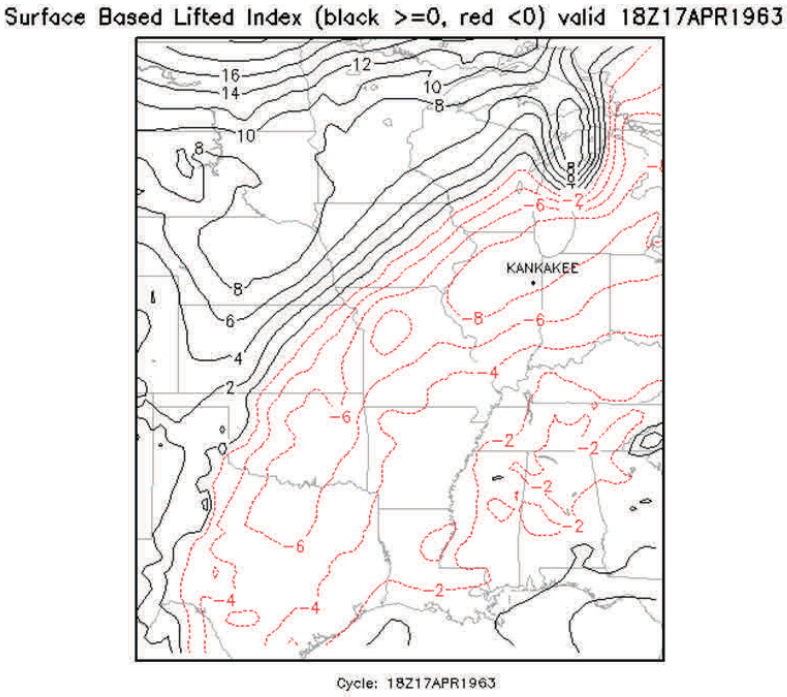
Violent, Long-Tracked Tornado Struck Kankakee County and Northwest Indiana 50 Years Ago (cont)

Tornadoes are favorable when a combination of strong instability, rich low level moisture and strong wind shear is present. Convective Available Potential Energy, or CAPE, is a good measure of instability, and an indicator of potential for strong updrafts in thunderstorms. Surface based CAPE was in excess of 2000 J/kg by mid afternoon. Another measure of instability is lifted index. Negative values are favorable for thunderstorms. Values were in excess of -8C by mid afternoon, which indicates very strong instability. In fact, a model generated sounding indicated CAPE of more than 5000 J/kg and LI of -14 by late afternoon, although the model sounding's surface dew point in the lower 70s may not be realistic. Low Lifted Condensation Level (LCL) heights indicate good low level moisture. LCLs below 750 meters are favorable for tornadoes. Strong wind shear, in both the low levels and through a deeper layer, is favorable for rotating storms and tornadoes. Wind shear is a change in wind speed and/or direction with height. Low level (0-1km) shear was 25-30 knots, which is very strong, and shear from surface to 6 km was in excess of 60 knots, also very strong. Another measure of wind shear and the potential for rotating storms is Storm Relative Helicity (SReH) through the layer from 0 to 3 km. SReH in a model generated sounding for Kankakee in the early afternoon was 247 m/s^2, which is extremely strong.

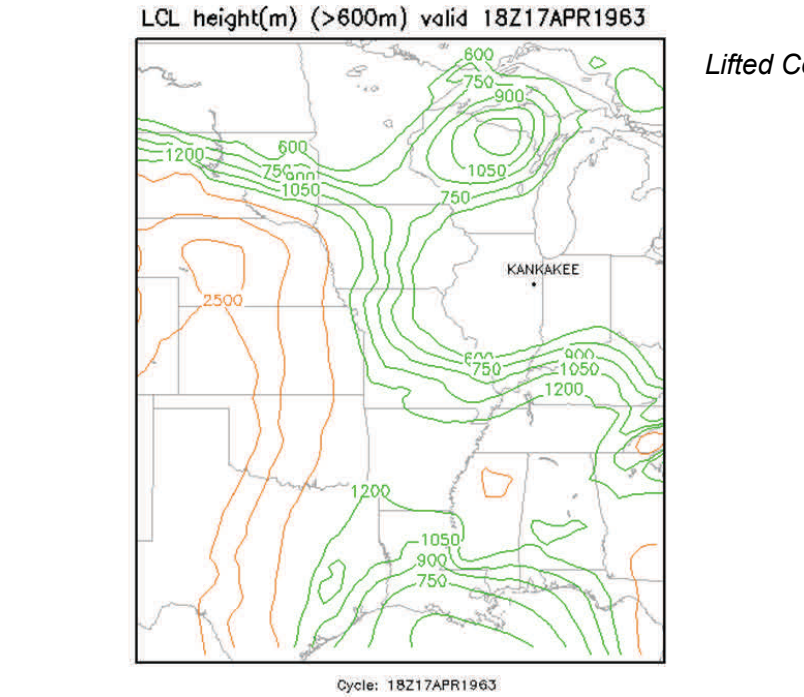


Surface based CAPE at noon CST

Violent, Long-Tracked Tornado Struck Kankakee County and Northwest Indiana 50 Years Ago (cont)

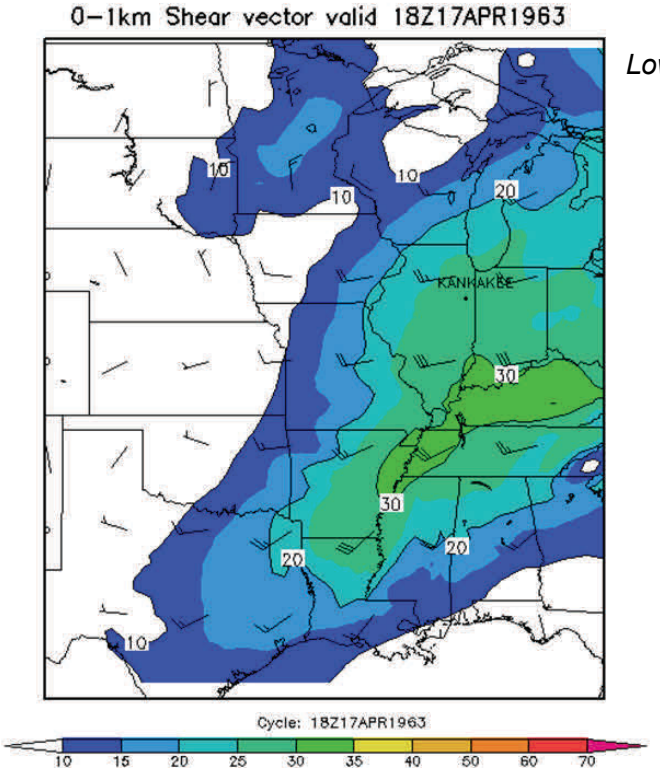


Surface based lifted index at noon CST

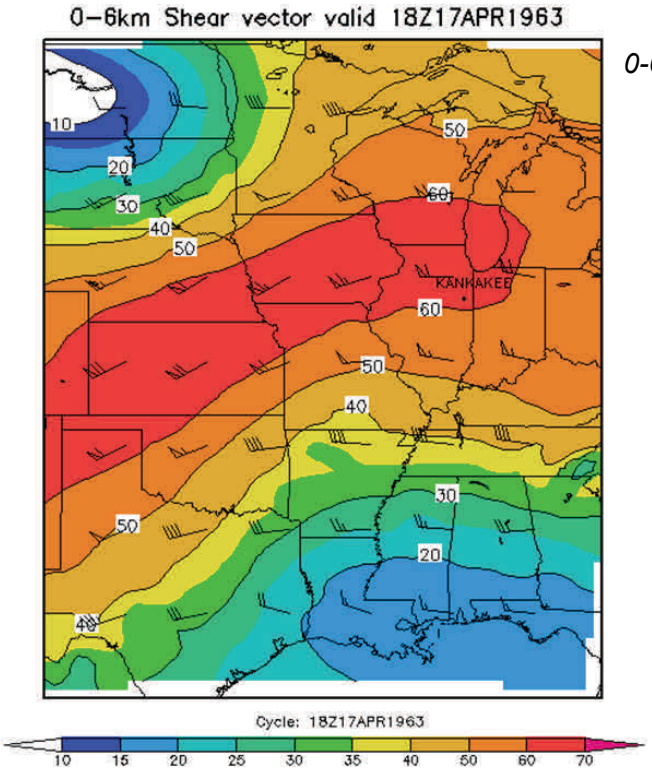


Lifted Condensation Level height at noon CST

Violent, Long-Tracked Tornado Struck Kankakee County and Northwest Indiana 50 Years Ago (cont)

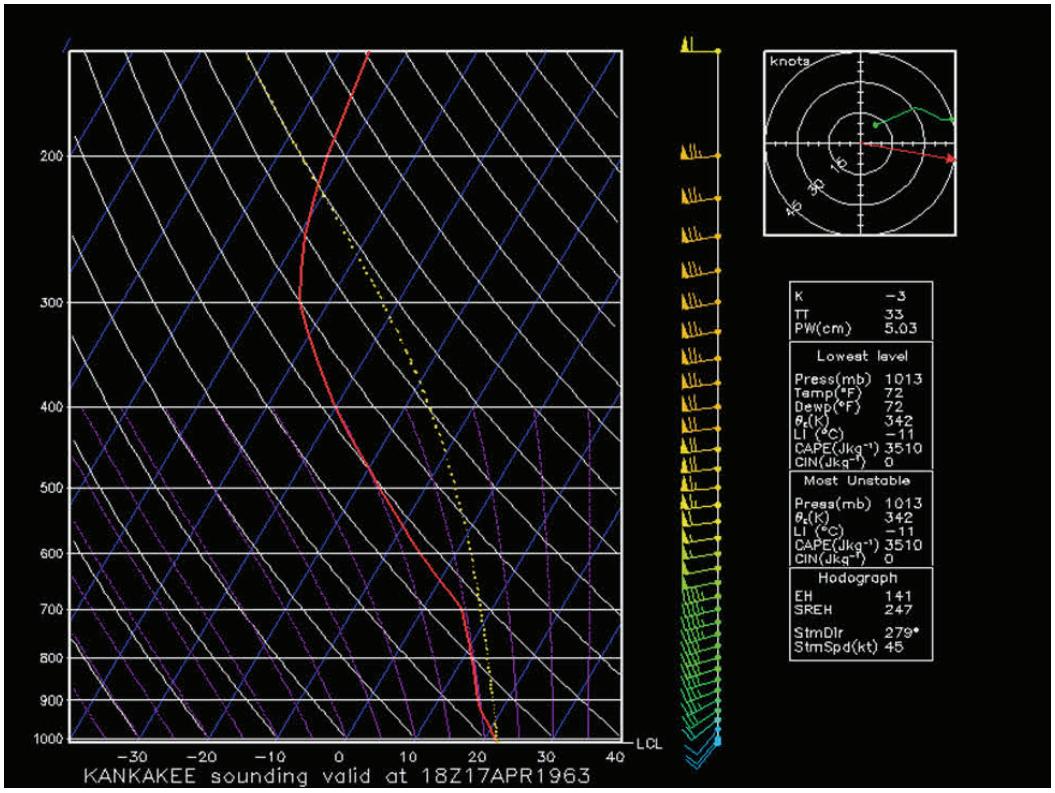


Low level (0-1km) wind shear at noon CST

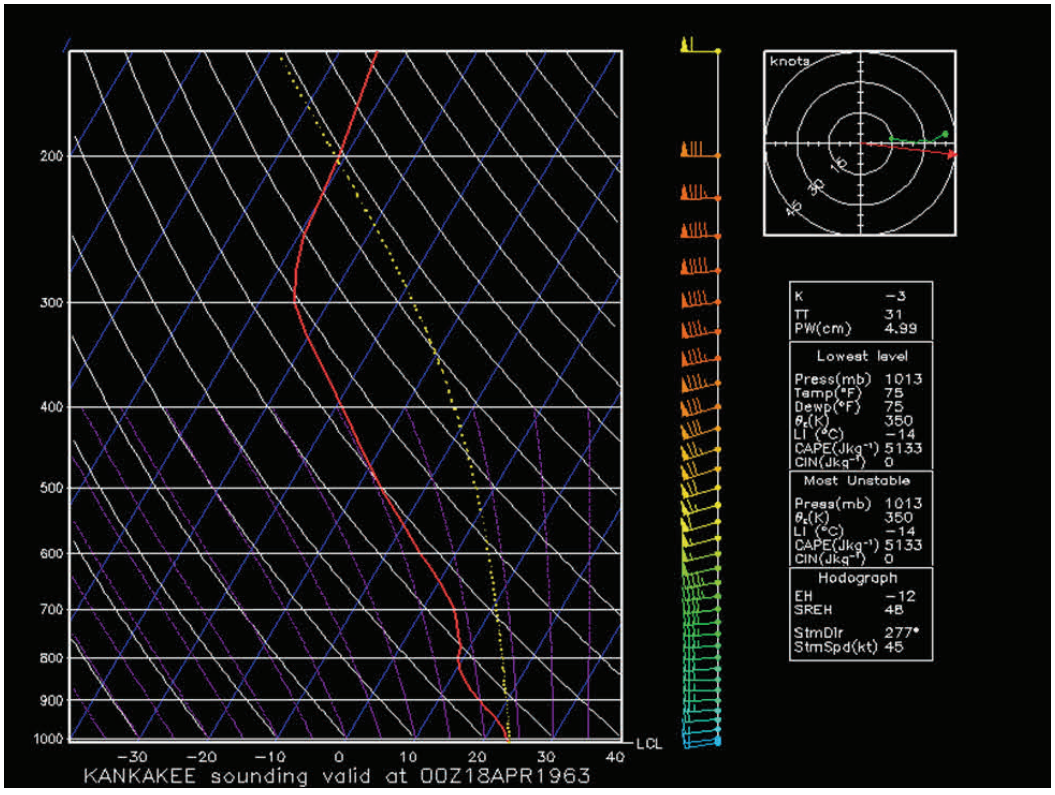


0-6km wind shear at noon CST

Violent, Long-Tracked Tornado Struck Kankakee County and Northwest Indiana 50 Years Ago (cont)



Model generated sounding at noon CST at Kankakee



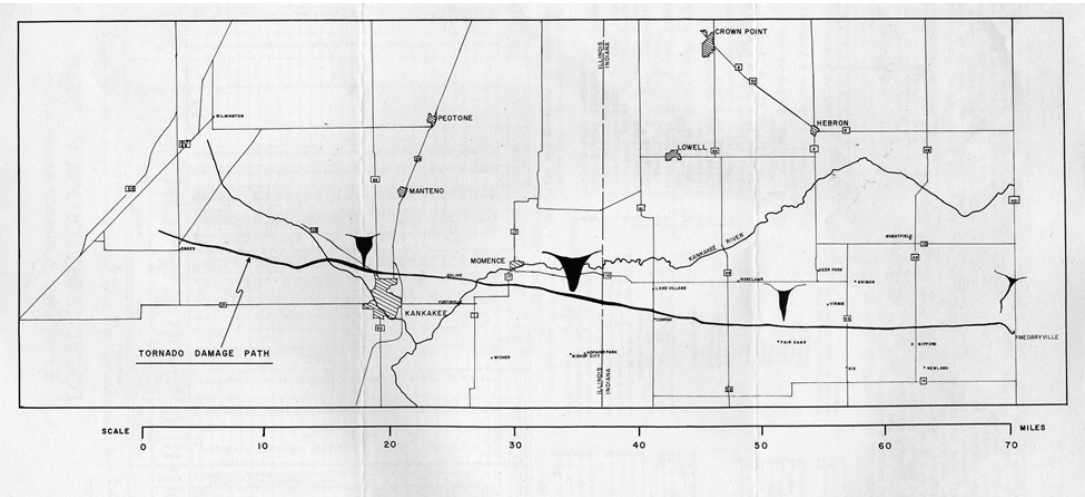
Model generated sounding for Kankakee at 600 PM CST

Violent, Long-Tracked Tornado Struck Kankakee County and Northwest Indiana 50 Years Ago (cont)

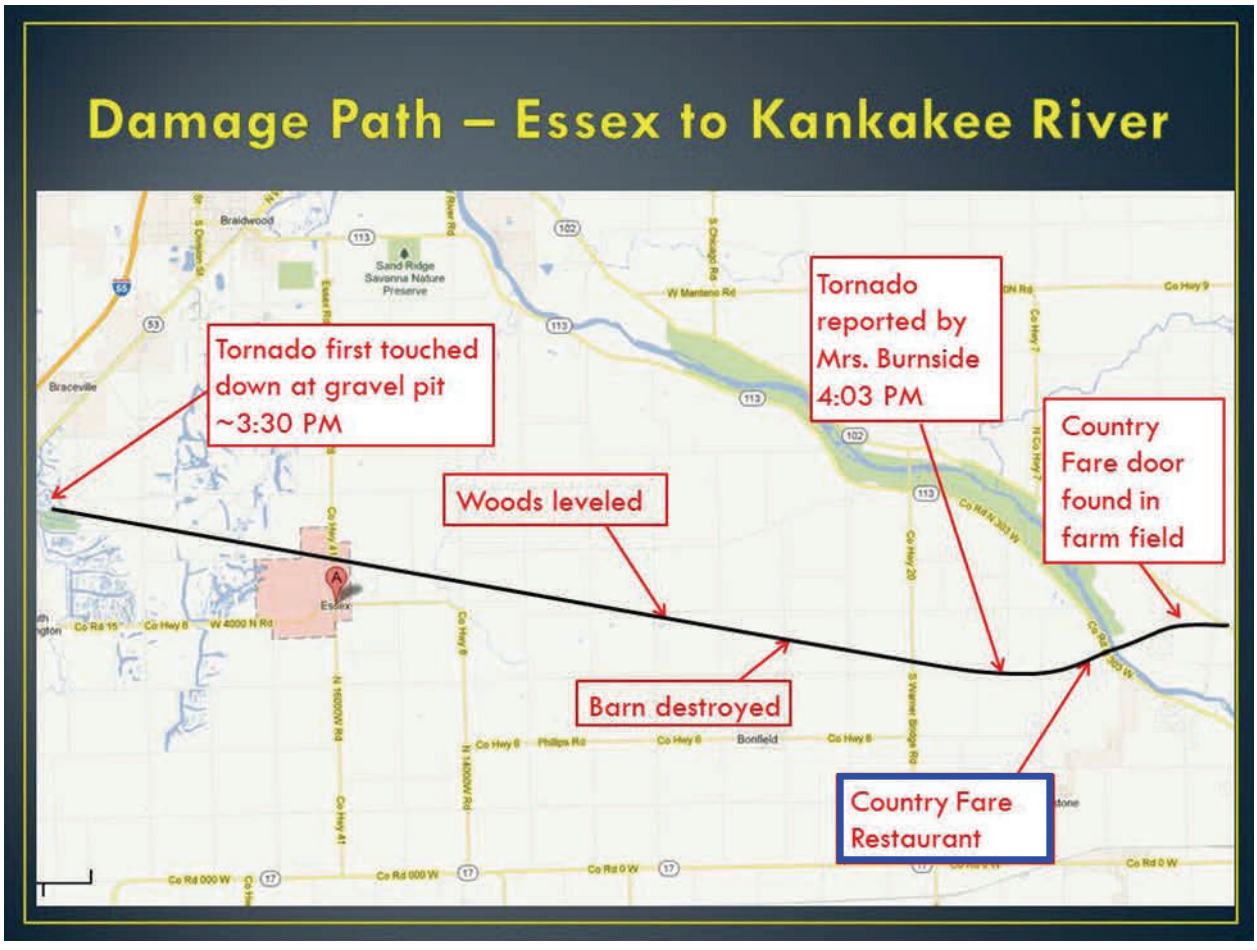
In summary, a number of parameters favorable for strong, rotating thunderstorms and tornadoes came together over northern Illinois and northern Indiana during the afternoon of April 17, 1963, leading to the development of a long-lived, tornadic supercell storm.

Tornado Damage Path

By 230 PM strong thunderstorms were developing along a line from Ottawa to Chicago, some producing hail and strong winds. At 330 PM, about the time the tornado was developing near Essex, 1 ½ to 2 inch diameter hail was reported near 111th and Halsted on the south side of Chicago.



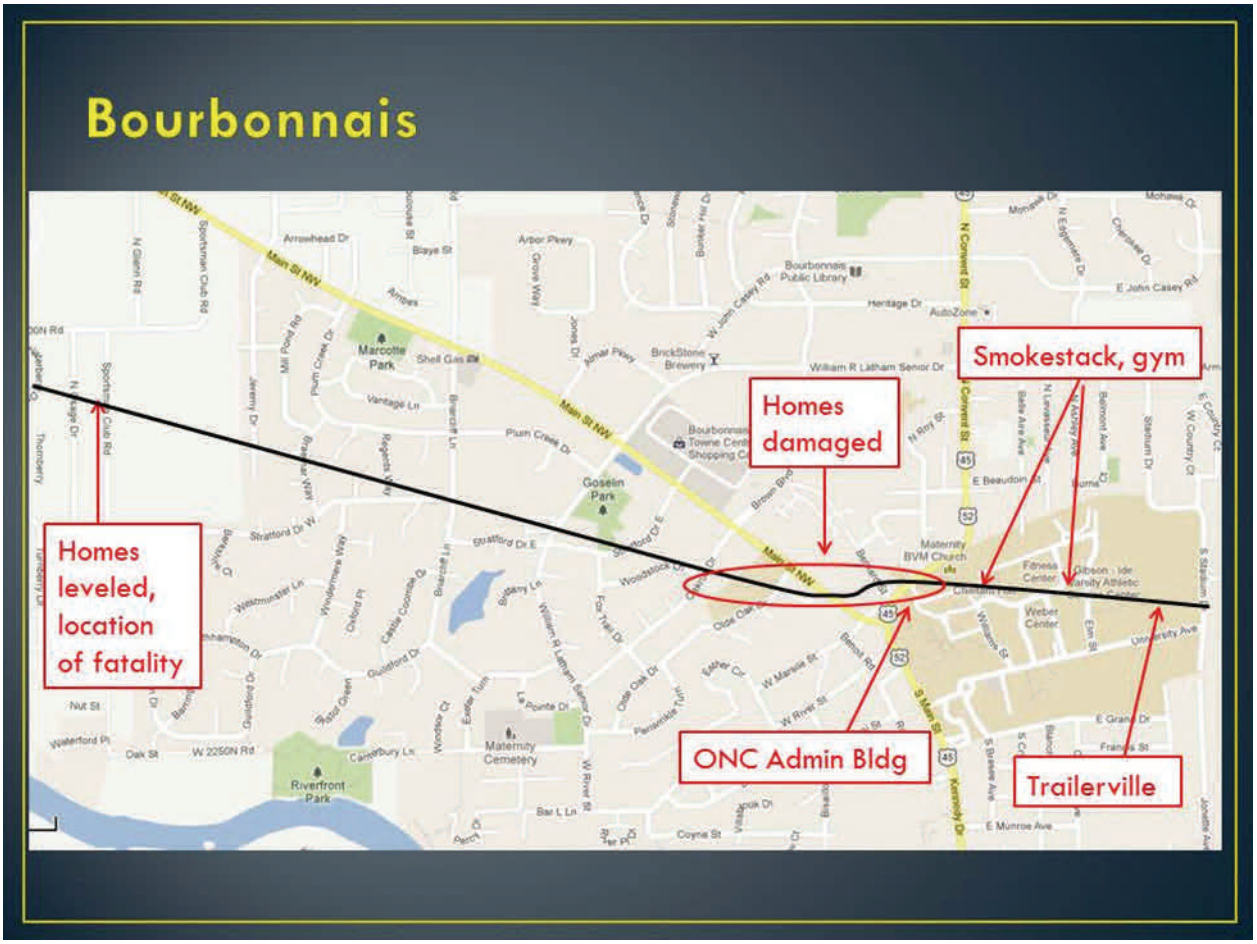
Map of tornado damage path by Fujita and Goldman



Violent, Long-Tracked Tornado Struck Kankakee County and Northwest Indiana 50 Years Ago (cont)

The funnel was first observed near a gravel pit 6 miles west of Essex around 330 PM. The condensation funnel may not have been completely visible initially, as there were reports of just a funnel cloud, or tornado touching down then lifting back up. The funnel was later reported by a weather observer thirteen miles west of Kankakee or three miles northwest of Bonfield at 355 PM. The observer later reported the tornado on the ground six miles west of Kankakee at around 403 PM. Between Essex and the Kankakee River, damage was mostly barns destroyed, houses damaged, and trees downed. A wooded area was leveled near County Roads 4000N and 11000W. A barn was destroyed near 9000W and 4000N.

The tornado had been moving on a course of 110 degrees, or just south of due east. It turned northeast briefly as it crossed the Kankakee River, possibly due to effects of terrain. It hit the Country Fare restaurant on Route 113, along the west side of the Kankakee River. A farmer found the front door of the Country Fare in his field, on the east side of the river. After crossing the river the tornado once again moved east southeast.



Violent, Long-Tracked Tornado Struck Kankakee County and Northwest Indiana 50 Years Ago (cont)

Scan of Sportsman—Kankakee Daily Journal

Bernard St —Mary Ann Kirsch

Bernard St —U.S. Weather Bureau

Bernard St —U.S. Weather Bureau

Bernard St —Mary Ann Kirsch

Bernard St —Mary Ann Kirsch

Main St —Mary Ann Kirsch

Main St —Mary Ann Kirsch

Main St —Mary Ann Kirsch

Main St, view of Admin Building—Mary Ann Kirsch

Main St, view of Admin Building—Mary Ann Kirsch

Main St—U.S. Weather Bureau

Marsile, between Main and Bernard —Mary Ann Kirsch

Marsile, between Main and Bernard —Mary Ann Kirsch

Marsile, Rt 45 —Mary Ann Kirsch

Violent, Long-Tracked Tornado Struck Kankakee County and Northwest Indiana 50 Years Ago (cont)

Marsile, Rt 45—Mary Ann Kirsch

Marsile, Rt 45—Mary Ann Kirsch

Maternity DMV Church—Mary Ann Kirsch

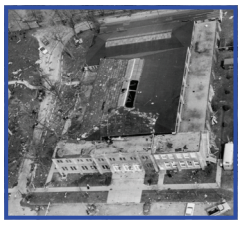
Maternity DMV Church—Mary Ann Kirsch

Olivet Nazarene College—Mary Ann Kirsch

Olivet Nazarene College—Mary Ann Kirsch

Olivet Nazarene College—Mary Ann Kirsch

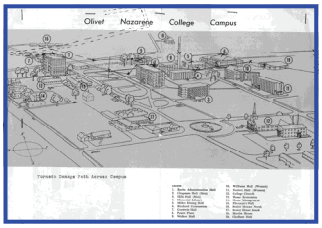
Olivet Nazarene College, Admin Building —Weather Bureau



Olivet Nazarene College, Birchard Gymnasium —Olivet Nazarene University Archives Dept.

Olivet Nazarene College, —Olivet Nazarene University Archives Dept.

Olivet Nazarene College, aerial view—Olivet Nazarene University Archives Dept.



Olivet Nazarene College, campus map —Olivet Nazarene University Archives Dept.

Olivet Nazarene College — Olivet Nazarene University Archives Dept.

Olivet Nazarene College — Olivet Nazarene University Archives Dept.

Olivet Nazarene College damage—Mary Ann Kirsch

Violent, Long-Tracked Tornado Struck Kankakee County and Northwest Indiana 50 Years Ago (cont)

Trailerville—U.S. Weather Bureau

Trailerville—U.S. Weather Bureau

Trailerville—U.S. Weather Bureau

Trailerville, aerial view —Olivet Nazarene University Archives Dept.

Trailerville, —Olivet Nazarene University Archives Dept.

Trailerville, —Olivet Nazarene University Archives Dept.

Trailerville, —Olivet Nazarene University Archives Dept.

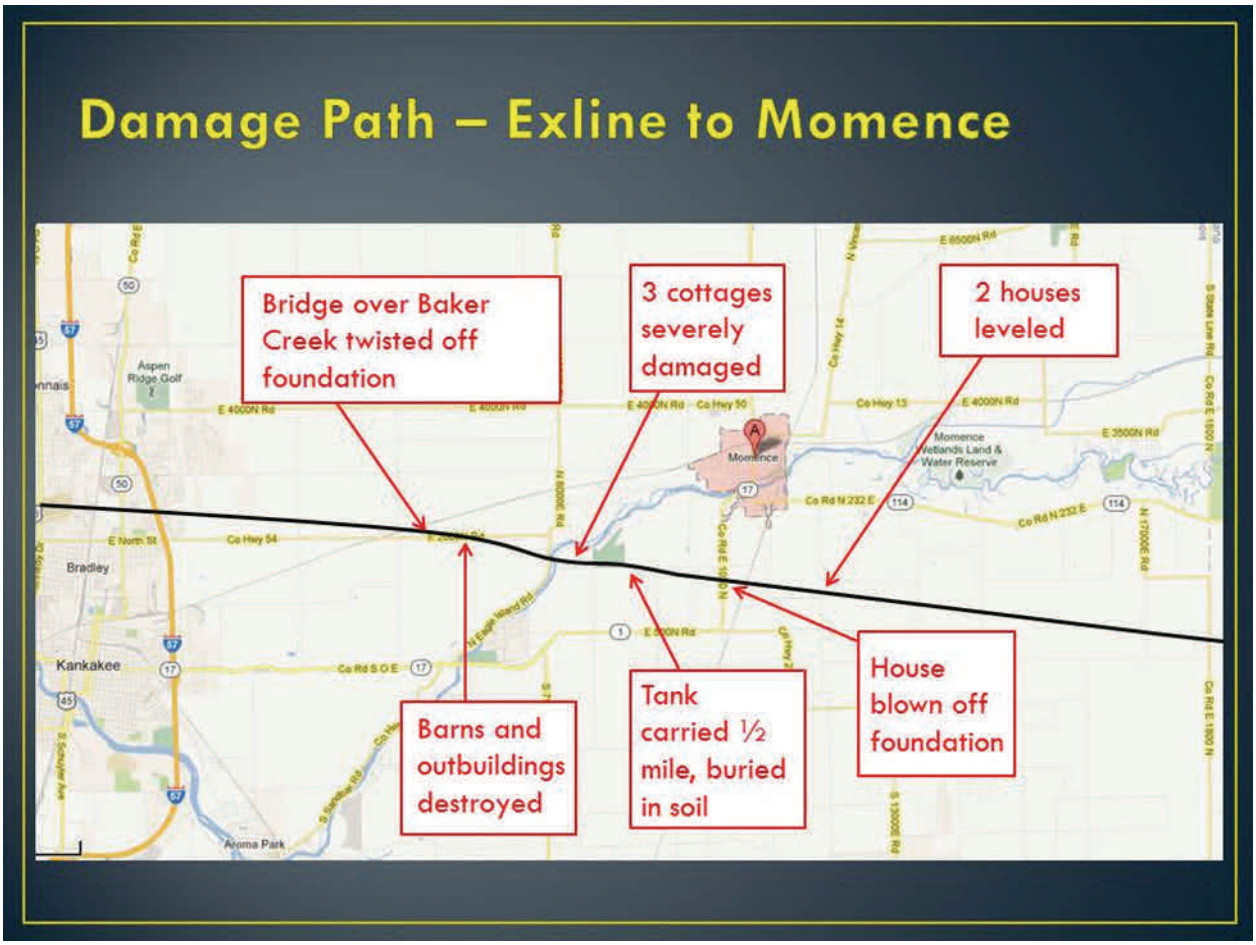
Trailerville, —Olivet Nazarene University Archives Dept.

The tornado did some of its worst damage north of Kankakee at Bourbonnais and Bradley. The tornado seemed to have slowed and moved somewhat erratically through this area. It moved through the Indian Hills subdivision, also known as Sportsman Club, just east of the Kankakee River and west of Bourbonnais, off Route 102. Two houses were leveled to the foundation and others were severely damaged. A 24 year old woman, who had just adopted a baby, was running across the yard, possibly to get in a ditch, with her baby in her arms, when she was struck by debris and killed. She was the tornado's only fatality. She was found with the baby still cradled in her arms. The baby survived.

The tornado severely damaged half a dozen homes near the intersection of Route 102/Main Street and 45/52. One home had the second story roof removed, while a baby and another small child were napping in an upstairs bedroom. The children survived. The tornado appeared to be headed for Route 45 and Armour Road when it turned south and hit Maternity BVM Church, damaging the dome and several imported stained glass windows, and partially lifting the roof. The tornado damaged an old boys school, then hit Olivet Nazarene College at 420 PM, causing heavy damage to the top floor of the administration building. Several classroom buildings and the gymnasium sustained roof damage, and a 100 foot smokestack was toppled. The tornado then hit a mobile home park for married college students, on the east side of campus, known as Trailerville. Fifty to sixty house trailers were demolished. The tornado crossed the Illinois Central tracks and unroofed an Armour Pharmaceutical Plant near Route 50 and North Street in Bradley. For the next 3 ½ miles the tornado moved through open fields, missing farmsteads. The width of the path at this point was about 110 yards.

Violent, Long-Tracked Tornado Struck Kankakee County and Northwest Indiana 50 Years Ago (cont)

Students at a Kankakee High School track meet (now King Middle School) watch the tornado pass through Bourbonnais and Bradley, about 2 miles north. Photo courtesy Kankakee County Historical Society.



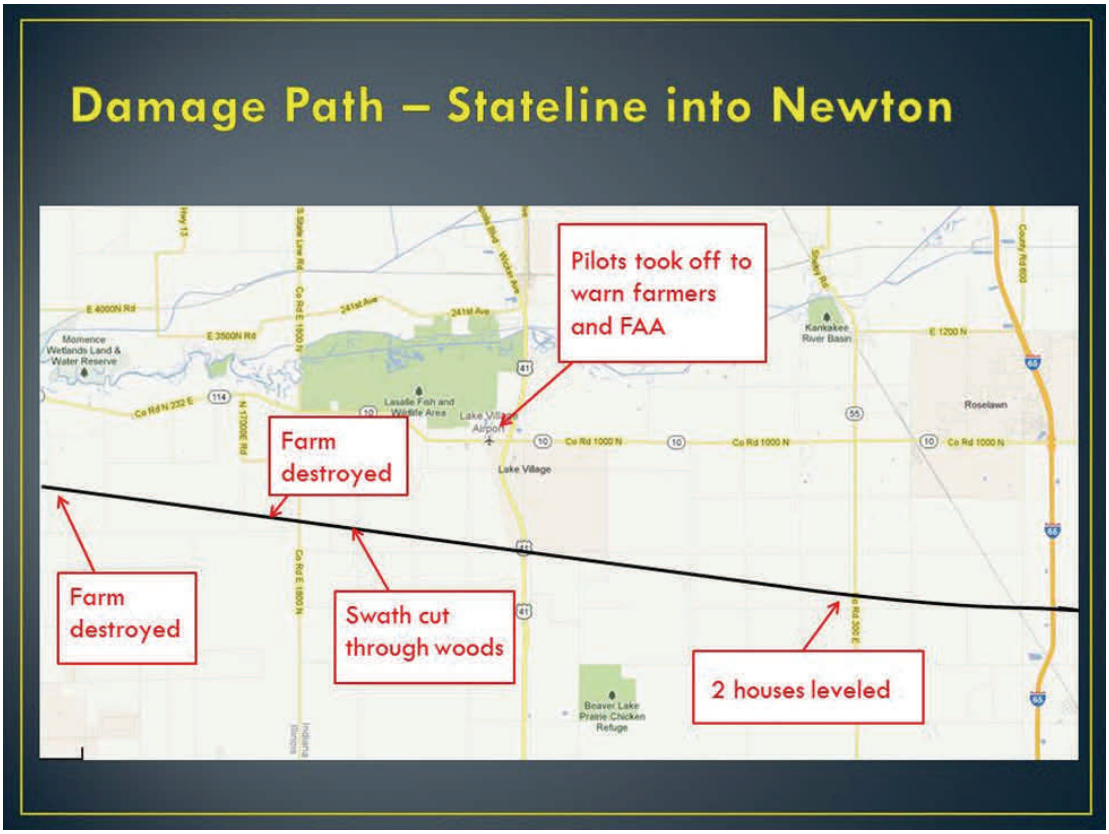
Exline—Kankakee County Historical Society

Exline—U.S. Weather Bureau

Exline, overhead view—Kankakee County Historical Society

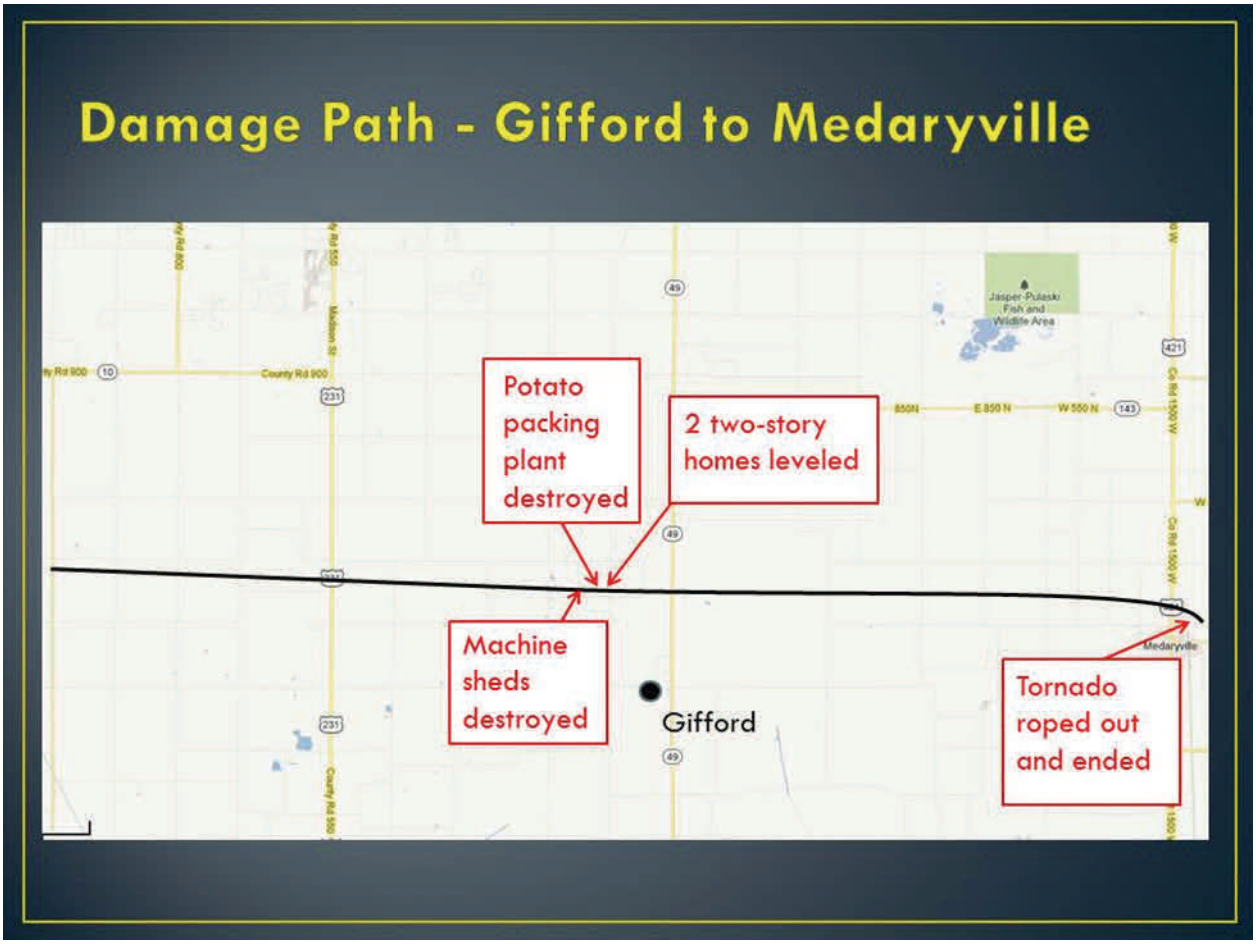
Violent, Long-Tracked Tornado Struck Kankakee County and Northwest Indiana 50 Years Ago (cont)

Next, the tornado hit the small farming community of Exline, four miles east of Bradley around 430 PM, damaging a dozen buildings. Every building in Exline was damaged or destroyed. A bridge spanning a creek was lifted and twisted off its foundation. At the Kankakee River, three cottages were severely damaged, trees were blown down, and a house was destroyed. A bit further east, a tank was carried half a mile and buried in soil. Houses were severely damaged south of Momence.

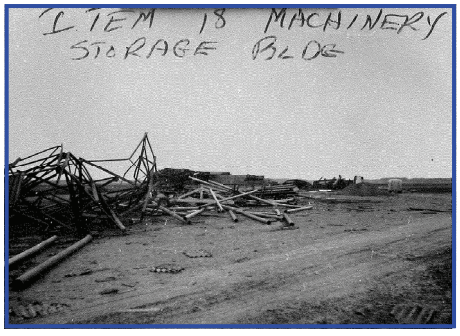


Eastward to the Indiana state line, farm buildings were destroyed. At the state line, a swath was cut through a wooded area. The tornado entered Newton County Indiana around County Road 800N, and passed just south of Lake Village. The path through the state line area and northern Newton County was very rural. Most of the damage was to trees and farm buildings. Two houses were damaged near Route 55 and about 750N.

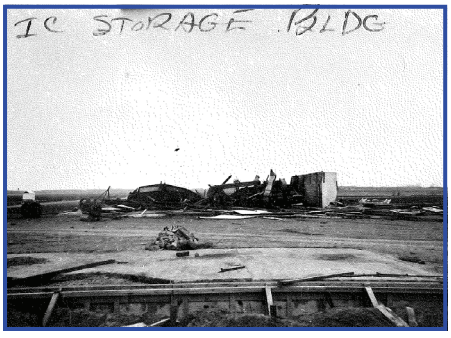
Violent, Long-Tracked Tornado Struck Kankakee County and Northwest Indiana 50 Years Ago (cont)



Gifford—photo by Dan Gehring



Gifford—photo by Dan Gehring



Gifford—photo by Dan Gehring

Violent, Long-Tracked Tornado Struck Kankakee County and Northwest Indiana 50 Years Ago (cont)

Gifford—photo by Dan Gehring

Gifford—photo by Dan Gehring

Gifford—photo by Dan Gehring

Gifford—photo by Dan Gehring

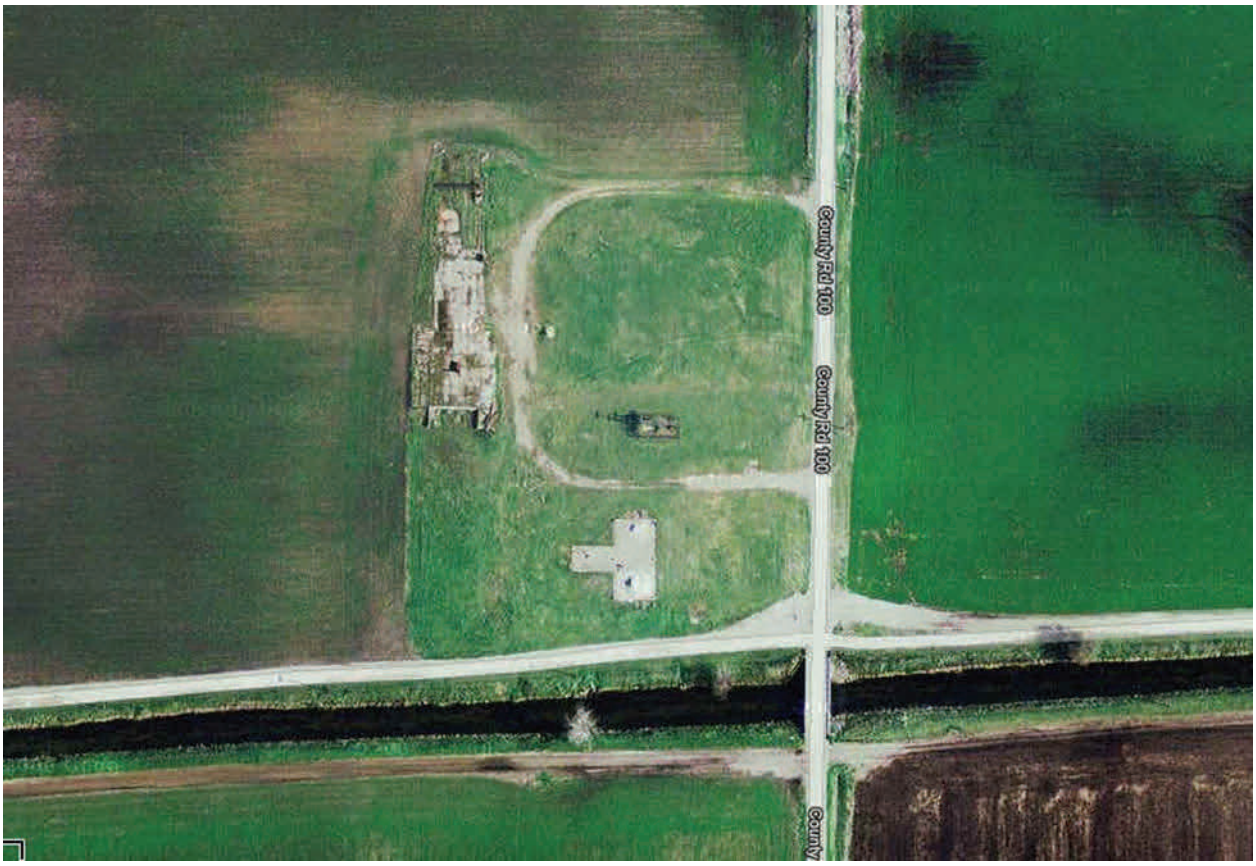
Gifford—photo by Dan Gehring


Gifford—photo by Dan Gehring


Gifford—photo by Dan Gehring

The tornado was moving almost due east as it cut through northern Jasper County. Near Route 49 and 600 N, just north of Gifford, a line of houses was leveled to the ground and 20 people were injured. A potato processing plant, outbuildings, and machinery were destroyed. The tornado finally dissipated just across the Pulaski County line, just north of Medaryville around 530 PM CST.

Violent, Long-Tracked Tornado Struck Kankakee County and Northwest Indiana 50 Years Ago (cont)



Google satellite view shows the foundation of the potato plant still remains, 50 years after the tornado destroyed it.

Warnings

The Severe Local Storm Warning Center (SELS), predecessor of today's Storm Prediction Center (SPC) issued a Severe Thunderstorm Forecast – the equivalent to a Severe Thunderstorm Watch today, at 125 PM for northern and central Illinois, northern Indiana, and southwest Lower Michigan. The first report of the tornado came to the Chicago Weather Bureau office from two people in the Severe Storm Reporting Network, predecessor to today's Skywarn. The Tornado Warning was issued by the U.S. Weather Bureau at 410 PM, just before the tornado moved into Bourbonnais. The Weather Bureau authorized the use of CONELRAD to get the warning out to radio and TV stations. CONELRAD (Control of Electromagnetic Radiation) was established in 1951 by President Harry Truman as a method of emergency broadcasting during the cold war. It was replaced by the Emergency Broadcast System (EBS) later in the summer of 1963. EBS was subsequently replaced by the Emergency Alert System (EAS) in 1997.

Violent, Long-Tracked Tornado Struck Kankakee County and Northwest Indiana 50 Years Ago (cont)

Tornado Heroes

Meteorologist in Charge of the U.S. Weather Bureau's Chicago office, Joe Fulks, presented the following public service awards;

Mrs. William Burnside, part of the Severe Storm Reporting Network, was given an award "for recognition and appreciation for contributing to the public safety and welfare by service performed for the U.S. Weather Bureau". She reported the first sighting of the funnel, on Limestone Road west of Kankakee. A few minutes later she called again when it appeared to touch down.

Robert Snyder, substation operator in Bradley and also part of the Severe Storm Reporting Network, reported the tornado when it was one mile west of his location. He stayed on the phone until the twister threatened his safety.

Douglas Jones and Floyd Huff, of the Illinois State Water Survey, rendered an important service when they reported that a hook echo was visible on the ISWS CPS9 radar. This was not initially evident on the WSR-57 Chicago radar. (A WSR-57 radar was located at University of Chicago until it was replaced by a new WSR-74S radar in Marseilles November 1, 1974.) The information enabled the Chicago radar operator to detect the hook shortly thereafter, and follow it through the remainder of its history, thus aiding in the issuance of tornado warnings.

Robert Brooks, Fire Chief of Reddick, was working in Essex when the funnel first developed 6 miles west of Essex at 330 PM. He furnished information about the developing tornado to civil defense and sheriff's offices. This information constituted the first public warning and was distributed by radio stations a few minutes before the tornado hit Bradley and Bourbonnais, possibly saving lives.

Leeon Davis of Lake Village Indiana, at considerable risk to his own personal safety, raced ahead of the storm in a Piper PA-22-160 Tri-Pacer, buzzing farm houses at rooftop level to alert 40 to 50 unsuspecting families of an approaching tornado. The tornado later demolished many of the farm houses. He was later flown to New York by CBS to appear on the TV program "To Tell the Truth". Although Leeon was a pilot himself, the trip to New York was his first flight on a jet airline.

Piper PA-22-160 Tri-Pacer

Violent, Long-Tracked Tornado Struck Kankakee County and Northwest Indiana 50 Years Ago (cont)

Postcard received at U.S. Weather Bureau from Leeon Davis' trip to New York

George Miga, also of Lake Village, followed the storm in a Piper PA-22-108 Colt plane. He furnished reports of the tornado's course to FAA communications stations at Peotone and Lafayette. The reports enabled a Lake Central Airlines flight at Lafayette to delay its takeoff, thus avoiding the tornado.

Summary

Violent, long-tracked tornadoes are rare in northern Illinois and northwest Indiana, but this is a grim reminder that they have occurred, and they will occur again. It is important for anyone living in this area to have a severe weather plan at home and at work. Have a method to receive watches and warnings, such as NOAA Weather Radio or a smart phone app. Designate storm shelter areas, preferably below ground, surrounded by concrete, or at least in a small interior space, on the lowest floor, away from windows. When a warning is issued for your location, or if a tornado or threatening weather is sighted, get to shelter. Then spread the word to friends, neighbors, family members and coworkers by phone, text message or social media. Be a Force of Nature! You could save a life.

Many thanks to the following who contributed to this article;

Kankakee County Museum and Kankakee County Historical Society

Olivet Nazarene University Archives Department

Dave Zinanni, Director of Kankakee County Emergency Management Agency

Charlie Feris - U.S. Weather Bureau, retired

Bryan Overstreet, Purdue Extension – Jasper County, IN Office

David Beachler, Lead Forecaster, National Weather Service Chicago

Mary Ann Kirsch, tornado survivor from Bourbonnais

Dan Gehring, tornado survivor from Gifford

Marty Borgeois, tornado survivor from Exline

Violent, Long-Tracked Tornado Struck Kankakee County and Northwest Indiana 50 Years Ago (cont)

Here are some personal recollections from survivors of the tornado

When that tornado hit Bourbonnais 50 years ago, I was a young housewife with two small daughters. We lived in the 'heart' of Bourbonnais. Today, we have four children and seven grandchildren and have moved from where we lived then but still live in the heart of Bourbonnais. In fact, if we lived then where we live now, we'd watch that tornado sweep past our front door. Fifty years ago, I watched it sweep through our back yard, leaving remnants of a frightening and sad few moments none of us will ever forget.

I remember it, can still see it, as though it was yesterday. It was just a couple days after Easter but the weather was very warm. From the weather report on the radio we knew storms were 'probable'. By late mid-afternoon, it was overcast but hazy rather than dark storm clouds. In addition to my two little girls I had a Beagle dog, a normally very quiet, docile animal. But, by mid-afternoon she began to whine and whimper for 'no apparent reason' that I could see. Finally tired of listening to her I decided to go across the street to my good friend/neighbor's house. She had two girls, I figured (Madonna...the late Madonna Grasser) and I could visit before time to fix supper for our husbands, and the kids could play.

As I crossed the street I noted a neighbor couple, Jack and Elaine Walters, who lived two doors west of us, get into their car and start to back out of their driveway. River Street (which ran past our house) was a narrow blacktop roadway then, and I looked over my shoulder toward the northwest at my neighbors' car to see if I had time to clear the street before they came by. But they hadn't backed up, they'd gone back toward their garage and were staring at what appeared (to me on first thought) to be a huge round ball of black smoke off in the distance. It did not appear to be moving and there had been no 'talk' that I'd heard of possible tornado so that never entered my mind.

I hollered at the neighbor couple something about, "Wow that must be a big fire!" They hollered back to get inside, that they'd just heard on their car radio that a tornado had hit down in Essex and was crossing the river possibly heading our way.

By then I had entered my friend's front yard. Her daughters were with her. And, by then huge drops of rain (the size of eggs) started to fall onto the sidewalk. I told her what the Walters had said. I will never forget my friend (Madonna Grasser's) reply and she took a lot of 'heat' and 'teasing' about it until the day she died, just a few years ago.

She said, "Not to worry! My mom always said we never get a big storm when the raindrops are big like this!"

That day, I wasn't so sure. I ushered our four girls into her house and told her eldest (about 12 at the time) to take the others into the basement, stand in the southwest corner and pray. I was very specific, I told them to say Hail Marys! Bless her, she did as I asked.

Madonna, however, was another story. As the tornado ripped through Bourbonnais, I spent my time downstairs making sure the girls were in the corner praying and upstairs trying to get Madonna downstairs! But she was busy spraying holy water throughout the house! That's when I noticed debris and dirt flying west to east through my back yard. I grabbed Madonna, holy water and we all made it to the basement.

By then I knew something horrible was happening and I knew that whatever was going on it was heading directly to my elderly parents' house which was directly across the street from a century old stone church, Maternity BVM Catholic Church, and Olivet Nazarene College (now Olivet Nazarene University). I ran to the east basement window just in time to see the sky over that area fill with what looked like great lime green clouds.

I was frantic. I knew my husband would be on his way home for supper. He worked at Montgomery Ward in Kankakee. No cell phones, IPods, computers to see if he was in the middle of I knew not what!

Very shortly after he drove up and said that the triangle (where Route 102 separated and went northwest while Route 45 curved east for a couple of blocks before heading north) was completely blocked. No way could we get through (to my parents...there was, of course, also no phone lines working by then either). But I got in his car and he did take us to the next street north. We then turned east onto another street which happened to have a hill, the highest point in Bourbonnais where we could look down and see most of Marsile, the church, and the college. What we saw was devastation. Hot wires, still crackling and sparking, utility poles, trees...strips of boards and shingles were blocking his path. I got out and without thinking started running east toward my parents' house. We'd already seen that the top corner of the administration building at ONC was peeled away (later learned the paint on the walls of the top floor were the green I'd seen as clouds) AND I could see the steeple of our beloved Maternity BVM Church tilted at an awkward angle. I honestly imagined the worst for people on the ground. My folks among them. And, the trailer park that was then part of the ONU campus and was located the exact direction the storm had headed! If it had wreaked this damage, what could possibly have happened to them and the students in dormitories. There had been no warning.

Violent, Long-Tracked Tornado Struck Kankakee County and Northwest Indiana 50 Years Ago (cont)

I got across what is now Main Street NW, stepping over and around live wires. I saw one of my folks' neighbors walking as if in a dream and sobbing. (Her house a few doors west from my parents was seriously damaged.) I asked her about my parents and she didn't seem to understand what I was saying. But, I also saw that debris was so bad I was not going to get further. That's when I saw my father standing in front of their house. (We were actually only 3 residences apart. He looked shaken but he motioned for me to go back. Hollered that they were OK.)

I did. We went home. We needed to do something! That's when one of us suggested we make sandwiches. Clearly there'd be a need for food. And that's when we began collecting left over Easter ham and started making sandwiches. We set up 'shop' at the neighbor with the biggest kitchen. As the sandwiches got made, someone would take them down to the barricaded part of town.

There's the biblical parable of the loaves and fishes, when Jesus fed massive crowds from a loaf of bread and a few fish. Well, it took us a few hours to run out of ham but much sooner our 'loaves' had run out. We had no bread. There was one solution. There was this new idea called a 24-hour deli/grocery store, Lloyd's in west Kankakee. We knew the police had kept a single lane open into Kankakee, so I and another woman decided to try. The cops knew us (everybody pretty much knew everybody else then) and let us through. At Lloyd's we got armloads (what they had left that day) of loaves of bread. We emptied their shelves of that and the manager raided this newby called a bakery/deli of their cold meat and sweet rolls and doughnuts. The car was full when we headed back to Bourbonnais.

By the next day we knew that the tornado had ripped through a fairly new subdivision located off of Route 102 to the west, being developed by Eugene Benoit (brother of Madonna of the “We won't get a storm, the raindrops are too big”). Eliminating basements was the big idea of the day and few of those homes had any. One of those residents was Gerald and Sandy Rivard. They had just adopted a baby girl. Gerald was at work when the tornado hit. Sandy and her baby, wrapped securely in blankets and clutched tightly against her body, headed outside when the tornado ripped their home apart. Cas Daucanski, son-in-law of developer Eugene Benoit, and his wife, Midge lived in another of the development's houses the next street over and slightly west of the Rivard home. Cas had gotten off work (he was a lifelong Bourbonnais mail carrier). His house had suffered no damage so Cas decided to walk over to see if Sandy needed anything. What Cas found he would never forget - Sandy outside, very near her front door, entrapped in a downspout that was wrapped tightly around her body. "It looked like a huge snake," Cas often said. Sandy's baby was still tight in her arms. The baby survived. Sandy had not.

The next day I noticed a lot of debris in my back yard. I started to pick it up and discovered it was fall-out from the tornado. There were pieces of paper, drywall, and even photos. I've forgotten what else - wiped away by the memory that will always stay. Imagine my shock when I picked up a wedding photo of Sandy and Gerald Rivard! Something I was able to return to him. Imagine, some 3 miles southeast of their house.

Roy Rivard, took many pictures of the aftermath of the storm. Among them were slides of the Doug and Joyce Altmeyer home, a small two-story bungalow located directly across the street from Olivet Nazarene College's administration building. The Altmeyers had small children and Joyce had put them to bed upstairs for an afternoon nap. They were still asleep when the storm made a direct hit on their house. Joyce had little time to react but when she realized what was happening, she 'ran to their rescue'. She was terrified. Then shocked to see the roof of their home gone! Even many years later, when she talked about that day, she could not find the words to describe her feelings when she found her children, although covered in debris and broken glass, unharmed!

Mary Ann Kirsch

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Violent, Long-Tracked Tornado Struck Kankakee County and Northwest Indiana 50 Years Ago (cont)

Here are some personal recollections from survivors of the tornado

Notes from phone conversation;

She was 10 years old and living on Osage. She remembered it was a very warm humid breezy day. She wanted to go outside and play near Davis Creek. The sky was getting dark to the northwest so her mother told her to stay inside because a storm was coming. She was sitting in her bedroom looking out the window, which faced west. A farmer was plowing the field. Then she saw a brownish black ball of smoke/dust and the birch trees along the creek started bending down. Then she noticed the farmer backing up his tractor. She said she had never seen a tractor go that fast in reverse! She realized then it was a tornado. It hit the north end of the subdivision, then hit the fire station and town hall, the Maternity BVM Church (imported stained glass windows) and on into Olivet College.

Marilyn Burris

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I was a junior at Momence HS at the time. We were at track practice and the sky was clear the sun shining brightly and we watched a "plume of smoke" clear over past Bourbonnais. We were winding down practice and some of us were in the locker room and someone yelled that Coach Cherry wanted the mile relay team back out to time us. When I came up the ramp from the locker room Coach Cherry was rushing toward the ramp yelling to get in the basement. I said to him, “My car is under that tree”. He yelled, “Get in it and get out of here then!” I took off from Momence HS and headed down the street watching the tornado getting closer and bigger. I made a corner and it looked to me like it was following me. I went all the way to Hillcrest drive north of Momence and it still looked huge and like it was following me so I turned around and went back to 6th and Dixie highway and stood in the driveway of the standard station and watched it pass. The hail was beating the heck out of me but I was "rooted" to the spot. It looked from there like it was hanging over the stop light downtown but was actually tearing my sister’s house apart a mile south of town.

As you went south of Momence on Rte1, approximately 1 1/2 miles there was Al Ford’s, then Bill Slogans open lot, then my sisters. The tornado got Slogan’s and my sister’s. Hail was about half inch diameter and the time was 4:30 or so. School got out at 3:30 and we had been at track practice for a while.

Steven Carpenter

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Regarding the Wednesday, April 17th, 1963 tornado that went through Exline, Illinois, this was the recollection of Kathy (Bourgeois) Lambert that was told to Martin Bourgeois.

I, Martin Bourgeois, was 2 years and 10 months old at the time. I was with my mom, Ruth Bourgeois, and a group of other farm wives attending a meeting at the home of Gladys Jarvis in Exline. Exline is about 4 miles east of Bradley. It was about 4pm. My sister, Kathy, age 9 and my brother, Mike, age 7, had just been dropped off by the school bus at our home about a half mile south of Exline. My dad, Harold Bourgeois, was a farmer and he was doing some field work near our home. He noticed a large, dark cloud that was low to the ground to the northwest of his location. The cloud didn’t have the long, rope-like appearance of a typical tornado. It had a very wide base and the rotation of the clouds associated with a tornado. He drove the tractor back home as fast as he could and got Kathy and Mike in the grain truck with him where they watched the tornado travel east-southeast through Exline just half a mile to the north.

Meanwhile, the hostess of the meeting, Gladys Jarvis, was preparing refreshments in her kitchen when she looked out the west window and screamed, “It’s a twister!” Several of us crammed into a closet as the tornado passed by. Once it calmed down and we left the safety of the closet, my mom and I began the half mile walk home since our car was destroyed. The houses in that neighborhood had severe damage and a corn crib across the road had its roof taken off. When that happened, a lot of the corn was sucked up in to the air.

On our family farm where my brother Mike still lives there stands a corn crib. There was a grain elevator standing next to that crib. The elevator has two wheels so it could be moved to different locations and be used to fill grain bins and cribs from the fall harvest. On the day of the tornado, even though it passed half a mile away, the suction of the tornado caused the elevator to move across the yard on its own and go into the ditch next to the road.

Martin Bourgeois

Violent, Long-Tracked Tornado Struck Kankakee County and Northwest Indiana 50 Years Ago (cont)

515 N. Blaine Ave.
Bradley, Illinois
December 11, 1963

Dear Ones,

You have been waiting a long time for a more detailed account of the tornado which roared through campus last April 17. Soon after the storm in April and May I wrote a scratch account which I did not get completed or typed. Some of the material in that account is stale, but I may copy it in large part.

It is scarcely possible to describe a tornado in all of its fantastic aspects as it actually is. One can be in a tornado and know about only a little segment of it. For instance I saw the darkness, heard the roar and saw big trees going over like match sticks or hay. Yet I didn't see the funnel cloud or how it sauntered along touching down here and there, and changing direction, etc.

The tornado came into Bourbonnais apparently from the northwest, ruining Prof. Strickler's new house and taking off roofs and damaging buildings between there and the College Administration Building. Some think it was not really touching the ground when that building was struck, but that it just struck the top story or thereabouts. It struck the north end of the building with perhaps the most damage to the northwest corner. Those watching it said it seemed to stop and grind away there a while. Then it moved directly east across Walker Hall, the infirmary, the heating plant, the dining hall, the gymnasium and finally across Trailerville which is part of the campus.

The top floor of the Burke Administration Building was so badly damaged that it was later removed. About three and a half months after the storm the insurance settlement was set at approximately $520,000 for this building. Walker Hall was declared a total loss and has since been torn down. Insurance settlement for this building was over $43,000, its depreciated evaluation. It was an old and not very good building. The roof was taken off from the infirmary. About eighty-five feet of the heating plant chimney went over. Roofing was damaged on the dining hall and there was similar damage to the gymnasium. Trailerville was of course devastated. Of some fifty trailers one was able to be on a functional basis soon after the storm. I believe a couple of others were repairable. Some disappeared completely. Many, many windows were broken out in the path of the twister. There was also some glass breakage in Chapman Hall and the library building which were near its south edge as it traveled east from Burke Administration Building. A number of cars were damaged. It was common for back windows to be blown out caused no doubt by tornado created vacuum from without. Some of the cars were damaged by falling trees and flying or falling debris. A number of trees were down or damaged. A red Chevrolet in front of the library was crushed by a large tree falling on it. A big sycamore tree between Burke and Walker Halls was chewed off about twenty-five feet up. A big International Harvester Company bus in front of Miller Dining Hall was turned over on its side. I heard that a Volkswagen had been turned upside down on the tennis court near the gymnasium.

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If the tornado had kept on across the campus the same direction it was going when it struck the Administration Building, the most terrible damage would have been done in terms of property and possibly human lives as well. In that direction lay the big men's dormitory called Chapman Hall, the library, Williams Hall, Nesbitt Hall, and Hills Hall. Chapman Hall is an old building. Williams Hall was built since Olivet acquired the campus. The other buildings were built or completed during the last eight years since I came out here. They are fine modern brick buildings. If the tornado had not turned at Burke Administration Building and had kept on the way it was going, it appears that it would have cut across the north end of Chapman, directly over or through the library, and probably between Williams Hall and Nesbitt Hall (the girls' dormitories) wrecking an end of each. It is awful to contemplate the flying bricks and glass and damage to books, property and lives if this route had been taken.

Only two class periods were missed as a result of the tornado. Quick planning resulted in a quick shifting of classes so that it was possible to keep college in session although operating under handicaps. It turned out that College Church had about the same number of classrooms as the Administration Building, and so a number of classes were moved there. Administrative offices were moved first to Fliermans Hall and later to the first floor of Chapman Hall after a bunch of boys were cleared out of their rooms. I don't know where they went. Maybe rooms were found for them off campus or perhaps there were some vacant rooms on other floors. Professors doubled up in offices or established their offices in their homes.

The most remarkable thing about the whole affair was the fact of no deaths among college personnel and relatively few injuries, with so many deliverances from injury or death. We heard so many accounts of how someone was called from an office, delayed here or left there just in time to be away from destruction. Perhaps as remarkable as the escapes from danger were the preservations in the midst of danger. Dr. Philo was in his office in the Religion Department. This was one office where the glass did not come out of the windows. In Prof. Hahn's office in the same department glass was driven into the wall opposite the window. Prof. Hahn would have been in his office had his wife not insisted that he come home to rest. (I guess if he had stayed in his office, he would have been "Hahnburger".) In the same area also Dr. Perry and his daughter had just stepped out of his office into the hall when the tornado struck. His office was pretty well wrecked. (The Division of Religion was on the second floor, north end of the building. I had asked for this area for education offices, etc. after the library had been moved out to its new building. I'm glad I didn't get it, though not because of the tornado alone.) Mrs. Miriam Hall, a Trailerville resident, Olivet graduate and Bourbonnais teacher, had blocks of concrete land at either side of her head and a gas tank roll on her back without being hurt. One fellow who was asleep in Trailerville woke up in the field unhurt with his trailer gone. No doubt he was surprised. Of forty-seven Olivet people treated at the hospital, only six had to stay over night. Ken Blanchard, the boy most severely hurt (in the head), was unconscious until the next day, I believe, but was back to class in a week or so.

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We were sorry about the young woman who was killed out at Indian Acres by the tornado before it got to Bourbonnais. They said she was apparently blown out of her house and hurt in so many places that she didn't have a chance. Her adopted baby, I heard, had a blood clot on the brain and a broken arm. Our Professor, Jewell Flaugher, lived in the house next to the one occupied by the Rivards where the lady was killed. The house where Miss Flaugher lived was largely wrecked, but her room was left intact. Meanwhile she was in the college bus with Orpheus Choir over on campus.

Perhaps one way to give something of an overall account of events surrounding the tornado including some of the human interest items would be to take something of a chronological approach to the happenings of that fateful afternoon.

2:00 P.M. - Prof. William Beaney dismissed his biology class in Room 306 early because of a needed trip to the University of Illinois. Because of this the next biology laboratory section under the direction of Prof. Beaney's sister-in-law, Miss Dorothy Ridall, was allowed to start their work early and thus were enabled to be through and away from their work well ahead of the tornado.

2:30 P.M. - Shortly after 2:30 the Educational Policies Committee began a session in the Dean's Office which ended promptly at 4:21 P.M., though it was never formally adjourned.

3:30 P.M. - Dr. E. B. Barrett opened his class in Room 307 with the words "Do you think the people in the San Francisco earthquake were sinners above the rest of the country?" The answer was "No", based on Jesus' question and answer concerning those on whom the Tower of Siloam fell. Miriam and her sister, Mary Moore, whose husband is Admissions Officer at the college, were in the midst of an after school faculty meeting which had been underway about ten minutes in the Taft School in Kankakee.

4:00 P.M. - The Olivet Nazarene College Greyhound Bus had just pulled up in front of the Administration Building to load the Orpheus Choir for a trip to Chicago.

4:09 P.M. - Prof. Luther was about this time leaving Prof. Parr's office on the fourth floor north end of the Administration Building after a consultation with him.

4:10 P.M. - Mrs. Donoho's physical education class in the gymnasium was somewhat disturbed by some boys wheeling some creaking ping-pong tables into the gymnasium and leaning them against the wall.

4:15 P.M. - Because Miss Ridall had warned Dr. Carmichael that high winds were coming, he decided to leave his office on third floor north end of the Administration Building early so as to get to a 4:30 committee meeting at Goodwin Hall across the road north of the Administration Building.

Prof. Parr left his fourth floor office.

About this time the college bus pulled away from the front of the Administration Building and stood waiting for one or more late passengers beside the parking lot south of the Administration Building.

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Coins were being collected in the Educational Policies Committee meeting and orders taken for someone to go into the corridor to the soft drink machine to get some refreshments for the hard working committee.

4:18 P.M. - Prof. Harlow Hopkins, band director, dismissed the band a little bit early from its practice in the northwest corner on Administration Building ground floor.

Prof. Schwada in Educational Policies Committee mentioned that he had a class and indicated that he would have to leave. He was reluctant to do so, however, because he was concerned about an item he thought was coming up. So he paused and questioned whether it would be presented.

4:20 P.M. - Dr. Barrett detained his class in Room 307 one minute extra which prevented them from being on the porch at the usual time.

The bus driver saw the tornado coming and pulled the bus down the hill toward College Church and waited at the stop sign there.

Miss Ridall was shifting from one foot to another wanting to get back to her desk in Room 306, the biology laboratory vacated earlier by students because of the stepped up schedule mentioned above. She was being detained in the hall by a student.

Professor Schwada finally got away from the Educational Policies Committee meeting and stepped into the hall on his way out just fifteen or twenty feet from impending destruction.

Ken Blanchard at the east door of Fliermans Hall said, "Let's run for the 'Ad' Building," and struck out. Wind forced other students back.

Professor Walmsley had come to the Educational Policies Committee meeting to answer questions about recommendations from the Division of Languages and Literature. He opened his mouth to answer a question put by Dean Snowbarger when---

4:21 P.M. - All clocks in the Administration Building stopped. A sudden roar was heard, and darkness appeared at the Dean's office window. I thought at first there was a sudden burst of hard rain. Then I saw big trees going over and the window glass disintegrated. About that time we dove under the table.

In Room 307 Dr. Barrett's class, held over for one minute, had for the most part not had a chance to leave the room, and none had got downstairs as far as the porch. Across the hall in Room 306 the north wall burst in scattering plaster over the desks, including Miss Ridall's.

Offices or rooms recently vacated by Luther, Parr, Carmichael, Perry, and the band were wrecked or riddled by glass. The band, though largely out of their glass riddled room, had not had time to reach the Administration Building porch. If they had been dismissed forty-five seconds earlier or three minutes later, severe injury to a number of them would likely have resulted. According to some of the band members if Prof. Hopkins had not dismissed the band when he did, it would not have been the band which started on tour the next day. It would have been "Hopkins' Hamburger Harmonaires".

In front of Walker Hall directly in the path of the tornado, newsboy Peter Mitten, son of an Olivet professor, hung on to an evergreen shrub.

In the infirmary nurse Ruth Lane tried to crawl under her desk as the roof went off.

In the gymnasium Athletic Director Ward, who had just stepped or been called out of his office (I understand his office was pretty well

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wrecked just after he left it.), ordered the girls' physical education class under the ping pong tables so recently pushed into the room. Since the gymnasium was extensively equipped with sky lights, the girls heard glass just clattering off their most timely provided shelter.

Immediately after the storm had passed, eleven year old Peter Mitten walked into Walker Hall and asked, "Is anybody hurt here?". With similar and undoubtedly greater concern Dean Snowbarger went upstairs in the Administration Building to check for people trapped in wreckage. Boys poured out of the Chapman Hall dormitory to check for people trapped in wreckage in Trailerville, whose devestation they had witnessed from stairs windows. Some of the rest of us stepped out on the Administration Building porch. Wreckage and debris were all around, including a pile of bricks on the outer part of the front porch. Pieces of concrete from the second floor balcony were lying here and there. Ken Blanchard was lying at the foot of the south steps of the Administration Building writhing and unconscious. Professors Parr, Schwada, Groves and Demaray carried him up onto the porch. There was a scramble to try to get him covered with something, (a workman provided a small jacket) and a rush to get him to a hospital.

When the boys from Chapman Hall reached Trailerville, they found in the midst of its devastation Dr. Clinton J. Bushey's trailer turned on its side with one end moved about twenty feet and the other about seventy feet. Dr. Bushey, emeritus professor of biology, was bleeding from a head wound while his wife was trapped in another part of the trailer.

"Dr. Bushey, we'll have to get you to the hospital," said some of the boys. "But I can't leave my wife!" replied Dr. Bushey. "We'll take care of her", was the rejoinder, and he was forthwith rushed to the hospital to be followed in a few minutes by his wife in another car. Later Dr. Bushey said it was so nice to have his own students taking charge of things.

As soon as it was clear that Blanchard was being cared for, Professors Groves and Schwada rushed to their homes to see what damage had been done there, the former being most concerned about his little girl. No doubt similar trips were made by a number of faculty people. It was a relief to meet Mrs. Curl, the baby sitter, walking away from the house looking relatively unconcerned. Verna Carol had been left with Miriam Moore, whom I asked to call Washington School to inform Mrs. Groves that all was well with her family. Mrs. Groves could not be reached, of course, because of being in the faculty meeting at the Taft School.

Immediately after the tornado streams of cars began to converge on campus. I suppose people could not be blamed for their curiosity, but they were a complicating factor, especially as they hindered worried relatives from getting back to campus to see what had happened to their loved ones. Herbert Hall, working at Armour's Pharmaceutical Laboratories had looked across the fields and seen Trailerville fly to pieces. He supposed that his wife had been killed, but was unable to reach the scene of devastation until two hours later.

Very soon civil defense authorities appeared on campus taking general charge, directing traffic, guarding property, and setting up a communications unit. What a comfort they were! The Red Cross set up headquarters in the Village Hall. Evacuees from Trailerville took refuge in the

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College Church basement, but were moved out to private homes by 8:00 P.M.

Superintendent Knecht speaking to the teachers gathered at the Taft School had noted the tornado in the sky and said, "There's a science lesson in the making." Nevertheless, the meeting continued until toward 5:00, no one there realizing that Bourbonnais and the college campus had been hit.

When Miriam Groves and Mary Moore left the meeting at Taft, they were soon engulfed in the great stream of traffic meeting ambulances, etc. Miriam leaned out the car window and asked, "What's happened?" "A tornado has torn up Olivet and hit Bourbonnais", was the reply. One can imagine the feelings of these ladies whose husbands and brother were at Olivet and whose homes and families were in Bourbonnais. Miriam got out of the line of traffic and drove up the side of the road as far as possible, breaking back into the traffic with the explanation that her family was at Olivet, until she could switch over into Bradley streets and thus get home. Fortunately Miriam Moore was able to give the information that Norman, Paul, and Vernon were all right, but she did not know at that time how many were hurt on campus.

The civil defense and community help and response were wonderful. Several contractors moved equipment on campus the next day to clean up and move debris. At this writing the college is operating under some difficulties. A number of buildings have been repaired and work is now proceeding apace on the Administration Building. It should probably be ready for complete occupancy by spring or early summer.

Sincerely,

Vernon T. Groves

May 18-24, 2013 is Safe Boating Week

By Amy Seeley, Hydrometeorological Technician

Well spring is here and summer is right around the corner, which means the beginning of boating season! Before you head out to the water, know the correct terminology, where to get the latest information, and practice safety on the water.

The National Weather Service has partnered with the National Safe Boating Council to help promote safe boating practices. During Safe Boating Week, which is May 18-24, 2013, the NWS will disseminate a Public Information Statement and broadcast public service announcements on NOAA Weather Radio All Hazards. Announcements are on life jackets and the importance of wearing them when on the water, thunderstorm safety, winds and waves, and marine forecasts just to name a few.

Whether going to the beach for a swim, to the lake on a boat, or for any outdoor activity, don't forget to stop at the National Weather Service first. The National Weather Service issues over 730,000 forecasts each year, including Great Lakes forecasts. Forecasts can be accessed for any location in the U.S. and adjacent waters. When severe weather threatens, tune into NOAA Weather Radio for the latest forecasts and warnings for your area.

As you can see from the following statistics, weather was the 8th ranking contributing factor in accidents in 2011. Knowing what weather is forecast, can make the difference. So always check the forecast at www.weather.gov/chicago or NOAA Weather Radio before you head out on the water.

2011 TOP 10 CONTRIBUTING FACTORS

CONTRIBUTING FACTOR	ACCIDENT RANKING	NUMBER OF ACCIDENTS	NUMBER OF DEATHS	NUMBER OF INJURIES
OPERATOR INATTENTION	1	583	58	363
IMPROPER LOOKOUT	2	514	31	391
OPERATOR INEXPERIENCE	3	364	43	255
EXCESSIVE SPEED	4	349	28	321
MACHINERY FAILURE	5	319	18	120
ALCOHOL USE	6	296	125	243
HAZARDOUS WATERS	7	258	88	122
WEATHER	8	235	54	114
RULES OF THE ROAD	9	214	6	186
FORCE OF WAVE/WAKE	10	201	6	183

May 18-24 is Safe Boating Week (cont)

If you're looking for the Great Lakes forecast, the best website you can go to is www.weather.gov/greatlakes. You can get detailed weather graphics for all of the Great Lakes, including wave height, wind speed and direction, weather and temperature.

Do you know the definitions of these marine weather terms?

Small Craft Advisory	Issued for observed or forecast winds of 18 to 33 knots and/or average wave heights of 4 feet or higher.
Gale Watch	Conditions favorable for gale force winds (34 to 47 knots) in the next 12 to 48 hours
Gale Warning	Observed or forecast winds of 34 to 47 knots within 24 hours
Special Marine Warnings	Issued for severe, short events of approximately 2 hours or less. They are often issued for thunderstorms associated with a squall line or thunderstorms that move from land to coastal waters.

Be safe on the water and have a great spring and summer!