

2.3 TORNADO

The National Oceanic Atmospheric Association (NOAA) defines a tornado as a narrow, violently rotating column of air that extends from the base of a thunderstorm to the ground. Because wind is invisible, it is hard to see a tornado unless it forms a condensation funnel made up of water droplets, dust and debris. Tornadoes are the most violent of all atmospheric storms, and the most hazardous when they occur in populated areas. Tornadoes can topple mobile homes, lift cars, snap trees, and turn objects into destructive missiles. Among the most unpredictable of weather phenomena, tornadoes can occur at any time of day, in any state in the union, and in any season. While the majority of tornadoes cause little or no damage, some are capable of tremendous destruction, reaching wind speeds of 200 mph or more.

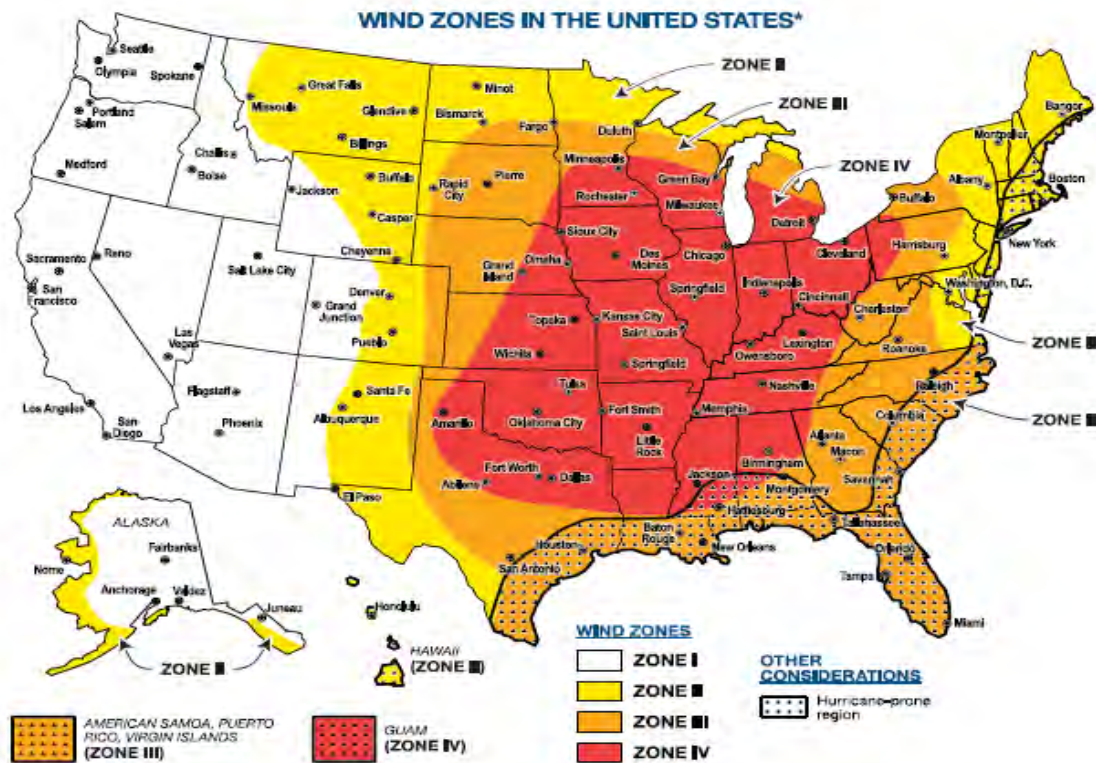


Figure 2-7: Wind Zones in the United States*

* If you are uncertain of your location because of the level of detail and size of the map, or if you live on or very near one of the delineation lines, use the highest adjacent wind zone.

Map 2.3.a

Tornadoes are non-spatial hazards; therefore, it is often difficult to profile tornadoes and determine the exact risk. However, estimations can be developed by analyzing historic occurrences and past declarations. While Ohio does not rank among the top states for the number of tornado events, it does rank within the top 20 states for fatalities, injuries, and dollar losses, indicating that it has a relatively high likelihood for damages resulting from tornadoes. Tornadoes are measured by damage scale based on their winds, with greater damage equating to greater wind speed. The original Fujita-scale (F-scale) was developed without considering a structure’s integrity or condition as it relates to the wind speed necessary to damage it. The process of rating the damage was subjective with the original F-scale and

arbitrary judgments were the norm. In order to reduce this subjectivity, the Enhanced F-scale (EF- scale) took effect February 1, 2007.

The Enhanced F-scale uses the original F-scale (i.e., F0-F5) and classifies tornado damage across 28 different types of damage indicators, which mostly involve building/structure type, and these are assessed at eight damage levels (1-8). Therefore, construction types and their strengths and weaknesses are incorporated into the EF classification given to a particular tornado. The most intense damage within the tornado path will generally determine the EF-scale given the tornado. Table 2.3.a. lists the classifications under the EF- and F-scale. It should be noted the wind speeds listed are estimates based on damage rather than measurements. Also, there are no plans by National Oceanic Atmospheric Administration or the National Weather Service to re- evaluate the historical tornado data using the Enhanced scale.

Fujita Scale 3-Second Gust (mph)		Damage Levels	Enhanced Fujita Scale 3-Second Gust (mph)	
F-0	45-78	Light - tree branches down	EF-0	65-85
F-1	79-117	Moderate - roof damage	EF-1	86-110
F-2	118-161	Considerable - houses damaged	EF-2	111-135
F-3	162-209	Severe - buildings damaged	EF-3	136-165
F-4	210-261	Devastating - structures leveled	EF-4	166-200
F-5	262-317	Incredible - whole towns destroyed	EF-5	Over 200

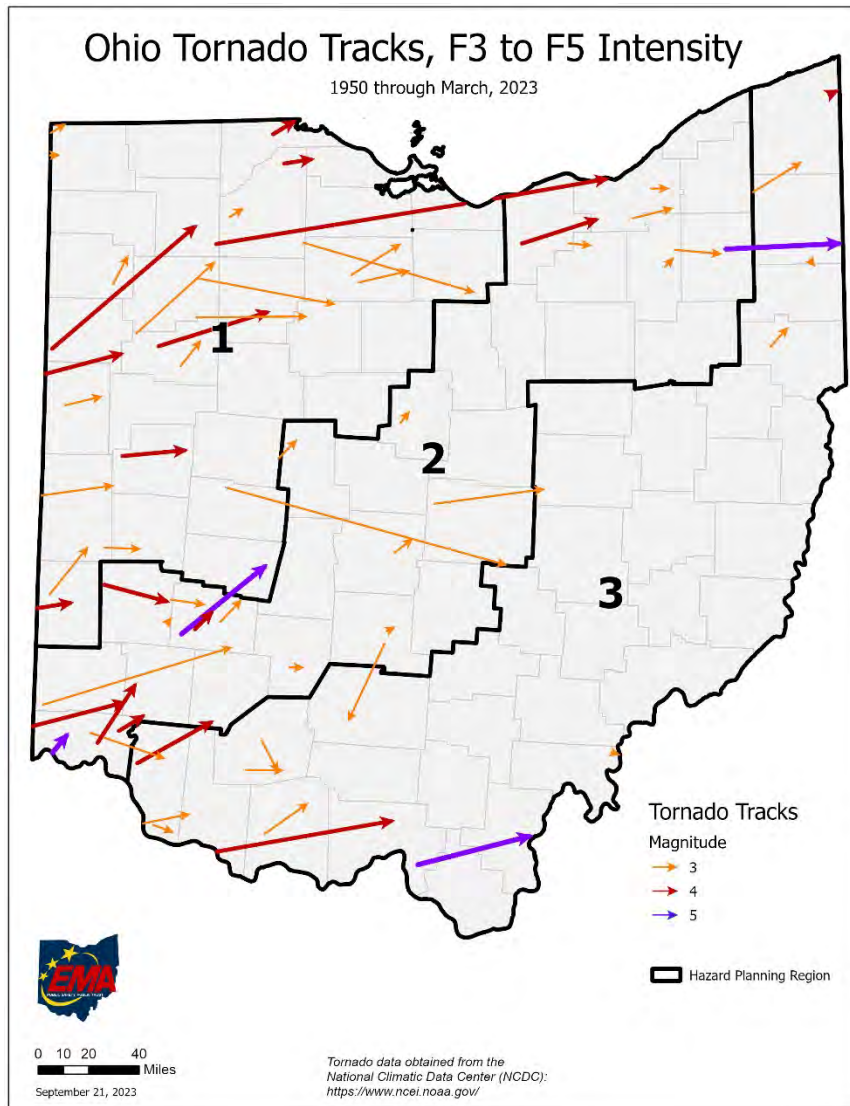
Table 2.3.a - Source: <http://www.spc.noaa.gov/faq/tornado/ef-scale.html>

RISK ASSESSMENT

LOCATION

The wind zones in the United States map (Map 2.3.a) indicate that the entire state falls within the 250 mile per hour zone, but the frequency in which Tornadoes occurs varies greatly depending on which county you are located. Ohio has a significant history of past tornado events. Map 2.3.b depicts the touchdowns of 1414 tornadoes that struck the State between 1950 and 2023. The counties in red have the greatest number of tornadoes touchdowns in that time period. In order, those counties are: Van Wert (39), Franklin (34), Lorain (31), Miami (31) and Huron (30). When looking at a regional perspective Region 1 (488) and Region 2 (525) have had significantly more Tornadoes than Region 3 (354). Much of the variance in the number of Tornadoes between Region 1 and 2, and Region 3 is due to the topography of Region 3.

Map 2.3.b – Source - NOAA Storm Database



Map 2.3.c indicates the tracks of the F 3 or greater Tornadoes that have occurred in the state from 1950-2023. The tracks of these high intensity Tornadoes are generally spread throughout the state with the exception of the southern and eastern portions of Region 3. The highest intensity or F5 Tornadoes tracks are indicated in purple and have occurred in all of the regions in the state. Only one F5 tornado has occurred in Region 1, even though a large number of F 3 and F4 Tornadoes occurred within that Region.

Map 2.3.c – Source - NOAA Storm Database

LHMP DATA

CLERMONT COUNTY

There were two events in 2012 that caused significant damages. The first was on March 2, 2012, and this tornado was categorized as an EF3. The Village of Moscow, parts of Franklin, Washington, & Tate Townships were all in the direct path, resulting in 353 structures damaged and 18 residential structures destroyed causing roughly \$3,700,000 in damages with three lives lost and 13 injured. The second tornado event occurred on September 8, 2012. The Village of Moscow was hit the hardest with 2 homes destroyed. The location, frequency and impacts of tornadoes cannot be accurately predicted. However, an analysis of historic events can provide a reasonable understanding of expected future risks. Clermont County has had 26 tornadoes in 20 unique years since 1953, and they have sustained total losses of approximately

\$15.3 million. The annual chance of occurrence for a tornado is 23%. The annualized risk is approximately \$190,883 with 1 injury and 3% chance of life loss.

GREENE COUNTY

Greene County has been directly impacted by 24 tornadoes. The County has been part of 3 federal disaster declarations relating to tornadoes. Two resulted in public assistance, and one has resulted in Individual Assistance.

The April 3rd, 1974 tornado measured by any metric, the worst tornado that Greene County has ever experienced was part of a Super Outbreak. Striking at 4:40 in the afternoon, the tornado was the most powerful on the old Fujita Scale, an F5. It tore straight through Xenia, destroying much of the city, killing 36, and injuring 1,150 others. Total damages were estimated at \$250 million.

On Sept. 20th, 2000, a violent tornado that moved at 65 mph hit the town of Xenia for the second time in 26 years damaging some of the same areas that were hit in 1974. Along the path of the tornado, around 250 homes were either damaged or destroyed, over 40 businesses were damaged or destroyed including the local Wal Mart, Kroger, and Tire Discounters, and 6 churches were damaged. A strip mall was nearly destroyed, cars were thrown from the Highway 35 bypass into ditches, 4 semi-trailers were thrown up to 400 yards, and most of the buildings were damaged or destroyed at the Greene County fairgrounds. In Sugarcreek Township, which is to the southwest of Xenia, an additional 14 houses and 3 barns were damaged and some crops were destroyed on a narrow path. Over 10,000 residents were without power for at least 1 day.

Greene County also suffered impacts from the 2019 Memorial Weekend Tornado Outbreak (DR 4447), the tornado first touched down in Riverside in far eastern Montgomery County at 10:12 PM before quickly moving into western Greene County at 10:13 PM. The tornado continued to move east across western and central Greene County before lifting along U.S. 68, about 5 miles north of Xenia. There were two locations along the track of this tornado in the Beavercreek area where damage was indicative of EF3 intensity. The first was in the vicinity of I-675 and Grange Hall Road. Several homes along Rushton Drive had entire roofs lifted, as well as the collapse of several exterior walls with only interior walls left standing. Additional homes along Gardenview and Wendover Drives experienced high-end EF2 damage with windows shattered, garage doors collapsed and entire roof structures removed.

Additional EF3 damage occurred in Beavercreek near Anna Laura Lane. In this area, some buildings of an apartment complex had large sections of roofs removed and exterior walls on upper levels collapsed, leaving just interior walls standing. Most of the damage from near Grange Hall Road eastward to businesses near North Fairfield Road was EF2 to EF1 type damage, where some concrete block businesses had partially collapsed walls and roof lift off.

CUYAHOGA COUNTY

The Cuyahoga County All-Hazards Mitigation Plan (2022) provides a comprehensive history of the tornado events that have occurred within Cuyahoga County from 1950-2021 including a tornado track map. According to the Cuyahoga County LHMP, sixteen tornadoes were reported in between 1950 and 2021. These tornadoes caused 12 deaths, 466 injuries and over \$426 million dollars of damage in 2022 dollars. The Cuyahoga County LHMP states, while all county assets are considered at risk from this hazard, a particular tornado would only cause damages along its specific track. A high-magnitude tornado sweeping through densely-populated portions of the County would have extensive injuries, deaths, and economic

losses. There is no way to be sure how many people would be injured or killed due to the difference that time of day and year can make, but property values can provide an estimate of economic losses.

VAN WERT COUNTY

Per the 2021 Van Wert County LHMP, Van Wert County has the highest occurrences of Tornadoes in the state. The most devastating event in recent history occurred on November 10, 2002, when a F4 tornado struck the City of Van Wert, killing 2 people and causing over \$50 million dollars in damages and other economic losses. This event is ranked among the top 10 Tornadoes to ever hit the northeastern United States. While Tornadoes can cause significant damage to structural assets, it is almost impossible to predict vulnerability and damages due to the inherent characteristics of how and when Tornadoes develop. Based on past events, some events are relatively minor and losses to the County have been negligible, limited primarily to vehicles and minor structural damages. However, other events are quite significant with considerable losses to buildings and equipment, and in some cases injuries and even deaths have occurred

Using HAZUS property values as estimates and the potential building exposure for the county with those assumptions, Van Wert County has a total exposure of 4,957 structures valued at \$ 1,440,265,000

PAST OCCURRENCES

XENIA – 1974

According to a Dayton Daily News article (April 2011), on April 3, 1974 an F-5 tornado tore through the heart of Xenia, killing 36 people and injuring more than 1,300 others. It bulldozed a path more than a half-mile wide, destroying or damaging more than 1,400 buildings, including 1,200 homes, dozens of businesses, 10 churches, and several schools. By the time it lifted into the sky near Cedarville, it left behind more than \$100 million of damage in Greene County. The Xenia tornado was part of a super outbreak, when 148 twisters swept across several states, killing 335 people in a 16-hour period on April 3-4, 1974. It still ranks as one of the largest natural disasters in American history, with Xenia the hardest hit community.



Photograph 2.3.a – source - NWS

The Xenia subdivision of “Arrowhead” was especially hard-hit, the tornado leaving it in ruins. The 4-year-old subdivision on the city’s southwest side lost more than 300 homes, many on concrete slabs with no basements. Greene Memorial Hospital in northeast Xenia narrowly escaped the tornado’s wrath, but lost its power and telephone service and its water quality was suspect. About 500 people were treated there in the first 24 hours, 34 of them being admitted with a number transferred to hospitals in nearby Dayton for treatment.

XENIA - 2000

Twenty-six years later another tornado (an F-4) struck at an unusual time – early autumn and after dark – on September 20, 2000. The tornado would follow an eerily familiar path of destruction through Xenia, killing one man and destroying or damaging more than 300 homes and 30 businesses.



Photograph 2.3.b – source - Dayton Daily News

MAY TORNADO OUTBREAK - 1985

Per the NWS, on May 31, 1985, twenty-one tornadoes tracked across Northeast Ohio and Northwest Pennsylvania during that evening. Of these 21, one was rated an F5, and six were rated F4's. Tragically, these tornadoes killed 76 people in Ohio and Pennsylvania. In Ohio, this was the worst event since the April 3-4th, 1974 outbreak that killed 37 in Xenia.

The strongest of the tornadoes touched down at the Ravenna Arsenal in eastern Portage County around 6:35 p.m. The tornado intensified to an F5 as it tracked east across southern Trumbull County, devastating the communities of Newton Falls and Niles. Nine people were killed in the business district of Niles.



Photograph 2.3.c – Source - NWS



Photograph 2.3.d – Source - NWS

The residents of Ohio will long remember May 31st, 1985. Rarely has such an outbreak of tornadoes been seen in this county and never before in this area. This day serves as a reminder that devastating tornadoes can occur in any month of the year at any time of the day and at any location in the country.

BLUE ASH TORNADO - 1999

Another notable tornado occurred in April 1999 in the counties of Clinton, Hamilton, and Warren. The tornadoes killed four people, injured 42, and damaged or destroyed 400 structures, causing about \$82 million in losses (Ohio EMA 16). It was a lone supercell thunderstorm that produced this F4 tornado, with winds between 207 and 260 mph.



Photograph 2.3.e – Source - Cincinnati Enquirer

DR-1444 - 2002 & DR-1484 - 2003

In more recent years, there have been two disaster declarations: DR-1444, which was for tornado-related damage, and DR-1484, which covered tornado and flood related damage. DR-1444 was in November 2002 and affected several counties throughout the state. Many of the residents of the impacted counties were left homeless or were trapped in debris, damage to commercial structures created localized unemployment, hundreds of injuries were reported, and multiple lives were lost.



DR-1484 occurred in August 2003 and was the most recent declaration that included tornadic damage. The tornado was confirmed as an F-1 and affected part of the City of Youngstown and parts of the unincorporated areas of the County. The tornado was 50-100 yards wide and eight miles long. Sixty homes received major damage and 20 received minor damage. The estimated loss from this tornado was \$900,000 and approximately 33% of the structures were insured.

Photograph 2.3.F – Source - OSHP

2010 TORNADOES

The first event occurred in June 5 - 6, when a major tornado outbreak affected the Midwestern United States and Great Lakes Region. At least 46 tornadoes were confirmed from Iowa to southern Ontario and Ohio as well as northern New England. Tornadoes moved through northern Ohio affecting Fulton, Lucas, Wood, Ottawa, Richland, Holmes and Tuscarawas Counties. While all counties sustained heavy structural damage, the event resulted in seven people dead in Wood County. The Governor of Ohio issued an Emergency Proclamation for the event and requested a Presidential Declaration for the area, however, none was granted. Regardless, tornadoes ranged from EF-0 northeast of Lucas, Ohio in Richland County, to an EF-4 tornado that resulted in 78 homes with major damage and 97 with minor damage. The total residential loss was approximately \$7,545,300. Thirty-two businesses had major damage and three had minor damage resulting in \$4,661,000 in losses. The Counties experienced a total of \$1,263,858 in infrastructure damage.

The second event occurred when severe weather and tornadoes swept across the state in the afternoon of September 16th. The National Weather Service confirmed 11 tornadoes in Wayne, Holmes, Fairfield, Athens, Perry, Meigs, Delaware and Tuscarawas Counties. The tornadoes ranged from EF-0 to EF-3, and Athens, Meigs, Pickaway, Perry and Wayne Counties declared a local state of emergency. Thirteen people were injured in Athens County, while six were injured in Meigs County. State and county teams assessed the damaged structures to be 62 destroyed, 77 with major damage, 113 with minor damage and 373 structures as affected. Residential loss equated to 2,227 claims amounting in \$11,400,000, while business losses included 287 claims amounting in \$4,700,000.

MOSCOW TORNADO - 2012

In March 2012, Brown and Clermont Counties experienced a devastating EF-3 tornado that came up from Kentucky and into Ohio. Thunderstorms developed during the afternoon in a high wind shear environment

ahead of a strengthening low-pressure system. Many of these storms became severe, with large hail, damaging thunderstorm winds, and tornadoes all being the main threats. The tornado traveled seven miles in the Kentucky counties of Campbell and Pendleton. The tornado then moved into Clermont County, Ohio at 4:46 pm, where it hit the town of Moscow. It continued on the ground across Clermont County, crossing into Brown County around 4:58 pm. It then lifted south of Hamersville in western Brown County. This tornado caused extensive damage to structures and trees along its entire path on both sides of the Ohio River. Numerous homes were very heavily damaged or destroyed. Many homes lost their roofs, having complete exterior wall failure. Some modular homes were completely removed from their foundations, lifted, and thrown in excess of 100 yards where they were destroyed. The damage in Ohio from this tornado was consistent with maximum winds estimated at 160 miles per hour in Clermont County, and 100 miles per hour in Brown County. Clermont County experienced three deaths from the tornado. One fatality occurred in Moscow in Clermont County, while two others occurred in Bethel. Thirteen injuries were reported resulting from this storm. Property damage was estimated at \$5,660,000.



Photograph 2.3.g – Source - OEMA

As this same system moved into Adams County it caused an additional fatality. A tornado touched down just east of Highway 41, about 2 miles northeast of West Union. The tornado then traveled northeast for just over 11 miles, destroying at least 5 mobile homes and damaging two other houses. One of these homes was built of brick. A 99 year old woman was in her mobile home in Tiffin Township when the tornado struck. She was injured from this tornado and passed away several days later. Two other people were also injured from this tornado. A dozen cattle were killed and major power transmission poles were knocked over. Numerous trees were snapped or uprooted. Based on the damage surveyed, the maximum estimated wind speed of this tornado was 125 miles per hour and caused an estimated \$2 million in damage. The path of the tornado continued east into Pike and Scioto Counties causing an additional estimated \$230,000 in damage, but no other fatalities or injuries were reported.

CEDARVILLE TORNADO - 2014

A narrow but intense tornado ripped through Greene County on May 14, 2014, while sparing the nearby town of Cedarville. The NWS in Wilmington confirmed an EF3 tornado hit the area, packing winds as high as 145 mph. Cedarville is nine miles northeast of Xenia, the site of a massive F5 tornado that killed dozens during the Super outbreak of April 4, 1974. The NWS says two people were injured and several homes were hit by the tornado. This includes completely destroying two homes and causing over \$500,000 in damage.



Photograph 2.3.h - Source - NWS

MEMORIAL DAY WEEKEND - 2019

The devastating tornadoes started shortly after 10 p.m. in Mercer County, just west of the City of Celina. The final confirmed tornado was reported in Roseville, Perry County, at 2:30 a.m. on May 28. National Weather Service teams in the region counted 21 tornadoes on May 27-28, 2019, based on damage surveys, photographs, and videos. At least 166 people were injured in Ohio, and more than 500 homes were damaged or destroyed. The total damage was estimated at around \$1 billion. Various tornadoes struck the western half of Ohio



Photograph 2.3.i - Source - NWS

A strong EF3 tornado (150 mph) turned deadly in Celina with 150 mph winds, claiming the life of an 82-year-old man when an unoccupied car was tossed into his home.



Photograph 2.3.j - Source - NWS

A violent EF4 tornado that touched down west of Brookville, in Montgomery County, traveled 20 miles through Trotwood, Dayton, and Riverside.



Photograph 2.3.k - Source - NWS

Two additional EF3 tornadoes (136 to 165 mph) were confirmed in Darke-Miami counties beginning near West Milton, and in eastern Montgomery-western Greene counties, where a tornado traveled 14 miles through Beavercreek shortly after 11 p.m., damaging or destroying more than 100 homes. Three tornadoes touched down in Pickaway and Hocking counties. The strongest reached EF2 intensity near Laurelville. The nighttime aspect of this historic tornado outbreak — between 10 p.m. on May 27 and 2 a.m. on May 28 — made the situation all the more frightening, since tornado spotting at night is nearly impossible unless revealed by lightning flashes.

PAST OCCURRENCES

Between 1950-2023, Ohio has experienced 1,414 tornadoes, an average of 19.36 tornadoes annually. The majority of Tornadoes that have occurred in the state have been between an EF-0 and EF-2 (92.2%). Table 2.3.b give a breakdown of the various EF tornado events that have occurred in the state from 1950-2023.

Year	F0	F1	F2	F3	F4	F5	Total
1950	0	1	1	1	0	0	3
1951	0	1	2	0	0	0	3
1952	0	2	0	0	0	0	2
1953	0	1	1	0	6	0	8
1954	6	5	2	0	0	0	13
1955	0	2	2	2	0	0	6
1956	1	2	5	2	0	0	10
1957	0	1	3	0	0	0	4
1958	1	5	6	0	0	0	12
1959	5	2	2	1	0	0	10
1960	1	4	2	0	0	0	7
1961	6	6	4	3	1	0	20
1962	1	1	2	0	0	0	4
1963	5	8	6	0	0	0	19
1964	3	2	4	0	0	0	9
1965	2	14	12	3	8	0	39
1966	0	1	1	1	0	0	3
1967	0	3	3	0	0	0	6

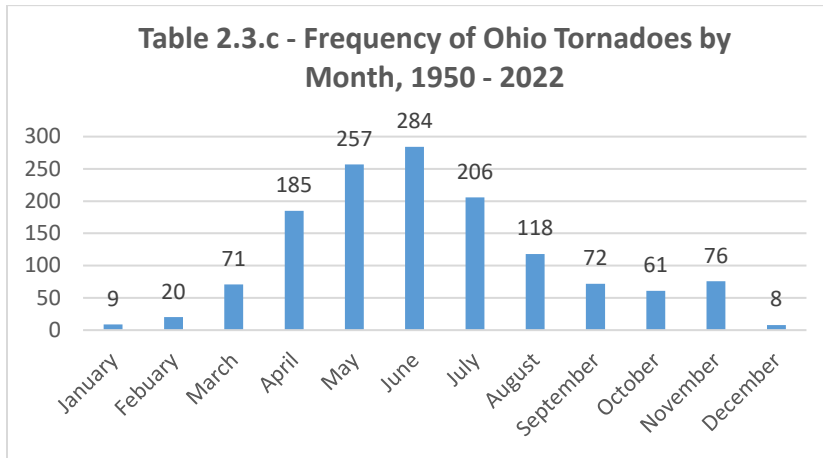
1968	1	7	4	0	5	3	20
1969	1	11	1	8	0	0	21
1970	6	7	9	1	0	0	23
1971	1	3	7	4	0	0	15
1972	1	7	2	0	0	0	10
1973	17	17	11	10	0	0	55
1974	3	11	4	2	2	3	25
1975	2	6	4	0	0	0	12
1976	7	3	2	0	0	0	12
1977	5	15	3	1	0	0	24
1978	4	15	2	1	0	0	22
1979	1	2	1	0	0	0	4
1980	1	30	6	0	0	0	37
1981	6	14	6	1	0	0	27
1982	0	7	3	0	0	0	10
1983	0	6	2	2	0	0	10
1984	0	2	0	0	0	0	2
1985	2	11	5	4	2	3	27
1986	3	13	11	0	0	0	27
1987	2	3	1	0	0	0	6
1988	0	0	0	0	0	0	0
1989	4	11	4	0	0	0	19
1990	13	8	7	0	4	0	32
1991	6	2	0	1	0	0	9
1992	26	20	12	4	1	0	63
1993	2	3	0	0	0	0	5
1994	4	5	0	0	0	0	9
1995	6	2	0	0	0	0	8

1996	6	4	0	0	0	0	10
1997	7	6	1	1	0	0	15
1998	17	6	3	0	0	0	26
1999	10	9	1	1	1	0	22
2000	9	10	7	0	1	0	27
2001	4	2	2	1	0	0	9
2002	8	12	8	5	1	0	34
2003	7	4	2	0	0	0	13
2004	4	5	0	0	0	0	9
2005	2	2	0	0	0	0	4
2006	22	11	4	0	0	0	37
2007	8	5	0	0	0	0	13
2008	12	2	1	0	0	0	15
2009	10	3	0	0	0	0	13
2010	20	23	5	2	1	0	51
2011	24	14	2	0	0	0	40
2012	11	2	1	1	0	0	15
2013	20	14	3	0	0	0	37
2014	16	4	0	1	0	0	21
2015	5	2	0	0	0	0	7
2016	16	7	3	0	0	0	26
2017	16	21	7	0	0	0	44
2018	8	11	0	0	0	0	19
2019	28	22	4	3	1	0	58
2020	20	4	0	0	0	0	24
2021	15	14	4	0	0	0	33
2022	14	16	3	0	0	0	33
2023	31	13	3	0	0	0	47

Total	525	550	229	67	34	9	1414
--------------	------------	------------	------------	-----------	-----------	----------	-------------

Table 2.3.b – Source - NOAA Storm Database

Considering more tornadoes have formed in June than any other month, there is approximately a 20.7 percent chance of a tornado on any day in June. The likelihood of a tornado is lower during the winter and higher during the summer, as indicated in Graph 2.3.a.



Graph 2.3.a – Source NOAA Storm Database

Every County in the state of Ohio has experienced at least one tornado from 1950-2023, and six counties have each recorded at least 30 tornadoes (see table 2.3.d). Van Wert and Franklin Counties have had the most Tornadoes with 39 and 34 respectively. Note that prior to 1900 Tornadoes were not documented and rarely reported.

VULNERABILITY ANALYSIS & LOSS ESTIMATION

METHODOLOGY

In the National Risk Index, a tornado risk index score and rating represent a community’s relative risk for Tornadoes when compared to the rest of the United States. A tornado expected annual loss score and rating represent a community’s relative level of expected building and population loss each year due to Tornadoes when compared to the rest of the United States. The National Risk Index – Technical Documentation (Appendix J) describes in greater detail the methodology used to perform the risk analysis for Tornadoes. Generally, the tornado exposure value represents a community’s building value (in dollars) and population (in both people and population equivalence), and agriculture value (in dollars) exposed to Tornadoes.

County	Exposure (Buildings)	Exposure (Population)	Exposure (Agriculture)
Adams	\$ 7,250,020,475	27463	\$ 46,001,867
Allen	\$ 22,716,708,588	102191	\$ 160,496,256
Ashland	\$ 13,803,678,610	52443	\$ 130,487,461
Ashtabula	\$ 20,560,536,719	97518	\$ 66,415,498
Athens	\$ 11,699,628,860	62393	\$ 13,104,471

Auglaize	\$ 9,860,532,402	46399	\$ 237,335,321
Belmont	\$ 13,488,466,636	66461	\$ 29,087,217
Brown	\$ 8,791,650,830	43652	\$ 82,277,263
Butler	\$ 75,012,204,432	390244	\$ 62,955,865
Carroll	\$ 5,326,823,085	26701	\$ 55,775,343
Champaign	\$ 7,667,577,552	38673	\$ 137,134,143
Clark	\$ 26,184,456,652	135980	\$ 145,090,222
Clermont	\$ 36,078,126,867	208527	\$ 36,442,863
Clinton	\$ 10,400,046,542	41956	\$ 134,061,383
Columbiana	\$ 21,193,341,284	101872	\$ 122,355,264
Coshocton	\$ 7,743,404,536	36580	\$ 113,678,424
Crawford	\$ 7,313,887,213	42015	\$ 268,368,664
Cuyahoga	\$ 244,271,620,347	1264334	\$ 7,139,284
Darke	\$ 14,009,129,640	51868	\$ 592,046,670
Defiance	\$ 8,087,444,704	38229	\$ 123,028,714
Delaware	\$ 54,674,879,512	213208	\$ 99,598,499
Erie	\$ 17,826,579,068	75596	\$ 108,040,692
Fairfield	\$ 29,693,562,383	158878	\$ 114,416,499
Fayette	\$ 7,200,569,590	28951	\$ 145,919,280
Franklin	\$ 236,422,365,963	1323446	\$ 59,817,357
Fulton	\$ 9,458,090,692	42713	\$ 198,555,183
Gallia	\$ 5,985,030,900	29179	\$ 21,771,339
Geauga	\$ 21,951,348,661	95397	\$ 41,416,609
Greene	\$ 32,904,572,507	167939	\$ 111,374,164
Guernsey	\$ 8,571,916,308	38372	\$ 30,718,163
Hamilton	\$ 153,888,698,740	830623	\$ 26,421,546
Hancock	\$ 15,955,317,386	74885	\$ 155,722,617
Hardin	\$ 5,771,780,125	30690	\$ 255,601,798

Harrison	\$ 2,837,123,823	14475	\$ 21,371,245
Henry	\$ 6,671,430,216	27662	\$ 153,003,310
Highland	\$ 10,507,328,303	43282	\$ 140,989,067
Hocking	\$ 6,751,958,435	28040	\$ 5,834,953
Holmes	\$ 11,951,498,604	44196	\$ 208,850,782
Huron	\$ 12,267,907,773	58532	\$ 229,320,807
Jackson	\$ 6,971,680,704	32646	\$ 12,654,530
Jefferson	\$ 15,713,558,690	65187	\$ 10,548,230
Knox	\$ 14,262,973,508	62691	\$ 155,013,155
Lake	\$ 45,763,676,596	232492	\$ 84,443,953
Lawrence	\$ 9,823,219,144	58183	\$ 4,625,383
Licking	\$ 37,618,983,655	178382	\$ 212,638,122
Logan	\$ 13,072,529,195	45835	\$ 139,648,149
Lorain	\$ 63,415,048,848	312902	\$ 153,571,419
Lucas	\$ 84,065,358,995	431225	\$ 58,114,456
Madison	\$ 8,575,780,568	43789	\$ 182,647,724
Mahoning	\$ 48,322,567,878	228579	\$ 78,699,686
Marion	\$ 12,618,822,391	65349	\$ 155,912,944
Medina	\$ 38,977,305,363	182378	\$ 59,097,992
Meigs	\$ 4,709,053,511	22183	\$ 19,054,372
Mercer	\$ 13,482,838,954	42522	\$ 724,437,877
Miami	\$ 24,042,809,985	108774	\$ 122,404,090
Monroe	\$ 4,269,411,186	13379	\$ 16,020,912
Montgomery	\$ 99,451,730,751	537193	\$ 90,263,913
Morgan	\$ 2,734,311,820	13787	\$ 20,660,347
Morrow	\$ 6,740,057,169	34943	\$ 96,569,984
Muskingum	\$ 18,106,752,065	86374	\$ 80,370,075
Noble	\$ 4,120,330,194	14107	\$ 8,365,126

Ottawa	\$ 13,873,314,133	40343	\$ 67,919,699
Paulding	\$ 5,212,443,329	18790	\$ 198,980,415
Perry	\$ 5,607,927,097	35327	\$ 38,807,640
Pickaway	\$ 12,399,763,844	58527	\$ 186,562,233
Pike	\$ 6,578,325,422	27037	\$ 63,156,277
Portage	\$ 32,692,818,126	161780	\$ 39,552,855
Preble	\$ 8,365,928,677	40984	\$ 167,747,600
Putnam	\$ 6,676,187,095	34443	\$ 246,010,331
Richland	\$ 24,198,309,075	124906	\$ 155,034,818
Ross	\$ 13,696,889,502	77071	\$ 89,156,257
Sandusky	\$ 13,863,139,112	58813	\$ 115,856,168
Scioto	\$ 11,861,302,547	73911	\$ 20,459,899
Seneca	\$ 11,329,882,913	55063	\$ 161,581,658
Shelby	\$ 14,107,369,217	48215	\$ 204,457,715
Stark	\$ 76,095,235,247	374812	\$ 109,916,533
Summit	\$ 108,471,919,232	540333	\$ 14,459,158
Trumbull	\$ 42,033,156,468	201961	\$ 64,314,882
Tuscarawas	\$ 19,321,270,818	93231	\$ 143,573,861
Union	\$ 13,980,628,662	62265	\$ 240,069,701
Van Wert	\$ 5,627,990,573	28929	\$ 219,408,525
Vinton	\$ 2,259,117,031	12767	\$ 6,529,618
Warren	\$ 49,577,843,084	242269	\$ 54,672,546
Washington	\$ 11,589,652,639	59732	\$ 48,217,160
Wayne	\$ 24,062,125,634	116847	\$ 376,044,644
Williams	\$ 9,168,323,113	37098	\$ 140,850,996
Wood	\$ 34,370,108,616	132182	\$ 182,623,882
Wyandot	\$ 4,936,442,754	21893	\$ 180,432,174
Grand Total	\$2,381,567,460,093	11793992	\$ 10,714,185,787

Table 2.3.c

A tornado annualized frequency value represents the average number of recorded tornado hazard occurrences (events) per year over the period of record (34 years). The Expected Annual Loss represents the relative level of building, population and agriculture value loss each year due to Tornadoes.

County	EAL (Buildings)	EAL (Population Equivalence)	EAL (Agriculture)	EAL (Total)
Adams	\$ 560,945.28	\$ 174,986.73	\$ 380.16	\$ 736,312.17
Allen	\$ 2,212,794.70	\$ 389,954.48	\$ 1,216.08	\$ 2,603,965.27
Ashland	\$ 1,093,273.68	\$ 284,230.45	\$ 847.19	\$ 1,378,351.32
Ashtabula	\$ 1,357,664.99	\$ 1,439,157.69	\$ 942.58	\$ 2,797,765.27
Athens	\$ 441,074.70	\$ 174,713.77	\$ 71.97	\$ 615,860.44
Auglaize	\$ 1,186,504.88	\$ 420,138.67	\$ 1,871.48	\$ 1,608,515.03
Belmont	\$ 585,740.09	\$ 519,287.01	\$ 427.54	\$ 1,105,454.64
Brown	\$ 777,533.57	\$ 318,898.91	\$ 591.13	\$ 1,097,023.60
Butler	\$ 14,813,609.80	\$ 9,908,728.78	\$ 708.35	\$ 24,723,046.94
Carroll	\$ 202,435.84	\$ 147,949.42	\$ 923.06	\$ 351,308.32
Champaign	\$ 829,982.48	\$ 309,097.85	\$ 1,212.90	\$ 1,140,293.24
Clark	\$ 2,352,486.39	\$ 1,055,878.48	\$ 683.09	\$ 3,409,047.95
Clermont	\$ 3,018,082.84	\$ 2,192,618.03	\$ 310.25	\$ 5,211,011.12
Clinton	\$ 1,061,113.12	\$ 329,922.34	\$ 1,024.33	\$ 1,392,059.79
Columbiana	\$ 1,021,514.63	\$ 971,779.87	\$ 2,212.04	\$ 1,995,506.54
Coshocton	\$ 483,601.12	\$ 168,456.99	\$ 980.83	\$ 653,038.94
Crawford	\$ 331,146.81	\$ 547,425.46	\$ 1,674.00	\$ 880,246.27
Cuyahoga	\$ 15,861,766.04	\$ 12,474,229.37	\$ 41.41	\$ 28,336,036.82
Darke	\$ 3,013,680.71	\$ 1,441,069.87	\$ 3,938.91	\$ 4,458,689.49
Defiance	\$ 1,379,020.39	\$ 777,368.11	\$ 3,037.46	\$ 2,159,425.95
Delaware	\$ 5,018,228.75	\$ 1,431,603.62	\$ 829.00	\$ 6,450,661.37
Erie	\$ 1,877,044.38	\$ 1,087,341.53	\$ 609.47	\$ 2,964,995.39
Fairfield	\$ 2,068,318.34	\$ 828,937.51	\$ 795.24	\$ 2,898,051.09
Fayette	\$ 701,915.72	\$ 241,659.94	\$ 576.27	\$ 944,151.93

Franklin	\$ 16,964,075.28	\$ 8,424,863.31	\$ 447.31	\$ 25,389,385.90
Fulton	\$ 1,554,829.50	\$ 787,732.53	\$ 4,814.36	\$ 2,347,376.39
Gallia	\$ 188,994.26	\$ 68,124.89	\$ 78.26	\$ 257,197.41
Geauga	\$ 889,893.90	\$ 541,943.75	\$ 194.32	\$ 1,432,031.97
Greene	\$ 3,148,976.47	\$ 1,287,681.50	\$ 990.60	\$ 4,437,648.57
Guernsey	\$ 373,098.26	\$ 143,097.88	\$ 181.79	\$ 516,377.93
Hamilton	\$ 26,206,184.50	\$ 21,075,837.06	\$ 300.14	\$ 47,282,321.70
Hancock	\$ 1,686,552.20	\$ 1,773,200.83	\$ 1,096.66	\$ 3,460,849.69
Hardin	\$ 588,275.47	\$ 219,038.09	\$ 1,921.44	\$ 809,235.00
Harrison	\$ 98,471.26	\$ 46,646.73	\$ 328.66	\$ 145,446.65
Henry	\$ 831,867.28	\$ 451,393.87	\$ 1,062.34	\$ 1,284,323.49
Highland	\$ 957,653.64	\$ 318,726.39	\$ 1,010.88	\$ 1,277,390.91
Hocking	\$ 405,619.52	\$ 124,662.89	\$ 54.47	\$ 530,336.88
Holmes	\$ 843,614.29	\$ 254,082.46	\$ 1,464.55	\$ 1,099,161.31
Huron	\$ 1,256,059.58	\$ 768,469.49	\$ 1,466.07	\$ 2,025,995.14
Jackson	\$ 298,510.46	\$ 105,126.56	\$ 57.18	\$ 403,694.20
Jefferson	\$ 625,662.58	\$ 336,906.51	\$ 168.71	\$ 962,737.80
Knox	\$ 1,190,822.93	\$ 361,368.17	\$ 1,192.27	\$ 1,553,383.37
Lake	\$ 1,937,373.61	\$ 1,163,998.29	\$ 294.00	\$ 3,101,665.90
Lawrence	\$ 304,887.85	\$ 648,827.24	\$ 46.01	\$ 953,761.10
Licking	\$ 928,659.31	\$ 960,870.10	\$ 1,851.99	\$ 1,891,381.40
Logan	\$ 1,384,593.88	\$ 371,444.11	\$ 1,287.90	\$ 1,757,325.89
Lorain	\$ 4,492,399.52	\$ 2,656,067.86	\$ 916.94	\$ 7,149,384.32
Lucas	\$ 8,862,877.93	\$ 6,633,781.87	\$ 383.25	\$ 15,497,043.06
Madison	\$ 840,108.32	\$ 316,114.99	\$ 835.23	\$ 1,157,058.54
Mahoning	\$ 2,865,534.10	\$ 2,890,943.59	\$ 1,398.81	\$ 5,757,876.50
Marion	\$ 1,101,547.11	\$ 434,912.18	\$ 1,122.88	\$ 1,537,582.17
Medina	\$ 3,705,558.61	\$ 1,879,238.95	\$ 379.53	\$ 5,585,177.10

Meigs	\$ 166,397.12	\$ 55,390.15	\$ 99.99	\$ 221,887.26
Mercer	\$ 2,683,122.70	\$ 873,184.21	\$ 7,291.39	\$ 3,563,598.30
Miami	\$ 2,694,266.44	\$ 938,748.30	\$ 960.72	\$ 3,633,975.46
Monroe	\$ 133,867.69	\$ 77,108.24	\$ 197.09	\$ 211,173.02
Montgomery	\$ 3,203,839.35	\$ 4,318,356.60	\$ 779.74	\$ 7,522,975.69
Morgan	\$ 111,636.83	\$ 41,563.87	\$ 127.50	\$ 153,328.20
Morrow	\$ 606,344.57	\$ 210,834.43	\$ 663.58	\$ 817,842.58
Muskingum	\$ 948,981.18	\$ 382,885.30	\$ 518.62	\$ 1,332,385.10
Noble	\$ 157,686.67	\$ 101,974.90	\$ 116.13	\$ 259,777.70
Ottawa	\$ 1,739,954.83	\$ 838,731.61	\$ 414.35	\$ 2,579,100.79
Paulding	\$ 881,959.61	\$ 380,078.88	\$ 4,820.52	\$ 1,266,859.01
Perry	\$ 328,900.46	\$ 152,608.38	\$ 241.25	\$ 481,750.09
Pickaway	\$ 983,517.01	\$ 343,605.84	\$ 1,421.83	\$ 1,328,544.68
Pike	\$ 385,611.07	\$ 136,764.67	\$ 509.45	\$ 522,885.18
Portage	\$ 1,766,953.49	\$ 882,776.22	\$ 171.05	\$ 2,649,900.76
Preble	\$ 1,916,782.89	\$ 1,209,010.22	\$ 1,864.92	\$ 3,127,658.04
Putnam	\$ 834,436.82	\$ 531,136.84	\$ 1,482.03	\$ 1,367,055.69
Richland	\$ 968,261.18	\$ 684,323.18	\$ 1,099.56	\$ 1,653,683.92
Ross	\$ 815,998.56	\$ 436,197.00	\$ 941.23	\$ 1,253,136.79
Sandusky	\$ 1,471,041.47	\$ 959,251.01	\$ 708.48	\$ 2,431,000.96
Scioto	\$ 553,304.41	\$ 299,404.57	\$ 124.42	\$ 852,833.41
Seneca	\$ 1,033,103.07	\$ 530,510.92	\$ 1,031.42	\$ 1,564,645.42
Shelby	\$ 1,561,193.42	\$ 412,105.37	\$ 1,609.88	\$ 1,974,908.67
Stark	\$ 3,981,170.13	\$ 1,831,508.12	\$ 425.46	\$ 5,813,103.72
Summit	\$ 4,304,401.81	\$ 2,719,678.42	\$ 63.89	\$ 7,024,144.12
Trumbull	\$ 2,571,319.72	\$ 3,061,775.76	\$ 1,104.35	\$ 5,634,199.83
Tuscarawas	\$ 545,426.31	\$ 205,304.02	\$ 630.04	\$ 751,360.37
Union	\$ 1,454,273.75	\$ 481,904.35	\$ 2,022.49	\$ 1,938,200.58

Van Wert	\$ 782,436.10	\$ 416,425.31	\$ 1,728.40	\$ 1,200,589.81
Vinton	\$ 122,656.85	\$ 48,787.36	\$ 72.50	\$ 171,516.71
Warren	\$ 4,741,126.64	\$ 2,119,898.48	\$ 276.60	\$ 6,861,301.73
Washington	\$ 365,776.86	\$ 132,639.15	\$ 212.48	\$ 498,628.49
Wayne	\$ 2,153,391.39	\$ 469,496.62	\$ 2,260.77	\$ 2,625,148.77
Williams	\$ 1,601,827.01	\$ 779,705.63	\$ 3,542.33	\$ 2,385,074.97
Wood	\$ 4,132,421.08	\$ 2,033,609.80	\$ 1,333.27	\$ 6,167,364.14
Wyandot	\$ 621,938.45	\$ 370,976.24	\$ 1,378.33	\$ 994,293.02
Grand Total	\$ 200,107,507.89	\$ 122,148,796.90	\$ 93,497.35	\$ 322,349,802.14

Table 2.3.d

STATE-OWNED AND STATE-LEASED CRITICAL FACILITIES VULNERABILITY ANALYSIS & LOSS ESTIMATION

The state-owned and state-leased critical facilities datasets were used to perform an analysis based upon the spatial location of each critical facility, the replacement cost of that facility and Tornado Risk Index score and rating from the NRI at the census tract level (Appendix J).

Hamilton County has the greatest number of critical facilities (36) in the Relatively High risk rating, followed by Shelby (31), Darke (25), Miami (24) and Butler (24). Mercer County have the greatest number of critical facilities (6) in the Very High-risk rating, followed by Butler (4), Hamilton (1) and Preble (1).

County	Very Low		Relatively Low		Relatively Moderate		Relatively High		Very High	
	# of CF	Replacement Cost	# of CF	Replacement Cost	# of CF	Replacement Cost	# of CF	Replacement Cost	# of CF	Replacement Cost
ADAMS	0	\$ -	0	\$ -	18	\$ 3,809,451	12	\$ 8,862,854	0	\$ -
ALLEN	0	\$ -	19	\$ 6,347,063	80	\$ 142,188,041	0	\$ -	0	\$ -
ASHLAND	0	\$ -	1	\$ 23,670	144	\$ 103,467,432	0	\$ -	0	\$ -
ASHTABULA	0	\$ -	0	\$ -	69	\$ 24,530,807	3	\$ 664,471	0	\$ -
ATHENS	0	\$ -	35	\$ 53,251,614	0	\$ -	0	\$ -	0	\$ -
AUGLAIZE	0	\$ -	0	\$ -	17	\$ 6,220,319	1	\$ 322,500	0	\$ -
BELMONT	0	\$ -	46	\$ 147,324,460	24	\$ 6,239,839	0	\$ -	0	\$ -
BROWN	0	\$ -	0	\$ -	18	\$ 6,359,988	13	\$ 29,027,458	0	\$ -
BUTLER	0	\$ -	0	\$ -	1	\$ 547,500	24	\$ 11,979,606	4	\$ 4,673,173
CARROLL	0	\$ -	3	\$ 1,408,948	15	\$ 3,811,413	0	\$ -	0	\$ -
CHAMPAIGN	0	\$ -	0	\$ -	16	\$ 8,259,993	5	\$ 986,100	0	\$ -
CLARK	0	\$ -	1	\$ 572,100	26	\$ 9,078,822	0	\$ -	0	\$ -
CLERMONT	0	\$ -	2	\$ 897,300	27	\$ 9,518,724	22	\$ 22,551,744	0	\$ -
CLINTON	0	\$ -	0	\$ -	17	\$ 3,232,917	14	\$ 10,217,600	0	\$ -
COLUMBIANA	0	\$ -	4	\$ 2,975,574	32	\$ 12,006,183	0	\$ -	0	\$ -
COSHOCTON	0	\$ -	4	\$ 1,291,947	17	\$ 15,521,094	0	\$ -	0	\$ -
CRAWFORD	0	\$ -	3	\$ 544,326	9	\$ 10,976,380	0	\$ -	0	\$ -
CUYAHOGA	0	\$ -	43	\$ 54,796,849	57	\$ 178,377,456	6	\$ 156,447,618	0	\$ -
DARKE	0	\$ -	0	\$ -	2	\$ 661,640	25	\$ 17,331,315	0	\$ -
DEFIANCE	0	\$ -	0	\$ -	0	\$ -	15	\$ 12,622,421	0	\$ -
DELAWARE	0	\$ -	2	\$ 555,369	22	\$ 58,645,808	9	\$ 1,801,404	0	\$ -
ERIE	0	\$ -	0	\$ -	46	\$ 145,033,394	9	\$ 5,116,214	0	\$ -
FAIRFIELD	0	\$ -	55	\$ 89,983,799	12	\$ 4,573,750	0	\$ -	0	\$ -
FAYETTE	0	\$ -	0	\$ -	22	\$ 11,026,797	1	\$ 25,613	0	\$ -
FRANKLIN	0	\$ -	53	\$ 205,062,745	127	\$ 1,541,889,731	10	\$ 590,010,580	0	\$ -
FULTON	0	\$ -	0	\$ -	2	\$ 765,977	10	\$ 9,055,986	0	\$ -
GALLIA	0	\$ -	61	\$ 49,786,218	0	\$ -	0	\$ -	0	\$ -
GEAUGA	0	\$ -	10	\$ 2,599,882	17	\$ 9,464,846	0	\$ -	0	\$ -
GREENE	0	\$ -	1	\$ 226,721	20	\$ 17,333,591	0	\$ -	0	\$ -
GUERNSEY	0	\$ -	37	\$ 31,438,512	13	\$ 27,295,230	0	\$ -	0	\$ -

HAMILTON	0	\$ -	1	\$ 303,200	3	\$ 649,003	36	\$ 112,320,077	1	\$ 44,509
HANCOCK	0	\$ -	0	\$ -	0	\$ -	20	\$ 12,221,849	0	\$ -
HARDIN	0	\$ -	0	\$ -	11	\$ 3,099,615	7	\$ 3,726,143	0	\$ -
HARRISON	0	\$ -	24	\$ 9,202,405	0	\$ -	0	\$ -	0	\$ -
HENRY	0	\$ -	0	\$ -	15	\$ 4,226,196	1	\$ 24,050	0	\$ -
HIGHLAND	0	\$ -	0	\$ -	8	\$ 5,699,900	3	\$ 1,001,655	0	\$ -
HOCKING	0	\$ -	17	\$ 4,416,450	10	\$ 3,173,780	0	\$ -	0	\$ -
HOLMES	0	\$ -	0	\$ -	27	\$ 8,358,433	2	\$ 830,000	0	\$ -
HURON	0	\$ -	0	\$ -	19	\$ 10,199,563	3	\$ 637,787	0	\$ -
JACKSON	0	\$ -	16	\$ 8,805,760	5	\$ 1,405,325	0	\$ -	0	\$ -
JEFFERSON	0	\$ -	33	\$ 14,646,395	1	\$ 39,502	0	\$ -	0	\$ -
KNOX	0	\$ -	11	\$ 5,958,280	30	\$ 70,733,206	0	\$ -	0	\$ -
LAKE	0	\$ -	17	\$ 12,497,023	4	\$ 491,079	0	\$ -	0	\$ -
LAWRENCE	0	\$ -	25	\$ 7,406,239	1	\$ 1,761,200	0	\$ -	0	\$ -
LICKING	2	\$ 1,643,248	52	\$ 169,171,906	13	\$ 15,926,302	0	\$ -	0	\$ -
LOGAN	0	\$ -	0	\$ -	15	\$ 7,792,950	6	\$ 1,596,980	0	\$ -
LORAIN	0	\$ -	38	\$ 85,528,152	45	\$ 126,862,437	0	\$ -	0	\$ -
LUCAS	0	\$ -	1	\$ 36,748	41	\$ 254,321,996	10	\$ 20,139,002	0	\$ -
MADISON	0	\$ -	68	\$ 374,054,248	30	\$ 16,311,025	6	\$ 8,146,300	0	\$ -
MAHONING	0	\$ -	3	\$ 272,366	55	\$ 109,405,808	0	\$ -	0	\$ -
MARION	0	\$ -	48	\$ 230,139,872	1	\$ 516,311	10	\$ 6,397,971	0	\$ -
MEDINA	0	\$ -	2	\$ 1,368,843	13	\$ 7,238,567	2	\$ 7,632,389	0	\$ -
MEIGS	0	\$ -	24	\$ 9,369,001	0	\$ -	0	\$ -	0	\$ -
MERCER	0	\$ -	0	\$ -	7	\$ 1,079,195	14	\$ 7,233,279	6	\$ 828,612
MIAMI	0	\$ -	0	\$ -	6	\$ 5,300,425	24	\$ 15,694,241	0	\$ -
MONROE	0	\$ -	12	\$ 3,933,797	0	\$ -	0	\$ -	0	\$ -
MONTGOMERY	0	\$ -	51	\$ 156,013,600	21	\$ 31,883,216	0	\$ -	0	\$ -
MORGAN	0	\$ -	15	\$ 7,945,308	0	\$ -	0	\$ -	0	\$ -
MORROW	0	\$ -	1	\$ 364,042	18	\$ 12,632,534	0	\$ -	0	\$ -
MUSKINGUM	0	\$ -	18	\$ 8,465,278	18	\$ 5,704,597	0	\$ -	0	\$ -
NOBLE	0	\$ -	26	\$ 63,588,248	6	\$ 1,684,895	0	\$ -	0	\$ -

OTTAWA	0	\$ -	36	\$ 34,797,636	10	\$ 5,930,316	6	\$ 1,509,983	0	\$ -
PAULDING	0	\$ -	0	\$ -	0	\$ -	11	\$ 8,375,639	0	\$ -
PERRY	0	\$ -	4	\$ 985,911	5	\$ 6,181,210	0	\$ -	0	\$ -
PICKAWAY	0	\$ -	99	\$ 284,332,631	38	\$ 62,290,013	0	\$ -	0	\$ -
PIKE	0	\$ -	4	\$ 1,338,100	1	\$ 24,716	7	\$ 7,280,896	0	\$ -
PORTAGE	0	\$ -	23	\$ 17,615,244	2	\$ 178,336	0	\$ -	0	\$ -
PREBLE	0	\$ -	0	\$ -	7	\$ 1,011,740	20	\$ 6,521,892	1	\$ 22,231
PUTNAM	0	\$ -	0	\$ -	16	\$ 3,879,569	3	\$ 977,700	0	\$ -
RICHLAND	0	\$ -	23	\$ 8,545,628	54	\$ 228,452,819	0	\$ -	0	\$ -
ROSS	0	\$ -	4	\$ 1,264,694	124	\$ 508,377,826	1	\$ 1,156,000	0	\$ -
SANDUSKY	0	\$ -	0	\$ -	10	\$ 7,325,322	4	\$ 1,308,180	0	\$ -
SCIOTO	0	\$ -	64	\$ 478,241,655	2	\$ 193,331	0	\$ -	0	\$ -
SENECA	0	\$ -	0	\$ -	47	\$ 47,263,743	0	\$ -	0	\$ -
SHELBY	0	\$ -	0	\$ -	4	\$ 709,072	31	\$ 31,620,653	0	\$ -
STARK	0	\$ -	24	\$ 22,690,539	33	\$ 125,951,046	0	\$ -	0	\$ -
SUMMIT	0	\$ -	45	\$ 65,858,556	20	\$ 132,097,918	0	\$ -	0	\$ -
TRUMBULL	0	\$ -	4	\$ 894,688	54	\$ 82,196,685	11	\$ 13,941,198	0	\$ -
TUSCARAWAS	10	\$ 1,065,899	44	\$ 49,510,366	0	\$ -	0	\$ -	0	\$ -
UNION	0	\$ -	0	\$ -	55	\$ 169,438,472	0	\$ -	0	\$ -
VAN WERT	0	\$ -	0	\$ -	16	\$ 7,772,814	0	\$ -	0	\$ -
VINTON	0	\$ -	8	\$ 1,631,300	11	\$ 12,471,127	0	\$ -	0	\$ -
WARREN	0	\$ -	89	\$ 308,295,722	6	\$ 3,137,066	14	\$ 12,286,660	0	\$ -
WASHINGTON	4	\$ 1,426,900	46	\$ 35,272,100	0	\$ -	0	\$ -	0	\$ -
WAYNE	0	\$ -	7	\$ 1,548,476	7	\$ 4,181,399	8	\$ 6,472,928	0	\$ -
WILLIAMS	0	\$ -	0	\$ -	1	\$ 496,549	16	\$ 7,340,531	0	\$ -
WOOD	0	\$ -	0	\$ -	18	\$ 11,814,763	22	\$ 56,477,802	0	\$ -
WYANDOT	0	\$ -	0	\$ -	2	\$ 1,235,382	20	\$ 5,494,328	0	\$ -
Grand Total	16	\$ 4,136,047	1,407	\$ 3,135,397,504	1,836	\$ 4,489,945,417	497	\$ 1,235,389,597	12	\$ 5,568,525

Table 2.3.e

REGIONS

Region 3 has the greatest number (300) critical facilities in the both the in the Relatively High and Very High Risk categories. Region 2 has the highest replacement cost of critical facilities in the Relatively High and Very High Risk categories at just over 920 million dollars in replacement costs.

	Very Low		Relatively Low		Relatively Moderate	
	# of CF	Replacement Cost	# of CF	Replacement Cost	# of CF	Replacement Cost
Region 1	0	\$ -	108	\$ 272,437,745	444	\$ 697,160,087
Region 2	2	\$ 1,643,248	716	\$ 1,867,395,125	831	\$ 2,937,014,266
Region 3	14	\$ 2,492,799	583	\$ 995,564,634	561	\$ 855,771,064
	Relatively High		Very High			
	# of CF	Replacement Cost	# of CF	Replacement Cost		
Region 1	293	\$ 232,732,546	7	\$ 850,843		
Region 2	130	\$ 917,340,775	5	\$ 4,717,682		
Region 3	74	\$ 85,316,276	0	\$ -		

Table 2.3.f