"Tornado Rips Oelwein" Newspaper Article, May 16, 1968 (Pg.1)

The Oelwein Daily Register. Of this special law. Available of the King of the Conflict of the King of the Conflict of the King of the Conflict of the King of the

TORNADO RIPS OELWEIN



MRS, GRACE DAMON was dead on arrival at Mercy Hospital in Oelwein minutes after this picture was taken. Mrs. Damon was trapped under a giant pile of bricks in her apartment over the Ben Franklin Store.

4 DEAD: SEVERAL CRITICAL SI4 MILLION DAMAGE

"Tornado Rips Oelwein" Newspaper Article, May 16, 1968 (Pg.2)



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"Outstanding Iowa Storms" Essay from The Annals of Iowa, 1970 (Pg.2)

OUTSTANDING IOWA STORMS

by Paul J. Waite State Climatologist

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Iowa's weather is well known for its invigorating qualities, for stimulating agriculture and its people. It is well known also for its extremes which sometimes reach disastrous proportions, particularly in storms. Each year, mostly during the warm season, some 40 or 50 days are with thunderstorm. On occasion the thunderstorms are accompanied by hail, high wind, excessive rainfalls or even tornado. In most years hail losses exceed tornado losses. But never has Iowa lost a human life to hail while losing some 731 lives to tornadoes. The tornado is a dramatically terrifying storm that demolishes a path through the countryside. Many people live in fear of the tornado because it strikes so suddenly and ferociously, with forces never equalled by any other storm.

Iowa's outstanding winter storm is the blizzard which combines the wintry elements of cold, wind and snow into one storm that likewise has brought death and extensive suffering. Outstanding blizzards long remain in the memories of Iowans which have become a part of our recorded history. The accounts are found in newspapers, histories, journals and logs extending through Iowa's settlement history since the 1830s. Accounts contained in daily recorded weather history by the U. S. Weather Service date back 150 years to the first army fort establishment in Iowa at Council Bluffs on Oct. 22, 1819. The organized Federal Weather Services are completing their

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hundredth year of operation in February 1970. Prior to the 1870s interested weather observers, beginning with Prof. Theodore Parvin (Muscatine and Iowa City) in 1838, kept the few continuous records of daily weather, but almost everyone who kept a log or journal recorded the outstanding events, particularly tornadoes and blizzards. This account is primarily concerned with the 16 famous blizzards and 25 outstanding tornadoes in Iowa.

Winter Storms

Iowa's winter storms are sometimes rain, sometimes with snow and on occasion sleet or freezing rain; the latter treacherous occasions occur a few days each winter.

The most dramatic of all the winter storms, though, is the blizzard—with its combination of snow, wind and sharply falling temperatures into the subzero range. It is the blizzard that creates the greatest hazard to the highway traveler, the cattlemen's herds and the poultrymen's flocks. Blizzards combine all the dangers of the wintry cold with shrieking winds laden with blinding snow. The Great Plains are visited with some regularity year after year. Iowa is located in the heart of the blizzard-belt and experiences blizzards almost every winter.

It was in the *Estherville* (Iowa) *Vindicator* that the word "blizzard" was first used in print to describe the March 14, 1870 storm which swept across the Dakotas through Iowa. The origin of the name is attributed to the early German settlers, who called the storms blizartig (lightning-like) to describe the sudden fury of the storms.

The lightning like fury of these most destructive and perilous winter storms are chronicled throughout Iowa history. Some of the greatest blizzard disasters have followed unusual winter mildness when people were away from their homes without sufficient clothing. The blizzard is fed by the abundance of moisture in the air and the sharp temperature contrast between the advancing cold air and the unseasonably warm air it displaces.

A blizzard, to be so classed, must have winds 35 miles per hour or stronger with falling or blowing snow and temperatures 20 degrees F. or lower for an extended period. A severe

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blizzard has winds 45 miles per hour or higher and the temperatures are 10 degrees F. or colder. Many outstanding snow-storms escape the blizzard classification for lack of wind or temperature. For example, heavy snows drifted roof high in northwest Iowa in February 1962, yet lacked winds above 35 miles per hour to place the storm in blizzard classification. Truly outstanding, this storm will long remain in the memories of the natives.

Early record indicates 1848 was a snowy year. The *History of Polk County, Iowa* (1888) says, "the winter of 1848 will never be forgotten by the early settlers. The snow commenced early in November (1847) before the ground was frozen and continued until the unprecedented snowfall on December 21. . .which was the most fearful one in the country." The snow continued over three feet deep into February 1848 with pioneers completely snowbound. At Muscatine, a record-breaking 20.5 inches of new snow fell on Dec. 21, 1847; a record which stands to this date.

Outstanding Iowa blizzards total 16; they are described in Table 1. The first outstanding blizzard in our record triggered the famous winter of 1856-57 on Dec. 2-3. The Dubuque Express and Herald wrote: ". . . the weather was unusually severe. Snow which commenced to fall on the evening previous continued throughout the entire night and day, and was swept through the streets by an angry wind with blinding velocity. The amount of snow which fell must be in the neighborhood of 16 or 18 inches . . . The wind, too, was exceedingly chilly . . . " Ten days later another severe storm piled more snow over Iowa. In the Dec. 21, 1856 issue of the Dubugue Express and Herald the later report was: "Travel has been most difficult [due to deep snow] and several persons froze to death on the prairie during the late severe weather." Pioneers had already begun to suffer through one of the most severe and extended winters in Iowa history, which it is claimed, contributed to the Spirit Lake Massacre in northwest Iowa in the spring of 1857. The long winter had made game exceedingly scarce. Further, the winter was intensely cold. At Dubuque, December and January have never been so continuously and prolongedly cold since 1856-57. At Muscatine,

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the thermometer plunged to -30 degrees F. February and March were somewhat cold, followed by Iowa's coldest April of record accentuated with heavy snowfalls. The winter of 1856-57 lasted through April and was one of the most severe, if not the worst, in Iowa's whole recorded history.

The blizzard of Dec. 15-16, 1863 was notable in Des Moines where the howling winds damaged a few homes. Fifteen days later the blizzard, which C. D. Reed (U. S. Weather Bureau Section Director, Iowa, 1918-1944) classified as the worst blizzard in eastern Iowa, struck with moderate snowfalls and a severe cold wave. Cattle froze to death and suffering was considerable.

The fourth one of Iowa's noteworthly blizzards was observed on Jan. 7-9, 1873. It was described by the *Iowa State Register* (Des Moines) in the Jan. 8, 1873 issue thusly: "One of the severest storms that has been known in this section for years, came swooping down on the city and adjacent country yesterday afternoon, about 4 o'clock. The wind blew a regular hurricane, and the air was filled with fine snow that blinded travelers and almost shut out eye sight . . . Trains were stalled and roofs were blown from one or two small houses on Capitol Hill." Snow was a foot or two deep and greatly drifted.

The March 2-4, 1881 blizzard was described as very severe. It extended from Iowa into Michigan with much suffering due to shortages of food and fuel. Dr. Gustavus Hinrichs, Director of the Iowa Weather Service, said that high winds caused immense snow drifts which "completely blocked even the oldest and best east and west railroads for a day or two and stopping all traffic on other lines for a much longer time." He further states that continuous snow cover "till the latter half of the closing decade of March gave us over one hundred days of good sleighing, but also much anxiety in regard to the final breakup." Little damage resulted from snow melt.

To the blizzard of Jan. 7-8, 1886 is attributed the greatest loss of life in Iowa during any blizzard. Twenty Iowans were overcome by the storm. An account in the *State Register* on January 15 describes the storm and some of the casualties. A young man became lost but found a haystack in which he tried, unsuccessfully, to burrow for shelter. He unhitched his

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team of horses which returned home alone. The horses' ears were frozen stiff close to their necks, and it took over an hour and a half to get the bits out of their mouths.

The blizzard of Jan. 12, 1888 was probably the worst of history over north and west Iowa and in the upper Great Plains. Numerous people were lost and frozen in the storm as it swept across Montana, the Dakotas and Nebraska. It reached Iowa in the afternoon late enough so that most Iowans had reached shelter and few casualties were reported. Dr. Geo. Chappel, U. S. Signal Service in Omaha, Nebraska compared the storm intensity to that of 1864. The following period of cold was likewise comparable. Dr. Hinrichs in the Iowa Weather Report described the 10 days following as the coldest 10-day period known over Iowa and even exceeding the coldness of the Jan. 1-10, 1864 period.

The blizzard of Nov. 21, 1898 was characterized by high winds, sharply falling temperatures and considerable snow. Official observer, David Hadden at Alta described the storm thus: "a norther raged all day of the 21st, the high northwest gales continuing until evening of the 22nd. Snow drifted greatly and in places was five or six feet deep. It was one of the severest blizzards in this section for many years. A cold wave followed which continued nearly all week." Much of the corn was not yet harvested when the blizzard struck Iowa.

The blizzard on Dec. 26-28, 1904 was characterized as the worst in that area since 1873 by the Cresco newspaper. Little mention was made of livestock losses in most parts of the State.

The noteworthy blizzard on Jan. 28-30, 1909 was widespread over much of Iowa with numerous livestock and property losses reported. Fred B. Hanson, Official Weather Observer at Inwood, described this blizzard as the worst in 21 years and if there had been more snow it would have equalled the storm of Jan. 12, 1888. The Official Weather Observer at Hopeful, M. T. Ashley, reported many windmills blown down in this blizzard and that some livestock perished.

The blizzard on March 18, 1923 completed one of the snowiest weeks of record in Iowa. Some central Iowa stations reported 25-30 inches snowfall during this week. The loss of young

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lambs and pigs was estimated at a million. The coal and food supplies were exhausted and suffering was reported during the intensely cold weather following.

During the intensely cold winter of 1936 an outstanding blizzard added to the already heavy snow cover. Again fuel and food came into short supply.

The next of the noteworthy blizzards and probably the most destructive of record was reported on Nov. 11, 1940. Due to the late mild autumn, the blizzard destroyed most of Iowa's apple orchards, froze millions of turkeys, other fowl and livestock. Seven Iowans lost their lives in this storm.

On Jan. 1, 1942, the heaviest snowfall of record in Des Moines, 19.8 inches, fell in this noteworthy blizzard; the whole area was totally paralyzed. In many places over an area from Page to Black Hawk Counties the total snow depth was increased to more than 2 feet by this storm. The suffering from this storm was intensified by the extreme cold following.

Not until Feb. 9-10, 1960, was another noteworthy blizzard documented. It claimed six lives, stranded travelers and closed schools and businesses. February will further be remembered for the unusually heavy snowfalls over the State. But two years later in 1962, February snowfalls far surpassed most records set in the February of 1960. Many of Iowa's heavy snowfall records came in the numerous heavy snows of February 1962. Rock Rapids, from Feb. 17-21, 1962, reported 31 inches new snow, and a 20th Century record snowfall for any Iowa snow storm.

The last of Iowa's noteworthy blizzards was reported on March 17-18, 1965, in which thousands of travelers were stranded, one person died and four were hospitalized from exposure. This was at the midpoint of one of Iowa's snowiest Marchs of record.

The relationships between Iowa's notable storms and temperature trends are most particularly well defined: most noteworthy blizzards occurred during cold winters. Some of Iowa's outstandingly cold winters were associated with intense blizzards. No particular relationships of tornadoes with summer temperatures in Iowa appear evident.

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Iowa Tornadoes

Iowa tornadoes, like those elsewhere, are amongst nature's most spectacular storms. The tornado is recognized by its tuba-shaped rotating column of condensed moisture, dust and debris. The average Iowa tornado is a few hundred yards in diameter with internal wind speeds varying from 100 to 500 miles per hour. Its life span is usually but a few minutes, as it travels a path of a few miles. The forward speed is usually 30 to 35 miles per hour. During the average season about 30 tornadoes and over 100 funnel clouds aloft are reported occurring mostly during April through July over the State. Iowa is located along the northeast side of the world's greatest tornado belt.

Since 1803 a total of 1,169 tornadoes were reported in Iowa; no doubt hundreds more never found their way into the record, particularly during the earlier decades of Iowa settlement. Of these 1,169 a total of 25 are classified as outstanding tornadoes (see Table 2). Those 25 tornadoes dramatically brought extensive destruction, death and suffering to Iowans. Undoubtably many more were potentially as dangerous but passed over the open plains or through the uninhabited woodlands.

It was the Lewis and Clark Expedition moving up the Missouri River along southwestern Iowa, who observed the first tornado of Iowa record. Clark's entry on July 29, 1804 described the tornado thusly:

On the S. S. passed much falling timber appearantly the ravages of a Dreddful horican, which had passed oblequely across the river from N. W. to S. E. about twelve months Sinc, many trees were broken off near the ground, the trunks of which were sound and four feet in diameter.

With the settlement of Iowa, tornadoes were observed but few are to be found in the records prior to the 1870s. By 1870 only 19 tornadoes, four of which took human lives, had been reported. The second Iowa tornado of record was observed in Henry County on June 1, 1837.

The first of Iowa's outstanding tornadoes moved southeastward passing south of Iowa City on the afternoon of May 24, 1859. Five sketches and a vivid account by J. A. Wetherby

^{*}Original spelling retained.

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of Iowa City made front page news in the nationally distributed *Leslie's Illustrated Newspaper* on June 18, 1859. The force of the tornado is described by Wetherby in the newspaper:

During the progress of the tornado, two giant oaks, one measuring at least three feet in diameter, standing near together were uprooted, one thrown to the westward, the other east. Another, probably two feet through was snapped like a pipe stem close to the ground . . . Wherever the tornado passed, the houses are leveled with the ground, fences are stripped of their boards, posts taken bodily out of the ground, the prairie in every direction was covered with bits of timber and shingles, and everything in the field was stripped of its leaves, flattened into the earth or torn up by the roots.

The Iowa City tornado claimed five lives, injured six persons seriously and a dozen or more were less seriously hurt.

In the next year, Iowa's greatest killer of record swept away most of Camanche on the evening of June 3, 1860. The tornado was said to have begun in central Iowa west of Cedar Rapids and to have ended in Michigan. Its toll along its path in Iowa totaled 134 dead, 81 injured and 2,500 persons homeless—mostly at Camanche, which was nearly obliterated. Its path was described as erratic; its speed varied, it skipped and sometimes appeared as two or more funnels. Perhaps the Camanche tornado was really a whole family of tornadoes stretching into Michigan.

Following the Camanche tornado, which was known nationally as the Great Tornado, Iowans were spared death by tornado until May 22, 1873 on which date eight lives were snuffed out by an afternoon strike in Keokuk and Washington Counties.

The twin twisters on Easter Sunday (April 21) 1878 were the outstandingly violent tornadoes during the 1870s. The two tornadoes moved northeastward up the Maple and Boyer Rivers almost simultaneously through a sparsely settled portion of Iowa killing 28 persons and injuring another 57. Iowa's first reported waterspout was observed as the Maple River tornado passed across Storm Lake whirling the lake waters

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into a spout of water which "caused immense waves to beat against the shore." Charles Bond's account in the *Iowa Weather Report* (1878) stated that as the funnel passed over the lake "the waters seemed to lift themselves up to meet it. . .narrowly our town (Storm Lake) escaped the tornado." Another observer watched the tornado pick up seven houses and whirl them away. At one house it took up a man, wife and three children, and carried them out on the prairie, but killed none of them.

The Grinnell tornado during the evening of June 17, 1882 was Iowa's first million dollar tornado. Loss of life was placed at 100 and injuries were borne by about 300 persons. The heaviest losses were sustained at Grinnell and Malcom. The tornado was reputed to have originated in Greene County near Jefferson, passing south of Ogden. It traveled about 57 miles an hour to reach Grinnell near 8:45 p.m. In Grinnell 60 persons were killed, 150 were injured and property losses totaled \$600,-000. Another half million in losses, 40 deaths and 150 injuries were reported elsewhere along the path which included Malcom, Brooklyn and Mount Pleasant. Dr. Hinrichs reports in the Iowa Weather Report (1882) that several tornadoes were observed that evening. "The most intense of these tornadoes was remarkable for the high electric tension, evidenced in many ways, but especially by exceeding frequent ball-lightnings, a form of lightning ordinarily very rare." The tornado demolished the northwest part of Grinnell. Nearly all the buildings were crushed to splinters and the streets were flooded to the depth of one foot of water. The damage was inflicted in less than five minutes. The storm turned southeast and completely wrecked the one-building Iowa College. The northern part of the city of Malcom, 8 miles east of Grinnell, was demolished with seven persons killed and several injured.

A decade passed between the 1882 tornado at Grinnell and the next great tornado, which struck around 5:00 p. m. on July 6, 1893 in Cherokee County. It moved east-southeast reaching Pomeroy around 6:30 to 7:00 p.m. and ended four miles east of that town. This tornado also passed over Storm Lake, becoming a waterspout while passing over the lake. The Iowa Weather Service contains Prof. David Hadden's account

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which states that Storm Lake waters were raised to a height of 100 feet. Hadden further relates that "Mr. H. J. Wadsworth was injured about the face, as if by fire; he thinks he was enveloped in a 'stream of electricity,' it seems difficult to account for the character of his injuries otherwise." C. W. Garberson, living north of the tornado track, observed many hundred balls of fire in his yard, coincident with a blinding flash of lightning which struck a telegraph pole near his house. The tornado passed over Henry Tutt's farm in Buena Vista County. Afterward chickens were found alive and completely stripped of all feathers. J. R. Sage and Dr. George Chappel, Director and Assistant Director Iowa Weather Service, observed the damage. They noted that many persons at Pomeroy saved their lives by taking shelter in storm cellars or basements.

The 1890s produced a total of six outstanding tornadoes, nearly a quarter of all the outstanding tornadoes spaced over the past dozen decades. The loss of life is likewise phenomenal, totaling 221, approximately 30 per cent of all those killed by tornado action in Iowa and quite exceeding all the tornado related deaths in the 20th century (see Table 3).

In the 20th Century only nine outstanding tornadoes have been reported; three of those came in the 1960s. The first tragedy producing tornado of the 20th century was reported Easter Sunday evening, March 23, 1913. A swarm of tornadoes moved out of Nebraska into Iowa. Seventeen persons were killed in the Council Bluffs vicinity and 16 others in nearby areas. L. A. Welch, Local Forecaster at Omaha, Neb., said that the tornado "was undoubtably the most destructive to life and property that ever occurred in the Missouri Valley and probably one of the most destructive in the history of the county . . . The total number of people killed in Omaha was 94 . . . the estimated property damage is about three and one half million dollars". Prof. A. E. Schmidt, Creighton University at Omaha, viewed the tornado at some distance. He said, "It was rather dark immediately in front of the funnel, but surprisingly light outside the path. Immediately behind the storm the sky was clear up to the cirrus sheet. Above the funnel the cumulonimbus was banked mountain high, much higher than I have ever seen it after a severe thunderstorm." The Iowa Weather and Crop Service Report for March

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1913 noted that five tornadoes moved into Iowa from Nebraska; the most destructive of which was the Omaha tornado. It was the Omaha tornado that traveled into the Council Bluffs area.

May 1918 received a third of the 20th century's outstanding tornadoes; one on May 9 and two on May 21. The May 21 tornadoes were quite damaging. The first extended from near Denison in Crawford County, with scattered losses along the route. The second tornado of that date killed nine persons and injured 55 in the city of Boone. During the tornado in Boone there was reported continuous brilliant lightning in the cloud and that shortly before and during its passage there was an intense hot wave a few blocks from the tornado.

On Sept. 28, 1923 Council Bluffs recorded its second major tornado—just a decade after its first major encounter with tornado. Six persons were killed in this event. The tornado was overshadowed by a million dollar flood from heavy rains the same date.

A quarter of a century passed until an afternoon tornado took five lives on April 23, 1948 at Ionia in Chickasaw County. The tornado originated near Nashua, causing farm destruction to Ionia, where it passed through the center of town with considerable damage, and then moved to near Cresco in Howard County.

The 1950s escaped major killer tornadoes; however, half a dozen very damaging tornadoes caused over a million dollars damage each.

During the decade of the 1960s, three major tornadoes ruthlessly leveled large segments of Belmond (Oct. 14, 1966), Charles City (May 15, 1968) and Oelwein and Maynard (May 15, 1968).

The Belmond tornado was described at that time as "Iowa's greatest tornado disaster in nearly half a century;" it was also the most destructive late season tornado day in the State's history. On Oct. 14, 1966 a dozen tornadoes swarmed across Iowa during the afternoon and evening. It was the second in this series that struck Belmond at 1:55 p. m. (CST) leaving in its wake six persons dead, 172 injured and \$12.5 million of property demolished. The other 11 tornadoes, scattered

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from southwest to northeast Iowa, left another half million dollars of property strewn over the countryside.

The May 15, 1968 date toppled all damage records by tornadoes. The tornado passing through Charles City killed 13, injured 450 persons and cost some \$30 million in damage along its 65 mile path from Hansel in Franklin County through downtown Charles City to its ultimate end in Howard County near the Minnesota border. This tornado approached Charles City appearing as twin funnels which merged before entering the town at 4:47 p. m. (CDT). One family hid behind their sofa and lost consciousness as the tornado passed near,-perhaps because of the rapid atmospheric pressure reduction. They regained consciousness safely to see a demolished path, a block or two in width through the city. Four miles northeast of the city the tornado hurled debris into the ground and left a series of corn stalk debris in whorls. C. E. Lamoureux, Meteorologist in Charge (Des Moines Weather Bureau Office), and the author measured the diameters of the nearly circular debris and estimated wind speeds in the tornado approximated some 400 miles per hour. The house immediately in its path was completely demolished, all else badly damaged. Today Charles City stands, yet disfigured, a testimony to the awesome fury of nature's most terrifying storm.

Ten minutes after the tornado roared into Charles City another demolished Oelwein and then moved on to damage Maynard. In Table 2 the time is listed as 3:57 p. m., since all times are entered in CST. The tornado path was not so long as the Charles City tornado but, before ending, it had claimed five lives and 156 injuries. Property losses approximated \$21 million. May 15, 1968 far exceeds the dollar loss of any previous tornado date in Iowa.

Although Iowa has one of the best kept tornado records in the nation, it is nevertheless incomplete. During the past decade, which is assumed to be a fairly representative period, the summary tornado data are tabulated year by year. It appears that tornadoes actually occur at a rate of about 30 per year on 14 days per season within Iowa. The dollar damages are naturally reflections of the continuing inflationary trends. The relatively low death rate and high injury rates

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are probably a result of better tornado education and more hospitals. Improved hospital facilities and record keeping during these past few decades have given a more accurate count of all those persons with minor injuries, shock—in addition to the usually-counted serious injuries.

Because tornado counts have varied according to population, agencies and persons involved, communications, and public response it appears that a count of outstanding tornadoes may be a better indicator of the trends than tornado numbers. Since the establishment of the Federal and State weather services in the 1870s it would appear that even with some fluctuations that the real number of tornadoes does not vary greatly from decade to decade. The relatively high 19th century count in the decade of the 1880s reflected the energetic efforts of Lt. J. P. Finley of the U. S. Signal Corps in organizing a tornado reporting network. Finley's official efforts came to a close at the transfer of the U.S. Weather Bureau from the Army Signal Corps to the Department of Agriculture. The tornado program was immediately de-emphasized, even though the 1890s was also an outstanding decade of tornado activity.

Although tornadoes are the most spectacular of Iowa's storms the fact remains that in most recent years more people are killed by lightning than by tornado, and greater crop losses are suffered from hail or destructive winds than by tornado. With a density of 30 tornadoes per year, an Iowan's chances are only about one in five hundred (one half of one percent) that he will actually be in the path of a tornado. Many people during a lifetime in Iowa will never see a tornado.

TABLE 1. Some noteworthy lowa blizzards.

- 1856 Dec. 2-3. At Dubuque "snow swept by an angry wind with blinding velocity." Sixteen to 18 inches new snow.
- 1863 Dec. 15-16, Eight or ten inches new snow at Des Moines with wind damage to a few homes.
- 1863-64 Dec. 31-Jan. 1. One of most severe over eastern lowa. Moderate snow with severe cold wave. Cattle froze to death, Roads blocked. Two wolves came into Muscatine.

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207 1873 Jan. 7. One of most severe in years. Winds filled the air with fine snow that blinded travelers. 1881 Mar. 2-4. Very severe. Extended from Iowa to Michigan. Much suffering due to shortage of food and fuel. 1886 Jan. 7-8. Twenty lives lost in Iowa and heavy cattle losses reported. 1888 Jan. 12. Probably worst of history over north and west Nov. 21-22. One of worst blizzards in years, winds 60 1898 miles per hour. At Sidney, temperature dropped 64 degrees F. in 28 hours. Dec. 26-28. Worst blizzard in years, winds to 57 miles 1909 Jan. 28-30. Severe blizzard, intense cold and drifting snow, winds 65 miles per hour. Much livestock loss and property damage. Mar. 18. One of worst blizzards in years. Traffic stalled. High winds, temperatures near zero. Birds and animals froze 1936 Feb. 8-10. Blinding blizzard; worst in many years. Two deaths from exposure, transportation paralyzed and 1940 Nov. 11. One of most destructive blizzards of record over north and west Iowa. Seven persons died. One and a half million dollars damage to orchards and millions of dollars losses to livestock and fowl. Subzero temperatures with high winds reduced visibility to zero 1942 Jan. 1. Gale winds fanned heavy snow into deep drifts. Severe cold wave. A record 24-hour snowfall of 19.8 inches at Des Moines. 1960 Feb. 9-10. Worst blizzard in several years over southern two-thirds Iowa. Six to 16 inches new snow. Winds 45-55 miles per hour. Six storm related deaths. 1965 Mar. 17-18. Worst blizzard in years over much of northern Iowa. Four to 12 inches new snow. Winds to 60 mph, gusts to 70 mph. Thousands of travelers isolated, one person dead and 4 hospitalized from exposure.

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	Tornado	Date	May 24, 1859		May 22, 1873	Apr. 21, 1878	1010	Apr. 21, 18/8	lune 9 1880		June 9, 1880	June 11, 1881	17 1000	Jone 17, 1002	Apr. 21, 1883	July 6, 1893	Sent 21 1894	1000	May 5, 1093	May 24, 1896	May 18, 1898	June 11, 1899	10101	Mdr. 23, 1713	May 9, 1918	May 21, 1918	AA-1. 71 1010	Mdy 21, 1510	Sept. 28, 1923	Apr. 23. 1948	Oct 14 1044	000	200
A-1904 SOAL TERRITOR INTERNAL III	Location		lowa City, Johnson Co.	Camanche, Clinton Co.	Keokuk and Washington Cos.	Monard Co. to Brigary Vieta Co.	Monona Co. 10 buena visia Co.	Crawford Co. to Pocahontas Co.	Manager Dotter and Control of the Co	Macedonia, rollawallallie Co.	Wheelers Grove, Cass Co.	Handy Correspondence		Grinnell, Poweshiek Co.	Dunlap, Harrison Co.	Pomerov. Cherokee Co. to Calhoun Co.	1		Sioux, Lyon & Osceola Cos.	Polk to Jasper Co.	Stanwood Codar Co.	Solly Woodbury Co	Sales Andread Sales	Pottawartamie Co. o East Harrison Co.	Pearl Rock to Calmer, Butler Co.—Winneshiek Co.	Danison to Stanhone Crawford Co.—Hamilton Co.		berkley to Wellsburg, boone co.—Grundy co.	Council Bluffs, Pottawattamie Co.	Chickson C	CITICA SAW CO.	Belmond, Wright Co.	
	No.			2.	3		4.1	2	. 7	0	7.	α	0 0	,	10.	11	10	. 7	3.	14.	15	14		1/.	180	10		.07	21.	22	.77	23.	7

"Outstanding Iowa Storms" Essay from The Annals of Iowa, 1970 (Pg.17)

Storms

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Table 3

DECADAL NUMBER OF REPORTED TORNADOES, DEATHS, INJURIES & TORNADOES CAUSING DEATH &/OR INJURY

	Total Nur	nber by	Number Tornadoes Causing											
Decade	Tornadoes	Deaths	Injuries	10 or +	Death 5 or +	1 or +	Injury 1 or +	Death or Injury						
1800-09	1	0	0	0	0	0	0	0						
1810-19	0	0	0	0	0	0	0	0						
1820-29	0	0	0	0	0	0	0	0						
1830-39	1	0	0	0	0	0	0	0						
1840-49	6	1	1	0	0	1	1	1						
1850-59	4	5	18	0	1	1	1	1						
1860-69	7	134	81	1	1	1	1	1						
1870-79	30	40	87	2	3 5	6	6	7						
1880-89	109	167	349	3 5	5	8	8	10						
1890-99	40	221	366	5	6	17	22	26						
1900-09	11	6	18	0	0	3	3	5						
1910-19	40	65	286	2	4	10	12	12						
1920-29	147	32	166	0	1	18	32	41						
1930-39	180	11	149	0	0	8	29	30						
1940-49	148	11	148	0	1	6	33	33						
1950-59	133	6	102	0	0	6	24	26						
1960-69	312	32	991	1	3	10	38	39						
Totals	1169	731	2762	14	25	95	210	232						

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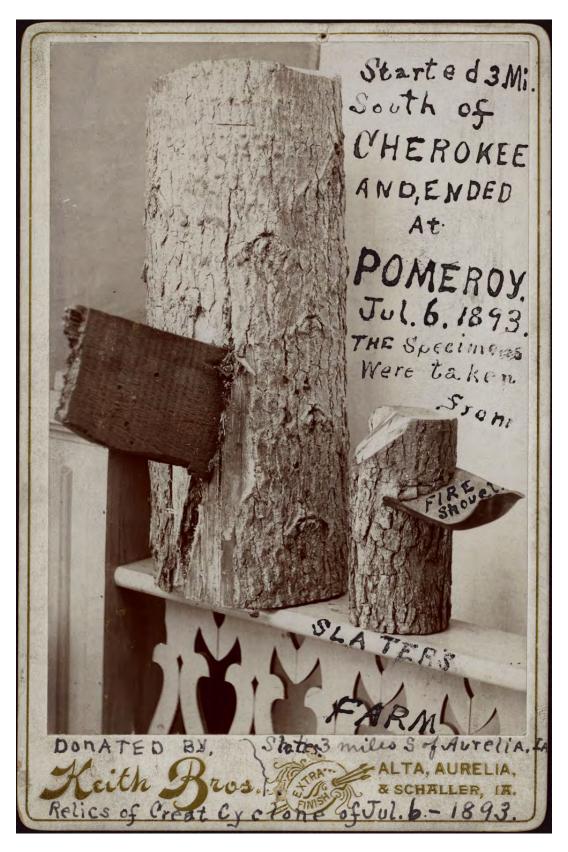


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Cabinet Card of Relics from Cherokee-Pomeroy Tornado near Aurelia, Iowa, 1893



Portrait of 6-Month-Old Baby Carried by Cherokee-Pomeroy Tornado, 1893



Men Placing Sandbags to Reinforce Dikes during a Flood in Council Bluffs, Iowa, 1952



"Cedar Rapids Flood Buyout is History" Newspaper Article, September 14, 2014 (Pg.1)

Cedar Rapids flood buyout is history

Five years, 1,356 property purchases later



The 16th Avenue,12th Avenue CRANDIC rail bridge and 8th Avenue bridges cross the Cedar River, as seen from the top of Mount Trashmore on Tuesday, May 14, 2014. (Liz Martin/The Gazette-KCRG)

By Rick Smith, The Gazette

Sep 14, 2014 at 12:01 am | Print View

CEDAR RAPIDS — Almost before the water receded here in the June 2008 flood disaster, the word "buyout" had surfaced among owners of flood-damaged homes and businesses.

Not so for Jim Macek, whose family-owned machine shop in the hard-hit Time Check neighborhood quickly worked to get itself with its 25 to 30 employees back up and running despite a \$1.5 million loss in inventory and equipment.

In the end, though, Macek and his son, Brian, decided to add their business, Reliable Machine and Manufacturing Co. Inc., 415 H Ave. NW, to the end of the city of Cedar Rapids's flood-recovery buyout list.

Smith, Rick, "Cedar Rapids Flood Buyout is History," *The Cedar Rapids Gazette*, 14 September 2014. Courtesy of The Cedar Rapids Gazette

"Cedar Rapids Flood Buyout is History" Newspaper Article, September 14, 2014 (Pg.2)

"There's a lot of blood in that building," said Jim Macek, 70, remembering how his father actually made some of the concrete block for it when he opened the machine shop there back in the 1940s. "... It was my home for some 40 years."

But for Jim and Brian Macek — as for Jack Ilten, retired from the family-owned Ilten's appliance business, and Jeff Scherrman, president of Acme Graphics Inc. — the lack of an assurance that a flood-protection system would get built any time soon for the west side of the Cedar River convinced them to take the city's flood buyout and move their businesses to safer pastures.

"We just had to get out of there," Jim Macek said. "We couldn't make it through another flood. I wasn't physically going to go through it again. It's a once-in-a-lifetime thing."

Payout increase

Last month, the announcement by Smulekoff's Home Store that it, too, had agreed to sell its downtown building in the city's voluntary buyout program brought to a close a sprawling program that began in late 2009 and, in the end, resulted in the purchase of 1,183 residential properties, 154 commercial ones, nine industries and 10 properties "exempt" from property taxes and owned by churches or not-for-profit groups.

With 1,356 total properties in the buyout, the program was prepared to pay \$124.3 million, \$83.4 million for residential properties and \$40.9 million for commercial, industrial and exempt ones. However, the awards approved by the lowa Economic Development Authority came to \$93,9 million, \$58.1 million for residential properties and \$35.8 million for the others after deductions for earlier disaster payments, private flood insurance and any liens.

The award totals would have been less, but Mayor Ron Corbett in 2010 pushed to increase the payout to 107 percent of each property's pre-flood assessed value, an amount supported by an analysis from the City Assessor's Office of pre-flood property values.

The award totals also would have been less, but the City Council agreed to allow property owners unhappy with their assessments to seek their own new appraisals.

Fifty-eight owners of residential property appealed the 107-percent-of-value figure and obtained a new appraisal, and 53 of the 58 succeeded in getting an appraisal higher than the initial one.

"Cedar Rapids Flood Buyout is History" Newspaper Article, September 14, 2014 (Pg.3)

Overall, the 58 residential owners who appealed raised the total value of their properties by 14 percent from \$4.1 million to \$4.7 million.

On the commercial-industrial-exempt side, 51 property owners sought new appraisals, and all succeeded in obtaining a higher pre-flood value for their property.

Overall with new appraisals, the 51 raised their total property value in the buyout by 47 percent from \$17.9 million to \$26.3 million.

The most expensive buyout was the last one to come to light, the \$4.7 million buyout of Smulekoff's Home Store. The amount, which was arrived at by a new appraisal of the property's pre-flood value, was 86.8 percent higher than 107 percent of pre-flood value as established before the flood by the City Assessor's Office.

Both Macek and Ilten said that the 107-percent initial offer did not represent the fairmarket value of their commercial businesses either. It only made sense to appeal and obtain a new appraisal, they said.

"You always want more than what you expect," Ilten said. " ... Nobody wins in a situation like that."

Macek said the new appraisal was necessary to get "any decent money out of it (the building)," and in the end, the 37-percent increase in value from \$273,344 to \$375,000 was "reasonably fair," he said.

Rita Rasmussen, the city of Cedar Rapids's real estate service manager, said most of the owners of the 1,356 properties bought out in the city program did not appeal and seek a new appraisal because most believed that 107 percent of what had been the value of their property as set by the City Assessor's Office represented fair-market value for their properties.

Sandi Fowler, the city's assistant city manager, said every property owner had access to a new appraisal at city expense — except if the new appraisal was less — whether commercial, industrial, exempt or residential property.

Fowler, Jennifer Pratt, the city's interim development director, and Rasmussen were all involved in the city's flood-recovery programs from the start.

Block grants and FEMA

"Cedar Rapids Flood Buyout is History" Newspaper Article, September 14, 2014 (Pg.4)

Early on, the city had no idea how much money might come in from the federal government to buy up flood-damaged property. The bulk of one round of federal disaster payments in late 2008 ended up going to victims of Hurricane Ike, which hit the Gulf Coast and Texas in September 2008, Fowler recalled.

But by summer 2009, the state of lowa learned that it would be receiving a sizable infusion of federal disaster dollars in the form of U.S. Department of Housing and Urban Development Community Development Block Grant (CDBG) funds for communities hit by disasters in lowa in 2008.

Much of the money came to Cedar Rapids.

In the end, FEMA funds were used for the first 97 buyouts while CDBG funds were used to buy out the majority of the rest of the properties. City funds in the form of revenue from the city's local-option sales tax helped in 167 buyouts, which for one reason or another didn't qualify for federal funds.

Pratt said the buyout program's purpose was to move people out of harm's way and help those move on who otherwise didn't have resources to do so. In addition, the buyouts and subsequent demolitions freed up ground near the river where the city plans to build its flood-protection system.

At the start, Pratt said the emerging buyout program proved to be difficult on city staff members because the state of lowa wanted the city to identify flood victims who might be interested in a buyout even though many initially did not qualify because they lived outside the 100-year flood plain. The exercise, though, enabled the city to define the city's overall need so the state knew how much federal disaster help to seek. When it arrived, there was enough to meet the city's needs, Pratt said.

"We were never having to worry about not having enough," she said.

Quickly, too, Fowler said the city sought proposals and hired a third-party administrator, Pro Source Technologies Inc., to provide case managers for those interested in buyouts.

Owners of properties in the large majority of buyouts signed off on the sales by the end of 2011, though about 75 were done in 2012, about 30 in 2013 and a last handful in 2014.

"Cedar Rapids Flood Buyout is History" Newspaper Article, September 14, 2014 (Pg.5)

Rasmussen said some opted in and then out of the program along the way. One property, for example, dropped out when siblings couldn't agree on how to split up the sale proceeds.

Others believed the final award wasn't worth giving up on the property, she said.

The program officially ended on June 30 of this year, though the city obtained permission to continue to work with one property owner, Smulekoff's Home Store, after that, the city officials said.

Rasmussen said the store signed the agreement to sell in the buyout program in December 2011, but the store owner, who announced the store's closing for the first time just last month, can still opt out before the scheduled closing of the sale and transfer of the property to the city on Dec. 31, 2014, she said.

It is the only property in the buyout yet to close on the sale, she added.

Homeowners

Jon Galvin, a homeowner featured in a Gazette newspaper story in the couple days before the crest of the June 2008 flood, never imagined back then that the river would get to his house with its new sunroom at 1204 Fifth St. NW. It did, destroying the place.

Galvin and his wife, Alice, were among the homeowners in the buyout program who appealed and obtained a new appraisal, but Galvin said this week that the \$12,000 increase in his property value didn't cover the full \$30,000 of the sunroom.

The Galvins, as with other homeowners in the buyout program, received down payment assistance for a replacement house as they waited for the buyout program to get to them. In December 2010, they got their buyout check, which combined with down payment assistance and other funds, allowed them to pay off the mortgage on their replacement home at 207 23rd St. NW.

Even there, far away from the river, Mother Nature in the form of high winds earlier this year got the Galvins again, sending a tree through their roof and causing damage to a pickup.

"It has been a long summer. But the insurance company has taken good care of me this time," he said.

"Cedar Rapids Flood Buyout is History" Newspaper Article, September 14, 2014 (Pg.6)

City Manager Jeff Pomeranz, who joined the city in September 2010 as the buyout program was set to pick up speed, said some communities that have endured natural disasters as Cedar Rapids did still have damaged and abandoned homes and businesses in place 15 and 20 years later "because resources and leadership weren't there."

"It started slow and then it really ramped up," Pomeranz said of the Cedar Rapids buyout program. "It just enabled us to dramatically change our community."

The process of buying out more than 1,300 properties didn't come without some emotion and some frustration on the part of flood victims, which he said only made sense.

"Acquiring property is very, very difficult," Pomeranz said. "Our citizens went through this horrific time, a very emotional time. So while the city we certainly believe was very fair, ... I would think that in some cases people didn't think it was enough or didn't think it was fast enough. There was some stress."

Even so, the city manager said most of the 1,300 properties were purchased and demolished in three years once the bulk of the federal funds arrived, which he termed "pretty amazing."

"I think there were some hard times, but we've really moved beyond those," he said. "I think we're now seeing the potential of the greenway (where flood-damaged homes and businesses have been or will be removed) as a community amenity. We're seeing new homes built.... We're seeing this rebirth."

There are 1,300-plus stories to go with 1,300-plus buyouts, city officials said, and there are many more stories as some contemplated a buyout and didn't take it.

Linda Seger, who emerged as a prominent Northwest Neighbors Neighborhood Association leader in the wake of the flood, said last week that the city's initial indecisiveness about the shape of the buyout program contributed to her and her husband's decision to renovate rather than to enter the buyout for their house at 1629 Eighth St. NW.

"Rules changed daily, and often one city department had no idea what another department was doing," Seger said of those first months after the 2008 flood. "I will always feel we made the best choice for us."

"Cedar Rapids Flood Buyout is History" Newspaper Article, September 14, 2014 (Pg.7)

Seger said it was "a monumental task" for the city to take on the flood buyout, adding that it was "way out of the comfort zone" for the city to take on such a project. To this day, she said some view the buyout as a "very aggressive" land acquisition.

On the plus side, Seger said the city's neighborhood rebuilding effort is a "shiny positive" that is replacing what is now gone.

'As fair as it could get'

Acme Graphics's Jeff Scherrman said he would have preferred to stay in the company's downtown building at 201 Third Ave. SW, which the company fixed up after the 2008 flood with an idea to stay. However, he said the local voters' decision not go extend the local-option sales tax to help pay for westside flood protection made it seem as if protection wouldn't be coming.

"If there was another flood, we would have been out of business, quite frankly," he said. "Our people couldn't physically do it again."

Scherrman called the final buyout offer "as fair as it could get." "Did it cover our costs?" he said. "Absolutely not. ... But we were thankful that the city still had that offer on the table for us."

The company is now at a new spot with room to expand, at 320 49th Ave. Dr. SW.

"When it rains hard, I sleep a lot better," Scherrman said.

For Jack Ilten, whose two sons now run the family's appliance business, he said the company has shifted its focus away from retail to contract work now that it has moved from its former home at 106 Second Ave. SW to 919 14th Ave. SW.

Ilten said the city's buyout offer "came out adequate," though the company lost a lot of money on the flood.

"But we struggled through that, and finally we're back on our feet a little bit," he said.
"And I think down the road we're going to be all right."

Reliable Machine's Jim Macek said the first key question for him after the flood was whether his son, Brian, wanted to keep on with the company as he had done when his father led it. His son did.

"Cedar Rapids Flood Buyout is History" Newspaper Article, September 14, 2014 (Pg.8)

Both father and son said the buyout award, in the end, was acceptable. Both, though, aren't sure the city of Cedar Rapids did enough to keep them in the city. They found a building in Hiawatha and moved there.

The city just recently took down the company's former building, at 415 H Ave. NW, in a demolition program also funded with federal disaster dollars, and Jim Macek said he missed his chance to grab a brick from the debris pile.

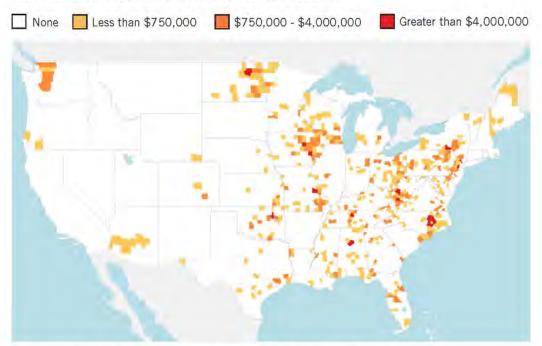
"It's eerie," Brian Macek said of the demolition of the 70-plus-year-old machine shop.

"It's a big hole," his dad said.

NPR's "MAP: FEMA Is Buying Out Flood-Prone Homes, But Not Where You Might Expect," October 20, 2014

FEMA-funded property buyouts have topped \$417 million

Total amount paid to property owners, by county, since 2003



Of the 10 biggest disaster buyout totals, only four are in coastal states

State	Incident	Year	Total Amount Paid
North Carolina	Hurricanes Floyd & Irene	1999	\$62,821,759
lowa	Severe Storms, Tornadoes, and Flooding	2008	\$36,992,883
Pennsylvania	Tropical Depression Ivan	2004	\$9,938,600
New Jersey	Hurricane Floyd	1999	\$9,613,895
Oklahoma	Severe Winter Storm	2001	\$9,012,121
West Virginia	Severe Storms & Flooding	2001	\$8,069,938
Wisconsin	Severe Storms, Tornadoes, and Flooding	2008	\$7,388,676
Alabama	Hurricane Ivan	2004	\$6,824,555
New York	Severe Storms and Flooding	2006	\$6,390,868
Missouri	Ice Storm	2002	\$6,206,856

Notes

The map shows areas where property owners have been bought out with funds from the Federal Emergency Management Agency's Hazard Mitigation Grant Program. The program's grants go to state and local governments to compensate property owners whose properties have lost value in major disasters. The buyouts are 75 percent funded by FEMA. Under federal law, the future use of the bought-out land is restricted to open space, recreational, and wetlands management. NPR analyzed records of more than 7,000 property acquisitions, worth more than \$400 million, since 2003.

Source: NPR analysis of Federal Emergency Management Agency data, Hazard Mitigation Grant Program Credit: Robert Benincasa and Brian Boyer/NPR