

City of Ionia, Iowa

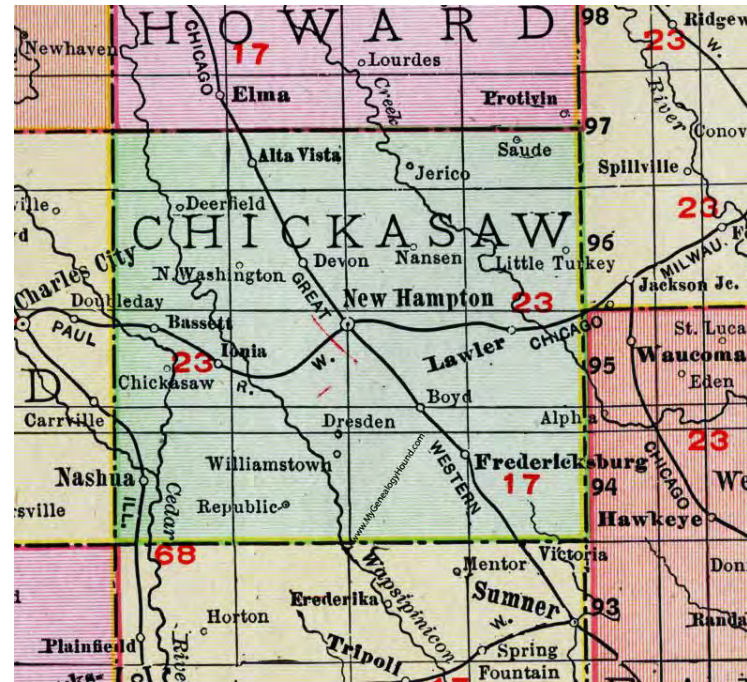
Hazard Mitigation Plan 2022-2023 Update

Appendix D of Chickasaw County Multi-Jurisdictional Hazard Mitigation Plan

Funded by the Chickasaw County Emergency Management Agency

Prepared by Iowa Northland Regional Council of Governments (INRCOG)

April 2024



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About

The City of Ionia Hazard Mitigation Plan 2024 update was formed as an apprentice to a county-wide planning effort by multiple communities, school districts, and Chickasaw County departments. The 2024 Chickasaw County Multi-Jurisdictional Hazard Mitigation Plan is a sequential update to the previous hazard mitigation plan. FEMA requires a 5-year update for approved hazard mitigation plans to be in good standing and eligible for grant funding. The Plan was developed to meet the requirements in 44 CFR § 201.6. The Plan was submitted to the Iowa Homeland Security and Emergency Management Department (IHSEMD) office and then submitted to FEMA for approval. Chickasaw County's Emergency Management Agency initiated and funded this effort for all participating communities and contracted INRCOG to coordinate this multi-jurisdictional planning process. An approved and adopted hazard mitigation plan qualifies participating jurisdictions with pre-disaster grant programs that may fund projects for the entire community.

Participating communities included all nine incorporated communities in the County, Chickasaw County's departments, and three public school districts. Four committee meetings were held between March 19th and April 23rd wherein each jurisdiction provided data and completed work sheets to develop their hazard mitigation plans.



FEMA's Emergency Management Cycle

The emergency management cycle has 4 phases:

- **Preparedness** is the assessment of potential risks, hazards, and vulnerabilities that a community may face. The development and updating of activities, programs, and systems before an event occurs is included in this phase of the cycle.
- **Response** is the immediate effects after a disaster.
- **Recovery** is a long-term phase that focuses on returning the community to normal after a disaster.
- **Mitigation** is an action that can occur at any phase.

What is Hazard Mitigation?

Hazard Mitigation is any sustained action taken to reduce or eliminate long-term risk to life and property from hazards.

The Benefits of Hazard Mitigation

For local governments, there are benefits in knowing hazards, their risks, and planning for mitigation strategies.

Those include:

- ✓ An increased understanding of natural, technical, and man-made hazards faced by communities.
- ✓ Taking an opportunity to create more sustainable and disaster-resistant communities.
- ✓ Participating in this collaborative intergovernmental effort is cost effective for all participants.
- ✓ Using limited resources on hazards that have the biggest impacts on a community.
- ✓ Reducing or preventing damage to existing structures, subsequently reducing repair costs.
- ✓ Identifying vulnerable populations to establish equitable outcomes.
- ✓ Setting long-term goals that can be compatible with city policies or planning documents.

The Planning Process

In emergency management planning, reducing the community's risk to natural hazards is a multi-step process which involves collaboration among stakeholders, assessing risk and vulnerabilities of hazards facing the community, establishing actions or activities to reduce risk, and assembling an organized strategy to carry out all mitigation activities.

Participants in the Chickasaw County Multi-Jurisdictional Hazard Mitigation Plan Planning Committee provided the information in this plan including community profile information, hazard mitigation goals, mitigation activities/action, updates to existing mitigation activities, and elements included in the strategy such as priorities, designated agencies, estimated costs, and overall strategic direction of this plan.

Participants in the Plan Followed This 5 Step Process



Community Data Sources

Population data is based on 2020 decennial Census data. The 2022 American Community Survey 5-year estimates are the latest and most reliable survey data sets to understand what is taking place in the county and each city. Most counties, cities, and towns rely on 5-year estimates. Employment, workforce, and industry figures in this Plan are estimates that have a margin of error.

It is important to note that the ACS estimates used for rural communities will have a degree of uncertainty associated with them, called sampling error, because they are based on a sample. In general, the larger the sample, the smaller the level of sampling error. Rural communities tend to have smaller samples than larger cities, so the “margin of error”—a measure of the precision of an estimate at a given level of confidence—likely will be larger for rural areas.

Crash data along roadways within each jurisdiction is collected between the period of 2019 and 2023. Using a map tool interface, the data was taken at a city level and presented to understand incident severity, casualties, and property damage from reported accidents. Accident data is added to the site daily and accessible through an online website, <https://icat.iowadot.gov/>.

In the risk analysis section of this Plan, estimates of property loss are measured using mapping of hazardous zones. For the vulnerability risk assessment, flood prone homes were determined using the boundaries of the 100 year (1%) annual chance flood zone. The value of potential property loss was derived from the 2023 assessed dollar value of

structures and dwellings on affected parcels provided by the Chickasaw County Assessor’s Office.



Ionia Fire Department located in Ionia, Iowa has fire protection provided by the Chickasaw Township Dire District with 23 volunteer firefighters.

City Profile

Jurisdiction: City of Ionia

County: Chickasaw County

Population (2020): 226

The City of Ionia is in the lower east quadrant of Chickasaw County. County Highway B57 and County Highway V14 intersect in Ionia. The Little Cedar River flows to the west of Ionia.

The following data presented in tables on the following page include population, employment, and industry sector data for the community based on 2020 Census data and 2022 American Community Survey 5-year estimates.

In 2020, the city's population was 226 and 98% White where the median age is 48. Working aged residents (15-60 years) make up 65% of the population. Children and teens (younger than 15 years) make up 17% of Ionia's population while older adults (older than 65 years) make up 18%.

The median household income in 2022 was \$69,107. The unemployment rate is very low at 2%. Most of the workforce (98%) commute to work, and about 4 people (2-3% of the workforce) work from home. The top three largest industry sectors in Ionia are as follows (in order from highest to lowest): 1) Manufacturing; 2) Educational Services, and health care, and social assistance, and 3) Transportation and warehousing, and utilities.

Figure 1: Map of Chickasaw County

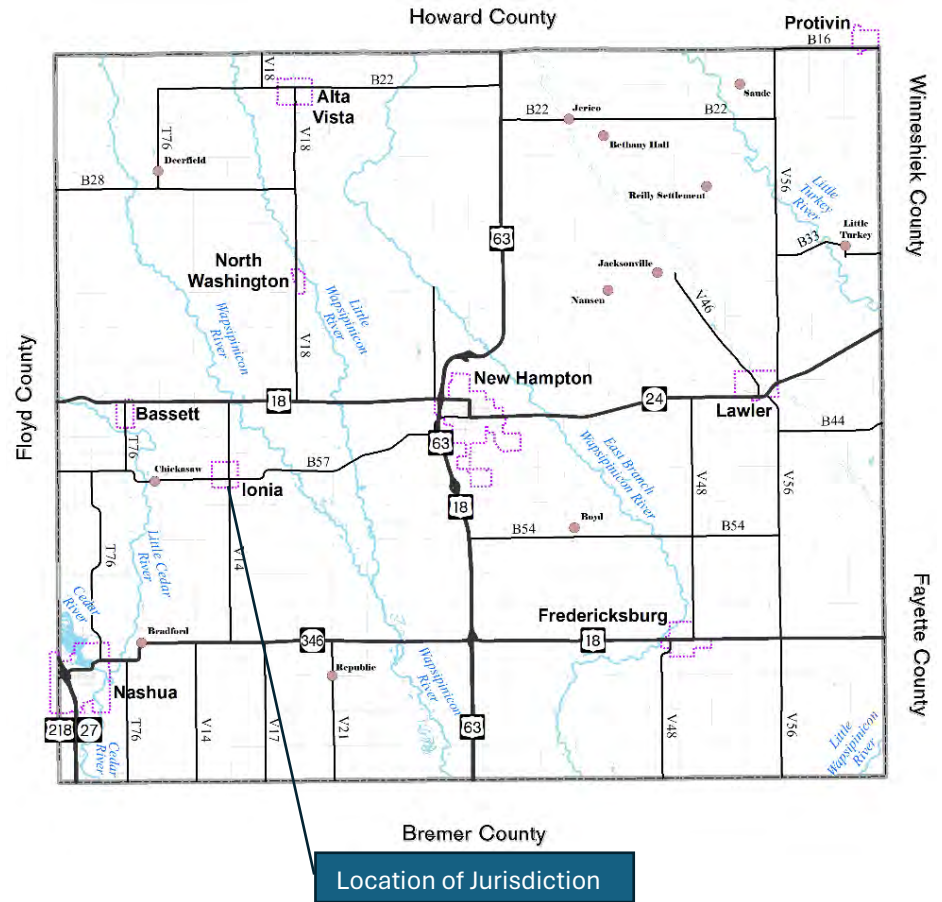


Table 1: Population Data (2020)		
City of Ionia		
	Total	% of Pop.
Total population	226	100%
AGE		
Under 5 years	14	6%
5 to 9 years	14	6%
10 to 14 years	12	5%
15 to 19 years	15	7%
20 to 24 years	7	3%
25 to 29 years	11	5%
30 to 34 years	15	7%
35 to 39 years	6	3%
40 to 44 years	13	6%
45 to 49 years	12	5%
50 to 54 years	16	7%
55 to 59 years	19	8%
60 to 64 years	32	14%
65 to 69 years	12	5%
70 to 74 years	8	4%
75 to 79 years	8	4%
80 to 84 years	5	2%
85 years and over	7	3%
Median Age	47.5	-
RACE		
White	222	98%
Black or African American	0	0%
Hispanic or Latino (of any race)	1	0%
American Indian and Alaska Native	2	1%
Asian	0	0%
Native Hawaiian/Other Pacific Islander	1	0%
Some Other Race	0	0%
Two or More Races	1	0%
<i>Source: 2020 Census</i>		

Table 2: Employment Data (2022)		
City of Ionia		
	Value	% of Population
Median Household Income	\$69,107	-
Unemployment Rate (2022)	1.8%	-
Workers that commute to work	156	98%
Workforce that works from home	4	2%
<i>Source: 2022 American Community Survey 5-Yr Estimates</i>		

Table 3: Workforce Industry Data (2022)		
City of Ionia		
Workforce Industry	# of Workers	% of Workforce
Workforce	165	100%
Agriculture, forestry, fishing and hunting, and mining	0	0%
Construction	13	8%
Manufacturing	63	38%
Wholesale trade	0	0%
Retail trade	9	6%
Transportation -warehousing, utilities	21	13%
Information	0	0%
Finance and insurance, and real estate and rental and leasing	0	0%
Professional, scientific, and management, and administrative and waste management services	2	1%
Educational services, and health care and social assistance	50	30%
Arts, entertainment, and recreation, and accommodation and food services	3	2%
Other services, except public administration	0	0%
Public administration	4	2%
<i>Source: 2022 American Community Survey 5-Yr Estimates</i>		

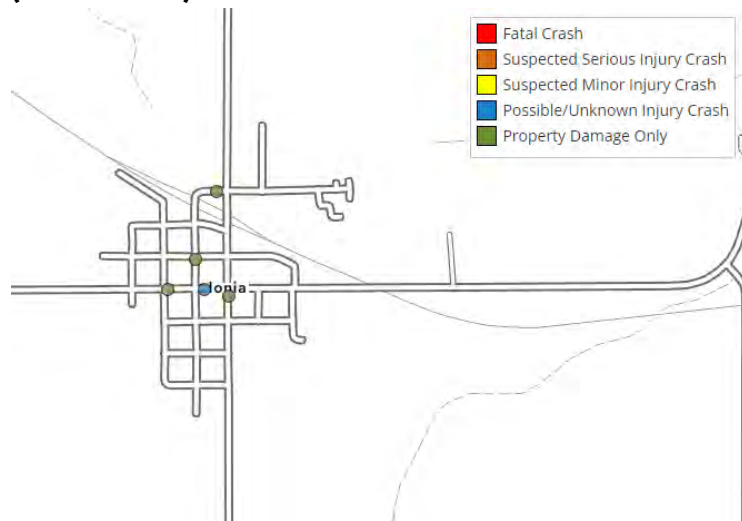
Highway Traffic and Crash Data

Based on Iowa DOT crash data, between 2019 and 2023 there have been 5 incidents.

Table 4: Crash Data in Ionia (2019 to 2023)	
Total Crashes	5
Crash Severity	
Fatal	0
Suspected Serious Injury	0
Suspected Minor Injury	0
Unknown	1
Property Damage Only	4
Property Damage Total	\$82,700

Source: Iowa Crash Analysis Tool

Figure 2: Iowa Crash Analysis for All Traffic Incidents (2019-2023)



Source: Iowa DOT

Housing Data

The City of Ionia has 138 occupied housing units. Nearly 93 % of them are single family detaching housing. An estimate of 2 housing units are mobile homes.

A large portion of the housing stock was built before 1940 (43%). About 65% of the housing stock is under 60 years old. Most homes heat their units with gas (81%). Black Hills Energy is the gas utility provider.

Table 5: Housing Data (2022)		
City of Ionia		
	Total	% of Occupied Units
Occupied housing units	138	100%
Housing Unit Type	Total	% of Occupied Units
1, detached	128	93%
1, attached	0	0%
2 apartments	0	0%
3 or 4 apartments	4	3%
Mobile home or other type of housing	2	1%
Year Structure Built	Total	% of Occupied Units
2020 or later	0	0%
2010 to 2019	0	0%
2000 to 2009	3	2%
1980 to 1999	18	13%
1960 to 1979	44	32%
1940 to 1959	14	10%
1939 or earlier	59	43%
House Heating Fuel	Total	% of Occupied Units
Utility gas	112	81%
Bottled, tank, or LP gas	2	1%
Electricity	23	17%
Fuel oil, kerosene, etc.	0	0%
Coal or coke	0	0%
All other fuels	0	0%
No fuel used	1	1%
<i>Source: 2022 American Community Survey 5-Year Estimates</i>		

Community Utility Providers

Ionia Municipal provides utility electric services. Black Hills Energy is the natural gas service provider. Windstream telephone services and broadband internet services. Residents receive water and wastewater services from the city. Jendro Sanitation provides solid waste management for residents.

Table 6: Utility Providers	
City of Ionia	
<i>Electric</i>	Alliant Energy
<i>Natural Gas</i>	Black Hills
<i>Telephone/Internet</i>	Windstream
<i>Cable TV</i>	None
<i>Water Services</i>	City of Ionia
<i>Sewer Services</i>	City of Ionia
<i>Sanitation</i>	Jendro Sanitation

Vulnerable Assets

People

Vulnerability to hazard losses increases where there are larger concentrations of people. In towns where population density increases, the number of people that can be harmed during a hazard event (tornado, flood, etc) increases. In addition, there are segments of the population that may be more susceptible to impacts and/or harm from a hazard depending on their location within the area (ie. flood zone or near industrial plants with hazardous materials). This includes underserved or socially vulnerable populations.

Vulnerable Age Groups

Both younger and older aged groups are likely to require assistance with physically moving to shelters or finding safety. Elderly residents may not have a personal vehicle to move away from a hazard quickly. Cognitive impairments among older adults may cause some to get easily confused.

Households Facing Poverty or With Limited Income

Families or older adults living at, near, or below poverty are more likely to be impacted by hazards than other households with higher incomes. The impact of costly repairs to property from a tornado or heating/cooling electricity costs from extreme weather is greater for low-income families.

Ionia's Vulnerable Populations

In Ionia, 3.6% of occupied households are below the poverty level. About 41% of occupied households have elderly occupants (60 years and over). About 31% have elderly residents (65 years and over) living alone.

Most residents have access to a vehicle with 2 households approximately not without access to a vehicle. Nearly 22.5% of households have a person living with a disability. This is broadly defined from the data estimates for Ionia. However, persons with mobility disabilities may be at a higher risk than others especially during unexpected natural disasters where accessibility is not always guaranteed to shelter.

Manufactured homes are unsafe in a tornado. Fatality rates are significantly higher than sturdy buildings. An alternative shelter should be identified prior to a tornado watch or warning. There are 2 mobile homes estimated in North Washington. With an average household size of 1.6, that puts potentially 3 people at a greater fatality risk than others.

Critical Facilities

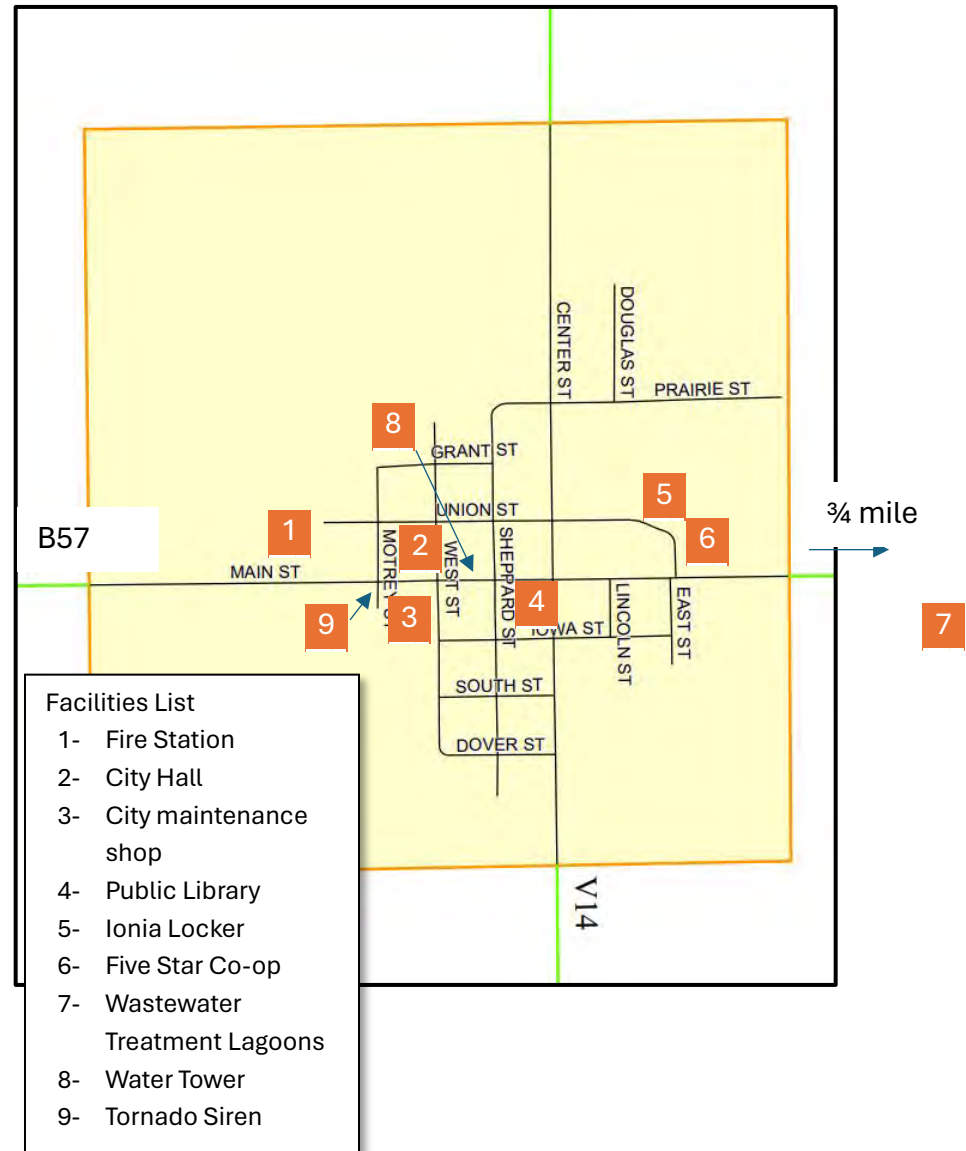
Identifying structures that may be affected from a hazard event and also serve a critical function for the community are shown in the table on the following page.

The community of Ionia relies on their municipally owned public water system. The system is supplied by two wells. The first well is 280 feet deep and was built in 1983. It is equipped with a submersible pump to produce approximately 100 GPM. The second well is 20 feet deep and was constructed in 1950. This well also has a submersible pump that produces water at a rate of approximately 300 GPM. The pressure and storage of the water from this well is provided by a 3,000-gallon pressure tank located in the second well house. The city doesn't have an elevated storage tower. Instead, there is a 75,000-gallon storage tank.

The City of Ionia is currently in the process of renovating the existing wastewater treatment plant. Renovations include work to the lagoon sludge removal, parshall flume and vault structure, wooden shed, flow meter readout, manhole, and sewer line replacement. The project is funded using the State Revolving Loan Funds (SRF).

In the next 20 years, Ionia is likely to see population growth and the existing water plant and wastewater treatment lagoons have capacity to manage slow steady growth. Future hazard mitigation efforts will note additional facilities related to the assets here shown within the vulnerability assessment.

Figure 3: Critical Facilities Map



Measuring Vulnerability to Selected Hazards

Tornado Hazard

On May 8, 2002, and June 21, 2002, an EF0 tornado was sighted touching down just outside of Ionia in open fields. No reports of damage from this tornado.

All buildings in Ionia are prone to being damaged by a tornado. Therefore, the vulnerability of the community was determined by the assessed valuation of all buildings and dwellings on all parcels within the city’s limits.

Using the assessed value from December 2023, the valuation of all 173 parcels in the City of Ionia is \$7,860,400 based on Chickasaw County assessor data. The City of Ionia has a potential property loss of \$7,860,400 from a tornado disaster.

Table 7: Valuation of All Parcels in City of Ionia (2023)	
Percent of City at Risk of a Tornado	100%
# of Parcels	173
Total Value (Buildings and Dwellings)	\$7,860,400

Flood Prone Areas

The potential property losses of structures prone to flooding was calculated using the effective flood insurance rate map (FIRM) flood hazard zones for a 100-year (1%) annual chance flood.

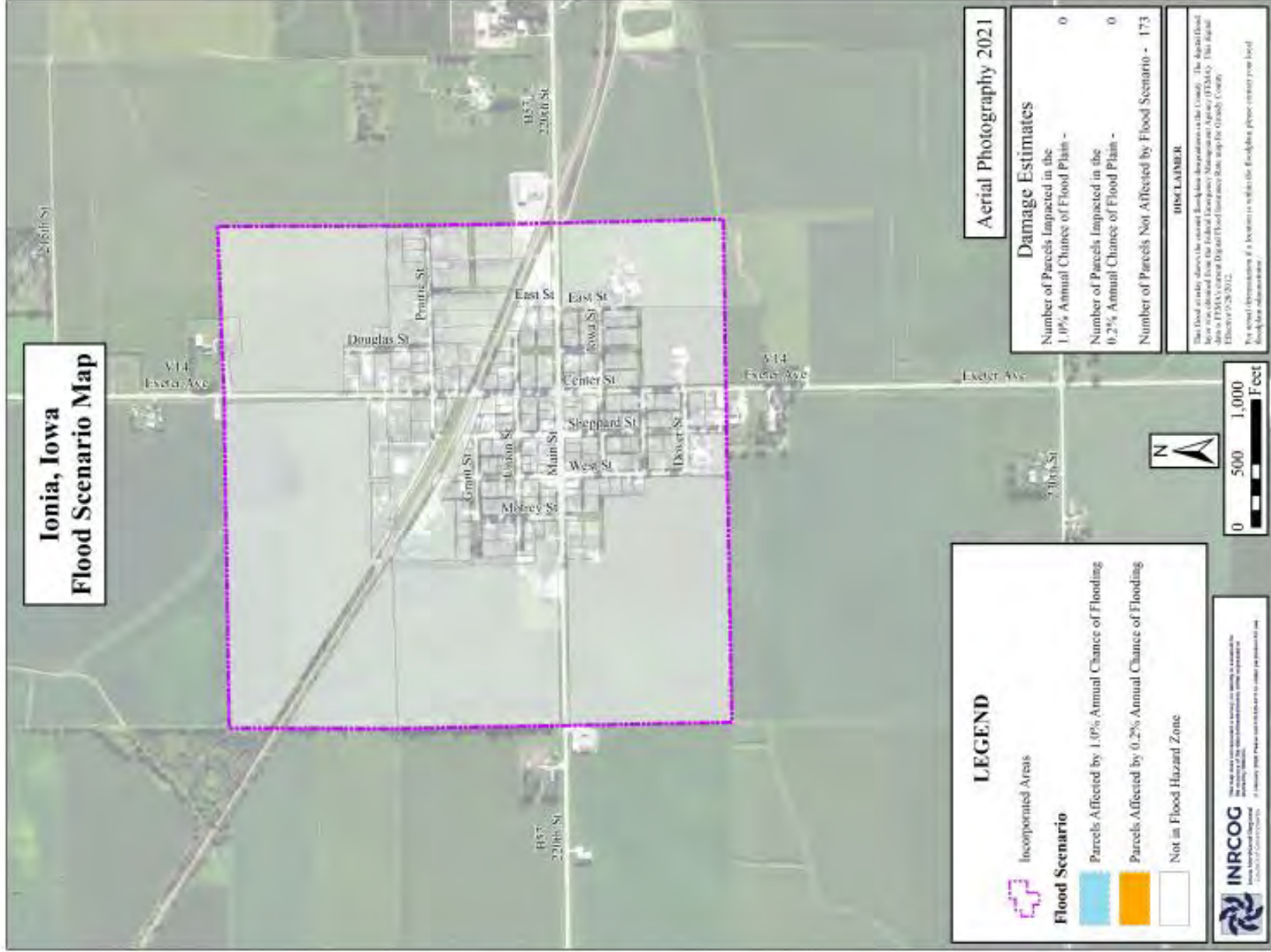
In Figures 4 and 5, the maps show no special flood hazard zone in and around Ionia. There are no parcels within Ionia potentially affected. There is no potential property loss from a 100-year annual chance flood in Ionia based on the FIRM maps.

Table 8: Potential Property Losses from the 1% Annual Chance Flood	
Percent of City Affected	0%
# of Parcels	0
Total Value (Building and Dwelling)	\$0
<i>Source: Chickasaw County Assessor’s Office</i>	

Figure 4: Flood Plain Map



Figure 5: Flood Scenario Map



Future Development

Recent updates in Title 44 CFR §201.6 (c) (2) (i) require this risk assessment include a section with future conditions on the type, location, and range of anticipated intensities of natural hazards.

Long term trends of climate patterns for the region were summarized in the Fourth National Climate Assessment Midwest Section.¹ The National Climate Report is mandated to be updated every 4 years and deliver results to Congress and President on the effects to agriculture, energy productions, land use, transportation, and human health.

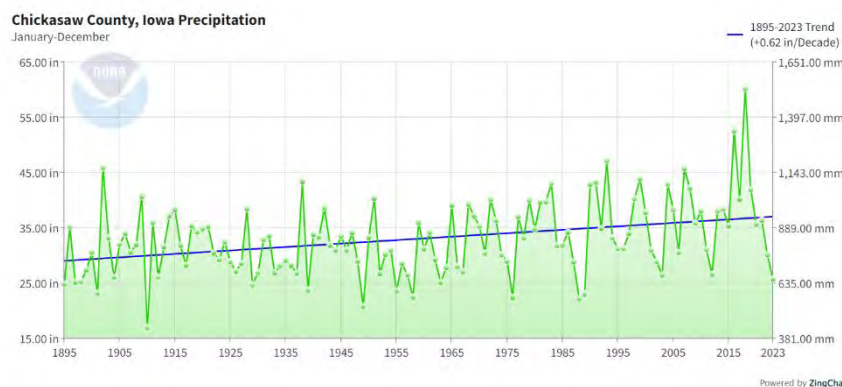
Yearly precipitation levels and annual average temperatures offer insights into future conditions of our climate system.

Annual Precipitation Levels in Chickasaw County

Taking the monthly precipitation records from January to December between 1895 and 2023 is shown in Figure 6. The values hover between 25 - 35 inches of precipitation levels recorded. The average precipitation level for the year is plotted and a linear trend of those values is shown in Figure 7. The trend shows a growing level of annual precipitation on average of 0.62 in more than the decade before. Based on this historical trend, precipitation is likely to continue to increase in the coming years.

¹ USGCRP, 2018: Impacts, Risks, and Adaptation in the United States: Fourth National Climate Assessment, Volume II [Reidmiller, D.R., C.W. Avery, D.R. Easterling, K.E. Kunkel, K.L.M. Lewis, T.K. Maycock, and B.C. Stewart (eds.)]. U.S. Global Change Research Program, Washington, DC, USA, 1515 pp. doi: 10.7930/NCA4.2018.

Figure 6: Historical Precipitation Data and Trend for Chickasaw County, Iowa²

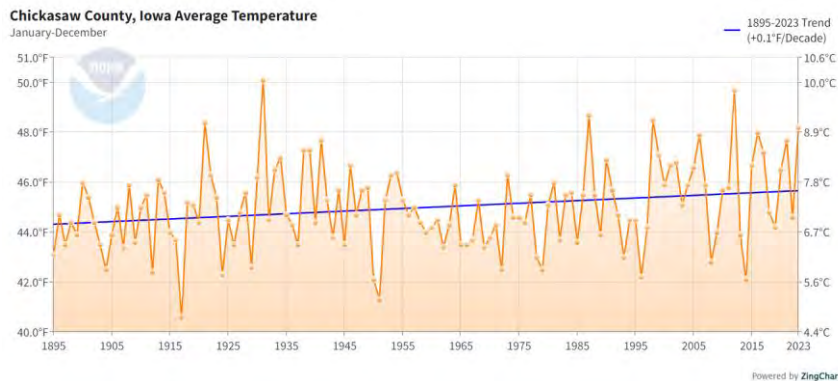


Average Annual Temperatures in Chickasaw County

The monthly average temperature is plotted over a 12-month period from 1885 to 2023 in Figure 7. The annual average temperature is also shown with a linear trend in Figure 7. This trend shows the average temperature in Chickasaw County increasing at a rate of +0.1° F every 10 years.

Figure 7: Historical Temperature Data and Trend for Chickasaw County, Iowa²

² NOAA National Centers for Environmental information, Climate at a Glance: County Time Series, published February 2024, retrieved on April 15, 2024 from <https://www.ncei.noaa.gov/access/monitoring/climate-at-a-glance/county/time-series>



Climate Patterns from Increasing Precipitation and Higher Temperatures

Drought

The relationship between increasing precipitation, temperature, and drought is complex, and often counterintuitive at first thinking about it. While increasing precipitation may seem like it would mitigate drought conditions, higher temperatures can exacerbate the situation in several ways:

1. **Evapotranspiration:** Higher temperatures lead to increased evaporation rates from soil, bodies of water, and plants. This means that even if there is more precipitation, it may quickly be evaporated before it can effectively replenish soil moisture or water sources.
2. **Changes in precipitation patterns:** Increasing temperatures can alter precipitation patterns, leading to more intense rainfall events but also longer periods of drought between these events. This

pattern can result in rapid runoff and soil erosion during heavy rain, followed by extended dry periods that contribute to drought conditions.

Overall, while increasing precipitation may provide temporary relief from drought, the combined effects of rising temperatures can outweigh this benefit, leading to more frequent and severe drought events in certain regions.

Pest Infestation

With more humidity, the daily minimum temperature may increase across all seasons. Warming winters can increase the survival and reproduction of existing insect pests which allow new insect pests and crop pathogens to move into the Midwest region.

Extreme Heat Domes

A heat dome is a weather phenomenon characterized by a high-pressure system that traps hot air beneath it, leading to prolonged periods of extremely high temperatures and often causing heatwaves. Extreme heat events during the summers may occur with more frequency in the Midwest.

The human impacts of extreme heat affect socially and economically vulnerable populations the most. The higher costs of energy during heat waves disproportionately impact cost-burdened households. Heat related illness may be more severe among infants, elderly populations, and those with chronic health conditions.

Projected Trends of Natural Hazards in Chickasaw County

- Prologued drought is probably as the atmosphere holds more moisture (even pulling moisture from plants) as the temperature increases. Longer periods between weather events means there are dryer and longer periods in between these events.
- Floods (flash or major types) will increase in intensity as the atmosphere holds more moisture to drive stronger storms and drop heavier rainfall over a shorter period during an event.
- Extreme heat may occur more frequently. The human health impacts are higher among socially vulnerable populations (the elderly, infants, those with chronic health issues, cost burdened households).
- Agricultural pests and pathogens may increase in growing plants and stored grain. Warming temperatures in the spring and summer have led to rising humidity. Higher dew and moisture conditions may increase the presence of these pests or crop diseases.

National Flood Insurance Program

The City of Ionia does not participate in the National Flood Insurance Program, because there is no flood risk. There is no special flood hazard area mapped for the areas in and around the community. There are no reported repetitive loss properties reported for the community.

FEMA defines a repetitive loss property as an insurable building that has experienced two losses in a 10-year period in which each loss is \$1,000 or more.

Table 9: National Flood Insurance Program Information	
Community Name	City of Ionia
NFIP Participant (Yes/No)	No
Designee / Agency to implement NFIP Requirements	None
Participant in CRS (Yes/No)	No
Current Effective Map Date	N/A
Regular-Emergency Program Entry Date	N/A
Total Policy Count	N/A
Total Coverage	N/A
Total Losses	N/A
Total Net Dollars Paid	N/A
<i>(M) = No flood elevations determined - All Zone A, C, and X</i>	
Source: Source: FEMA National Flood Insurance Program, Data and Analytics, HUDEX Report. https://nfipservices.floodsmart.gov/reports-flood-insurance-data	

Hazard Risk Assessment

The top three hazards from the risk assessment are:

1. Severe Winter Storm
2. Thunderstorms with Heavy Lighting/Hail
3. Tornado/ Windstorms



Methodology

This risk assessment identifies how people, property, and structures would be harmed or damaged by one of the listed hazard events. Iowa Homeland Security and Emergency Management Department (Iowa H.E.S.M.D.) provided the hazard risk score formula for determining the level of risk used in this analysis.

Factors of Hazard Risk

Risks to a hazard event may differ across geographical locations or even differ based on certain times of year. For example, tornado season in Iowa is usually in May and tornados have the highest risk during this time due to change in weather patterns from the western and central Gulf of Mexico causing higher chances of extreme weather.

For this analysis, four hazard risk factors are rated on a scale between 1 and 4 by committee participants after reviewing profiles of each hazard with the planning coordinator.

Information was shared with the committee which described the hazard, historical occurrences, impact, duration, and warning time. Participants used this information to strengthen their understanding to rate each hazard factor.

Hazard Risk Score Formula

$$\begin{aligned}
 &[\text{Probability}] \times 45\% + [\text{Magnitude or Severity}] \times 30\% \\
 &+ [\text{Warning Time}] \times 15\% + [\text{Duration}] \times 10\% \\
 &= \text{Final Hazard Assessment}
 \end{aligned}$$

Source: Provided by Iowa H.S.E.M.D.

Hazard scores were collected during the 2nd county committee meeting. INRCOG planners calculated the hazard risk score for each hazard based on the formula in this section. Results for North Washington are on page 21.

Score Value vs. Hazard Risk Level	Description of hazard with this rating
Scores with a value closer to 1: <u>Low risk hazard</u>	Hazard is not likely to affect people or property because the likelihood is minimal.
Scores with a value closer to 4: <u>High risk hazard</u>	The hazard has historically occurred and may have significant impacts to people and property.

Probability

The probability score reflects the likelihood of the hazard occurring in the near future. Historical data of the hazard event occurring in Chickasaw County or Iowa informed the likelihood of future occurrence.

Probability Score Definitions		
Score	Description	
1	Unlikely	<i>Less than 10% probability in any given year (up to 1 in 10 chance of occurring), a history of events is less than 10% likely or the event is unlikely but there is a possibility of its occurrence.</i>
2	Occasional	<i>Between 10% and 20% probability in any given year (up to 1 in 5 chance of occurring), history of events is greater than 10% but less than 20% or the event could possibly occur.</i>
3	Likely	<i>Between 20% and 33% probability in any given year (up to 1 in 3 chance of occurring), history of events if greater than 20% but less than 33% or the event is likely to occur.</i>
4	Highly Likely	<i>More than 33% probability in any given year (event has up to a 1 in 1 chance of occurring), history of events is greater than 33% likely or the event is highly likely to occur.</i>

Magnitude or Severity

The magnitude or severity of the hazard event is measured by the level of impact on the human environment. Property damage is assessed by the whole planning area.

Magnitude or Severity Score Definitions		
Score	Description	
1	Negligible	Less than 10% of property severely damaged, the shutdown of facilities and services for less than 24 hours, and/or injuries/illnesses treatable with first aid
2	Limited	10% to 25% of property severely damaged, shutdown of facilities and service for more than a week, and/or injuries/illnesses that do not result in permanent disability.
3	Critical	25% to 50% of property severely damaged, shutdown of facilities and services for at least two weeks, and/or injuries/illnesses that result in permanent disability.
4	Catastrophic	More than 50% of property severely damaged, shutdown of facilities and services for more than 30 days, and/or multiple deaths.

Warning Time

This should be taken as an anticipated warning time.

The warning time score assesses the ability to warn a population before the hazard occurs. The values of the score range from 1 (at least 24 hours) to 4 (minimal or no warning time).

For many of the climate hazards, there is a considerable amount of warning time as opposed to the human-caused hazards (transportation and hazardous materials incidents) that occur instantaneously or without any significant warning time.

Warning Time Score Definitions		
Score	Description	
1	Forecasted	More than 24 hours warning time.
2	Likely	12 to 24 hours warning time.
3	High Chance	6 to 12 hours warning time
4	Imminent	Minimal or no warning time (up to 6 hours warning)

Duration

The duration is the time of a typical or expected hazard event to occur. For an earthquake or traffic accident that is a score of 1. For infrastructure failure, it is likely a 4.

Table 6 displays rated risk scores for each associated hazard. This assessment was completed by city representatives based on hazard profiles prepared for the planning committee.

Duration Score Definitions	
Score	Description
1	Less than 6 hours
2	Less than 1 day
3	Less than 1 week
4	More than 1 week

Table 10: Hazard Risk Assessment					
Hazards	Probability	Magnitude	Warning Time	Duration	Score
Severe Winter Storm	4	1	2	3	2.7
Thunderstorm/ Lighting/ Hail	4	1	2	3	2.7
Tornado/Windstorm	4	1	2	3	2.7
Grass/Wildland Fire	3	2	4	1	2.7
Extreme Heat	4	1	1	3	2.6
Drought	3	1	1	4	2.2
Transportation Incidents	2	1	4	2	2.0
Flooding - Flash	2	1	4	1	1.9
Hazardous Materials	1	2	4	1	1.8
Infrastructure Failure	1	2	4	1	1.8
Landslide	1	1	4	1	1.5
Levee/Dam Failure	1	1	4	1	1.5
Flooding - Riverine	1	1	4	1	1.5
Sinkholes	1	1	4	1	1.5
Animal/ Crop/ Plant Disease	1	1	4	1	1.5
Pandemic/ Endemic Human Disease	1	1	4	1	1.5
Radiological	1	1	4	1	1.5
Terrorism	1	1	4	1	1.5
Earthquake	1	1	1	1	1.0
Expansive Soils	1	1	1	1	1.0

Source: Completed by City Representative. Calculated score completed by INRCOG

Hazard Mitigation Goals

for Hazard Mitigation in Ionia, Iowa

The following list of goals was developed by planning committee participants from the associated jurisdiction. Goals 1 through 5 were developed in the previous 2019 Chickasaw County Multi-Jurisdictional Hazard Mitigation Plan and re-adopted to this updated plan. Goals 6 and 7 were revised to be more effective and sensible to local level scopes. The planning committee participants chose to adopt the same goals and add additional goals. Goals 8 through 11 were created by the city's committee representatives which provided updated and additional mitigation goals and activities.

Goal #1 Reduce the chance of and impact of flooding in the community.

Goal #2 Take measures to minimize the occurrence of injuries and loss of life due to hazards.

Goal #3 Take measures to minimize or eliminate damage that may occur as a result of hazards.

Goal #4 Increase the city's ability to respond to natural disasters and man-made hazards.

Goal #5 Return to the community to similar or improved pre-event conditions as quickly as possible following a disaster event.

Goal #6 Incorporate the City Plan into the proposed Multi-Jurisdictional Plan.

Goal #7 Continually re-assess and re-evaluate the plan and mitigation activities.

Goal #8 Improve Ionia's construction permit process for fairness and clarity, benefiting contractors, residents, and the construction sector.

Goal #9 Develop a sustainable Ash tree removal program in Ionia to prevent property damage and personal harm efficiently and affordably.

Goal #10 Distribute a monthly newsletter to Ionia residents for better communication and outreach.

Goal #11 Enhance Ionia residents' safety with a modern warning system, including updated tornado sirens and online registration for Alert Iowa.

Previous Mitigation Activities by Type

Mitigation actions and activities in this Plan will be organized according to these 5 categories: Emergency Services, Education and Outreach Projects, Natural Resource Protection, Structural Projects, and Local Plans and Regulations,

Emergency Services in Ionia

Chickasaw County Emergency Management Agency

Ionia works with the Chickasaw County Emergency Management Coordinator, based out of the City of New Hampton, on various safety and emergency events. The Emergency Management Coordinator works in conjunction with local fire, rescue, police, and government officials to draft and implement workable emergency action plans in the community. The Chickasaw County Emergency Management Coordinator is Jeff Bernatz.

Law Enforcement

The community has a 28E agreement in place with Chickasaw County Sheriff's Department that will provide law enforcement services. Services include patrol in the city. The sheriff deputies provide a response time to the city up to 30 minutes and will provide extra people power when notified by the city.

Fire Protection and EMS Services

Fire protection is provided by the Chickasaw Township Fire District with a force of 21 volunteer firemen. The District has the following equipment:

- 2010 pumper truck (1,500 GPM)
- 2006 tanker pumper (3,000 Gallon, 500 GPM)
- 2010 pickup 250 GPM pump
- 2-UTV's for grass fires and wooded areas
- 2000 equipment truck

EMS Services

Chickasaw County EMS provides ambulance service to area hospitals. Chickasaw County EMS is a private company that contracts service with local entities. The company is based out of New Hampton, approximately 8 miles east of Ionia.

Chickasaw County Rescue Squad also provides service in Ionia. There are 42 EMT certified individuals who volunteer to respond to emergency calls on a needed basis in the county.

Medical Facilities

There are no medical facilities in Ionia. The closest facility is the MercyOne New Hampton Medical Center in New Hampton, IA. This is the only medical facility with an ER unit located in the county. MercyOne has 11 private inpatient rooms and cares for over 20,000 outpatients each year.

MercyOne New Hampton offers a full range of services in an inpatient and outpatient setting as well as 24-hour emergency care, surgical services, primary care clinic, therapy and rehabilitation, diagnostic services, speech and occupational therapy, Senior Life Solutions and specialty clinics.

HAZMAT Response Teams

Ionia contracts with Northeast Iowa Response Group for response to hazardous material spills. The Northeast Iowa Response Group is a division of Waterloo Fire Rescue as is the Hazardous Materials Regional Training Center. The Training Center provides training to fire departments and companies from around the state and country. Not only is this a training center, but it also serves as a hazardous materials quick response unit to Black Hawk County, surrounding counties, and many municipalities in a ten county region. The Unit provides local fire departments with hazard materials emergency procedures thus reducing additional contamination. An evacuation plan is also in place in conjunction with the activities of the local department. Contact information for the facility is as follows: Hazardous Materials Regional Training Center, 1925 Newell Street, Waterloo, Iowa 50707, Phone: (319) 291-4275, Toll Free: (800) 291-4682, Fax: (319) 291-4285

The jurisdiction also partners with the Northeast Iowa Response Group for assistance in responding to any methamphetamine labs located in the city limits. The Response Group assists the Police Departments in containment of the site and disposal of hazardous chemicals.

Warning Systems in Ionia

1. Tornado Sirens

Ionia has 1 operating tornado warning siren for the community. The siren is 50 years old and beyond the

equipment's lifetime. A new replacement siren is urgently needed.

The activation systems of warning systems are activated and operated by a central command system operated by the Chickasaw County Rescue Squad in New Hampton, IA.

2) Alert Iowa Mass Communication System

Chickasaw County has implemented the use of Alert Iowa, a mass communication notification system. The system features are controlled through the Chickasaw County Emergency Management Agency. Residents can customize their alert settings including the type of alerts they would get.

Alert Iowa allows for emergency notifications via landline telephones, cell phones, email, text messages, and social media. This is useful for communities that may not have an operating warning siren or may not hear the sirens.

Public Works/Street Department

There is one city employee that does repairs to streets and facilities.

Previous Education and Outreach Projects in Ionia

The City of Ionia funds annual training opportunities for fire department personnel, law enforcement personnel, and ambulance crews to address all hazards. Ionia keeps first responders trained in weather spotting.

Previous Natural Resource Protection in Ionia

The City of Ionia regularly cleans out their storm drain system.

Previous Structural Projects in Ionia

The City of Ionia has no recent structural projects as mitigation activities.

Local Plans and Regulations in Ionia

Ionia completed a local plan and regulation assessment. The results are shown in the table below.

Table 11: Local Capability Assessment	
Community	City of Ionia
Previous HMP Participant?	Yes
Comprehensive Plan?	Yes
Building Code?	No
Zoning Ordinance? RR=restricted residential	Yes
Subdivision Regulations?	No
Floodplain Management Ordinance?	No
Tree-Trimming Ordinance?	Yes
Storm Water Ordinance?	Yes
Snow Removal Ordinance?	Yes

Components of the Strategy

Presented below are tables prepared in consultation with the Ionia’s planning committee’s representative and INRCOG. This is a guide for a strategic approach when implementing the city’s efforts in hazard mitigation. The tasks in these tables are drawn from the city’s capabilities, goals, and hazard risks presented in previous sections of this Plan.

The designated agency or staff presented with each line item was written by Ionia’s planning committee.

Notes about the tasks (listed as line items) in each table.

- Each task (line item) stands on its own so it can be completed whenever possible.
- Each action item is not limited to the details presented below and may change based on future conditions.
- The tasks were categorized based on mitigation type. The mitigation types are not shown in any order (no priority over the other). This is presented to help with the general understanding of how hazard mitigation may feed into the City’s existing or future priorities.

Priority Level

The priority level was informed through discussions among planning committee members who considered potential benefits of implementing the activity, some hurdles that the city may face in implementing the action step, and the

drawbacks of implementation. *Committee representatives considered a cost-benefit approach.*

Timeframe

Timeframe	Description
Immediate	1-6 months
Short Term	1-5 years
Mid-Term	5-10 Years
Long-Term	More than 10 Years
On-going	Continuous action/activity that may occur annually, periodically, or regularly

Estimated Costs

Cost estimates are based on the associated costs of additional staffing that may or may not be needed, time for planning/meetings/coordinating, and cost of the proposed action/program/ project.

Cost	Estimated Cost Range
Minimal	Less than \$10,000
Low	\$10K to \$99K
Moderate	\$100K to \$299K
High	Greater than \$300K

Implementation Guides (by Mitigation Type) for Hazard Mitigation Activities in Ionia

Table 12: 'Education and Awareness' Type Mitigation Activities						
Description: These types of actions keep residents informed about potential natural disasters.						
Priority	Tasks	Hazard(s)	Primary Agency Responsible for Implementation	Time Frame to Complete	Estimated Cost (s)	Funding Source
High	Provide continued training for first responders and fire department.	All	Fire Department, City Council	Ongoing	Minimal 0-\$10K	City general fund
High	Continue to educate the public on hazard response and preparation.	All	City Council, Hazard Mitigation Team	Ongoing	Minimal 0-\$10K	City general fund
Medium	Maintain training opportunities for weather spotting for first responders	Tornado/ Windstorm, Thunderstorm w/ Hail or Lighting, Winter storms	Fire Department, City Council	Short term 1 year - 3 years	Minimal 0-\$10K	City General Fund, Hazard Mitigation Grant Program
Low	Distribute a monthly newsletter to Ionia residents for better communication and outreach.	All	City Clerk	Immediate: 1 month - 6 months	Minimal 0-\$10K	City general fund

Table 13: 'Emergency Services' Type Mitigation Activities

Description: Actions that protect people and property during and immediately after a disaster or hazard event.						
<i>Priority</i>	<i>Tasks</i>	<i>Hazard(s)</i>	<i>Primary Agency Responsible for Implementation</i>	<i>Time Frame to Complete</i>	<i>Estimated Cost (s)</i>	<i>Funding Source</i>
High	Acquire funds to purchase new siren	Tornado	City Council	Short term 1-3 years	Medium \$10K to \$199K	Hazard Mitigation Grant Program
High	Ensure 28E Agreements are in place and updated for County Sheriff police services	All	City Council, Chickasaw County Board of Supervisors	Immediate 1-6 months	Minimal	County EMA
Low	Get residents to register on Alert IOWA with outreach and education initiatives	Tornado	City Council	Immediate 1 - 6 months	Minimal 0-\$10K	County EMA, City General Fund

Table 14: Natural System Protection and Nature-Based Mitigation Type

Description: Actions that minimize damage and losses by preserving or restoring the functions of natural systems. This type of action can include green infrastructure and low impact development, nature-based solutions

Priority	Action/Activity	Hazard(s) Addressed by Action	Primary Agency Responsible for Implementation	Time Frame to Complete	Estimated Cost (s)	Funding Source
Medium	<i>Adopt the "No Additional Cost" 6 Year Community Tree Maintenance Plan provided in the 2014 Urban Forest Management Plan for Ionia, Iowa</i>	Pest, Windstorms, Winter storms.	City Council	6 -10 years	Minimal	No additional costs other than available city services and equipment
Low	<i>Continue cleaning out storm drains</i>	Flooding	City clerk	Immediate 1-6 months	Minimal	City General Fund

Table 15: Structure and Infrastructure Project Type Mitigation Activities

Description: Actions that either modify existing buildings or structures to protect them from a hazard, or removal from the hazard area.

Priority	Action/Activity	Hazard(s) Addressed by Action	Primary Agency Responsible for Implementation	Time Frame to Complete Action	Estimated Cost(s) to Implement	Funding Source
High	Prepare city demolition strategy to address severely dilapidated/dangerous structures (657A acquisition). Strategize how to acquire, demo, and redevelop site as infill opportunity	Tornado/ Windstorms, Thunderstorms with Strong Hail, Winter storm	City council	For Strategic planning activity: Short term 1-3 years	Minimal	City general fund
Medium	Find housing partners (developers, nonprofits, regional planning org) to develop infill housing	Tornado/ Windstorms, Thunderstorms with Strong Hail, Winter storm	City council	Immediate 1 -6 months	Moderate	City general fund
Medium	Incorporate demolition costs with loan programs or other revitalization programs where applicable, if possible	Infrastructure failure	City Council	Short term 1-3 years	Moderate	City general fund CBDG revit, urban renewal grants, revolving loan programs

Table 15: Structure and Infrastructure Project Type Mitigation Activities

Description: Actions that either modify existing buildings or structures to protect them from a hazard, or removal from the hazard area.

Priority	Action/Activity	Hazard(s) Addressed by Action	Primary Agency Responsible for Implementation	Time Frame to Complete Action	Estimated Cost(s) to Implement	Funding Source
Medium	Prioritize dilapidated housing that poses the greatest threat to health, safety, and welfare and pursue property acquisition through 657A	Infrastructure failure, Tornado/ Windstorms, Thunderstorms with Strong Hail, Winter storm	City council	Long Term 5-10 years	High \$300K +	City general fund, CBDG funding, Revitalization grants, USDA rural development programs, Iowa Nuisance Property & Abandoned Building Remediation Loan Program
Medium	Continue maintenance of a functional gravity Sewer system including lift stations	Earthquake, Expansive Soils, Sinkholes, Infrastructure Failure, Flooding (River and Flash)	City council	Long Term 5-10 years	High \$300K +	State Revolving Loan Fund (SRF): Planning and Design
Low	Continue to improve (repair as needed) City Hall	Infrastructure Failure, Tornado/ Windstorms, Thunderstorms with Strong Hail, Winter Storms, Flooding, Expansive Soils, Sinkholes	City council	Long Term 5-10 years	High \$300K +	City General Fund, Hazard Mitigation Grant Program

Table 16: Local Plans and Regulations Mitigation Activities

Description: Actions by administrative or regulatory processes which direct how land and buildings are developed and built. These actions include regulations by public entities to reduce hazard losses.

Priority	Action/Activity	Hazard(s) Addressed by Action	Primary Agency Responsible for Implementation	Time Frame to Complete Action	Estimated Cost(s) to Implement	Funding Source
Medium	Upload the city's building permitting process to the city's website.	Tornado, Windstorm, Sinkholes, Expansive Soils	City Council	Long Term 5-10 years	Minimal 0-\$10K	City general fund
Medium	Update the city's emergency response plan	All	City Council and Fire Department	Short Term 1-3 Years	Minimal 0-\$10K	City general fund