

Section III: Hazard Specific Annexes

Annex 2: Severe Weather

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Introduction:

Primary Agency: Unified Command

Support Agencies:

- Law Enforcement
- Fire Service Agencies
- Stillwater County Disaster and Emergency Services
- City/County 911 Dispatch Center
- Emergency Medical Services
- Public Works Agencies
- Public Health Agencies
- Montana DOT
- Montana Highway Patrol
- Montana National Guard
- Montana DES
- National Weather Service

Purpose:

The purpose of this annex is to supplement the Stillwater County EOP by establishing policy and procedures specific to severe weather. It is not intended to define Standard Operating Procedures (SOP) for any particular agency, but to provide a framework for operations in the event of mutual aid between agencies. Special emphasis is placed on the use of mitigation, phased planning, and public education to increase the safety of the citizens of Stillwater County.

To provide an organizational framework that will effectively utilize all available resource equipment and personnel within Stillwater County, control the dispatching of such equipment and manpower to locations where needed, and provide for effective operations at the scene during an emergency/disaster.

Scope:

This annex addresses severe weather activities including warning, and shelter of winter, and summer extreme weather causing a significant natural or technological disaster. The scope of this section will not attempt to address details regarding mutual aid responsibilities and procedures that are contained in other documents.

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Situation & Assumptions

A. Situation

1. Stillwater County is subject to periodic severe weather each year.
2. Severe weather produces such events as extreme heat, high winds, snow/ice, heavy rainfall, flooding or a combination thereof.
3. Damage potential includes flooding and erosion, heavy snow or ice build up, diminution of public services and communications and damage to or destruction of public and private property and, most seriously, loss of life.
4. Flat, low-lying areas are particularly vulnerable to the effects of high winds and floods.
5. The unpredictable nature of heat waves often leads people to believe that a heat spell will abate at any time. As a result, people fail to take appropriate precautions while the heat wave continues.

B. Assumptions

1. Because of access to state-of-the-art meteorology and warning systems, adequate severe weather warnings may be provided to County citizens.
2. Stillwater County will respond initially to most of a severe weather effect; however, if damage is severe, it may take hours/days for emergency response personnel to reach all affected areas.
3. In extreme conditions - heavy snows or ice, flooding, property damage or personal injury – Stillwater County may require State and Federal assistance.
4. Electric power may be most susceptible to damage and, at the same time, be most essential for recovery from the effects of a severe weather emergency.
5. Effective communications may be a major concern due to the disruption of telephone service and the loss and/or damage of radio antenna towers and related equipment.
6. A significant number of severe weather casualties may occur during the post-emergency period from fires, electrocution, stress-related illness, snow/ice/debris-clearing accidents, etc.
7. Both response and recovery operations may be hampered by snow/ice/debris blocked roads, damaged bridges or roads, and downed trees and utility poles.
8. The need for increased security may exist.
9. Demand for resources may be critical.

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10. Enhanced public awareness via techniques such as citizen handouts, ad campaigns, evacuation routes and mapping information may be helpful.

11. The impact on homeless individuals may increase.

12. Deliberation on Detention Center evacuation may be necessary.

13. There may be a need to assess advanced evacuation/closing of low-lying areas, businesses/industries, public parks and local campgrounds.

14. Advance preparation by health care facilities, businesses, industries, and utilities is essential to maintain needed services during response and recovery operations.

Concept of Operations

A. General

Extreme weather can affect the county at all times of the year. Although how each is handled may differ, the basic concepts and plans still remain the same.

Most extreme weather type conditions provide advanced warning. This should provide for opportunity to implement plans and procedures into place that were initialized before the emergency.

Groups and individuals responsible for responding to severe weather emergencies will do so generally using procedures parallel to their normal day-to-day operations.

B: Preparedness

Stillwater County should use the concept of "Phased Planning" as an overall philosophy in severe weather planning, response and recovery, thus facilitating the actions of both emergency management and emergency response personnel.

◆ Phase I - Pre-Emergency

County departments, agencies and volunteer organizations should conduct preparatory activities. Phase I is divided into two portions:

1. In all cases:

- Enhance public education on relevant topics-understanding of severe weather warning systems, home safety, personal preparedness checklists, evacuation routes, pre- and post weather safety procedures (attention to flooded roads, snow/ice conditions, hazards of electrocution, etc.).
- Review, exercise and re-evaluate severe weather emergency plans, policies and procedures.

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- Review resource lists (including private contractors) and availability of road-clearing equipment, four-wheel-drive vehicles, emergency generators, fuel, chainsaws, etc.
- Review shelter availability.
- Ensure that basic procedures are in place for rapid procurement of services, equipment and supplies.
- Test emergency communications systems and generators under full load for 8 hours.

2. As weather statements indicate a possibility for severe weather emergencies, Stillwater County shall make preparatory decisions. This may coincide with release of Special Weather Statements or Storm/Flood Advisory/Warning by the National Weather Service (NWS) and will precede associated snow/ice, rains or winds. These actions include but are not limited to:

- Site selection and pre-positioning of equipment such as snow/debris-clearing equipment, generators, light sets, fuels, food, cots, blankets, etc.; reallocation and disbursement of previously positioned equipment.
- Reconfirmation of shelter availability.
- Testing of equipment, e.g., FAX machines, telephones, copiers and especially generators under full load for a minimum of 8 hours. Generators should be capable of functioning for 14 days with adequate fuel and fuel resupply.

◆ Phase II - Initial Emergency

1. Upon confirmation via a "severe storm watch" of probable storm impact or onset of rains/snow, local personnel may:

- Use data from such vehicles as National Weather Services, local radar systems, etc. to assist in making appropriate emergency decisions (e.g., initial evacuation of low-lying areas, mobile homes and flood prone areas; closing of schools, businesses or roads).
- Ensure integration among local entities of knowledge of existing conditions and road closing guidelines, etc.
- Via communications network, be requested to give regular situation reports on local conditions.

2. At Winter Storm, Flood or Severe Storm Warning, emergency activities will escalate, with use of all available resources, requesting assistance as needed. Key areas may be:

- Activation of evacuation and employee early release plans.

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- Maintenance of communications with fire, EMS and police units.
- Obtaining information from the field in as close to "real time" as possible.
- Establishment of priorities for key operations.
- That State EOC shall be provided periodic situation reports.
- Keeping the public informed of the developing situation.

◆ Phase III – On-going Emergency

1. When it shall be determined that any part of the County may be affected by severe weather full resources shall be focused on the saving of lives and the protection of property:

- Stillwater County should be in total readiness for the storm using pre-arranged plans and procedures.
- The pivotal issue shall be the completion of evacuation and/or sheltering of the citizens of those areas of the County most severely impacted.

Prior to or at this point, which may be 24 hours prior to the event, Stillwater County may have requested assistance from MTDES.

2. Activities at this phase will become increasingly curtailed in direct proportion to the severity of the storm.

◆ Phase IV – Recovery

1. Designated County officials shall assess conditions and potential hazards of recovery operations.
2. If conditions allow for snow/debris clearance and power restoration, workers may begin operations.
3. When an evacuated area(s) is deemed safe for citizen return, appropriate authorities shall require proof of property ownership and provide security.
4. Local personnel shall work with State, Federal and nongovernmental personnel to facilitate recovery.

C: Direction & Control

- ◆ See Direction and Control Annex in Section II: Functional Annexes.

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- ◆ The Incident Command System will be implemented at all incidents.
- ◆ The Emergency Operations Center (EOC) will be activated to the appropriate level and will provide support to the Incident Commanders in such areas as evacuation, communications, transportation, shelter and any other resources required.
- ◆ The Incident Commander will establish an Incident Command Post (ICP) for his area of responsibility; the agencies and/or departments represented at the ICP will be at the discretion of the Incident Commander.
- ◆ All decisions relating to operations at the scene will normally be issued from the Incident Command Post.
- ◆ If necessary, the Alternate EOC may be established at the direction of the County Executive or his/her designee.

D: Alert & Warning

- ◆ See Alert and Warning Annex in Section II: Functional Annexes.
- ◆ Warning the people within the risk area will normally be directed by the Emergency Operations Center using the Emergency Alert System (EAS), sirens, mobile loud speakers, or door-to-door notification as required by the situation. The DESC or his deputy will activate the EAS by contacting the **NWS (1-800-240-4596)** to initiate the message. If phones are down, a message may be hand delivered to the NWS at 2170 Overland Ave, Billings, MT or the primary EAS station, KEMC, at 1500 University Drive, Billings MT. Radio and TV stations will copy the message and interrupt regular programming for the broadcast.
- ◆ Notification to all appropriate response agencies will normally be done by the Dispatch Center or the DESC who maintain a list with 24-hour telephone contact points of appropriate Federal, State, County and private agencies, business or individuals who require notification or who can support emergency response or recovery operations.
- ◆ The County DESC will endeavor to provide as much advanced notice as possible to allow all emergency response personnel and appropriate County agency personnel to ensure the safety of their immediate families prior to departing for their duty assignments.
- ◆ Normal, existing communications systems will be used unless interrupted; then any means will be employed to reestablish communications. If communications are down, the most logical source of communications will be the local ARES organization, which is able to provide portable and self-sustained Ham radio communication that can link critical sites such as the EOC, shelters, hospitals and others that may be needed.
- ◆ ARES personnel may be assigned to appropriate County Fire Departments, Hospitals, Law Enforcement Agencies and American Red Cross Mass Care Shelters, as a minimum.

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E: Protective Actions

- ◆ See Evacuation and Mass Care Annexes in Section II: Functional Annexes.
- ◆ The impact of protective actions on the community has far reaching effects on the individuals being evacuated or sheltered and those agencies supporting the process. Under certain conditions, it may be preferable for individuals to remain in their residence, work place or other areas. The decision to evacuate all or a portion of the area at risk will be made by the County Executive in coordination with other appropriate agencies in the EOC.
- ◆ Potential evacuation routes will be developed on the basis of the best available information and announced in the EAS message.

F: Operational Roles & Responsibilities

◆ **American Red Cross (ARC)**

- Provides shelters, feeding, emergency medical support and mass casualty assistance in accordance with established SOPs and ability.
- Conduct a windshield damage survey within the first 24 hours.
- Provide a locator service to answer inquiries about people in the disaster area.

◆ **Chief Elected Officials**

- Declare an emergency and/or a disaster with up to a 2-mill levy, if appropriate. Separate declarations are required for each affected jurisdiction (county, Helena, East Helena.) A disaster declaration will allow a request to the MTDES for assistance.

◆ **Coroner's Office:**

The County Coroner's Office is the lead agency for the collection, storage, and disposition of all human remains and their personal effects.

◆ **DES Coordinator (DESC)**

- Develop and maintain local plans, procedures, checklists, etc. to be ready to deal with a severe weather emergency.
- Monitor conditions prior to and during a severe weather particularly with respect to evacuation.
- Manage the EOC, advise the CEO's and support field operations.
- Provide public information if the PIO is not available.

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- Ensure that damage assessment and major events are being recorded.
- Hold periodic briefings when necessary for the EOC staff to exchange information.
- Act as liaison with MTDES.
- Coordinate available resources; maintain detailed records of all fiscal and other resources committed and/or expended. Inform MTDES of developments through periodic situation reports.
- Notify MTDES if it appears State or Federal assistance may be necessary.
- Participate in weather and storm related conference calls

◆ **Emergency Operations Center (EOC):**

(See the EOC Annex for more information)

- The Law Enforcement or Public Safety and Security (ESF 13) representatives in the EOC will be organized under the Operations Section as either a stand-alone “Team” or as part of a functional group. Public Safety in the EOC will generally consist of representatives from the involved primary and support agencies as appropriate. They will communicate information between the EOC and field units, job headquarters etc., of the ARC and other public, private and volunteer organizations as needed.
- The EOC will provide support to the Incident Commander(s) in such areas as evacuation, communications, transportation, shelter, and any other resources required.
- The EOC will be activated by the DESC and staffed by the elected officials and heads of the departments involved in the response or their designees. EOC staffing should take place under the assumption that those personnel who must commute into Columbus may encounter severe obstructions and delays.
- A situation map will be maintained by the Planning Section in the EOC to illustrate the affected areas and any other pertinent information such as fires, flooding, impassable roads and alternate response routes.
- ARES will provide emergency communications from the EOC to wherever requested in the field and for other agencies, such as the ARC.
- Response personnel (Fire, Police, and Public Works Department employees) should report to their workplace in accordance with Agency SOPs.

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◆ Fire, Rescue, & Emergency Medical Services:

- Establish a station checklist that includes the supply stock, inventory and/or testing of fuel, food, potable water, medical supplies, rescue equipment, chain saws, emergency generators, batteries, communications systems, vehicles, etc.
- Consider dispersing equipment and personnel from stations to key, protected points within company areas of responsibility. This should increase survivability and response throughout the sector following passage of the storm.
- Review and prepare for mass casualty procedures.
- Establish liaison with Road Departments to ensure mutual support.
- Assist in establishing mobile hospitals and/or clinics in conjunction with Health Officer and the County's hospitals.

◆ Law Enforcement:

Law Enforcement will be in charge of evacuation, perimeter security, and traffic control. Damage assessment will be reported to the EOC.

◆ Public Health:

- Identify sources of safe drinking water during disaster situations.
- Public health nurses assist the ARC at shelters.
- Inspect shelters for sanitary conditions, including food and water supplies, wastewater and garbage disposal.
- Conduct damage assessment in licensed food facilities for contamination and refrigeration failures.
- Provide information on probable sewage contamination, identifying sources for portable toilets when needed, and providing information on appropriate clean-up.

◆ Public Works:

- Establish an agency checklist that includes the stockage, inventory and/or testing of all equipment and facilities. Special attention should be provided to fuel, potable water, chain saws, emergency generators, batteries, communications systems, vehicles, etc.
- Provide a representative to the Damage Assessment Group in the EOC.

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- Conduct a windshield damage survey within the first 24 hours and more intensive assessments as able.
- Provide information on road situations to include open/closed data, bridge status and general damage.
- Provide emergency engineering aid.
- Coordinate with Helena's Building Division to inspect priority buildings first, which are essential service, hospitals, nursing homes, and shelters. Damage assessment will be reported to the EOC. *See the Damage Assessment Annex for more information.*
- Debris removal, with an emphasis on roads that need to be cleared for emergency traffic.
- Restoration of basic services. Repairs to water and sewer mains, streets and bridges will be made in order of priority.
- Assist LE with traffic control with the use of barriers and signs.

◆ Utilities:

- Provide representatives to the EOC.
- Assess damages and facilitate restoration of services.

G. Authorities and Limitations

- ◆ The Incident Commander (IC) has authority to coordinate the use of resources and personnel at the scene of the emergency.
- ◆ The Commissioners have the authority to declare a State of Emergency within their jurisdiction and the responsibility to request a state or federal declaration if appropriate.
- ◆ Other jurisdictions.
- ◆ MCA 10-3-104 and 10-3-406 give the Governor and local chief elected officials the authority to *"direct and compel the evacuation of all or part of the population from an emergency or disaster area.....when necessary for the preservation of life or other disaster mitigation, response, or recovery;"* and to *"control the ingress and egress to and from an emergency or disaster area, the movement of persons within the area, and the occupancy of premises therein."*
- ◆ Law Enforcement has the authority to order evacuations and close roads in emergent circumstances.

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- ◆ The MTDOT and the Federal Highway Administration have the authority to close state and federal highways and bridge structures.
- ◆ County Health Officers have broad authority over matters of public health to include air and water quality concerns, food supplies, wastewater systems, and disease prevention.
- ◆ City officials have the authority to condemn a building in the city as unsafe to occupy.

H. Public Information

◆ Providing Information to the Public

- See the Public Information Annex in Section II: Functional Annexes
- The EOC will be responsible for all emergency public education and information.
- Once appointed, the Public Information Officer (PIO) will be responsible for public coordination and dissemination during the emergency and will clear all press releases through the Incident Commander or DESC. All approved press releases will be logged and a copy saved for the disaster records.
- During the event, the PIO, in conjunction with the IC, will continue to provide pertinent information over radio and TV. The public should be reminded to remain calm, stay tuned for more information, and to follow the instructions of emergency management personnel. Such instruction may include guidelines for returning to homes, shelter accommodations, sanitation, and where and how to report damages. Appendix 2.1 EAS Instructions To The Public
- The normal alert and warning systems may be down or limited following a major storm. It may be necessary to augment these systems with mobile public address systems, door-to-door contact, and posting notices on bulletin boards in designated public gathering places such as shelters.
- The PIO may also participate in a Joint Information Center (JIC), staffed by PIOs from various jurisdictions, to address the media with a single, coordinated voice.

◆ Receiving Information from the Public

Providing adequate communications means to receive information from the public, such as damage reports, sanitation problems, health issues, offers for donated goods, and other public safety-related problems, is the responsibility of the Communications Unit Leader and the PIO. This will probably be done by staffing public information lines and releasing the telephone number through the local media. The PIO must also ensure the information received is communicated to the appropriate EOC section to deal with it.

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I. Considerations and Implementation Responsibilities

Every type of disaster has issues that are unique to that type of situation. This section is designed to point out the disaster specific issues or areas of consideration and what agency, private or governmental, is responsible to resolve that issue.

◆ **Damage Assessment & Incident Stabilization:**

Damage assessment will take place in two phases: 1) the initial assessment, to determine general impact and damage to vital facilities and resources, and provide a brief overview of impact on citizens and businesses; and 2) subsequent, in-depth, assessments to determine the full extent of damage and the financial implications for disaster declarations and disaster assistance. Priorities in the initial assessment will be the restoration of emergency response and direction and control capability, and the saving of lives. (see Damage Assessment Annex)

In an incident requiring damage assessment, such as a flood, a Damage Assessment Group will be organized under the Operations Section. This group will be lead by a Group Supervisor appointed by either the IC or Operations Chief. The initial assessment will take place under the direction of the *Damage Assessment Group*, with assistance from the *Planning Section* as needed. Priorities in the second phase will be to estimate damages, restore public services and facilitate disaster assistance. The *Finance Section* may provide assistance in Phase two assessments (cost analysis, budgeting etc.) The County does not have the resources to restore private residences or businesses.

1. Initial Damage Assessment

An aerial survey of the County should be performed as soon as possible after the initial shock. The results of this survey will facilitate further damage assessment on the ground. Local building officials will direct damage assessment on vital facilities according to their assigned Branch.

The initial damage assessment should be augmented by "windshield" surveys and citizen reports, in order to provide an estimate of numbers of private homes and businesses affected.

This survey should be completed as soon as possible, since it will provide the supporting documentation for a disaster declaration, and establish a base for the secondary assessment process.

An assessment of damage to utilities, and evaluation of the immediate needs of the population, especially water and sanitation services, should be accomplished as soon as possible.

Potable water is a major concern following a flood. Power and gas for heating may also be extremely important, depending upon the season.

2. Secondary Assessment

The EOC Finance Section should begin gathering dollar figures associated with the damage to support requests for disaster declarations and assistance. Resources and facilities, which will be vital to the economic recovery of the County, should be surveyed. These include all hospitals, schools, financial institutions, and major employers.

3. Aerial Reconnaissance

The Civil Air Patrol, US Forest Service, MT Highway Patrol and a number of public and private resources may be utilized. This includes fixed wing and helicopter.

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◆ **Debris Removal:** *Public Works*

Removal of debris from public roads/highways is the responsibility of the agency that is responsible for its maintenance. Care should be taken to ensure that debris removal efforts are coordinated with other agencies that may have an associated responsibility. Removal of debris from private property is the responsibility of the property owner. (see *Debris Management Annex*)

◆ **Environmental Protection:** *Public Health*

The Health Department will take the lead in issues of sanitation, potable water supply and disease prevention. Food supplies may be compromised by contamination or lack of power. Refuse could accumulate to create harborage for insects, rodents and other disease carrying vectors.

◆ **Evacuations:** *Chief Elected Officials*

Upon the establishment of the EOC, the Commission or their designee has the responsibility to order appropriate citizen evacuations utilizing local law enforcement or other emergency responders as deemed appropriate. Prior to the establishment of the EOC, the Incident Commander has the responsibility to recommend evacuations if the situation is imminently critical. (see *Evacuation Annex*)

◆ **Power Outages:** *Northwestern Energy, Beartooth Electric, MDU, Yellowstone Electric*

Energy Suppliers will provide response to the loss of commercial power. Auxiliary power capabilities exist at the Law Enforcement Center, the Civic Center, and both hospitals. Public Works also has access to portable generators.

◆ **Road Closures and Emergency Transportation Routes:** *Law Enforcement*

State, County, or City law enforcement agencies working in conjunction with the MTDOT and County Roads Department can enforce the closure of roads and rerouting of traffic if necessary.

◆ **Search and Rescue:** *Sheriff's Department*

If there is a storm sufficiently intense to cause buildings to collapse, (e.g. high wind/tornado, flood, extensive snowfall, etc.) every reasonable effort should be made to determine if these buildings were occupied and if so, efforts coordinated with qualified emergency personnel to locate any potential survivors. Additionally, if citizens are isolated due to collapsed bridges or other structures, every effort should be made to rescue these individuals as soon as is feasible.

◆ **Shelter and Family Referral Services:** *American Red Cross*

If temporary lodging is needed due to severe weather, the ARC will activate, publish information concerning shelters, and manage shelter operations. It is critical that all relief efforts to shelter and feed citizens are a coordinated effort between the Red Cross and all affected communities. The EOC is the logical broker for this communication. Call:

☐ **Stillwater County District ARC 1-800-272-6668 (24 hrs)**

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The Salvation Army may also be requested to provide shelters and mass feeding. Army operations will be coordinated through the EOC and Red Cross to prevent duplication of effort. Call: **1-800-272-6668** . (see *Mass Care Annex*)

◆ **Special Populations:** *Law Enforcement*

As the situation dictates, it may be required to evacuate elderly and infirm citizens from nursing homes, foster homes and other public and private facilities. Special transportation and trained personnel may be required to accomplish this task. Incarcerated populations may also be required to be moved and this will require special transportation accommodations as well as trained security personnel.

◆ **Telephone Outages:** *Qwest*

Qwest and Sprint will provide response to the loss of conventional telephone service. Cellular telephones may not work when conventional lines are lost. If the interruption to phone service promises to be lengthy, or widespread, alternative communication such as Amateur Radio may be used to establish contact between the public and government facilities.

J. Administration & Logistics

◆ **Reports & Records**

Maintain detailed financial records, provide periodic status reports and apprise MTDES of the need for additional personnel, supplies and equipment.

Submit to MTDES resources records used in response to the emergency.

Based on after action reports and critiques, review and amend plans, SOPs, etc. to facilitate preparedness for subsequent severe weather.

◆ **Resources**

Maintain and update lists of resources personnel, supplies, and equipment that may be used in emergency situations.

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Appendix 2.1: Weather Related Definitions & Acronyms

Advisories and **Bulletins** are issued by the national Weather Service (NWS) frequently throughout the day and night and inform where the storm is located, intensity of its winds, and the speed and direction of movement.

The term **Watch** is used as an alerting procedure for an event that may occur.

A **Warning** is issued to warn that an event is imminent, has a high probability of occurring, or has occurred.

Blizzards are the most dramatic and perilous of all winter storms, characterized by low temperatures and by strong winds bearing large amount of snow. Most of the snow accompanying a blizzard is in the form of fine, powdery particles of snow, which are whipped in such great quantities that at times visibility is only a few yards.

Blizzard warnings are issued when wind speeds of at least 35 mph are accompanied by considerable falling or blowing snow and temperatures of 20 degrees F or lower are expected to prevail for an extended period of time.

Blowing and drifting snow generally occur together and result from strong winds and falling snow or loose snow on the ground. "Blowing snow" is defined as snow lifted from the surface by wind and blow about to a degree that horizontal visibility is greatly restricted.

A **cold wave warning** indicates an expected rapid fall in temperature within a 24-hour period that will require substantially increased protection to agricultural, industrial, commercial, and social activity. The temperature falls and minimum temperatures required to justify cold wave warnings vary with the changing of the season and with geographic location. Regardless of the month or the section of the country, a cold wave warning is a red flag alert to the public that during a forthcoming forecast period a change to very cold weather will require greater than normal protective measures.

Drifting snow is used in forecasts to indicate that strong winds will blow falling snow or loose snow on the ground into significant drifts.

Flash Floods - Flash floods are the result of intense storms dropping large amounts of rain within a short period of time, rapid snowmelts or dam failures. Flash floods occur with little or no warning and can reach full peak in only a few minutes.

Flood Warning is a forecast of impending floods advising of the expected severity of flooding (minor, moderate, or major), the affected river or body of water, and when and where flooding will begin.

Hazardous driving (travelers') warnings are issued to indicate that falling, blowing or drifting snow, freezing rain or drizzle, sleet or strong winds will make driving difficult.

Heavy Snow warnings are issued to the public when a fall of four inches or more is expected in a 12 hour period, or a fall of six inches or more is expected in a 24-hour period. Some variations on these rules may be used in different parts of the country, in metropolitan areas with heavy traffic, a snowfall of two or three inches will justify a heavy snow warning.

Ice Storm - Freezing rain or drizzle is called an Ice Storm. Moisture falls in liquid form but freezes upon impact. The term "heavy" is used to indicate an ice coating sufficiently heavy to cause significant damage to trees, overhead wires, and similar objects. Ice storms are sometimes incorrectly referred to as "sleet storms". Sleet is easily identified as frozen raindrops (ice pellets

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which bounce when hitting the ground or other objects. Sleet does not stick to trees and wires but sleet in sufficient depth does cause hazardous driving conditions.

Severe blizzard warnings are issued when blizzards of extreme proportions are expected and indicate wind with speeds of at least 45 mph plus a great density of falling or blowing snow and a temperature of 10 degrees or lower

Severe Thunderstorm Watch - Issued by the National Weather Service when the weather conditions are such that a severe storm (damaging winds 58 miles per hour or more, or hail 3/4 of an inch in diameter or greater) is likely to develop.

Severe Thunderstorm Warning - Issued by the National Weather Service when a severe thunderstorm has been sighted or indicated by weather radar.

Snow - Snow in a forecast, without a qualifying word such as "occasional" or "intermittent", means that the fall of snow is of a steady nature and will probably continue for several hours without letup.

Snow Flurries are defined as snow falling for short durations at intermittent periods; however, snowfall during the flurries may reduce visibility to an eighth of a mile or less. Accumulations from snow flurries are generally small.

Snow Squalls are brief, intense falls of snow and are comparable to summer rain showers. They are accompanied by gusty surface winds.

Stockmen's warnings alert ranchers and farmers that livestock will require protection from a large accumulation of snow or ice, a rapid drop in temperature, or strong winds

Tornado - A rotating column of air usually accompanied by a funnel shaped downward extension of cloud with speeds up to 300 mph. Also called a cyclone.

Tornado Watch - Issued by the National Weather Service when weather conditions are such that tornadoes are likely to develop.

Tornado Warning - Issued by the National Weather Service when a tornado has been sighted or indicated by radar.

Wind Chill - Wind chill is a term used to describe the rate of heat loss on the human body resulting from the combined effect of low temperature and wind. As winds increase, heat is carried away from the body at a faster rate, driving down both the skin temperature and eventually the internal body temperature. Animals are also affected by wind chill.

Winter Storm Watch - a storm is developing or approaching which may affect your area.

Winter Storm Warning - Severe winter weather conditions are imminent and will affect part or all of your area.

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Appendix 2.2: Incident Stabilization/Restoration Priorities

When all else fails, the priority for restoration will focus on protection of life as the number one priority, followed by property and finally the environment. Specific items may change based on the situation facing the decision makers at any given moment. The following lists are meant to be general guidelines.

Facilities

- ◆ 911 System, EOC, Hospitals
- ◆ Fire Stations
- ◆ Red Cross Shelters, (i.e. schools and churches)
- ◆ Water Treatment Plants
- ◆ Nursing Homes and other congregate care facilities

Communication

- ◆ City/County Emergency Communications
- ◆ EOC communications services
- ◆ QWEST lines

Transportation

- ◆ Primary arterials and buses/routes, freight service, ambulances, collector streets
- ◆ Evacuation assistance

Personnel

- ◆ Workers essential to recovery actions

Water

- ◆ Fire Suppression
- ◆ Potable water, Sanitation
- ◆ Industrial processes

The priorities reflected in this diagram are general guidelines for returning the county to operational and economic normalcy only.

Later priorities include:

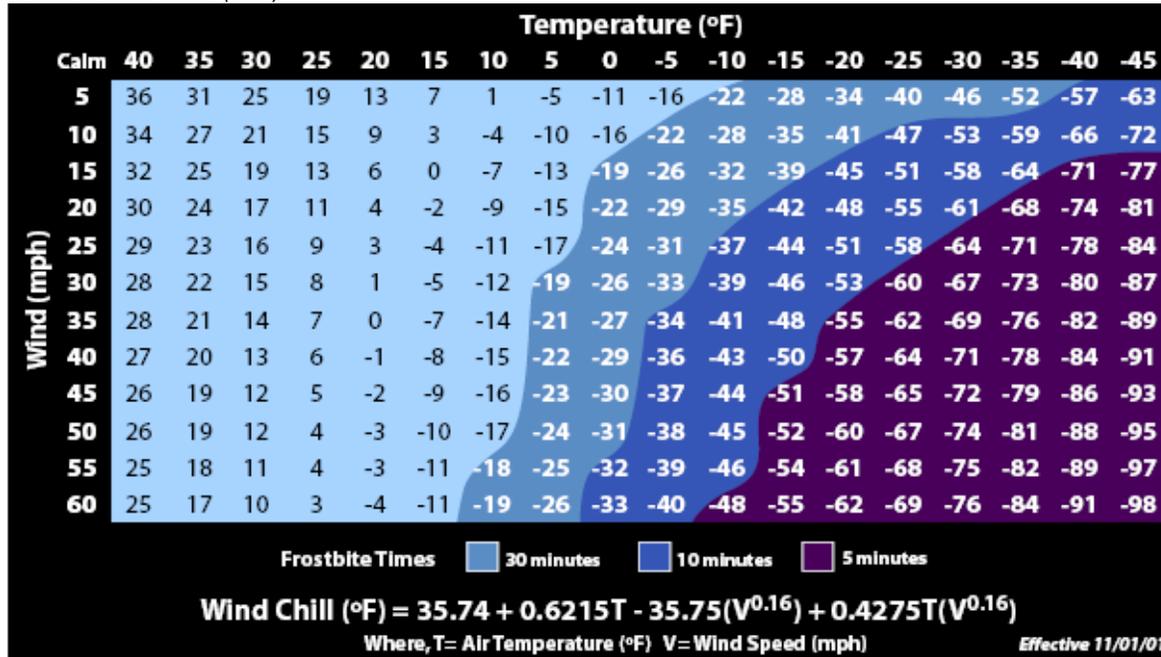
- ◆ Pharmaceuticals
- ◆ Food
- ◆ Banking facilities
- ◆ Insurance Firms

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Appendix 2.3: Wind Chill Chart

To use the chart, find the approximate temperature on the top of the chart. Read down until you are opposite the appropriate wind speed. The number which appears at the intersection of the temperature and wind speed is the wind chill index.

National Weather Service (NWS)



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Appendix 2.4: Heat Index Charts

About 237 Americans succumb to the taxing demands of heat every year*. Our bodies dissipate heat by varying the rate and depth of blood circulation, by losing water through the skin and sweat glands, and as a last resort, by panting, when blood is heated above 98.6°F. Sweating cools the body through evaporation. However, high relative humidity retards evaporation, robbing the body of its ability to cool itself.

When heat gain exceeds the level the body can remove, body temperature begins to rise, and heat related illnesses and disorders may develop.

The Heat Index (HI) is the temperature the body feels when heat and humidity are combined. The chart below shows the HI that corresponds to the actual air temperature and relative humidity. (This chart is based upon shady, light wind conditions. Exposure to direct sunlight can increase the HI by up to 15°F.)

Temperature (F) versus Relative Humidity (%)

°F	90%	80%	70%	60%	50%	40%
80	85	84	82	81	80	79
85	101	96	92	90	86	84
90	121	113	105	99	94	90
95		133	122	113	105	98
100			142	129	118	109
105				148	133	121
110						135

HI	Possible Heat Disorder:
80°F - 90°F	Fatigue possible with prolonged exposure and physical activity.
90°F - 105°F	Sunstroke, heat cramps and heat exhaustion possible.
105°F - 130°F	Sunstroke, heat cramps, and heat exhaustion likely, and heat stroke possible.
130°F or greater	Heat stroke highly likely with continued exposure.

Below is a table comparing Temperature and Dewpoint, with the same disorders possible:

Temperature (Down) versus Dewpoint (across)

°F	55	60	65	70	75	80	85
80	80	80	81	83	84	87	
85		84	86	89	93	99	107
90			91	95	100	107	117
95				101	106	114	125
100					113	121	131
105						127	138
110						134	145

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Appendix 2.5: Before the Disaster

Emergency Management (DES)

- ♦ To minimize the effects of an emergency/disaster and facilitate recovery efforts, Stillwater County DES organizes and coordinates the preparation of plans, develops and maintains the Emergency Operations Center and alternates, identifies equipment resources, and provides training opportunities.

Law Enforcement

- ♦ Write, maintain and review procedures for emergency operations during an emergency/disaster.
- ♦ Assess equipment and training needs.
- ♦ Establish procedures for coordinating all public information releases through the County Public Information and/or City Public Information Officer.
- ♦ Make provisions for relocating Law Enforcement operations in the event present facilities must be evacuated.
- ♦ Establish communication links with law enforcement/fire agencies for coordination of warning and evacuation confirmation functions.
- ♦ Establish mutual aid agreements to maximize utilization of resources.
- ♦ Appoint a representative to assist in County EOC.

Fire, Rescue, & Emergency Medical Services

- ♦ Write, maintain and review procedures for emergency operations during an emergency/disaster.
- ♦ Assess equipment and training needs.
- ♦ Establish procedures for coordinating all public information releases through the County Public Information and/or City Public Information Officer.
- ♦ Consider relocating or “Pre-positioning” Fire/EMS Apparatus in the event severe weather conditions may cause problems in regards to response.
- ♦ Establish communication links with law enforcement/fire agencies for coordination of warning and evacuation confirmation functions.
- ♦ Establish mutual aid agreements to maximize utilization of resources.
- ♦ Appoint a representative to assist in County EOC.

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Appendix 2.6: After the Disaster

Emergency Management (DES)

- ♦ Continues EOC operations until it is determined that EOC coordination is no longer necessary.
- ♦ Updates plans and procedures based on critiques and lessons learned during an actual event.

Fire Agencies

- ♦ Return apparatus and equipment to pre-disaster condition and regularly assigned locations.
- ♦ Assist the public in recover operations as resources allow.
- ♦ Support other recovery efforts as requested by the EOC.
- ♦ Provide critical payroll and other financial information for cost recovery through appropriate channels.

Chief Elected Officials:

- Establish procedures for actions to resume provision of interrupted utility services.
- Establish procedures for returning to normal traffic patterns including:
 - Evaluation of road safety.
 - Snow and ice clearance.
 - Priority for providing access.
 - Identify the sources and programs for recovery assistance and the means of obtaining each including:
 - Volunteer organizations.
 - Mutual Aid Agreements.
 - State Assistance.
 - Federal Assistance.
 - Establish procedures for mobilizing assistance from each available source including:
 - Conditions under which request for assistance will be made.
 - Channels to be followed to request assistance.
 - Preparations of necessary request disaster declarations or other documentation required for State and/or Federal assistance.