

WEATHER ANNEX

I. PURPOSE

The purpose of this annex is to provide proper management of weather-related emergencies or disasters.

II. SITUATION AND ASSUMPTIONS

A. Situation

1. Effingham County may experience major weather emergencies resulting in the need for a multitude of resources.
2. This annex will offer guidance to Effingham County government officials and response groups in emergency situations such as extreme heat, cold, and tornado disasters.

B. Assumptions

1. Organized response to weather emergencies will enhance response and recovery operations.
2. Weather related emergencies can overwhelm local emergency response groups and resources.
3. Weather related emergencies can cause wide spread destruction of the infrastructure.
4. Weather related emergencies can cause wide spread destruction of private and business property.
5. Sheltering of affected persons will be necessary for short periods, less than one week, and rarely long periods of time.

III. CONCEPT OF OPERATIONS

A. Extreme heat/cold

1. Effingham County Health Department will be the lead agency and will run informational ads in newspapers and radio stations giving advice to the public on dealing with extreme temperatures.

2. Effingham County Government buildings will be made available to the public for use as air-conditioned cooling shelters during cold emergencies and as warming shelters during heat emergencies.
3. American Red Cross will staff shelters during cold/heat emergencies.
4. Coroner's Office shall maintain an emergency morgue if local funeral homes are overwhelmed.
5. Effingham County Emergency Management Agency (EMA) will provide access to local, county, state and federal resources.
6. Decision for opening cold/heat shelters will be made by a consensus of the county health department, EMA, and Red Cross.

B. Tornado emergencies

1. Effingham County EMA will be the lead agency and will coordinate weather spotting, warning, and damage assessment.
2. Red Cross will assist in shelter management and damage assessment.
3. Law Enforcement will assist in weather spotting and perimeter control.
4. Fire Departments will assist in weather spotting, rescue.
5. Amateur Radio will assist in weather spotting and will assign one person to the Emergency Operations Center.
6. EOC will be activated when the National Weather Service (NWS) issues a **Tornado Warning** and will be on a standby level when a **Tornado Watch** is issued and follow standard operating guideline (SOG) procedures.
7. EMA will conduct a Weather Exercise or will cause to include a Tornado/Weather related issue in any other exercise on an annual basis.
8. Community Emergency Response Teams (CERT) personnel can be used to augment search and rescue efforts.

IV. ORGANIZATION AND ASSIGNMENT OF RESPONSIBILITIES

A. Effingham County Health Department will:

1. Distribute heat/cold safety warnings and survival tips utilizing the media.

2. Regularly inspect public buildings and shelters during the heat/cold emergency.

3. Provide health care for occupants of public buildings and shelters.

B. Effingham County EMA will:

1. Provide communications for public/private buildings used as shelters.

2. Access any resources needed to respond to a heat/cold/tornado emergency.

3. Coordinate weather spotters.

4. Notify proper authorities of tornadoes/funnel clouds. (See Appendix A.)

5. Authorize activation of warning sirens. (See Appendix B.)

6. Supply Damage Assessment Team (DAT) to disaster area.

7. Supply communications if necessary to any responding group.

8. Activate the Emergency Operations Center (EOC), less decision-makers, when a **tornado watch** (if severe weather is imminent) or **warning** is issued by the National Weather Service.

9. EMA and ham radio operators shall display a flashing amber light while weather spotting in unincorporated/rural areas.

10. Activate weather warning sirens. (See Appendix B).

C. Effingham Coroner will:

1. Maintain a list of all victims taken to any county funeral home or emergency morgue.

2. Release names of victims when they deem appropriate.

3. Act as public information office (PIO) during the emergency.

D. Fire Departments will:

1. Check homes in their jurisdiction for victims of heat/cold emergencies.

2. Assist in weather spotting.

3. Aid in search and rescue of tornado victims.

4. Activate weather warning sirens. (See Appendix B.)

E. The 911 Centers will:

1. Activate weather warning sirens. (See appendix B.)

F. Effingham County Chapter of the American Red Cross will:

1. Operate and maintain shelters.

2. Supply Damage Assessment Team (DAT) to the disaster area.

3. Supply water/refreshments to emergency response groups responding to disasters.

4. Act as liaison to American Red Cross disaster services.

V. SUCCESSION OF COMMAND

A. The line of succession for the Health Department will be:

1. County Health Department Administrator

2. Assistant County Health Department Administrator.

3. Designee of the County Health Department Administrator.

B. The line of succession for Effingham County EMA will be:

1. EMA Director

2. Assistant EMA Director

3. Deputy Assistant Director

VI. DEVELOPMENT AND MAINTENANCE OF WEATHER ANNEX

A. The responsibility for revisions, keeping attachments current, and developing necessary documents for the annex belongs to EMA.

B. The responsibility for revisions and maintaining SOGs belong to EMA and the county health department.

VII. AUTHORITIES AND REFERENCES

- A. The Robert T. Stafford Disaster Relief and Emergency Assistance Act, as amended 42 U.S.C. 5121 *et seq.*
- B. The Illinois Emergency Management Act (20 ILCS 3305).
- C. County Ordinance relating to Emergency Management as adopted by the Effingham County Board on January 18, 2005.
- D. *Guide for All-Hazard Emergency Operations Planning: State and Local Guide (101)*; FEMA April 2001.

VIII. APPENDICES

- A. Call List in the Event of a Tornado
- B. Sirens Criteria
- C. Storm Spotter Deployment/Reporting Criteria
- D. Recovery Operations Checklist
- E. Fujita Tornado Damage Scale
- F. Enhanced F Scale for Tornado Damage

APPENDIX A. CALL LIST IN THE EVENT OF A TORNADO

1. Log: time
location
direction
speed
aloft or on ground
who called it in (weather spotter's number)
2. Call the affected Fire Department
3. Call the affected School Superintendent
4. Call the National Weather Service: 1-800-611-4570
5. Call the Effingham County Sheriff: (217) 342-2101
6. Call St. Anthony Hospital (if in jeopardy): (217) 347-2121 (dial "0" at prompt.)
Call them back when all clear.
7. Notify all weather spotters via Ham and EMA radio
8. Notify all Fire Departments via 154.43
9. Call State EOC: 1-800-782-7860 or 54.44 MHZ or 155.025 MHZ
10. Call Steven's Industries: (217) 857-6411 ext. 2550 (low priority)
11. If tornado damage occurs, call:

Carolyn Willenburg, County Board Chair
Home: (618) 483-5941

Mark Percival, County Board Liaison
Home: (217) 536-5351
Cell: (217) 245-5351
Work: (217) 536-9990

▪ **APPENDIX B. SIRENS CRITERIA**

1. EMA, the two 911 PSAPs and the local Fire Departments are authorized to activate the warning sirens. Effingham City EMA is authorized to activate city sirens.
2. The City and County PSAPs will alternate testing the sirens on the first Tuesday of each month at 10:00 a.m. If local Fire Departments wish to test their activation system, they are to notify the PSAPs first.
3. The PSAPs will notify the radio stations, Mayor's office, and others as they deem necessary before testing the sirens.
4. Sirens will be activated when:
 - a) The National Weather Service issues a **tornado warning**. If the National Weather Service issues a warning for the entire county, all sirens will be activated. If a warning is issued for a particular area or town, only the sirens in that affected area will be activated.
 - b) A weather spotter, firefighter, or law enforcement officer sights a **tornado** or **funnel cloud**. Only the sirens in the immediate area of the sighting and in the projected path will be activated. The projected path will be determined by the observer and the activating entity.
 - c) The National Weather Service issues a **wind speed warning** in excess of 75 mph or greater.
6. A steady tone will be sounded for approximately three minutes for warning. No *all clear* will be sounded.
7. In the event that a weather spotter, firefighter, or law enforcement officer disagrees on a sighting, the National Weather Service trained weather spotter, firefighter, or law enforcement officer shall prevail over the untrained.
8. EMA will conduct a MediaCom cable override Emergency Alert System when a tornado is reported. EMA will notify the NWS so an EAS can be sent by them.

X APPENDIX C. STORM SPOTTER DEPLOYMENT/REPORTING CRITERIA

1. EMA storm spotters will standby for deployment when the NWS issues a **Tornado Watch**.
2. EMA storm spotters will self-deploy when the NWS issues a **Tornado Warning**.
3. EMA will initiate and All NWS Certified Spotter alert via local AM/FM radio and Ham radio repeater.
4. EMA and Ham Radio spotters will be assigned locations as needed. If time does not allow for location assignment, spotters will self-locate and inform the EOC of their location.
5. EMA will notify State Emergency Operations Center of the approximate number of EMA and Ham Radio spotters.
6. Spotters will not change location without notifying the EOC.
7. All spotter teams must be made up of two or more persons.
8. All spotters must have two means of communications with the EOC>
9. Spotters will report:
 - a. Hail, rotation, funnel clouds, tornadoes
 - b. Ground location of event
 - c. Direction of event
 - d. Time of the event
 - e. Any other information that they deem pertinent
10. All spotters will maintain two escape routes at all times.
11. All EMA and Ham Radio spotters will be current in NWS training and be listed on the master spotter list maintained by EMA.

X APPENDIX D. RECOVERY OPERATIONS CHECKLIST

1. Continue to provide welfare assistance to victims, if necessary.
2. Continue to provide welfare service information to victims, if necessary.
3. Assess long term welfare needs of victims.
4. Coordinate opening Disaster Assistance Centers, if necessary, with state and federal government officials.
5. Release personnel and organizations no longer needed.
6. Support cleanup and recovery of welfare operations during disaster events.

▪ **APPENDIX E. FUJITA TORNADO DAMAGE SCALE**

Dr. T. Theodore Fujita developed a damage scale (Fujita 1971, Fujita and Pearson 1973) for winds, including tornadoes, which is supposed to relate the degree of damage to the intensity of the wind.

The F-scale should be used with great caution. Tornado wind speeds are still largely unknown; and *the wind speeds on the F-scale have never been scientifically tested and proved*. Different winds may be needed to cause the same damage depending on how well built a structure is, wind direction, wind duration, battering by flying debris, and many other factors. In addition, the process of rating the damage itself is largely a judgment call – quite inconsistent and arbitrary (Doswell and Burgess, 1988). Even meteorologists and engineers highly experienced in damage survey techniques may come up with different F-scale ratings for the same damage. Even with all its flaws, the F-scale is the only widely used tornado rating method, and probably will remain so until ground-level winds can be measured in most tornadoes. (Source: NOAA, NCEP)

SCALE	WIND ESTIMATE ***(MPH)	TYPICAL DAMAGE
F0	< 73	Light damage: Some damage to chimneys; branches broken off trees; shallow-rooted trees pushed over; sign boards damaged.
F1	73-112	Moderate damage: Peels surface off roofs; mobile homes pushed off foundations or overturned; moving cars blown off roads.
F2	113-157	Considerable damage: Roofs torn off frame houses; mobile homes demolished; boxcars overturned; large trees snapped or uprooted; light-object missiles generated; cars lifted off ground.
F3	158-206	Severe damage: Roofs and some walls torn off well-constructed houses; trains overturned; most trees in forest uprooted; heavy cars lifted off the ground and thrown.
F4	207-260	Devastating damage: Well-constructed houses leveled; structures with weak foundations blown away some distance; cars thrown and large missiles generated.
F5	261-318	Incredible damage: Strong frame houses leveled off foundations and swept away; automobile-sized missiles fly through the air in excess of 100 meters (109 yards); trees debarked; incredible phenomena will occur.

*****IMPORTANT NOTE ABOUT F-SCALE WINDS:** Do not use F-scale winds literally. These precise wind speed numbers are actually guesses and have never been scientifically verified. Different wind speeds may cause similar-looking damage from place to place – even from building to building. *Without a thorough engineering analysis of tornado damage in any event, the actual wind speeds needed to cause that damage are unknown.*

▪ **APPENDIX F. ENHANCED F SCALE FOR TORNADO DAMAGE**

Enhanced F Scale for Tornado Damage

An update to the the original F-scale by a team of meteorologists and wind engineers, to be implemented in the U.S. on 1 February 2007.

FUJITA SCALE			DERIVED EF SCALE		OPERATIONAL EF SCALE	
F Number	Fastest 1/4-mile (mph)	3 Second Gust (mph)	EF Number	3 Second Gust (mph)	EF Number	3 Second Gust (mph)
0	40-72	45-78	0	65-85	0	65-85
1	73-112	79-117	1	86-109	1	86-110
2	113-157	118-161	2	110-137	2	111-135
3	158-207	162-209	3	138-167	3	136-165
4	208-260	210-261	4	168-199	4	166-200
5	261-318	262-317	5	200-234	5	Over 200

***** IMPORTANT NOTE ABOUT ENHANCED F-SCALE WINDS:** *The Enhanced F-scale still is a set of wind estimates (not measurements) based on damage.* Its uses three-second gusts estimated at the point of damage based on a judgment of 8 levels of damage to the 28 indicators listed below. These estimates vary with height and exposure. **Important:** The 3 second gust is not the same wind as in standard surface observations. Standard measurements are taken by weather stations in open exposures, using a directly measured, "one minute mile" speed.