



Appendix D: Guide for Using the Evacuation and Sheltering Decision Tool

Planning for sheltering and/or evacuation can be a challenging task, especially when preparing for an outdoor event with high attendance expected. Following guidance from FEMA and experience obtained from DuPage County Illinois Emergency Management, the following is a general guide to using the Evacuation Sheltering Decision Tool by event planners and the Weather Liaison in preparation and enactment of a sheltering/evacuation plan. Look for the Evacuation Sheltering Decision Tool on your local NWS

Office's Event Ready web page below:
www.weather.gov/crh/eventready

Evacuation Sheltering Decision Tool

Three Steps to Enacting an Event's Sheltering/Evacuation Plan

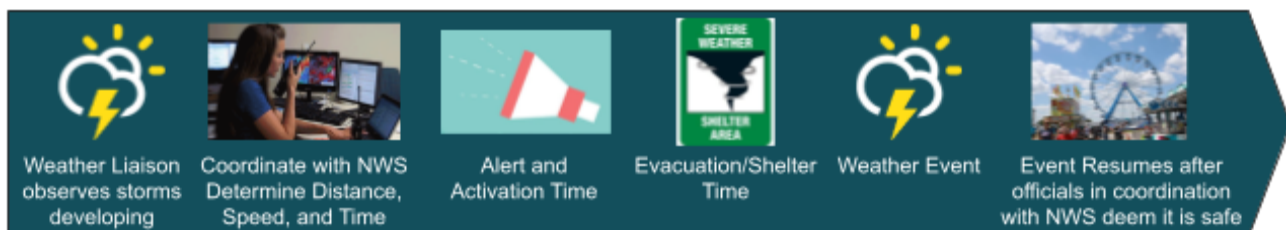
- Plan:** Using the information in the NWS Weather Liaison Guide and working with your local NWS Office, create your event evacuation/sheltering plan. This includes calculating the estimated time needed to shelter/evacuate patrons. Recall the formula below is just an example and may not apply to every scenario.

Alert and Activation Time (minutes)	Evacuation or Shelter time (minutes)	25% Safety Factor	Total Time Needed (minutes)
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$$\left(\underline{\hspace{2cm}} + \underline{\hspace{2cm}} \right) \times 1.25 = \underline{\hspace{2cm}}$$

- Monitor Weather:** The Weather Liaison should make a conscious effort to maintain situational awareness of the weather. However, the NWS office will be monitoring the specific aspects and hazards of the storm to support the Weather Liaison. Coordination between the NWS office and the Weather Liaison is vital.
- Act:** When hazardous weather is imminent and in coordination with their local NWS Office, the Weather Liaison takes the planned, necessary, steps to enact the event's shelter and/or evacuation plan.

Shelter/Evacuation Decision Example Timeline





Detailed information about the fields used in the Evacuation Sheltering Decision Tool

Step 1 - Plan

Alert and Activation Time (required):

The amount of time that it will take to notify everyone about evacuation/sheltering and activate any procedures that are required for evacuation/sheltering to take place.

Evacuation or Shelter Time (required):

The amount of time that it will take to evacuate and/or shelter everyone at the event.

25% Safety Factor:

The amount of time that should be taken into account when evacuating an event to consider possible changes in storm speed and any unexpected delays. Equivalent to 25% of the sum of the alert/activation time and evacuation/shelter time (rounded up to the nearest minute).

Total Evacuation Time:

The amount of time required to safely carry out the full evacuation/sheltering plan, assuming that additional storms do not develop and that storm speeds remains constant. Determined by summing the alert/activation time, the evacuation/shelter time, and the 25% safety factor.

Step 2 - Monitor Weather

Time (optional):

The current time. Can also be set to a custom time to plan out hypothetical scenarios. If left blank, act time and storm strike time will not be computed, but additional guidance will be provided based on the amount of information that was entered.

Storm Speed (optional):

The speed at which a storm is moving towards the location of the event. If left blank, time until arrival, act time, and storm strike time will not be computed, but additional guidance will be provided based on the amount of information that was entered.

Distance Away (optional):

How far away a storm currently is from the 8-mile lightning safety radius for the location of the event (or from the location of the event minus 8). So for instance, for a



storm that is 20 miles away from the actual location of the event, you would enter 12, as that is the distance between the storm and the 8-mile safety radius for the event's location. If left blank, time until arrival, act time, and storm strike time will not be computed, but additional guidance will be provided based on the amount of information that was entered.

Time Until Arrival:

How much time remains until the storm reaches the event's 8-mile lightning safety radius, based on the inputted storm's speed and distance away (under the assumption that the storm speed does not change).

Step 3 - Act

Act Time:

The latest time at which the evacuation/sheltering plan should start in order to be safely completed prior to the storm's arrival. This is based on the Alert/Activation time and Evacuation/Shelter time that was entered, and assumes that storm speed is constant and no additional thunderstorms develop. This can only be computed if valid input is entered for all 5 input fields.

Storm Strike Time:

The time at which the storm will reach the event's 8-mile lightning safety radius, assuming that the storm speed does not change. This can only be computed if valid input is entered for all 5 input fields.

Latitude/Longitude (optional):

The latitude/longitude coordinates of the location of the event. If entered, a link (or multiple links) will be generated that will take you to a web page with a radar loop that has both the 8-mile lightning safety radius and an evacuation/sheltering decision point radius imposed on it to help you visualize the input that you entered into the tool and the different stages of the evacuation/sheltering plan. Latitude is in degrees North, while longitude is in degrees East. Values between -90 and 90 constitute valid latitude coordinates and values between -360 and 360 constitute valid longitude coordinates, but for best performance in the U.S., the latitude should be a positive number between 15 and 75 and the longitude should be a negative number between -180 and -60. Both numbers can be decimals.