

Warning Process with WarnGen

Introduction

Issuing a convective warning using the WarnGen application in AWIPS is a step-by-step process. The process shown here should be applicable in most convective warning situations.

The specific steps in this exercise use [procedures](#), which are AWIPS macros that provide customized AWIPS displays without having to build them from scratch.

Use the numbered buttons below to navigate through the process. The five main steps outlined in the graphic to the right correspond to steps 4-8 below. Steps 1-3 below guide you through launching WarnGen using the WES test case.

Bulleted statements in this presentation are tasks to be performed on the WES.

Red statements are interactions with this presentation. Most of the images contained in this presentation can be zoomed for better clarity.

Set Up a Radar Display

It is necessary to build a radar display suitable for use with WarnGen.

- The display will be used to track a feature of interest (e.g., a hook-echo or velocity couplet) over several volume scans. The storm track is critical to obtain an accurate warning. The WarnGen software uses your storm positions over several volume scans to derive storm motion.
- The display should also include relevant geographical references.
- Open the [DLOC13 WarnGen](#) procedure and load the **WarnGen Basemap** bundle or build a display using the following steps:
 1. Change the display scale to **WFO**.
 2. Under the **Maps** menu, load **CWAs** and make them red.
 3. Under the **Maps** menu, load **Cities** and make them yellow.
 4. Under the **Maps** menu, load **County Names** and make them white.
 5. Change the Frames to **8**.
 6. Under the **kabr** menu, load **0.5 Z/SRM 8 Combo**.

Start WarnGen

- Make sure the last frame of the radar loop is displayed.
- Launch WarnGen by left-clicking the yellow WarnGen button at the upper right of the D2D window.

The WarnGen GUI

WarnGen displays two interactive elements:

1. An editable storm-location circle on D2D.
2. A Graphical User Interface to specify many details of the warning.

For reference, more details on the [WarnGen GUI](#) are available.

Position the Storm Location Circle

- Zoom (middle-click) on the storm that is in Sully and Hyde counties.
- Drag (using the left mouse button) the circle to the hook echo at the southwest portion of the storm.

Click the graphic for an animated view of dragging the circle to the hook echo.

Set the Warning Type

- Choose the type of warning (make it a Tornado Warning).

The warning polygon may change based upon the type of warning. Thus, choose the type of warning before adjusting the polygon (the next step). This prevents you from potentially having to adjust the polygon more than once.

Adjust the Storm Motion Vector and Warning Polygon

- Move the loop back several frames using the keyboard arrow keys or the D2D's frame backward button.
- Adjust the position of "Drag Me" storm location circle to closely match the location of the hook echo in each frame of the radar loop.
- After creating a suitable motion vector or storm track, left-click the **Track** button in the WarnGen GUI.

- Adjust polygon vertices as needed. Right-click on the polygon border to add more vertices.

Note: Some "expert" warning forecasters have adopted a "two-handed" technique for interacting with WarnGen. They use one hand for keyboard manipulations (advancing the radar loop forward and backward with the arrow keys) and use the other hand for simultaneous mouse movements. With this method, they are able to obtain suitable motion vectors in only a few seconds.

Click the [graphic](#) for a demonstration of checking the accuracy of the feature position and motion vectors.

Set Warning Details

- (1) Set the warning duration.
- (2) Add a statement for the Basis for Warning and any desired Call to Action statements. Toggle any bulleted statements on/off with a single left-click.
- (3) Click the **Create Text** button.
- Acknowledge the communications identifiers in the next window (**AWIPS Header Block**) by clicking the **Enter** button.

Click the [graphic](#) to see these steps.

Edit the Warning Text

- Check the counties and list of affected communities against locations shown on D2D display.
- Make any required edits, such as hail size or specific storm reports.
- Do not forget to sign the warning at the bottom of the text window.

Send the Warning

- Click the **Send** button.

For More Practice

For additional practice using WarnGen, use the WES to issue a **Flash Flood Warning** around 22:45 UTC on 24 August 2006 for Campbell and McPherson counties of South Dakota.

Use the storm total precipitation product as a basis for the warning. (For convenience, use the **WarnGen Storm Precip** bundle in the [DLOC13 WarnGen](#) procedure.)

Here are details for the warning:

- Duration: 3 hours
- Towns specifically mentioned: Long Lake and Eureka
- Indicate the storm total rainfall estimate from the radar

Use the following call to action statements:

- Rural flooding/small streams
- Automobile safety
- Report flooding to local law enforcement

Follow-Up Statements

When you are comfortable with issuing initial warnings, use WarnGen to issue follow-up statements.

For specific guidance, continue to the next presentation:

[Using WarnGen to Issue Follow-Up Statements](#)