4DWX Met Alert Tool
Introduction

• What is MAT?
  – MAT is the Met Alert Tool. This tool allows you to be notified when certain meteorological conditions exist.

• How is MAT started?
  – MAT can be run on the display (vmet) node.
  – MAT can be run from the 4DWX Web Start page.
MAT Framework

• Where does MAT get the data?
  – MAT uses data from the 4DWX database.
  – MAT must be able to connect to the FIDO node; must be run behind the firewall.
  – If the connection to FIDO is lost, no notifications will be received.

• MAT also connects to the database for logging.
MAT Terms

- **Alert Type** – A class of alerts supported by MAT. Each alert type has a set of parameters.
- **Active Alert** – An instance of an alert type, with specific values for the parameters.
- **Event** – An event is triggered when the conditions of an active alert are met.
- **Notification** – Method of letting the user know that an event has occurred.
Alert Types

• Observation
  – Wind
  – Temperature
  – Lightning
Notifications and History

- Two types of notifications:
  - Dialog boxes, with or without sound.
  - A message sent by email.

- Two types of history:
  - The events list.
  - The events log file.
The alert types list is in the upper left pane of the MAT. The alert types are organized by categories. There are alerts for observations, and alerts for model forecasts.
## Parameter List

The parameter list is in the upper right pane of the MAT. Each alert type has a list of parameters that need to be set. Parameter editing works the same as CQT. Some parameters have special editors that change the values. These editors are activated by the “…” button.

<table>
<thead>
<tr>
<th>Parameter Name</th>
<th>Parameter Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Site Code</td>
<td>SLC</td>
</tr>
<tr>
<td>Threshold (m/s)</td>
<td>32</td>
</tr>
<tr>
<td>Alert Severity Level</td>
<td>SEVERE WARNING</td>
</tr>
</tbody>
</table>
Active Alerts List

<table>
<thead>
<tr>
<th>Alert Type</th>
<th>Severity Level</th>
<th>Alert Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>High Wind Speed Alert</td>
<td>SEVERE WARNING</td>
<td>For winds exceeding 32.0 m/s at SLC</td>
</tr>
<tr>
<td>High Temperature Alert</td>
<td>WARNING</td>
<td>For temperature exceeding 40.0 C at SLC</td>
</tr>
<tr>
<td>High Wind Gusts Alert</td>
<td>WARNING</td>
<td>For wind gusts exceeding 1.0 m/s at dpg_s1</td>
</tr>
</tbody>
</table>

The active alerts list is in the center pane of the MAT.
The events list is in the bottom pane of the MAT. This list contains a record of all of the events that have occurred since the current instance of MAT was started.
Adding an Active Alert

• Select the **High Wind Gusts** alert type from the alert types list.

• Set the parameters:
  – Select the **Site Code** `dpg_s1` from the site code list.
  – Enter **10** for the **Threshold**.
  – Set the **Alert Severity Level** to **WARNING**.

• Choose **Add active alert** from the **Alerts** menu, or click on the icon on the toolbar.
Removing an Active Alert

• Select the active alert from the active alerts list.

• Choose **Remove active alert** from the Alerts menu, or click on the icon on the toolbar.

• Click **Yes** on the confirmation dialog to remove the alert.
Email Notifications

• Choose **User Preferences** from the **File** menu, or click the icon on the toolbar.
• Click on the **Email** tab on the user preferences dialog.
• Check **Enable email notifications**.
• Enter a valid email address into the text field, and then click on the **Add** button.
• Click **OK**.
The Event Log File

• To set up an event log file, choose User Preferences from the File menu, or click the icon on the toolbar.
• Click on the Event File tab.
• Check Enable event logging.
• Enter the complete path to the log file into the text field.
• Click OK.
To save the active alerts to a file, choose **Save Alerts** from the **File** menu, or click on the icon on the toolbar.

Enter a filename into the save dialog, and click **Save**.

All of the alerts in the active alerts list will be saved to the file.
Loading Active Alerts

• To load active alerts from a file, choose **Load Alerts** from the **File** menu, or click on the icon on the toolbar.

• Find the file in the open dialog, and click **Open**.

• The alerts in the file will be added to the active alerts list.
New Features

- User specified precipitation alerts
New Features

• Lightning alert
  – Radius
  – Based on SAMS station location
New Features

• Wet Bulb Globe Temperature
New Features

• Consistent units (lightning)
New Features

- New wind chill formula
- Add alerts from a file
- Timestamps contain timezone

![Image of alert tool interface with sample data]
More information

For more information, consult the online documentation:

http://www.4dwx.org/4dwx/documentation/online/mat/mat.html