

Test Case Basic GFE Toolbar

for the

AWIPS

Contract

DG133W-05-CQ-1067

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Revision History

Revision	Date	Affected Pages	Explanation of Change
1.0	27 June 2008	ALL	Initial Draft
2.0	8 August 2008	8-14	Redlines per PDT
3.0	4 September 2008	ALL	Redlines per DT

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1.0 SCOPE

See Software Test Plan.

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2.0 APPLICABLE DOCUMENTS

2.1 Source Documents

- None

2.2 Reference Documents

- Legacy NWS GFE Acceptance Test Case ID Number: ac002
- Legacy NWS GFE Test Cases for Test Areas AC – VP
- Section 3.1.3 of the AWIPS D-2D User's Manual Build 8.1
- Software Test Plan for the Advanced Weather Information Processing System Project, Contract #DG133W-05-CQ-1067, August 2008
- The Silver Spring NWS AWIPS 1 test bed application
- Release OB8.1 and OB8.2 of the Weather Event Simulator (WES)
- Rational RequisitePro

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3.0 TEST CASE DESCRIPTION

This test case exercises and demonstrates the capabilities of the GFE toolbar.

3.1 Assumptions, Constraints and Preconditions

- Several weather elements are loaded
- There are multiple grids available for the weather elements (at minimum T, Td, Wind, Wx, and Hazards weather elements)
- TO9 software has been installed successfully
- CAVE, EDEX and pgAdmin III are running
- Data has been ingested
- The GFE Perspective is displayed with the Grid Manager located across the top of the CAVE display
- Actions, Results, and Requirements highlighted in yellow indicate requirements and/or capabilities to be included in the scope of future task orders. They are included here for purposes of continuity and traceability with the original AWIPS I test case documents. Items highlighted in blue are capabilities added and/or Deficiency Reports (DRs) corrected since the Delivery Test.

3.2 Recommended Hardware

See Software Test Plan.

3.3 Test Inputs

Section 4.0 below contains the test procedures for this test case. Sections 2.2 – 2.9 of the Software Test Plan contain general test inputs applicable to all TO9 test cases.

3.4 Test Outputs

The basic GFE toolbar will be displayed and the results outlined in section 4.0 are met. The GFE GUIs to be tested include:

- Save Forecast
- Edit Actions
- PickUp Value
- Delta Value
- Recalculate Grid?
- Edit Area and Query
- Save Edit Area Group
- Delete Edit Area

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- Item Delete
- Weather Element Browser

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4.0 TEST SCENARIO

Step	Action	Result	Pass/Fail
1.	Mouse Button (MB) 1 drag on the GFE tab and bring the cursor down and to the left side of the main panel. When the Grid Manager outline appears on the left side of the main panel, release MB1.	The Grid Manager changes orientation to be on the left of the Spatial Editor.	
2.	MB1 drag on the GFE tab and bring the cursor up and toward the center of the main panel. When the Grid Manager outline appears on top of the main panel, release MB1.	The Grid Manager changes orientation to be on the top of the Spatial Editor.	
3.	MB1 click the  button on the toolbar several times.	The Grid Manager scale expands, making the grid blocks larger.	DR #1345
4.	MB1 click the  button on the toolbar several times.	The Grid Manager scale contracts making the grid blocks smaller.	
5.	MB1 drag in the Grid Manager or time scale to make a selection time range. MB1 click the  toolbar button.	The selection time range, as shown by the blue hatched area, is removed from the Grid Manager and time scale .	DR #1352
6.	MB1 click the  button (under 'Display Mode') on the toolbar.	The grid blocks in the Grid Manager are color-coded indicating the data source of the grid, as well as hatched if the grid has been modified.	DR #1365
7.	MB1 click the  button on the toolbar to turn off History mode and revert back to Normal mode.	The grid blocks in the Grid Manager revert back to the normal display.	
8.	Move the mouse without pressing any buttons over several grid blocks.	Nothing happens.	
9.	Click the  button on the toolbar to turn on Quick View. Move the mouse without pressing any buttons over several grid blocks.	Each grid is displayed as an image in the Spatial Editor as you pass over the grid block. The display reverts to the original displayed data when the mouse is not over a grid.	
10.	Click the  button on the toolbar to turn off Quick View.	Quick View is turned off.	

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Step	Action	Result	Pass/Fail
11.	Click on the Pencil Tool  icon. MB1 click on a scalar grid, such as T, in the Grid Manager. MB1 drag on the displayed grid in the Spatial Editor (to lock it) and release MB1 for the edits to appear. MB1 click on the Save Forecast  button. From the Save Forecast dialog, select the T grid product. Then MB1 click 'Save Forecast'.	The grid edits are made. The Grid Manager initially indicates the grid has been edited (green block). The Save Forecast dialog is dismissed, and the grid data is saved as shown by the removal of the green lock indication in the Grid Manager.	
12.	Click on the  button several times.	The grid that is next older (with wraparound of the inventory) is displayed in the Spatial Editor, and the yellow Spatial Editor time reflects that.	DR #1300
13.	Click on the  button several times.	The next grid (later in time) is displayed, along with wraparound of the inventory if necessary. The yellow Spatial Editor time reflects the inventory time.	DR #1300
14.	MB1 click 'GFE' -> 'Show Warnings' -> 'Show Empty Edit Area Warning' if the 'Show Empty Edit Area Warning' is checked. The objective is to turn off the warning messages. Click on the  button in the tool bar.	The warnings are turned off. The Edit Actions dialog displays.	
15.	MB1 click on a value on the color bar. Select 'Assign Value' on the Edit Actions dialog.	The grid data is modified.	
16.	Select the Sample Tool  icon. MB1 drag over the grid in the Spatial Editor.	A roaming sample follows the cursor showing the data value.	
17.	MB1 click over the grid in the Spatial Editor.	An anchored sample appears adjacent to the cursor showing the data and Lat/Lon values.	
18.	MB2 click on the sample location in the Spatial Editor.	The anchored sample is removed.	
19.	MB1 click 'PickUp...' on the Edit Actions dialog.	The PickUp Value dialog displays.	
20.	Enter a value in the Enter Value: text box within the PickUp Value dialog. Press the Enter key on the keyboard. (Note: may not work from the number pad.) Then MB1 click 'Assign Value' after the value PickUp Value label adjusts on the color bar.	The PickUp Value label adjusts to the value entered into the Enter Value: text box. The grid modifies.	
21.	MB1 click 'Dismiss' within the PickUp Value dialog to close the dialog. Then MB1 click 'Delta' on the Edit Actions dialog.	The PickUp Value dialog closes. The Delta Value dialog is presented.	
22.	Change the Delta amount on the Delta Value dialog (e.g., set it to 10). Then MB1 click 'Adjust Up' several times.	The grid values incrementally increase by the chosen delta value.	

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Step	Action	Result	Pass/Fail
23.	MB1 click 'Adjust Down' several times.	The grid values incrementally decrease by the chosen delta value.	
24.	MB1 click 'Dismiss' within the Delta Value dialog. MB1 click the 'X' on the title bar of the Edit Actions dialog.	The Delta Value and Edit Actions dialogs close.	
25.	MB1 click the  button.	The data in the grid is reverted back one editing step.	
26.	MB1 click on a scalar grid (e.g., T, Td, Sky, PoP, or QPF) in the Grid Manager. Ensure it is a grid that has varying values. Select the Contour Tool  icon.	White contours appear on the grid in the Spatial Editor.	
27.	MB2 click on a contour in the Spatial Editor.	The contour disappears.	
28.	MB1 click in an open area in the grid that contains few contours in the Spatial Editor.	A new contour is displayed. The new contour has the value of the click point on the grid.	
29.	MB3 popup over the main area of the Spatial Editor and select 'Calculate New Grid'.	The grid is recalculated and the contours adjusted accordingly.	
30.	MB2 drag over the grid in the Spatial Editor, as if you are trying to modify the contour.	The grid is recalculated. Note: the operation is similar to the pencil tool.	
31.	MB1 click on the color bar to pick up a value. MB1 drag over the grid in the Spatial Editor.	A new contour with the value of the pickup value is drawn.	
32.	MB1 click the  button to change grids.	A dialog is displayed asking "Recalculate based on edited contours before switching grids?".	
33.	MB1 click 'YES' on the dialog.	The grid is recalculated, and the frame is not changed to the previous grid.	
34.	Clear any edit area that might exist with the  toolbar button.	Any existing edit areas are removed.	
35.	Select the Pencil Tool  icon. MB1 drag on the grid displayed in the Spatial Editor.	The contours are removed from the Spatial Editor. The data is modified.	
36.	MB1 click on a grid in the Grid Manager which is of vector-type, such as Wind. MB1 drag on the grid displayed in the Spatial Editor.	The data is modified.	
37.	MB1 click on a grid in the Grid Manager which is of weather-type, such as Weather. MB1 drag on the grid displayed in the Spatial Editor being sure to start and end in the same area.	The data is modified.	

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Step	Action	Result	Pass/Fail
38.	MB1 click on a grid in the Grid Manager which is of discrete-type, such as Hazards. If the grid is all of the same value, modify the edit to have at least two areas of differing values. Be sure to clear any edit area that may have created by MB1 clicking the  toolbar button. Using the pencil tool, MB1 drag on the grid displayed in the Spatial Editor being sure to start and end in the same area.	The data is modified.	
39.	Select the Draw Edit Area Tool  icon. MB1 drag an enclosed area on the Spatial Editor.	An edit area is created.	
40.	MB1 click on a T grid in the Grid Manager. Select the Pencil Tool  icon. MB1 drag to edit the grid in the Spatial Editor being sure to start outside the edit area and pass through the edit area. (Note: If this is a weather or discrete grid, you will need to end your drag within the same data values or area as you started.)	The grid is modified, but only those areas within the edit area are modified.	
41.	Select the Move/Copy Tool  icon. MB1 drag the edit area to outside of the edit area.	An outline is traced on the Spatial Editor as the mouse/edit area moves. The data within the edit area is copied to outside of the edit area.	
42.	MB1 click the  button to undo the grid edit. MB2 drag starting in the edit area to outside of the edit area.	An outline was visible while the drag operation was occurring. The data within the edit area moves to outside of the edit area. The original edit area displays the original data.	
43.	MB1 click the  button several times.	The edit area toggles to the reverse for each click; points that were selected before are now not selected and vice versa.	
44.	Clear the edit area by MB1 clicking on the Clear Edit Area  button. MB1 click on a T grid in the Grid Manager. MB1 click on  to bring up the Edit Area and Query dialog. Enter 'T > 70' into the entry field (substitute appropriate values for your grid), and MB1 click 'Submit'.	Any edit areas are removed from the SE. The edit area as shown in the Spatial Editor changes to reflect the query. The Edit Area and Query dialog remains open.	
45.	In the Edit Area and Query dialog, enter '(T > 70) & (Wind < 5)' into the Query text box. Then MB1 click 'Submit'.	The edit area changes to match your query.	

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Step	Action	Result	Pass/Fail
46.	Step frames with the > or < buttons.	The new grid displays, and the query recalculates. In all likelihood, a different edit area is displayed.	
47.	MB1 click 'Convert To Location' within the Edit Area and Query dialog. Step frames with the > or < buttons.	The new grid is displayed. The edit area is not recalculated and the edit area remains the same.	
48.	MB1 click 'Save/Delete' on the Edit Area and Query dialog and select 'Save Edit Area...'. From the Save Active Edit Area dialog, enter 'ZZZ' in the Identifier text box and MB1 click 'Save Active Area'.	The edit area is saved as 'ZZZ' and the Save Active Edit Area dialog closes.	
49.	MB1 click on a Wx grid in the Grid Manager. MB1 click 'Create Mask' and select 'Wx' in the Edit Area and Query dialog. Select an appropriate combination (based on the weather grid data) of coverage, types, intensities, and attributes. Then MB1 click 'OK'. This dialog functions as an 'OR', so all combinations of those items selected are used. Then on the Edit Area and Query dialog, select Group Name ISC, MB1 click ' ', then MB1 click 'ISC_Tool_Area'. MB1 click 'Submit'.	The edit area is a logical 'OR' of the weather criteria selected and the ISC_Tool_Area.	
50.	Clear the edit area by MB1 clicking on the Clear Edit Area C button. Then clear the query in the Edit Area and Query dialog. From the Edit Area and Query dialog, select 'ZZZ' and MB1 click 'Submit'.	All edit areas are removed from the SE. The query is removed from the text box in the Edit Area and Query dialog. The edit area saved in step #48 displays.	
51.	From the Edit Area and Query Dialog, MB1 click 'Save/Delete' and select 'Delete Edit Area'. Within the Delete Selected Edit Area dialog, select 'ZZZ' and MB1 click 'Delete Selected Area'. Then MB1 click 'Delete' from the confirmation dialog.	The Delete Selected Edit Area and confirmation dialogs are dismissed. The edit area displayed in the Spatial Editor is cleared, and 'ZZZ' no longer appears in the Edit Areas list on the Edit Area and Query dialog.	
52.	From the Edit Area and Query dialog, MB1 click 'Save/Delete', then 'Save Edit Area Group'.	The Save Edit Area Group dialog displays.	

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Step	Action	Result	Pass/Fail
53.	In the Identifier field of the Save Edit Area Group dialog, enter 'ABCD'. Click on several Edit Areas(s) from the list box on the right, then MB1 click 'Save Active Area'. Then close the Edit Area and Query dialog. Reopen the Edit Area and Query dialog to observe the saved group.	The edit area group is saved with the definitions provided. The Save Edit Area Group dialog is dismissed. The Edit Area and Query dialog closes. The Edit Area and Query dialog opens. The Group Name 'ABCD' appears in the Edit Area and Query dialog.	
54.	On the Edit Area and Query dialog, Control MB1 click off all names in the Group Name(s) list box, then MB1 click on 'ABCD'.	The definition of 'ABCD' appears in the Edit Areas list box.	
55.	On the Edit Area and Query dialog, MB1 click 'Save/Delete' then 'Delete Edit Area Group', to bring up the Delete Edit Area Group dialog. MB1 click on 'ABCD'. Select the 'Delete All Areas Within Group' and 'With Verification' options. MB1 click 'Delete Group'. MB1 click 'Delete' in the confirmation dialog. Close and reopen the Edit Area and Query dialog to see the changes.	The Edit Area and Query dialog closes. The Edit Area and Query dialog opens. The Edit Areas group is deleted. (Note: A red banner may appear if edit areas that are part of BASE were deleted. This is okay.)	
56.	MB1 click 'Cancel' within the Edit Area and Query dialog to dismiss the dialog.	The Edit Area and Query dialog is dismissed.	
57.	With no edit areas displayed in the Spatial Editor (MB1 click the Clear Edit Area  button if necessary), select the ' ' mode on the  pull-down menu. MB1 click on the Draw Edit Area Tool  icon. Then MB1 drag an enclosed area on the Spatial Editor.	An edit area is created.	
58.	MB1 drag another edit area that does not intersect the first area.	The new edit area is added to the edit area drawn in step #57.	

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Step	Action	Result	Pass/Fail
59.	 <p>Select the '&' mode on the _____ pull-down menu. MB1 drag an area that intersects both of the drawn edit areas (from steps #57 and #58).</p>	The resultant edit area is the intersection of the edit areas drawn in steps #57, #58, and #59.	
60.	<p>Save the edit area as a QuickSet 3 by MB1 clicking the Q then 3 buttons. Clear the edit area by MB1 clicking on the Clear Edit Area C button. Recall the QuickSet3 by MB1 clicking on the 3 button.</p>	The quick set was restored. Note: When the edit area is cleared and the '&' mode is selected, drawing a new edit area then loading an existing edit area (e.g., clicking on the 3 button) will act like a replace operation.	

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Step	Action	Result	Pass/Fail
61.	 <p>Select the '=' mode on the pull-down menu. MB1 click on a T grid in the Grid Manager that is valid at 12z. MB1 click on the ? button to bring up the Edit Area and Query dialog. MB1 click 'WeatherElement' -> 'Weather Element Browser' to bring up the Weather Element Browser dialog. From the Weather Element Browser dialog, MB1 click on the 'D2D' radio button, then select the most recent available model from the Source pull-down, T from the Field pull-down, and MB850 from the Pres pull-down. MB1 click 'Load and Dismiss'. From the Edit Area and Query dialog, select the t_MB850_XXX_GRID_D2D_<chosen model>_yyyymmdd_hhmm entry, then type in the entry field '> 273' (substitute an appropriate temperature in Kelvin for the situation), so the whole phrase is similar to: t_MB850_BOU_GRID_D2D_NAM12_20030815_1200 > 273 Then click MB1 'Submit'.</p>	An edit area appears.	
62.	Close the Edit Area and Query dialog. Exit the GFE by MB3 clicking on the GFE Perspective tab and selecting 'Close'. Discard any edits that may have been made.	The Edit Area and Query dialog closes. The GFE Perspective closes.	
	End of test.		

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5.0 REQUIREMENTS VERIFICATION TRACEABILITY MATRIX (RVTM)

Number	Description	Test Step(s)
SYSR2044	The AWIPS system shall implement the GFE tool bar.	ALL
SYSR2050	The AWIPS system shall implement the GFE Animation (Step) Capability.	12, 13
SYSR2052	The AWIPS system shall implement the GFE Pencil Tool.	11, 35, 40
SYSR2053	The AWIPS system shall implement the GFE Sample Tool.	23
SYSR2054	The AWIPS system shall implement the GFE Move/Copy Tool.	41
SYSR2055	The AWIPS system shall implement the GFE Contour Tools.	26
SYSR2062	The AWIPS system shall implement the GFE Stretch Dialog.	3
SYSR2063	The AWIPS system shall implement the GFE Compress Dialog.	4
SYSR2075	The AWIPS system shall implement an EDEX Plug-In and Server Messages for GFE grid management service.	11
SYSR2076	The AWIPS system shall implement an EDEX Plug-In and Server Messages for GFE grid lock management.	11
SYSR2077	The AWIPS system shall implement an EDEX Plug-In and Server Messages for GFE reference data (edit area) management and control.	11
SYSR2111	The AWIPS GFESuite shall implement the Basic GFE Toolbar.	ALL

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