

# **Test Case AvnFPS Wind Rose**

**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	6-9	Redlines per PDT
3.0	4 September 2008	7	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 Test Case: Baseline\_AvnFPS\_WindRose\_OB8.1.
- 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.
- Rational RequisitePro.

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### 3.0 TEST CASE DESCRIPTION

This test case verifies that the climatology tool (Wind Rose), launched through the AvnFPS function, will produce a Wind Rose for a given month and hour (or a range of hours) and capability to specify flight category to further refine the results. Climatology data dependent functionality will mainly consist of GUI testing.

#### 3.1 Assumptions, Constraints and Preconditions

- TO9 software has been installed successfully
- CAVE, EDEX and pgAdmin III are running
- Pre-populated sample test data is used (versus actual climatology data)
- 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.

#### 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 Wind Rose dialog is displayed and the results outlined in section 4.0 are met. The AvnFPS GUIs to be tested include:

- AvnFPS Menu
- AvnFPS Climate Menu
- Wind Rose Plot
- Config
- Save As
- **Print**
- AvnFPS Monitor

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#### 4.0 TEST SCENARIO

Step #	Action	Result	Pass/Fail
<b>Launches Wind Rose from AWIPS popup menu</b>			
1.	Mouse Button (MB) 1 click on the workstation (blue screen).	The pop-up menu displays.	
2.	Select the AWIPS start-up menu.	The AWIPS pop-up menu displays.	
3.	MB1 click 'Wind Rose'.	The Wind Rose Plot GUI opens.	
4.	MB1 click on 'File' -> 'Quit'.	The Wind Rose Plot GUI closes.	
<b>Launches Wind Rose from AvnMenu</b>			
5.	In CAVE, MB1 click 'CAVE' -> 'New' -> 'Aviation' -> 'AvnFPS Menu...'	The AvnFPS Menu window displays.	
6.	From the AvnFPS Menu window, select a forecaster's name and MB1 click on the 'Climate' button.	The AvnFPS Climate Menu window displays.	
7.	Select the 'Wind Rose' button.	The Wind Rose Plot GUI opens.	
8.	In the Sites column select any site.	The site is selected.	
9.	By default the current month, hour and 'Auto Redraw' are selected.	Month and hour text fields update and the Wind Rose graphic displays accordingly.	DR #1342
10.	MB1 hold the 'Flight Cat' pull down menu and select 'IFR'. Winds for the given month and hour are selected only if Instrument Flight Rules (IFR) conditions exist (low cloud height and/or visibility). Then MB1 click the 'Draw' button.	The Wind Rose displays for the selected site under IFR conditions. Note: It contains pre-populated sample data only, not actual climatology data.	
11.	Uncheck the 'Auto Redraw' checkbox, and modify the Month, Hour and Num Hours. Then MB1 click the 'Draw' button. Note: The Wind Rose data are available from 1973 – 2004 for most of the sites.	The settings are updated accordingly.	
12.	Under the 'File' pull down menu, select 'Configure'.	The Config pop-up window appears.	
13.	Select '16' under the 'Points' pull down button and MB1 click 'OK'.	16 point is selected and Config pop-up window closes.	
14.	MB1 click the 'Draw' button.	The Wind Rose Plot displays the wind distribution on a 16-point compass.	
15.	To save displayed data to a file as text, select 'Save Stats' under the 'File' pull down menu.	The Save As popup window displays.	
16.	Enter the file name with .txt extension (e.g., TestData16Point.txt). Then MB1 click the 'Save' button.	The file is saved in the specified directory and the save as popup window closes.	

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Step #	Action	Result	Pass/Fail
17.	To save displayed data to a file as graphic (image), select 'Save Image' under the 'File' pull down menu.	The Save As popup window displays.	
18.	Enter the file name with one of the extension: .bmp, .jpg, .png (e.g., TestImage16Point.png). Then MB1 click the 'Save' button.	The file is saved in the specified directory and the save as popup window closes.	
19.	To print a text file or image, select 'File' -> 'Print'.	The Print pop-up window opens and contains the 'Palette' option of 'gray' and 'color'.	
20.	Select either the 'gray' or 'color' radio button. The MB1 click 'OK'.	A text file or image prints on 'lp1' (if 'gray' radio button is selected) or 'lp2' (if 'color' radio button is selected).	
21.	Under the 'File' pull down menu in the Wind Rose Plot window, select 'Quit'.	The Wind Rose Plot window closes.	
22.	In the AvnFPS Climate Menu window, select 'File' -> 'Quit'.	The AvnFPS Climate Menu window closes.	
23.	To verify the saved files from steps 16 & 18, open a Terminal and navigate to the specified directory in steps 16 and 18.	The files saved from steps 16 & 18 display on the lists.	
24.	Open the saved files to verify that they contain the saved information.	The files contain the correct information.	
25.	Close all AvnFPS related windows.	All AvnFPS related windows close.	
<b>Launches Wind Rose from AvnWatch GUI</b>			
26.	In CAVE, MB1 click 'CAVE' -> 'New' -> 'Aviation' -> 'AvnFPS Menu...'. From the AvnFPS Menu, select the forecaster's name and MB1 click on the 'TAFs' button.	The AvnFPS Menu window displays. The AvnFPS Monitor displays.	
27.	MB1 click on the 'Climate' button.	The AvnFPS Climate Menu window displays.	
28.	Select the 'Wind Rose' button.	The Wind Rose Plot GUI opens.	
29.	In the Sites column select any site.	The site is selected.	
30.	By default, the current month, hour, and 'Auto Redraw' are selected.	The month and hour text fields are updated.	
31.	MB1 hold the 'Flight Cat' pull down menu and select 'MVFR'. Then MB1 click the 'Draw' button.	The Wind Rose displays for the selected site under MVFR conditions. The Wind Rose graphic displays accordingly.	

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Step #	Action	Result	Pass/Fail
32.	Uncheck the 'Auto Redraw' checkbox and modify the Month, Hour and Num Hours. Then MB1 click the 'Draw' button. Note: The Wind Rose data are available from 1973 – 2004 for most of the sites.	The settings update accordingly. Note: It contains pre-populated sample data only, not actual climatology data.	
33.	MB1 click 'File' -> 'Configure...'	The Config GUI displays.	
34.	Modify the Config settings (values and colors). Then MB1 click the 'OK' button.	The settings are modified. The Config dialog closes.	
35.	In the Wind Rose Plot dialog, MB1 click the 'Draw' button.	The Wind Rose diagram modifies accordingly.	
36.	To save the displayed data to a file as text, select 'Save Stats' under the 'File' pull down menu.	The Save As popup window displays.	
37.	Enter the file name with .txt extension (e.g., TestData36Point.txt). Then MB1 click the 'Save' button.	The file is saved in the specified directory and the Save As popup window closes.	
38.	To save the displayed data to a file as graphic (image), select 'Save Image' under the 'File' pull down menu.	The Save As popup window displays.	
39.	Enter the file name with one of the extension: .bmp, .jpg, .png (e.g., TestImage36Point.png). Then MB1 click the 'Save' button.	The file is saved in the specified directory and the save as popup window closes.	
40.	To print a text file or image, select 'File' -> 'Print'.	The Print pop-up window opens and contains the 'Palette' option of 'gray' and 'color'.	
41.	Select either the 'gray' or 'color' radio button. Then MB1 click 'OK'.	A text file or image prints on 'lp1' (if 'gray' radio button is selected) or 'lp2' (if 'color' radio button is selected).	
42.	Under the 'File' pull down menu in the Wind Rose Plot window, select 'Quit'.	The Wind Rose Plot window closes.	
43.	From the Climate Menu window, select 'File' -> 'Quit'.	The AvnFPS Climate Menu window closes.	
44.	Close the AvnFPS Monitor GUI.	The AvnFPS Monitor GUI closes.	
45.	To verify the saved files from steps 34 & 39, open a Terminal and navigate to the specified directory in steps 34 and 39.	The files saved from steps 34 & 39 display on the lists.	
46.	MB1 click on the files to verify that they contain the information that was saved.	The files contain the correct information	

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Step #	Action	Result	Pass/Fail
47.	Close all opened AvnFPS related windows.	All opened AvnFPS related windows close.	
	End of test.		

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## 5.0 REQUIREMENTS VERIFICATION TRACEABILITY MATRIX (RVTM)

Number	Description	Test Step(s)
SYSR2073.101	AvnFPS shall provide Climatology Viewing capability via the AvnFPS Menu's Climate Button or via the TAF Monitor's Climate Button.	6-7, 27-28
SYSR2073.102	The Climate Button shall allow the user the capability to start any of three distinct climatology GUIs: Wind Rose, Ceiling and Visibility Distribution, and Ceiling and Visibility Trend.	6-7, 27-28
SYSR2073.103	The Wind Rose Dialog shall allow the user the capability to display a wind rose for a selected month, hour, and duration (in hours).	11, 32
SYSR2073.104	The Wind Rose Dialog shall allow the user the capability to further refine the wind rose by selecting a flight category.	10, 31
SYSR2073.105	The Wind Rose Dialog shall allow the user the capability to select the location of interest, e.g.	8, 29
SYSR2073.106	The Wind Rose Dialog shall allow the user the capability to draw the wind rose via the Draw button on the Wind Rose Dialog.	10, 11, 14, 31, 32
SYSR2073.107	The Wind Rose Dialog's File Menu's Save Stats selection shall allow the user the capability to save statistics to a file.	15-16, 23-24, 36-37, 45-46
SYSR2073.108	The Wind Rose Dialog's File Menu's Save Image selection shall allow the user the capability to save an image to a file.	17-18, 23-24, 38-39, 45-46
SYSR2073.109	The Wind Rose Dialog's File Menu's Print Image selection shall allow the user the capability to print an image.	19-20, 40-41
SYSR2073.110	The Wind Rose Dialog's File Menu's Configure selection shall allow the user the capability to change wind speed thresholds, corresponding colors, and to set the number of wind directions through a Configuration Dialog.	33-35
SYSR2073.111	The Wind Rose Dialog's File Menu's Quit selection shall allow the user the capability to exit the wind rose climatology.	21, 42

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