

McIDAS-V Tutorial

Importing Data from Text Files

updated June 2012 (software version 1.2)

McIDAS-V is a free, open source, visualization and data analysis software package that is the next generation in SSEC's 35-year history of sophisticated McIDAS software packages. McIDAS-V displays weather satellite (including hyperspectral) and other geophysical data in 2- and 3-dimensions. McIDAS-V can also analyze and manipulate the data with its powerful mathematical functions. McIDAS-V is built on SSEC's VisAD and Unidata's IDV libraries, and contains "Bridge" software that enables McIDAS-X users to run their commands and tasks in the McIDAS-V environment. The functionality of SSEC's HYDRA software package is also being integrated into McIDAS-V for viewing and analyzing hyperspectral satellite data.

More training materials are available on the McIDAS-V webpage and in the Getting Started chapter of the McIDAS-V User's Guide, which is available from the Help menu within McIDAS-V. You will be notified at the startup of McIDAS-V when new versions are available on the McIDAS-V webpage - <http://www.ssec.wisc.edu/mcidas/software/v/>.

If you encounter an error or would like to request an enhancement, please post it to the McIDAS-V Support Forums - <http://www.ssec.wisc.edu/mcidas/forums/>. The forums also provide the opportunity to share information with other users.

This tutorial assumes that you have McIDAS-V installed on your machine, and that you know how to start McIDAS-V. If you can not start McIDAS-V on your machine, you should follow the instructions in the document entitled *McIDAS-V Tutorial – Installation and Introduction*.

Terminology

There are two windows displayed when McIDAS-V first starts, the **McIDAS-V Main Display** (hereafter **Main Display**) and the **McIDAS-V Data Explorer** (hereafter **Data Explorer**).

The **Data Explorer** contains three tabs that appear in bold italics throughout this document: ***Data Sources***, ***Field Selector***, and ***Layer Controls***. Data is selected in the ***Data Sources*** tab, loaded into the ***Field Selector***, displayed in the **Main Display**, and output is formatted in the ***Layer Controls***.

Menu trees will be listed as a series (e.g. ***Edit ->Remove ->All Layers and Data Sources***).

Mouse clicks will be listed as combinations (e.g. ***Shift+Left Click+Drag***).

Plotting Point Observations from a text file

1. Remove all layers and data sources from the previous displays.
2. If there is more than one tab, close the extra tabs by clicking the “X” in the right corner of the tabs.
3. Add the data from the `<local path>//Point/text/N18_N_2009_090_12_03.asci` file.
 - a. In the **Data Sources** tab of the **Data Explorer**, open the **General -> Files/Directories** chooser.
 - b. In the **Data Type** field, choose **Text Point Data files**.
 - c. Navigate to the `<local path>/Point/text/N18_N_2009_090_12_03.asci` file. Click **Add Source**.
4. Define the field names and units.
 - a. In the **Point Data** window, select **Space** for the **Delimiter**.
 - b. Under **Start line**, click the down arrow once to skip over the header line.
 - c. In the lower panel of the **Point Data** window, fill in the fields exactly as shown below. Do not use the pull down menus, as the choices are very limited.

Point Data

Delimiter: Comma Semicolon Tab Space

Skip Pattern:

Start line:

type sat day/hms lat lon pre spd dir rff qi
 IR NOAA-18 200903311203 62.35 143.21 700 5.4 241 81.63 0.61
 IR NOAA-18 200903311203 62.64 140.49 756 8.4 265 72.72 0.75

Enter the field names and units. Leave name field blank to skip the field Preferences

Value	Name	Unit/Date Format	Missing Value Extra (e.g., colspan)
IR			
NOAA-18			
200903311203	Time	yyyyMMddHHmm	
62.35	Latitude	degrees	
143.21	Longitude	degrees	
700	Pressure	hPa	
5.4	Speed	m/s	
241	Direction	degrees	
81.63			
0.61			

OK Cancel

- d. Select **Preferences->Save Current**. Enter **PWinds** for the **Name** and click **OK**.
 - e. Click **OK** at the bottom of the **Point Data** window.
5. Create a Layout Model for the display.
- a. In the **Field Selector**, select **Point Data** in the **Fields** panel.
 - b. In the lower-right panel, click the **Layout Model** tab and click the down arrows to select **Location**. Click the down arrows again and select **Edit**. This will open the **Layout Model Editor**.
 - c. In the left panel of the **Layout Model Editor**, click **Windbarb**. *Left-click* in the window to place the windbarb object. Drag to the center of the box.
 - d. In the **Display** tab of the **Properties Dialog – WindBarb Symbol** window, click the down arrow for **U or windspeed parameter**. Select **Current Fields->N18_N_2009_090_12_03.asci->Speed**.
 - e. Click the down arrow for **V or direction parameter**. Select **Current Fields->N18_N_2009_090_12_03.asci->True Heading Angle – Direction**. Click **OK**.
 - f. In the left panel of the **Layout Model Editor**, click **Value**. *Left-click* in the window to place the value object. Drag the object to above the Windbarb.
 - g. In the **Display** tab of the **Properties Dialog – Value Symbol** window, click the down arrow for **Parameter**. Select **Current Fields->N18_N_2009_090_12_03.asci->Pressure - Pressure**. Under **Unit**, select **hectoPascals**; click on **Foreground Color** box and select a yellow color. Click **OK**.
 - h. Select **File->Save As**, and enter **PWinds** for the **Layout Model name**. Click **OK**. Close the **Layout Model Editor** window.
6. Create the display.
- a. In the lower-right panel of the **Field Selector**, click the **Layout Model** tab. Click the down arrows to and select **PWinds**.
 - b. Click **Create Display**. The default display is a world projection with wind barbs and pressures plotted. As you zoom in you will see more stations appear in the plot.

Displaying image data from a text file

7. Remove all layers and data sources from the previous displays.
8. If you have created more than one tab, close the extra tabs by clicking the “X” in the right corner of the tabs.
9. Add the data source for the *<local path>/Radar/text/RADAR.ASCII* file.
 - a. In the **Data Sources** tab of the **Data Explorer**, open the **General -> Flat files** chooser.
 - b. Click **Open File** icon next to **File** field.
 - c. Navigate to the *<local path>/Radar/text/ RADAR.ASCII* file.
 - d. In the **Dimensions** section of the **Properties** panel, enter **1200** for **Elements** and **1198** for **Lines**.
 - e. In the **Navigation** section, ensure **Files** is selected. Click the **Open File** icon for **Latitude** and navigate to the *<local path>/Radar/text/ RADAR.LAT* file. Click the **Open File** icon for **Longitude** and navigate to the *<local path>/Radar/text/ RADAR.LON* file. Change the **Scale** value to **100** and check the **East positive** box.
 - f. In the **Format** section, select **ASCII**.
 - g. Click **Add Source**.
10. Display the radar data.
 - a. In the **Fields** panel of the **Field Selector** tab, click key icon next to **RADAR.ASCII** to expand the field and select *Flat data*.
 - b. Click **Create Display**. The default display is a world projection, but this data is only over Oklahoma in the south-central United States. Pan and zoom to Oklahoma. In the **Legend**, right click on the gray scale color bar and select **Radar->Base Reflectivity 16 Levels**.

Zooming, Panning, and Rotating Controls

Zooming	Panning	Rotating
	Mouse	
<p>Shift-Left Drag: Select a region by pressing the <i>Shift</i> key and dragging the left mouse button.</p> <p>Shift-Right Drag: Hold <i>Shift</i> key and drag the right mouse button. Moving up zooms in, moving down zooms out.</p>	<p>Control-Right Mouse Drag: Hold <i>Control</i> key and drag right mouse to pan.</p>	<p>Right Mouse Drag: Drag right mouse to rotate.</p>
	Scroll Wheel	
<p>Scroll Wheel-Up: Zoom Out.</p> <p>Scroll Wheel-Down: Zoom In.</p>		<p>Control-Scroll Wheel-Up/Down: Rotate clockwise/counter clockwise.</p> <p>Shift-Scroll Wheel-Up/Down: Rotate forward/backward clockwise.</p>
	Arrow Keys	
<p>Shift-Up: Zoom In.</p> <p>Shift-Down: Zoom Out.</p>	<p>Control-Up arrow: Pan Down.</p> <p>Control-Down arrow: Pan Up.</p> <p>Control-Right arrow: Pan Left.</p> <p>Control-Left arrow: Pan Right.</p>	<p>Left/Right arrow: Rotate around vertical axis.</p> <p>Up/Down arrow: Rotate around horizontal axis.</p> <p>Shift-Left/Right arrow: Rotate Clockwise/Counterclockwise.</p>