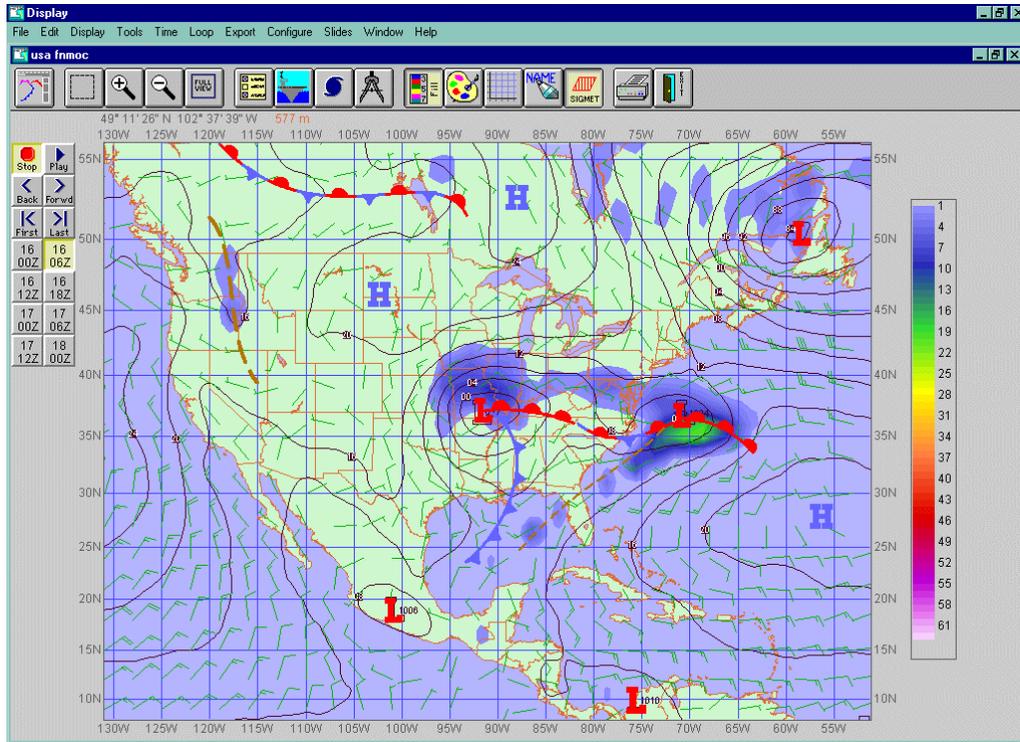


# Joint METOC Viewer (JMV) Version 3.5 Series User's Guide



**05 September 2001**

**Prepared for:  
Space and Naval Warfare Systems Command  
METOC Systems Program Office  
(SPAWAR PMW-155)**

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# INTRODUCTION

The Joint METOC Viewer Version 3.5 (JMV 3.5) is a powerful, easy-to-use tool for displaying, annotating, and looping meteorological and oceanographic data and satellite imagery.

This manual describes how to install and use JMV v3.5, which is available for Sun Solaris 2.8, Windows NT 4.0, Windows 2000, and Windows 98. Version 3.5 is a 32-bit program and as such does not run under the Windows 3.1 operating system. The sample screens shown throughout this text are from the Windows NT 4.0 version of JMV. Under other operating systems, the screens may appear slightly different but the functionality remains the same.

## HARDWARE REQUIREMENTS

The hardware requirements for JMV 3.5 are:

- **Sun Solaris Minimum Configuration**
  - ◆ Sun Sparc Station or equivalent
  - ◆ 128 MB RAM (512MB recommended)
  - ◆ Solaris 2.8
- **32-Bit Windows Minimum Configuration**
  - ◆ Pentium 200 Mhz
  - ◆ 128 MB RAM
  - ◆ Windows98
  - ◆ Video Color Palette: 32768 colors
  - ◆ Resolution: 1024x768
- **32-Bit Windows Recommended Configuration**
  - ◆ Pentium III 500Mhz
  - ◆ 512 MB RAM
  - ◆ Windows NT, Windows 98, or Windows 2000

## WHAT'S NEW IN JMV 3.5

- **3D Display.** JMV provides the capability to display a variety of atmospheric and oceanographic products as 3D Profiles and Cross Sections. Refer to the Working with 3D Section for complete details.
- **Drawing Tools.** The following enhancements have been added to Drawing Tools: When in draw mode, a text box stating "Drawing Mode" will be displayed in the upper right corner of a display screen. New Draw tools for line types have been added to define Icing areas and non-conductive precipitation areas. New symbols for Haze and Smoke have been added. A BMP (bitmap) draw tool menu has been created so users may register any bitmap image as a Draw Tool symbol. Increased the number of draw tools per page from 18 to 30. Added the option to display draw tools with a shadow. The line scale parameters for Line Draw Tools may now be viewed and edited. Multiple lines of text are now allowed in Text Draw Tools.
- **Skew-T.** Improved Skew-T color selection. Added Max wind (Mx Wnd) to the table data area of a Skew-T display.
- **Interpolated charts.** When JMV displays a chart that is an interpolation between two forecast times, it will be labeled as such on the display screen.
- **Remote Area duplication.** When a remote area is duplicated, all files and products are now copied to the local client machine.
- **Color Fill.** Color Fill selections may now be saved and loaded as specific mission profiles.
- **Forecast winds.** When forecast winds are displayed as curved arrows, a consistent color scheme will be maintained throughout the forecast time period.
- **Tropical Cyclone Warnings.** Added option to archive and restore Tropical Storm Warnings. When viewing a Tropical Storm Warning, the screen display will be automatically updated if a new Tropical Storm warning is received.
- **AUTODIN Message.** Improved AUTODIN message ingest and error handling. Wind Warnings and High Seas Warnings can now be delivered and ingested for display via an AUTODIN message.

- **Product Labels.** Added capability to remove Product Labels from the top of a display screen to support certain briefing scenarios.
- **Latitude and Longitude.** Added option to display latitude labels on the left, right or both sides of a chart display. Longitude labels may be displayed on the top, bottom or both top and bottom. Latitude and Longitude values are now shown in Degrees, Minutes and Seconds. Latitude and Longitude lines are now automatically displayed down to a minimum of five minutes
- **Alerts.** Alerts may be based upon Wind, Sea, or Swell criteria for Ship Tracks.
- **Export Graphics.** The size of exported graphics (GIF, JPG, BMP) can be specified. Graphics may now be exported as a series of charts by forecast times, similar to the Loop function. This includes the ability to export time interpolated products between standard forecast times.
- **Altimeter Setting.** Added capability to change the font size when displaying Altimeter Setting.
- **Print Text Banner Option.** An optional text banner may be added to the bottom of a printed page.
- **Data Thinning.** Wind Barb and Wind Arrow data displays, may now be data-thinned and re-sized independently.
- **Coastal Topography.** When geographic areas are smaller than 2 by 2 degrees, the new full resolution (Level 0) World Vector Shoreline data will be used.

#### What was new in JMV 3.4

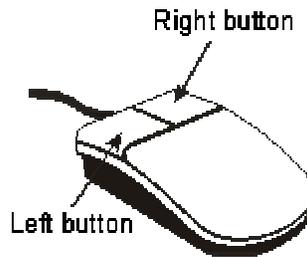
- **Slide Show Automation.** Added the capability to automate the updating and printing of slide shows. You can build the basic slide show, selecting products to display on each slide and so forth, and then have the slides automatically updated each time new data are downloaded. The updated slides can be produced in a variety of formats suitable for use in JMV or on web pages, and can also be automatically sent to the printer.
- **High Resolution Topography.** Terrain (1 km) can be added as a map background.
- **Automatic Refresh.** Satellite images and loops now automatically update without user intervention.

- **Sunrise/Sunset.** This toggle option displays night and twilight as shading over half the globe.
- **Ship Tracks.** We have added options to **Select All** or **Clear All** ship tracks with one click. When editing a **Ship Track**, there is also the option of keeping the speed constant and varying the date/time, or keeping the time constant and varying the speed. The start and end times can be specified. In addition, there is a place for comments in the **Ship Track Editor**.
- **Dead Reckoning.** The date-time labels for the **Dead Reckoning** positions of a ship track can be toggled on or off.
- **PIBAL data.** These upper wind reports are accessed through the **Skew-T** display and are displayed as text.
- **Export.** METARS and TAFS can be exported as .txt files. HTML page graphics are exported as either .jpg or .gif images. Direction data, such as winds and currents, now can be exported as well.
- **Font Size.** You can change the font size for H and L symbols for highs and lows.
- **Choose Products.** The number of products that can be displayed has been increased from five to ten.
- **METARS and TAFS.** The user can now enter multiple ICAOs for METARS and TAFs.
- **Lifted Index (LI).** This stability parameter is now given when a user requests a Skew-T.
- **Total Weather.** This application offers automatic download of a quick list of observations without scheduling or running JMV.
- **Station Model.** All decoded parameters for METARS and Synoptic reports can be plotted. You can also choose which parameters are plotted through the **Station Display Editor**.
- **Taus Display.** The number of taus displayed on the **Choose Products** screen has been increased.
- **Tropical Storms.** There is now an option to manually input a warning or advisory.

- **Command Line.** You can run JMV from a command line.

## MOUSE BASICS

The figure below shows a standard 2-button mouse, which provides the easiest way to navigate through most of the JMV screens.



**Figure 1.** Standard 2-Button Mouse

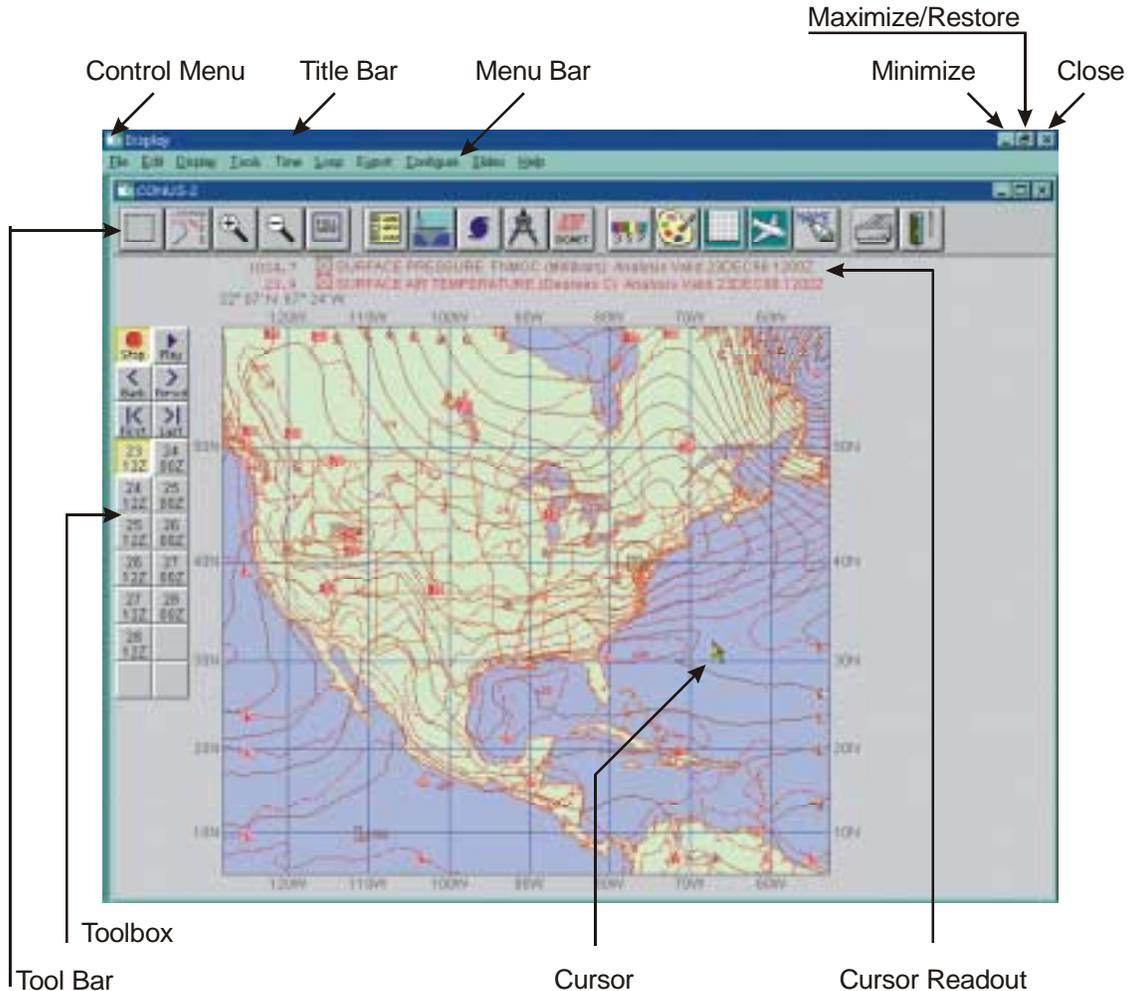
The mouse has a ball on its underside that's hooked to sensors. As you push the mouse about on the mouse pad, the ball rolls and moves the sensors, which then tell the computer to move the cursor on the screen. The buttons on the mouse are used to select items from menus, or to cause some action when an active area of the screen is pointed to by the cursor. There are several different actions you can perform using the mouse buttons:

- |                      |  |
|----------------------|--|
| <b>Click</b>         | You <u>click</u> by pressing the <u>left</u> mouse button once and then quickly releasing it.  |
| <b>Double-Click</b>  | This means clicking twice in rapid succession.   |
| <b>Right-Click</b>   | Same as a click, but using the <u>right</u> mouse button.  |
| <b>Drag and Drop</b> | To "drag" an object, you put the cursor over it, press and hold the left mouse button, and move the mouse to move the object to a new location. You "drop" the object on its new location by releasing the mouse button. |

## WINDOW BASICS

This section explains the basic parts of a window and a dialog box. Various windows and dialog boxes are used throughout JMV but the operations are consistent throughout the application. Later in this manual, directions to access menus or dialog box options are referred to simply as 'select,' 'double click,' or,

where applicable, 'right-click'. The figures below show the main JMV Map Window and a typical dialog box, with the most important features annotated.



**Figure 2.** Features of the JMV 3.5 Main Window

The following features appear only in the main map window in JMV:

- **Control Menu Button** is in the upper left corner of the JMV map window. It may appear as a small line or as a small JMV icon. To activate the Control Menu, click with the mouse pointer or press Alt and Space Bar together. The Control Menu allows resizing, moving, maximizing, and closing the active window. Control Menu items vary depending upon the operating system.
- **Maximize** enlarges the application window to fill the entire desktop. If the window is already maximized, this button changes into the Restore button (see below).

- **Restore** restores the window to the original size. This button is only available when the window is maximized.
- **Minimize** reduces the active window to an icon on the desktop without stopping the application. The main application window and the viewer window act independently. Therefore, to completely minimize the application, both windows need to be minimized.
- **Window Border** is the outside edge of the window. Placing the pointer on the border and dragging it to a new position can change window widths and heights. The pointer changes to a double-headed arrow when placed on a border. A shadow border shows where the new border will be when the mouse button is released. If the window is not resizable, the pointer does not change to a double-headed arrow.
- The **Window Corner** can be dragged to simultaneously change the width and height of the window. When the pointer is over a window corner, it changes to double-headed diagonal arrow.
- **Menu Bar** shows the available menus. There are three ways to open the menus on the menu bar. You can use the mouse to click on the menu title, causing the menu to drop down from the menu bar. You can also activate the menu bar by pressing the Alt key (this will cause the leftmost menu to be highlighted), then using the left and right arrow keys to select the desired menu and the down arrow key to display the menu. You can then use the up and down arrow keys to move the menu highlight to make a selection, and the Enter key to activate your selection. Another method is to use the keyboard shortcuts, which are shown as underlined letters in the menu titles and some menu items. To open a menu using a shortcut key, press the Alt key and then press the key for the underlined letter of the menu title. For example, Alt-F opens the File menu. Once a menu is opened, you can just press the shortcut letter key to select any item for which a shortcut is available. In JMV the Menu Bar only appears in the main map window.
- **Tool Bar** contains icons for the most frequently used JMV functions. If you let the pointer rest over one of the icons, a "tool tip" appears to show you the icon's function. You can click on the icon to perform the desired function – in most cases, this will open a dialog box to let you make choices about what to do next. See the Tool Bar help section for more details.
- **Toolbox** contains animation and drawing tools. When the map window is first opened, the animation toolbox is displayed. This lets you automatically animate the display of data over the time period for which JMV has data. Clicking the Tools icon in the Tool Bar changes the toolbox to show the

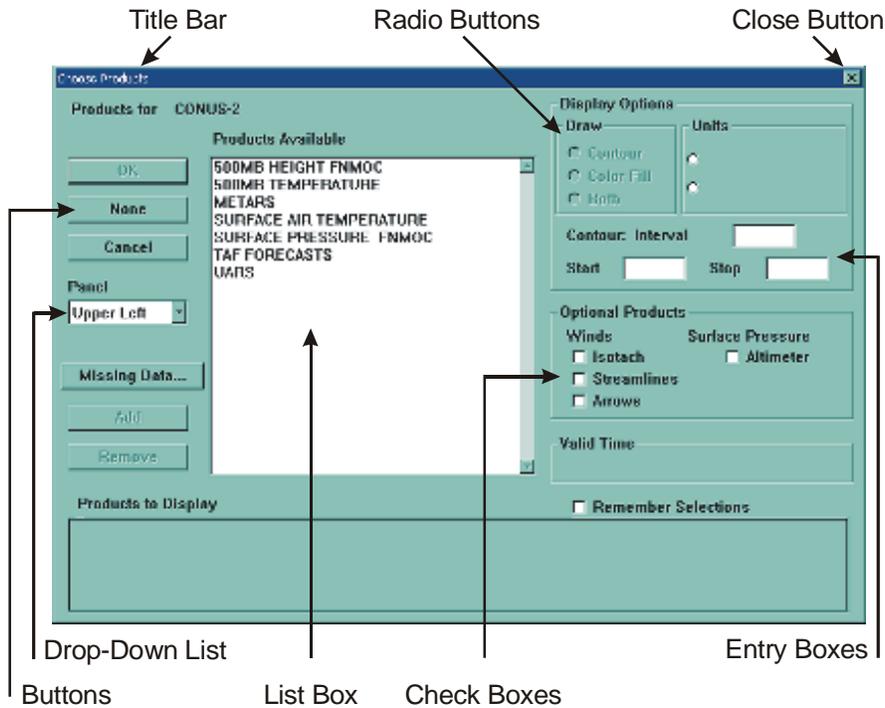
drawing tools, which can be used to add fronts, lines, text, weather symbols, etc. to the map display. See the Drawing and Annotation Features section for more details.

- **Cursor Readout** shows the data fields that are currently displayed on the map, and the colors assigned to each. To the left of each field name is a check box that can be used to toggle the display of that field on and off. If the box is checked, the field will be displayed; if unchecked, the field will not be displayed. To the left of the check boxes is a readout showing the value of the field at the position of the cursor (when the cursor is over the map). These values change as you move the cursor around the map.
- **Legend** (not shown in the picture) is displayed with color-filled fields and satellite images. The legend shows you the colors assigned to various field values in the display.

The following features are found in both the map display window and dialog boxes:

- **Title Bar** shows the name of the application, document, or dialog box. If more than one window is open, the title bar for the active window (the one in which you're currently working) is a different color or intensity than the title bars for the other windows.
- **Close** closes the active dialog box. If clicked in the main map window, this button closes the JMV application window and stops the program.
- The **Pointer** shows the screen location where the next action will take effect. When the mouse is moved, the position of the pointer changes on the screen. The shape of the pointer may change depending on its location, with each shape indicating a different type of action (e.g., selection, text insertion, window resizing, etc.).

**Dialog boxes** are used to communicate with the user, and can contain a variety of ways to input information. Figure 3 shows a typical dialog box. In the following list are controls used in JMV dialog boxes and the directions for activating each.



**Figure 3.** Features of a Typical Dialog Box

- Button, Checkbox, and Radio Button:** Select the item with the mouse pointer and press the left mouse button. Or, press **Tab** until the desired item is highlighted then presses **Enter**. **Radio Buttons** are usually in groups, and only one radio button in the group can be selected at a time. If you click an unselected radio button, it is then marked as selected, and the previously selected item is unselected. **Check Boxes** are selection toggles; clicking one changes its state from selected (showing a check mark or X) to unselected (blank) or vice versa.



**Figure 4.** Button, Checkbox, and Radio Button

- List Box** lists items available for you to select from. To make a selection, place the pointer over the desired item and press the left mouse button twice quickly. Or, press **Tab** until an item is outlined then use the up and down arrow keys to move to the desired item. To select the item, either press **Enter** or, on some screens, press **Tab** until the **Add** button is highlighted then press **Enter**. Typically, you can make multiple selections in a list box.
- Drop-down List** is a more compact form of a list box that only accepts one selection. A drop-down list normally only shows the selected item plus a

down-arrow button. Clicking on the down-arrow button drops down the list of available selections. You can select an item by double-clicking the item with the left mouse button or highlighting it using the arrow keys and selecting it with the Enter key. When an new item is selected, the list closes again to display only the selected item.



**Figure 5.** Drop-down List

- **Entry Box** is a simple box used to collect user inputs. To use an entry box, place the pointer in the box, where it will change to a vertical line, and type your entry using the keyboard. Pressing the Enter key or moving the pointer to another box will accept your entry.

## INSTALLING JMV 3.5

JMV 3.5 is available on CD-ROM or from the World Wide Web.

To download JMV 3.5 from the web, access the FNMOC Website via the following link: <http://www.fnmoc.navy.mil> (Level 1 Access is required).

**Note:** Department of Defense (DOD) staff and authorized contractors may request access authorization from the Fleet Support Office via the following link: <http://www.fnmoc.navy.mil/PUBLIC/ADMIN/request.html>.

In the frame on the left side of the home page, scroll down to the **Software and Manuals** Section, then click on the *Software and Manuals* link. This will take you to a page from which you can download the latest software.

Click on **JMV 3.5.0.1** (or the version with the highest number).

If you are using Internet Explorer, a File Download dialog will appear – select **Save this program to disk** and click **OK**. You will then be prompted for a directory to save the file to. Pick any directory to which you can save the file temporarily. If you are using Netscape, the program will open a Save Downloaded File dialog and ask you for the directory in which to save the file.

Once the file has been downloaded, close the browser. Go to the directory in which you saved the file and double-click on the JMV\_Install file and follow the directions given by the installation program.

JMV v3.5.0.1 includes new drawing tool capabilities that are described in the What's New Section of this guide. If the new drawing tool features fail to work properly, a problem may have occurred during installation and merge of the new toolbin.dat file with the existing toolbin file. To enable the new tool functions, we suggest the user shut down JMV, and manually delete the toolbin.dat file from the jmvwin\noddsfls directory. A new toolbin.dat file will be generated the next time JMV is started. Unfortunately, this process will erase all toolbin settings that were previously customized by the user.

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## DOWNLOADING DATA

There are three ways to download data to be viewed in JMV:

1. **METCAST Client on the Same Computer With JMV.** If you have METCAST Client installed on your system, you can use it to download data. METCAST Client gives you the capability to download data at scheduled times, at regular intervals, or on demand. It also gives you the ability to specify only the data you want, rather than accepting a pre-packaged set of data. See the METCAST Client User Manual for details on using METCAST Client.
2. **Central METCAST Client and Remote Link Areas.** You can also use a central METCAST Client to download all of the data for a Center or other unit. Individual workstations running JMV can then set up remote link areas that get their data from the central download machine. This has two advantages over thumbnails: It gives the Center more control over the data they are downloading, and it gets the data to the Center more quickly. On the JMV workstations, remote link areas operate just like regular areas, except that you can't use the local METCAST to control the downloads; they are controlled by the central METCAST Client. Changes made to the data, and locally drawn items like Horizontal Weather Depictions, are saved to the local machine to prevent sharing errors with the central data repository.
3. **Web Thumbnails.** FNMOC and other sites have pre-packaged sets of data available on the World Wide Web for download. Each such data package is represented as a "thumbnail", an icon showing the area that the data package covers. The data is unpacked and processed by JMV, and then may be displayed via the JMV viewer. JMV Thumbnails are discussed in detail in the **Working with Thumbnails** section.

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## WORKING WITH THUMBNAILS.

**JMV Thumbnails** are pre-packaged, compressed data sets that are available on the World Wide Web for download. The downloaded data is unpacked and processed by JMV, and then may be displayed via the JMV viewer. Authorized users may access the JMV thumbnails via the FNMOC Website (<http://www.fnmoc.navy.mil/>).

Two types of thumbnail files are presently available for download via the FNMOC website - the original JMV 2.1 Thumbnails (.DAT), and the newer JMV 3.1 thumbnails (.MCT). The Netscape Communicator Web browser may be configured to automatically process the thumbnail files by associating the appropriate executable file with each thumbnail file type (.dat or .mct). After processing, the JMV viewer will open and the user may display the various products contained in the thumbnail. Because of a change in the way that the Internet Explorer Web browser caches temporary Internet files, this browser cannot be configured to automatically process the JMV thumbnail files. However, Internet Explorer can be configured to manually download and process the thumbnail files and this method requires only a few additional mouse clicks than does the automated method.

Both of the JMV thumbnail types are described below, and browser configuration instructions are provided for both Netscape and Internet Explorer for each thumbnail type. Please note that we recommend the use of the Netscape Communicator browser version 4.6 for ease of set up and for generally trouble free operation. Many users have experienced problems configuring the latest version of Netscape (v4.7) to automatically process the thumbnails.

### JMV 2.1 (.DAT) THUMBNAILS

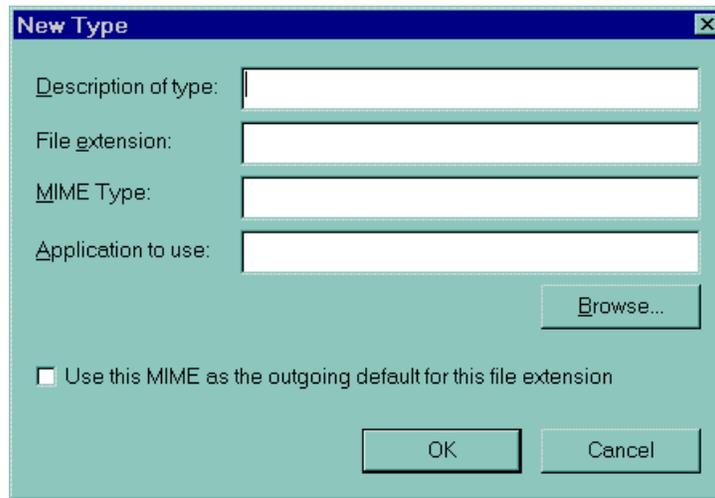
The JMV 2.1 (.DAT) thumbnail capability was developed for JMV version 2.1, and will function with all subsequent versions of JMV. The individual .DAT thumbnail files were established by the regional METOC centers and may contain up to 300 different numerical products from a variety of numerical models. The thumbnail files are generally updated five to seven hours after the base time of the model run (usually 00Z and 12Z) or after all of the models pertinent to an individual thumbnail have completed. The thumbnail files containing 1200Z model base data are usually available daily by 1700Z to 1900Z, while thumbnail files for the 0000Z model run are typically available by 0500Z to 0700Z. Some model output fields may be available slightly earlier. The selected output fields from the completed model runs are compressed and packaged into the .DAT thumbnail files which are then posted to the FNMOC website for

customer download. Note that downloading a .DAT thumbnail is an all or nothing proposition - there is no method to select only those products that are of interest to the user. Individual product selection from a thumbnail file is possible, however, when downloading JMV 3.1 Thumbnail files.

## Web Browser Configuration instructions for JMV 2.1 (.DAT) thumbnails:

### Configuring Netscape Communicator:

1. Start Netscape. In the menu bar, select **Edit**.
2. Under the Edit menu, select **Preferences**. In the tree menu on the left side, open the **Navigator** node and select **Applications**. A list of registered data types will appear on the right. Scroll through the registered file types list to determine whether a "DAT File" or a "JMV Data File" is present in the list.
3. If these file types do not exist in the list, then click on the **New Type** button. A Netscape **New Type** dialog box will open as shown in Figure 6 below.

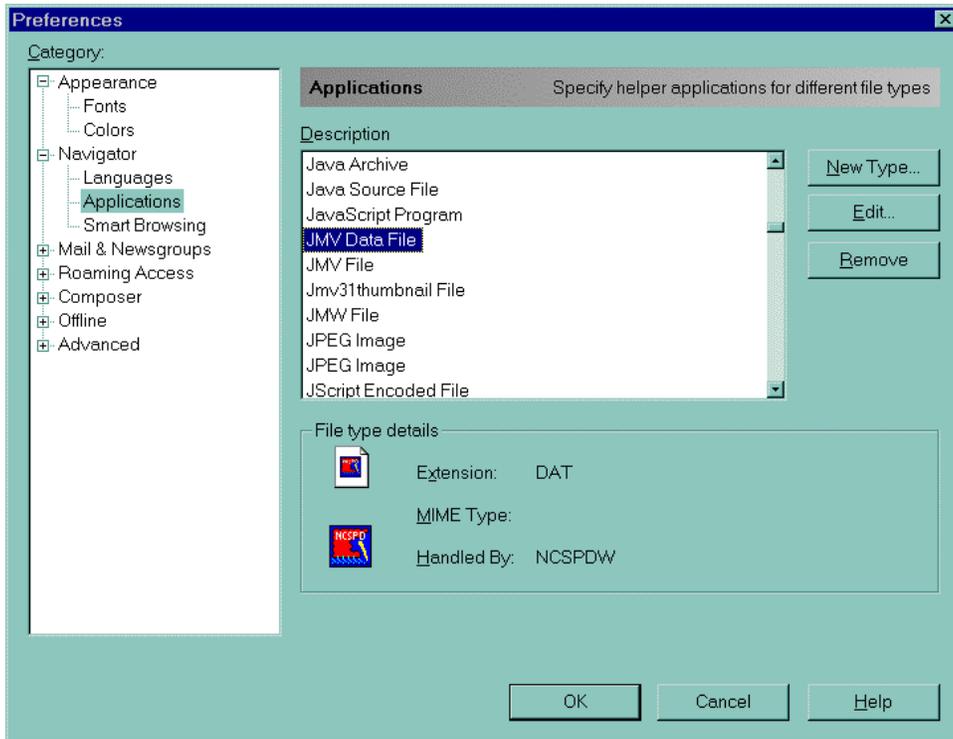


**Figure 6.** Netscape New Type Dialog box.

In the **Description of Type box**, enter JMV Data File. In the **File Extension** box, type DAT. The **MIME Type** box should be left blank. In the **Application to Use** box, type "C:\jmvwin\ncspdw.exe %1" (without the quotation marks), or use the browse button and navigate to the ncspdw.exe file. If using the browse feature, don't forget to add " %1" after the ncspdw.exe. **Note:** If you installed the JMV software on a drive other than the default C: drive, then enter that drive letter in the path instead of C.

The **Use this MIME as the outgoing default...** check box should remain unchecked. Click the **OK** button when inputs are complete. The Netscape Preferences dialog will reappear and the File type details should appear as shown in Figure 7 below. Click on the **OK** button to complete the configuration.

4. If either a "DAT File" or a "JMV Data File" is present in the list, highlight it and the associated **File Type details** will appear in the Preferences dialog box as shown in Figure 7 below.



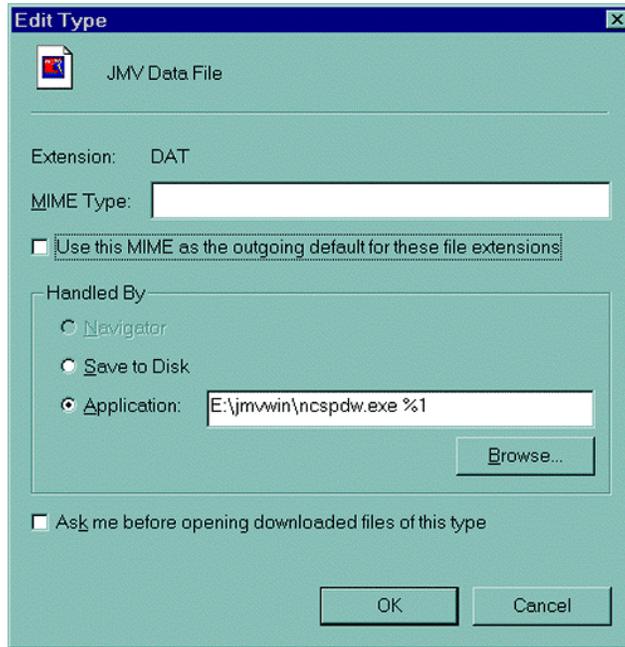
**Figure 7** Netscape Preferences Dialog with JMV .DAT entries

Ensure that the **File Type Details** are as follows: The Extension should be **DAT**. The **MIME Type** should be blank, and the **Handled By** should be **NCSPDW**.

If any of these fields differ, then click on the **Edit** button to open the Netscape **Edit Type dialog** box as shown in Figure 8 below, and input the data fields as follows:

- **MIME Type:** leave blank.
- The **Use this MIME as the outgoing default...** checkbox should remain unchecked.

- The **Application** radio button in the **Handled By** box should be selected and the path to the ncspdw.exe file followed by %1 should exist in the associated text box (**C:\jmvwin\ncspdw.exe %1**). Type in the appropriate drive letter if JMV was not installed on the C: drive.
- The **Ask me before opening downloaded file...** checkbox should remain unchecked.

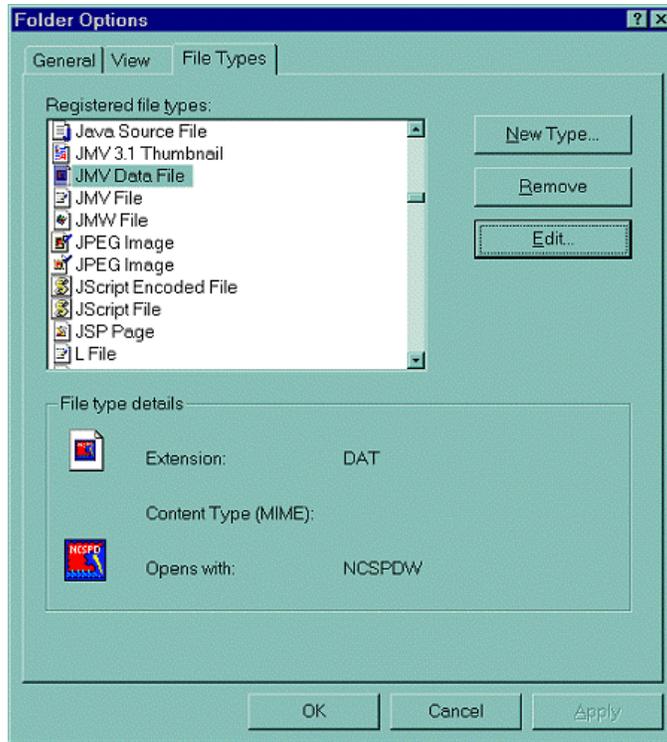


**Figure 8.** Netscape Edit Type Dialog box.

Click the OK button when inputs are complete. The Netscape Preferences Dialog box will reappear and the **File type details** should resemble those shown in Figure 7 above. Click on the **OK** button to complete the browser configuration.

**Configuring Internet Explorer:**

1. Double-click the MY COMPUTER icon, or open the Windows NT Explorer.
2. Click on the **View** menu button and select **Folder Options** from the drop down menu. The **Folder Options** dialog box will open. Click on the **File Types** tab to view the registered file types as shown in Figure 9 below.



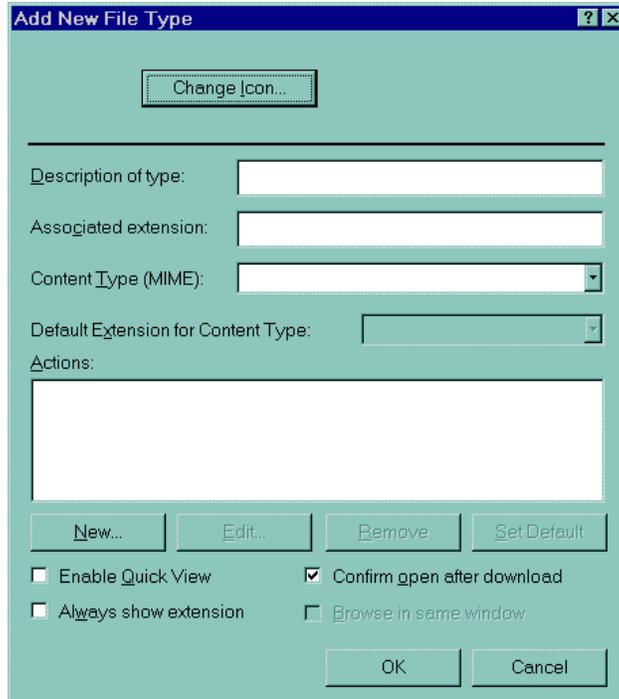
**Figure 9** Windows NT Folder Options dialog

Scroll through the Registered file types list to determine whether a "DAT File" or a "JMV Data File" is present in the list. If either file is present, proceed to step 3. If the files are absent, skip to step 4.

3. Highlight the file name in the Registered file types list to display its File type details. Ensure that they are as follows:
  - Extension: **DAT**.
  - Content Type (MIME): **This line should be blank**.
  - Opens with: **NCSPDW**.

If the file type details are correct, click on the OK button - Windows NT is properly configured to process .DAT thumbnails after downloading with Internet Explorer. If the details are not as described above, click on the **Remove** button to delete the DAT file type registration and proceed to step 4 to create a new file association.

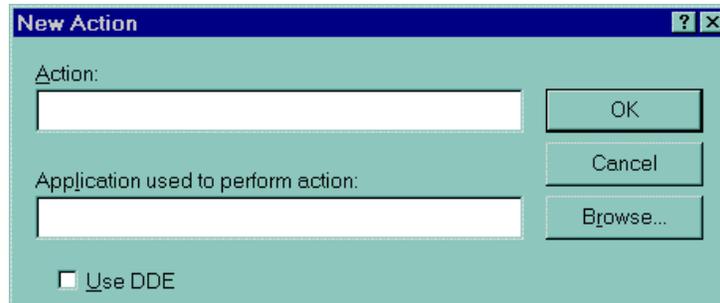
4. Click on the **New Type** button to open the **Add New File Type** dialog box as shown in Figure 10 below.



**Figure 10.** Add New File Type Dialog

In the **Description of Type** box, enter JMV Data File. In the **Associated Extension** box, enter DAT. The **Content Type (MIME)** box should remain blank. The **Confirm open after download** checkbox should be checked.

5. Click the **New** button located below the **Actions** box to open a **New Action** dialog as shown in Figure 11 below.



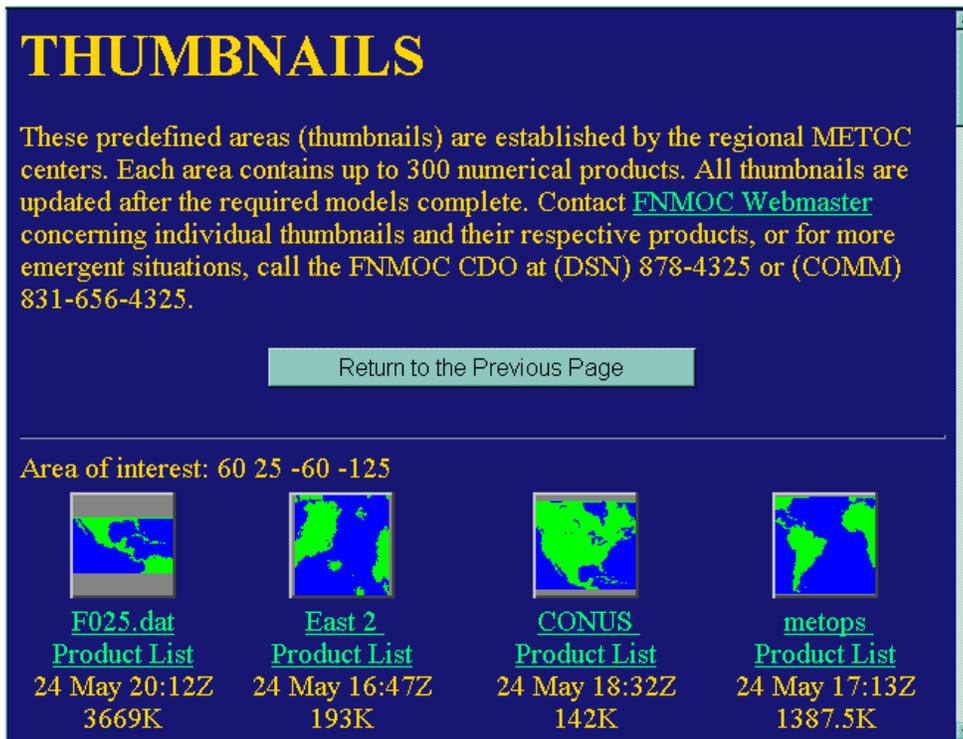
**Figure 11.** Windows NT - New Action dialog.

Type `Open` in the **Action** box and `C:\jmvwin\ncspd.exe` in the **Application Used to Perform Action** box. **Note:** If you installed the JMV software on a drive other than the default **C:** drive, then enter that drive letter in the path instead of **C**. Click on the **OK** button when finished, and you will be returned to the **Add New File Type** dialog box. Click the **OK** button and you will be returned to the **Folder Options** dialog box. The data fields

should look like those shown in Figure 9. Click the **OK** button to complete the configuration.

## Downloading and Processing JMV 2.1 (DAT) Thumbnails

Once a web browser is properly configured, the JMV 2.1 Thumbnail files may be downloaded from the FNMOC website. An example of a FNMOC thumbnail (.DAT) web page is shown in Figure 12 below. Each thumbnail file is displayed as a map icon that depicts the geographic area covered by the thumbnail. The products available in a particular thumbnail file pertain only to the geographic region of that thumbnail.



**Figure 12.** FNMOC DAT Thumbnail Web page.

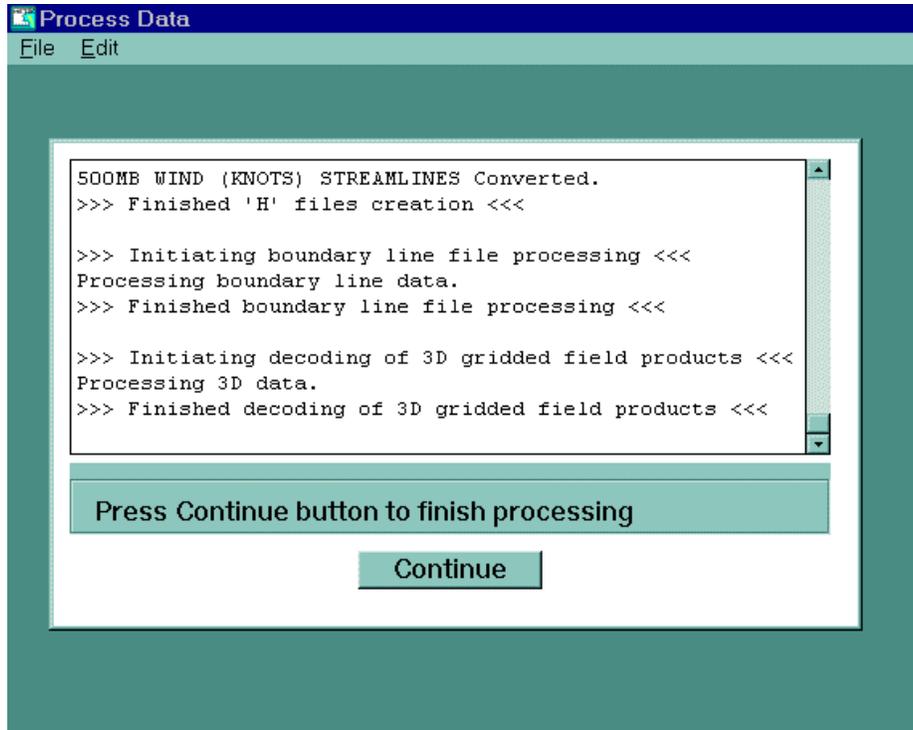
Each thumbnail file has a File Name, a Product List, a last update time, and a file size displayed below the icon.

Click on the **Product List** link to see a list of the Products and Taus that are available for a particular thumbnail. The thumbnail geographic boundaries are also provided in this list.

Click on the Thumbnail **File Name** link (i.e. F025.dat, East 2, or CONUS) or on the Icon itself to download a thumbnail file.

**Downloading with Netscape Communicator:**

To download a thumbnail file, click on a thumbnail file name link or on a thumbnail icon. If prompted by your browser for the disposition of the file, select **Open**. A series of data processing windows will automatically open and the compressed data files will be unpacked, processed and stored in the appropriate directories and folders. Near the end of this process the JMV **Process Data window** will appear as shown in Figure 13 below.



**Figure 13.** JMV Process Data Window

Click on the **Continue** button to complete the data processing, or simply wait several seconds and the processing of the thumbnail data will finish automatically. The Process Data window will close and a JMV **Choose Products** dialog box will appear. This dialog box is used to select the products that you wish to display. See the [Selecting Products To Display](#) section of this guide for detailed instructions on choosing and displaying products.

**Downloading with Internet Explorer:**

Click on a thumbnail file name link or on a thumbnail icon to initiate a file download. A **File Download** dialog box will open. Ensure that the **Save this file to disk** radio button is selected and that the **Always ask before opening this type of file** checkbox is **checked**. Click the **OK** button and a **Save As** dialog box will open, allowing you to choose where to save the file. We recommend saving

the file to the **C:\Temp** directory. After the file has been successfully downloaded, a **Download complete** dialog box will appear. Click on the **Open** button to initiate processing of the thumbnail files. A series of data processing windows will open, with the last being a JMV Process Data window as shown in Figure 13. Click on the **Continue** button in this window to complete processing or simply wait several seconds and the processing will finish automatically.

The Process Data window will close and a JMV **Choose Products** dialog box will appear. This dialog box is used to select the products that you wish to display. See the [Selecting Products To Display](#) section of this guide for detailed instructions on choosing and displaying products.

## JMV 3.1 (.MCT) THUMBNAILS:

To use the JMV 3.1 thumbnails, you must have JMV software version 3.1.0.3.e or higher installed on your computer. The JMV 3.1 thumbnails provide a more efficient and functional method to download and process data than do the JMV 2.1 thumbnails. The major improvements are as follows:

- The JMV 3.1 thumbnails are continually updated with new data. That is, the thumbnail product lists are immediately updated as soon as new model or observation data becomes available. Determining when to download a thumbnail will require a lightly different thought process than that typically used with JMV 2.1 thumbnails. For v2.1 thumbnails, one simply checks the last update time to determine if the thumbnail has been updated – usually 5 to 7 hours after the model run.

The new (constant update) method of batching thumbnails causes the update time to continually change as new data becomes available and is automatically appended to the thumbnail products list. For example, if the thumbnail contains observations, NOGAPS fields and Wave Model (WAM) fields, that thumbnail will update on a regular basis starting at about +1 through +7 hours during any 12 hour model run (runs start at 00Z and 12Z). Thus, you should look at the SELECT PRODUCTS list BEFORE you download to see what model data is actually available. Then, after you download, you should take a close look at the valid times of each field to ensure that the data has not been substituted from the previous run.

- Unlike the JMV 2.1 files, the JMV 3.1 files are not created until the data is requested. When you click on a JMV 3.1 thumbnail, all of the available data for that area is tar'd up (compressed into a single file) and sent to you as a .mct file. This .mct file is handled by a perl script (view\_tn.pl) and is un-tar'd (decompressed) using an updated tar program (tar.exe). All of the data is

converted to .jmv files and stored in a sub-directory on your computer under the \noddsfls directory, using the first 8 characters of the thumbnail name.

- The data processing has been streamlined so that it is "cleaner". The data is provided in a compressed GRIB format and is then converted into a .jmv format for use in the viewer. Both data formats are stored on your computer. This allows customers to use the thumbnails for both JMV and for GRIB to feed to other programs.
- Partial thumbnail downloads are now possible. This feature provides more flexibility when dealing with bandwidth problems or when only certain fields are desired. The SELECT PRODUCTS method described below will allow you to pull only those fields you want or can handle. Users can see what data is actually available, from which model and from what synoptic time. Additionally, you can download a thumbnail in pieces. If you experience bandwidth problems where the download has "timed out", simply download several smaller subsets of the thumbnail, one at a time, until you have received the entire thumbnail.

## **Web Browser Configuration instructions for JMV V3.1 (MCT) Thumbnails:**

### **Configuring Netscape Communicator:**

1. Start Netscape. In the menu bar, select **Edit**.
2. Under the Edit menu, select **Preferences**. In the tree menu on the left side, open the **Navigator** node and select **Applications**. A list of registered data types will appear on the right. Scroll through the list to determine whether a "jmv31thumbnail File" file is present.
3. If this file type does not exist in the list, then click on the **New Type** button. A Netscape **New Type** dialog box will open as shown in Figure 6 above. Fill in the data fields as follows: Description of Type: jmv31thumbnail File. File Extension: MCT. MIME Type: application/x-jmv31-thumbnail. Application to Use: "C:\jmvwin\noddsfls\jmv31thumbnail.bat" (without the quotation marks). **Note:** If the JMV software was installed on a drive other than the default **C:** drive, then enter that drive letter in the path instead of **C**. The Use this MIME as the outgoing default... check box should remain unchecked. Click the **OK** button when inputs are complete. The Netscape Preferences dialog will reappear. Click on the **OK** button to complete the configuration.

4. If the "jmv31thumbnail File" is present in the list, highlight it and the associated File Type details will appear in the Preferences dialog box. Ensure that they are as follows:
  - Extension: MCT.
  - Content Type (MIME): application/x-jmv31-thumbnail
  - Handled By: JMV31THUMBNAIL

If any of these fields differ, click on the **Edit** button to open the Netscape Edit Type dialog box and input the data fields as follows: MIME Type: application/x-jmv31-thumbnail. The Use this MIME as the outgoing default... checkbox should remain unchecked. The Application radio button in the Handled By box should be selected and the path to the jmv31thumbnail.bat file should exist in the associated text box (C:\jmvwin\noddsfls\jmv31thumbnail.bat). Note: Type the appropriate drive letter in the path if the JMV software was not installed on the C: drive. The Ask me before opening downloaded file... checkbox should remain unchecked.

Click the OK button when inputs are complete. The Netscape Preferences Dialog box will reappear. Click on the **OK** button to complete the browser configuration.

### **Configuring Internet Explorer:**

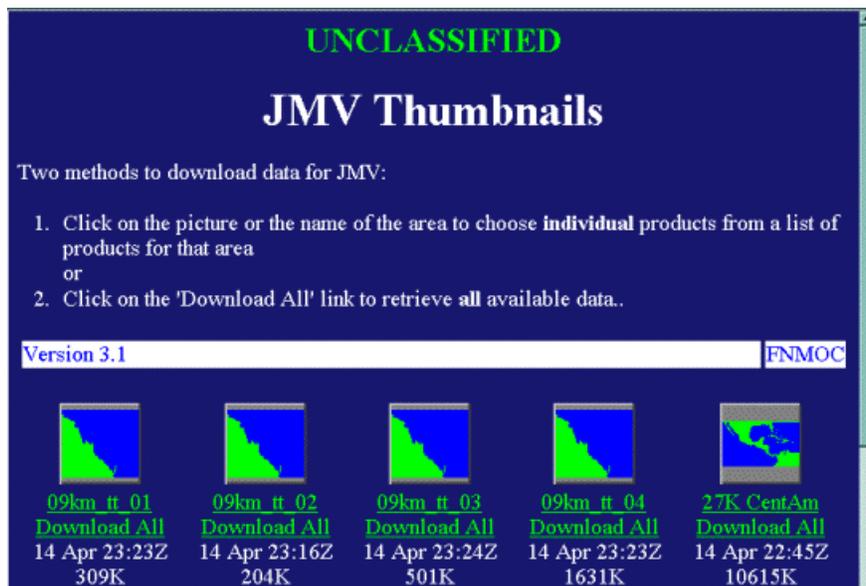
1. Double-click the MY COMPUTER icon or open Windows NT Explorer.
2. Click on the **View** menu button and select **Folder Options** from the drop down menu. The Folder Options dialog box will open. Click on the **File Types** tab to view the registered file types. Search the list for a "JMV 3.1 Thumbnail File". If present, proceed to step 3. If the file is not listed, skip to step 4.
3. Highlight the JMV 3.1 Thumbnail File in the Registered file types list to display its File type details. Ensure that they are as follows:
  - Extension: MCT.
  - Content Type (MIME): application/x-jmv31-thumbnail
  - Opens with: JMV31THUMBNAIL

If the file type details are correct, click on the OK button - Windows NT is properly configured to process .MCT thumbnails after downloading with Internet Explorer. If the details are not as described above, click on the **Remove** button to delete the MCT file registration and proceed to step 4 to create a new file association.

4. Click on the **New Type** button to open the Add New File Type dialog box. In the Description of Type box, enter JMV 3.1 Thumbnail File. In the Associated Extension box, enter MCT. In the Content Type (MIME) box, enter: application/x-jmv31-thumbnail. The Confirm open after download checkbox should be checked.
5. Click on the **New** button located below the Actions box to open a New Action dialog. Type Open in the Action box and C:\jmvwin\noddsfls\jmv31thumbnail.bat in the Application Used to Perform Action box. **Note:** If the JMV software was installed on a drive other than the default C: drive, then enter that drive letter in the path instead of C. Click on the **OK** button when finished, and you will be returned to the Add New File Type dialog box. Click the **OK** button and you will be returned to the Folder Options dialog box. Click the **OK** button to complete the configuration.

### Downloading and Processing JMV 3.1 (MCT) Thumbnails

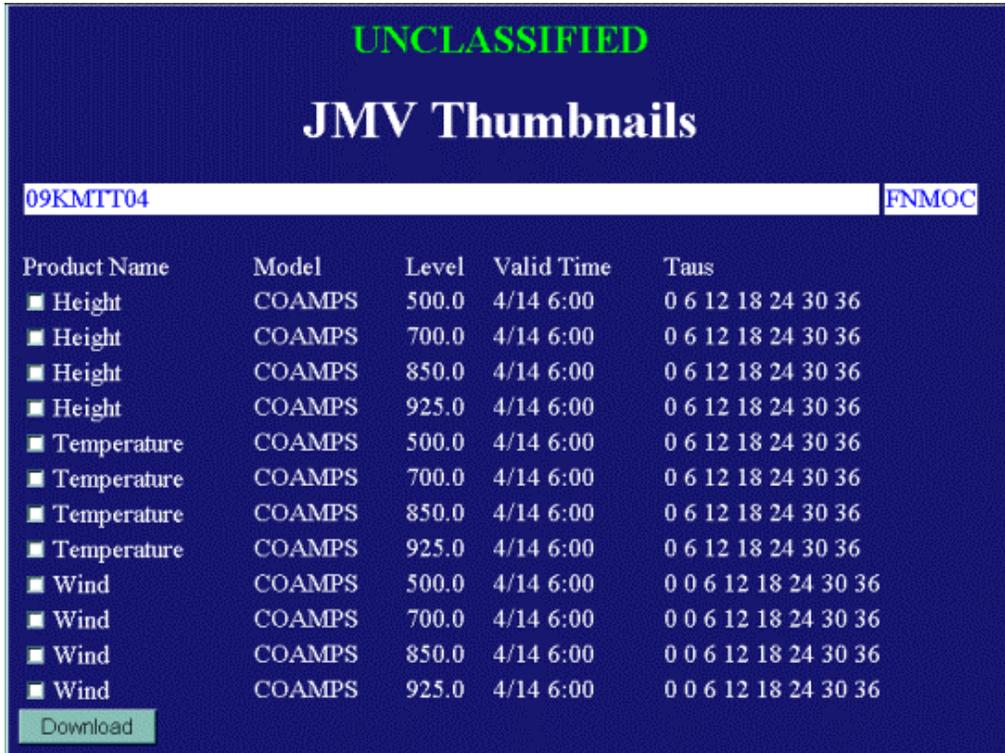
After properly configuring a web browser, the JMV 3.1 Thumbnail files may be downloaded from the FNMOC website. An example of the FNMOC JMV 3.1 thumbnail web page is shown in Figure 14 below. Each thumbnail file is displayed as a map icon that depicts the geographic area of the thumbnail. The products available in a particular thumbnail file pertain only to the geographic region of that thumbnail.



**Figure 14.** FNMOC JMV 3.1 Thumbnail web page.

Below each thumbnail icon there is a **File Name** link, a **Download All** link, a **Last Updated Time**, and a current **File Size**.

There are two ways to download a JMV 3.1 thumbnail file. Click on the **Download All** link to download the entire thumbnail file or click on either the thumbnail icon or filename to open the Product List window shown in Figure 15 below.



**Figure 15.** JMV 3.1 Thumbnail Product List.

The Thumbnail Product List displays the Product Name, Model, Level, Valid Time and Taus for all of the products available in a thumbnail. Individual products are selected for download by clicking in the associated check box. A product may be unselected by clicking a second time in the checkbox. After all of the desired products have been selected, click on the **Download** button to initiate the download process.

**Downloading with Netscape Communicator:**

Initiate a file download via any of the methods described above. If prompted by your browser for the disposition of the file, select **Open**. A series of data processing windows will automatically open and the compressed data files will be unpacked, processed and stored in the appropriate directories and folders. Near the end of this process the JMV **Process Data window** will appear.

Click on the **Continue** button to complete the data processing, or simply wait several seconds and the processing of the thumbnail data will finish

automatically. The Process Data window will close and a JMV **Choose Products** dialog box will appear. This dialog box is used to select the products that you wish to display. See the [Selecting Products To Display](#) section of this guide for detailed instructions on choosing and displaying products.

#### **Downloading with Internet Explorer:**

Initiate a file download via any of the methods described above. A File Download dialog box will open. Ensure that the **Save this file to disk** radio button is selected and that the **Always ask before opening this type of file** checkbox is **checked**. Click the **OK** button and a Save As dialog box will open, allowing you to choose where to save the file. We recommend saving the file to the **C:\Temp** directory. After the file has been successfully downloaded, a **Download complete** dialog box will appear. Click on the **Open** button to initiate processing of the thumbnail files. A series of data processing windows will open, with the last being a JMV Process Data window. Click on the **Continue** button in this window to complete processing or simply wait several seconds and the processing will finish automatically.

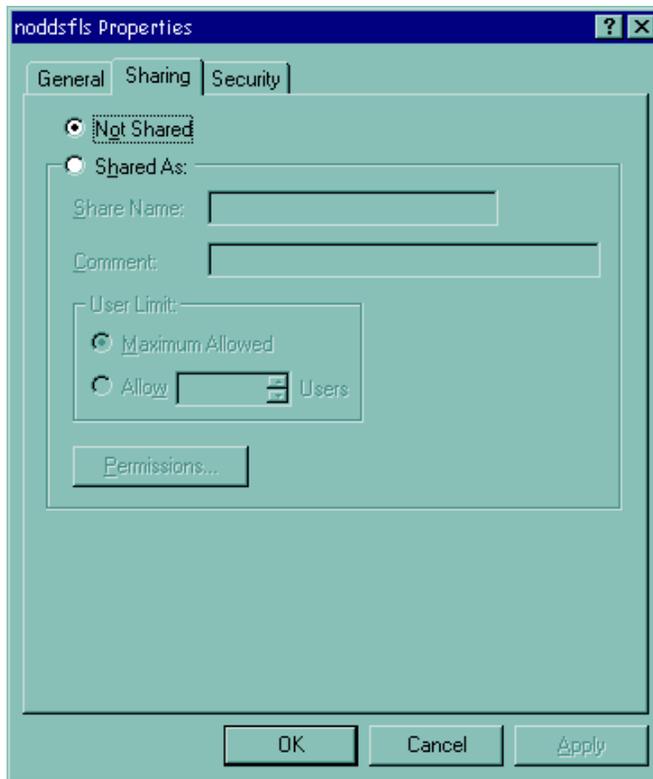
The Process Data window will close and a JMV **Choose Products** dialog box will appear. This dialog box is used to select the products that you wish to display. See the [Selecting Products To Display](#) section of this guide for detailed instructions on choosing and displaying products.

# SETTING UP REMOTE LINK AREAS

At many sites, it is important to optimize the use of the available Internet bandwidth. To avoid duplication of requests and data downloads, sites may choose to run METCAST Client on a single machine and then make the downloaded data available to individual JMV workstations as Remote Link areas. This section describes the process of setting up METCAST and JMV to provide the remote link capability.

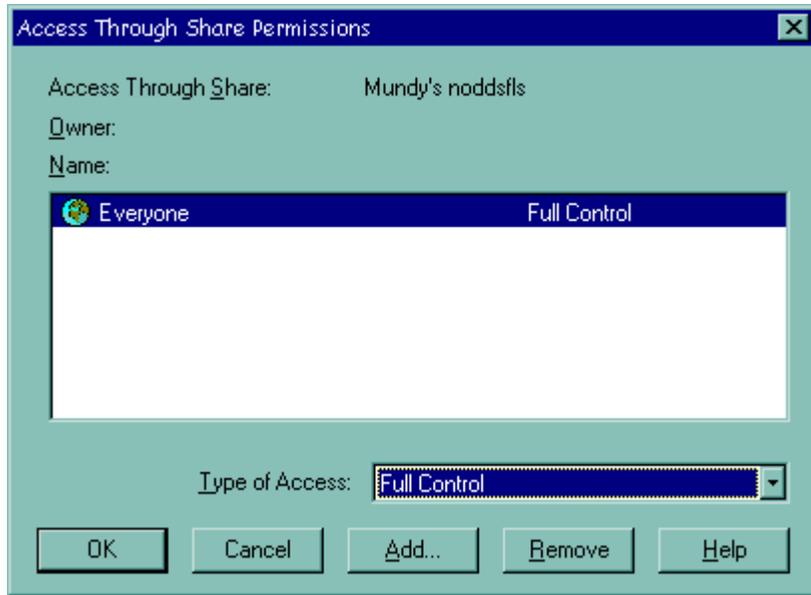
There are three basic steps in setting up remote links:

1. Install METCAST Client on the central download machine and share the data folder, with read-only permissions. To do this in Windows NT, go to the folder in which you installed METCAST Client (typically *C:\jmvwin*). Underneath this directory you will find a *noddsfls* folder. Right-click on the *noddsfls* folder and select **Sharing...** from the pop-up menu. A Properties dialog, open to the Sharing tab, will then appear:



**Figure 16.** Folder Sharing Options

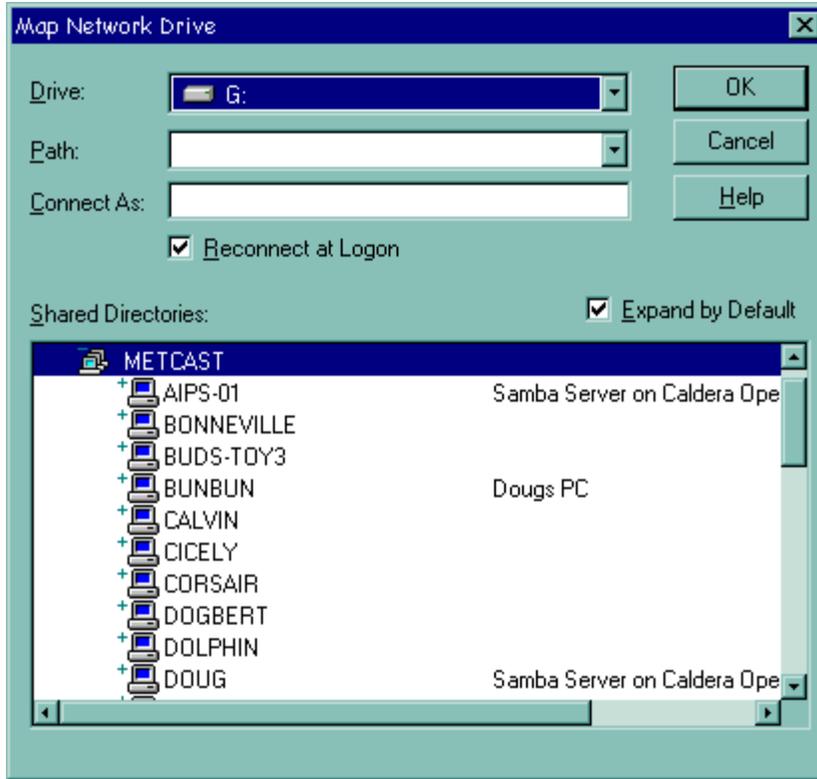
Click on the **Shared As** radio button and the sharing options will be activated. In the **Share Name** box enter a descriptive term like "Central noddsfls". Click on the **Permissions** button to open the Permissions dialog:



**Figure 17.** Share Permissions Dialog

Click on the down arrow next to the **Type of Access** list box and select **Read** access for Everyone, then click on the **OK** button. Then click on the OK button in the Properties dialog. You have now shared the *nodd\$fls* folder with read-only permissions. This means that other users on the network can access the folder and read the data that it contains, but cannot write to the folder.

2. On the central METCAST machine, use the METCAST Client GUI to define and configure the Areas and Lists that will be accessed by the Remote JMV users. Refer to the METCAST Client User's Manual for instruction, if necessary.
3. Install JMV on a remote workstation(s), then map the *Central nodd\$fls* folder on the central METCAST machine as a network drive on the remote JMV machine. To do this, open Windows Explorer on the JMV machine. In the Menu Bar, click on **Tools**, then select **Map Network Drive** from the drop-down menu. The Map Network Drive dialog shown below will then appear.

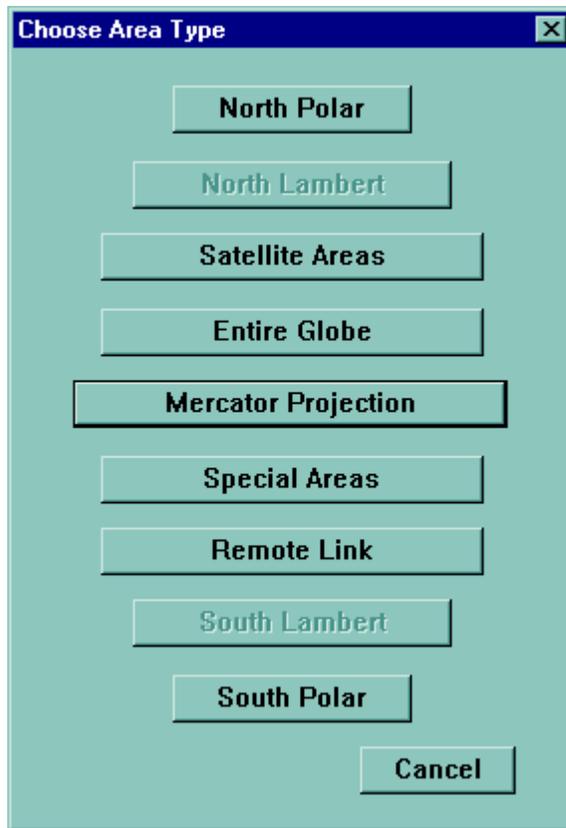


**Figure 18.** Map Network Drive Dialog

Select any available drive letter from the pull-down **Drive:** list at the top. In the lower (Shared Directories) box, navigate to the *Central nodd\$fls* directory that was shared in Step 1. The path to this directory should then appear in the **Path** box. In the **Connect As** box, enter a user name that you logged in with. Ensure that the **Reconnect at Logon** checkbox is checked. Click the **OK** button to map the drive.

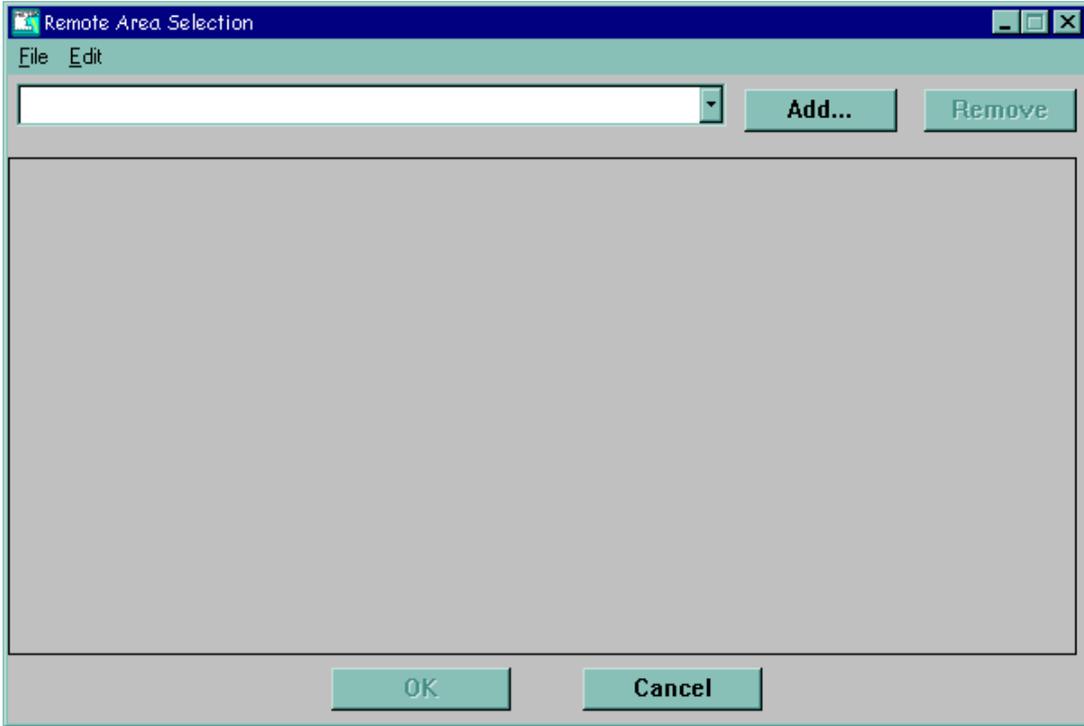
4. Use *selarea* to set up your remote link areas. Remote areas Open Windows Explorer on the JMV machine and navigate to the folder in which you installed JMV. In the *nodd\$fls* folder beneath it, find the file *selarea.exe*. We suggest dragging a shortcut to this file onto the desktop for future use -- to do this, put the cursor on the file, press and hold the right mouse button, and drag the file onto the desktop. When you release the mouse button, a pop-up menu will appear -- select **Create Shortcut Here** from this menu, and a shortcut will be created.

You can now double-click on the *selarea* icon to start setting up remote link areas. Doing so opens the Choose Area Type dialog shown below. This dialog was designed to set up areas for METCAST. The only option that applies to JMV users is **Remote Link**.



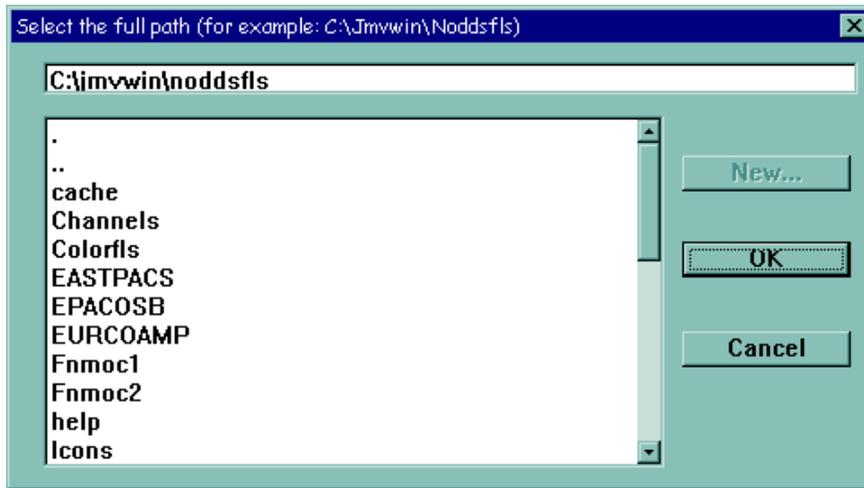
**Figure 19.** Choose Area Type Dialog

Click the **Remote Link** button to open the Remote Area Selection dialog shown below.



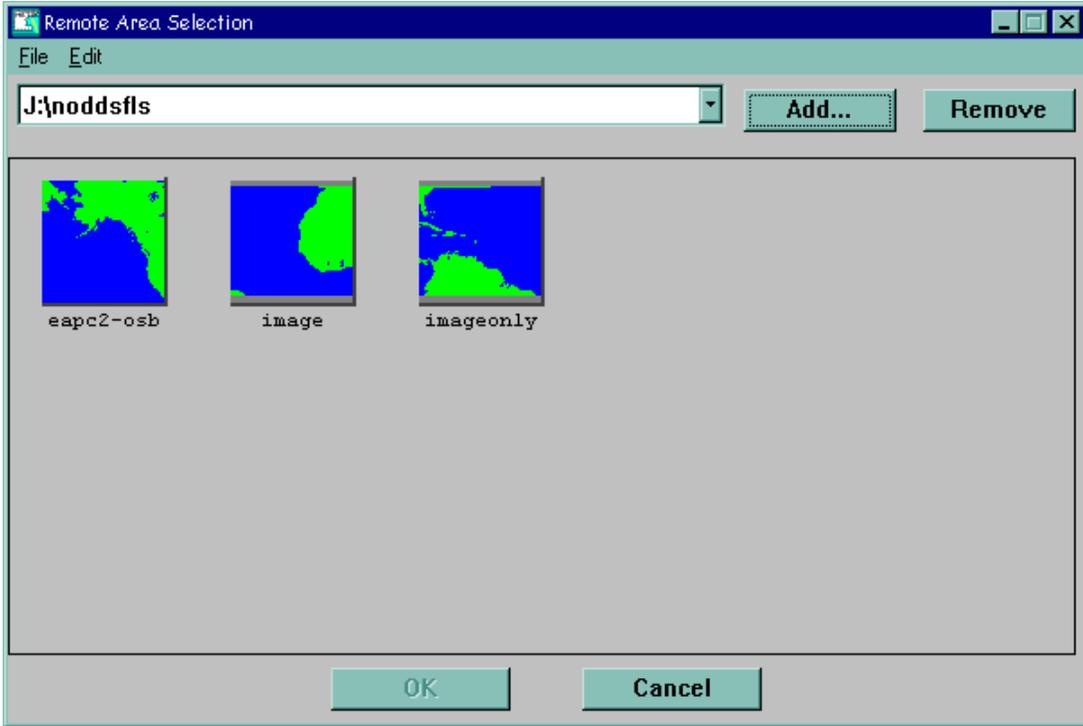
**Figure 20.** Remote Area Selection Dialog

Click on the **Add** button and a Select Path dialog will appear:



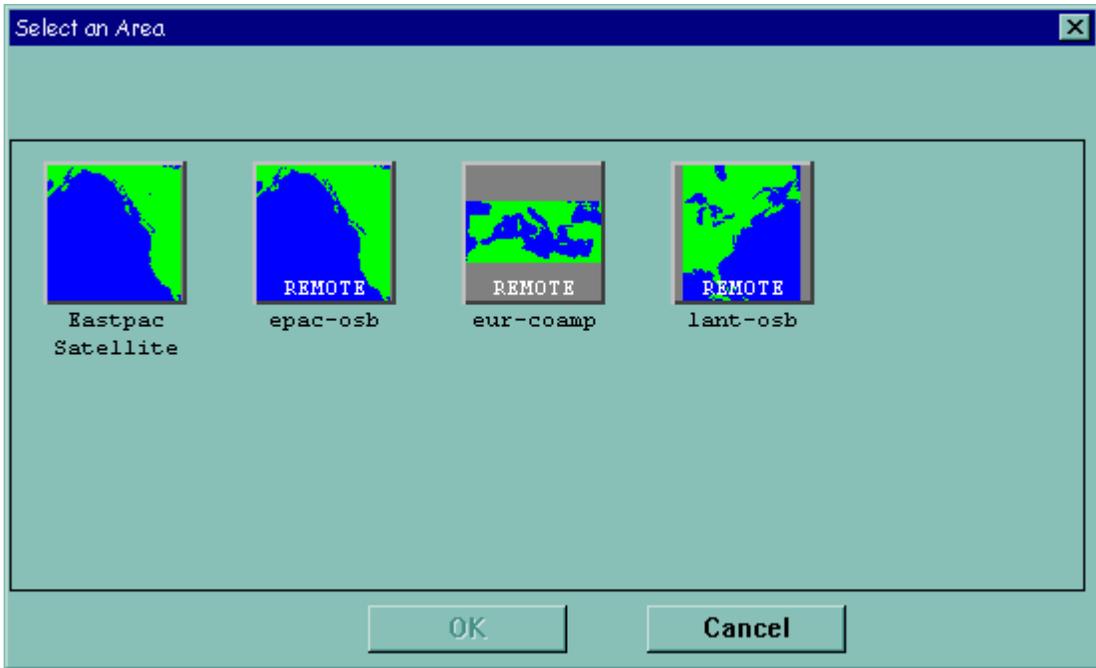
**Figure 21.** Select Full Path Dialog

Navigate to the drive letter you just mapped and click on the **OK** button. The Select Path dialog will close and the Remote Area Selection dialog should now show all available areas on the mapped drive. Note that areas you have already set up as remote link areas will not be shown. The figure below shows an example of the area display.



**Figure 22.** Remote Area Selection Dialog Showing Available Areas

You can now select any area by clicking on it -- a red border will appear around the area when it is selected. You can select a contiguous set of areas by highlighting the first area, pressing and holding the **Shift** key, and then clicking on the last area in the set. To select multiple individual areas, select the first, then press and hold the **Ctrl** key while selecting the others. To set the selected areas as remote link areas, click the **OK** button. When you next start JMV, these areas will appear as remote link areas. The figure below shows a JMV session with several remote link areas and one regular area -- note that the remote link areas have a "REMOTE" banner to differentiate them from the areas that are local on the JMV machine.



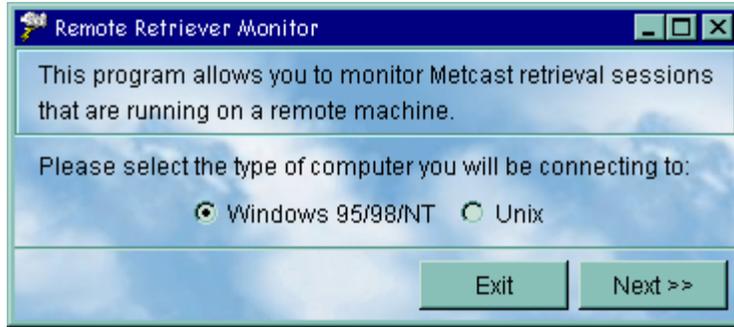
**Figure 23.** JMV Select Area Window Showing Remote Link Areas

## MONITORING REMOTE DOWNLOADS

If you're running JMV and using data from a central METCAST machine as remote link areas, you may want to keep track of the status of the data downloads on the central machine, or exert some control over the download process. You can do this by running the Remote Retriever Monitor, which allows you to view the status of retrievals on another machine.

To run Remote Retriever Monitor on a Windows machine:

1. In Windows Explorer, navigate to the directory where you installed JMV and find the *noddsfls* directory below it. Then find the icon for **RemoteRetrieverMonitor.exe**. We suggest dragging a shortcut to this file onto the desktop for future use -- to do this, put the cursor on the file, press and hold the right mouse button, and drag the file onto the desktop. When you release the mouse button, a pop-up menu will appear -- select **Create Shortcut Here** from this menu, and a shortcut will be created.
2. Once you have the shortcut on your desktop, you can run Remote Retriever Monitor by double-clicking the shortcut icon. A splash screen will appear, followed by the opening dialog:



**Figure 24.** Remote Retriever Monitor Opening Dialog

You use this dialog to select the computer type you're running on, then click the **Next>>** button to proceed. The IP Address dialog will then appear:



**Figure 25.** Remote Retriever Monitor IP Address Dialog

Enter the IP address of the remote computer in the box and click on the **Next>>** button to start the retriever monitor.

When the Retriever Monitor starts, it displays a screen like the one shown in Figure 26. This shows you the summary status of each retrieval in progress. It shows the area(s) for which data are being retrieved, the data server, the type of data (Data Domain), the time this data type was last updated, the operation currently in progress, and the status of the operation.

To see more detail, you can click on the **Details >>** button. This opens the detail display, as shown in Figure 27.



Figure 26. Retriever Monitor Screen

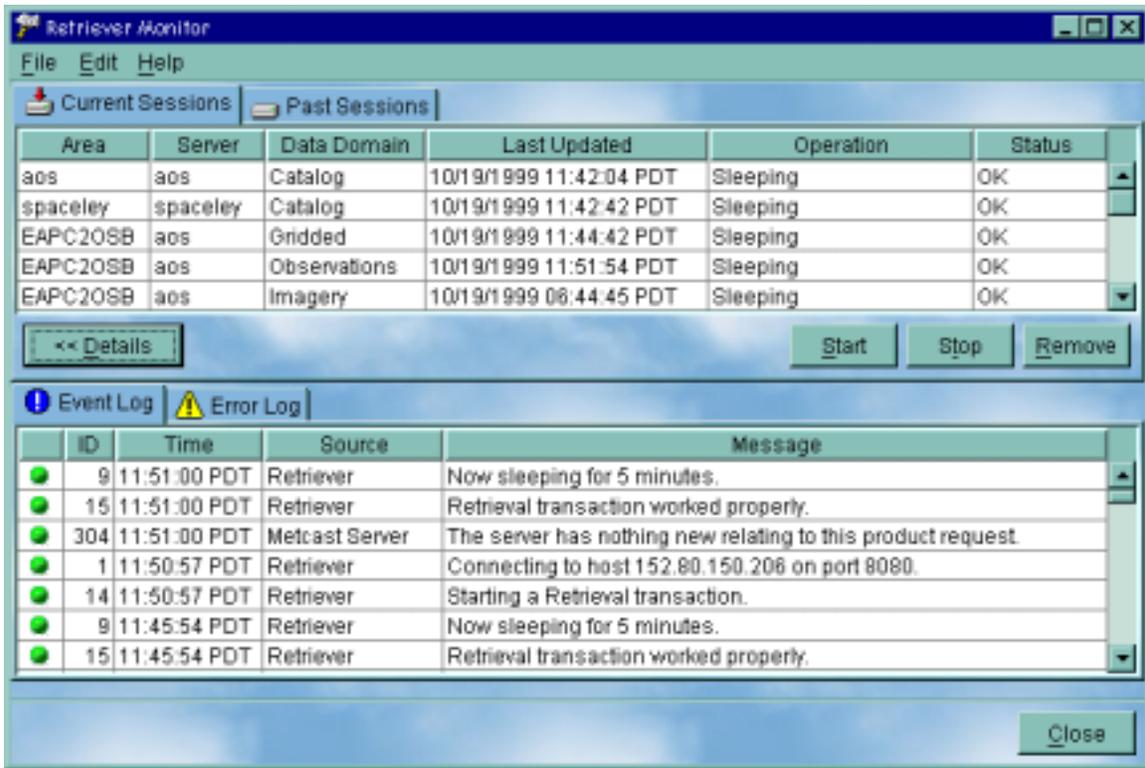


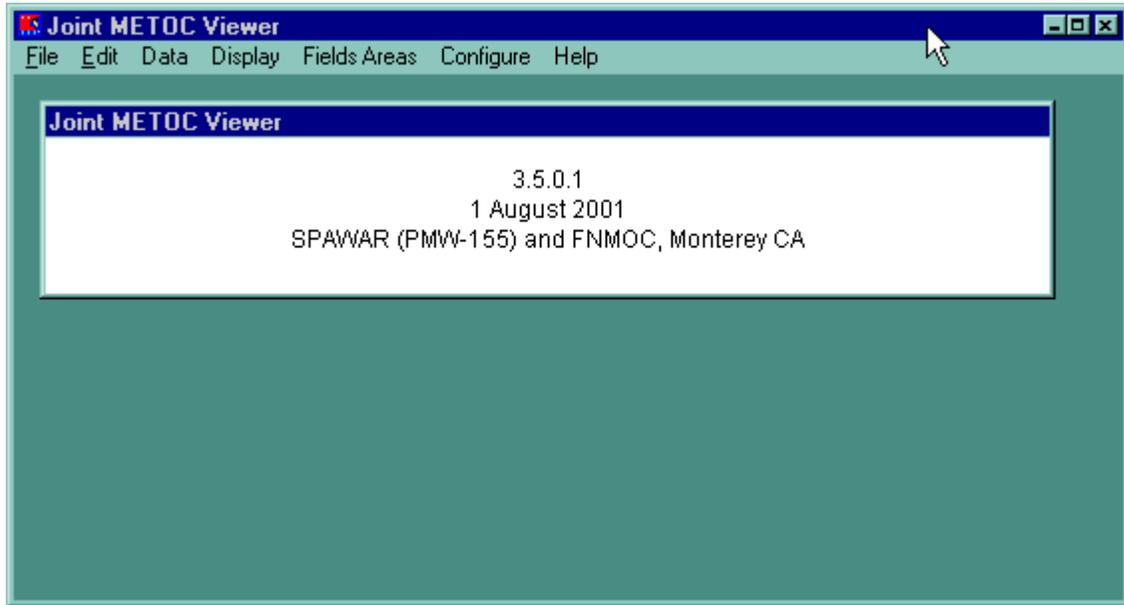
Figure 27. Retriever Monitor Screen Showing Session Details

The lower section shows the details of the session currently highlighted in the upper section. This shows all of the transactions between the METCAST Client and the Server. At the far left is a "stoplight" display that is green for good transactions, yellow for transactions that generated a warning, and red for failed transactions.

**Note:** The Remote Retriever Monitor only provides remote 'viewing' privileges. Remote Retrieval sessions may not be started, stopped or removed and retrieval preferences may not be modified via the Remote Retriever Monitor.

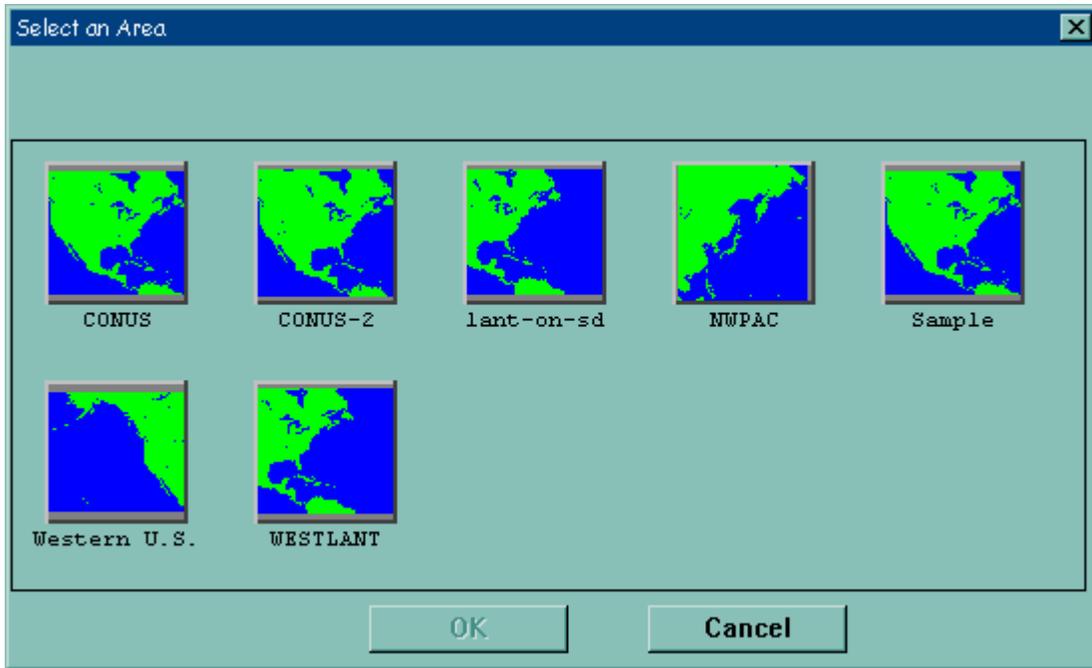
# LAUNCHING THE VIEWER

To open the viewer, double-click on the desktop icon. This will open the Joint METOC Viewer main screen shown below.



**Figure 28.** Joint METOC Viewer Main Screen

To display data for an area, click on **Display** in the menu bar, then select **Map** from the drop-down menu. This will bring up the Select an Area dialog box (see below) containing the names of previously downloaded areas. Select the area you wish to view and click OK.



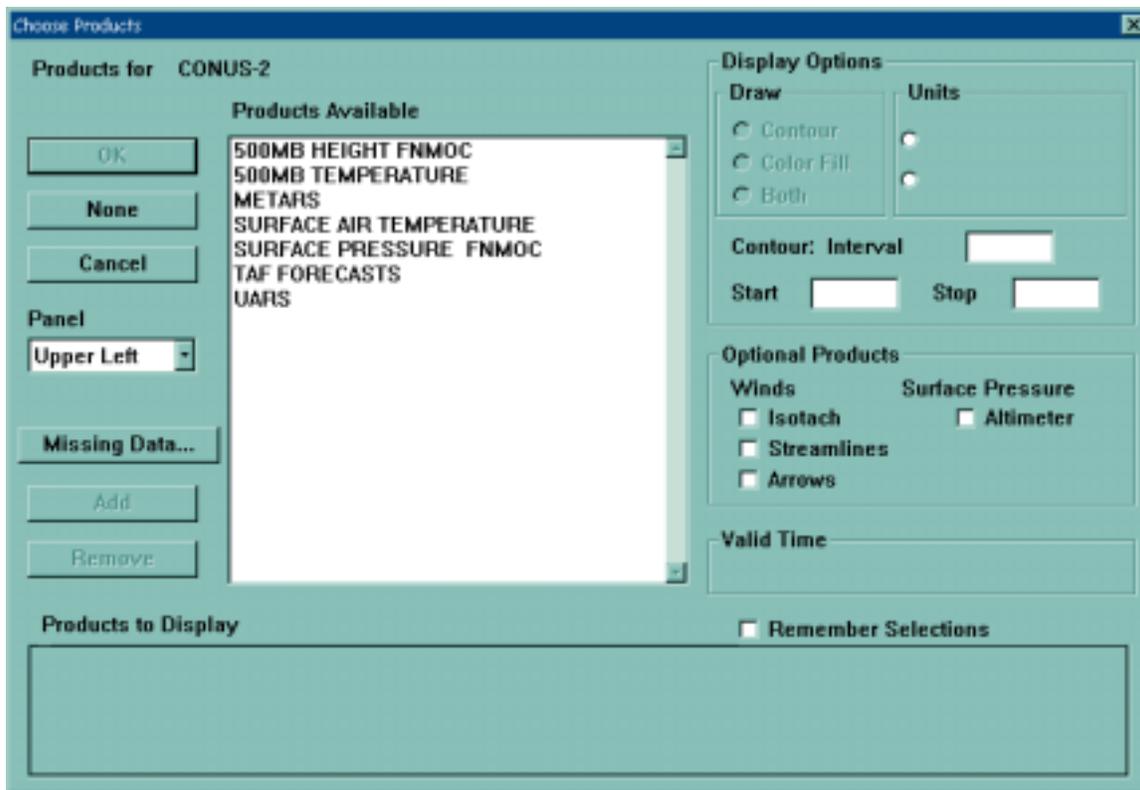
**Figure 29.** Select an Area Dialog

The Select an Area dialog contains an icon for each area that has been downloaded, whether by METCAST or as a thumbnail. Click an icon (it will be highlighted with a red border) and then click the OK button to open the Choose Products dialog.

To work with an area that hasn't been downloaded previously, either run METCAST Client to define the area and request the data or download the area's thumbnail from the web. When you download a web thumbnail, JMV will start automatically and open the Choose Products dialog on completion of the download. With METCAST Client, you can simply highlight the area's icon and click the Display Area button in the toolbar. This will start JMV and open the Choose Products dialog.

# SELECTING PRODUCTS TO DISPLAY

After you have selected an area to display in JMV or have successfully downloaded a JMV thumbnail file, the Choose Products dialog shown below will be displayed. The subsection below the figure provides instructions on all features of the dialog box.



**Figure 30.** The Choose Products Dialog

- **Products Available** list box shows all the products downloaded for the region selected. Up to five products may be selected.
- **To select products:**
  - Double-click on Product Name, or
  - Click on Product Name, then click on **Add**.

Either of these options selects a product for display with the default display options. Selected products appear in the **Products to Display** list box at the bottom of the dialog.

**To select products with custom display options:**

- Click on the product name to highlight it, then use the **Display Options** and/or **Optional Products** selections to customize the display (see below).
- **Display Option** area presents options that affect how a product displays.

**Contour** Displays product with contour lines to represent product values on a chart.

**Color Fill** Displays product with color to represent product values on chart.

**Both** Displays product with both contour lines and color fill.

**Interval** Sets the interval between contour lines, in the chosen units. Applies only to contour.

**Start** Sets smallest value of product to display, in the chosen units. Applies only to contour.

**Stop** Sets largest value of product to display, in the chosen units. Applies only to contour.

The radio buttons to the right of **Contour** and **Color Fill** display labels indicate choices between units of measure for a product, when applicable.

An example: For a temperature chart, select Fahrenheit for Units, set Start to 30, Stop to 100, and Interval to 5. The chart displays temperature between 30 and 100 in five degree increments.

- **Optional Products** area adds additional product types to Products Available listing. Click the desired product type and the Products Available list refreshes with the additional products included. Standard products like wind barbs can be displayed as isotachs, streamlines, or directional arrows. Pressure products can be converted to altimeter settings.
- **Remember Selections** checkbox, when checked, saves the current selections and their settings for the region. The next time that particular region is opened, the Choose Products dialog box opens with the same set of products selected. This saves time by not having to reselect the same data repeatedly. Note that the selections are only remembered as long as the current JMV display session is active. If JMV is shut down and restarted, the selections will not be remembered for the subsequent session.

- **Products to Display** list box shows which products have been selected. Double clicking on a product name in this list box removes it from **Products to Display**. The product name lists on the left side of the box. To the right of the product names are groupings of three numbers. These numbers, called taus, represent the number of hours from the base time that the product is forecasted. Tau 000 provides the base time for that particular product. Tau 012 is the data forecasted 12 hours into the future from the base time. For example, surface pressure at Tau 000 has a date of 22Jun98 1200Z. Surface pressure at Tau 012 is the forecast for 23 Jun98 0000Z, twelve hours beyond Tau 000. Taus for different products line up according to the date and time the forecasts will be valid. Selecting a column of taus determines which valid time is displayed when the chart is opened.
  
- **Buttons**

<b>OK</b>	Display chart with products chosen.
<b>None</b>	Display chart with no products.
<b>Cancel</b>	Close <b>Choose Products</b> box and return to <b>Requestor</b> (if JMV was started from METCAST Client) or to Windows.
<b>Add</b>	Add product highlighted in <b>Products Available</b> list to <b>Products to Display</b> list.
<b>Remove</b>	Remove highlighted product from <b>Products to Display</b> list.
<b>Missing Products</b>	Opens <b>Missing</b> dialog box listing products that have not updated and what verification time was substituted.
  
- **Panel** drop down box is used in conjunction with the 4-panel display option, which allows four charts to be displayed at once. The **Panel** drop-down list controls selection of the quadrant of the 4-panel display whose chart is currently being defined. Select a quadrant from the list and select products for that quadrant's chart. When finished, select a different quadrant to define, if desired.
  
- **Valid Time** is the time of the oldest product and is used as a base time to determine which products are valid for the same date and time. In the Products to Display list, taus line up according to the valid time for that tau, not by the tau itself. For example, surface pressure NCEP has a valid time of 22JUN98 0000Z, which is the oldest product available. Surface pressure FNMOC is not as old, having a tau 000 valid at 22JUN98 1200Z. In the Products to Display listing, surface pressure NCEP 012 lines up with surface pressure FNMOC 000 since both are valid for the same day and time.

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## THE JMV 3.5 TOOLBAR

The Tool Bar provides a set of icons used to perform the most common tasks in JMV. The default icons are discussed below starting with the leftmost button and proceeding to the right.



**Zoom Box** activates a resizable box on a chart. Move boundaries to encircle an area to be zoomed in on then right click.



**Tools** activates drawing toolbars in the current location of the **Loop Buttons**. This is a toggle between toolbox modes -- when Tools is clicked, the icon is replaced with the **Loop** icon which will allow you to shift the toolbox back into its Loop mode.



**Zoom Out** redraws the chart to cover the area previously displayed (before the last Zoom In)



**Full View** returns a chart to the original geographic area.



**Choose Products** reopens the **Choose Products** dialog box. Products can be added or removed from the current chart.



**Ship Tracks** activates the **Ship Route** feature.



**Tropical Storms** opens the **Tropical Storms** dialog box. All tropical storms stored are available to view. Checkmark the storms to view and click **OK**.



**Range & Bearing** determines range, cumulative and from last point, and bearing to last point.



**Legend** adds a color fill legend.



**Colors** opens the **Color Settings** dialog box.



**Lat Long Options** activates the **Lat Lon Grid Setup** dialog box.



**OPARS Track** access the OPARS directory to import a flight plan.



**Geographic Names** adds geographic labels to chart.



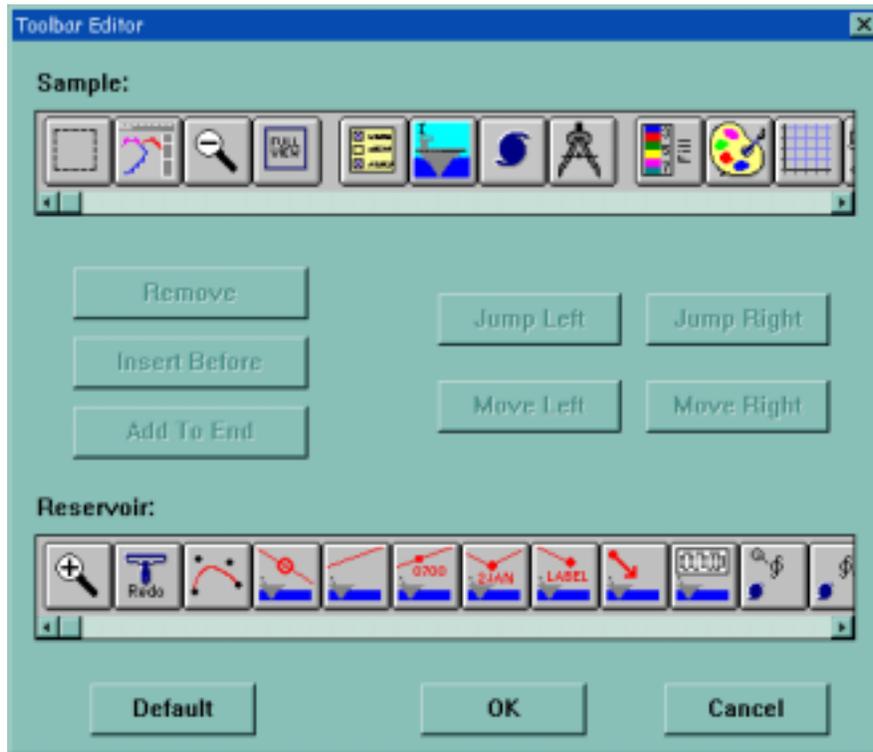
**Print** sends current chart to default printer.



**Exit** closes current chart and returns to **Requestor**.

## CUSTOMIZING THE TOOL BAR

JMV allows you to customize the Tool Bar to suit your own needs and preferences. To do this, click **Tools** in the Menu Bar, then click on **Edit Toolbar...** in the Tools menu. This will open the Toolbar Editor dialog, shown below.



**Figure 31.** The Toolbar Editor Dialog

To remove an icon from the Tool Bar, click on the icon in the Sample tool bar at the top and click the **Remove** button. The icon will be removed from the Sample tool bar and placed in the Reservoir at the bottom, which holds icons that can be added to the tool bar.

To insert an icon from the reservoir into the tool bar, click on the icon to be inserted. A brief description of the icon's function will appear immediately above the reservoir. To place the icon before an icon already in the tool bar, click on the target icon in the Sample tool bar and click on the **Insert Before** button. To place the inserted icon at the end of the tool bar, click the **Add to End** button.

The **Jump Left** and **Jump Right** buttons are used to move the highlighted icon in the Sample tool bar left and right, respectively, with respect to the other icons in the tool bar. **Jump Left** causes the icon to change places with the icon to its left. **Jump Right** causes the icon to change places with the icon to its right.

The **Move Left** and **Move Right** buttons move the highlighted icon in the Sample tool bar right and left without changing its position with respect to the other icons. Clicking **Move Right** when the selected icon has another icon to its left has the effect of inserting a space between the icons, moving the selected icon and all icons to its right by one space to the right.

The **Default** button returns the tool bar to its default configuration.

The **Cancel** button exits the dialog without making any changes to the tool bar.

The **OK** button makes the changes you have specified to the toolbar, then closes the Toolbar Editor dialog.

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# DRAWING AND ANNOTATION FEATURES

JMV provides an extensive array of **Drawing Tools** that may be used to annotate charts with a variety of weather features, symbols and text. The features and text added to a chart may be saved as a Horizontal Weather Depiction (HWD) and later recalled for display in the same manner as any downloaded product.

JMV v3.5.0.1 includes new drawing tool capabilities that are described in the What's New Section of this guide. If the new drawing tool features fail to work properly, a problem may have occurred during installation and merge of the new toolbin.dat file with the existing toolbin file. To enable the new tool functions, we suggest the user shut down JMV, and manually delete the toolbin.dat file from the jmvwin\noddsfls directory. A new toolbin.dat file will be generated the next time JMV is started. Unfortunately, this process will erase all toolbin settings that were previously customized by the user.

## GENERAL USE INSTRUCTIONS

- *Open toolboxes:* To open the Main Toolbox, click on the **Tools** icon , which is located in the Tool Bar.
- *Drawing Mode:* This mode is entered when a feature such as a cold front, a tropical cyclone symbol, or a text box is selected from any of the available toolboxes and placed on a chart. To differentiate Drawing Mode from the regular Product display mode, the following text box; **Drawing Mode**, will be displayed in the upper right and lower left corners of the displayed chart. While in this mode, features may be added, removed, resized, and reshaped. To exit drawing mode, close the displayed chart by either clicking the close button, or by selecting the **Close Drawing** option from the pull down File menu.

**Note:** The Tools icon toggles between drawing mode and product display

mode. If the Product Display button; , is selected while in drawing mode, the ability to add and delete a feature will be disabled. However, features may still be resized and relocated. Clicking on the **Tools** Icon will re-enable addition and deletion capability. This feature allows the user to toggle between the various Toolboxes of Drawing Mode, and the Product Tau selection menu of Map Display mode to facilitate the annotation of a series of

charts. See the [Animating Drawings](#) section of this manual for additional information on animating HWD charts.

- *Saving a Horizontal Weather Depiction Chart:* To save a HWD drawing, click on the **Save file**, or **Save File As** button found in the pull down **File** menu. The **Save Drawing** dialog shown in Figure 32 will be displayed. Clicking the close button will also cause this dialog box to be displayed. Instructions for the Save Drawing dialog box are found immediately after Figure 32.
- *Displaying a Horizontal Weather Depiction Chart:* When a horizontal weather depiction chart is displayed as a product (selected from the **Choose Products** dialog box), the HWD features cannot be edited. To edit the features on a previously saved HWD chart, the user must first open the Area that contains the HWD chart, and then open the saved HWD file via the **Open drawing** option within the pull down **File** menu.
- *Access a specific toolbox:*

**Method 1:**

Click the down arrow of the combo box at the bottom of the toolbox, and in the drop-down list click on a toolbox name with the mouse pointer (or use the up and down arrows on the keyboard to move through the option list and press **Enter** to select).

**Method 2:**

Click the left and right arrows in the toolbox counter icon until the desired toolbar appears.

**Method 3:**

After clicking anywhere within a toolbox, the left and right keys on the keyboard may be used to cycle through the toolboxes.

**Method 4:**

Type the toolbox number on the keyboard.

**Toolboxes Available in JMV**

Num	Name	Comment	Num	Name	Comment
1	Main	Frequently used symbols	7	Text	User defined text buttons
2	Fronts	Lines representing fronts	8	Lines	To draw lines, boxes, and curves

3	WX	Weather Symbols	9	Fills	To fill enclosed areas and change line colors
4	Tropic	Symbols for tropical analysis and forecasting	10	WGen	To build wind and seas warning messages
5	IceTurb	Symbols for icing and turbulence	11	3D	Tools for working with 3D gridded field data
6	Misc	Miscellaneous symbols	12	BMP	User defined .bmp image buttons.

- *Modify properties* of a tool by clicking the right mouse button while the mouse pointer is over the tool icon. Properties include color, text, line thickness, color and pattern used to fill in an area. Shadows may also be added.
- *Delete a symbol or line from a chart:* highlight the symbol on the chart by clicking on it once, and then press the **Delete** key on the keyboard. **Note:** A feature may be deleted only while in Drawing Mode.

### General-Purpose Tools

	Pointer	Exit from the current selected symbol button
	Redo	Refreshes (redraws) the chart window.
	Flip	Reverses an active image.
	Storm Message	Builds a storm-warning paragraph for High Winds/Seas Message.
	Gale Message	Builds a gale-warning paragraph for High Winds/Seas Message.
	Seas Message	Builds seas warning paragraph for High Seas Warning Message.
	Toolbar Selector	Cycles to next or previous toolbar.

### Symbols

A variety of meteorological symbols are available. All of these symbols can be modified in the same manner.

*Place symbols on chart:*

- Single instance of symbol:
  1. Select the desired symbol from the toolbar by clicking on it with the left mouse button.
  2. Move the pointer to a location on the map and click the left button. The symbol is drawn at the indicated location.
  
- Multiple instances of symbol:
  1. Double clicking on the button with the left mouse button allows placement of multiple instances of the selected symbol.
  2. Move the pointer to a location on the map and click the left button. The symbol is drawn at the indicated location.
  3. Repeat step 2 for additional instances of symbol.
  
- Move the symbol:
  1. Select the **Pointer**.
  2. Move the pointer to the desired symbol on the map and click the left mouse button. "Handles" appear around the symbol.
  3. Move the pointer to the center of the symbol, press and hold the left mouse button.
  4. Drag the symbol to the new location. A moving frame indicates the position of the symbol.
  5. Release the left button. The symbol is redrawn at the current pointer location.
  
- Resize a symbol:
  1. Proceed as before to select the desired symbol.
  2. Place the pointer to one of the handles.
  3. Drag the handle until the moving frame indicates the desired size.
  4. Release the left button and the symbol is redrawn in the new size.
  5. After resizing, a symbol may need to be repositioned to its original location.



Low Pressure



High Pressure

	Rain		Light Rain Showers
	Snow		Light Snow Showers
	Rain and Snow Mixed		Freezing Rain
	Fog		Drizzle
	Ice Pellets		Hail
	Thunderstorm		Lightning
	Funnel Cloud		Squall
	Blowing Sand		Blowing Snow
	Smoke		Haze
	Anti-cyclone		Cyclone
	Tropical Depression		Tropical Depression
	Tropical Storm		Tropical Storm (Southern Hemisphere)
	Tropical Cyclone (Northern Hemisphere)		Tropical Cyclone (Southern Hemisphere)
	Light Rime Ice		Light Clear Ice
	Moderate Rime Ice		Moderate Clear Ice
	Severe Rime Ice		Severe Clear Ice
	Light Turbulence		Moderate Turbulence
	Severe Turbulence		Extreme Turbulence

	Clear Air Turbulence		Storm Wind Maximum
	Gale Wind Maximum		Ridge
	Trough		Arrow
	Target		Oval
	Rectangle		

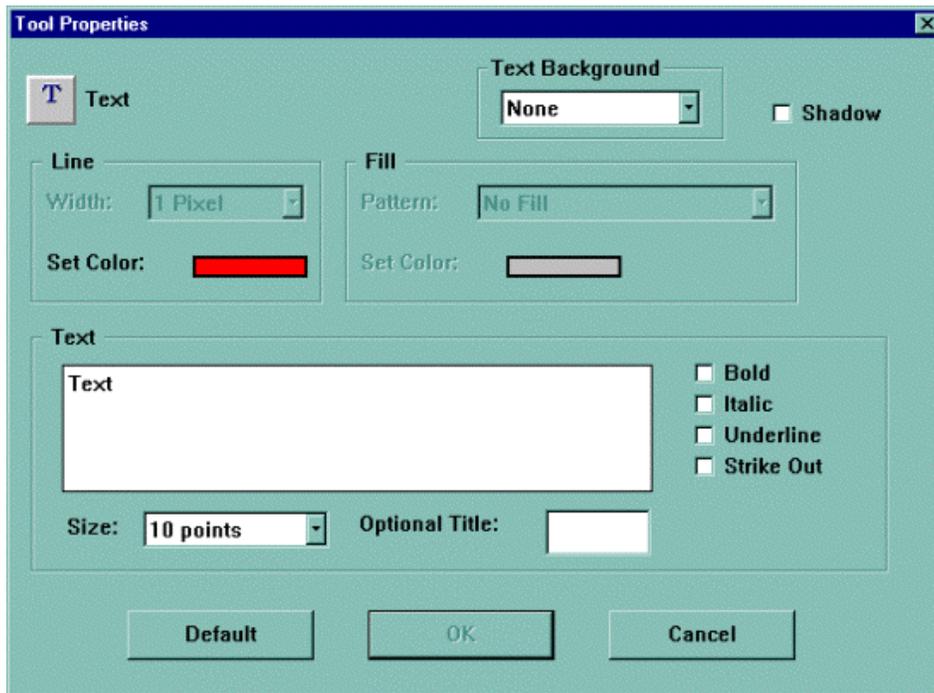
## Text



**Text** buttons may be defined and permanently associated with single or multiple lines of text. Doing so, will facilitate the placement of frequently used Text or labels.

*To define text for a button and set its properties:*

- Right click on a **Text** button. A Text Tool Properties dialog, as shown below will open.



- Type the desired text in the **Text** box. A total of approximately 256

characters in multiple lines may be entered. Using the checkboxes to the right, you can specify whether the text will be in boldface, italic, underlined, or with strikethrough marks through it. The **Size** selector allows you to select the type size. The **Optional Title** box allows you to add a title to a Text button, by typing the desired title name into the provided text box. The first three to five characters of the title (depending upon whether upper or lower case characters are used) will be displayed across the bottom of the selected bitmap tool button. The **Text Background** selector allows you to decide whether your text should have a background, and if so, whether to use a rectangular or an oval background. The **Line** and **Fill** sections allow you to set colors, line widths, and fill patterns for the lines and fills associated with the text. Shadows may be added to displayed text by clicking on the **Shadow** checkbox.

- Click **OK**. The label on the **Text** button becomes the first eight characters of the text string entered.
- Text already placed on a chart may be changed. Changes made to the text on a chart will apply only to that text and not to the button.

*To modify text on a chart:*

- Single click on the block of text to select it. The cursor will then be placed at the end of the text block, although it will not be visible.
- Press the **Backspace** key on the keyboard to delete single characters, beginning at the end of the text block.
- Delete an entire block of text by pressing the **Delete** key on the keyboard. New text may not be added after deleting the entire text block.
- Type in new text. A total of approximately 256 characters in multiple lines may be entered.
- When text edits are complete, left mouse click anywhere outside the text box to exit the text edit mode.

*To modify the size of text:*

- Double click on the text to be resized.
- Press the **Up** and **Down** Arrow keys on the keyboard to adjust Text Size.
- Left mouse click anywhere outside the text box to exit text edit mode.

## Fills

	Line	Changes color of any symbol or line.
	Clear	Removes Fill of an enclosed area.
	Solid Fill	Fills an enclosed area with a solid color.
	Forward Diagonal Line Fill	Fills an enclosed area with forward diagonal lines.
	Vertical Line Fill	Fills an enclosed area with vertical lines.
	Horizontal Line Fill	Fills an enclosed area with horizontal lines.
	Backward Diagonal Line Fill	Fills an enclosed area with backward diagonal lines.

## 3D

Three-dimensional display is presently available for certain atmospheric and oceanographic data types such as Ocean Temperatures and Atmospheric Temperatures.

	Single Point Profile	Draws a profile of a 3D-field variable versus depth or height for a selected point on the chart. Select the profile point by placing the pointer over the desired chart point and click the left mouse button. After selecting the depth profile point, the <b>Depth Profile</b> graph window is displayed.
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**Multipoint  
Profile**

Draws a graph of a 3D field versus depth or height for four or less points. Select the points to profile by placing the cross pointer over the desired chart points and clicking the left mouse button. If fewer than four points are placed on a chart, you must select (click on) the **Pointer** tool in the toolbox to signal the end of the point inputs. The profiles will then be drawn in a **Depth Profile** window. If four points are selected, the Depth Profiles are drawn automatically upon placement of the fourth point. Profiles and labels are color-coded for easy identification.



Cross Section

Draws a line that depicts the intersection of the cross section plane and the map display plane. Click on the **left side** of this tool button to draw a stretchable, moveable line on the display by selecting and holding the left mouse button at the start of the line, dragging the pointer to the end of the line, and then releasing the mouse button. Upon releasing the button, a **Cross Section** window will display the cross section data.

The end points of an existing cross section line may be relocated by clicking and holding the left mouse button on either end point, dragging it to a new location, and then releasing the mouse button. The cross section window will automatically refresh and then display cross section data for the new line location.

The **right side** of this tool button provides a method to modify an existing cross section line by adding a new point to either end. After selecting this button, click and hold the left mouse button on either end of the existing cross section line, then drag the end point to a new location and release the mouse button. The original end point will remain, and the resulting line will now contain three points – the original starting point, the original end point (which is now a mid point) and the new end point. The Cross Section Window will be automatically redrawn when the mouse button is released. All three of the line points may be relocated using the left mouse button as described above. The Cross Section Window will continuously refresh the new cross section data after a line point has been relocated.

The **Depth Profile** and **Cross Section** windows are described in detail in the [Working with 3D Data](#) Section.

## Lines

Lines are drawn as either **Spline** or **Bezier** line types. Bezier lines are curved lines that are drawn automatically upon placement of the fourth point of the line. Spline lines are straight lines drawn from point to point. Spline lines can contain up to 100 points. The setting for line type is located in **Configure, Drawing Tools**.

*Draw a line:*

*Spline Lines:*

1. Select a line type by left clicking on the desired line type button in a tool bin.
2. Place a minimum of two points on the display by clicking the mouse button when the pointer is over the desired map location. When finished, click on the arrow (cursor) button located in the upper left corner of every toolbox. This will signal the end of line point input, and line segments will be drawn between all of the points. Clicking on another tool button will also end the point input and cause a line to be drawn.
3. If an enclosed (polygonal) line pattern is desired, place the last point directly on top of the first point that was placed on the map. Line segments will then be drawn between all of the points.

*Draw a Bezier Line:*

1. Select the desired type.
2. Place a minimum of four points on the display by clicking the mouse button when the pointer is over the desired map location.
3. When the fourth point is placed, a smooth curved line will automatically be drawn between the four selected points.

*Reshape a line:*

1. Click anywhere on the line. Small boxes appear at the ends and along the line. These boxes are "handles" to reshape the line.
2. Drag an end handle to move the endpoint of the line.
3. Drag a middle handle to change the curvature of a section. During either operation, the line will continuously show the new shape.

*Resize a line:*

The line thickness of a Bezier line features (i.e. CAT, Fronts, Gale, Icing, HSeas, etc) may be resized using the **up** and **down** arrow keys on the keyboard.

1. Click anywhere on the line to select it.
2. Press the **Up** arrow key to increase the line thickness, or press the **Down** arrow key to decrease the line thickness.

*Move a whole line:*

1. Click once anywhere on the line to make the handles appear.
2. Place the pointer anywhere on the line and hold the left mouse button down.
3. With the mouse button still depressed, drag the curve to its new location. The location of the new line is shown as a white line as it is dragged.
4. Release the mouse button when the line is at the new location. The line is redrawn at its new location.
5. To remove the background color showing through the map after the line has moved, click on the 'Redo' button found in the top right corner of every toolbox.

	Warm Front (Surface)		Cold Front (Surface)
	Warm Front (Aloft)		Cold Front (Aloft)
	Warm Front Frontogenesis		Cold Front Frontogenesis
	Warm Front Frontolysis		Cold Front Frontolysis
	Quasi-stationary Front (Surface)		Occluded Front (Surface)
	Quasi-stationary Front (Aloft)		Occluded Front (Aloft)
	Quasi-stationary Front Frontogenesis		Occluded frontolysis
	Quasi-stationary Front Frontolysis		Nonconductive Precipitation Area
	Divergence		Convergence
	Intertropical Convergence Zone		Shearline
	Cloud Area		Jet Stream
	Instability		Storm

	Ice Edge		Route
	Isotherm		Upper Level Contour
	Isotach		High Seas
	Solid Line		Dashed Line
	Dotted Line		Polygon Boundary Line
	Curve		Gale
	Gale Boundary Line		Storm Boundary Line
	8 ft Seas Boundary Line		12 ft Seas Boundary Line
	18 ft Seas Boundary Line		24 ft Seas Boundary Line
	Icing Area		

## Arrows

	Wind Barb	Speed indicated by the barbs is adjusted from 5-300 knots using the <b>up</b> and <b>down</b> arrows on the keyboard. Direction indicated by the shaft is adjusted from 0 to 360 degrees by using the <b>right</b> and <b>left</b> arrow keys on the keyboard.
	Arrow symbol	Length of arrow is adjusted using the <b>up</b> and <b>down</b> arrow keys on the keyboard. Arrow direction is adjusted using the <b>left</b> and <b>right</b> arrow keys on the keyboards.
	Arrow Line	A Spline line type. To create an enclosed arrow line, the last point of the line should overlay the first point that was placed on the chart. To create a non-enclosed arrow line, place the desired points on the chart, and



then click on the pointer button in the toolbar. This signals the end of the arrow line placement inputs, and the line will then be drawn.



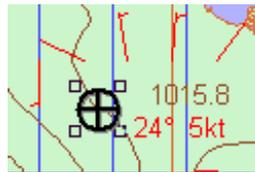
Synoptic Report

Used to place a synoptic report on the chart. Right-clicking on this icon opens the Edit Synoptic dialog shown below, in which you can set the parameters to be shown in the report. When you then click on the icon and then on the map, a synoptic report is displayed showing the parameters you entered in the dialog.



Data

This icon is used to place a data marker on the map. When you click on this icon, then on the map, a marker is placed to mark the spot where you clicked on the map. This marker also displays the field values at that point, as shown below.

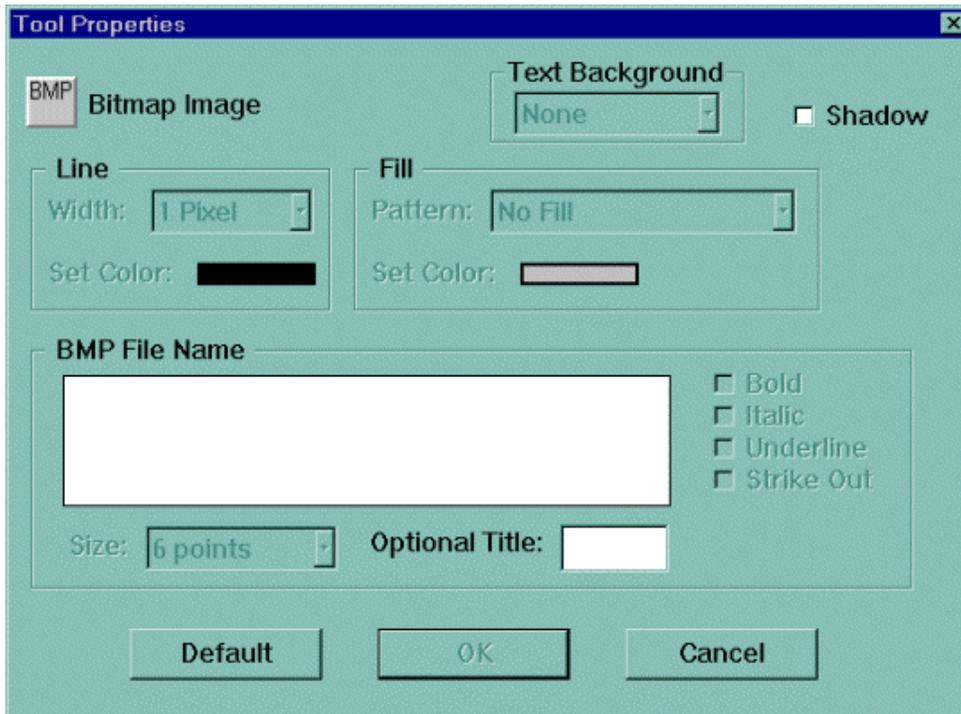


## Bitmap (BMP)

The Bitmap Tool box consists of 28 individual tool buttons, each of which may be permanently associated with a bitmap type image. A folder called “**images**” is provided within the jmvwin\noddsfls directory. This folder is pre-loaded with approximately 20 bitmap images of various weather symbols such as fog, rain, snow, etc. The user may copy additional bitmap images into the **images** folder, which may then be linked to a BMP tool button.

*Create a BMP tool button:*

Right click on any BMP tool button, , to open the Bitmap Image Tool Properties dialog box, shown below.



The three data entry fields in the Tool Properties Dialog box that apply to the bitmap tool button function are **BMP File Name**, **Optional Title**, and the **Shadow** check box.

- **BMP File Name:** Enter the name of the desired bitmap image located within the “images” folder. Do not include the file extension (.bmp).
- **Optional Title:** A title may be added to a bitmap tool button, by typing the desired title name into the provided text box. The first

three to five characters of the title (depending upon whether upper or lower case is used) will be displayed across the bottom of the selected bitmap tool button.

- **Shadow:** A shadow will be added to a bitmap image when the Shadow checkbox is selected. Simply click within the check box to select it.

Click the **Ok** button to save the data entries and close the dialog box. Clicking the **Default** button will reset the input fields to a blank state. The **Cancel** button will close the dialog box without saving any data entries.

After associating a bitmap image with a tool button, the image may be placed on a chart in the same manner as a [Symbol](#).

## ANIMATING DRAWINGS

JMV 3.5 provides the capability to animate drawings as part of a time sequence of charts. The tools described above are used to draw objects (fronts, Low and High pressure symbols, etc.) on the first chart in the sequence, then use the **Save** option under the **File** menu to save it (ensuring that the **Dependent on Hours** checkbox is checked). Use the **Time** menu to move to the next chart in the sequence, and move the objects on the chart to new positions and reshape them as desired, then use the **Save As** option under the **File** menu to save the chart for this time (again ensuring that the **Dependent on Hours** checkbox is checked). Repeat for each subsequent image in the sequence. When the sequence is animated, the drawings will be animated along with the rest of the images.

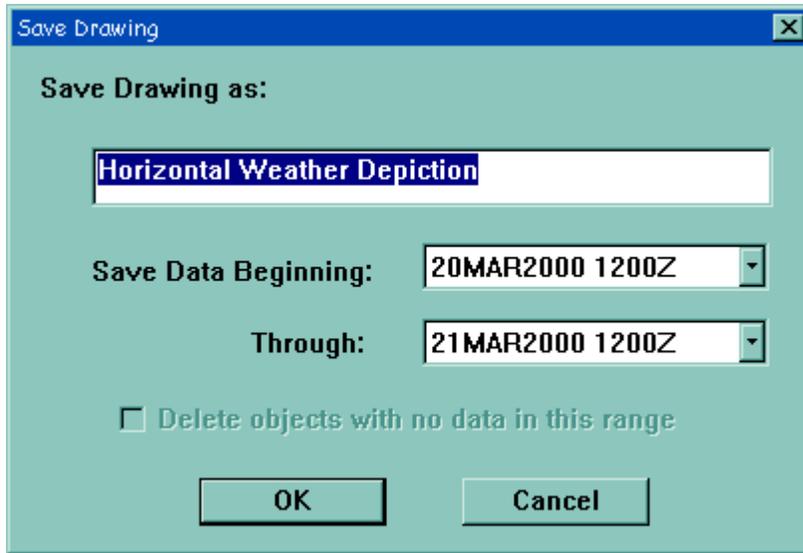


**NOTE:** At present, the animation capability only tracks the original set of objects. You cannot add additional objects (e.g. add a new front appearing on the left side of the picture). You can remove objects, and you can also reuse objects (e.g. take a front that is moving off the right side of the picture and use it as a new front moving in from the left). Use care in reusing objects, however; if you animate in a finer time step than the time step between the displayed fields, a reused object will display some strange behavior (perhaps appearing to move east-to-west across the screen).

The **Edit Drawing Object...** item under the **Edit** menu allows you to delete a selected item from a given time in the sequence. This menu shows all of the times for which the selected object is defined, and allows you to turn off the object for any of those times.

Note, however, that turning off an object at an intermediate time will not remove it from the display. Instead, the object's previous position will be displayed at the intermediate time for which the object was turned off. In other words, an object deleted at an intermediate time will simply be replaced by its appearance at the previous time.

To save the sequence of drawings for future use, open the **File** menu and click on the **Save Drawing...** or **Save Drawing As...** option (**Save Drawing...** is appropriate for new drawing sets or existing sets that will be saved with the same name already uses; **Save Drawing As...** is appropriate for existing sets that will be saved with a new name). The Save Drawing dialog shown below will appear.



**Figure 32.** Save Drawing Dialog

This dialog shows you the range of dates/times for which you have entered drawing data. You can use the pull-down lists to change the start and end times as desired to save all or part of the drawing sequence. The **Delete objects with no data in this range** selection is available when you have selected only part of the current drawing's time range to save, and when checked this option will cause drawing data outside the selected range to be deleted from the display.

## WORKING WITH SATELLITE IMAGERY

If satellite imagery has been downloaded, it is available as an overlay to any chart that overlaps the satellite's geographic coverage area. Images automatically update when a new file is received. This occurs for both single satellite images and loop sequences.

### SPECIFYING SATELLITE IMAGERY TO DISPLAY



Click on the **Choose Products** icon in the toolbar or click on **Display** in the Menu Bar and select the **Select Chart(s)** option. In the Choose Products dialog, select the image to display, and any other products to include in the display. Note that ordinarily only one satellite image is displayed at a time. When you click the **OK** button, the map display will open to display the selected satellite image.

### ADDING SATELLITE IMAGERY TO AN OPEN CHART

- Select **Display, Multiple Satellites** from the menu bar. In the **Satellite Slideshow** dialog box, those satellite images that overlap any part of the chart are available for selection.
- Highlight the satellite(s) to display.
- Click **Add**.
- Click **OK**.

For specifically created satellite areas, multiple images may be available for a particular satellite. When available, multiple images may be looped to provide a time progression display. Simply press the **Play** button on the toolbar. Satellite images cannot be looping with overlaid forecast data. Since satellite images are pictures of the current and past events, satellite images cannot be looped with forecast data.

Detailed information concerning a satellite image is available by selecting **Display, Satellite Information** from the Menu Bar.

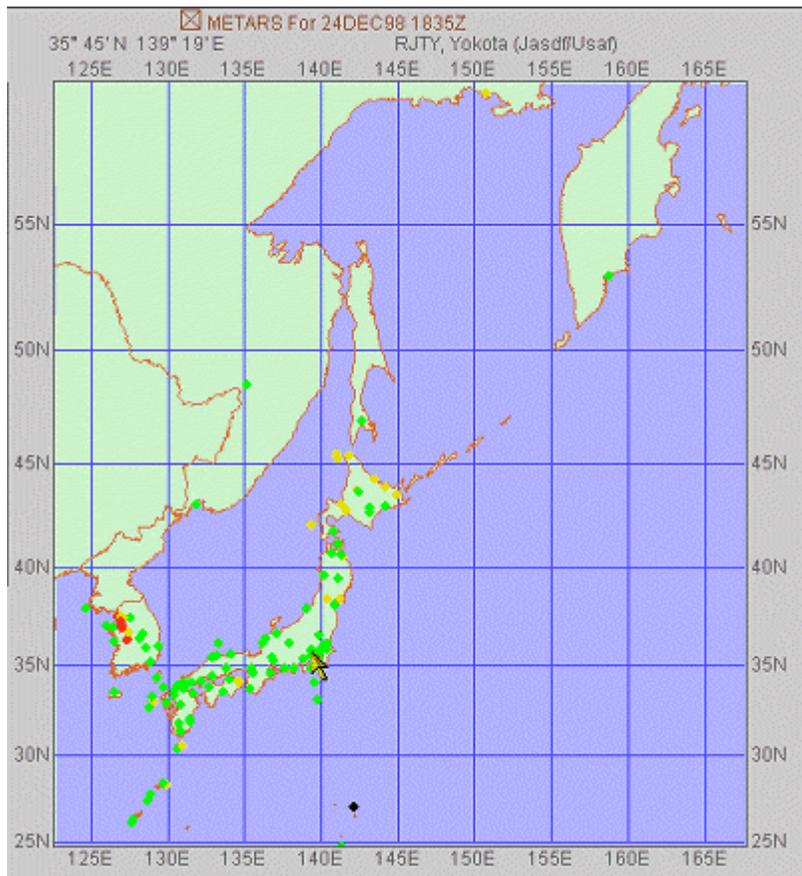
## ENHANCING SATELLITE IMAGERY

JMV 3.5 provides the option to enhance satellite imagery. See the Satellite Imagery Enhancements item in the Configure Menu section for details.

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# WORKING WITH METAR AND SPECI REPORTS

METAR is the format used for hourly weather reports worldwide. SPECI reports are reports in METAR format submitted to document specific meteorological conditions not shown in the hourly reports. JMV displays the available METAR and SPECI reports as points on the map display. The figure below shows a portion of a map display with METAR and SPECI locations plotted.



**Figure 33.** Map Display Showing METAR and SPECI Reports

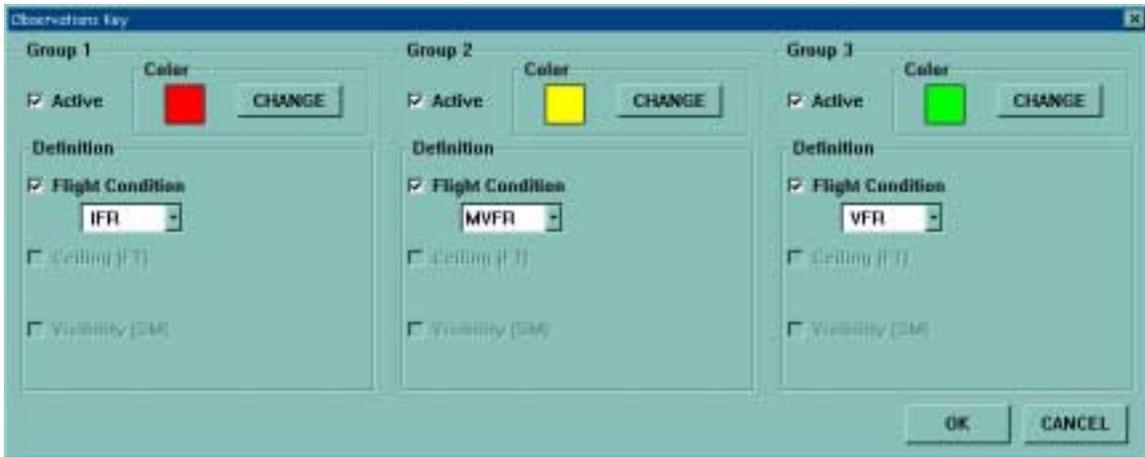
Note that the METAR and SPECI locations are displayed in different colors, which correspond to user-definable groups (see *Configuring METAR Display*, below). Note also that when the pointer is over a METAR or SPECI location, the cursor readout shows the name of the station, as well as the latitude and longitude.

## DOWNLOADING METAR/SPECI REPORTS

If you are using METCAST Client, you can download all of the METAR and SPECI reports for an area by going to the Choose Products screen and selecting **METARS**, along with any other desired products. Make sure that the area is scheduled, and you will receive METAR and SPECI updates at the intervals specified in the request configuration for observations. If you're downloading from the web, ensure that the thumbnail for the area includes METARs and SPECIs.

## CONFIGURING THE METAR DISPLAY

To configure the display of METAR reports, select **Configure** on the JMV menu bar, then **Observations**, **METAR**, and **Configure** from the cascading menus. This will open the configuration dialog shown below.



**Figure 34.** Observations Key Dialog

This dialog allows you to separate the METARS into three groups according to the conditions in the reports (defaults are IFR, MVFR, and VFR flight rules) and to assign each group a display color. Thus the color of each report indicates the conditions at the reporting station.

There are three options for setting the conditions:

1. **Flight Conditions:** Set the flight conditions for a group by selecting them from the drop-down list box displayed when the Flight Conditions checkbox is checked. When the **Flight Conditions** option is selected for a station, the **Ceiling** and **Visibility** options are not available.

2. **Ceiling:** Select the applicable ceiling limitations for the group from the drop-down list boxes visible when the Ceiling checkbox is checked. This option may be used in conjunction with the **Visibility** option, but is not available when the **Flight Conditions** checkbox is checked.
3. **Visibility:** Select the applicable visibility limitations for the group by selecting them from the drop-down lists visible when the Visibility checkbox is checked. This option may be used in conjunction with the **Ceiling** option, but is not available when the **Flight Conditions** checkbox is checked.

You may use different criteria types for each group. For example, Group 1 might be IFR flight conditions while Groups 2 and 3 have visibility and/or ceiling limits set.

To change the color assigned to a group, click on the **CHANGE** button next to the color swatch. A color selector box will appear, allowing you to select the color desired from a set of patches or, if desired, by creating a custom color using sliders for red, green, and blue components.

When you are finished with the configuration, click the **OK** button to return to the map display. The settings you have chosen will remain in effect until changed.

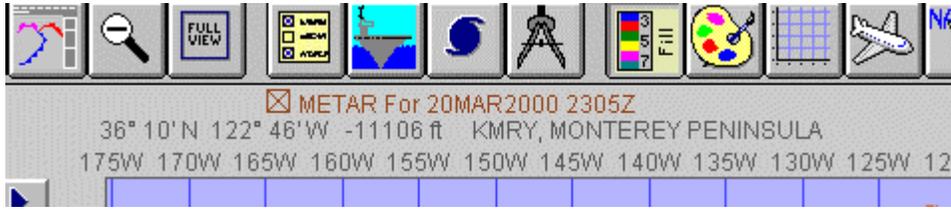
## SETTING MAXIMUM REPORT AGE FOR METAR DISPLAY

You can also specify the maximum age of the reports to be displayed. Open the **Configure** menu from the menu bar, then select **Observations, Set Age Restriction**. The Set Observation Age Restriction dialog is displayed. You can set the maximum age for METARS and SPECIs to be displayed by pulling down the drop-down list next to Metars and selecting the desired maximum age. Click on the **OK** button to make the change, which will be displayed immediately on the map.

## DISPLAYING METAR REPORTS ON THE MAP

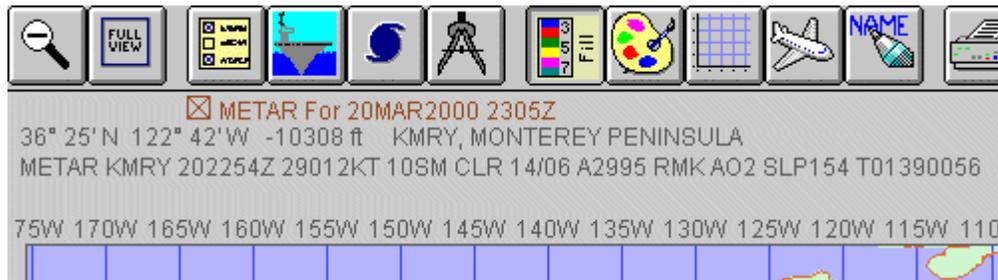
To display METAR reports in JMV, select **METARS** in the Choose Products dialog for the area. When you click **OK**, the METARs will be displayed on the map according to the configuration settings.

When METAR and SPECI reports are displayed, moving the cursor over one of the reports shows the station identification in the cursor readout area (see the figure below).



**Figure 35.** Cursor Readout for a METAR Report

If you select **Expanded Browse** under the **Display** menu, you will turn on the display of full METAR and SPECI reports as the cursor moves over the display. A typical example is shown below.



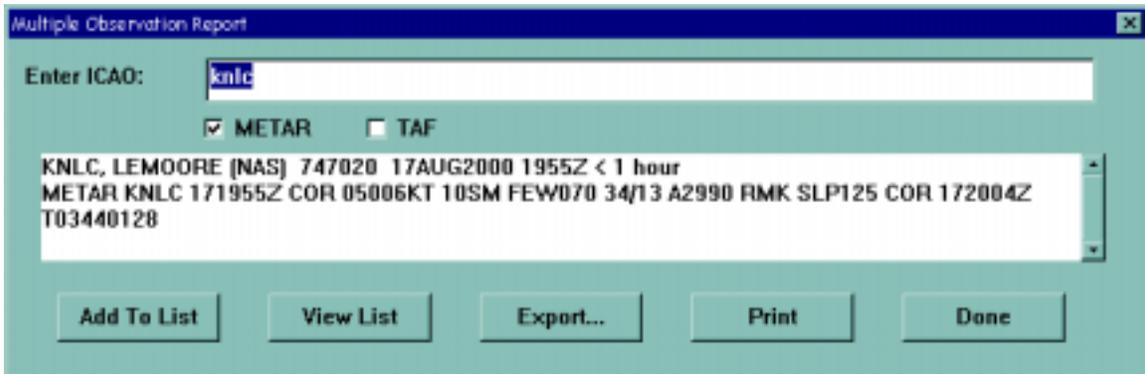
**Figure 36.** Cursor Readout (Expanded Browse) for a METAR Report

**NOTE:** The **Display** menu settings allow you to view METAR and SPECI reports as station models. If you choose this option, two things happen:

1. TAF forecasts and Upper Air Reports displayed for those stations with METAR reports will be turned off in the display (they'll still be there, but will not be displayed). This is to provide room for the station plots.
2. The station plots will be thinned so that they don't overlap in areas with a lot of reports. You can see more stations in an area by zooming in on it.

## DISPLAYING METAR STATION REPORTS

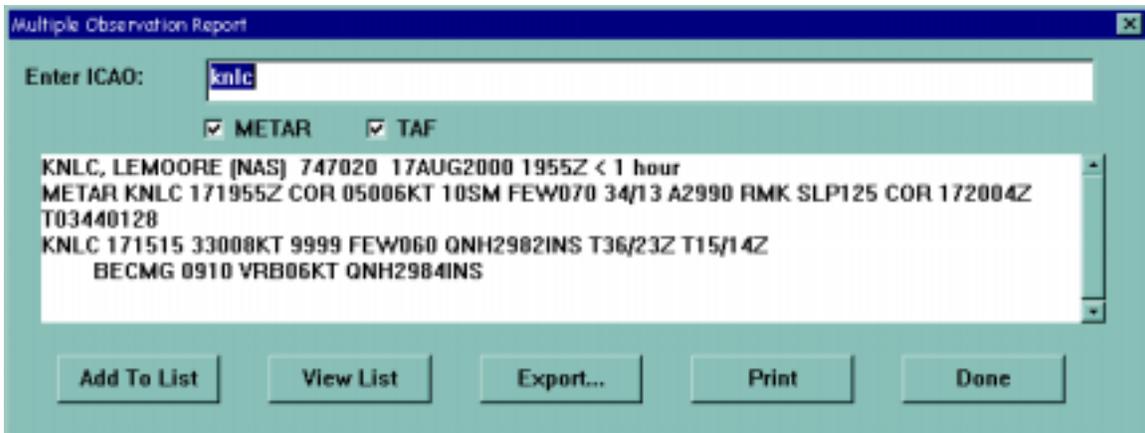
To display an individual station report, find the station on the map (remember that the cursor readout shows the station name) and double-click on its location. This will open a Station Report display like that shown below. (This image has been altered slightly to show only the pertinent parts).



**Figure 37.** METAR Observation Report

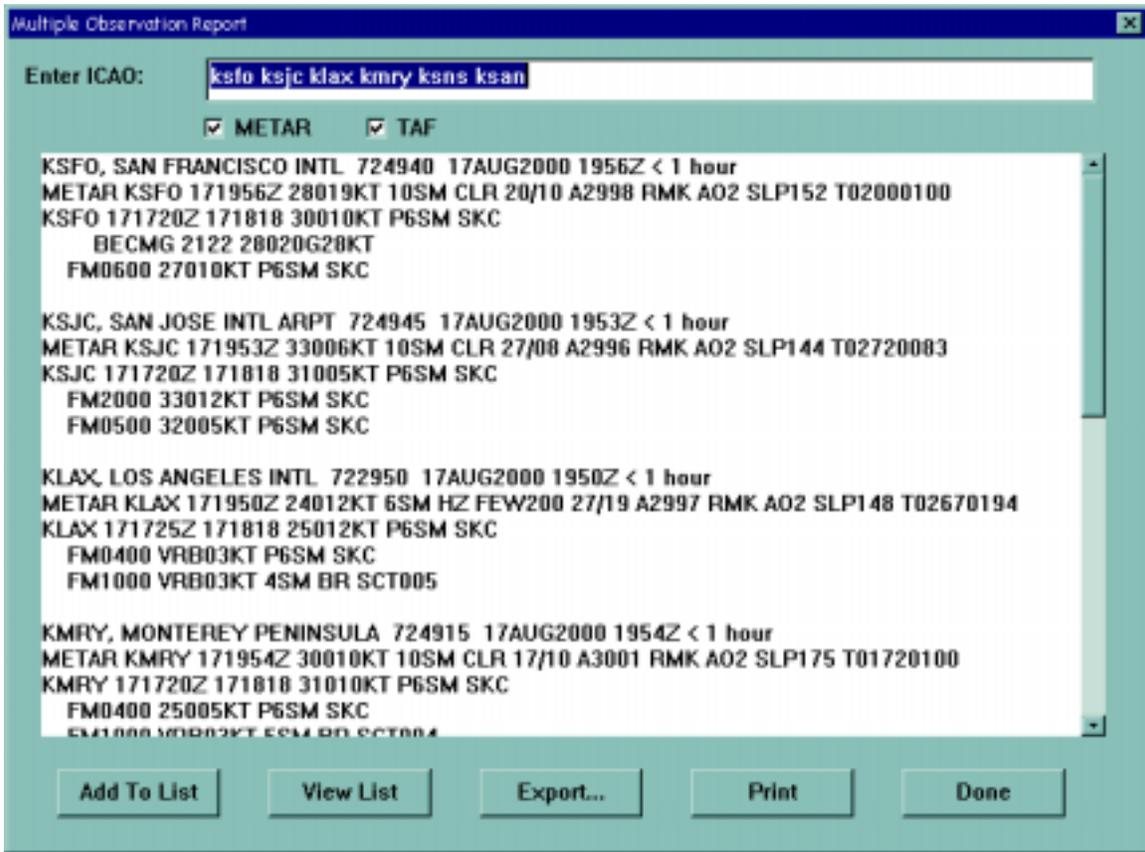
This shows the station identification and the actual report. The **Add to List** button gives you the option of adding the report to a custom "watch" list of stations you frequently monitor. The **View List** button lets you view your custom station list. The **Export...** button allows you to export the reports displayed in the viewer as a text file. The **Print** button prints the contents of the display box to the default printer. The **Done** button closes the viewer window.

The **TAF** checkbox allows you to switch on the display of Terminal Aerodrome Forecasts (TAFs) for the selected station(s). An example showing both METAR and TAF reports for a single station is shown in Figure 38.



**Figure 38.** Observation Report Dialog Showing METAR and TAF Reports for a Single Station

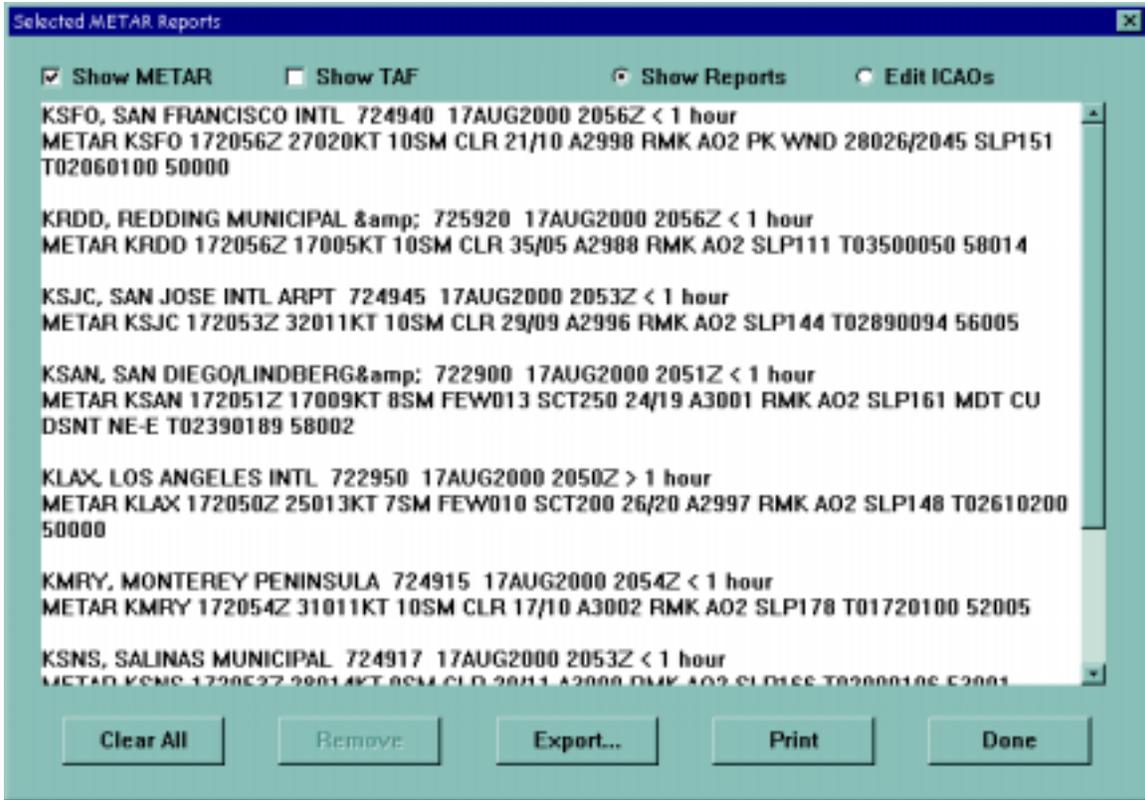
The **Enter ICAO** entry box allows you to go directly to the report for another station if you know its ICAO call sign. You can also type in multiple station call signs separated by spaces, and the reports for all of the stations you enter will be displayed, as shown in the figure below.



**Figure 39.** Station Report Display Showing METARS and TAFS for Multiple Stations

## THE METAR STATION LIST

As discussed above, you can create a custom list of the stations you monitor frequently. This list is accessible either through the Station Report dialog or through the **Display** menu on the JMV menu bar (Select **Display**, **METAR**, **View METAR List**). The list shows the latest reports from all stations you have added to it, as shown below.



**Figure 40.** The METAR Station List

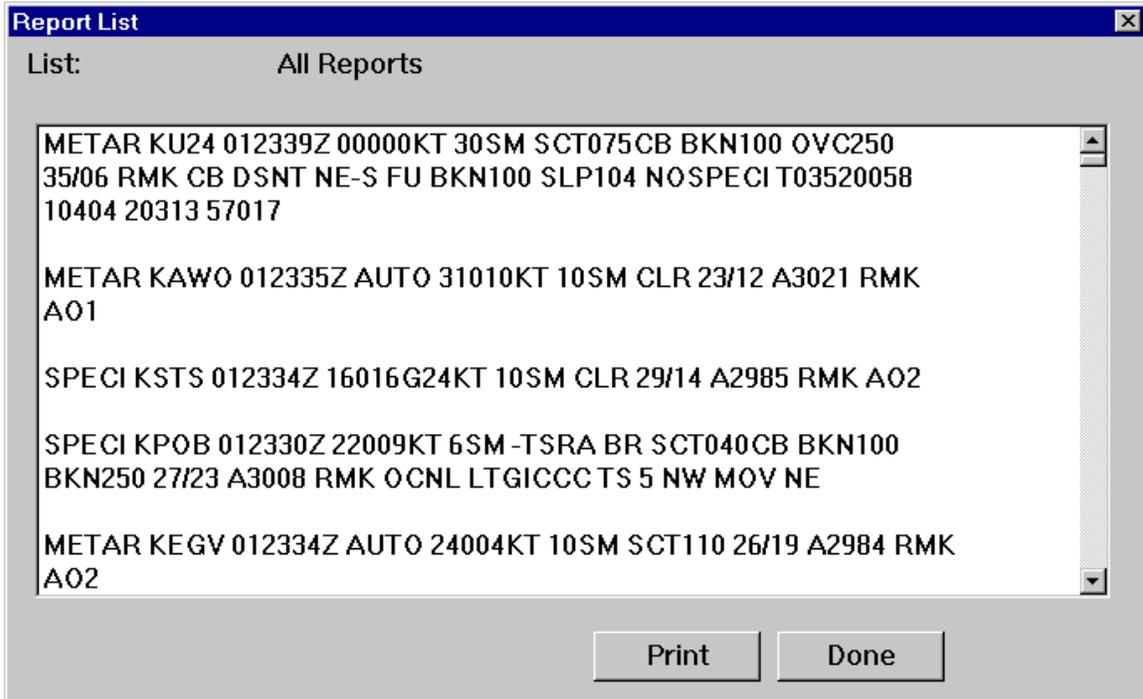
If you highlight a single station's report, the **Remove** button is enabled, allowing you to remove that station from the list. Once the station is removed, its reports will no longer appear on the list for future viewings. The **Clear All** button removes all stations from the list. The **Export...** button allows you to export all of the reports in the list to a text file. The **Print** button prints the list to the default printer. The **Done** button closes the viewer.

The two check boxes at the top select the reports to be displayed. You can display METAR reports, TAF forecasts, or both. The **Show Reports** radio button causes the full reports for all selected stations to be displayed. The **Edit ICAOs** radio button changes the display to only show the list of station identifiers that

are included in the list. You can edit this list right in the display in order to change the stations that will be displayed.

## LISTING ALL METAR REPORTS

You can also display all METAR reports received for the displayed area by opening the **Display** menu from the menu bar and selecting **METAR** and then **View All Reports**. The Display All Reports dialog will then be shown as below.



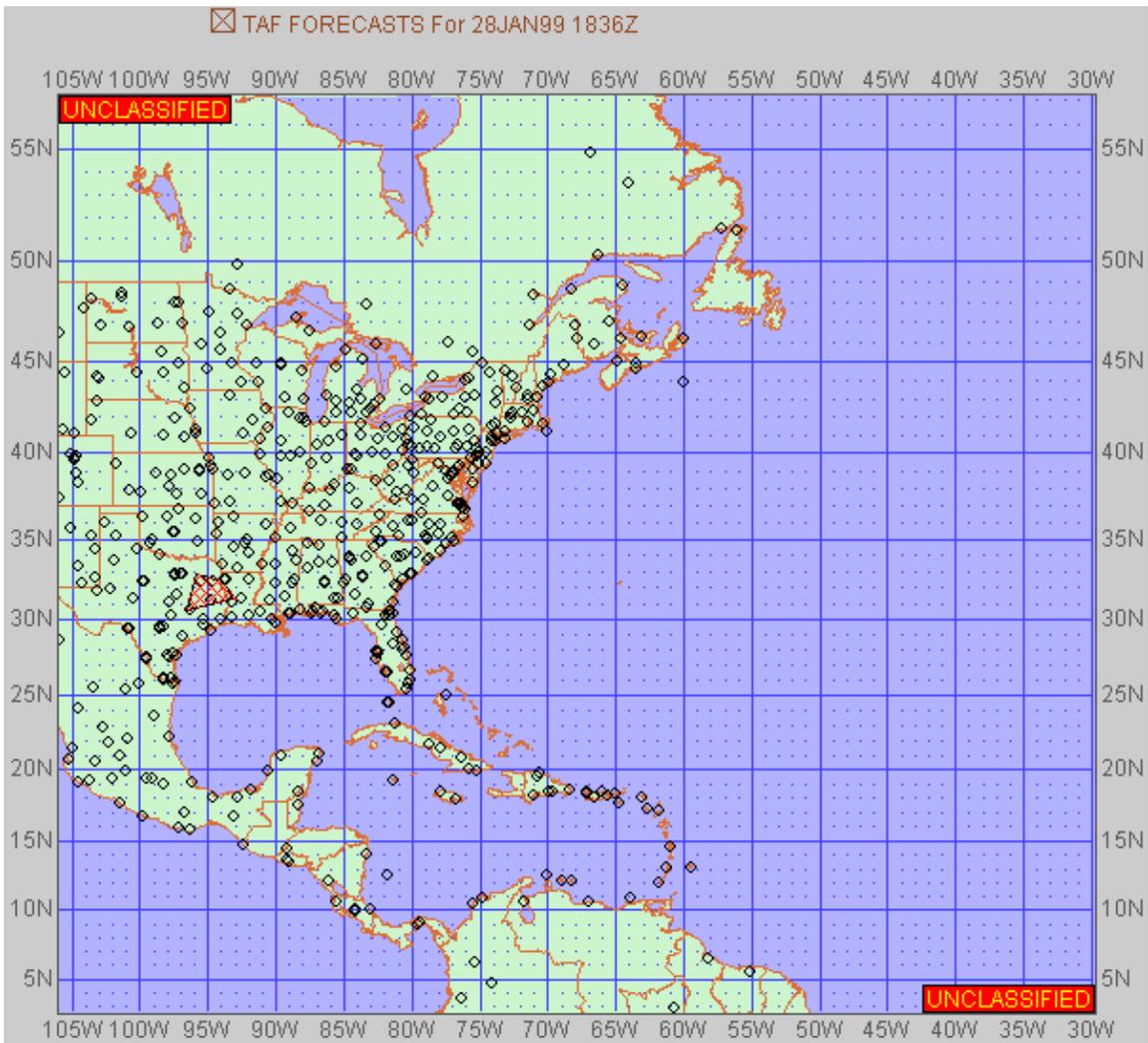
**Figure 41.** Viewing All METARS

This dialog gives you options to **Print** the reports or exit using the **Done** button.

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# WORKING WITH TAF FORECASTS

Terminal Aerodrome Forecast (TAF) reports are used to issue aviation station forecasts. JMV displays the available TAF reports as small open circles on the map display. The figure below shows a portion of a map display with TAF locations plotted.



**Figure 42.** Map Display Showing TAF Forecast Locations

Note that when the pointer is over a TAF location, the cursor readout shows the name of the station, as well as the latitude and longitude.

## DOWNLOADING TAF FORECASTS

If you are using METCAST Client, you can download all of the TAF forecasts reports for an area by going to the Choose Products screen and selecting **TAF Forecasts**, along with any other desired products. Make sure that the area is scheduled, and you will receive TAF updates at the intervals specified in the request configuration for observations. If you're downloading from the web, ensure that the thumbnail for the area includes TAFs.

## DISPLAYING TAF FORECASTS ON THE MAP

To display TAF Forecasts in JMV, select **TAF Forecasts** in the Choose Products dialog for the area. When you click **OK**, the TAFs will be displayed on the map.

When TAF forecasts are displayed, moving the cursor over one of the reports shows the station identification in the cursor readout area (see the figure below).



**Figure 43.** Cursor Readout for a TAF Forecast

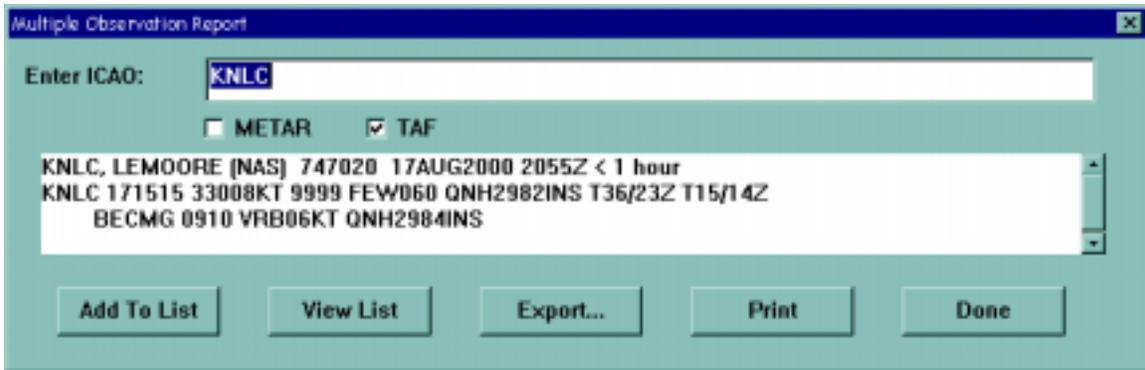
If you select **Expanded Browse** under the **Display** menu, you will turn on the display of full TAF forecasts as the cursor moves over the display. A typical example is shown below.



**Figure 44.** Cursor Readout (Expanded Browse) for a TAF Forecast

## DISPLAYING TAF STATION FORECASTS

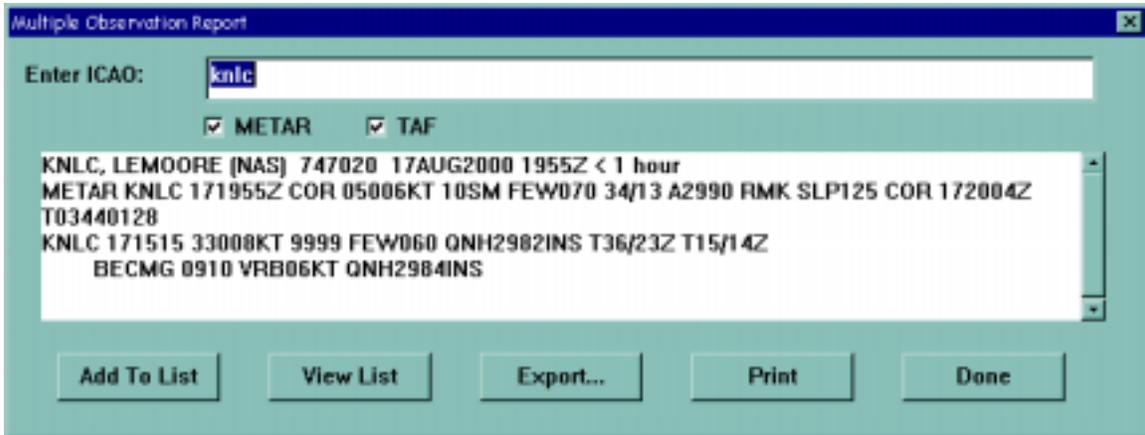
To display an individual station forecast, find the station on the map (remember that the cursor readout shows the station name) and double-click on its location. This will open a single-station display like that shown below.



**Figure 45.** TAF Report for a Single Station

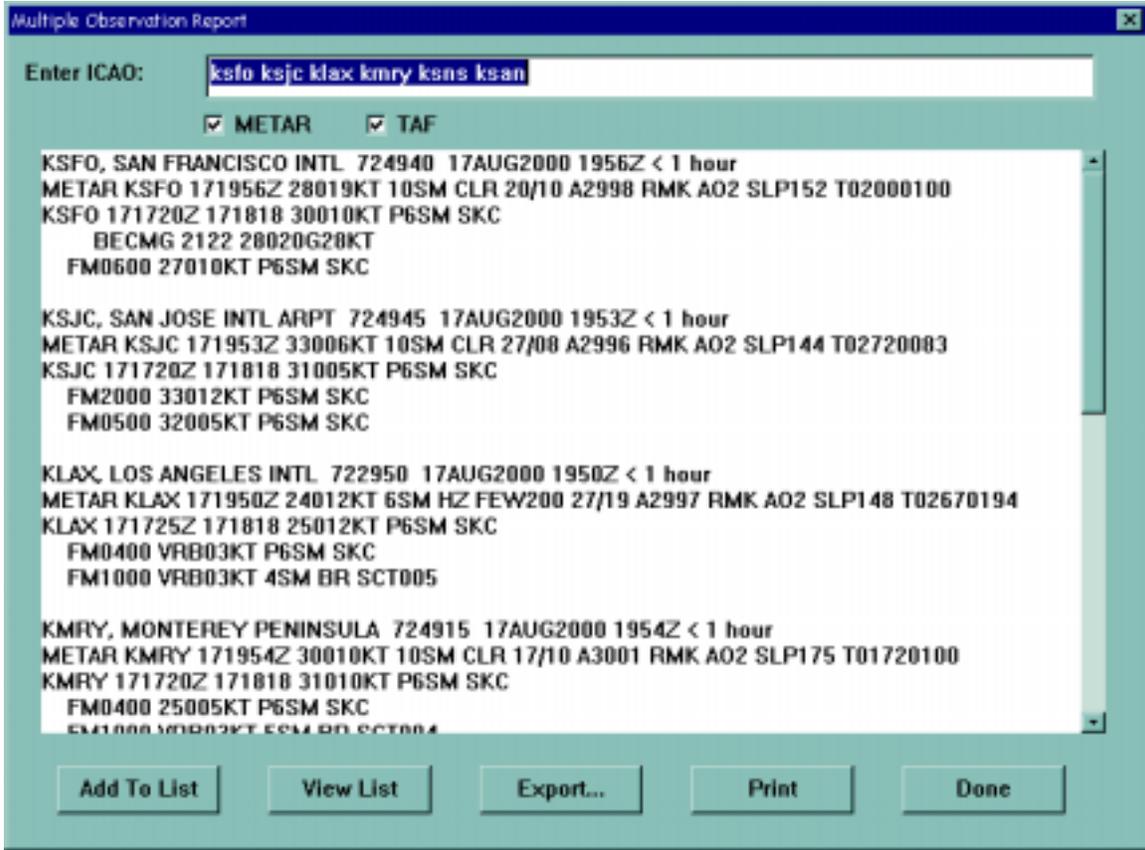
This shows the station identification and the actual report. The **Add to List** button gives you the option of adding the report to a custom "watch" list of stations you frequently monitor. The **View List** button lets you view your custom station list. The **Export...** button allows you to export the reports displayed in the viewer as a text file. The **Print** button prints the contents of the display box to the default printer. The **Done** button closes the viewer window.

The **METAR** checkbox allows you to switch on the display of METAR reports for the selected station(s). An example showing both METAR and TAF reports for a single station is shown in the figure below.



**Figure 46.** Observation Report Dialog Showing METAR and TAF Reports for a Single Station

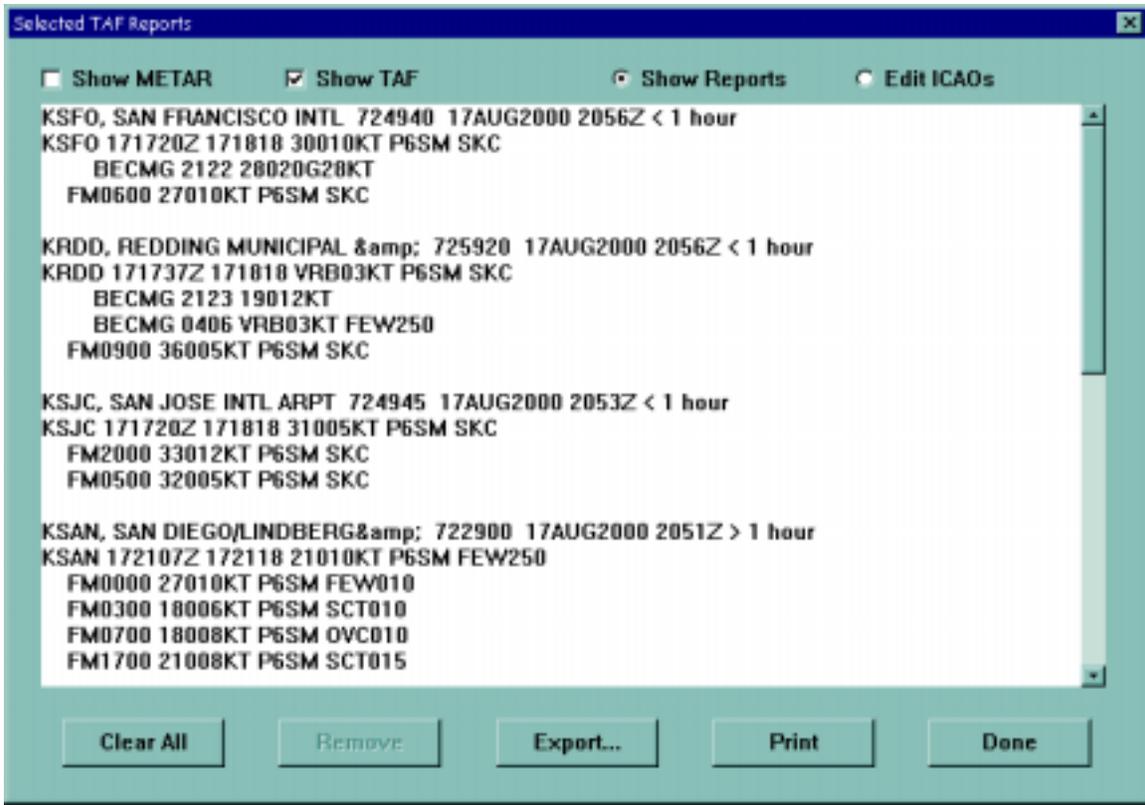
The **Enter ICAO** entry box allows you to go directly to the report for another station if you know its ICAO call sign. You can also type in multiple station call signs separated by spaces, and the reports for all of the stations you enter will be displayed, as shown in the figure below.



**Figure 47.** Station Report Display Showing METARS and TAFS for Multiple Stations

## THE TAF STATION LIST

As discussed above, you can create a custom list of the stations you monitor frequently. This list is accessible either through the Station Report dialog or through the **Display** menu on the JMV menu bar (Select **Display**, **TAF**, **View TAF List**). The list shows the latest reports from all stations you have added to it, as shown below.



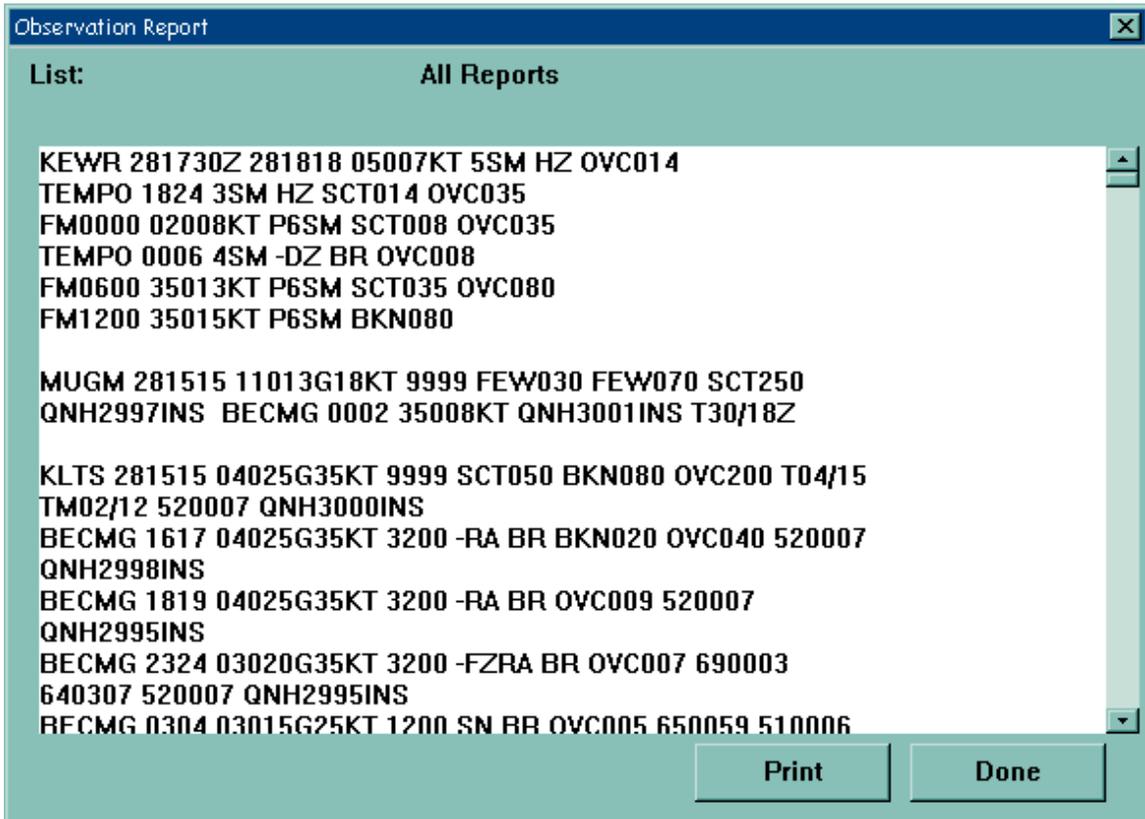
**Figure 48.** TAF Station List

If you highlight a single station's report, the **Remove** button is enabled, allowing you to remove that station from the list. Once the station is removed, its reports will no longer appear on the list for future viewings. The **Clear All** button removes all stations from the list. The **Export...** button allows you to export all of the reports in the list to a text file. The **Print** button prints the list to the default printer. The **Done** button closes the viewer.

The two check boxes at the top select the reports to be displayed. You can display METAR reports, TAF forecasts, or both. The **Show Reports** radio button causes the full reports for all selected stations to be displayed. The **Edit ICAOs** radio button changes the display to only show the list of station identifiers that are included in the list. You can edit this list right in the display in order to change the stations that will be displayed.

## LISTING ALL TAF FORECASTS

You can also display all TAF forecasts received for the displayed area by opening the **Display** menu from the menu bar and selecting **TAF** and then **View All Reports**. The Display All Reports dialog will then be shown as below.



**Figure 49.** Viewing All TAF Forecasts

This dialog gives you options to **Print** the reports or exit using the **Done** button.

# WORKING WITH TROPICAL CYCLONE WARNINGS

The Tropical Cyclones portion of JMV 3.5 displays current tropical cyclone warnings (generated by the Automated Tropical Cyclone Forecasting System (ATCF)), associated danger areas, and forecast positions. This section covers how to display and loop a tropical warning and gives a thorough description of a tropical warning on JMV 3.5.

## DISPLAYING A TROPICAL CYCLONE WARNING

- To update the most recent tropical warnings:

If you are using METCAST Client, tropical storm warnings are automatically loaded via a channel each time you start METCAST Client.

Otherwise, go to:

[http://www.fnmoc.navy.mil/cgi-bin/trop\\_index.pl](http://www.fnmoc.navy.mil/cgi-bin/trop_index.pl)

and follow the instructions on the screen for downloading the desired tropical warnings.

- Open an area that covers the location of the tropical warning(s) to be displayed.
- In the **Choose Products** dialog box, select products you wish to see overlaid with the tropical warning. To view only the tropical warning, select **None**. (Note: If the tropical warning is part of the product list of thumbnail you are downloading, then you must select the tropical warning from the **Choose Products** dialog box.)
- Press **OK**.
- Click the **Tropical Storms** icon on the Tool Bar. A dialog showing a list of warnings available on the system is displayed.
- Select (or deselect) the warning(s) you wish to view.

- Check the settings on the bottom of the window (i.e. Show Forecast, Show Labels, etc.) to ensure the desired options are selected.
- Click **OK**. The map display will now show the selected warning(s).

## DESCRIPTION OF WARNING GRAPHICS

Dashed Red Lines	35 knot danger area
Green Circle	35 knot wind radii
Blue Circle	50 knot wind radii
+12,+24, ...	Forecast times
mmtt (i.e., 0400)	Date and time of warning
Light Gray Tropical Cyclone Symbol	Past Position
Darker Tropical Cyclone Symbol	Current and forecasted positions

# WORKING WITH SHIP ROUTES

JMV 3.5 contains advanced routines for formulating and comparing ship routes against prevailing and future weather conditions. A new, powerful, and fast-looping interface is combined with an ability to modify routes while viewing forecast weather on the screen.



The Ship Route Program is intended for planning purposes only.

## CREATING A TRACK

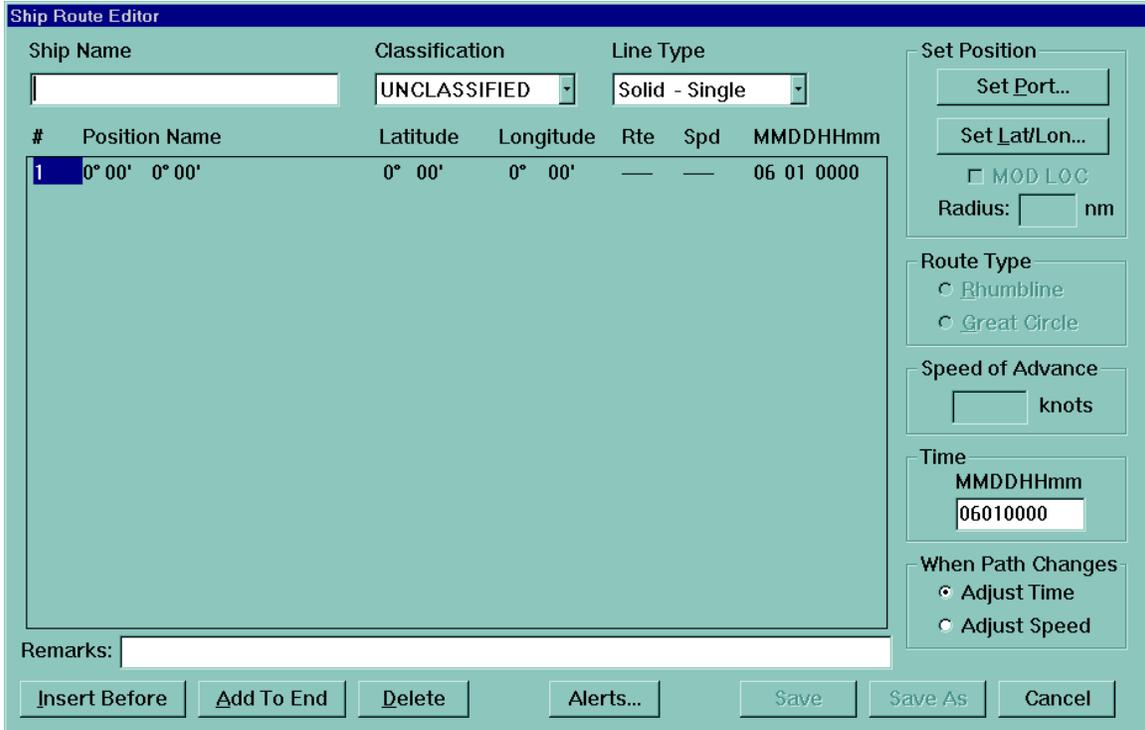


- Click on the **Ship Tracks** button  on the Tool Bar or select **Display, Ship Routes** from the menu bar.
- In the **Ship Tracks** dialog box, press the **New...** button.



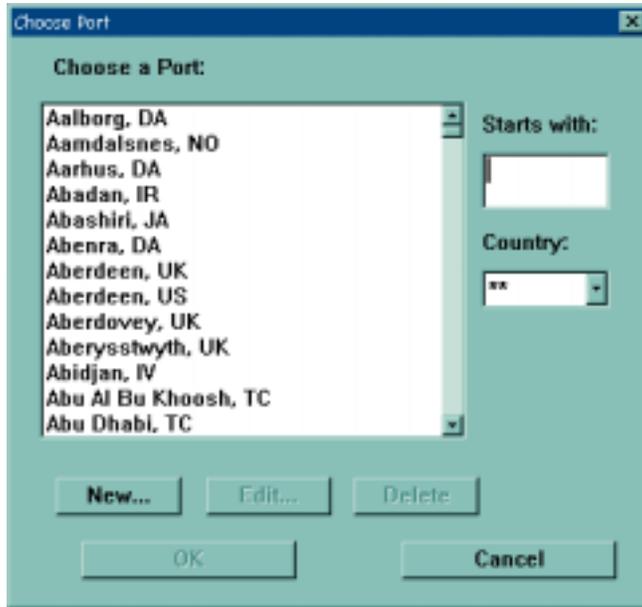
**Figure 50.** Tracks Dialog for Ship Routes

- In the **Ship Route Editor** dialog box that appears, enter the Ship name and select the classification and line type.



**Figure 51.** Ship Route Editor Dialog

- Plot the starting position. This can be done in one of three ways:
  1. Click on the **Set Port** button to display the Choose Port dialog.
    - a. Choose a port from the list.



**Figure 52.** Choose Port Dialog

- b. If the port desired is not listed, click on **New** to open the New Port Entry dialog. Input the name of the port, latitude and longitude of the port and select **OK**. This port is added to the port list.

**Figure 53.** New Port Entry Dialog

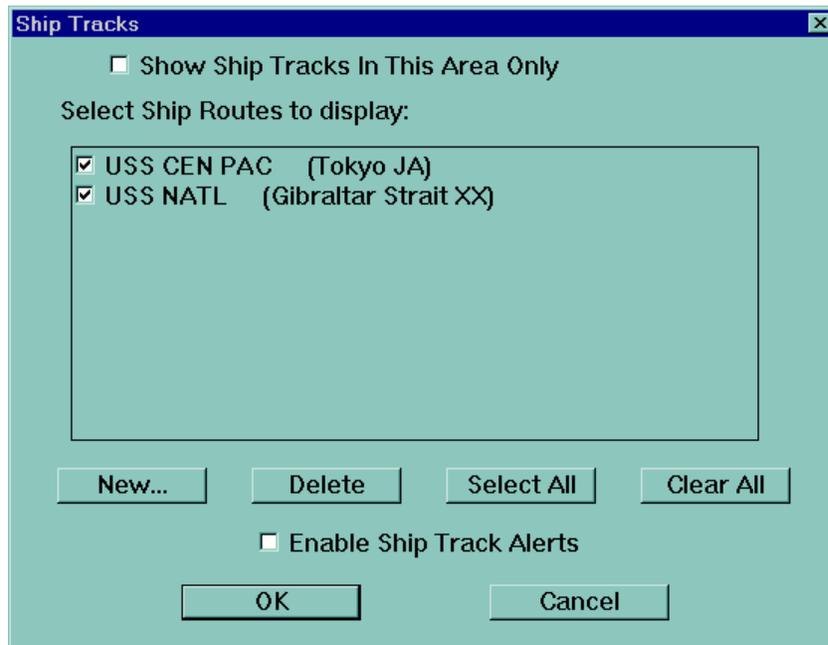
2. Select the **Set Lat/Lon** button. This opens a Latitude Longitude dialog. Input the latitude and longitude of the starting point and click the **OK** button.
3. Insert a track point by highlighting the latitude or longitude portion of the point inside the track point list box and typing in the coordinates for the point.
  - (Optional) Change the route type by choosing the **Rhumbline** or **Great Circle** radio button.
  - (Optional) Modify the speed of the vessel in the **Speed of Advance** text box or by highlighting the number under **Spd** in the track point list box and entering the desired speed.
  - Modify the start time of the first ship track point. Click in **MMDDHHmm** in the **Time** box and enter desired date and time. **MMDDHHmm** is two-digit month, day of month, hour on 24-hour clock, and minutes. The hour and minutes default to 0000 of the current date.
  - Select the desired method of dead reckoning by clicking on either the Adjust Time, or Adjust Speed radio buttons in the When Path Changes box. On

subsequent points of the track, the date and times are computed automatically based upon the start time and track speed.

- To add next point of the track, click **Add to End**. Repeat the above steps to modify.
- If a point of the track is missed, **Insert Before** button allows you to insert a point before the highlighted point.
- By using the **When Path Changes** radio buttons near the bottom of the interface, you also have the option of keeping the speed constant and varying the time, or keeping the time constant and varying the speed.
- To remove a point, highlight a point of a track and click on **Delete**.
- Click **Save As**. The track is saved under the name entered in the **Name** text box.

## DISPLAYING A SHIP TRACK

- Press the **Ship Tracks** button on the Tool Bar, or select **Display** from the Menu Bar and **Ship Routes...** from the Display menu. The Ship Tracks dialog will then be displayed to let you choose one or more tracks to display.



**Figure 54.** Tracks Dialog for Ship Routes

- Select the desired track(s) by clicking in the checkbox next to the name of each track to be displayed.
- You have the option of selecting all tracks or clearing track selections. Keep in mind that these tracks only apply to the active area.
- Select the **Enable Ship Track Alerts** checkbox, to display Ship Track Alerts. Ship Track alerts are configured via the **Alerts...** button in the **Ship Route Editor** dialog box, and may be based upon either high wind or high sea criteria.
- Click the **OK** button to display the track. If the selected track(s) falls within the boundaries of the current chart, the track is displayed. The highest classification of any track displayed is used to label the chart. Classification labels display in the upper left corner and the lower right corner. The current ship position (interpolated to the time of the background data) is displayed as a circle with a dot in the middle.

## EDITING A SHIP ROUTE

### Method 1:

- Double click on any portion of the track in the map display to open the Ship Route Editor dialog box, or select **Edit Ship Route** from the pull down **Edit** menu.
- In the **Ship Route Editor** dialog box, edit a ship route in the same manner used to create the route.

### Method 2:

- Open the Ship Route Editor dialog box, by either double clicking on any portion of the track in the map display, or by selecting **Edit Ship Route** from the pull down **Edit** menu.
- Once the **Ship Route Editor** dialog box opens, click on the background **Display** window or drag the **Ship Route Editor** dialog box to bottom of screen.
- Notice that the viewed ship route in the **Display** dialog box is now blue instead of black. The blue color indicates that a track can be graphically edited. Click on a specific point of the track and drag to desired location. The latitude, longitude and date/time automatically adjust in the **Ship Route Editor** dialog box.

- Click **Save** to overwrite existing ship route.
- (Optional) Click **Save As** to create a new ship route with a new name.

## LOOPING A SHIP ROUTE

You can animate a ship track so that the ship position shown changes as the time of the background data changes.

- Open a chart with one or more products that can be looped.
- Select tracks to display using the **Display, Ship Routes** option on the menu bar or by clicking on the **Ship Tracks** button in the toolbar.
- Click **Play**.
- (Optional) In the **Loop Setup** dialog box that appears, specify **Start Hour**, **Stop Hour**, and **Step Hours**. Step Hours is the time increment between each frame.
- Press **OK**.
- (Optional) Select **Loop, Interval** on the **Display** menu to modify the interval of time elapsed between frames. The program interpolates to determine the vessel's position with respect to the changes in the background data.

## WORKING WITH OPARS ROUTES

Flight plans created with the Optimum Path Aircraft Routing System (OPARS) software can be imported into JMV for viewing with meteorological data. Before importing a flight plan, the location of the flight plan data must be specified under **Configure, OPARS Flight Plan**. See the section on Setting OPARS Flight Plan Display Options for more details.

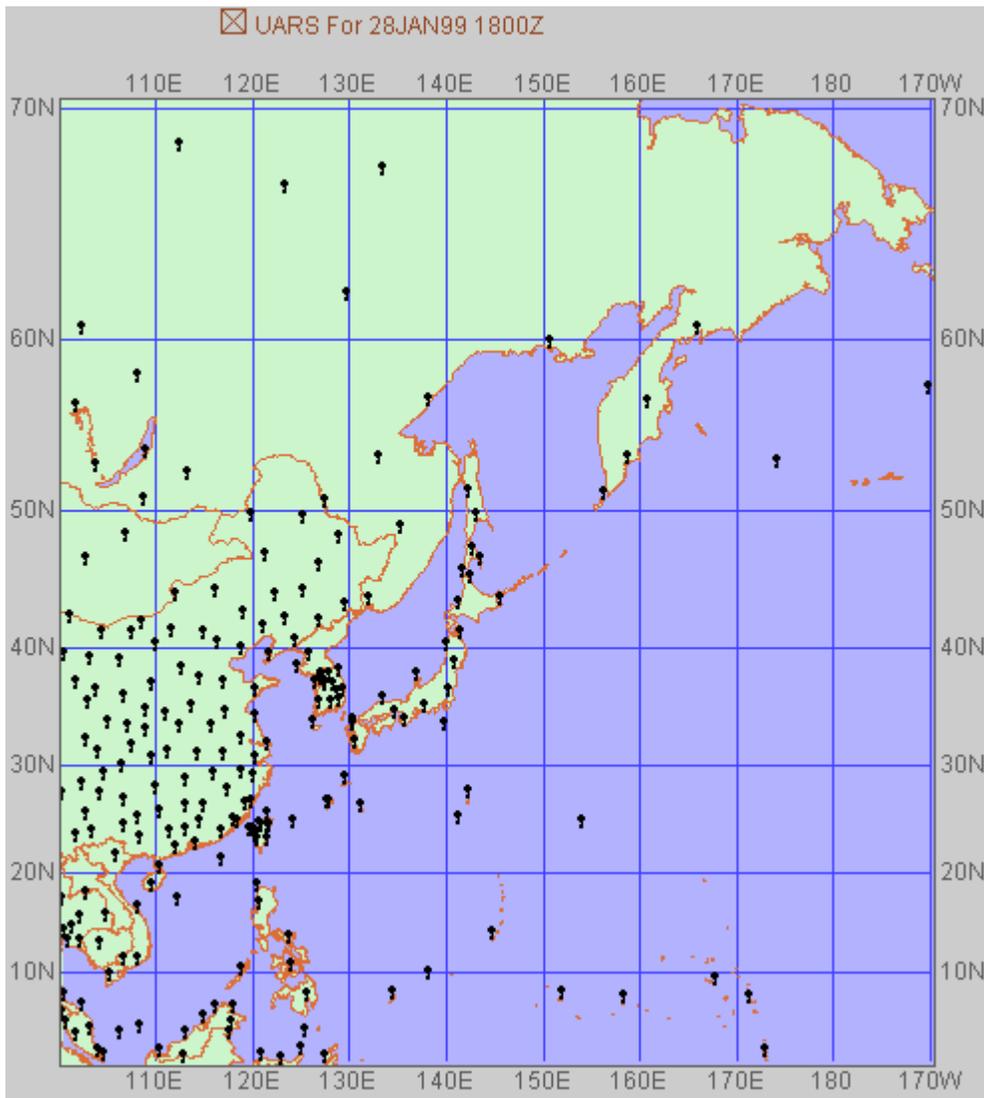
### DISPLAYING OPARS ROUTES

- Display an area encompassing the OPARS route.
- On the menu bar, click **Display, OPARS Route**, or click on the **OPARS Track** icon in the tool bar .
- Choose the flight plan to view by checking the checkbox in front of the route.
- (Optional) Check **Show Labels** to view POD, POA, TOC, SDP and other various times in Greenwich Mean Time along the route.
- (Optional) Check **Show Winds** to view various wind barbs along the route. (**Show Labels** must be checked along with **Show Winds** to view wind barbs.)

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# WORKING WITH UPPER AIR REPORTS

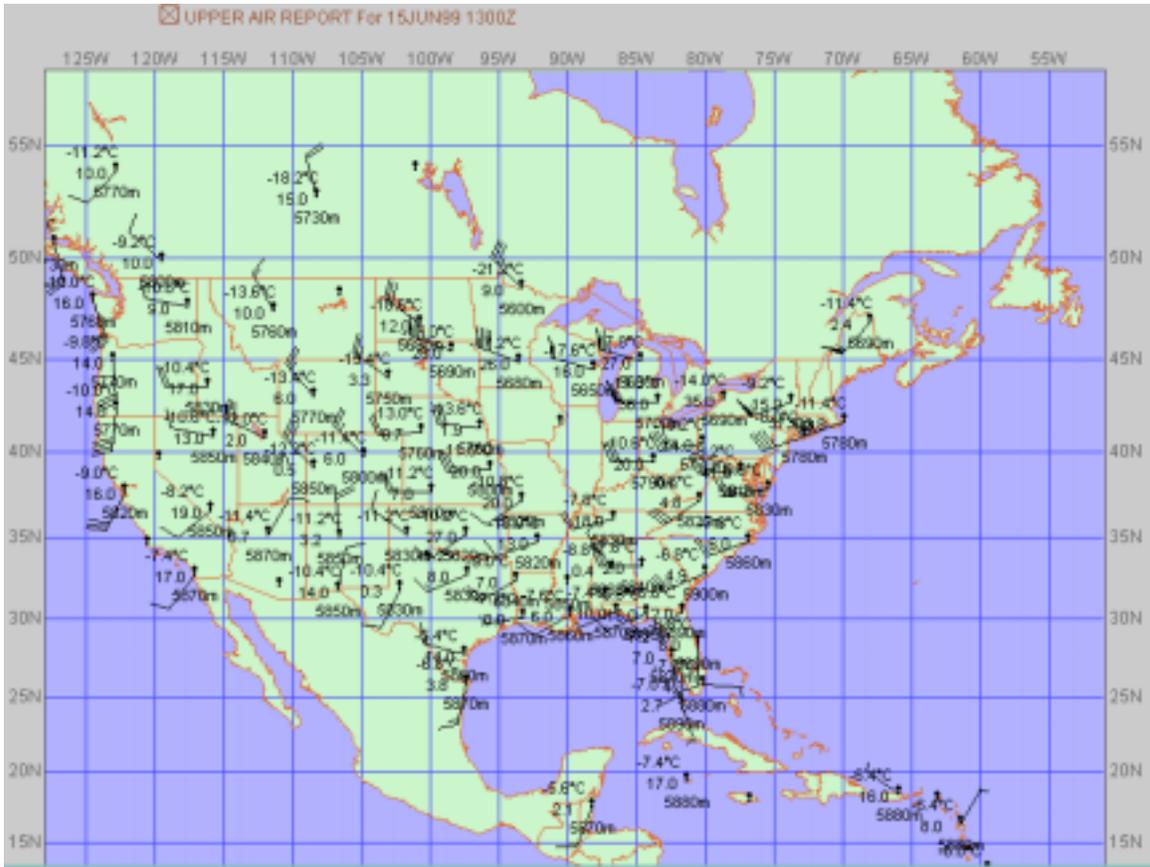
Upper Air reports (rawinsonde and Pilot balloon (PIBAL) reports) report conditions in the upper atmosphere. JMV can display the locations of upper air reports on the map display as shown below and, when an individual report is selected, can analyze the report and display it on a skew-T, Log P diagram. On the map display, the locations upper air reports (UARs) are shown as small "balloon" symbols.



**Figure 55.** Map Display Showing Upper Air Report Locations

Note that when the pointer is over a UAR location, the cursor readout shows the name of the station, as well as the latitude and longitude.

Using an option in the **Display** menu, you can change the Upper Air Reports display so that it shows station models for a selected level rather than the “balloon” symbols. Click on **Display** in the menu bar, click on **UAR** in the Display menu, and a fly-out menu will present you with a list of levels. Click on any level and station models for that level will be displayed. The figure below shows upper air reports displayed as station models.



**Figure 56.** Map Display Showing Upper Air Report Station Models

## DOWNLOADING UPPER AIR REPORTS

If you are using METCAST Client, you can download all of the Upper Air reports for an area by going to the Choose Products screen and selecting **Rawinsondes and PIBALS**, along with any other desired products. Make sure that the area is scheduled, and you will receive UAR updates at the intervals

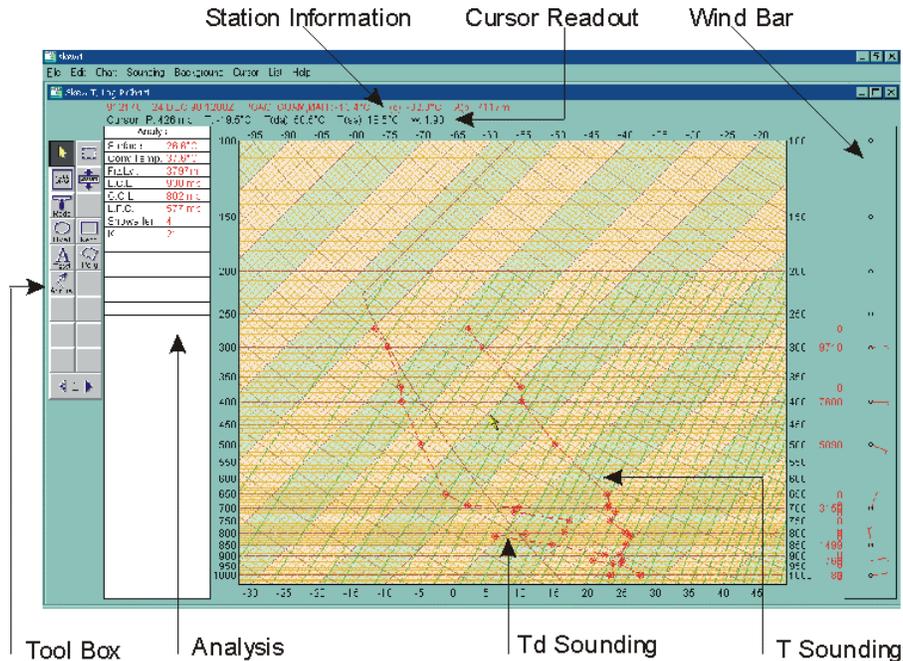
specified in the request configuration for observations. If you're downloading from the web, ensure that the thumbnail for the area includes UARs.

## DISPLAYING UPPER AIR REPORTS ON THE MAP

To display upper air reports in JMV, select **UARS** in the Choose Products dialog for the area. When you click **OK**, the UARs will be displayed on the map.

## DISPLAYING INDIVIDUAL UPPER AIR STATION REPORTS

To display an individual station report, find the station on the map (remember that the cursor readout shows the station name) and double-click on its location. This will open a single-station display in a Skew-T, Log P diagram (commonly known as a Skew-T diagram). The features of the Skew-T display window are shown below.



**Figure 57.** Features of the Skew-T, Log P Plot Window

The **plot section** (the actual Skew-T chart) shows the following features:

- Isobars are represented as horizontal lines spaced logarithmically (hence the Log P part of the chart name). Pressure labels are printed at both ends of each isobar.
- Isotherms are represented as straight lines sloping from the lower left to the upper right and labeled at 5 degree C intervals. Alternating color bands delimit the 10 degree C blocks.
- Dry adiabats, representing the rate of temperature change of a parcel of dry air rising or descending adiabatically, are shown as slightly curved solid lines sloping from the lower right to the upper left.
- Saturation adiabats, which represent the rate of temperature change in a parcel of saturated air rising pseudo-adiabatically, are shown as slightly curved solid green lines sloping from the lower right to the upper left.
- The ICAO Standard Atmosphere is shown as a brown line sloping from the lower right center to the upper left center, then bending back to the top center of the plot. This represents the temperature lapse rate in the ICAO Standard Atmosphere.
- Two temperature plots are displayed for the sounding. The first, generally the right-hand one, is the plot of air temperature versus pressure in the sounding. The second, generally on the left, is the plot of dew point temperature versus pressure in the sounding.

The **Analysis section** of the display contains information derived from the sounding. This includes:

- Surface (Surface Temperature) is the temperature of the air at the surface.
- Conv. Temp (Convective temperature) is the temperature of the dry adiabat passing through the intersection of the temperature sounding and the saturation mixing ratio line corresponding to the average mixing ratio of the surface layer. It approximates the lowest temperature to which surface air must be heated before a parcel can rise adiabatically to the Convective Condensation Level (CCL) without ever being colder than the environment. This parameter is useful in forecasting the onset of convection.
- Frz. Lvl. (Freezing level) is the height (in meters, by default) above the surface at which the temperature sounding first crosses the 0 degree C isotherm.
- LCL (Lifting Condensation Level) is the height at which a parcel of air becomes saturated when it is lifted dry-adiabatically. Graphically, it is the

intersection of the saturation mixing ratio line through the surface dew point temperature and the dry adiabat through the surface temperature.

- CCL (Convective Condensation Level) is the height to which a parcel of air, if heated sufficiently from below, will rise adiabatically until it is just saturated (condensation starts). In practical terms, this is the height of the bases of cumuliform clouds that are, or would be produced by thermal convection solely from surface heating. Graphically, this is the intersection of the temperature sounding and the saturation mixing ratio line through the surface dew-point temperature.
- LFC (Level of Free Convection) is the height at which a parcel of air lifted dry-adiabatically until saturated and saturation-adiabatically thereafter would first become warmer (less dense) than the surrounding air. The parcel will then continue to rise freely above this level until it becomes colder (more dense) than the surrounding air.
- Showalter (Showalter Index) is a stability index derived from the 850 millibar and 500 millibar temperatures. It is used for forecasting thunderstorm activity. The indications are as follows:
  - ◆ Showalter Index less than or equal to +3: Showers are probable and some thunderstorms may be expected in the area.
  - ◆ +1 to -2: Rapidly increasing chance of thunderstorms.
  - ◆ -3 or less: Severe thunderstorms are likely.
  - ◆ Below -6: Forecaster should consider the possibility of tornado occurrence.

The forecasting value of all index categories must, in each case, be evaluated in the light of other synoptic conditions.

- K (K-Index) is a measure of thunderstorm potential based on the vertical temperature lapse rate, moisture content of the lower atmosphere, and vertical extent of the moist layer. The K index is computed as follows:

$K = (850 \text{ mb temperature} - 500 \text{ mb temperature} + 850 \text{ mb dew point} - 700 \text{ mb dew point depression})$

Although K Index values can be correlated to a probability of thunderstorm occurrence, these values will vary with the seasons, locations, and synoptic settings. The values listed on the next page work best for the central United States in summer:

<b>K Index</b>	<b>% Probability of Thunderstorms</b>
< 15	Zero
15 to 20	20%
21 to 25	20-40%
26 to 30	40-60%
31 to 35	60-80%
36 to 40	80-90%
> 40	Near 100%

- **LI** (Lifted Index) is a stability index. For this display, LI is computed by taking the temperature (+2 degrees Celsius) of a parcel 100 millibars above the surface up to the LCL, determined using an average mixing ratio. The parcel is cooled at the dry adiabatic lapse rate until it reaches the LCL, from which the parcel follows a saturation adiabat. LI is the measured temperature of the sounding at 500 millibars minus the derived parcel temperature at 500 millibars. The higher the parcel temperature compared to the measured profile, the lower the LI, which is usually negative when thunderstorms are likely.
- **Mx Wnd** (Maximum Wind) is the velocity, in knots, of the maximum wind recorded in an upper air report. When the mouse cursor is placed over the maximum wind value, the "Cursor Readout" line (near the top of the Skew-T chart) will display the pressure level of the maximum wind and the ambient air temperature at that level. If there is more than one occurrence of the maximum wind speed, then the displayed pressure level and ambient air temperature will correspond to the wind maximum at the lowest altitude.

The **Wind Bar** at the right of the Skew-T window shows the winds at various levels in the sounding (if winds were reported). The direction of the shaft of each wind barb indicates the direction of the wind (from the flagged end to the pointed end). The flags represent the wind speed. A full line represents 10 knots; a half line is 5 knots; and a solid pendant is 50 knots. When the pointer is over the Wind Bar, the wind direction (WD) and wind speed (WS) at the level of the cursor are shown at the end of the station identification line at the top of the window.

The **Station Identification** line shows the WMO block station number of the station, the date and time of the sounding, and the station name. When the pointer is over the Skew-T plot, this line also shows the air temperature (T), dew point temperature (T(d)) and altitude (A(p)) in meters at the location of the pointer. When the pointer is over the Wind Bar, this line also displays the wind speed and direction at the level of the pointer.

The **Cursor Readout** line shows the pressure (P), air temperature (T), dry adiabatic temperature (T(da)), saturated adiabatic temperature (T(sa)), and mixing ratio (w) at the pointer location.

The **Tool Box** provides tools for annotating and drawing on the Skew-T plot. The items drawn on the plot may be saved as a Vertical Weather Depiction overlay for re-use later. The available toolboxes are shown below.

Pointer - Used to select objects

Full View - Return to original (un-zoomed) state

Redo - Refresh the screen display

Oval - Draw an ellipse on the plot

Text - Draw text on the plot

Arrow - Draw an arrow on the plot

Toolbox changer



Zoom Box - Used to define an area to zoom in on

Zoom - Zoom in to zoom box area

Rectangle - Draw a rectangle on the plot

Poly - Draw a polygon on the plot

Pointer – Used to select objects

Full View – Return to original (un-zoomed) state

Redo – Refresh the screen display

Temp Mark – Draw a temperature mark on the plot

Press Mark – Draw a pressure mark on the plot

Dry Ad Mark – Draw a dry adiabat mark on the plot

Sat Ad Mark – Draw a saturation adiabat mark

Mix Rt Mark – Draw a mixing ratio mark on the plot

Toolbox changer



Zoom Box – Used to define an area to zoom in on

Zoom – Zoom in to zoom box area

Temp Line – Draw a temperature line on the plot

Press Line – Draw a pressure line on the plot

Dry Ad Line – Draw a dry adiabat on the plot

Sat Ad Line – Draw a saturation adiabat on the plot

Mix Rt Line – Draw a mixing ratio line on the plot

Pointer – Used to select objects

Full View – Return to original (un-zoomed) state

Redo – Refresh the screen display

Temp Color – Change selected item to the temperature color

Dry Ad Color – Change selected object to the dry adiabat color

Mix Rt Color – Change selected item to the mixing ratio color

Toolbox changer



Zoom Box – Used to define an area to zoom in on. Requires right click to zoom.

Zoom – Zoom in to zoom box area

Press Color – Change selected item to the pressure color

Sat Ad Color – Change selected object to the saturation adiabat color

Pointer – Used to select objects

Full View – Return to original (un-zoomed) state

Redo – Refresh the screen display

Red – Redraw selected object in red

Yellow – Redraw selected object in yellow

Blue – Redraw selected object in blue

Brown – Redraw selected object in brown

White – Redraw selected object in white



Zoom Box – Used to define an area to zoom in on. Requires right click to zoom.

Zoom – Zoom in to zoom box area

Orange – Redraw selected object in orange

Green – Redraw selected object in green

Purple – Redraw selected object in purple

Black – Redraw selected object in black

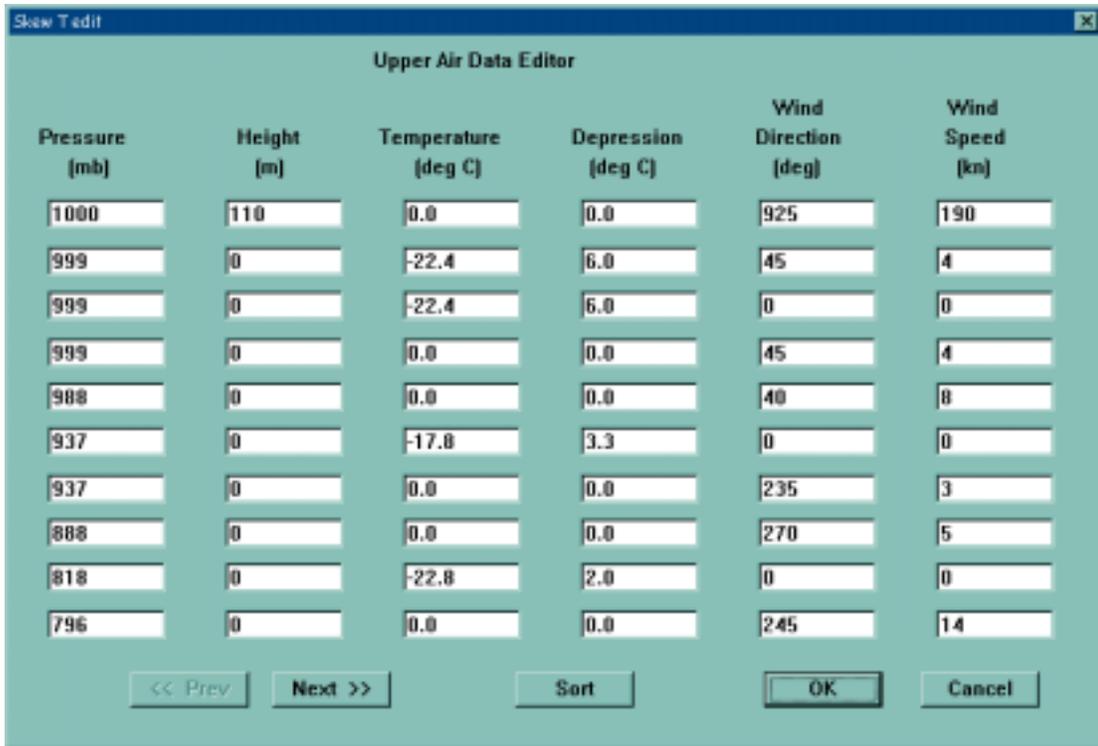
## THE SKEW-T MENUS

### File Menu

- **Open** opens a previously saved Vertical Weather Depiction overlay.
- **Close** (active only when a vertical weather depiction overlay is displayed) closes the vertical weather depiction overlay.
- **Save** saves the current set of drawn objects as a Vertical Weather Depiction overlay. The Save dialog allows you to assign a file name and a valid time.
- **Save As** allows you to save a Vertical Weather Depiction overlay with a new file name and/or valid time. If the overlay has not been saved previously, this option functions the same as the Save option.
- **Print** prints the Skew-T plot and overlays (if any are currently displayed) to the default printer.
- **Print Setup** opens the standard print setup dialog for the operating system, to allow you to specify paper sizes, margins, etc. for printing.
- **Exit** closes the Skew-T display.

### Edit Menu

- **Cut** removes the selected object(s) from the plot and sends them to the clipboard.
- **Clear** removes the selected object(s) from the plot.
- **Edit Sounding ...** opens the Upper Air Data Editor dialog, shown below.



**Figure 58.** Upper Air Data Editor Dialog

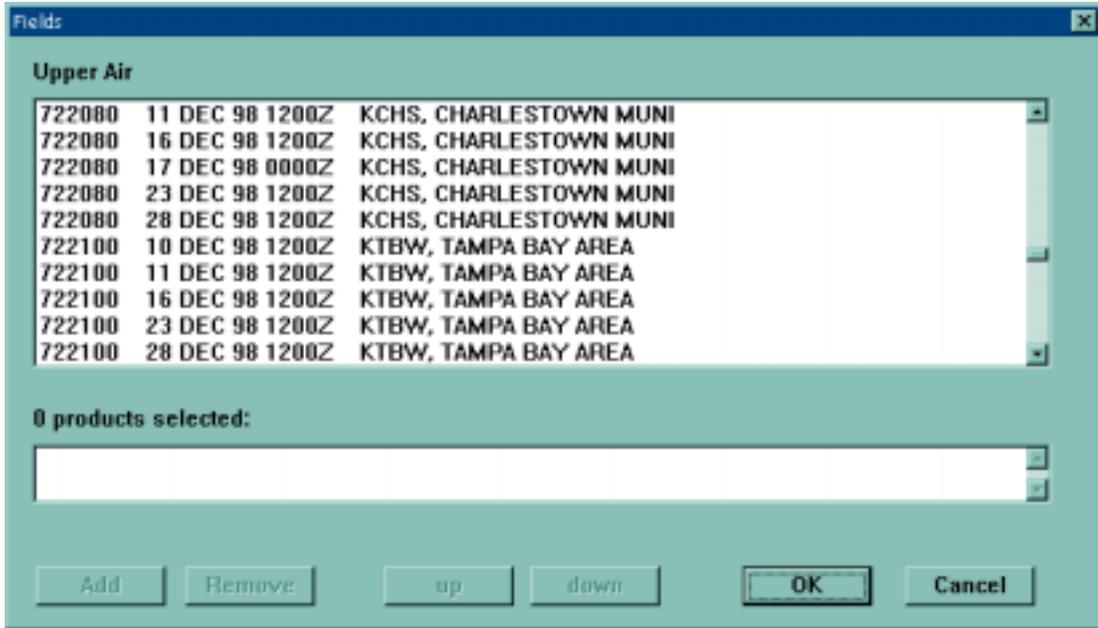
This dialog allows you to change the data at any level of the sounding just by typing in new data. When you click the **OK** button, the new values will be reflected in the plot.

- **Duplicate Sounding** plots another sounding with the same values as the selected sounding. Note that when multiple soundings are displayed, they appear in different colors.
- **Enter New Sounding** opens the Upper Air Data Editor dialog with a blank sounding. Enter values in the appropriate boxes and click the **OK** button to display the new sounding.

## Chart Menu

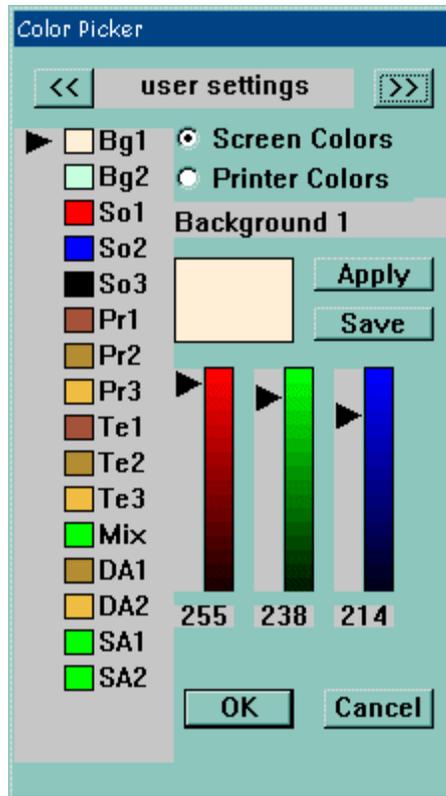
- **Zoom** zooms the plot within the area covered by the zoom box. If there is no zoom box currently displayed, this option does a 2X zoom on the center of the plot.
- **Full View** restores the plot to its original (un-zoomed) state.
- **Refresh** redraws the plot.

- **Select...** allows you to select another sounding to display. If you have made any modifications to the sounding currently displayed, you will be prompted to save it (if desired) before opening the new sounding. Then the Upper Air Sounding Selection dialog shown below will be displayed.



**Figure 59.** Upper Air Sounding Selection Dialog

- Double-click on each desired sounding, or single-click to highlight a sounding and click on the **Add** button. Selected soundings appear in the lower list box, and the caption shows how many soundings are selected. To remove a sounding from the selected items list, double-click on it click on it to highlight it and then click the **Remove** button. When satisfied with the selections, click on the **OK** button to display the selected soundings. The **Cancel** button returns you to the sounding previously displayed, without making any changes.
- **Icon Tools, Analysis, Chart, Height, Wind** are toggles to turn parts of the Skew-T display on and off. An item will be displayed if it has a check mark next to it.
- **Color...** opens the Skew-T Color Picker dialog, which allows you to change the colors of various parts of the display.



**Figure 60.** The Skew-T Color Picker Dialog

You can use this dialog to change the colors of the background, the soundings, and all of the lines of the plot.

- **Revert Settings** reverts the color settings back to the defaults.
- **Metric, English** These settings toggle the units of the display. **Metric** displays temperatures in Celsius and heights in meters. **English** displays temperatures in Fahrenheit and heights in feet.

## Sounding Menu

- **Temperature, Dew Point, Virtual Temperature, and Wet Bulb Temperature** are toggles for the display of these parameters. An item with a check mark next to it will be displayed in the plot. Click on the item to toggle it on or off.
- **Temperature Style, Dew Point Style, Virtual Temperature Style, and Wet Bulb Temperature Style** are used to set the plotting styles for the various parameters. You can select whether a dot should be displayed for each point, which symbol to use for each plotted point, and which line style should be used to connect the plotted points.

## Background Menu

The background menu allows you to toggle on and off various parts of the Skew-T plot background. An item with a check mark beside it will be displayed; an item without a check mark will not. To toggle the display for an item, just click on it.

## Cursor Menu

The cursor menu allows you to select the items that will be displayed in the cursor readout. An item with a check mark beside it will be displayed; an item without a check mark will not. To toggle the display for an item, just click on it.

## List Menu

The List menu has one option, **Show List**. When you click on this option, a simple listing of the sounding values appears. You can click the **Close** button to close the listing.

Pressure (mb)	Height (m)	Temperature (°C)	Dew Point (°C)	Wind Direction
1001	0	26.6	22.1	080
1001	0	26.6	22.1	080
1001	0	26.6	22.1	000
1001	0	26.6	22.1	000
1000	82	26.6	22.3	000
1000	82	26.6	22.3	000
943	0	22.0	20.9	000
943	0	22.0	20.9	000
925	766	21.8	17.5	080
925	766	21.8	17.5	080
925	0	21.8	17.5	000
925	0	21.8	17.5	000
898	0	20.6	18.3	000
898	0	20.6	18.3	000

**Figure 61.** The Skew-T List

## Help Menu

- **Help** opens this JMV Help.
- **Version Info...** opens a small dialog with information about the version of JMV you are using.

# EXTRATROPICAL WIND AND SEAS WARNINGS

The Extratropical Winds and Seas Warnings function is an interface to graphically build both High Seas Warnings and High Wind Warnings using displayed JMV products as an aid. The graphics are then converted to text and formatted for message for transmission. Message formats include AUTODIN and JMCIS Gold. The following set of instructions should be sufficient for those users interested in generating

## PREPARATION FOR CREATING WARNING AREAS

- Open an area that encompasses the entire warning area. Selecting wind or wave data to display can aid in the placement of the warning area.
- The **WGen** toolbox is needed to perform the necessary tasks. If the Animation controls are displayed, first click on the **Tools** icon to display the toolbox. Click the down arrow on the combo box at the bottom of the toolbar. From the drop-down list, select **WGen**. An alternate method is to scroll through the toolbars by pressing the left or right arrow icons until the desired toolbar appears. The WGen toolbox is shown below.



Pointer tool		Redo tool
Storm boundary line tool		Gale boundary line tool
Storm maximum tool		Gale maximum tool
Storm message tool		Gale message tool
8 ft seas boundary line		12 ft seas boundary line
18 ft seas boundary line		24 ft seas boundary line
Maximum seas tool		Seas message tool
Toolkit selector		

## CREATING A STORM (GALE) WARNING

(The same procedure is used to create Gale wind warnings. Gale specific instructions appear in parentheses.)

- Select the **Storm Boundary Line (Gale Boundary Line)** icon in the WGEN toolbox. The cursor changes to crosshairs.
- Position the crosshairs and click once per point to place points on the chart enclosing the area forecasted to have high wind conditions. Use the minimum number of points necessary to enclose the area. Extra points generate unnecessary information in the message.
- Press the **pointer** icon. The boundary lines are drawn automatically between the points.
- (Optional) To show the location of maximum winds, select the **Storm Maximum (Gale Maximum)** icon. Position the cursor over forecasted location of maximum winds and left click. The **Storm Maximum (Gale Maximum)** crosshair symbol is placed on the chart.

## CREATING A HIGH SEAS WARNING

- Select the **8', 12', 18', or 24' Seas Boundary Line** icon, as appropriate. The cursor changes to crosshairs when on the chart.
- Position crosshairs and click once at each point to place points on the chart enclosing the area forecasted to have high sea conditions. Use the minimum number of points necessary to enclose the area. Extra points generate unnecessary information in the message.
- Press the **pointer** icon. The boundary lines are drawn automatically between the points.
- (Optional) To show the location of maximum winds, select the **Seas Maximum** icon. Position the cursor over forecasted location of maximum seas and left click. The **Seas Maximum** symbol is placed on the chart.

## CONVERTING GRAPHICAL WARNING(S) INTO TEXT MESSAGE(S)

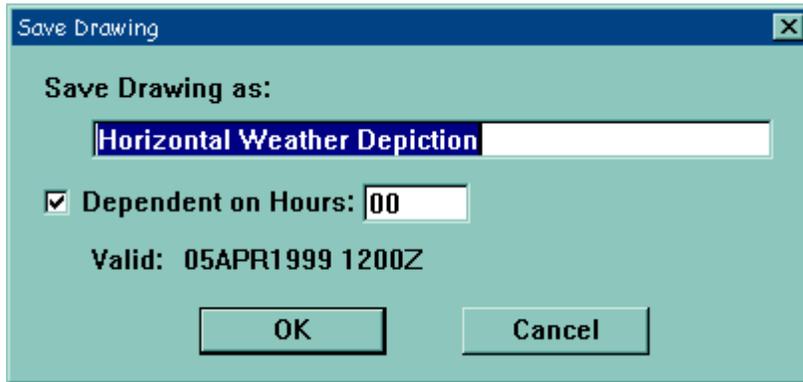
Once the warning areas and any associated maximums have been created graphically, the graphics can be converted to text to generate formatted messages.

- Highlight a warning area by clicking directly on a boundary line. The highlight may be difficult to see. It is most noticeable at the boundary end points.
- If a maximum point is defined for the highlighted area, press the **Shift** key and click on the maximum point to highlight as well.
- Click on the **Storm Message (Gale Msg) (Seas Msg)** icon (as appropriate). The High Winds and Seas Warning dialog will appear to allow you to specify the ocean basin and add selected feature(s) to the message that is being constructed in the background. Click the **OK** button when satisfied with the inputs.

**Figure 62.** High Winds and Seas Warning Dialog

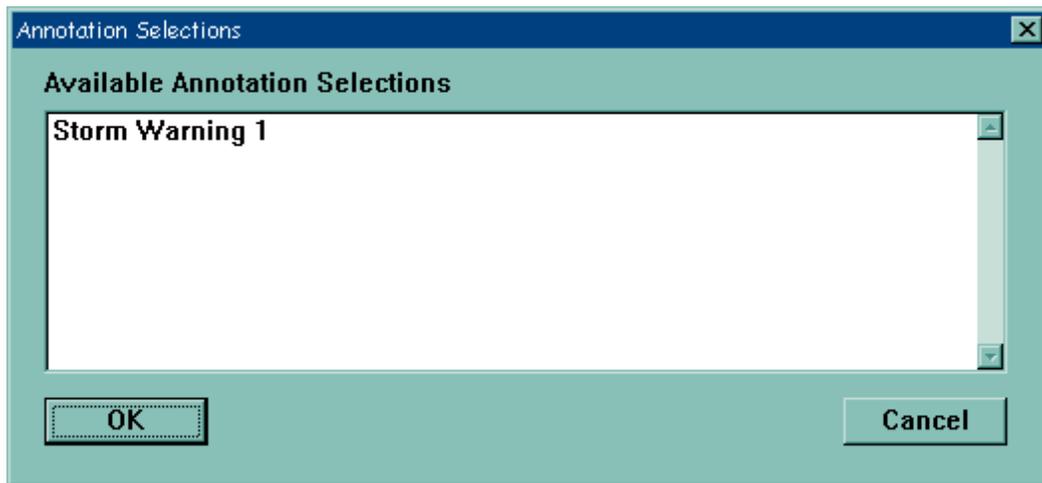
- Repeat the above two steps for each warning area.

- Select **File, Save Drawing as** from the menu bar. This opens the Save HWD dialog.



**Figure 63.** Save HWD Dialog

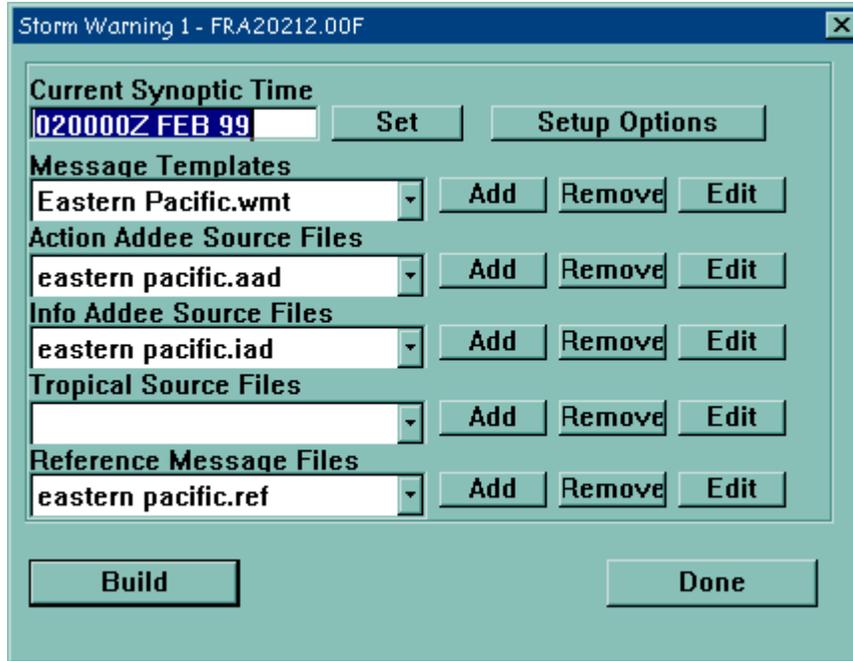
- In the Save HWD dialog box, type in a name for the warnings chart and a number for the appropriate hours for the valid time for the forecast. Click the **OK** button to save.
- Select **Export, Wind/Seas Warning Message(s)** option from the menu bar. This opens the Annotation Selections dialog.



**Figure 64.** Annotation Selections Dialog

- Select the desired saved drawing from the **Annotation Selections** dialog box and click the **OK** button.

- In the Warning Message dialog box, ensure the **Current Synoptic Time** is correct. The default time is based upon the internal clock of the computer. This date-time group serves as the basis for computing the various date-time groups that appear in the Wind/Seas Warning messages.



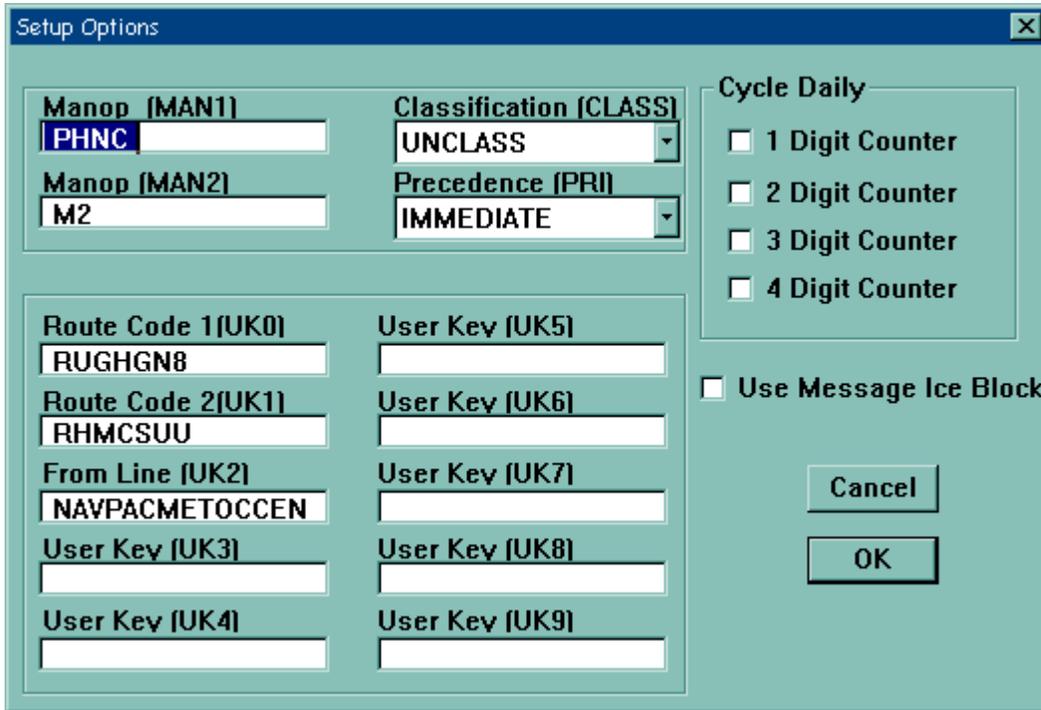
**Figure 65.** Warning Message Dialog

- Select **Build**. The text message is generated and appears in a text editor window. Any text may be edited as needed.
- Save the text file for transfer to the appropriate message dissemination system.

## CUSTOMIZING MESSAGE TEMPLATES

- On the Warning Message dialog box, several text fields refer to various source files (\*.wmt). These source files contain static and dynamic text fields that update automatically during the build phase. To edit these templates press the associated **Edit** button. When changes are finished, press **Save** to retain changes.
- To create a Gold message, you must select the Gold message template. To do this, click the **Remove** button next to the Message Templates selection and then the **Add** button. This will bring up a window with all the available message templates. Select the appropriate Gold message template for your warning message.

- **Set** invokes the Warning Message Times dialog box. The **HH:MM** field provides the amount of time to be added to or subtracted from the **Synoptic Time**. To permanently adjust the date-time group computation, change the **HH:MM** and press **Apply**.
- **Setup Options** invokes the Setup Options dialog box containing field inputs for MANOPS, Classification, Precedence, User Key, and counters. There is also an "ice block" which adds ice edge information to the warning message.



**Figure 66.** Message Setup Options Dialog

**NOTE:** A document titled **JMVWarngenKeys.pdf** is provided on the installation CD, as well as in the START menu – Programs/FNMOC-SPAWAR folder. This document contains an extensive list of keywords used in message preparation as well as additional instruction on creating Gale, Storm, Sea messages and message template files. Account Warngen creation is performed by a relatively small number of users at the Regional Centers; the **JMVWarngenKeys** documentation is omitted from this users guide to reduce its file size.

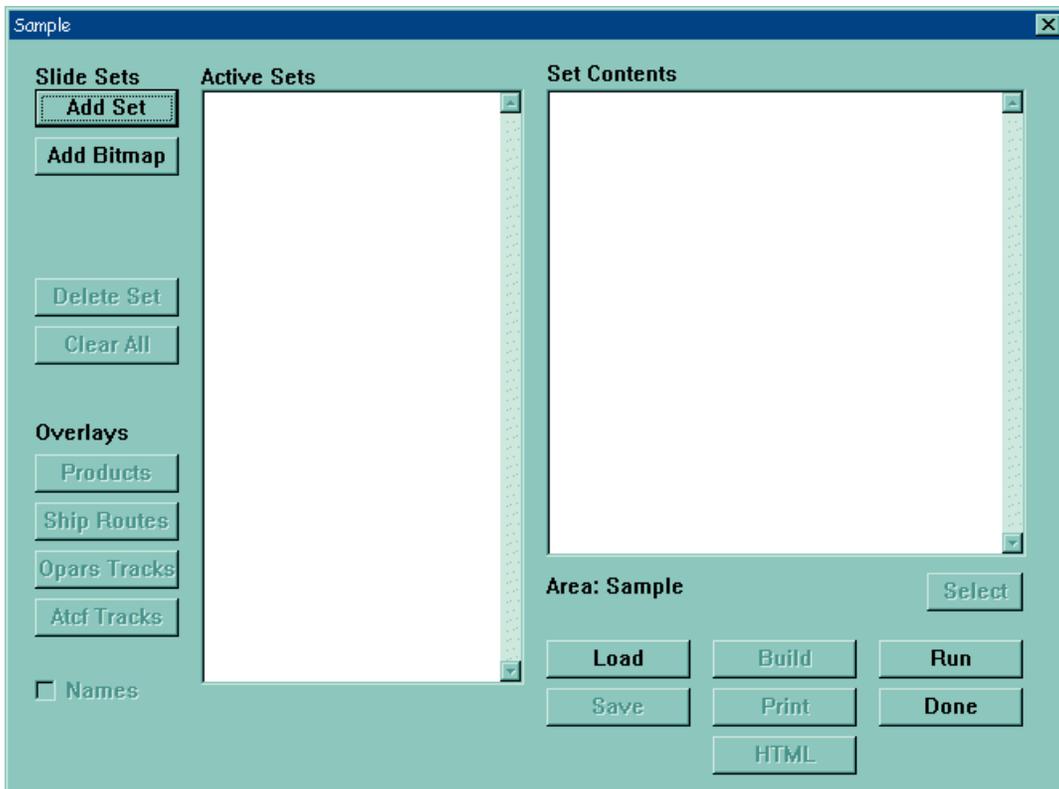
# BUILDING AND DISPLAYING SLIDE SHOWS

Slide shows can be built to display any area that is currently defined. Data in the slide show is pulled from the defined areas. Each Slide Set is built upon a single area and can include numerous products and their associated forecast times.

This section covers how to select products to display on a slide show, how the looping controls work on slide shows, and how to update already built slide shows.

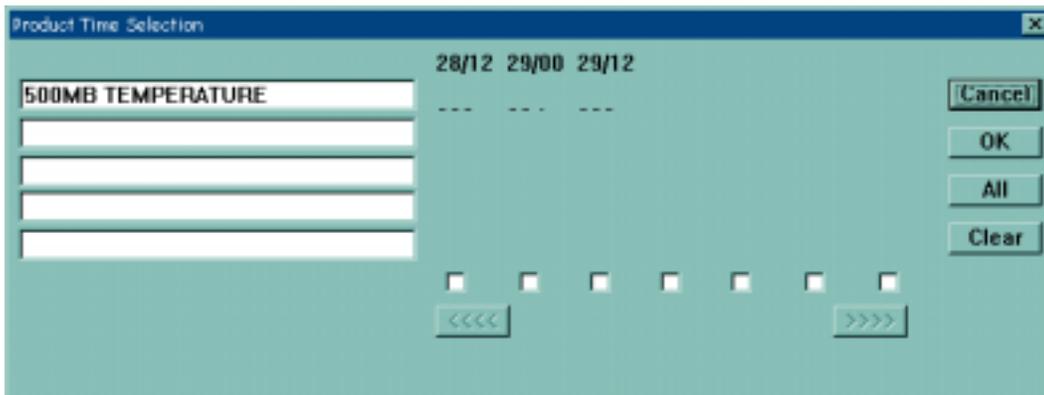
## BUILDING A PRODUCT SLIDE SHOW

- Open a chart with or without products. Which chart is opened is irrelevant. An open chart is needed to activate the Display portion of JMV 3.5, which contains the Slide Show functionality.
- From the menu bar, click on **Slides**, then select **Build Product Slide Show** from the drop-down menu. The Slide Show Selection dialog will then appear.



**Figure 67.** Slide Show Selection Dialog

- Click on **Add Set**. "#1 Map" appears in the **Active Sets** list box and the area name appears in the **Set Contents** box.
- To change the area in **Set Contents**, click the **Select** button, located just below the **Set Contents** list box. This will display the Select An Area dialog. Choose the desired area from the icons displayed and click **OK**. Items listed in **Set Contents** list box are associated with the current slide set being built, e.g. #1 Map.
- Click on **Products**.
- From the **Choose Products** dialog box, select the products from this area to be displayed in the slide show.
- Click OK.
- In the **Product Time Selection** dialog box, click on the check boxes for the tau(s) of products to be used on #1 Map.



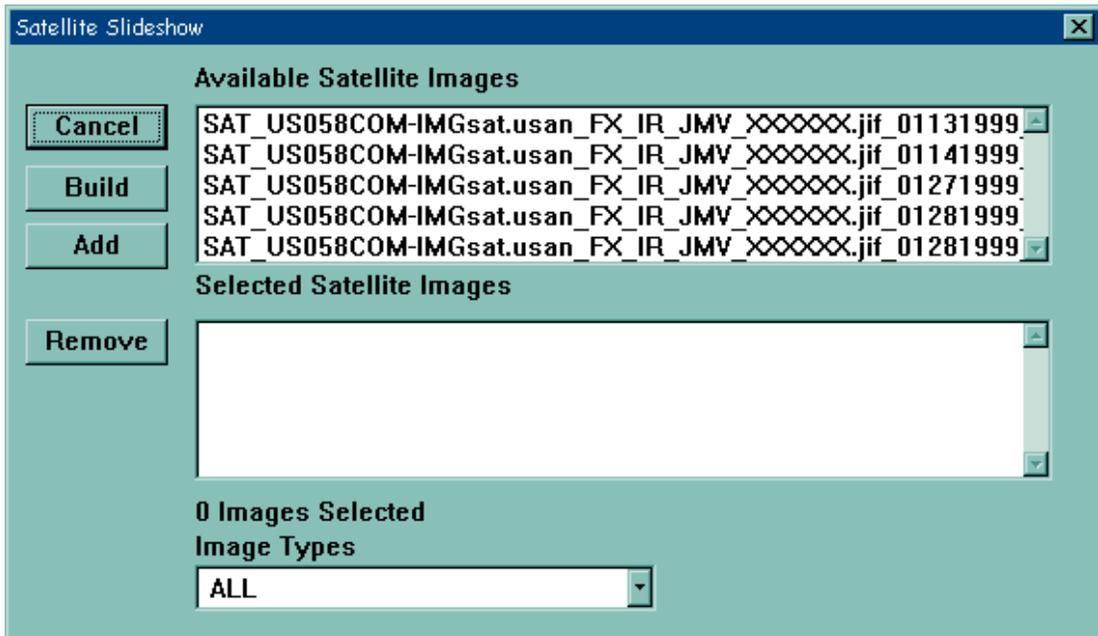
**Figure 68.** Product Time Selection Dialog

- (Optional) To add additional maps to the slideshow, click **Add Set**. In the **Active Sets** list box, the next increment of map appears; i.e., "#2 Map" or "#3 Map" and so forth. Repeat the above steps for each map.
- (Optional) The **Names** checkbox should be checked if you want to display geographical names on the slides.
- To save your slide show click **Build** (button is only active when products have been selected for the slide show). A File Save dialog will be displayed.
- Enter a filename and click **Save**.

- You can print the slide show on the default printer by clicking on the **Print** button. This button is only active when products have been selected for the slide show. **NOTE:** This takes the place of the AUTOPRINT option that was formerly available in JMV.
- You can save the slide show for viewing on a web page by clicking on the **HTML** button, which is only active when products have been selected for the slide show. A File Save dialog will be displayed.
- The **Run** button lets you preview the slide show.
- The **Done** button closes the Slide Show Selection dialog.

## BUILDING A SATELLITE SLIDE SHOW

- Select an area that is built on a satellite area. Unlike Product Slide Show, it does matter which area is displayed for satellite slide shows.
- In the **Choose Products** dialog box displayed as the area opens, choose **None**.
- On the menu bar, select **Slides, Build Satellite Slide Show**.
- A window pops up allowing user to add Satellite(s) needed in slide show. Add satellites and click **Build**.



**Figure 69.** Satellite Slideshow Dialog

- In the File Save dialog, enter a filename and click **Save**.

## VIEWING A SLIDE SHOW

Method 1:

- Select **Slides** on the menu bar, then select **Display Slide Show** from the drop-down menu.
- Select the desired slide show filename.
- Click **Open**.

Method 2:

- From the Build Product Slide Show or the Build Satellite Slide Show dialog box, click **Run**.
- Select the name of the desired slide show.
- Click **Open**.

## MODIFYING AN EXISTING SLIDE SHOW

- Select **Slides** from the menu bar, then **Build Product (Satellite) Slide Show** from the drop-down menu.
- Click **Load**.
- Select the name of the desired slide show.
- Click **Open**.
- Follow directions under Create a Product (Satellite) Slide Show.

## PRINTING A SLIDE SHOW

You can print an entire slide show (Product or Satellite) by loading it into the Slide Show Selection dialog (see Modifying an Existing Slide Show, above) and clicking on the **Print** button.

## SLIDE SHOW ANIMATION CONTROLS

Stop	Stops frames from looping
Play	Starts animation of current slide. When Full is checkmarked, Play proceeds through entire slide show.
<	Move to previous animation frame in slide
>	Move to next frame in Slide Set
↶	Move to first animation frame of slide.
↷	Move to last frame of slide.
End	Exits Slide Show
Select	Open selected Slide Set
Full	Opens all Slide Sets for the current Slide Show.

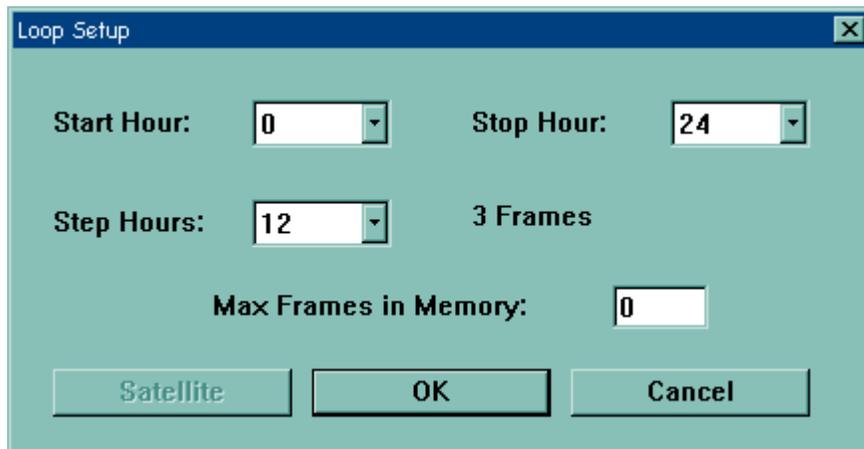
## UPDATING DATA IN AN EXISTING SLIDE SHOW

Once a slide show is made, it may be used as many times as needed. However, data in the slide show do not update automatically. This section covers how to update a previously built slide show.

- Make sure that the areas that are used in the slide show are scheduled for updates and have current data.
- On the menu bar, click **Slides, Build Product Slide Show**. This opens the Slide Show Selection dialog.
- Click **Load**.
- Select the slide show you wish to update.
- Click **Open**.
- Click **Build**.
- Choose the name of the file to update.
- Click **Save**.
- In the box that appears saying that the file already exists and asking if you want to replace it, click **Yes**. The slide show is updated.

# THE ANIMATION TOOLBOX

JMV allows you to automatically produce time-sequence animations from displayed products. When products are displayed in the map window, clicking on the **Play** button in the Animation Toolbox opens the Loop Setup dialog, shown below.



**Figure 70.** Loop Setup Dialog

In this dialog you can set the start and stop hours, the time step between frames, and the maximum number of frames to be held in memory (holding frames in memory may make the animation faster).

When you click the **OK** button in the Loop Setup dialog, JMV begins producing the animation frames and starts the animation.

The products displayed when you click the **Play** button are the ones that will be displayed in each frame of the animation (if available at the time displayed by the frame).

The buttons in the Animation Toolbox control animation of the products. Each verification time which is available with the displayed data has its own button – you can click on any of the verification time buttons to stop the animation on that frame.

Stops current loop

Moves back one frame

Moves to first frame

Displays the frame verifying at the time shown on the button

Displays the frame verifying at the time shown on the button



Starts animation loop

Moves forward one frame

Moves to last frame

Displays the frame verifying at the time shown on the button

Displays the frame verifying at the time shown on the button

As the animation proceeds, the button for the active frame is always highlighted.

## WORKING WITH 3D DATA

JMV provides the capability to display a variety of atmospheric and oceanographic products as 3D Profiles and Cross Sections. The 3D display is not a true three-dimensional rendering of the selected atmospheric or oceanographic parameter, but rather a graph of a 2 dimensional 'slice' through a 3D field. Both the Profile and Cross Section graphs display the selected variable versus depth (for oceanographic products) or height/pressure (for atmospheric products). The data may also be viewed within the display window as a text list. The following products may be viewed using the 3D Tool functions:

**Temperature, Isotachs, Total Cloud Cover, Convective Cloud Cover, Dew Point Depression, Vapor Pressure, Relative Humidity, Height, Water Temperature.**

To use the 3D capability, the user must download and then select for display, at least 3 different levels of the same product for the same tau (valid time).

## THE 3D TOOLBOX

The 3D tools are shown and described below.



Single  
Point  
Profile

Draws a profile of a 3D-field variable versus depth or height for a selected point on the chart. Select the profile point by placing the pointer over the desired chart point and clicking the left mouse button. After selecting the profile point (either depth or height), the **Profile** graph window is displayed. Up to four separate Single Point Profiles may be created and displayed at the same time.



Multipoint  
Profile

Draws a graph of a 3D field versus depth or height for four or fewer points. Select the points to profile by placing the cross pointer over the desired chart points and clicking the left mouse button. If fewer than four points are placed on a chart, you must select (click on) the **Pointer** tool in the toolbox to signal the end of the point inputs. The profiles will then be drawn in a **Profile** window. If four points are selected, the Depth Profiles are drawn automatically upon placement of the fourth point. Profiles and labels are color-coded for easy identification. Up to four separate Multipoint Profiles may be created and displayed at the same



Cross  
Section

time.

Draws a line that depicts the intersection of the cross section plane and the map display plane. Click on the **left side** of this tool button to draw a stretchable, moveable line on the display by selecting and holding the left mouse button at the start of the line, dragging the pointer to the end of the line, and then releasing the mouse button. Upon releasing the button, a **Cross Section** window will display the cross section data.

The end points of an existing cross section line may be relocated by clicking and holding the left mouse button on either end point, dragging it to a new location, and then releasing the mouse button. The cross section window will automatically refresh and then display cross section data for the new line location.

The **right side** of this tool button provides a method to modify an existing cross section line by adding a new point to either end. After selecting this button, click and hold the left mouse button on either end of the existing cross section line, then drag the end point to a new location and release the mouse button. The original end point will remain, and the resulting line will now contain three points – the original starting point, the original end point (which is now a mid point) and the new end point. The Cross Section Window will be automatically redrawn when the mouse button is released. All three of the line points may be relocated using the left mouse button as described above. The Cross Section Window will continuously refresh the new cross section data after a line point has been relocated. A maximum of four separate Cross Sections may be created and displayed at the same time.

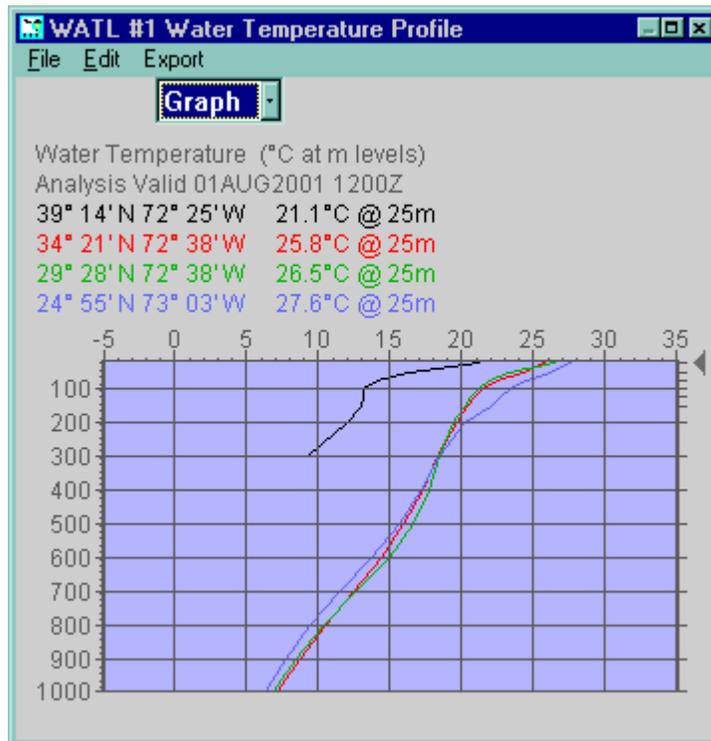
**NOTE:** After creating a Profile, or a Cross Section, the graph display window will disappear when the user clicks on the original product display window. To redisplay a profile or cross section window, click on the JMV **Window** menu button, and then select **View** from the pull down menu. This will force all cross

section and profile windows to be displayed on top of the original JMV display. A **Cascade** and **Tile** option also exist within the **Window** menu button.

An alternate method is to press the **Alt** key, then press and release the **Tab** key while continuing to hold down the Alt key. A dialog box will appear which displays all open windows and applications as individual icons. While continuing to hold the Alt key, press and release the Tab key to cycle through the available windows/applications icons. When the desired window or application icon is highlighted, release the Alt key and that window will appear.

## THE PROFILE WINDOW

The features of the single and multipoint profile windows are identical except that up to four profiles may be displayed in the multipoint profile window while only one profile may be displayed in the single point profile window. In the example below, a Multipoint Profile window displays a graph of ocean temperature versus ocean depth for the four selected profiles. (When atmospheric products are displayed, the Depth pointer adjusts the height or pressure of the displayed parameter.)



**Figure 71.** The Profile Window

The **Pointer (cursor) Readout** provides information about the profiles. The color of the text in the **Pointer Readout** corresponds to the same color line in the

graph. Each line of text shows the latitude, longitude, temperature and depth of the profile. Temperature/depth readings are changed with the **Depth Pointer**.

The **Depth Pointer** (a gray triangle at the right edge of the depth profile window) adjusts the depth at which the readings in the **Pointer Readout** are valid. To change the depth of a reading, click on the depth pointer then hold the mouse button down while dragging the pointer to a different depth. When the mouse button is released, the reading at the new depth is reflected in the **Pointer Readout**. The readings at various depths will display in the pointer readout while dragging the pointer to a new depth.

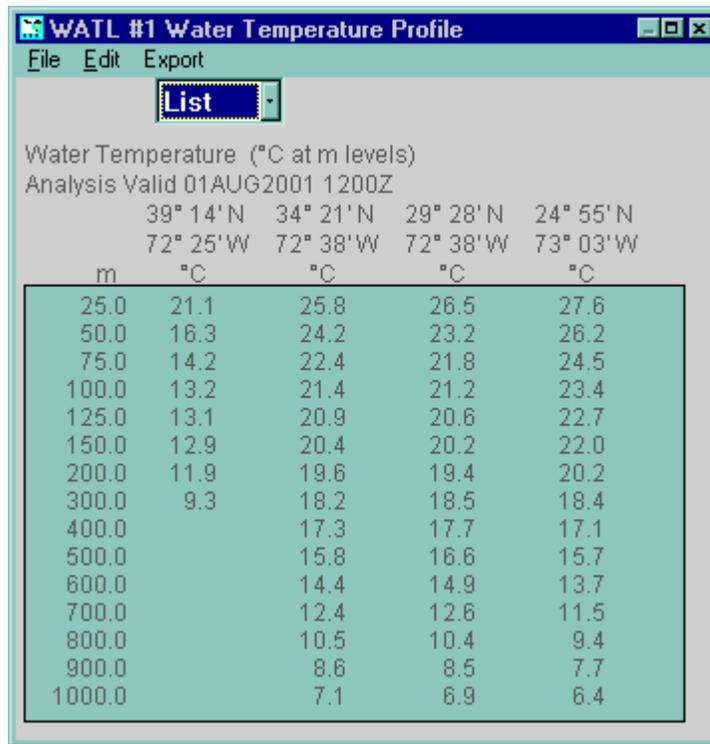
For atmospheric products, the display will show height or pressure versus the selected environmental variable (temperature, Total Cloud Cover, etc).

The pull down **File** menu provides a **print** option and an option to **exit** the Profile as well as the area display map.

The **Edit** menu item is presently non functional.

A profile may be saved to a user-selected directory by choosing **Profile** from the pull down **Export** menu.

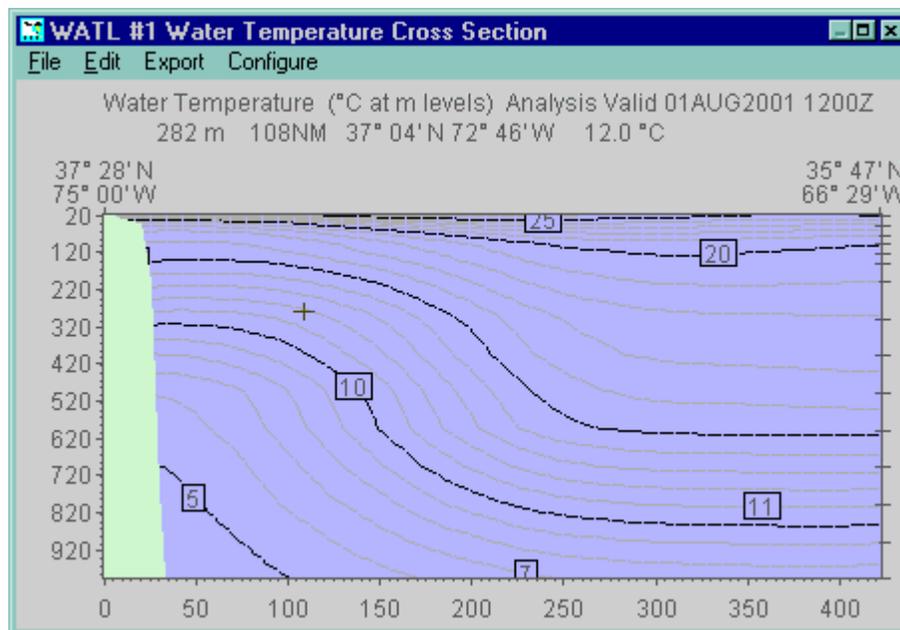
The **Graph/List** selector allows you to toggle between the graphical display and a text listing of depth versus temperature for each profile. An example of the Profile List display is shown below.



**Figure 72.** The Profile List

## THE CROSS SECTION WINDOW

The **Cross Section Window** displays a cross section of a 3D field.



**Figure 73.** Cross Section Window

The **Pointer Readout** displays the data associated with the cursor location. To see readings for a different location, move the cursor to a new position within the graph. As shown above, the pointer is displayed as a cross hair. The **Pointer Readout** shows the following:

- The water depth at the pointer is location,
- The distance along the cross section line to the pointer location,
- The latitude and longitude of the pointer's location, and
- The temperature at the pointer location

The display will show height or pressure versus the selected environmental variable (temperature, Total Cloud Cover, etc) when atmospheric products are displayed.

Click and hold either mouse button while moving the cursor within the graph, and the cursor's position will be displayed as a small circle on the cross section line that was drawn on the initially displayed chart.

The **Graphical Display**: Above the upper corners of the graphical display are the latitude and longitude of the endpoints of the cross section. The shading at the left side of the cross section display indicates the bottom depth at that location. The contour lines are isolines of the field parameter (e.g. temperature). The scale along the left side is depth and the scale at the bottom is distance along the cross section line from the initial point of the cross section.

# THE JMV 3.5 MENUS

This section describes the menus available from the JMV 3.5 Menu Bar, their submenus, and the options they provide. The option dialogs displayed in this section are discussed in detail in the next section, **JMV 3.5 Dialogs**.

## FILE MENU

The **File** menu is used for various drawing functions, as well as print functions.

- **Open Drawing** allows you to select and view any drawing previously saved on the chart currently displayed.
- **Close Drawing** removes the displayed drawing.
- **Save Drawing** saves a new drawing or resaves an existing drawing. If the drawing has not previously been saved, this option will open the Save HWD dialog to allow you to give the file a name and location. The Save HWD dialog includes an option to make the drawing dependent upon the hour, which ties HWD to a particular time in an animation sequence and also causes the HWD to be automatically deleted when new versions of the data on which it is based are downloaded.
- **Save Drawing As** allows you to save a redone drawing with a different file name. This option will open the Save HWD dialog to allow you to give the file a name and location, and tie it to the forecast hour if desired.
- **Delete Drawing** allows you to delete any drawings previously created.
- **Printer Setup** displays printer setup options.
- **Fit to Printer Page** allows you to make the drawing, when printed, fit on a single page. This option does not preserve the height to width ratio of the drawing, so the geography can become distorted when it is used.
- **Print** allows you to print a chart with overlays.
- **Import Message** imports a product message to insert new data for the area.
- **Import Tif Satellite Image** imports a satellite image into JMV from any location, such as from the web. This function will only work for Tagged Image File Format (tif, or tiff) which may require conversion. You will need to know the image's latitude and longitude corner positions for proper registry.



**Figure 74.** Import Tif Image Dialog

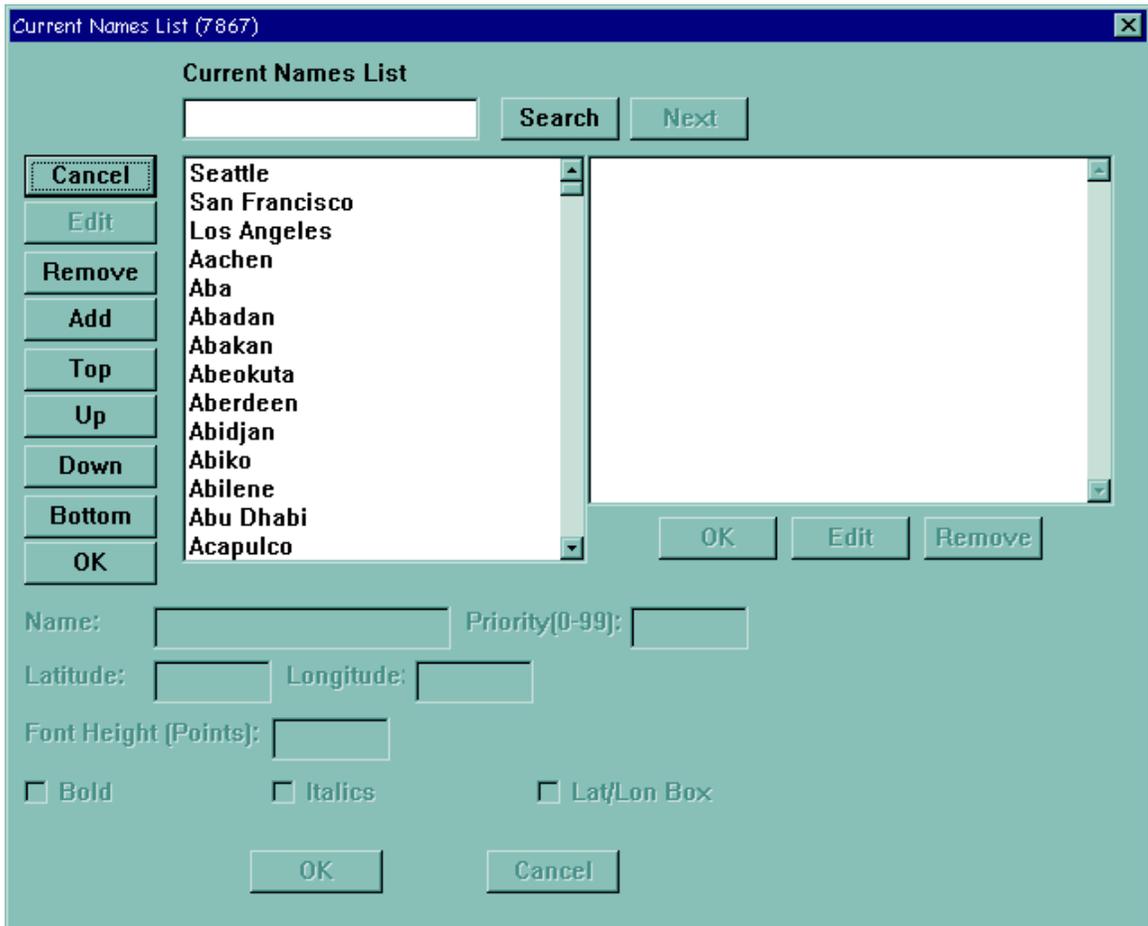
- **Exit** closes the **Display** window.

## EDIT MENU

The **Edit** menu allows the user to edit drawings and Extratropical Winds and Seas Messages.

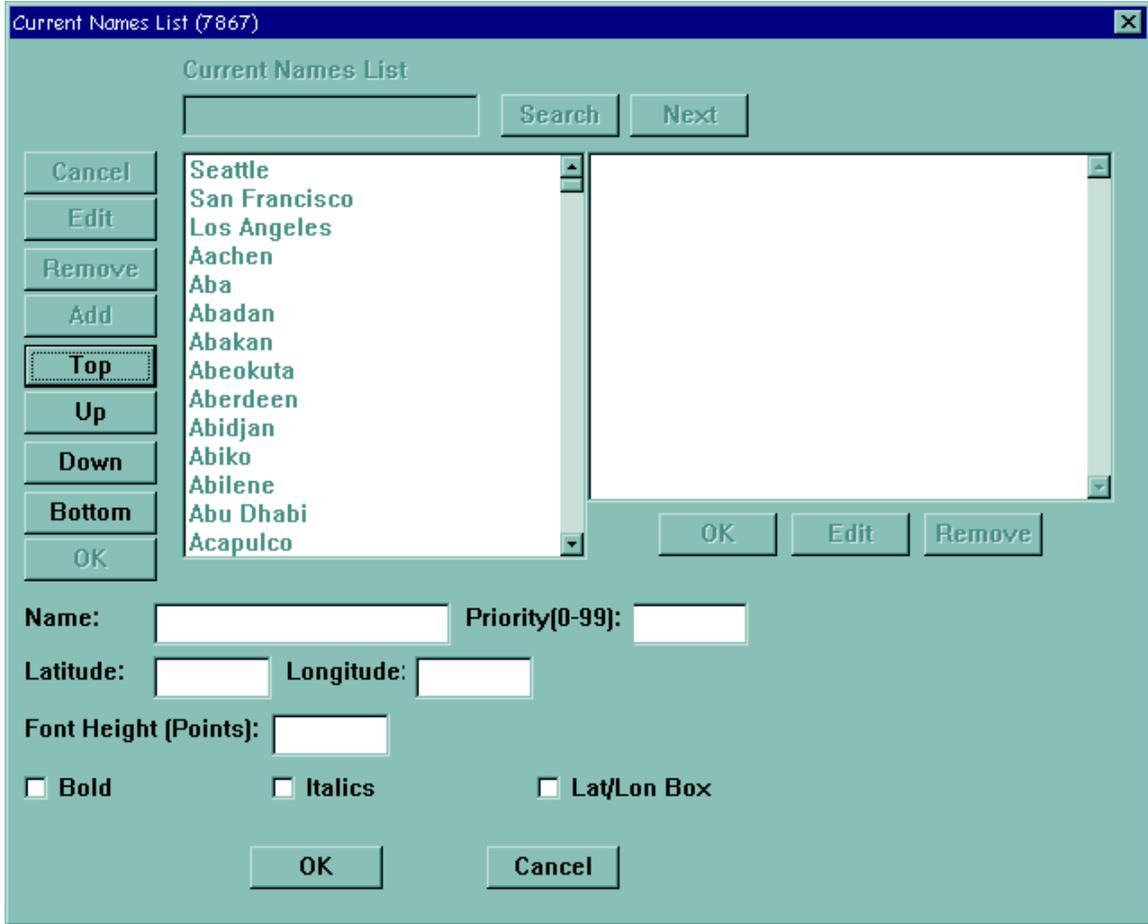
- **Delete** removes the active object(s) on the chart.

- **Select All** highlights all objects on the chart for deleting.
- **Warngen Message** brings up a list of Extratropical Winds and Seas messages to edit.
- **Edit Ship Route** opens the Ship Route Editor dialog to edit the ship route selected. You have the option of adjusting the speed **or** time when editing ship positions. If no ship route is selected in the display, an error message will be shown.
- **Edit Names List** opens the Current Names List dialog shown below and allows you to add, edit, or remove names from the geographic place names list. These are the place names that are displayed on the map when the **Display Names** option is turned on.



**Figure 75.** Current Names List Dialog

To add a place name to the list, click on the **Add** button. This activates the lower part of the dialog, as shown below, to accept the entries for the new place name.



**Figure 76.** Current Names List Set to Add a New Place Name

In the **Name** box, type the place name being added. In the **Latitude** and **Longitude** boxes, enter the latitude and longitude of the place being named. In the **Priority** box, enter the relative priority of the name (A number from 0 to 99; this determines whether this place name will be displayed in preference to other nearby names when the density of names on the map is high. Entering 0 or leaving the field blank means that the name has the same priority as all other names; entering 1 means this name should always be displayed; 99 means that other nearby names will be displayed in preference to this one if there is a space conflict). In the **Font Height (Points)** box, enter the font size for displaying this place name. The default is 12; larger numbers can be used to make the name stand out more on the map. The **Bold** and **Italic** check boxes specify the appearance of the font used for this particular name.

- **Edit Drawing Object** is activated when a drawing object is selected on the map display. This opens the Object Editor dialog shown below.



**Figure 77.** Object Editor Dialog

This dialog displays all of the times for which the selected object is defined. You can delete the object for a specific date-time by clicking its check box so that it is unchecked.

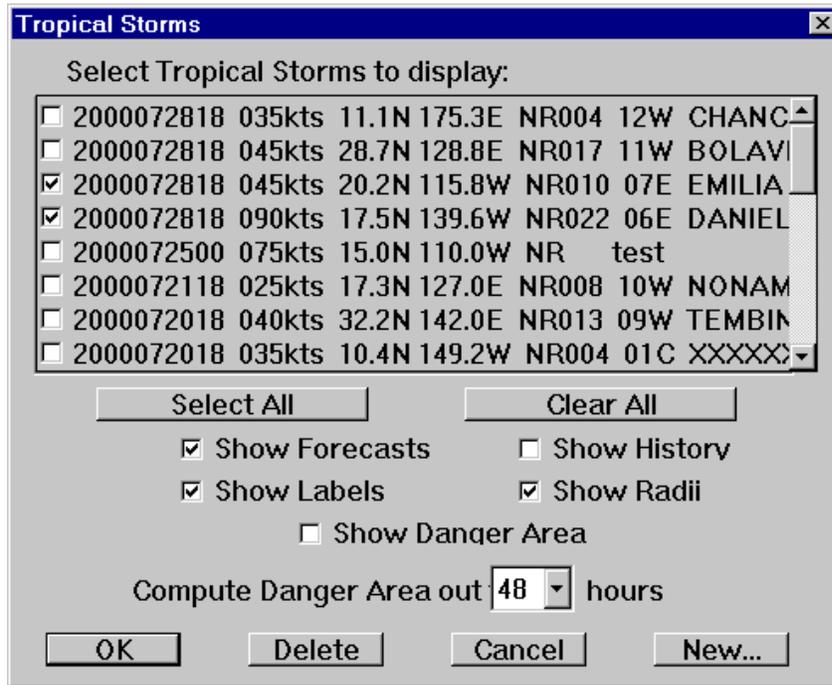
**NOTE:** If the object is defined for a prior time, deleting it for a given time simply replaces it with the one defined at the prior time. For example, in the dialog above, deleting the 20000032300 object would result in the 20000032212 object being displayed in its place.

## DISPLAY MENU

The **Display** menu has a variety of options allowing the user to display multiple products on a chart.

- **Select Chart(s)** opens the **Choose Products** dialog box for selecting additional products to place on the current chart.
- **Ship Routes** allows you to display ship routes known to the system, modify existing ship routes, or create new ones. See the Ship Routes section for more details.
- **Enable Ship Track Alerts** enables the display of Ship Route Alerts. Ship Route alerts are configured in the Ship Route Editor dialog box, and may be based upon either wind, sea or swell criteria.

- **OPARS Routes** allows you to display aircraft routes created with the Optimum Path Aircraft Routing System (OPARS) software. See the OPARS Routes section for more details.
- **Tropical Storms** allows you to display current tropical cyclone warnings, associated wind radii, and associated danger areas.



**Figure 78.** Tropical Storms Dialog

- **Create Difference** is active only when two charts in the same units are displayed. This option allows you to create a difference chart by subtracting the contents of one of the displayed fields from the contents of the other. For example, if the display contains 850 mb and 1000 mb geopotential height charts (both with heights in geopotential meters), you could create a 850-1000 mb thickness chart by subtracting the 1000 mb heights from the 850 mb heights. To do this, you would just pull down the Display menu and click on **Create Difference**. The chart you create will be saved as a new product, and will be available from the Select Products menu.

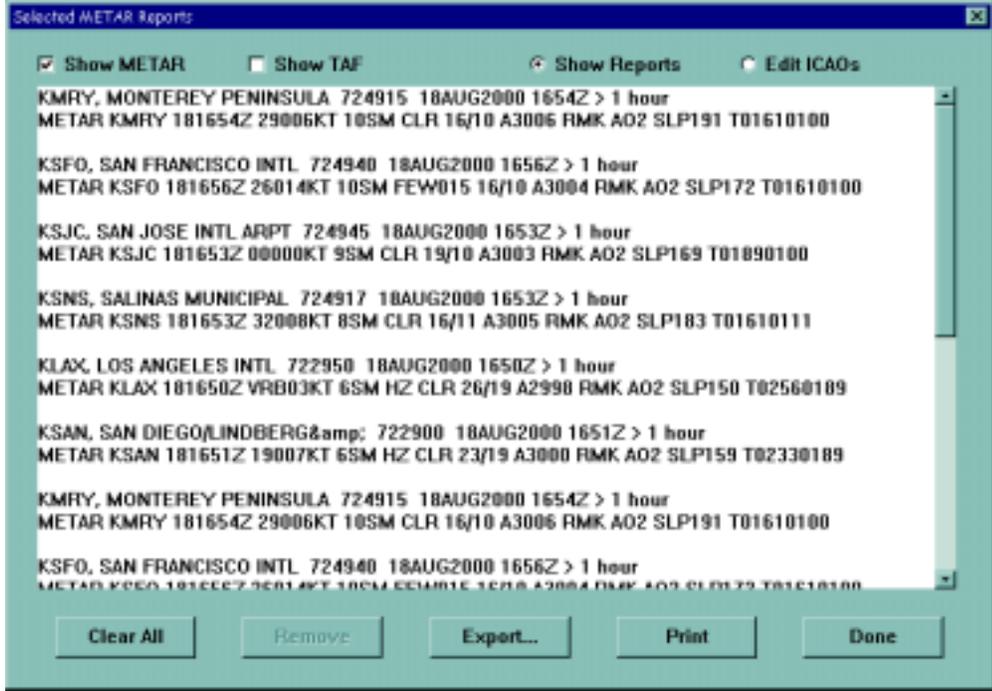
**NOTE:** To avoid possible confusion, the Create Difference option is only available when two and only two charts with the same units are displayed. If three charts with the same units are displayed, you must turn one off before you can create a difference chart. Create Difference also will not work if the charts are in different units.

- **SIGMET** controls the display of Significant Meteorological Bulletins (SIGMETs)
  - **Show Sigmet Warnings** toggles the display of SIGMET warnings. This option is on by default.
  - **Show Outlooks** toggles the display of SIGMET outlooks. This option is off by default.
  - **View Eastern/Central/Western/All reports** opens a separate dialog displaying reports for the selected part of the U.S. or all available SIGMETs.



**Figure 79.** SIGMET Warning Dialog

- **METAR** controls the display of METAR and SPECI Reports.
  - **View METAR List** opens a display of METAR and SPECI reports that have been added to the report list (see METAR display section).



**Figure 80.** Viewing the METAR List

- **View All Reports** opens a list showing all METAR and SPECI reports received.



**Figure 81.** Viewing All METAR Reports

- **Station Model** is a toggle for displaying METAR and SPECI reports as station models rather than colored dots.



**When METAR and SPECI reports are displayed as station models, other report types (TAF, Synoptic, UAR) will not be displayed on the map. Also, not all of the METAR/SPECI reports will be available, as they will be "thinned" so that the displayed reports do not overlap.**

- **TAF** controls the display of Terminal Area Forecasts (TAF).
- **View TAF List** opens a list of TAF reports that have been added to the report list (see TAF display section).

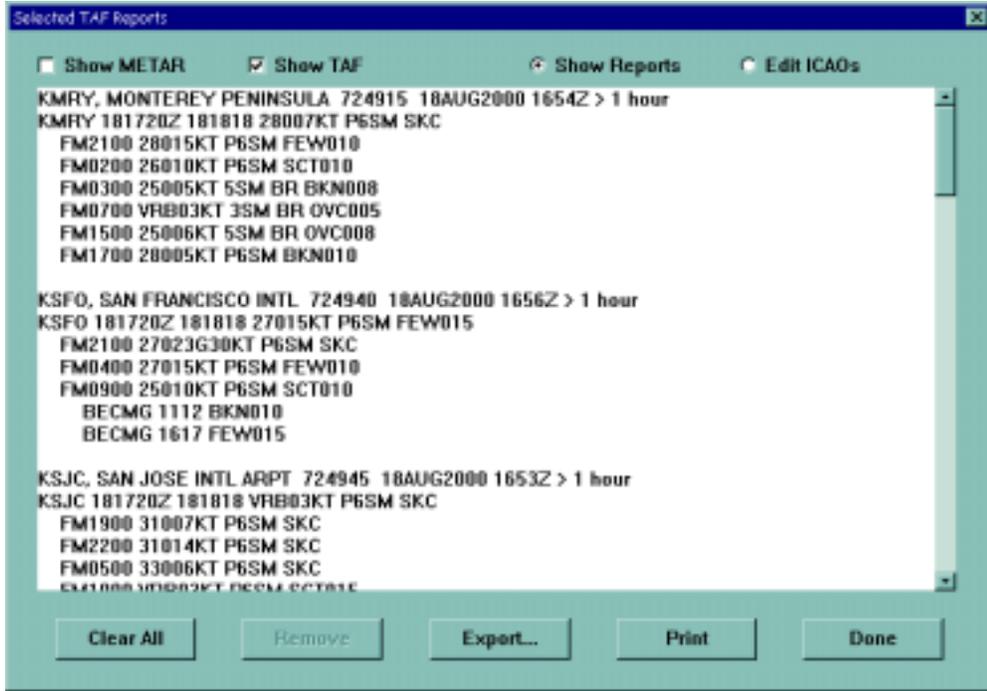


Figure 82. Viewing the TAF List

- **View All Reports** opens a list of all TAF reports received for the area.

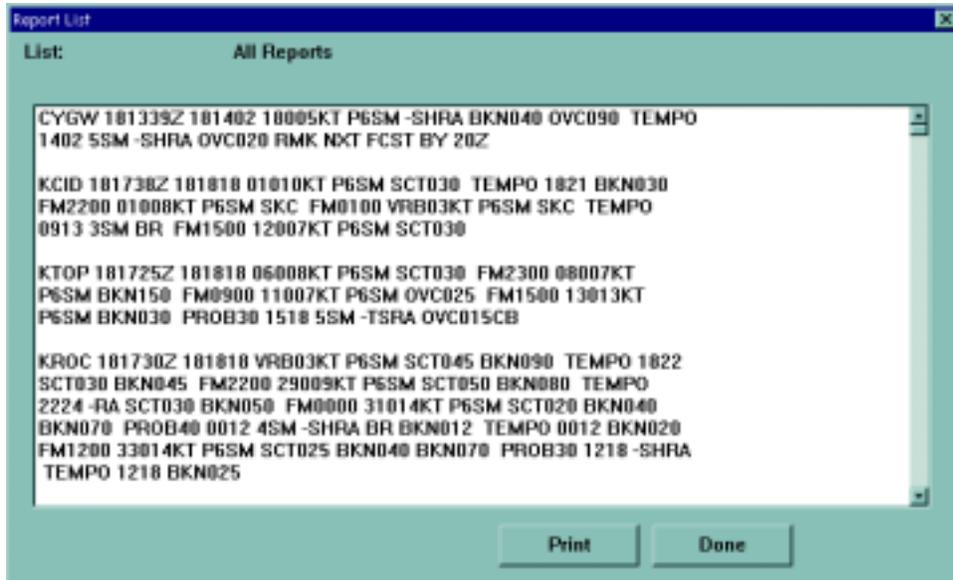
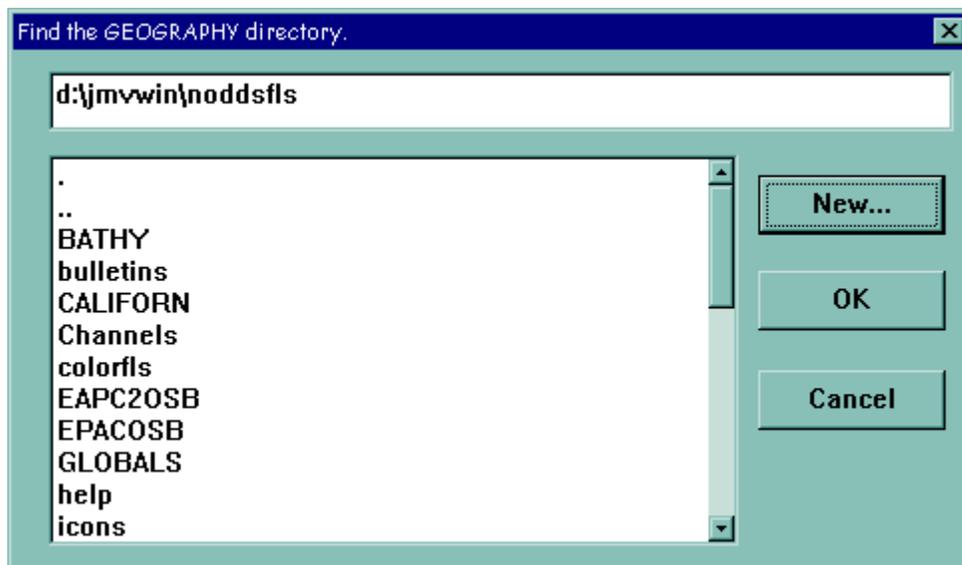


Figure 83. Viewing All TAF Reports

- **UAR** allows you to change the display of upper air reports on the map from the default “balloon” symbol to a station plot showing the wind, temperature, dew point depression, and height for the pressure level you select on a fly-out menu.
- **Names** toggles the display of geographical labels on a chart. If names are not displayed, clicking **Names** turns them on. If they are displayed, clicking **Names** turns them off.
- **Legends**
  - **Color Fill** adds a legend to the left side of a chart. The legend shows which color is used for each range of values. This option applies only when a color filled field is displayed.
  - **Satellites** adds a legend to the left side of a satellite chart.
- **Product Titles:** Toggles the display of product titles on a chart. If Product Titles are displayed, click on the **Product Titles** menu item to turn them off.
- **Expanded Browse** is useful for viewing an observation or TAF while panning over a graphical area. The text appears above the map itself as you drag the mouse across the screen.
- **Sunrise/Sunset** turns shading on over the half of the globe between sunset and sunrise.
- **Local Noon** toggles on an icon that indicates where the sun is directly overhead.
- **Twilight** displays a second layer of shading to indicate where there is limited solar illumination (before sunrise/after sunset).
- **Show Ship Synoptic as Symbol Only** toggles display of ship synoptic reports between symbol and station model.
- **Topography** toggles the display of topography on or off. Topography may be displayed as either contours or shaded areas, and in user-specified resolution, as determined by the **Terrain** submenu under the **Configure** menu.
- **Bathymetry** toggles the display of bathymetry on or off. Bathymetry may be displayed as either contours or shaded areas, and in user-specified resolution, as determined by the **Terrain** submenu under the **Configure** menu.

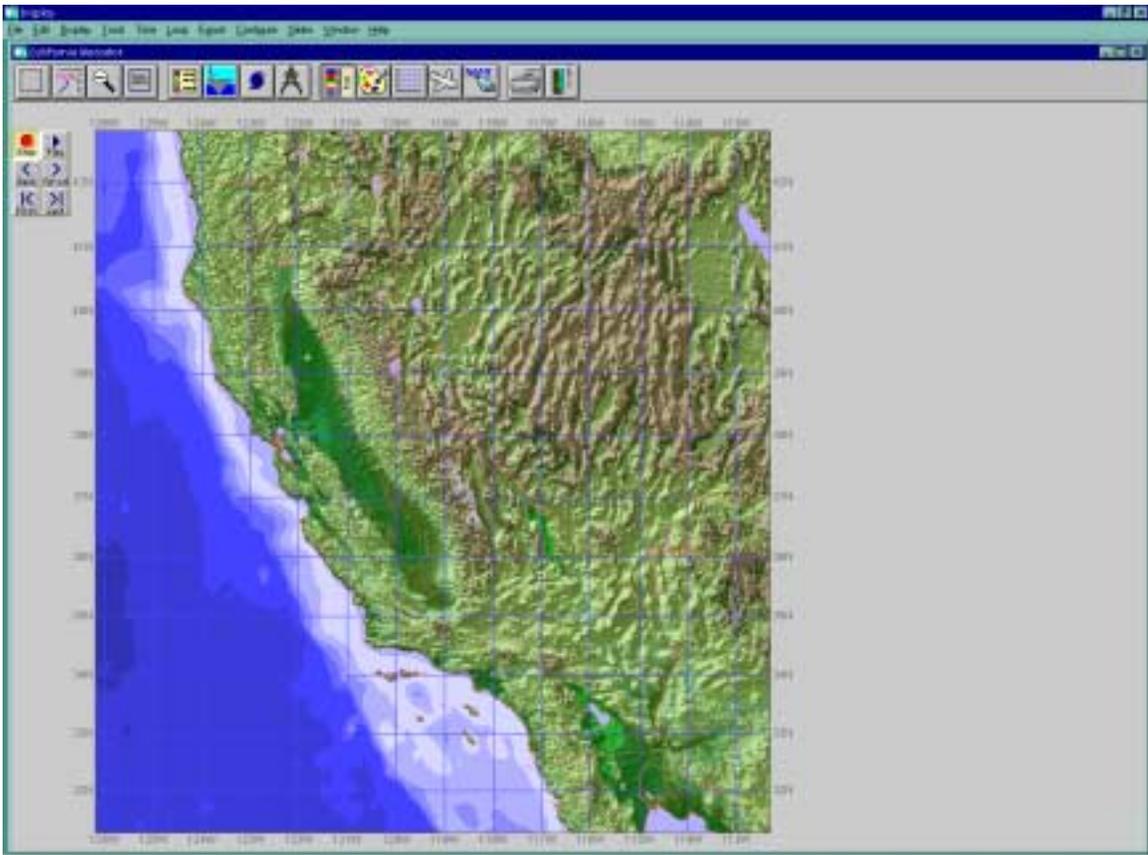
- **Multiple Satellites** allows display of multiple satellite images for an area. Clicking this option opens a dialog showing all satellite images on the system that overlap the displayed area. You can highlight one or more satellites and click the **Add** button to add them to the display list, then click the **OK** button to display the selected images. Note that these may be images from different satellites, or from different passes of the same satellite.
- **Satellite Information** allows you to view information about the current satellite image. This option is only available when a satellite image is being displayed.
- **IR/Vis Translucent**, when checked, "turns off" the background pixels of satellite images to allow the map background to show through. The "cloudy" parts of the image are then displayed over the map background.
- **Build Geo Image Background** gives the ability to build high-resolution map backgrounds for mercator projections. Because this is a data-intensive feature, it is recommended that you apply it only to limited areas. The global geography files are also very large (221 megabytes total); we have therefore provided them on the CD but left them out of the installation package. You can either access them directly from the CD, or you can copy the Geography directory to your hard drive if desired.

When you select the **Build Geo Image Background** option, the program must access the global geography files in order to create the background for the area being displayed. Therefore, the dialog below is displayed:



**Figure 84.** Finding the Geography Directory

This dialog allows you to select the directory in which the main geography background files are stored. If you copied the Geography directory from the CD to your hard drive, all you need to do is find the Geography directory. If the Geography directory is still on the CD, find the drive letter for the CD and double-click it, then select the Geography directory. Click the OK button when you're done, and the program will access the global geography and extract the background for the displayed area, which will then be displayed on the map. The figure below shows an area with the high-resolution map background displayed.

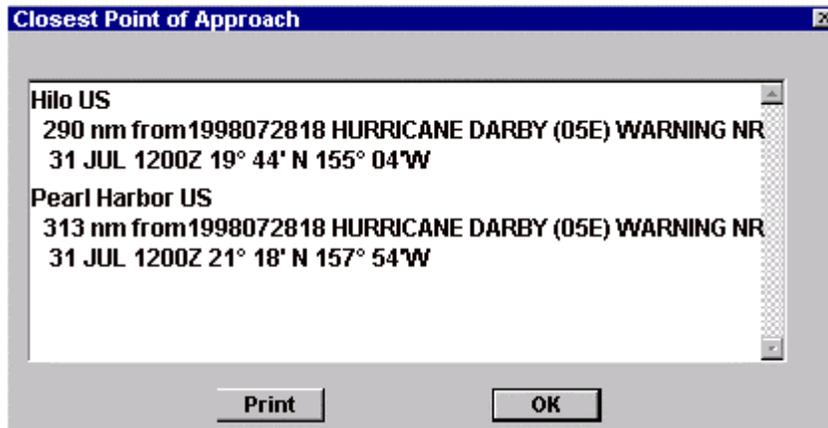


- **Delete Geo Image Background** removes the current background image, if there is one.
- **Select Image for Area Background** allows you to select any Tagged Image File Format (TIFF) format graphic file to serve as a background image. Selecting this option opens a file selection dialog to allow you to select the file desired as a background image.
- **Full View** returns a chart to its original size.
- **Redraw** refreshes the screen.

## THE TOOLS MENU

The **Tools** menu assists the user mainly with the Ship Route program.

- **Range/Bearing** finds the range and bearing from one map point to another.
  1. Select **Range/Bearing**.
  2. Click on a start point on the chart.
  3. Click on a stop point. A line connecting the two points is drawn. At the start point is the bearing in whole degrees. At the stop point is the distance in nautical miles.
  4. (Optional) Add more points, if desired. A cumulative range is shown as well as the range of the last leg of the track.
  5. (Optional) Add more points, if desired. A cumulative range is shown as well as the range of the last leg of the track.
  6. Select this menu option again to clear the current track.
  
- **Closest Point of Approach** determines the closest point between a tropical storm and a ship or homeport. Closest point of approach between a storm and a ship track is the default mode. To determine closest point of approach between a storm and a port use the **Home Ports** menu item to select a port to use in the calculation.



**Figure 85.** Closest Point of Approach Dialog

- **HomePorts** must be selected to use Closest Point of Approach.
  - Click **Add**.

- (Optional) Click **New** to add a port to the database. Enter Port Name, Country, Latitude, and Longitude. Click **OK**.
- Highlight port name in listing.
- Click **OK**.
- Click **OK** on HomePort List box.
- **Show Draw Tools** toggles display of the Tool Box and Animation Tools on the left of the chart.
- **Show Toolbar** toggles display of the Tool Bar at the top of the chart.
- **Edit Toolbar** allows you to customize the Tool Bar (see the Tool Bar section).

## TIME MENU

When more than one verification time is available for a chart, **Time** provides separate menu items for each time. Select any menu item to display the chart verifying at that time.

## LOOP MENU

The **Loop** menu performs the same functions as the control buttons in the Animation controls.

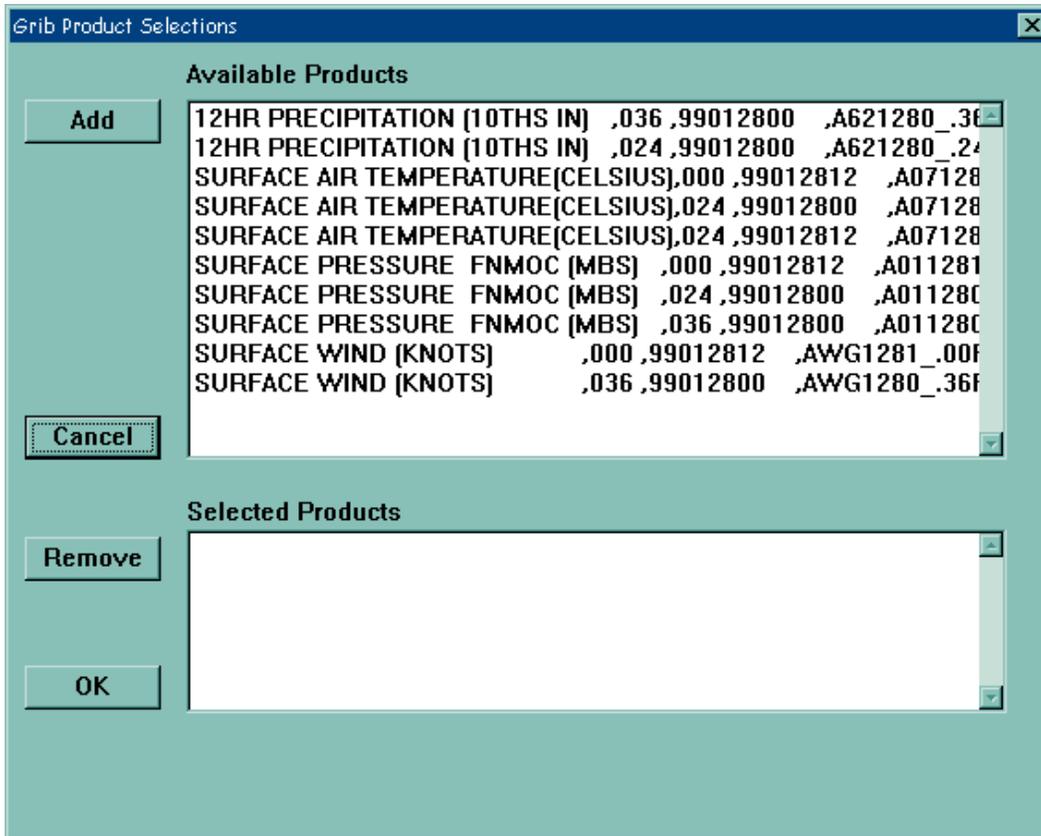
- **Play** starts the loop.
- **Stop** stops the loop.
- **Step Backward** goes to previous chart.
- **Step Forward** goes to next chart.
- **Go to First** goes to first chart in loop.
- **Go to Last** goes to last chart in loop.
- **Delay** sets the delay time between frames while looping. Default is 1.0 second.

- **Interval** sets the product interval between charts in a loop. Default is 12 hours. Buttons on the toolbar times remain at 12 hour intervals regardless of the interval set.
- **First Frame Dwell** sets the length of time that the first frame of a loop remains on screen.
- **Last Frame Dwell** sets the length of time that the last frame of a loop remains on screen.

## EXPORT MENU

The **Export** menu allows the user to export graphical data into text format and export a chart as separate file.

- **Data**
  - **Layer** exports graphical chart data in a text format.
  - **Cube** option is not available in JMV 3.5.
  - **Bathymetry** option is not available in JMV 3.5.
- **Graphics** saves and exports a chart in the selected format: BMP, GIF, JPG, or HTML. Chart displays using the High Resolution Topography must be exported as JPG because they use more than 256 colors.
- **Graphics Loop** saves and exports a series of charts in the selected format: BMP, GIF, JPG, or HTML. Time interpolated charts between standard forecast times may also be exported. As in graphics above, chart displays using the High Resolution Topography must be exported as JPG because they use more than 256 colors.
- **Wind/Seas Warning Message(s)** exports a graphical wind and/or seas warning as a text file. See the section on [Creating Extratropical Winds and Seas Warnings](#) for more information on Extratropical Winds Seas Warnings.
- **Products Message** exports one or more grid products or observation sets into a message that can be sent to another unit or application. Selecting this option opens the Grib Product Selection dialog.



**Figure 86.** Grib Product Selections Dialog

The **Available Products** list box shows products available on your system that can be exported. The **Selected Products** list box at the bottom shows the products you have chosen to export. You can move an available product to the Selected Products list by double-clicking it in the Available Products list or by highlighting it and clicking on the **Add** button. You can remove an item from the Selected Items list by highlighting it and clicking on the **Remove** button. Clicking on the **OK** button creates the message and opens a dialog to ask you where to save it. Select a directory and enter a file name to complete the message creation.

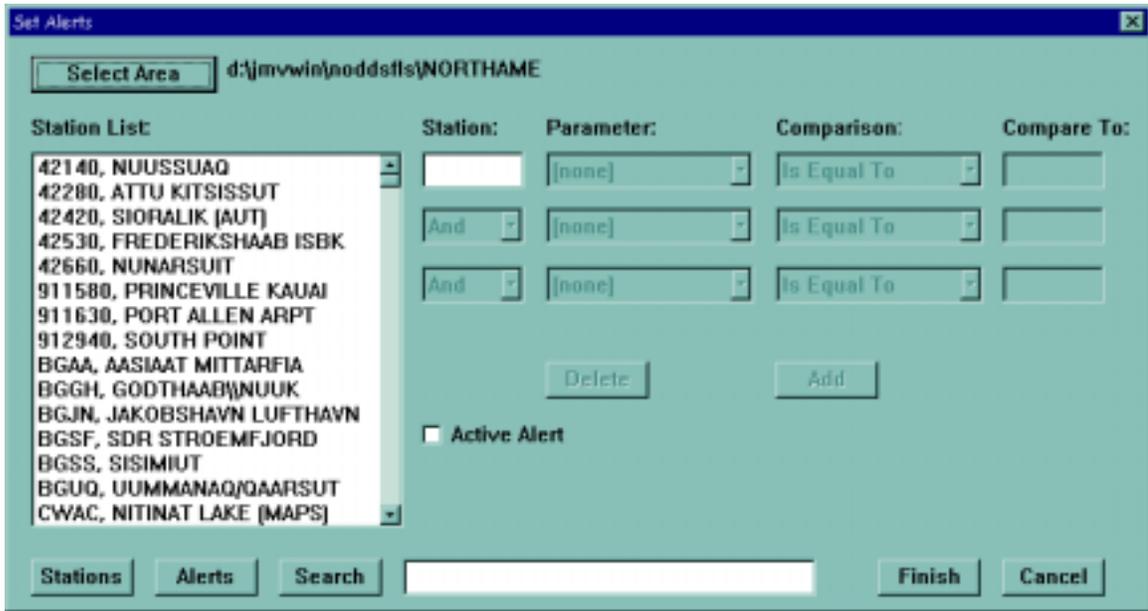
## CONFIGURE MENU

The **Configure** menu is used to change settings of various parameters. Through this menu, JMV can be customized for individual preferences.

- **Alerts** lets you specify stations whose observations will be monitored, and criteria that will generate an alert for each station selected. This provides a convenient way to alert users when some specified condition occurs at a given station. For example, you could generate an alert when visibility at a

station falls below 1000 feet, or when the temperature is below 0 degrees C, or when some combination of conditions likely to lead to a hazard occurs.

The Set Alerts dialog, shown below, is displayed when the **Alerts** option is selected.



**Figure 87.** Set Alerts Dialog

By default, this dialog shows all METAR reporting stations in the area currently being displayed. The **Select Area** button allows you to select a different area in which to set alerts, if desired.

The **Station List** shows the list of stations in the selected area. You can use the scroll bar to scroll up and down the list, or go to a specific station by typing its ICAO call sign or station name in the entry box at the bottom, then clicking on the **Search** button. When you highlight a station in the **Station List**, its call sign will appear in the **Station** box at the top. This is the station for which the alert will be set.

You can use the **Parameter**, **Comparison**, and **Compare To** boxes to specify sets of alert criteria. In the **Parameter** list, select the parameter for the alert from the drop-down list. In the **Comparison** list, select the type of comparison to be applied. In the **Compare To** box, enter the value to be used for the comparison. For example, to set an alert for visibility less than 1000 feet in Monterey, California, we would first highlight KMRV in the **Station List**, then select visibility in the **Parameter** list, then select Is Less Than in the **Comparison** list, then enter 1000 in the **Compare To** box.

You can add additional criteria for an alert (for example, you could generate an alert when the temperature was below 0 degrees C and the relative humidity was above 50%. To do this, use the lists below the Station box to select the type of additional comparison required (And means that both the first and second criteria must be met to generate an alert, Or means that if either of the criteria occurs an alert will be generated). Then specify the next set of alert criteria. You may have three criteria, if desired, for any alert.

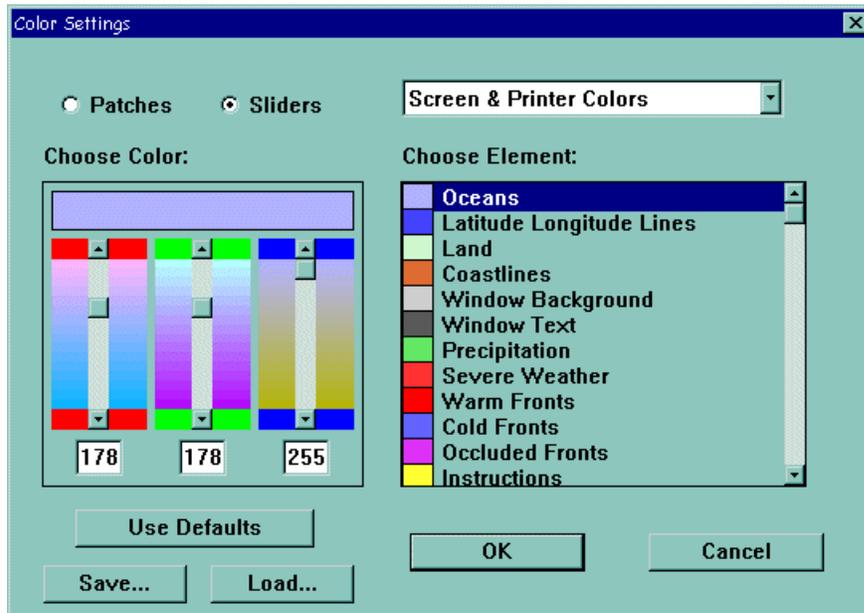
By default, the program selects the **Active Alert** checkbox when you enter any alert criteria. To enter an alert for future use but not activate it at the time you enter it, click on this box to uncheck it.

The **Add** button adds the new alert to the list. The **Delete** button deletes the alert currently displayed from the alert list.

The **Stations** and **Alerts** buttons switch the list box on the left side of the dialog between a display of stations in the selected area and a display of active alerts. The **Finish** button closes the dialog and saves the changes, while the **Cancel** button closes the dialog without changing the alert list.

When an alert is triggered, the user will hear an audible alert and a notification dialog will pop up on screen.

- **Change General Colors** sets the colors for various parts of the map display, through the dialog shown below.



**Figure 88.** General Color Settings Dialog

The pull down menu in the upper left allows you to specify whether the colors being set are for the display screen or the printer, or are common for both. On the right side of the dialog box is a listing of various screen elements. Each of these elements can have a color assigned to it.

Highlight the desired screen element by left clicking on it.

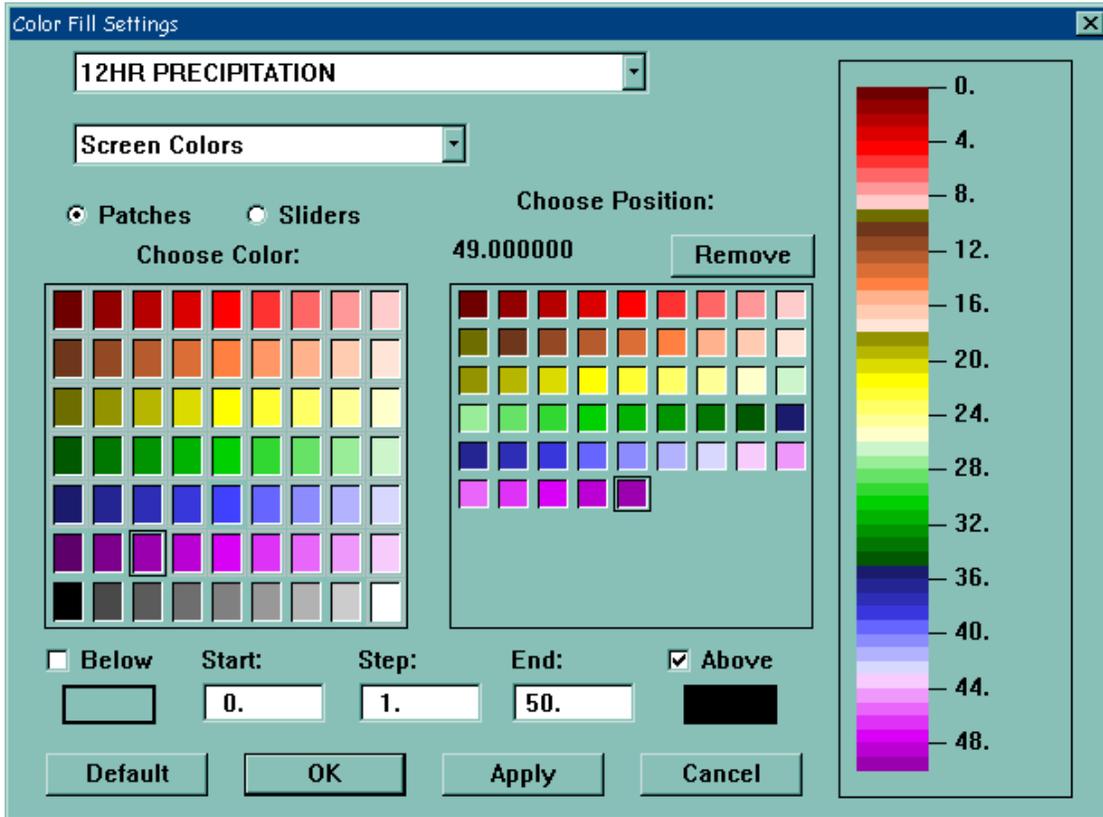
The **Patches** and **Sliders** radio buttons control how you select colors. With **Sliders** selected (the default), you change the color of the selected screen item by moving the sliders that control the red, green, and blue components of the color. The resultant color is shown in the color bar above the sliders, and in the color box for the screen item. With **Patches** selected, you just click on a color patch in a grid to choose the color for the selected screen item.

The **Save** button allows you to save the current color scheme for future use. When you click this button, a File Save dialog is opened – just type in a file name to save the color scheme. This option permits individual users to save their own preferred color schemes and reload them in the future.

The **Load** button loads a previously saved color scheme. Clicking this button opens a File Open dialog showing all of the saved color schemes. Double-click any of the scheme files to open and apply that color scheme.

The **Use Defaults** button returns the color scheme to the JMV default settings. The **OK** button accepts the current colors and continues. The **Cancel** button exits without making any changes.

- **Change Color Fill** sets the colors used for color filled fields, through the dialog below.

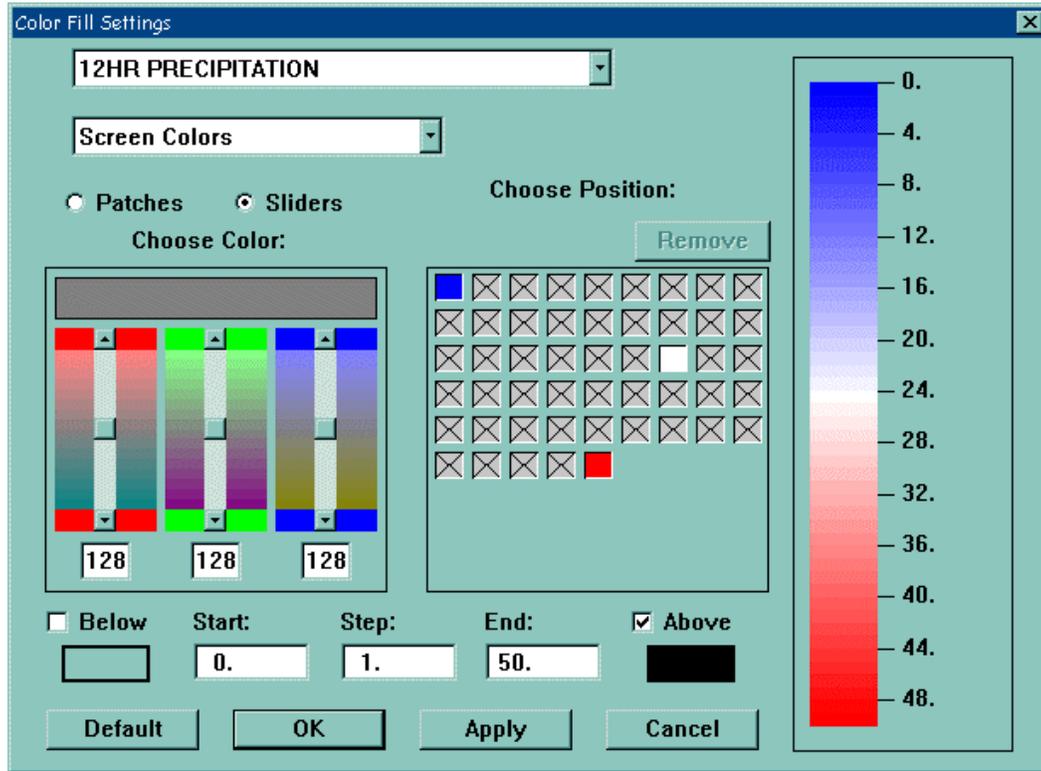


**Figure 89.** Color Fill Settings Dialog

The **Patches/Sliders** radio buttons allow you to change the way you select colors. Patches (shown) presents preset color patches. Sliders presents 3 sliders for each color selection, allowing you to customize the amount of red, green, and blue used in each color. The **Start** entry box is used to enter the lowest value that will receive a color fill. The **Step** entry box is used to specify the range of values that a single color will cover. The **End** entry box is used to specify the highest value that will receive a color fill. The number of positions shown in the **Choose Position** box is determined by the settings in these boxes. The **Below** entry box is used to specify a color for all values below the **Start** setting. The **Above** box is used to specify a color for all values above the **End** setting.

To set the color for a step of values, click the position in the **Choose Position** box, then click a color patch or set the sliders to the appropriate values for this position. When a position's color is set, it will be displayed in the legend bar on the right.

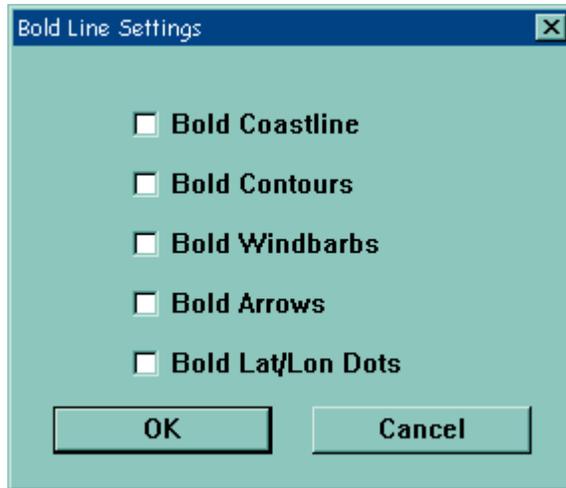
You can also set colors for the end values and any values between as desired, and have the program automatically fill in the colors between. For example, the figure below shows the Color Fill Settings dialog with blue selected as the color at one end of the range, red at the other end, and white in the middle. Note that the in-between colors are automatically filled in on the color scale and need not be individually specified.



**Figure 90.** Color Fill Settings Dialog Showing Automatic Color Selection

The **Default** button is used to return the settings to the default values. The **Apply** button lets you see the effects of your settings in the map window without closing the color setting window. The **Cancel** button exits without making any changes. The **OK** button is used to accept and apply your changes, and close the color setting window.

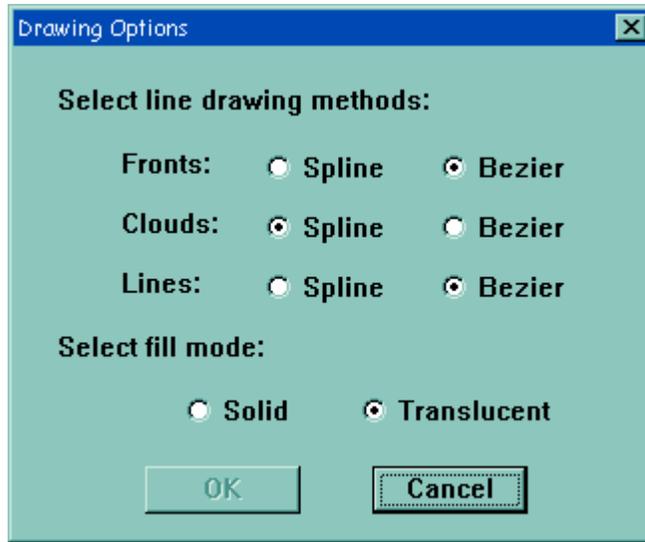
- **Bold Lines...** opens the Bold Line Settings dialog shown below, which allows you to specify certain lines in the map to be shown in bold.



**Figure 91.** Bold Line Settings Dialog

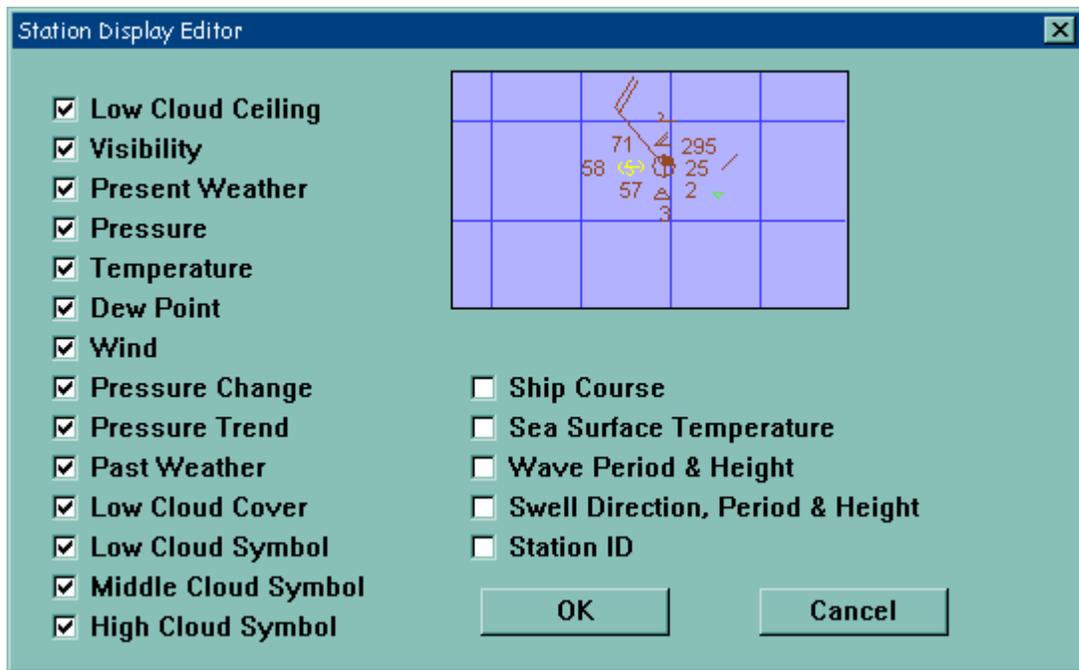
In the Bold Line Settings dialog, check the boxes for the lines to be displayed in bold, then click the **OK** button. To exit the dialog without making any changes, click the **Cancel** button.

- **Terrain** allows you to determine how topography and bathymetry are displayed (as shaded areas or contours) and set the display resolution.
- **Color Fill** and **Contour** determine the manner in which the terrain and bathymetry are depicted on the screen. The **Color Fill** option displays the terrain as shaded areas. The **Contour** option displays terrain height/depth contours. Both options may be selected simultaneously. A selected option is marked with a check mark.
- **Drawing Options** toggles the selection of line type for all line tools available via the toolbars. Lines can be drawn as splines or Bezier curves. **Spline** draws straight lines between points; **Bezier** automatically draws a smooth curve when four points are placed on the chart. The **Select fill mode** radio buttons let you choose whether to display lines as solid fills or translucent fills.



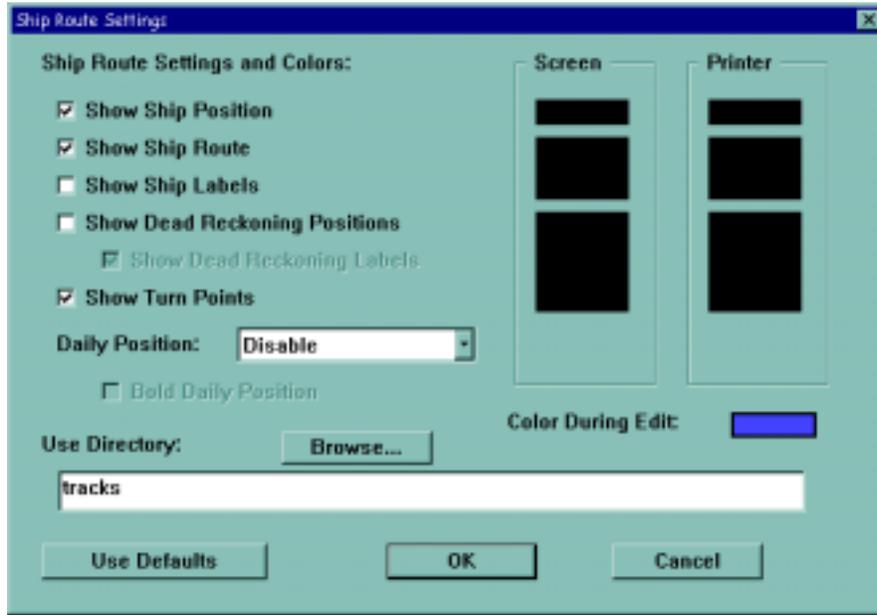
**Figure 92.** Drawing Options Dialog

- **Station Model** configures which items of synoptic observations are displayed, and how each is displayed. Checking or unchecking items adds or removes those items from the synoptic observations when displayed on the chart. Full information display affects thinning and overlapping with other observations. Selecting only the information that is relevant makes for cleaner, easier to read screens.



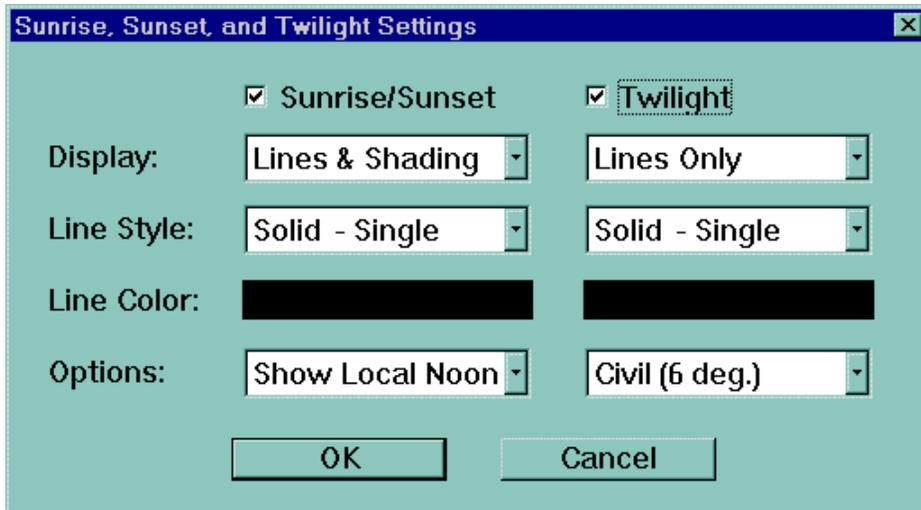
**Figure 93.** Station Display Editor Dialog

- **Ship Route** configures options for dead reckoning, turning points, and on screen labels, colors, and database location.



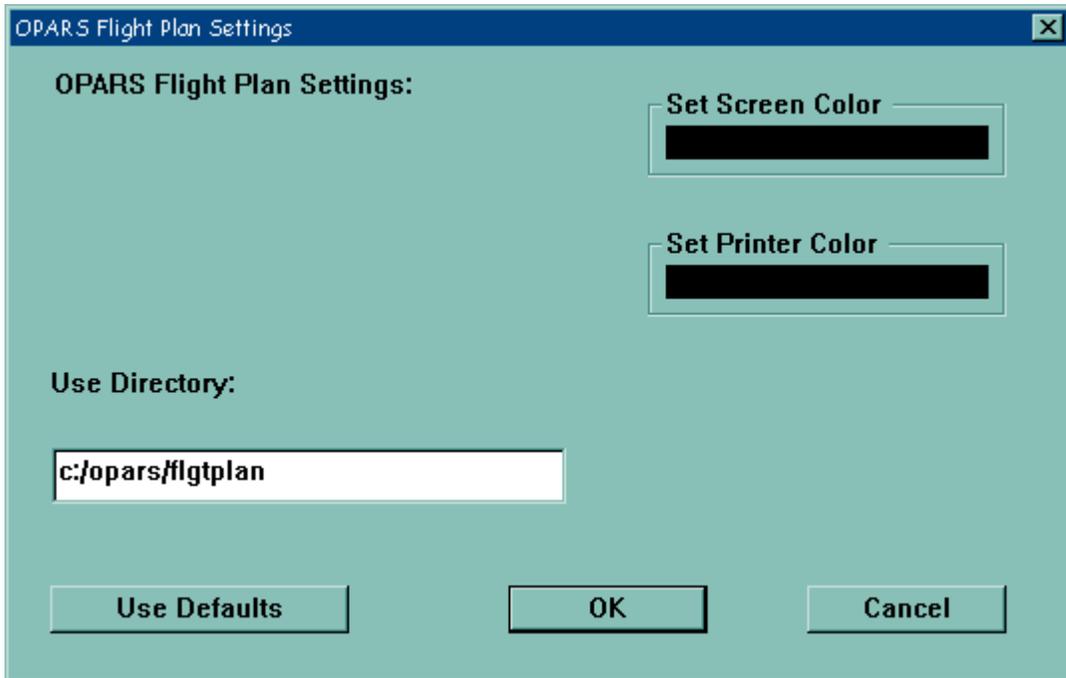
**Figure 94.** Ship Route Settings Dialog

- **Sunrise/Sunset** configures options for the display of shading to represent areas of the globe either in darkness and/or twilight. You can also bound shading with lines, and select the line style (solid, dash, or dots). If **Sunrise/Sunset** isn't selected yet, it can be selected under the **Configure** menu. The same applies for the **Twilight** toggle.



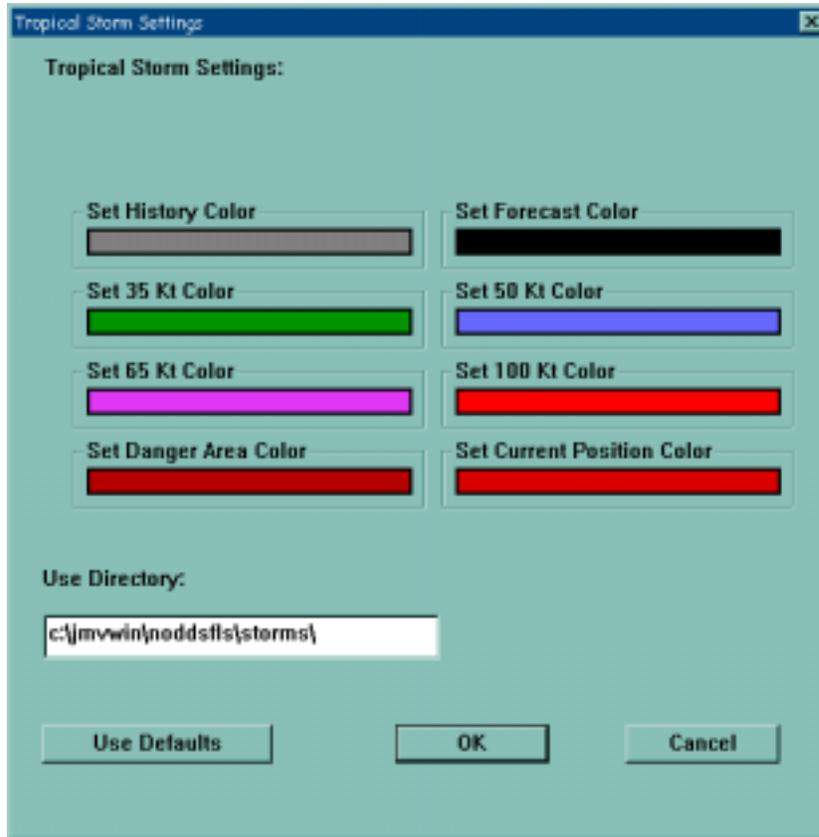
**Figure 95.** Sunrise-Sunset Settings Dialog

- **OPARS Flight Plan** configures options for importing and displaying OPARS Flight Plan. The directory where the OPARS database is stored must be specified. Left clicking on any of the color bars invokes **Color Picker**.



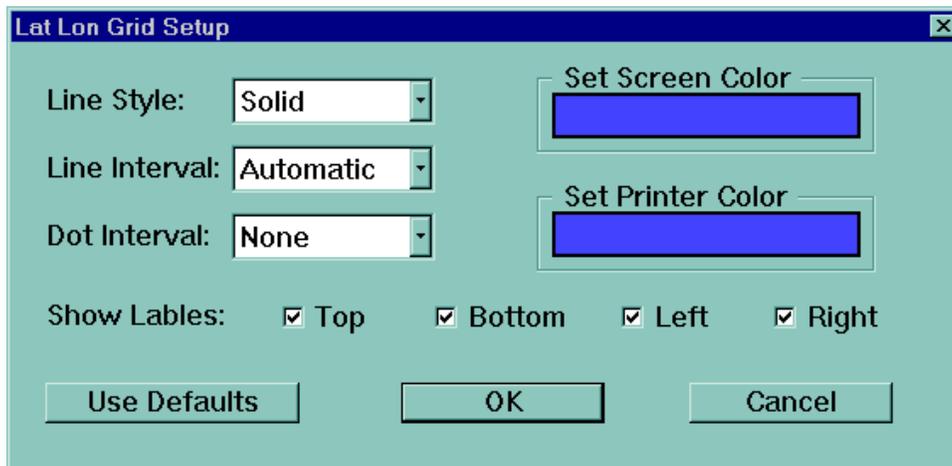
**Figure 96.** OPARS Flight Plan Settings Dialog

- **Tropical Storm** configures the colors used with tropical storm features and the location of the tropical storm database.



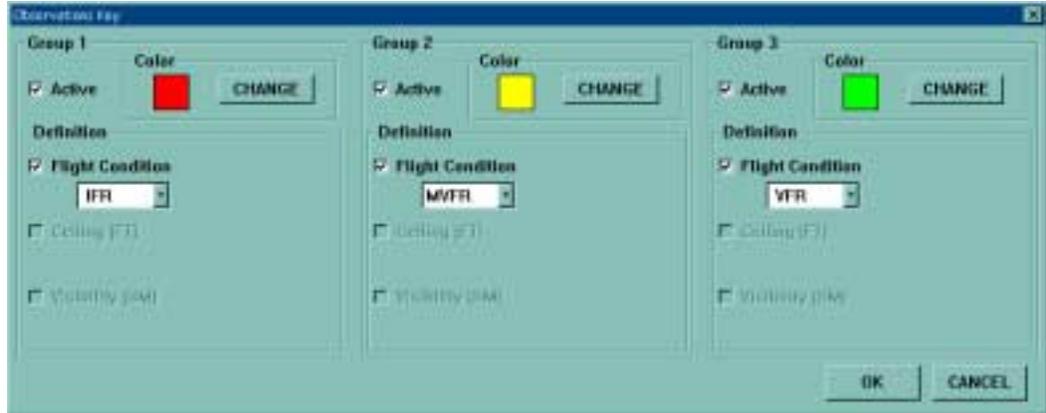
**Figure 97.** Tropical Storm Settings Dialog

- **Latitude and Longitude** configures the style, spacing, color and display position of latitudinal and longitudinal lines.



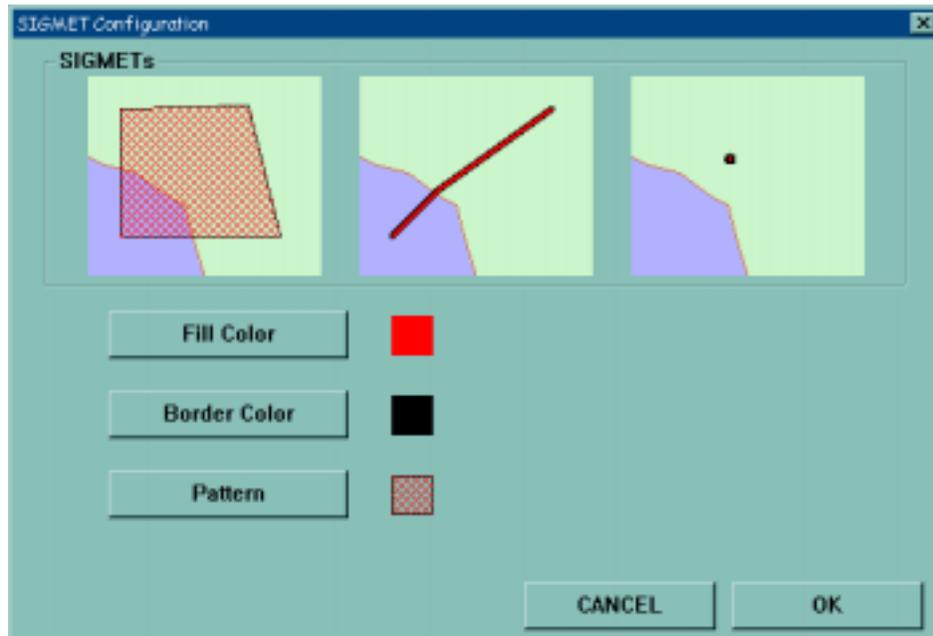
**Figure 98.** Lat Lon Grid Setup Dialog

- **Observations** configures options associated with the METAR and SIGMET formatted observations.
- **METAR**
  - **Configure** filters group 1, group 2, and group 3 observations. This submenu also contains selections for filtering desired data, and screen and printer colors may be specified.



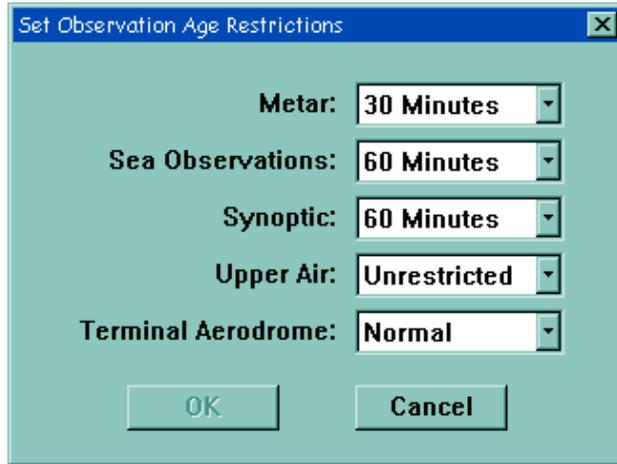
**Figure 99.** Observations Key Dialog for Specifying METAR Groups

- **SIGMET** sets options for the display of SIGMETs, including fill color, border color, and pattern.



**Figure 100.** SIGMET Configuration Dialog

- **Set Age Restriction** opens a dialog, shown below, that lets you set the maximum age of observations to be displayed for each observation type.

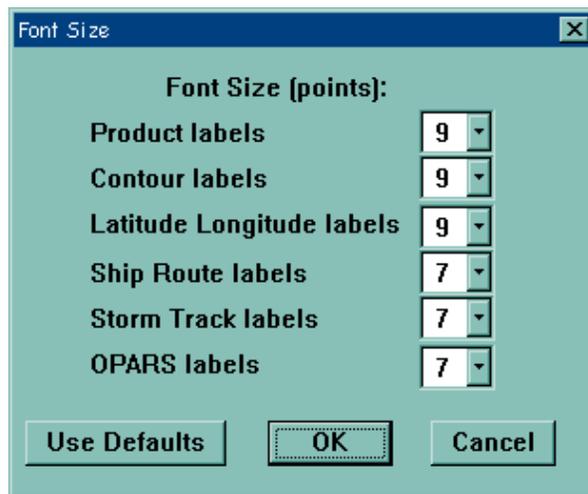


**Figure 101.** Set Observation Age Restrictions Dialog

To change the age restriction for any observation type, pull down the drop-down list for that type and choose a new value. Click on the **OK** button when the settings are as desired. The **Cancel** button exits without changing any settings.

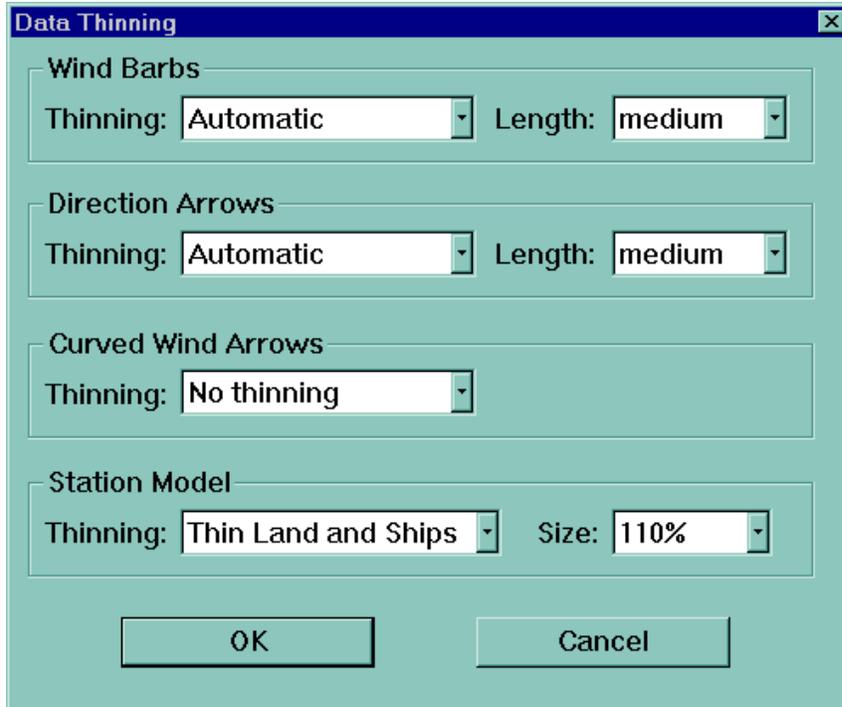
Typically METAR reports and TAF forecasts are submitted hourly, SPECIs at irregular intervals. Synoptic reports are typically only submitted every 6 hours. Upper Air Reports are typically submitted only at 00Z and 12Z.

- **Font Size** configures font sizes for labeling various data types. Font sizes in points are specified for product labels, contour labels, latitude and longitude labels, and track labels through drop down selection menus.



**Figure 102.** Font Size Dialog

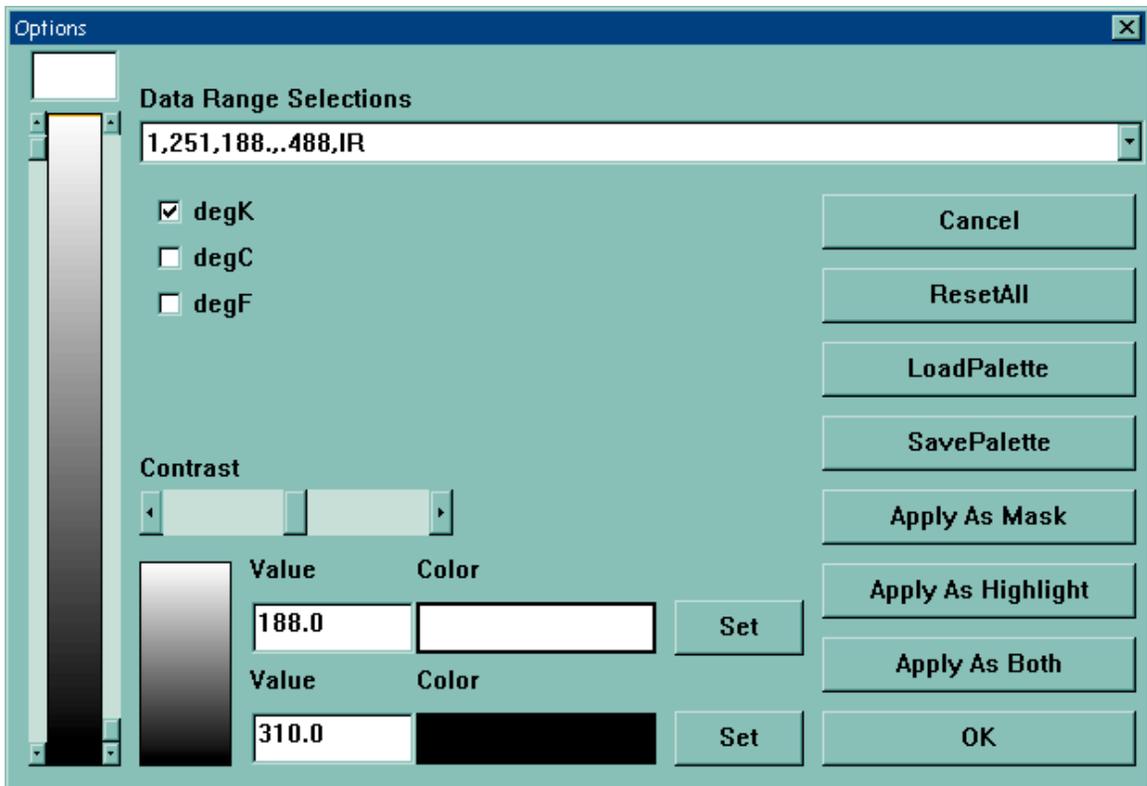
- **Data Thinning** configures the amount of data thinning to apply to synoptic observations, wind barbs, and other arrow type data. By making adjustments to the size and density of observations, the legibility of the data is affected. There are four primary thinning options that affect displaying data:



**Figure 103.** Data Thinning Dialog

- **Wind Barbs:** Thinning controls the amount of thinning for wind barbs. It uses a grid point based thinning scheme and allows for auto thinning, no thinning, and user defined thinning. Length, controls the length of the wind barb, from very short to very long. When auto thinning is selected, smaller wind barbs produce displays with more barbs. Larger wind barbs produce displays with fewer barbs.
- **Direction Arrows:** Thinning controls the amount of thinning for direction arrows. It uses a grid point based thinning scheme and allows for auto thinning, no thinning, and user defined thinning. Length, controls the length of the direction arrow, from very short to very long. When auto thinning is selected, smaller direction arrows produce displays with more arrows, while larger direction arrows produce displays with fewer arrows.
- **Curved Wind Arrows:** Thinning controls the amount of thinning for curved wind arrows. It uses a grid point based thinning scheme and allows for auto thinning, no thinning, and user defined thinning.

- **Station Model Thinning** provides three options for thinning of synoptic observations:
  - **Thin Land Only** thins out the data intense regions over land and leaves the more data sparse area over water untouched.
  - **Thin Land and Ships** reduces the number of observations displayed on the chart over both land and water.
  - **No Thinning** removes all filters on synoptic observations.
- **Station Model Size** sets the size of synoptic observations as a percentage of the full size. As with wind barbs and arrows, smaller station models produce less thinning and larger ones produce more thinning.
- **Satellite Enhancements** is available only when at least one satellite image is displayed. Choosing this option opens the Satellite Enhancements dialog shown below.



**Figure 104.** Satellite Enhancements Dialog

You can use this dialog to enhance the satellite image by making certain temperature ranges stand out more, make certain temperature ranges

"disappear" from the image, change the color set (e.g. go from gray scale to colored imagery), etc. You can also make a "CNN-style" image where only the "important" clouds are displayed and all others are filtered out.

The **Data Range Selections** pull-down list at the top shows the data ranges available in the image (some images have more than one data range specified in the image data). The data range specification shows the following:

1. The first number is the lowest pixel value in the image.
2. The second number is the highest pixel value in the image.
3. The third number is the temperature corresponding to the lowest pixel value.
4. The fourth number is the temperature increment between adjacent pixel values.
5. The fifth item is the type of image (IR, VIS, etc.)
6. The last item (not present in the example shown) is the picture's label.

At the left side of the dialog are a text box and a color scale with two sliders. The text box shows the temperature at the cursor when the cursor is over the color scale. The left slider sets the lowest temperature value to be displayed, and the right slider sets the highest temperature. Note that as you move one of the sliders, the value in the corresponding **Value** readout at the bottom of the dialog changes. The **Value** and **Color** boxes at the bottom show the value of the coldest and warmest values to be displayed, and the color boxes display the corresponding colors. The **Set** buttons are used to change these colors; they bring up a standard color-setting dialog. The **Contrast** slider sets the contrast (the difference between the darkest and lightest pixels displayed). The check boxes in the upper left set the type of temperatures displayed (Kelvin, Celsius, or Fahrenheit).

The **Apply as Mask** button applies the selected settings to the image as a mask; that is, the color values between the sliders are displayed, but all other values are masked out, so that the background shows through. This is useful for making a "CNN" cloud image, where only the highest clouds are displayed. To do this, move the right-hand slider about 1/4 of the way up the color scale, then click on the **Apply as Mask** button to see the results.

The **Apply as Highlight** button sets the image colors such that the temperature range between the sliders covers the entire color range (temperatures above and/or below the selected range are displayed in the

end colors). This can be useful for displaying fine variations within a narrow range (for example, for enhancing sea surface temperature variations).

The **Apply as Both** button masks out the temperatures above and below the range set by the sliders, and applies the full color range to the values between the sliders.

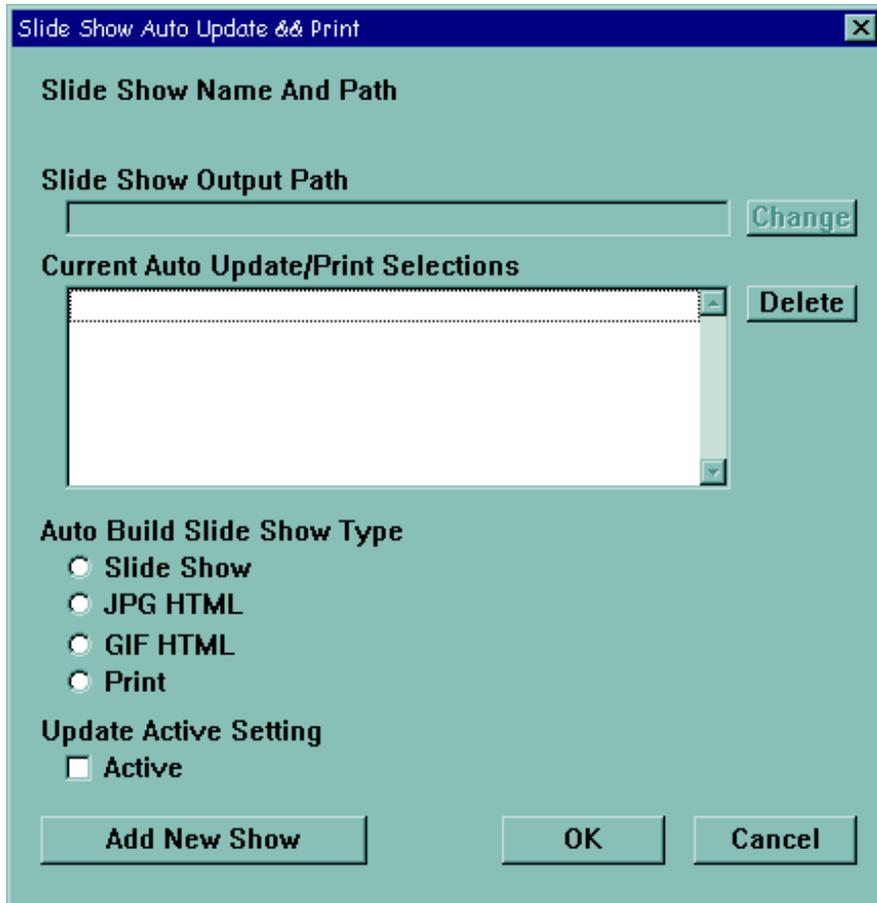
The **Save Palette** button allows you to save the current palette for reuse.

The **Load Palette** button lets you load a previously saved palette.

The **Reset All** button resets all settings to their default values.

The **OK** button exits the dialog, retaining the current settings. The **Cancel** button exits without changing from the previous settings.

- ***Automatically Update Displayed Image*** is a toggle that, when set on, will cause the displayed image to update automatically each time new data in the displayed set are received. This toggle is OFF by default.
- ***Slide Show Auto Print and Auto Build*** allows you to create slide shows that automatically update when new data are received. You create a slide show as usual (see the Slide Show section for directions), then use this option to set the show to automatically update when new data are received. Selecting this menu option opens the dialog shown below, which lets you specify the format in which the updated slide show will be output:



**Figure 105.** Slide Show Auto Update & Print Dialog

The **Auto Build Slide Show Type** buttons are used to specify the type of slide show to be built. The options are:

- **Slide Show** to build a slide show for display in JMV. When this option is selected, the **Slide Show Output Path** input box is inactive -- the selected slide show template file is overwritten with a new template and the slide show bitmap files are appended to the end of the file.
- **JPG HTML** to build a slide show in HTML format for display on the World Wide Web, using JPEG images. When this option is selected, the **Slide Show Output Path** input box will be activated and will contain the directory in which the original slide show was located. The **Change** button opens a file selection dialog to allow you to select a different directory.
- **GIF HTML** to build a slide show in HTML format for display on the World Wide Web, using GIF images. When this option is selected, the **Slide Show Output Path** input box will be activated and will contain the

directory in which the original slide show was located. The **Change** button opens a file selection dialog to allow you to select a different directory.

- **Print** to route the slide show to the printer. When this option is selected, the **Slide Show Output Path** input box is inactive. The selected slide show template file is overwritten with an updated template.

The **Current Auto Update/Print Selections** list box shows the slide shows that are currently set up for auto update. Initially, this box will show all slide shows you have defined. You can delete a show from the list by highlighting it and clicking on the **Delete** button. When you highlight an individual entry (by clicking on it), the auto update settings for that particular entry will be displayed and can be edited.

The **Update Active Setting** check box, when checked, activates the automatic updates. When this box is unchecked, the slide show will stay on the list but will not be automatically updated.

The **Add New Show** button is used to add a slide show to the list of shows to be automatically updated. A file selection dialog will be displayed to let you select the desired slide show file. The show will be added to the Update/Print list, with the **Auto Build Slide Show Type** defaulted to "Slide Show" and the **Update Active Setting** checkbox checked. You may then change the settings as desired. The **OK** button accepts and stores your changes; the **Cancel** button closes the dialog without making any changes to the settings.

## SLIDES MENU

The Slides menu offers options for building and displaying slide shows. See the section on Slide Shows for more detail.

## WINDOW MENU

The Window menu allows you to control the display of multiple windows (e.g. when 3D data are displayed and both a map window and a profile or a cross-section window are open). The **Tile** selection moves and resizes all of the windows, placing the depth profiles on the left 25% and the cross-sections on the bottom 25%, with the map display taking up the rest of the main window. The **Cascade** selection moves the windows so that they are stacked one above the other (but all visible), without resizing them.

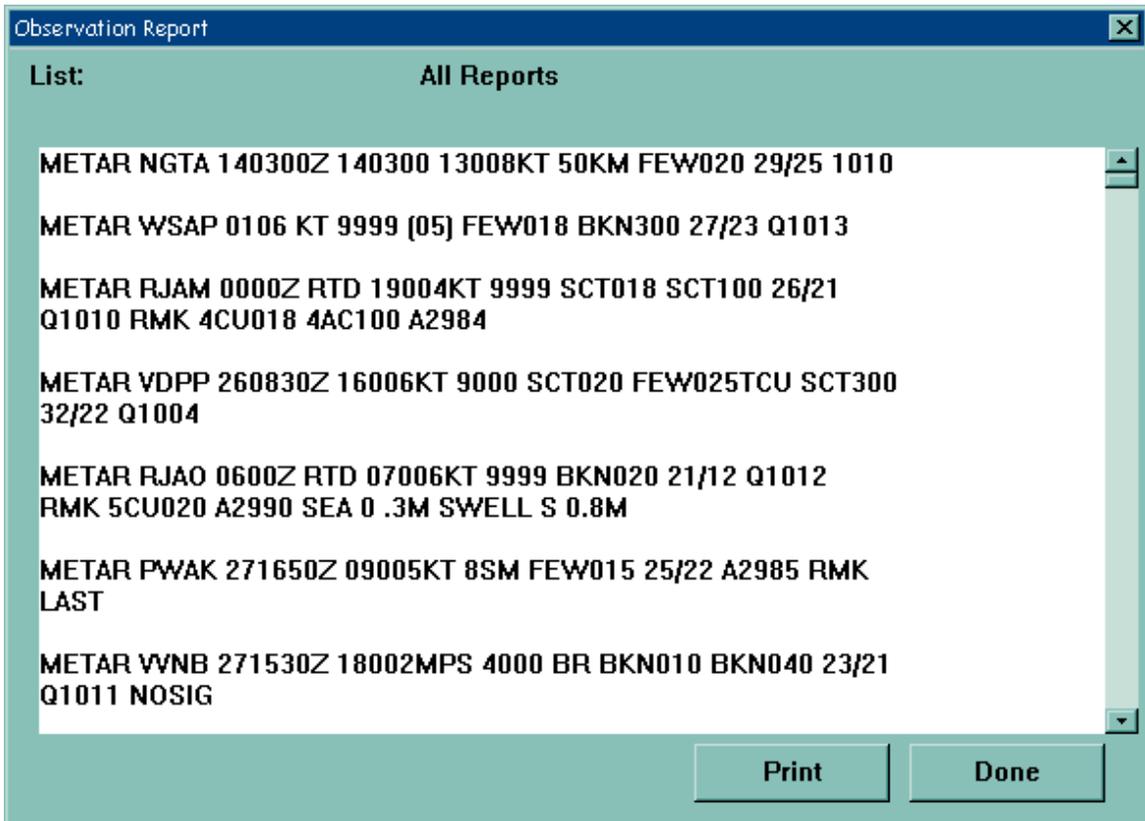
The Window menu can also be used to deal with a problem that occurred when the map window was un-maximized and moved to a corner of the main window, then the main window was un-maximized. This could result in the map window disappearing out of the main window. Opening the **Window** menu and clicking **Tile** restores the map window to its proper position inside the main window.

# JMV 3.5 DIALOGS

This section provides a complete description of each of the JMV 3.5 dialogs and the options provided by each. Dialogs are listed in alphabetical order.

## ALL-STATION LIST DIALOG

This dialog is used to display all METAR or TAF reports.



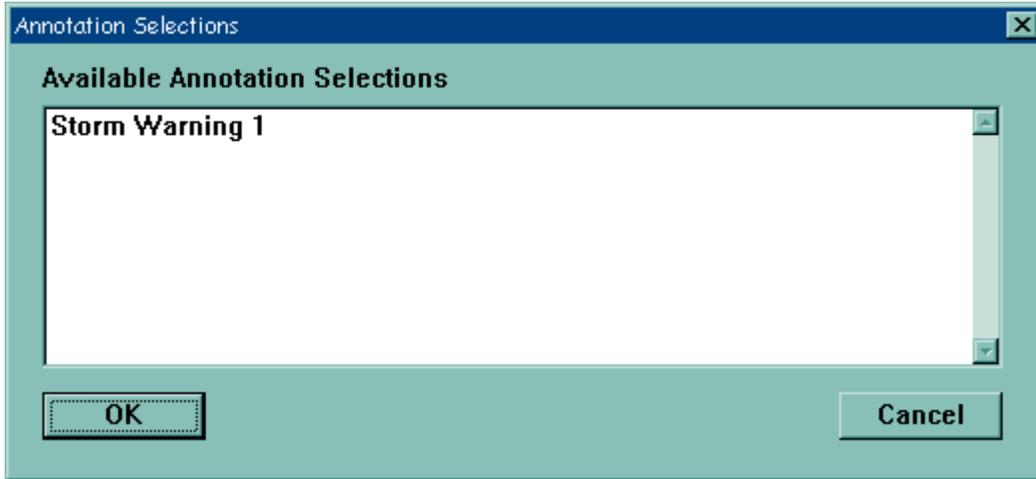
**Figure 106.** Observation Report Showing All METAR Reports

The **Print** button prints all reports to the default printer.

The **Done** button exits the dialog.

## ANNOTATION SELECTIONS DIALOG

This dialog is used to select the specific warning from which to create a high wind or high seas warning.

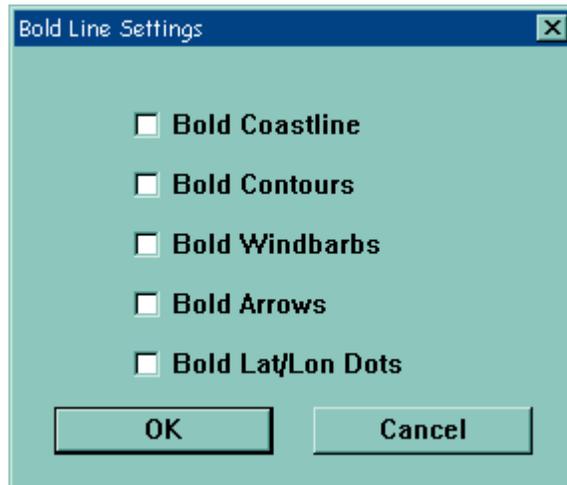


**Figure 107.** Annotation Selections Dialog

The available selections are listed in the list box by the name given them when they were saved. Select the desired warning area by clicking on it, then click the **OK** button. The **Cancel** button exits the dialog without making a selection.

## BOLD LINE SETTINGS DIALOG

This dialog is used to select lines in the map display that will be rendered bold.

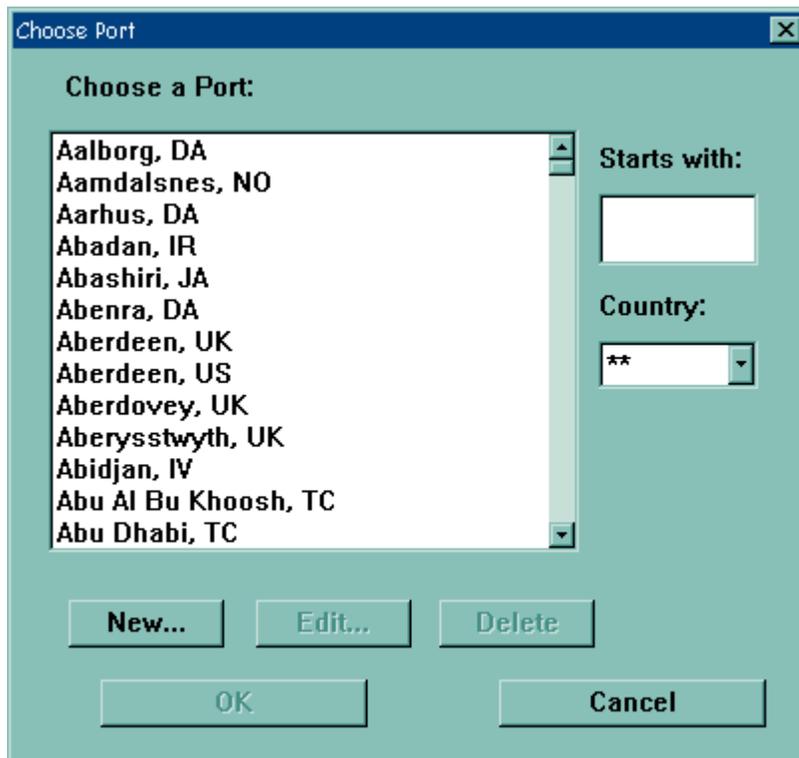


**Figure 108.** Bold Line Settings Dialog

The check boxes are used to select the lines to be displayed in bold. The **OK** button accepts the selections and proceeds; the **Cancel** button exits without changing any selections from their previous values.

## CHOOSE PORT DIALOG

The Choose Port dialog is used to select a port to be a waypoint on a ship track, to edit a port definition, or to create and select a new port. It is used in creating or editing a ship route.



**Figure 109.** Choose Port Dialog

The **Choose a Port** list contains a listing of all ports known to JMV. You can find a port quickly by selecting its **Country** from the drop-down list to the right, and/or by typing the first few letters of the port's name in the **Starts with** entry box.

To choose a port, click on its name in the Choose a Port list. The **OK**, **Edit...**, and **Delete** buttons will then be available.

The **OK** button accepts the current port selection and returns it to the Ship Route Editor.

The **Edit...** button loads the selected port definition into the New Port Entry dialog, where you can change the port definition.

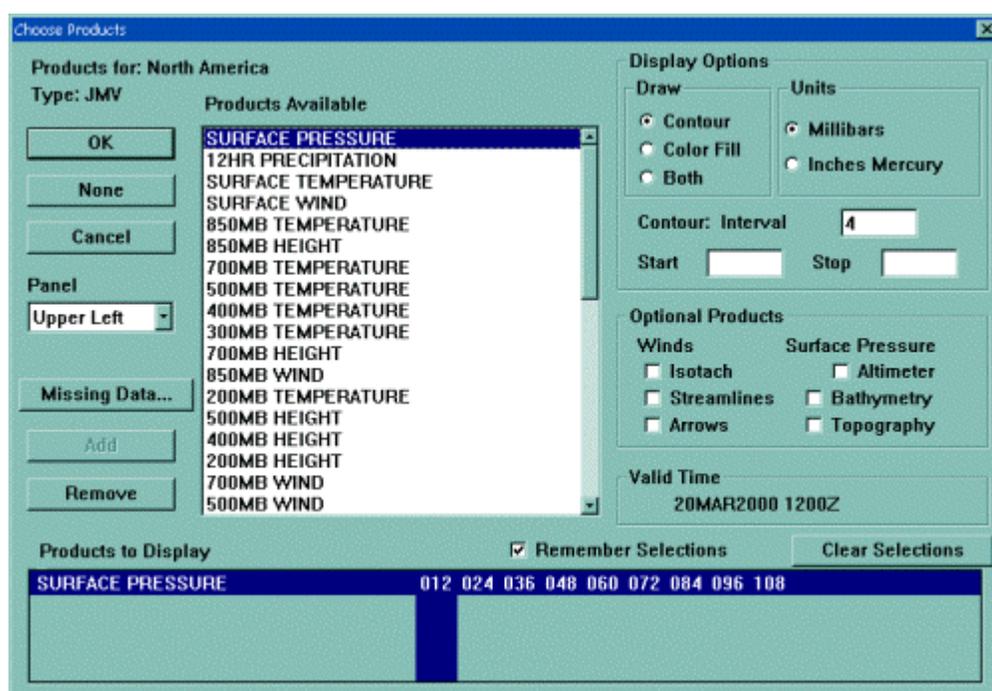
The **Delete** button deletes the selected port from the list of ports.

The **New...** button opens the New Port Entry dialog, where you can create a new port definition.

The **Cancel** button exits the port selection process without making any selection.

## CHOOSE PRODUCTS DIALOG

The Choose Products Dialog allows you to select products for display on a map or for addition to a slide show.



**Figure 110.** Choose Products Dialog

- **Products Available** list box shows all the products downloaded for the region selected. Up to five products may be selected.

### To select products:

- Double-click on Product Name, or
- Click on Product Name, then click on **Add**.

Either of these options selects a product for display with the default display options. Selected products appear in the **Products to Display** list box at the bottom of the dialog.

**To select products with custom display options:**

- Click on the product name to highlight it, then use the **Display Options** and/or **Optional Products** selections to customize the display (see below).
- **Display Option** area presents options that affect how a product displays.

**Contour** Displays product with contour lines to represent product values on a chart.

**Color Fill** Displays product with color to represent product values on chart.

**Both** Displays product with both contour lines and color fill.

**Interval** Sets the interval between contour lines, in the chosen units. Applies only to contour.

**Start** Sets smallest value of product to display, in the chosen units. Applies only to contour.

**Stop** Sets largest value of product to display, in the chosen units. Applies only to contour.

The radio buttons to the right of **Contour** and **Color Fill** display labels indicating choices between units of measure for a product, when applicable.

An example: For a temperature chart, select Fahrenheit for Units, set Start to 30, Stop to 100, and Interval to 5. The chart displays temperature between 30 and 100 in five degree increments.

- **Optional Products** area adds additional product types to Products Available listing. Click the desired product type and the Products Available list refreshes with the additional products included. Standard products like wind barbs can be displayed as isotachs, streamlines, or directional arrows. Pressure products can be converted to altimeter settings.
- **Remember Selections** checkbox, when checked, saves the current selections and their settings for the region. The next time that particular region is

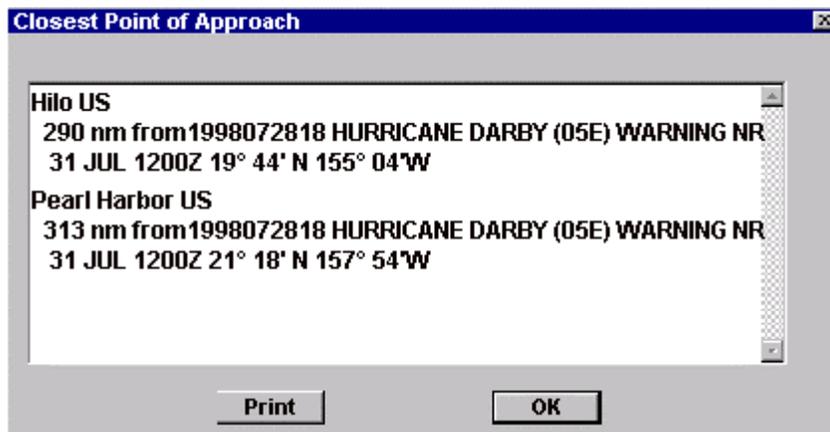
opened, the Choose Products dialog box opens with the same set of products selected. This saves time by not having to reselect the same data repeatedly.

- **Products to Display** list box shows which products have been selected. Double clicking on a product name in this list box removes it from **Products to Display**. Up to ten parameters can be selected. The product name lists on the left side of the box. To the right of the product names are groupings of three numbers. These numbers, called taus, represent the number of hours from the base time that the product is forecasted. Tau 000 provides the base time for that particular product. Tau 012 is the data forecasted 12 hours into the future from the base time. For example, surface pressure at Tau 000 has a date of 22Jun98 1200Z. Surface pressure at Tau 012 is the forecast for 23 Jun98 0000Z, twelve hours beyond Tau 000. Taus for different products line up according to the date and time the forecasts will be valid. Selecting a column of taus determines which valid time is displayed when the chart is opened.
- **Buttons**
  - OK**            Display chart with products chosen.
  - None**          Display chart with no products.
  - Cancel**        Close **Choose Products** box and return to **Requestor** (if JMV was started from METCAST Client) or to Windows.
  - Add**           Add product highlighted in **Products Available** list to **Products to Display** list.
  - Remove**        Remove highlighted product from **Products to Display** list.
  - Missing Products**    Opens **Missing** dialog box listing products that have not updated and what verification time was substituted.
- **Panel** drop down box is used in conjunction with the 4-panel display option, which allows four charts to be displayed at once. The **Panel** drop-down list controls selection of the quadrant of the 4-panel display whose chart is currently being defined. Select a quadrant from the list and select products for that quadrant's chart. When finished, select a different quadrant to define, if desired.
- **Valid Time** is the time of the oldest product and is used as a base time to determine which products are valid for the same date and time. In the Products to Display list, taus line up according to the valid time for that tau, not by the tau itself. For example, surface pressure NCEP has a valid time of 22JUN98 0000Z which is the oldest product available. Surface pressure

FNMOG is not as old, having a tau 000 valid at 22JUN98 1200Z. In the Products to Display listing, surface pressure NCEP 012 lines up with surface pressure FNMOG 000 since both are valid for the same day and time.

## CLOSEST POINT OF APPROACH DIALOG

The **Closest Point of Approach** option on the **Tools** menu determines the closest point between a tropical storm and a ship or homeport and displays the dialog shown below. Closest point of approach between a storm and a ship track is the default mode. To determine closest point of approach between a storm and a port use the **HomePorts** menu item to select a port to use in the calculation.



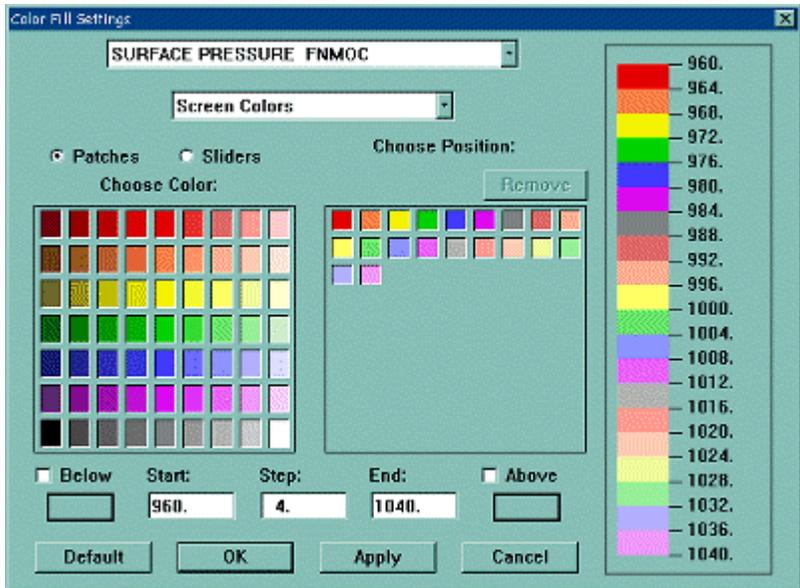
**Figure 111.** Closest Point of Approach Dialog

The **Print** button prints the results to the default printer.

The **OK** button exits the dialog.

## COLOR FILL SETTINGS DIALOG

This dialog is used to set colors for color fills.



**Figure 112.** Color Fill Settings Dialog

The dropdown list at the top specifies the data field to which the selected colors will apply.

The second dropdown list specifies whether the selected colors will apply to screen displays, printed output, or both.

The **Patches** radio button lets you choose colors from a set of color patches, as shown. The **Sliders** radio button replaces the color patches with red, green, and blue sliders that allow you to define your own custom colors.

The **Start**, **Step**, and **End** entry boxes are used to specify the data values that will be covered by the color range. **Start** is the lowest value, **Step** is the number of units between color steps, and **End** is the highest data value in the range. The **Below** checkbox and color swatch allow you to select a color that will apply to all values below the **Start** value. The **Above** checkbox and color swatch allow you to select a color that will apply to all values higher than the **End** value.

Once the range of values has been selected, the color bar on the right side shows the colors applied. The **Positions** box is used to select the position in the color bar that will receive the next selected color. To set a color, click a position in the Positions box, and then click a color patch (or set the sliders to define a color) to apply to that position.

The **Default** button returns all color settings to the defaults.

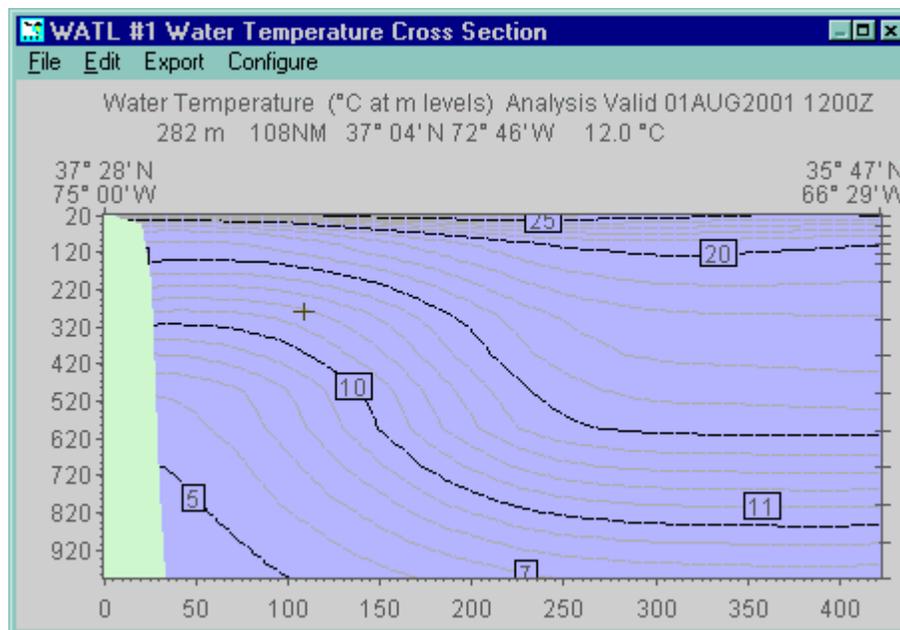
The **OK** button accepts and applies your color settings, and closes the color fill settings dialog.

The **Apply** button applies the color settings, but does not close the color fill settings dialog.

The **Cancel** button exits the dialog without changing any settings.

## THE CROSS-SECTION WINDOW

This window displays a vertical cross-section through the ocean or atmosphere. The figure below shows a cross-section of ocean temperature. The area shaded in light green represents the ocean bottom topography. The vertical scale is depth (or height) in meters; the horizontal scale is distance along the cross-section (measured from the starting point) in nautical miles.

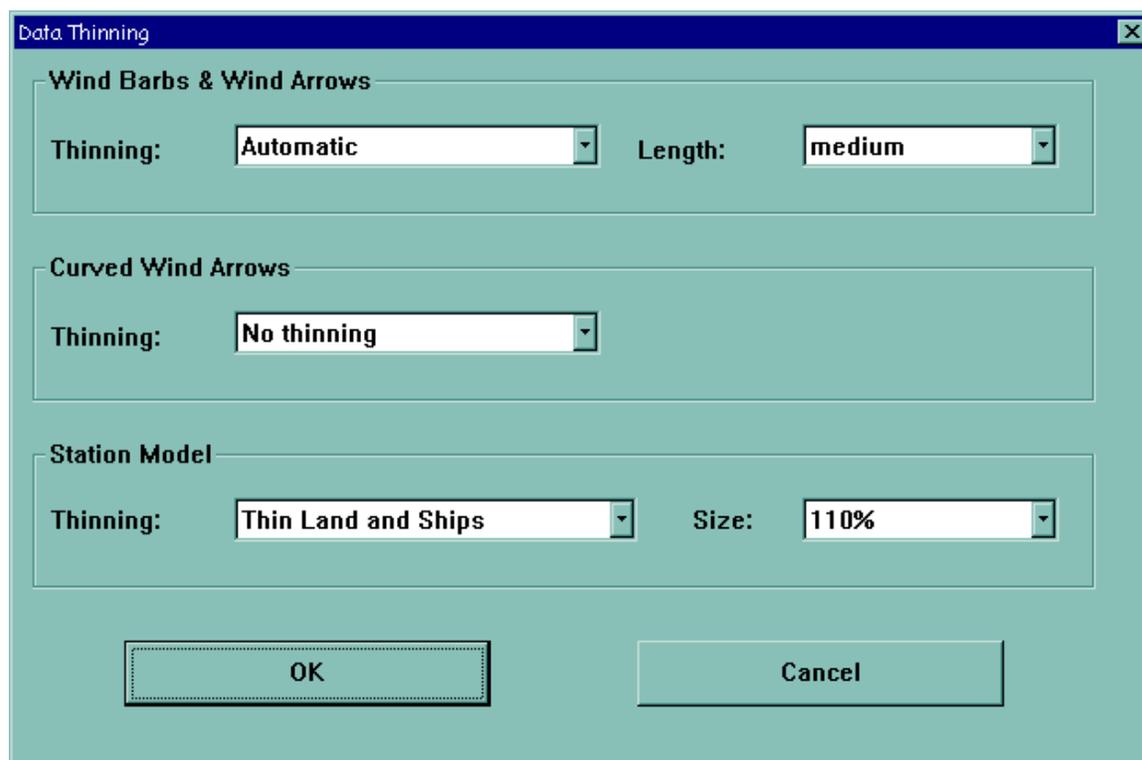


**Figure 113.** Cross Section Window

The example above shows the cross-section cursor (a cross) on the map, and the cursor readout, which displays the following:

- Water depth at the pointer location,
- Distance along the cross section line to the pointer location,
- Latitude and longitude of the pointer's location, and
- Value of the parameter (in this case water temperature) at the cursor location and depth.

## DATA THINNING DIALOG



**Figure 114.** Data Thinning Dialog

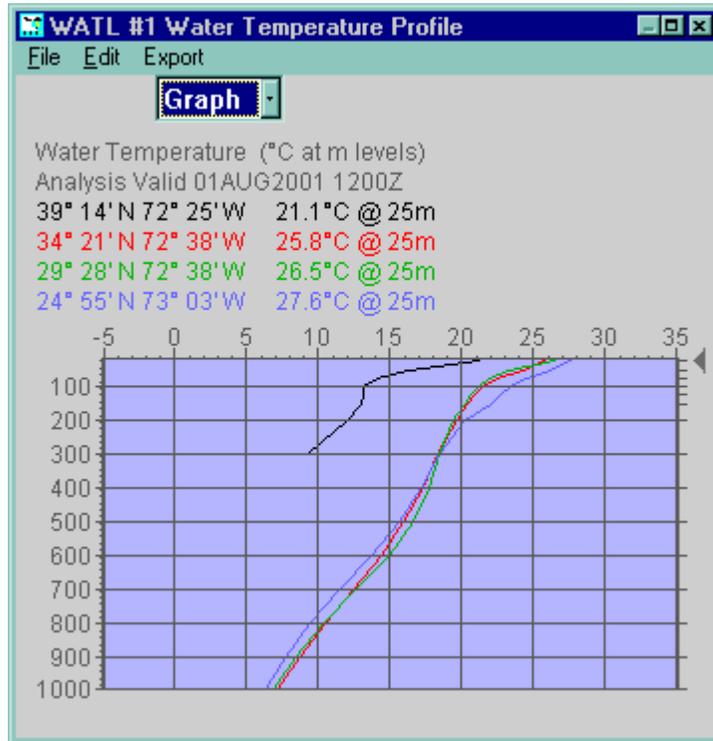
This dialog is used to configure the amount of data thinning to apply to synoptic observations, wind barbs, and other arrow type data. Data thinning adjusts the size and density of observations as the area covered by the chart changes, thus improving the legibility of the data. There are five primary thinning options that affect displaying data:

- **Barb/Arrow** thinning controls the amount of thinning for wind barbs and directional arrows. It uses a grid point based thinning scheme and allows for auto thinning, no thinning, and user defined thinning.
- **Barb/Arrow** Length specifies the size of wind barbs. When auto thinning is selected, smaller wind barbs produce displays with more barbs. Larger wind barbs produce displays with fewer barbs.
- **Curved Wind Arrows** specifies the amount of thinning applied to curved wind arrows (i.e. streamlines).
- **Station Model Thinning** provides three options for thinning of synoptic observations:

- **Thin Land Only** thins out the data intense regions over land and leaves the more data sparse area over water untouched.
- **Thin Land and Ships** reduces the number of observations displayed on the chart over both land and water.
- **No Thinning** removes all filters on synoptic observations.
- **Station Model Size** sets the size of synoptic observations as a percentage of the full size. As with wind barbs and arrows, smaller station models produce less thinning and larger ones produce more thinning.

## DEPTH PROFILE WINDOW

The Depth Profile Window displays one or more vertical profiles or a parameter through the atmosphere or ocean. The figure below shows a multipoint profile with four profiles. Note that the profiles themselves and the cursor readout are color-coded for easy identification.



**Figure 115.** Depth Profile Window

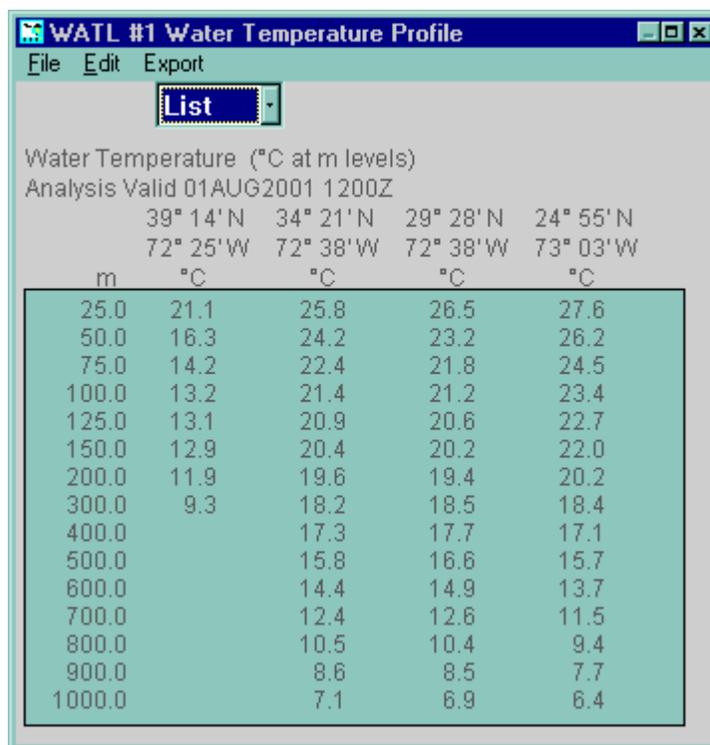
The **Cursor Readout** is tied to the arrow on the right margin of the window. You can drag this arrow up and down -- the cursor readout will show the value of the parameter in each profile at the depth of the arrow.

The **Graph/List** dropdown list is used to select the type of display. The default is Graph, which depicts the profile(s) graphically. Select List, to display the profiles as an alphanumeric table (see the section on the Depth Profile List Dialog, below).

To close the Depth Profile Window, use the **Close** icon.

## DEPTH PROFILE LIST DIALOG

This dialog is displayed when you select the List display in the Depth Profile Window. It lists the profile(s) in tabular form.

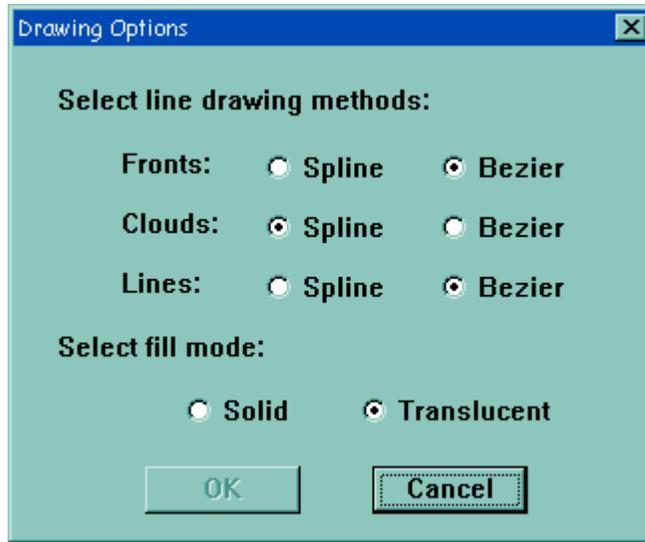


**Figure 116.** Depth Profile List

The **Graph/List** dropdown list is used to select the type of display. If you select Graph, the profiles will be displayed graphically (see the Depth Profile Window section, above).

## DRAWING OPTIONS DIALOG

This dialog selects the line drawing methods used for various types of items in the map display. **Spline** draws straight lines between points. **Bezier** automatically draws a smooth curve when four points are placed on the chart.



**Figure 117.** Drawing Options Dialog

For each element, click on the appropriate radio button to set the line type.

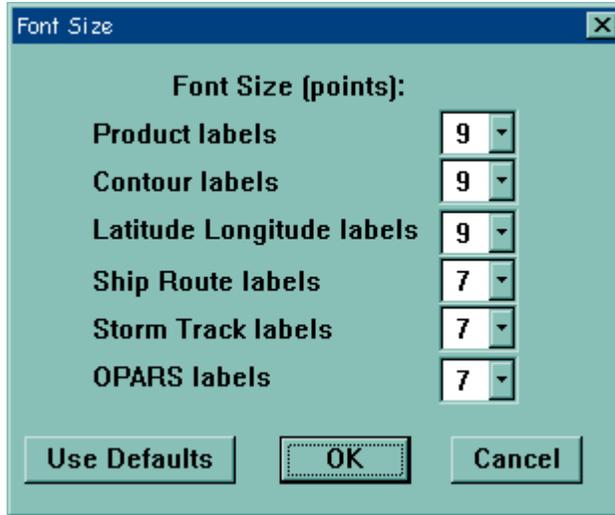
The **Select fill mode** radio buttons allow you to select whether lines will be drawn as solid colors or translucent.

The **OK** button, which is inactive until a change is made, is used to accept and apply your settings, and exit the dialog.

The **Cancel** button exits the dialog without making any changes.

## FONT SIZE DIALOG

This dialog is used to set the font size for various labels in the map display.



**Figure 118.** Font Size Dialog

To set the font size for an element, open the pulldown list for that element and select a new size.

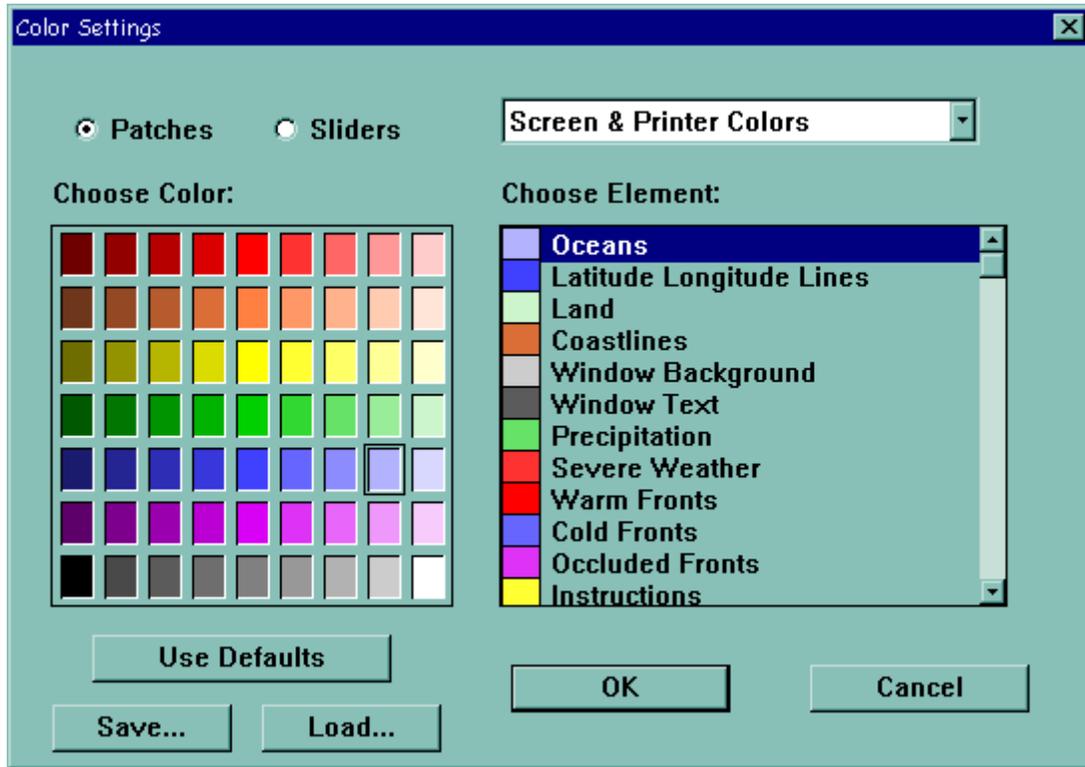
The **Use Defaults** button reverts all labels back to the default font size.

The **OK** button accepts and applies your changes, and exits the font size dialog.

The **Cancel** button exits without changing the font sizes.

## GENERAL COLOR SETTINGS DIALOG

This dialog is used to set screen and printer colors for most map display items. It is opened by opening **Configure** menu and selecting **General Color Settings...**



**Figure 119.** General Color Settings Dialog

The **Screen & Printer Colors** pulldown list lets you specify whether the colors you are choosing will apply to the screen display, printed output, or both

The easiest way to change colors is to ensure that radio button is selected, then click the element in the Choose Element list, then click the desired color in the color patches. Alternatively, you can select the **Sliders** radio button to display red, green, and blue color sliders instead of the patches. The sliders allow you to define custom colors for the elements.

The **Use Defaults** button reverts all of the elements to their default colors.

The **Save** button allows you to save the current color scheme for future use. When you click this button, a File Save dialog is opened – just type in a file name to save the color scheme. This option permits individual users to save their own preferred color schemes and reload them in the future.

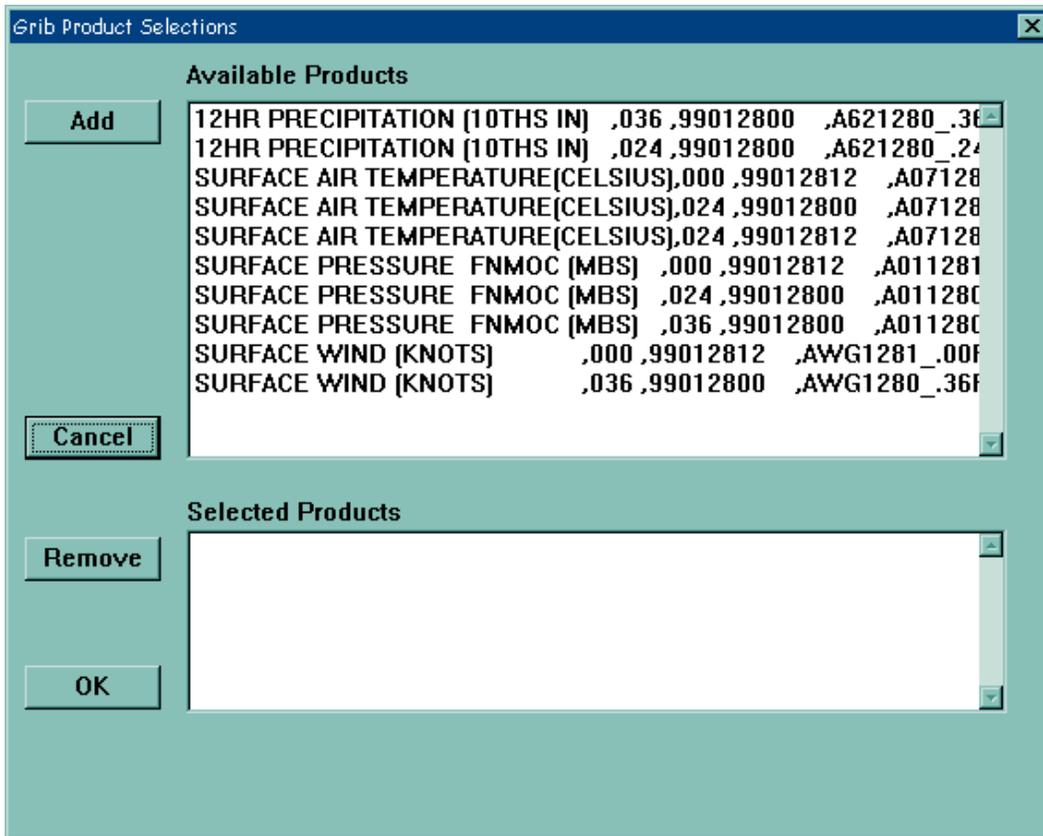
The **Load** button loads a previously saved color scheme. Clicking this button opens a File Open dialog showing all of the saved color schemes. Double-click any of the scheme files to open and apply that color scheme.

The **OK** button accepts the new color settings and exits, applying the new settings to the map display.

The **Cancel** button exits without applying the new color settings.

## GRIB PRODUCT SELECTIONS DIALOG

This dialog is used to select grid products for export when exporting a products message.



**Figure 120.** Grib Product Selections Dialog

The upper list box shows the **Available Products**. The lower list box shows products selected for export.

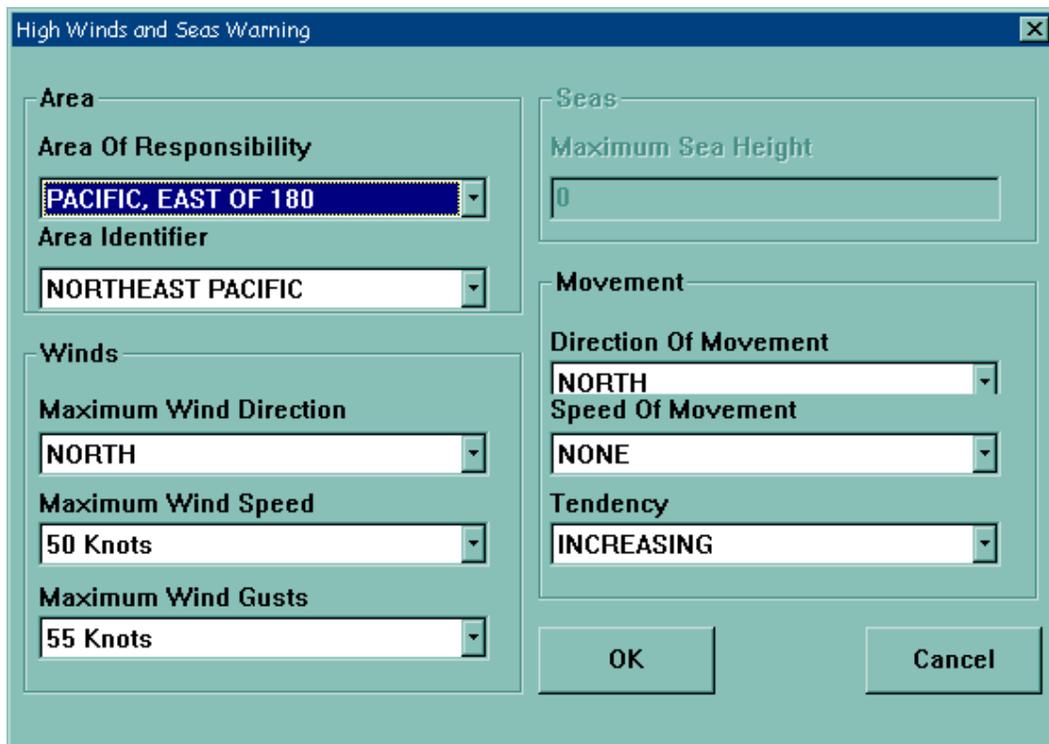
To add a product to the **Selected Products** list, double-click it in the **Available Products** list or click once on it to highlight it and then click the **Add** button. To

remove a product from the **Selected Products** list, double-click it in the **Selected Products** list or click once on it to highlight it and then click the **Remove** button.

The **OK** button accepts your selections and continues the export process. The **Cancel** button closes the dialog and aborts the export process.

## HIGH WINDS AND SEAS WARNING DIALOG

This dialog is used to specify information for a high wind/high seas warning that is not available from the warning graphics. It is used when creating a high wind or high seas warning.



**Figure 121.** High Wind and Seas Warning Dialog

- The **Area of Responsibility** dropdown list allows you to specify the AOR to which the warning applies.
- The **Area Identifier** dropdown list specifies the area identifier for the warning area.

The **Winds** section is active if the warning being created is a high wind warning.

- The **Maximum Wind Direction** pulldown list allows you to specify the direction from which the maximum winds are expected.

- The **Maximum Wind Speed** pulldown list specifies the expected sustained maximum wind speed.
- The **Maximum Wind Gusts** pulldown list specifies the expected maximum wind gusts.

The **Seas** section is active if the warning being created is a high seas warning.

- The **Maximum Sea Height** entry box is used to enter the expected maximum sea height for the warning area.

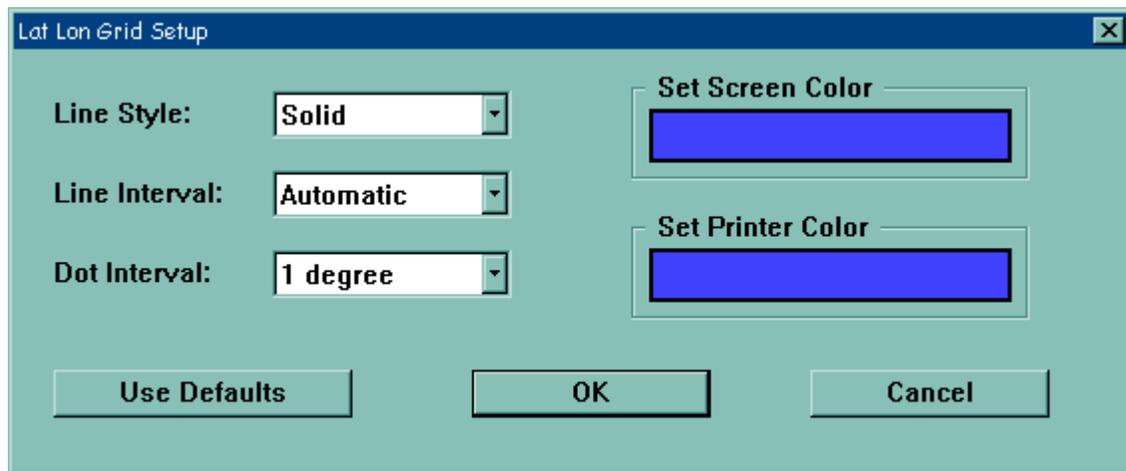
The **Movement** section is used to specify the direction and speed of movement of the warning area, and the tendency (whether winds or seas are expected to increase, decrease, or remain steady).

The **OK** button accepts your selections and proceeds with the message building process.

The **Cancel** button exits this dialog without making any selections, and aborts the message creation process.

## LAT LON GRID SETUP DIALOG

This dialog is used to specify the line style, colors, and spacing of latitude and longitude lines for the map display..

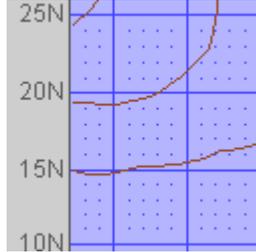


**Figure 122.** Lat Lon Grid Setup Dialog

**Line Style:** Choices are Solid, Dashed, Dotted, or None.

**Line Interval:** Sets the interval between lines. The **Automatic** setting (which is the default) sets the line interval for best viewing based on the map size.

**Dot Interval:** Allows you to specify whether to display dots between the latitude and longitude lines, and the interval between the dots. The illustration below shows a part of a map display with latitude and longitude lines at 5 degree intervals and dots at 1 degree intervals.



**Figure 123.** Portion of Map Display Showing Lat-Long Dots

The **Set Screen Color** and **Set Printer Color** boxes are used to set screen display and print colors. Clicking on one of the color swatches opens a color picker that lets you select a new color.

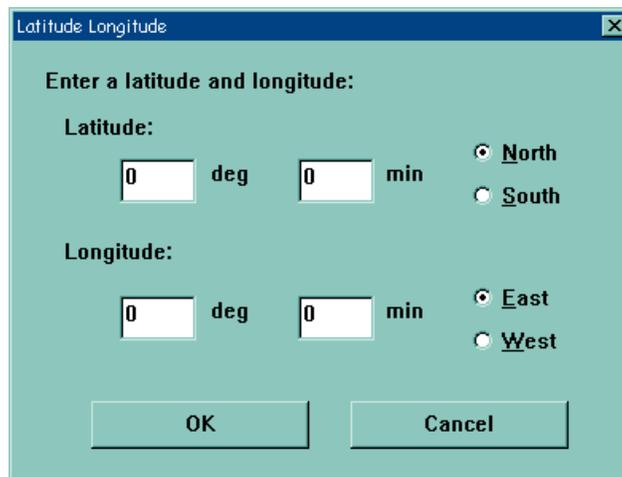
The **Use Defaults** button resets the latitude and longitude lines to their defaults.

The **OK** button closes the dialog and applies the new settings, which will remain in effect until changed again.

The **Cancel** button closes the dialog without applying any new settings.

## LATITUDE LONGITUDE DIALOG

This dialog is used in several places in JMV to enter a latitude and longitude.



**Figure 124.** Latitude Longitude Dialog

In the **Latitude** entry boxes, enter the degrees and minutes of latitude, and click the **North** or **South** radio button.

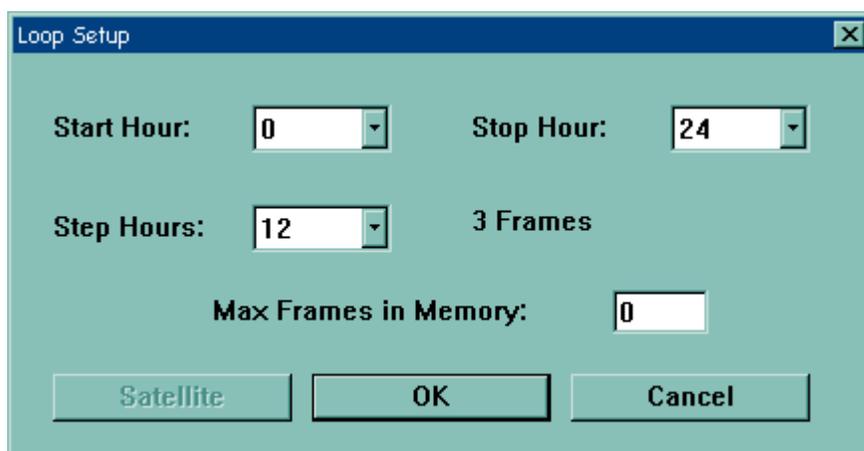
In the **Longitude** entry boxes, enter the degrees and minutes of longitude, and click the **East** or **West** radio button.

The **OK** button accepts your selections and returns them to the calling program.

The **Cancel** button exits with no selections.

## LOOP SETUP DIALOG

This dialog sets parameters for an animation loop. It is displayed when you click the **Play** button in the Animation Toolbox.



**Figure 125.** Loop Setup Dialog

**Start Hour:** Sets the forecast hour ( $\tau$ ) at which the animation will start. Selecting 0 starts with the analysis, 12 starts with the 12-hour forecast, etc. The pulldown menu shows all start hours available in the data; click one to select.

**Stop Hour:** Sets the forecast hour ( $\tau$ ) at which the animation will stop. The pulldown menu shows all stop hours available in the data; click one to select.

**Step Hours:** Sets the number of hours between frames of the animation. Selecting 12 means that frames will be created at 12-hour time intervals. You may select a smaller step than is present in the actual data and the program will then interpolate the intermediate frames. Smaller steps create smoother animations but take longer to create and more room to store. The readout next to the **Step**

**Hours** box indicates the number of frames that will be created using the current time settings.

**Max Frames in Memory:** Indicates the number of frames that will be buffered in memory while the animation is displayed. Holding additional frames in memory makes for a smoother animation because transitions between frames are quicker, but can use large amounts of memory and may slow other processes on the machine.

**Satellite:** Allows you to select satellite pictures to include in the loop, if any are present. If you click this button when you only have satellite pictures for one time, the program will respond, "Nothing to Loop".

**OK:** Accepts the current settings and begins creating the animation loop.

**Cancel:** Exits the loop creation process with no further action.

## NEW PORT ENTRY DIALOG

This dialog is used to create a new port definition, or edit an existing one. Port definitions are used by the Ship Route function.

The image shows a 'New Port Entry' dialog box with the following fields and controls:

- Port Name:** A text input field.
- Country:** A text input field.
- Latitude:** Two input boxes for degrees (0) and minutes (0), followed by radio buttons for **North** (selected) and **South**.
- Longitude:** Two input boxes for degrees (0) and minutes (0), followed by radio buttons for **East** (selected) and **West**.
- Buttons:** 'OK' and 'Cancel' buttons at the bottom.

**Figure 126.** New Port Entry Dialog

The **Port Name** entry box is used to enter the port name.

The **Country** entry box is used to enter the country (generally as a 2-letter abbreviation).

In the **Latitude** entry boxes, enter the degrees and minutes of latitude of the port location, and click on the **North** or **South** radio button to specify the hemisphere.

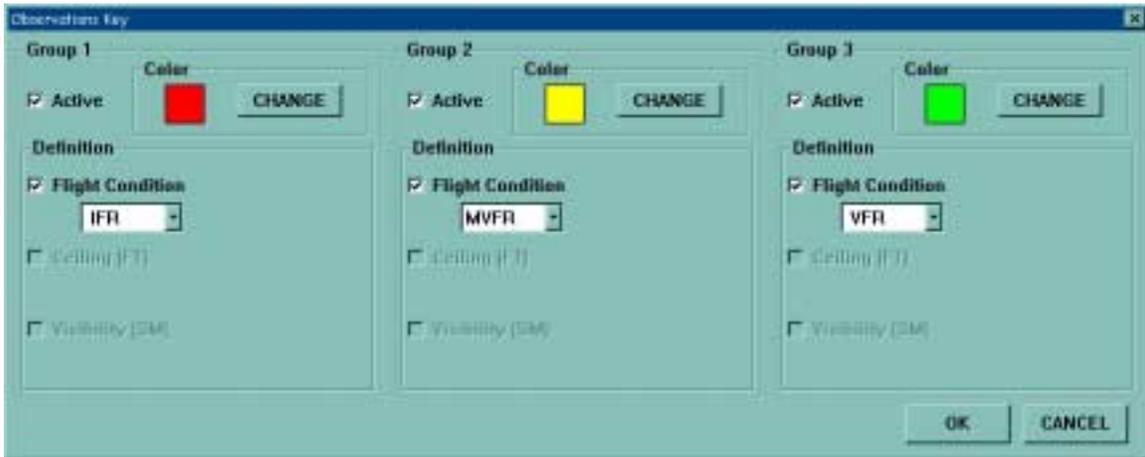
In the **Longitude** entry boxes, enter the degrees and minutes of longitude of the port location, and click on the **East** or **West** radio button to specify the hemisphere.

The **OK** button accepts the new port definition and adds it to the ports list.

The **Cancel** button exits without changing or adding a port definition.

## OBSERVATIONS KEY DIALOG

This dialog is displayed when you configure the display of METAR reports by selecting **Configure** on the JMV menu bar, then **Observations**, **METAR**, and **Configure** from the cascading menus.



**Figure 127.** Observations Key Dialog

This dialog allows you to separate the METARS into three groups according to the conditions in the reports (defaults are IFR, MVFR, and VFR flight rules) and to assign each group a display color. Thus the color of each report indicates the conditions at the reporting station.

There are three options for setting the conditions:

- **Flight Conditions:** Set the flight conditions for a group by selecting them from the drop-down list box displayed when the Flight Conditions checkbox

is checked. When the **Flight Conditions** option is selected for a station, the **Ceiling** and **Visibility** options are not available.

- **Ceiling:** Select the applicable ceiling limitations for the group from the drop-down list boxes visible when the Ceiling checkbox is checked. This option may be used in conjunction with the **Visibility** option, but is not available when the **Flight Conditions** checkbox is checked.
- **Visibility:** Select the applicable visibility limitations for the group by selecting them from the drop-down lists visible when the Visibility checkbox is checked. This option may be used in conjunction with the **Ceiling** option, but is not available when the **Flight Conditions** checkbox is checked.

You may use different criteria types for each group. For example, Group 1 might be IFR flight conditions while Groups 2 and 3 have visibility and/or ceiling limits set.

To change the color assigned to a group, click on the **CHANGE** button next to the color swatch. A color selector box will appear, allowing you to select the color desired from a set of patches or, if desired, by creating a custom color using sliders for red, green, and blue components.

When you are finished with the configuration, click the **OK** button to return to the map display. The settings you have chosen will remain in effect until changed.

## OBJECT EDITOR DIALOG

This dialog is used to edit the times for which a selected drawing object is displayed.



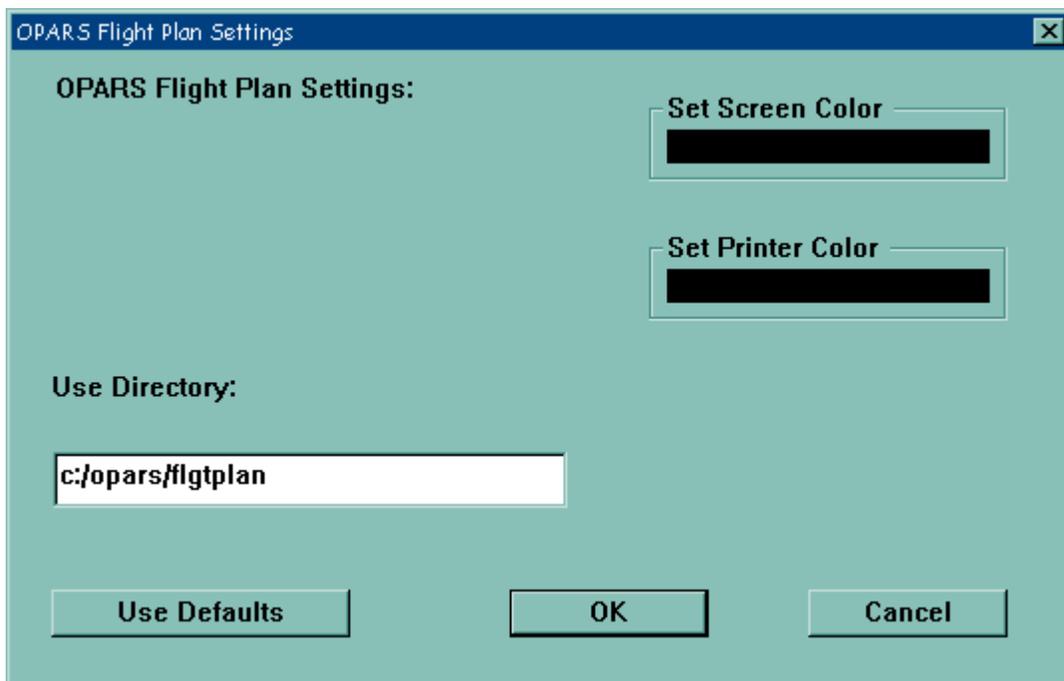
**Figure 128.** Object Editor Dialog

This dialog displays all of the times for which the selected object is defined. You can delete the object for a specific date-time by clicking its check box so that it is unchecked.

**NOTE:** If the object is defined for a prior time, deleting it for a given time simply replaces it with the one defined at the prior time. For example, in the dialog above, deleting the 2000032300 object would result in the 20000032212 object being displayed in its place.

## OPARS FLIGHT PLAN SETTINGS DIALOG

This dialog is displayed when you select **OPARS Flight Plans** from the **Configure** menu. It is used to set the display and print colors and to specify the directory in which OPARS flight plans are located.



**Figure 129.** OPARS Flight Plan Settings Dialog

The **Set Screen Color** and **Set Print Color** boxes allow you to set the display and print colors used for OPARS flight plans. Click on the color swatch to open a color picker that lets you select a new color.

The **Use Directory** entry box is used to specify the directory in which OPARS flight plans reside.

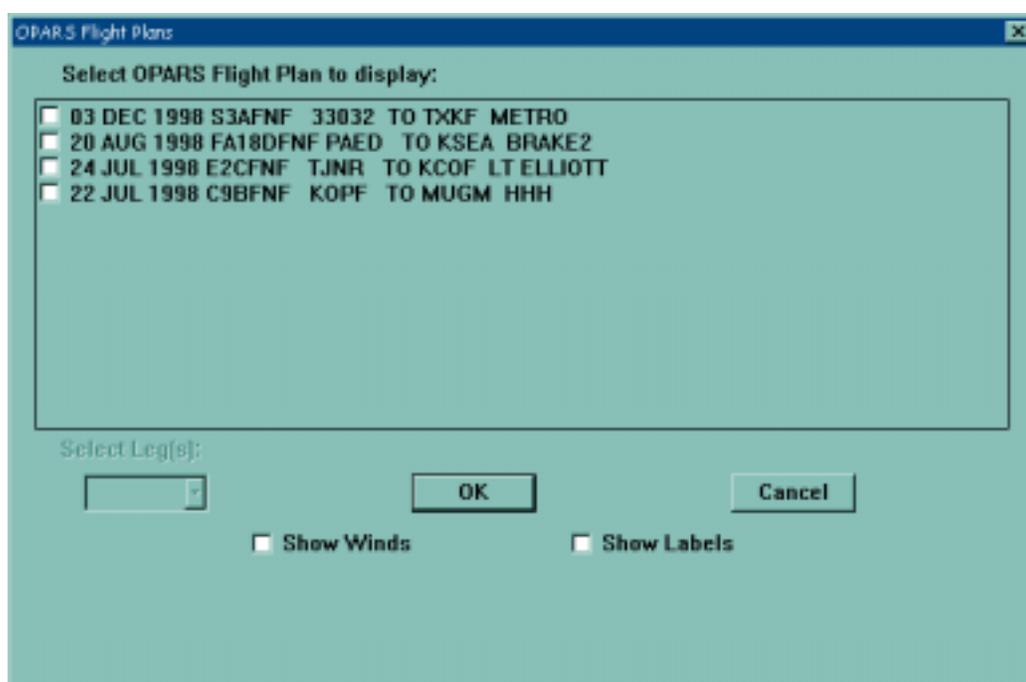
The **Use Defaults** button reverts all settings to the defaults.

The **OK** button exits the dialog and applies the new settings. These settings will remain in effect until changed.

The **Cancel** button exits the dialog without changing the existing settings.

## OPARS FLIGHT PLANS DIALOG

This dialog is used to select OPARS Flight Plans to display. It is opened when you are displaying OPARS routes on the map display and when you are selecting OPARS routes to be included in a slide show.



**Figure 130.** OPARS Flight Plans Dialog

The **Select OPARS Flight Plan to display** list box contains all OPARS flight plans known to JMV. Highlight one to select it.

The **Select Leg(s)** list box allows you to select the leg(s) of the selected flight plan that will be displayed, if applicable.

The **Show Winds** checkbox selects whether flight level winds will be displayed along the route (if available).

The **Show Labels** checkbox selects whether leg and waypoint labels will be displayed on the track.

The **OK** button accepts your selections and returns to the calling program.

The **Cancel** button closes the selection dialog and exits without further action.

## PRODUCT TIME SELECTION DIALOG

The Product Time Selection Dialog allows you to choose the forecast and history times for selected products that will be included in a slide show. It is used in building a product slide show.



**Figure 131.** Product Time Selection Dialog

Products selected for the slide show are displayed in the text boxes on the left. Available forecast and history times are listed to the right. The check box below each forecast time is used to select that forecast time for inclusion in the slide show. The arrow buttons below the forecast time columns are used to display additional forecast times that are available in the data but don't fit on the screen.

**Cancel:** Exits the dialog without making any selections, and cancels the slide show building process.

**OK:** Accepts the current selections and proceeds with the slide show building process. If you click this with no times selected, you will receive an error message.

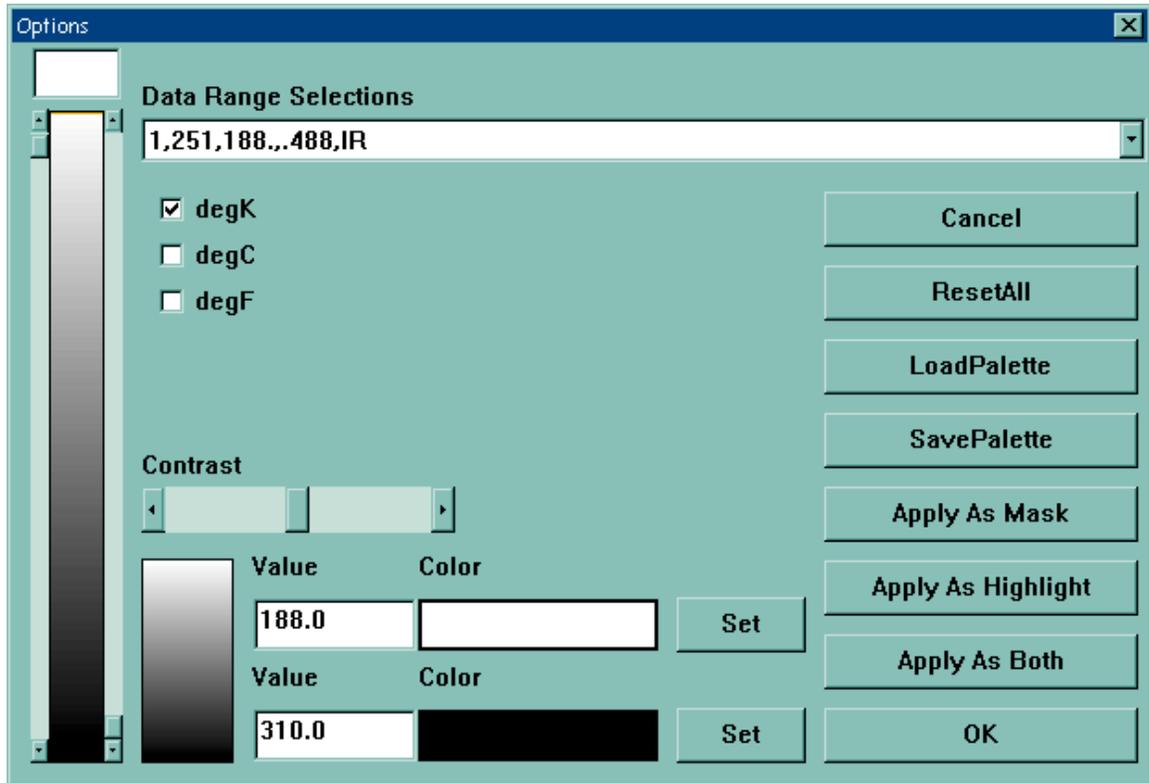
**All:** Selects all available forecast/history times for inclusion in the slide show.

**Clear:** Clears all selections and allows you to start over again.

## SATELLITE ENHANCEMENTS DIALOG

You can use this dialog to enhance the satellite image by making certain temperature ranges stand out more, make certain temperature ranges

"disappear" from the image, change the color set (e.g. go from gray scale to colored imagery), etc. You can also make a "CNN-style" image where only the "important" clouds are displayed and all others are filtered out.



**Figure 132.** Satellite Enhancements Dialog

The **Data Range Selections** pull-down list at the top shows the data ranges available in the image (some images have more than one data range specified in the image data). The data range specification shows the following:

1. The first number is the lowest pixel value in the image.
2. The second number is the highest pixel value in the image.
3. The third number is the temperature corresponding to the lowest pixel value.
4. The fourth number is the temperature increment between adjacent pixel values.
5. The fifth item is the type of image (IR, VIS, etc.)
6. The last item (not present in the example shown) is the picture's label.

At the left side of the dialog are a text box and a color scale with two sliders. The text box shows the temperature at the cursor when the cursor is over the color scale. The left slider sets the lowest temperature value to be displayed, and the right slider sets the highest temperature. Note that as you move one of the sliders, the value in the corresponding **Value** readout at the bottom of the dialog changes. The **Value** and **Color** boxes at the bottom show the value of the coldest and warmest values to be displayed, and the color boxes display the corresponding colors. The **Set** buttons are used to change these colors; they bring up a standard color-setting dialog. The **Contrast** slider sets the contrast (the difference between the darkest and lightest pixels displayed). The check boxes in the upper left set the type of temperatures displayed (Kelvin, Celsius, or Fahrenheit).

The **Apply as Mask** button applies the selected settings to the image as a mask; that is, the color values between the sliders are displayed, but all other values are masked out, so that the background shows through. This is useful for making a "CNN" cloud image, where only the highest clouds are displayed. To do this, move the right-hand slider about 1/4 of the way up the color scale, then click on the **Apply as Mask** button to see the results.

The **Apply as Highlight** button sets the image colors such that the temperature range between the sliders covers the entire color range (temperatures above and/or below the selected range are displayed in the end colors). This can be useful for displaying fine variations within a narrow range (for example, for enhancing sea surface temperature variations).

The **Apply as Both** button masks out the temperatures above and below the range set by the sliders, and applies the full color range to the values between the sliders.

The **Save Palette** button allows you to save the current palette for reuse.

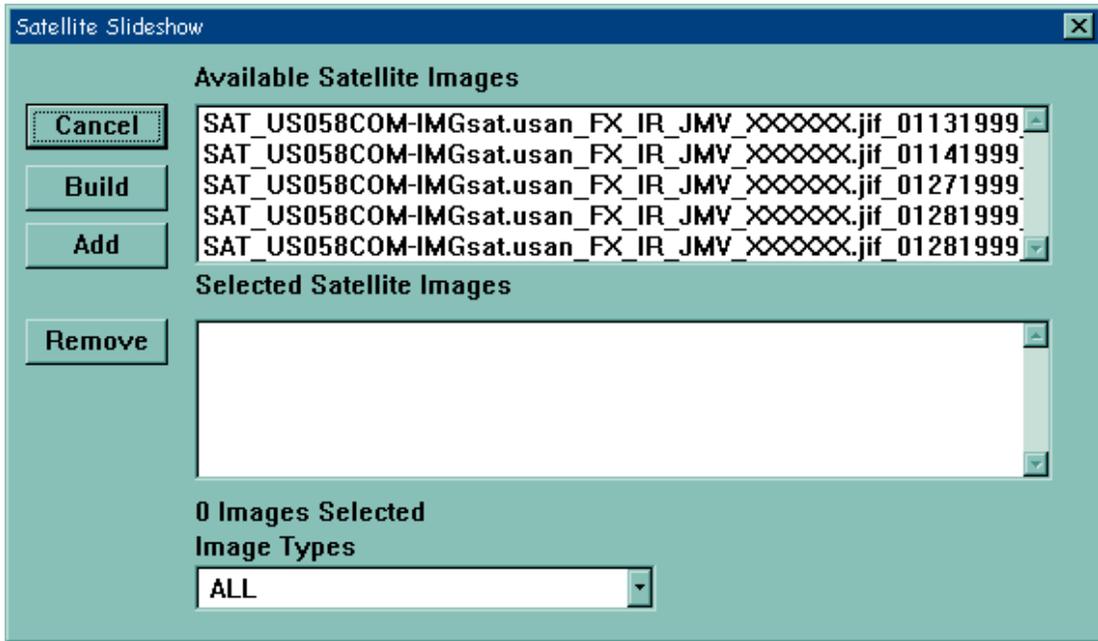
The **Load Palette** button lets you load a previously saved palette.

The **Reset All** button resets all settings to their default values.

The **OK** button exits the dialog, retaining the current settings. The **Cancel** button exits without changing from the previous settings.

## SATELLITE SLIDESHOW DIALOG

This dialog is used to select satellite images for inclusion in a slide show. It is used when building a satellite slide show.



**Figure 133.** Satellite Slideshow Dialog

The **Available Satellite Images list** box lists all satellite images available for the selected area. The **Selected Satellite Images list** box lists the satellite images selected for inclusion in the satellite slide show. You can add an image to the slide show by double-clicking it in the Available Satellite Images list or by clicking it to highlight it and then clicking the **Add** button. You can remove a satellite from the Selected Satellite Images list by double-clicking it or by clicking it once to highlight it and then clicking the **Remove** button.

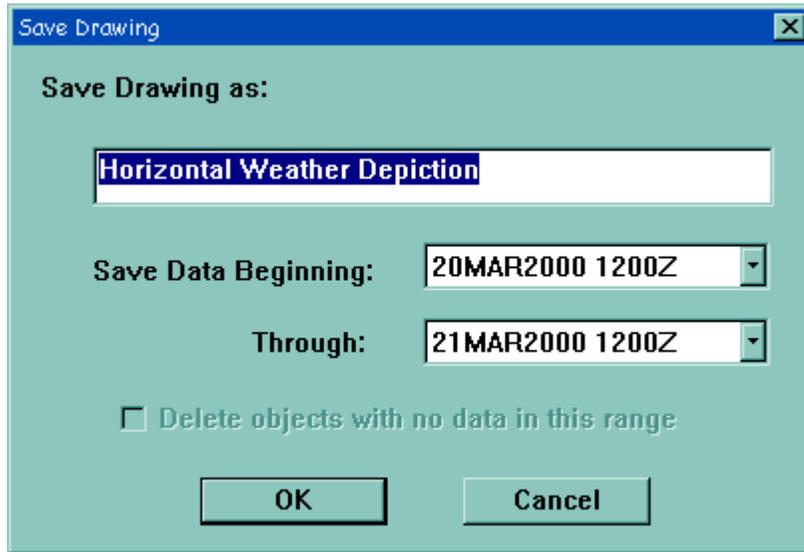
**Cancel** exits the selection box and cancels the satellite slide show specification process.

**Build** accepts the current selections and builds and saves the satellite slide show.

The **Image Types** selection list allows you to select the types of images that will be shown in the Available Satellite Images list.

## SAVE DRAWING DIALOG

This dialog is used to save a Horizontal Weather Depiction (or Warning) overlay to a file. It is used as the last step when creating drawings and annotations on a chart, and also as part of the process of creating high wind and seas warnings.



**Figure 134.** Save Drawing Dialog

In the **Save Drawing As** entry box, type the name of the HWD or warning area overlay. You should make this name distinctive, particularly if you are planning to use this warning to generate a warning message or for future display.

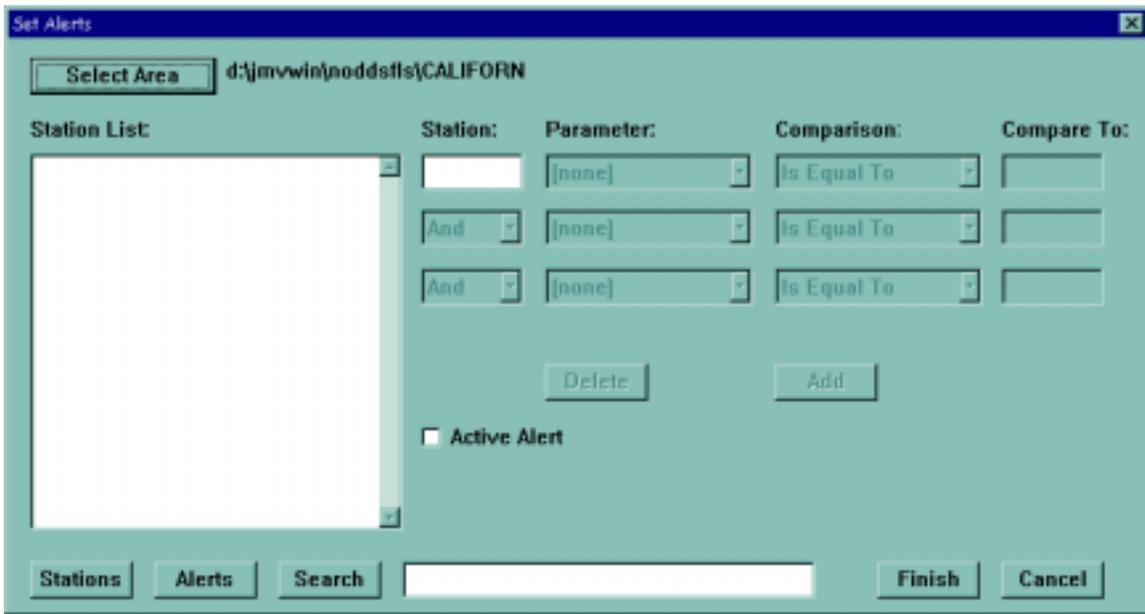
The **Save Data Beginning** and **Through** drop-down lists are used to specify the time range to be covered by the HWD. By default, they will cover the entire range of dates and times for which drawing objects have been defined. You may use these entries to restrict the coverage of the saved HWD to a specified subset of that time, if you desire.

The **Cancel** button exits the dialog without saving the HWD or warning area.

The **OK** button saves the HWD or warning area under the given name, and exits the dialog.

## SET ALERTS DIALOG

The Set Alerts dialog, shown below, is displayed when the **Alerts** option in the **Configure** menu is selected. This dialog lets you specify stations whose observations will be monitored, and criteria that will generate an alert for each station selected. This provides a convenient way to alert users when some specified condition occurs at a given station. For example, you could generate an alert when visibility at a station falls below 1000 feet, or when the temperature is below 0 degrees C, or when some combination of conditions likely to lead to a hazard occurs.



**Figure 135.** Set Alerts Dialog

By default, this dialog shows all METAR reporting stations in the area currently being displayed. The **Select Area** button allows you to select a different area in which to set alerts, if desired.

The **Station List** shows the list of stations in the selected area. You can use the scroll bar to scroll up and down the list, or go to a specific station by typing its ICAO call sign or station name in the entry box at the bottom, then clicking on the **Search** button. When you highlight a station in the **Station List**, its call sign will appear in the **Station** box at the top. This is the station for which the alert will be set.

You can use the **Parameter**, **Comparison**, and **Compare To** boxes to specify sets of alert criteria. In the **Parameter** list, select the parameter for the alert from the drop-down list. In the **Comparison** list, select the type of comparison to be

applied. In the **Compare To** box, enter the value to be used for the comparison. For example, to set an alert for visibility less than 1000 feet in Monterey, California, we would first highlight KMRY in the **Station List**, then select visibility in the **Parameter** list, then select Is Less Than in the **Comparison** list, then enter 1000 in the **Compare To** box.

You can add additional criteria for an alert (for example, you could generate an alert when the temperature was below 0 degrees C and the relative humidity was above 50%. To do this, use the lists below the Station box to select the type of additional comparison required (And means that both the first and second criteria must be met to generate an alert, Or means that if either of the criteria occurs an alert will be generated). Then specify the next set of alert criteria. You may have three criteria, if desired, for any alert.

By default, the program selects the **Active Alert** checkbox when you enter any alert criteria. To enter an alert for future use but not activate it at the time you enter it, click on this box to uncheck it.

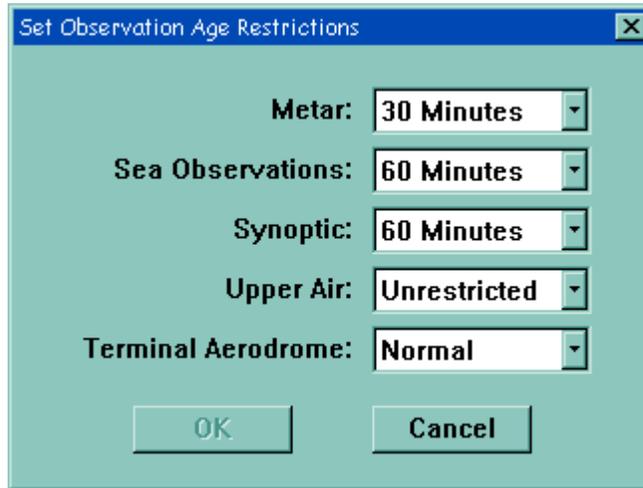
The **Add** button adds the new alert to the list. The **Delete** button deletes the alert currently displayed from the alert list.

The **Stations** and **Alerts** buttons switch the list box on the left side of the dialog between a display of stations in the selected area and a display of active alerts. The **Finish** button closes the dialog and saves the changes, while the **Cancel** button closes the dialog without changing the alert list.

When an alert is triggered, the user will hear an audible alert and a notification dialog will pop up on screen.

## SET OBSERVATION AGE RESTRICTIONS DIALOG

This dialog is used to set the maximum age of observations that will be displayed on the map for each observation type.



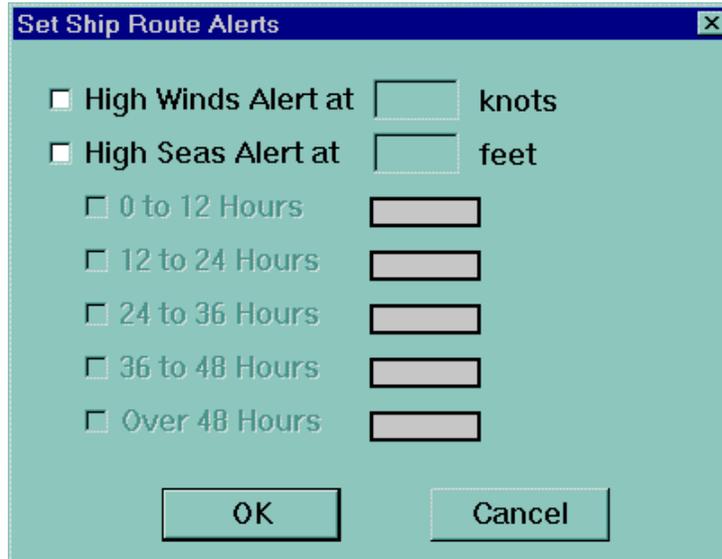
**Figure 136.** Set Observation Age Restrictions Dialog

To change the age restriction for any observation type, pull down the drop-down list for that type and choose a new value. Click on the **OK** button when the settings are as desired. The **Cancel** button exits without changing any settings.

Typically METAR reports and TAF forecasts are submitted hourly, SPECIs at irregular intervals. Synoptic reports are typically only submitted every 6 hours. Upper Air Reports are typically submitted only at 00Z and 12Z.

## SET SHIP ROUTE ALERTS DIALOG

The Set Ship Route Alerts dialog is used to create a Ship Route Alert based upon high wind or high sea criteria as defined by the user. Open the Ship Routes Alerts dialog box by clicking on the **Alerts...** button found in the Ship route Editor dialog box.



**Figure 137.** Set Ship Route Alerts Dialog

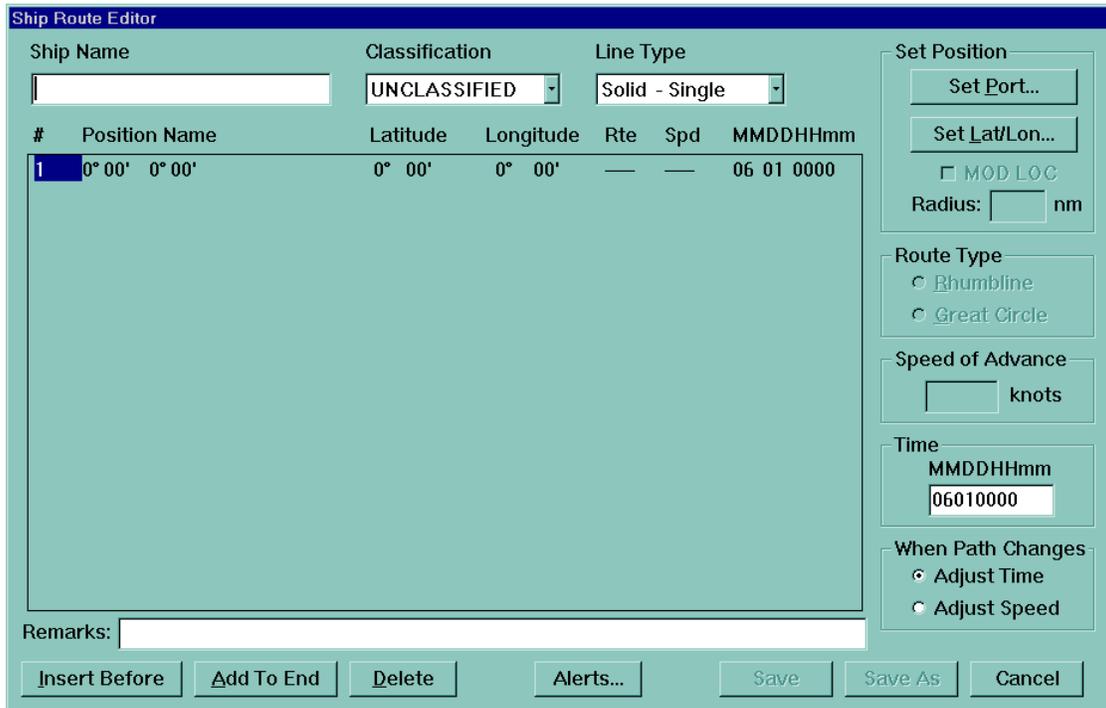
Select the desired Alert type(s) - **High Winds Alert** and/or **High Seas Alert** by clicking on the appropriate checkboxes, and then input the desired alert values in the associated text boxes.

When either the High Winds Alert or High Seas Alert check boxes are selected, the five **Alert time period** checkboxes become active. Select one or more of the alert time periods by clicking on the appropriate checkbox.

Click the **OK** button to complete the Ship Track Alert configuration.

## SHIP ROUTE EDITOR DIALOG

The Ship Route Editor dialog is used to create or modify a ship track for display in JMV. See the Working With Ship Routes section for more details.



**Figure 138.** Ship Route Editor Dialog

The **Ship Name** entry box is used to enter the ship name that will identify this track.

The **Classification** drop-down list is used to select the track's classification.

The **Line Type** drop-down list is used to select the line type to be used in displaying this track on the map.

The large list in the center of the dialog box contains all of the waypoints entered for a particular ship track. To edit any of the listed waypoint parameters (lat/lon, Rte, Spd, etc...) click on the desired parameter and then type in a new value. The waypoint parameters may also be changed by using the control box features located at the far right side of the dialog box (these controls are described below).

The **Insert Before** button is used to insert a new track point before the highlighted point.

The **Add to End** button is used to add a new track point to the end of the track.

The **Delete** button deletes the selected waypoint from the track.

The **Set Port** button is used to specify a port as a waypoint on the track. It opens the Choose Port dialog, from which you may select a port or create and select a new port.

The **Set Lat/Lon** button is used to specify the latitude and longitude of a waypoint. It opens the Latitude Longitude Dialog in which you input the latitude and longitude of the waypoint.

The **MOD LOC** checkbox is used to specify that the ship will remain in the vicinity of the waypoint selected for some time. It is used in conjunction with the **Radius** entry box, which specifies the radius around the MOD LOC point within which the ship will remain.

The radio buttons in the **Route Type** group specify whether the ship will sail a Rhumbline or Great circle route between the current point and the next point.

The **Speed of Advance** entry box allows you to specify the speed of advance (in knots) along the track between the current waypoint and the next waypoint.

The **Time** entry box allows you to specify the time at which the ship will be at the current waypoint. The time will be automatically entered based on the distance and speed of advance from the previous waypoint. If you change the time, the speed of advance from the previous waypoint will be adjusted accordingly.

By using the **When Path Changes** radio buttons near the bottom of the interface, you also have the option of keeping the speed constant and varying the time, or keeping the time constant and varying the speed.

The user can also add **Remarks** that will appear when the **Ship Route Editor** is viewed.

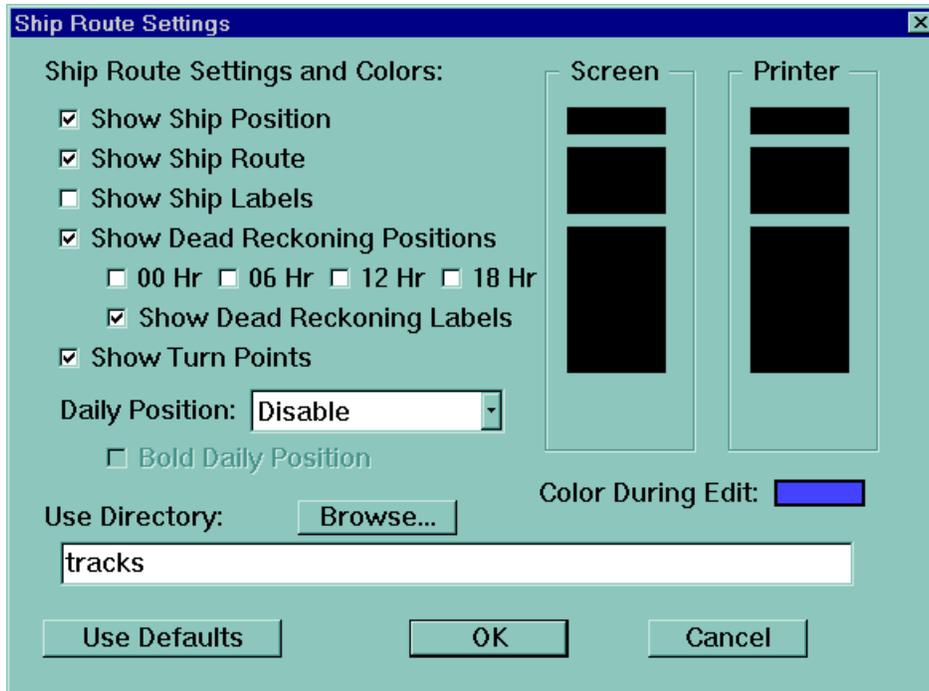
The **Alerts...** button opens the **Set Ship Route Alerts** Dialog box which is used to create an alert based upon high wind or high sea criteria as defined by the user.

The **Save As** button allows you to save the track with a different name.

The **Cancel** button exits without saving the track.

## SHIP ROUTE SETTINGS DIALOG

This dialog is used to configure display settings for ship routes.



**Figure 139.** Ship Route Settings Dialog

The **Show Ship Position** checkbox turns on the display of a ship's dead reckoned position that corresponds with the date and time of the background chart being displayed. The ship position is depicted as a circle-dot on the chart.

The **Show Ship Route** checkbox turns on the display of the ship track, and uses the line type selected in the Ship Route Editor dialog box.

The **Show Ship Labels** checkbox turns on the display of the ship name associated with each track. The ship names will be displayed at the departure and arrival ports.

The **Show Dead Reckoning Positions** checkbox turns on the position display for the selected dead reckoning (DR) intervals (00hr, 06hr, 12hr or 18hr). The DR positions are depicted as small solid squares along the displayed ship track. Notice that when the **Show Dead Reckoning Positions** check box is selected, the dead reckoning interval checkboxes become active. Select as many of the intervals as desired. If no DR intervals are selected, the 00hr and 12hr intervals will be activated by default.

The **Show Dead Reckoning Labels** checkbox turns on the display of the date/time label for each selected DR interval. The labels will be displayed adjacent to the DR position squares. This checkbox becomes active when the Show Dead Reckoning Positions checkbox has been selected.

The **Show Turn Points** checkbox turns on the display of turn points (or waypoints) along the track.

The **Daily Position** pull-down list allows you to display a line representing the track of the ship from its present position (at the current synoptic time) and the next 24, 48, or 72 hours of the track. Additional display time options are available within the pull down menu (i.e. 12 to 24 hrs, 24 to 48 hrs, etc). The **Bold** checkbox, when checked, displays this information in bold.

The **Use Directory** entry box lets you specify the directory in which the ship tracks reside. The **Browse** button allows you to browse for the directory using a standard File Open dialog.

The boxes in the **Set Colors** group allow you to specify screen and print colors for various track components. Clicking on a color patch opens a color picker.

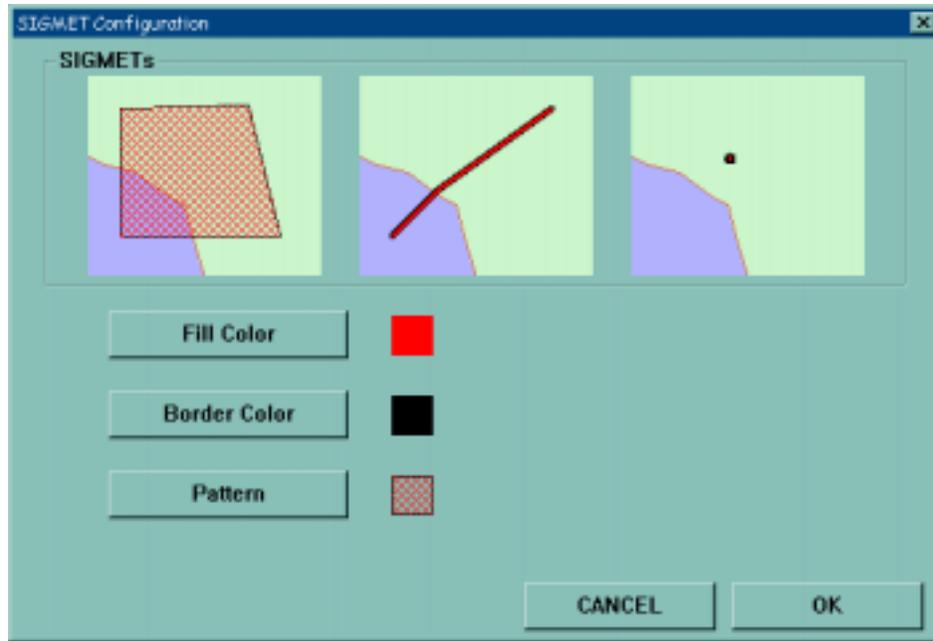
The **Use Defaults** button returns all settings to their defaults.

The **OK** button closes the dialog and applies your settings, which will remain in effect until changed.

The **Cancel** button closes the dialog without making any changes to the settings.

## SIGMET CONFIGURATION DIALOG

This dialog is used to set color, fill, and pattern options for the display of significant meteorological bulletins (SIGMETs). The three pictures at the top show a SIGMET area, line, and point using the current settings.



**Figure 140.** SIGMET Configuration Dialog

**Fill Color** sets the color used for color fills and patterns. Clicking the button opens a color picker.

**Border Color** sets the color used for the borders of SIGMET areas. Clicking the button opens a color picker.

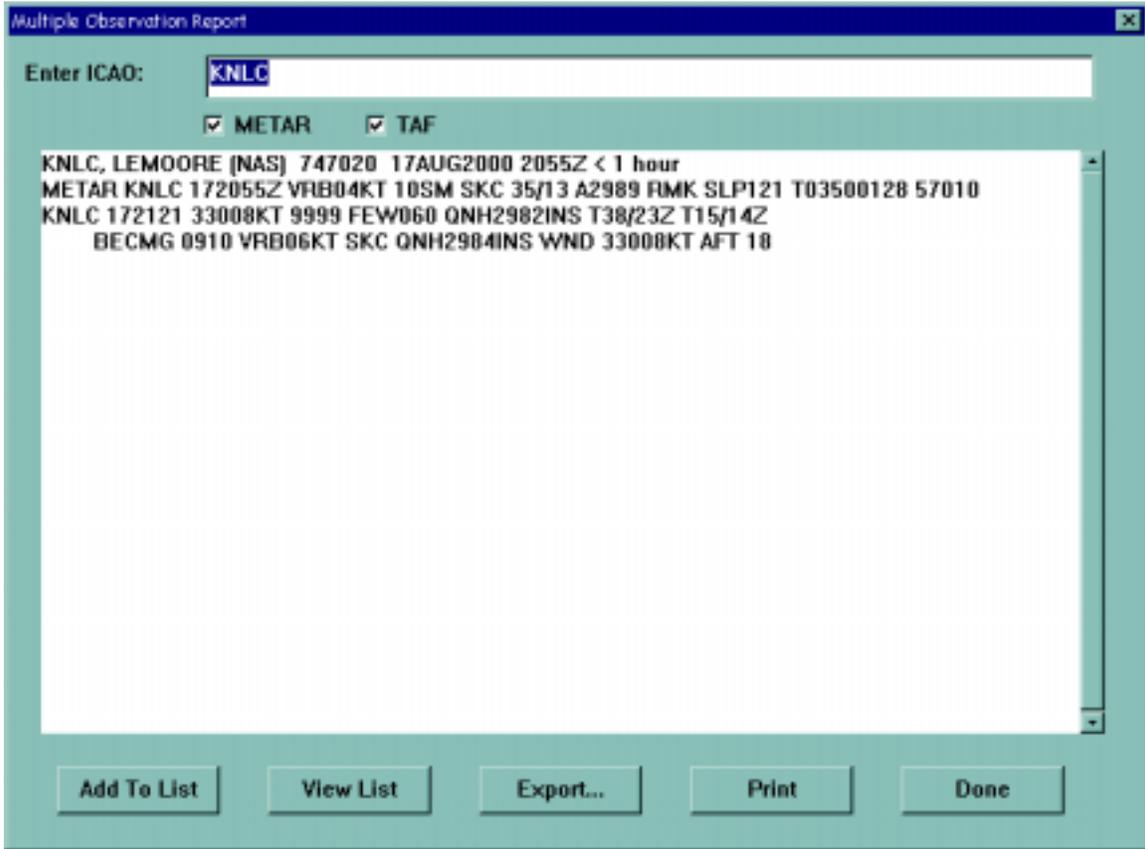
**Pattern** lets you select the pattern to be used for the fills. Clicking the button cycles through the available patterns.

The **OK** button closes the dialog and applies your settings, which will remain in effect until changed.

The **Cancel** button closes the dialog without applying any changes.

## STATION OBSERVATION REPORT DIALOG

This dialog is used for viewing METAR or TAF reports from one or more stations. The contents will vary slightly depending on the report type (the example below shows a both METAR and TAF reports for a single station).



**Figure 141.** Station Observation Report Showing METAR Observation and TAF Forecast for a Single Station

The text box lists information about each station and the full text of each report.

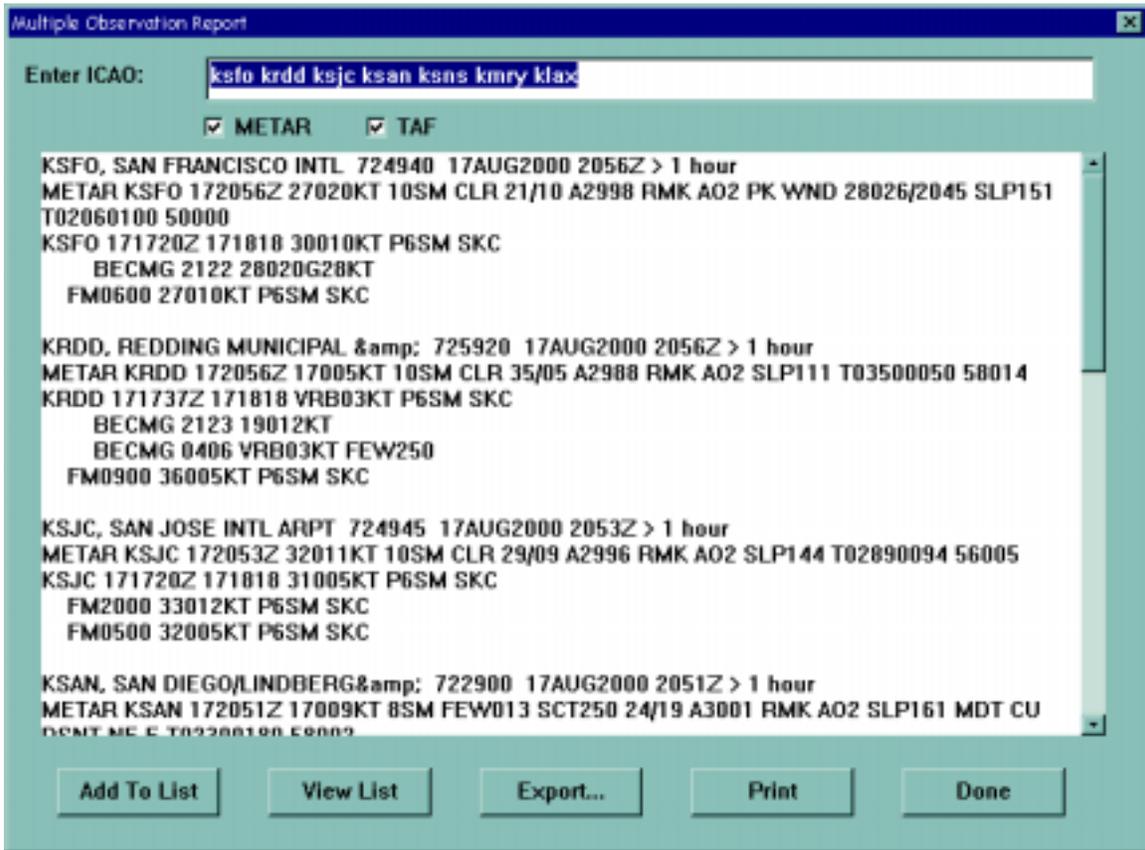
The **Add to List** button allows you to add the station being viewed to your custom list of frequently-used stations (see the sections on creating custom lists in Working With METAR Reports and Working With TAF Forecasts for more details on the custom list).

The **View List** button allows you to view your list of frequently-used stations for this report type (See the sections on creating custom lists in Working With METAR Reports and Working With TAF Forecasts for more details on the custom list).

The **Export** button allows you to export the reports displayed in the viewer as a text file.

The **METAR** and **TAF** checkboxes allow you to switch on the display of METAR reports and/or Terminal Aerodrome Forecasts (TAFs) for the selected station(s).

The **Enter ICAO** entry box allows you to go directly to the report for another station if you know its ICAO call sign. You can also type in multiple station call signs separated by spaces, and the reports for all of the stations you enter will be displayed, as shown in the figure below. This figure shows both METARs and TAFs for several stations.

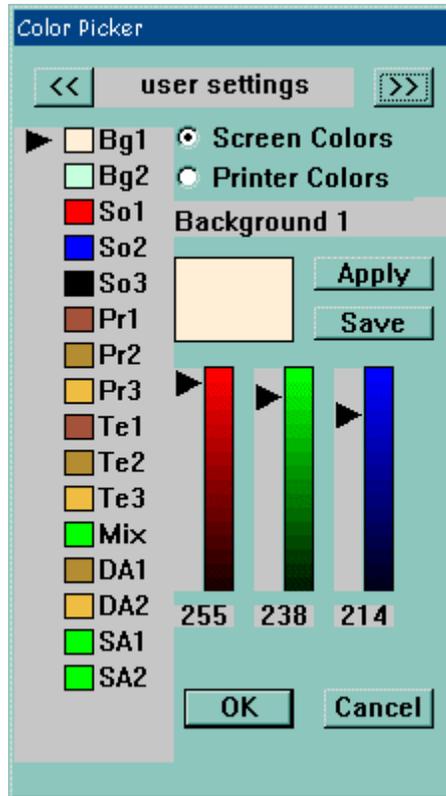


**Figure 142.** Observation Report Dialog Showing METAR Reports and TAF Forecasts for Multiple Stations.

The **Done** button exits the dialog.

## SKEW-T COLOR PICKER DIALOG

This dialog is used to select the colors for parts of the Skew-T, Log P display.



**Figure 143.** Skew-T Color Settings Dialog

The << and >> buttons at the top are used to select from the available saved sets of settings.

The **Screen Colors** and **Printer Colors** radio buttons allow you to select whether the colors you are specifying apply to screen displays or printouts.

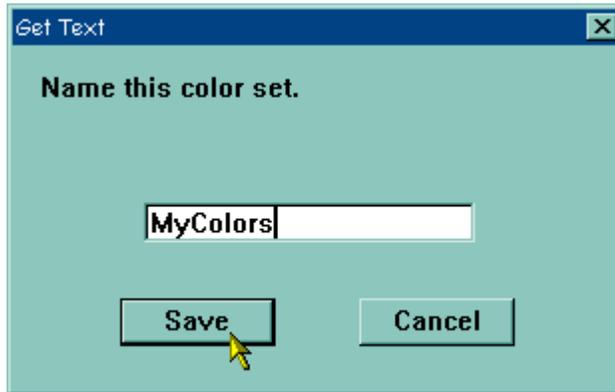
The arrow at the left indicated the parameter for which you are currently selecting a color. The parameters are:

- **Bg1, Bg2:** The background colors (by default, there are two colors used for alternating zones on the chart).
- **So1, So2, So3:** The colors used to plot the sounding(s). So1 is for the first sounding, So2 for the second, and So3 for the third.
- **Pr1, Pr2, Pr3:** The colors used for the major (Pr1), middle (Pr2), and minor (Pr3) pressure lines.

- **Te1, Te2, Te3:** The colors used for the major (Te1), middle (Te2), and minor (Te3) temperature lines.
- **Mix:** The color used for mixing ratio lines.
- **Da1, Da2:** The colors used for major (Da1) and minor (Da2) dry adiabats.
- **Sa1, Sa2:** The colors used for major (Sa1) and minor (Sa2) saturation adiabats.

To change a color, click on it (the arrow will move to your selection) and then drag the color sliders on the red, green, and blue bars until the color you want is displayed in the large color swatch. Click the **Apply** button to display the new color on the Skew-T chart.

To save your color set for future use, click the **Save** button. This opens a **Name This Color Set** dialog like the one shown below.

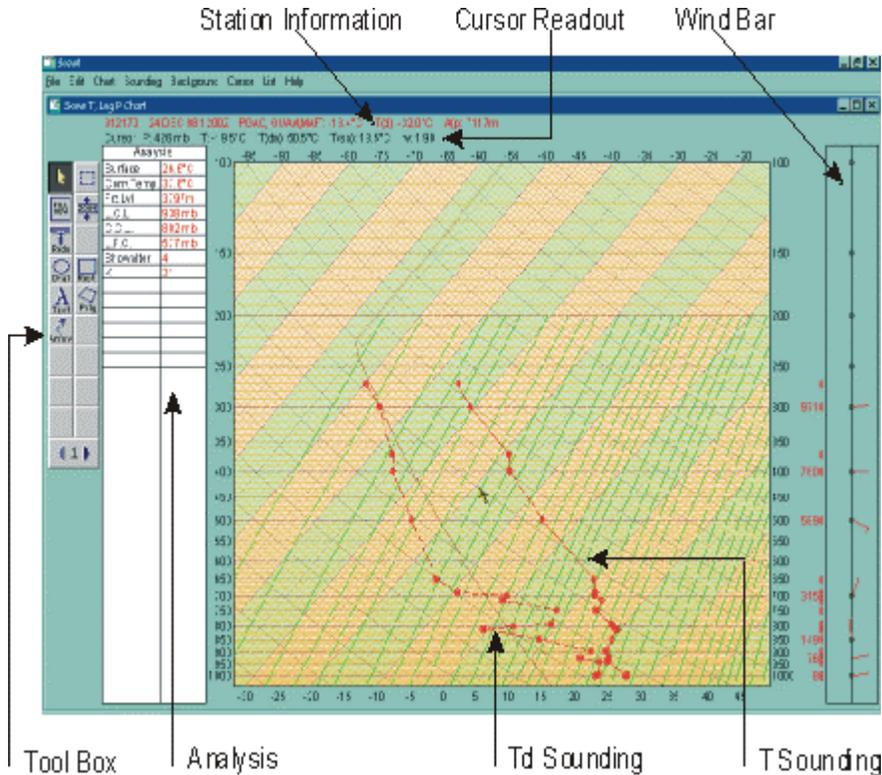


**Figure 144.** Name This Color Set Dialog

Type in a name and click the **Save** button to save your color set. The **Cancel** button exits without saving the color set. Once saved, your color set will appear in the list of color sets at the top of the dialog.

## THE SKEW-T LOG P DIAGRAM WINDOW

The features of the Skew-T display window are shown below.



**Figure 145.** Features of the Skew-T, Log P Window

The **plot section** (the actual Skew-T chart) shows the following features:

- Isobars are represented as horizontal lines spaced logarithmically (hence the Log P part of the chart name). Pressure labels are printed at both ends of each isobar.
- Isotherms are represented as straight lines sloping from the lower left to the upper right and labeled at 5 degree C intervals. Alternating color bands delimit the 10 degree C blocks.
- Dry adiabats, representing the rate of temperature change of a parcel of dry air rising or descending adiabatically, are shown as slightly-curved solid lines sloping from the lower right to the upper left.
- Saturation adiabats, which represent the rate of temperature change in a parcel of saturated air rising pseudo-adiabatically, are shown as slightly-curved solid green lines sloping from the lower right to the upper left.

- The ICAO Standard Atmosphere is shown as a brown line sloping from the lower right center to the upper left center, then bending back to the top center of the plot. This represents the temperature lapse rate in the ICAO Standard Atmosphere.
- Two temperature plots are displayed for the sounding. The first, generally the right-hand one, is the plot of air temperature versus pressure in the sounding. The second, generally on the left, is the plot of dew point temperature versus pressure in the sounding.

The **Analysis section** of the display contains information derived from the sounding. This includes:

- Surface temperature is the temperature of the air at the surface.
- Convective temperature is the temperature of the dry adiabat passing through the intersection of the temperature sounding and the saturation mixing ratio line corresponding to the average mixing ratio of the surface layer. It approximates the lowest temperature to which surface air must be heated before a parcel can rise adiabatically to the Lifting Condensation Level (LCL) without ever being colder than the environment. This parameter is useful in forecasting the onset of convection.
- Frz. Lvl (Freezing level) is the height (in meters, by default) above the surface at which the temperature sounding first crosses the 0 degree C isotherm.
- LCL (Lifting Condensation Level) is the height at which a parcel of air becomes saturated when it is lifted dry-adiabatically. Graphically, it is the intersection of the saturation mixing ratio line through the surface dew point temperature and the dry adiabat through the surface temperature.
- CCL (Convective Condensation Level) is the height to which a parcel of air, if heated sufficiently from below, will rise adiabatically until it is just saturated (condensation starts). In practical terms, this is the height of the bases of cumuliform clouds which are or would be produced by thermal convection solely from surface heating. Graphically, this is the intersection of the temperature sounding and the saturation mixing ratio line through the surface dew-point temperature.
- LFC (Level of Free Convection) is the height at which a parcel of air lifted dry-adiabatically until saturated and saturation-adiabatically thereafter would first become warmer (less dense) than the surrounding air. The parcel will then continue to rise freely above this level until it becomes colder (more dense) than the surrounding air.

- Showalter (The Showalter Index) is a stability index derived from the 850 millibar and 500 millibar temperatures. It is used for forecasting thunderstorm activity. The indications are as follows:
  - ◆ Showalter Index less than or equal to +3: Showers are probable and some thunderstorms may be expected in the area.
  - ◆ +1 to -2: Rapidly increasing chance of thunderstorms.
  - ◆ -3 or less: Severe thunderstorms are likely.
  - ◆ Below -6: Forecaster should consider the possibility of tornadic development.

The forecasting value of all index categories must, in each case, be evaluated in the light of other synoptic conditions.

- K (The K Index) is a measure of thunderstorm potential based on the vertical temperature lapse rate, moisture content of the lower atmosphere, and vertical extent of the moist layer. The K index is computed as follows:

$$K = (850 \text{ mb temperature} - 500 \text{ mb temperature} + 850 \text{ mb dew point} - 700 \text{ mb dew point depression}).$$

- LI (Lifted Index) is a stability index. For this display, LI is computed by taking the temperature (+2 degrees Celsius) of a parcel 100 millibars above the surface up to the LCL, determined using an average mixing ratio. The parcel is cooled at the dry adiabatic lapse rate until it reaches the LCL, from which the parcel follows a saturation adiabat. LI is the measured temperature of the sounding at 500 millibars minus the derived parcel temperature at 500 millibars. The higher the parcel temperature compared to the measured profile, the lower the LI, which is often negative when thunderstorms are present.
- Mx Wnd (Maximum Wind Speed) is the maximum wind speed (in knots) recorded through the sounding profile. When the cursor is placed over the wind speed value in the "Analysis" box, the pressure level of the maximum wind speed and the ambient air temperature will be displayed at the top of the chart. Left clicking on the max wind speed value will cause the data plot of the maximum wind to blink on the Skew-T chart.

Although K Index values can be correlated to a probability of thunderstorm occurrence, these values will vary with the seasons, locations, and synoptic settings. The values listed below work best for the central United States in summer:

<b>K Index</b>	<b>% Probability of Thunderstorms</b>
< 15	Zero
15 to 20	20%
21 to 25	20-40%
26 to 30	40-60%
31 to 35	60-80%
36 to 40	80-90%
> 40	Near 100%

The **Wind Bar** at the left of the Skew-T window shows the winds at various levels in the sounding (if winds were reported). The direction of the shaft of each wind barb indicates the direction of the wind (from the flagged end to the pointed end). The flags represent the wind speed. A full line represents 10 knots; a half line is 5 knots; and a solid flag is 50 knots. When the pointer is over the Wind Bar, the wind direction (WD) and wind speed (WS) at the level of the cursor are shown at the end of the station identification line at the top of the window.

The **Station Identification** line shows the WMO block station number of the station, the date and time of the sounding, and the station name. When the pointer is over the Skew-T plot, this line also shows the air temperature (T), dew point temperature (T(d)) and altitude (A(p)) in meters at the location of the pointer. When the pointer is over the Wind Bar, this line also displays the wind speed and direction at the level of the pointer.

The **Cursor Readout** line shows the pressure (P), air temperature (T), dry adiabatic temperature (T(da)), saturated adiabatic temperature (T(sa)), and mixing ratio (w) at the pointer location.

The **Tool Box** provides tools for annotating and drawing on the Skew-T plot. The items drawn on the plot may be saved as a Vertical Weather Depiction overlay for re-use later. The available toolboxes are shown below.



Pointer – Used to select objects

Full View – Return to original (un-zoomed) state

Redo – Refresh the screen display

Repaints selected object in the Temperature color

Repaints selected object in the Dry Adiabatic color

Repaints selected object in the Mixing Ratio color



Zoom Box – Used to define an area to zoom in on. Right click in box to zoom.

Zoom – Zoom in to zoom box area

Repaints selected object in the Pressure color

Repaints selected object in the Saturation Adiabatic color

Toolbox changer

Pointer – Used to select objects

Full View – Return to original (un-zoomed) state

Redo – Refresh the screen display

Red – Redraw selected object in red

Yellow – Redraw selected object in yellow

Blue – Redraw selected object in blue

Brown – Redraw selected object in brown

White – Redraw selected object in white



Zoom Box – Used to define an area to zoom in on. Right click in box to zoom.

Zoom – Zoom in to zoom box area

Orange – Redraw selected object in orange

Green – Redraw selected object in green

Purple – Redraw selected object in purple

Black – Redraw selected object in black

Toolbox changer

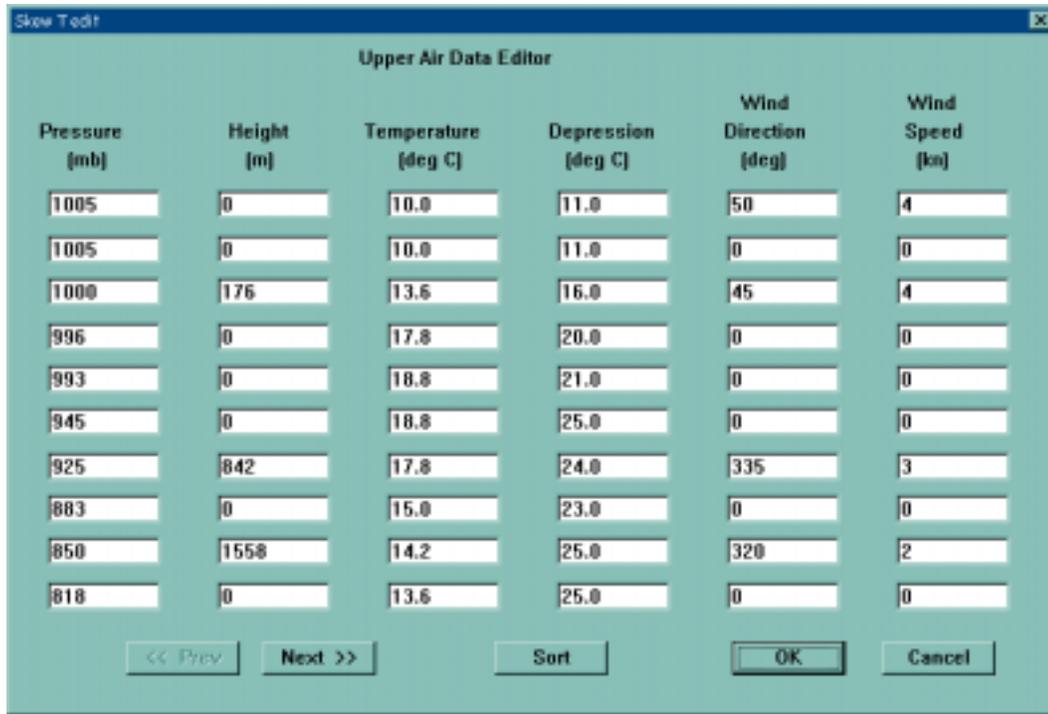
## THE SKEW-T MENU

### 1.1.1.1 *File Menu*

- **Open** opens a previously saved Vertical Weather Depiction overlay.
- **Close** (active only when a vertical weather depiction overlay is displayed) closes the vertical weather depiction overlay
- **Save** saves the current set of drawn objects as a Vertical Weather Depiction overlay. The Save dialog allows you to assign a file name and a valid time.
- **Save As** allows you to save a Vertical Weather Depiction overlay with a new file name and/or valid time. If the overlay has not been saved previously, this option functions the same as the Save option.
- **Print** prints the Skew-T plot and overlays (if any are currently displayed) to the default printer.
- **Print Setup** opens the standard print setup dialog for the operating system, to allow you to specify paper sizes, margins, etc. for printing.
- **Exit** closes the Skew-T display.

### 1.1.1.2 *Edit Menu*

- **Cut** removes the selected object(s) from the plot and sends them to the clipboard.
- **Clear** removes the selected object(s) from the plot.
- **Edit Sounding...** opens the Upper Air Data Editor dialog shown below. This dialog allows you to change the data at any level of the sounding just by typing in new data. When you click the **OK** button, the new values will be reflected in the plot.

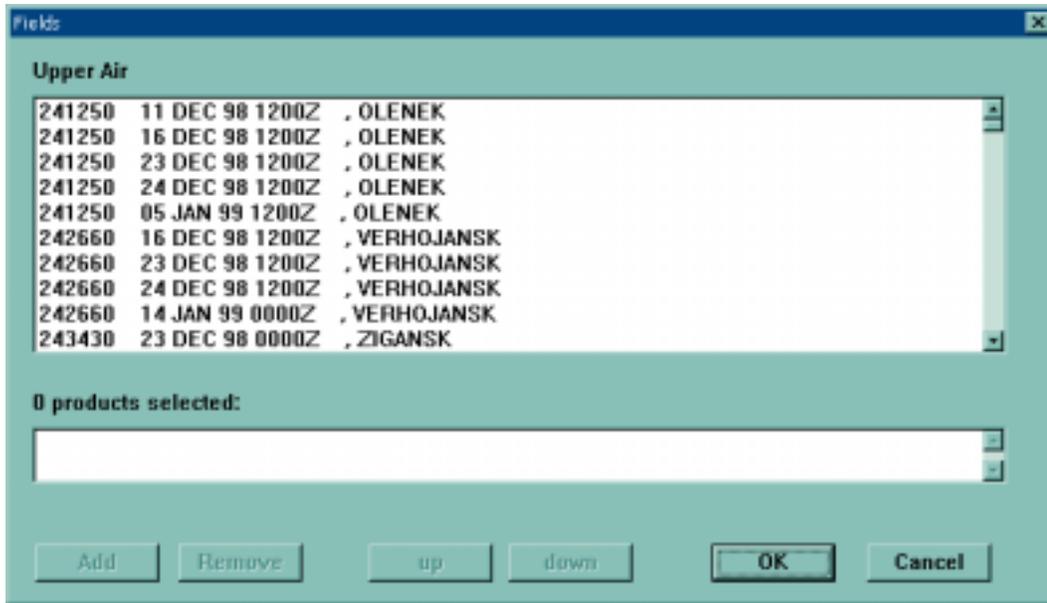


**Figure 146.** Upper Air Data Editor Dialog

- **Duplicate Sounding** plots another sounding with the same values as the selected sounding. Note that when multiple soundings are displayed, they appear in different colors.
- **Enter New Sounding** opens the Upper Air Data Editor dialog with a blank sounding. Enter values in the appropriate boxes and click the **OK** button to display the new sounding.

### 1.1.1.3 Chart Menu

- **Zoom** zooms the plot to within the area covered by the zoom box. If there is no zoom box currently displayed, this option does a 2X zoom on the center of the plot.
- **Full View** restores the plot to its original (un-zoomed) state.
- **Refresh** redraws the plot.
- **Select...** allows you to select another sounding to display. If you have made any modifications to the sounding currently displayed, you will be prompted to save it (if desired) before opening the new sounding. Then the Upper Air Sounding Selection Dialog will be displayed.



**Figure 147.** Upper Air Sounding Selection Dialog

Double-click on each desired sounding, or single-click to highlight a sounding and click on the **Add** button. Selected soundings appear in the lower list box, and the caption shows how many soundings are selected. To remove an sounding from the selected items list, double-click on it to highlight it and then click the **Remove** button. When satisfied with the selections, click on the **OK** button to display the selected soundings. The **Cancel** button returns you to the sounding previously displayed, without making any changes.

- **Icon Tools, Analysis, Chart, Height, Wind, Analysis, Chart, Height, Wind** are toggles to turn parts of the Skew-T display on and off. An item will be displayed if it has a check mark next to it.
- **Color... ..** opens the **Skew-T Color Picker** dialog dialog, which allows you to change the colors of various parts of the display. You can use this dialog to change the colors of the background, the soundings, and all of the lines of the plot.
- **Revert Settings** reverts the color settings back to the defaults.
- **Metric, English** These settings toggle the units of the display. **Metric** displays temperatures in Celsius and heights in meters. **English** displays temperatures in Fahrenheit and heights in feet.

1.1.1.4 *Sounding Menu*

- **Temperature, Dew Point, Virtual Temperature, and Wet Bulb Temperature** are toggles for the display of these parameters. An item with a check mark next to it will be displayed in the plot. Click on the item to toggle it on or off.
- **Temperature Style, Dew Point Style, Virtual Temperature Style, and Wet Bulb Temperature Style** are used to set the plotting styles for the various parameters. You can select whether a dot should be displayed for each point, which symbol to use for each plotted point, and which line style should be used to connect the plotted points.

1.1.1.5 *Background Menu*

The background menu allows you to toggle on and off various parts of the Skew-T plot background. An item with a check mark beside it will be displayed; an item without a check mark will not. To toggle the display for an item, just click on it.

1.1.1.6 *Cursor Menu*

The cursor menu allows you to select the items that will be displayed in the cursor readout. An item with a check mark beside it will be displayed; an item without a check mark will not. To toggle the display for an item, just click on it.

1.1.1.7 *List Menu*

The List menu has one option, **Show List..** When you click on this option, a simple listing of the sounding values appears. You can click the **Close** button to close the listing.

Pressure (mb)	Height (m)	Temperature (°C)	Dew Point (°C)	Wind Direction	Wind Speed
912170					
24 DEC 98 1200Z PGAC, GUAM, MARIANA IS					
1001	0	26.6	22.1	080	
1001	0	26.6	22.1	080	
1001	0	26.6	22.1	000	
1001	0	26.6	22.1	000	
1000	82	26.6	22.3	000	
1000	82	26.6	22.3	000	
943	0	22.0	20.9	000	
943	0	22.0	20.9	000	
925	766	21.8	17.5	080	
925	766	21.8	17.5	080	
925	0	21.8	17.5	000	
925	0	21.8	17.5	000	
898	0	20.6	18.3	000	
898	0	20.6	18.3	000	

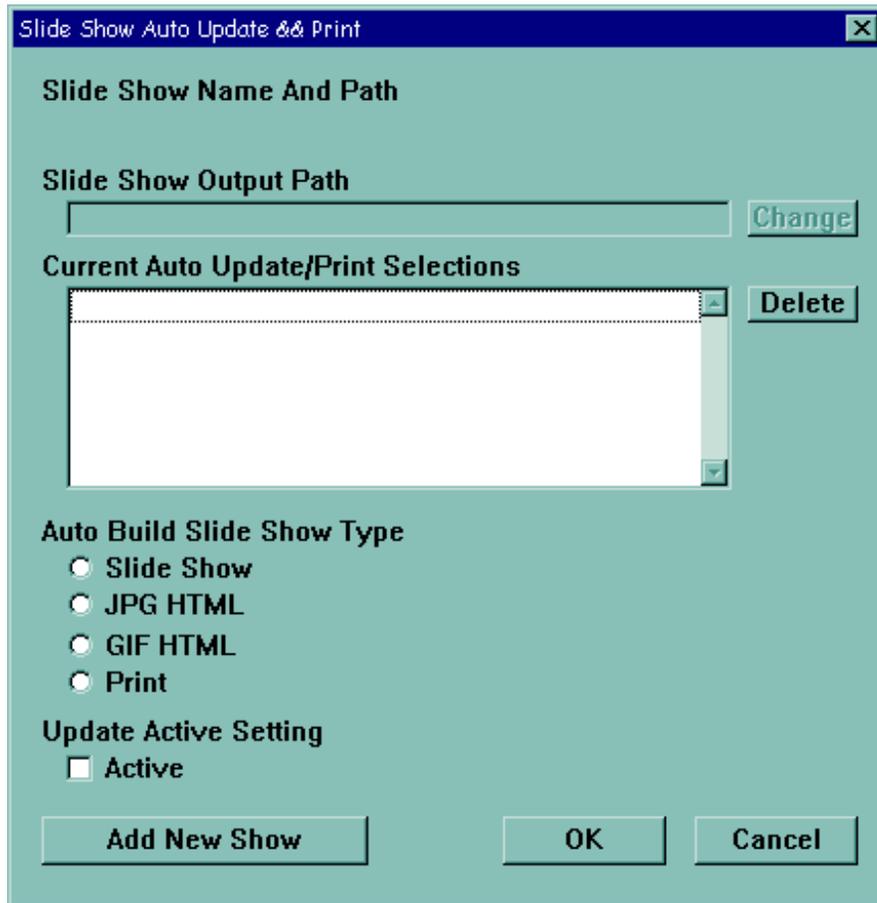
**Figure 148.** Skew-T, Log P List Dialog

#### 1.1.1.8 *Help Menu*

- **Help** opens this JMV Help.
- **Version Info...** opens a small dialog with information about the version of JMV you are using.

## SLIDE SHOW AUTO UPDATE & PRINT DIALOG

**Slide Show Auto Print and Auto Build** allows you to create slide shows that automatically update when new data are received. You create a slide show as usual (see the Slide Show section for directions), then use this option to set the show to automatically update when new data are received. Selecting this menu option opens the dialog shown below, which lets you specify the format in which the updated slide show will be output:



**Figure 149.** Slide Show Auto Update & Print Dialog

The **Auto Build Slide Show Type** buttons are used to specify the type of slide show to be built. The options are:

- **Slide Show** to build a slide show for display in JMV. When this option is selected, the **Slide Show Output Path** input box is inactive -- the selected slide show template file is overwritten with a new template and the slide show bitmap files are appended to the end of the file.

- **JPG HTML** to build a slide show in HTML format for display on the World Wide Web, using JPEG images. When this option is selected, the **Slide Show Output Path** input box will be activated and will contain the directory in which the original slide show was located. The **Change** button opens a file selection dialog to allow you to select a different directory.
- **GIF HTML** to build a slide show in HTML format for display on the World Wide Web, using GIF images. When this option is selected, the **Slide Show Output Path** input box will be activated and will contain the directory in which the original slide show was located. The **Change** button opens a file selection dialog to allow you to select a different directory.
- **Print** to route the slide show to the printer. When this option is selected, the **Slide Show Output Path** input box is inactive. The selected slide show template file is overwritten with an updated template.

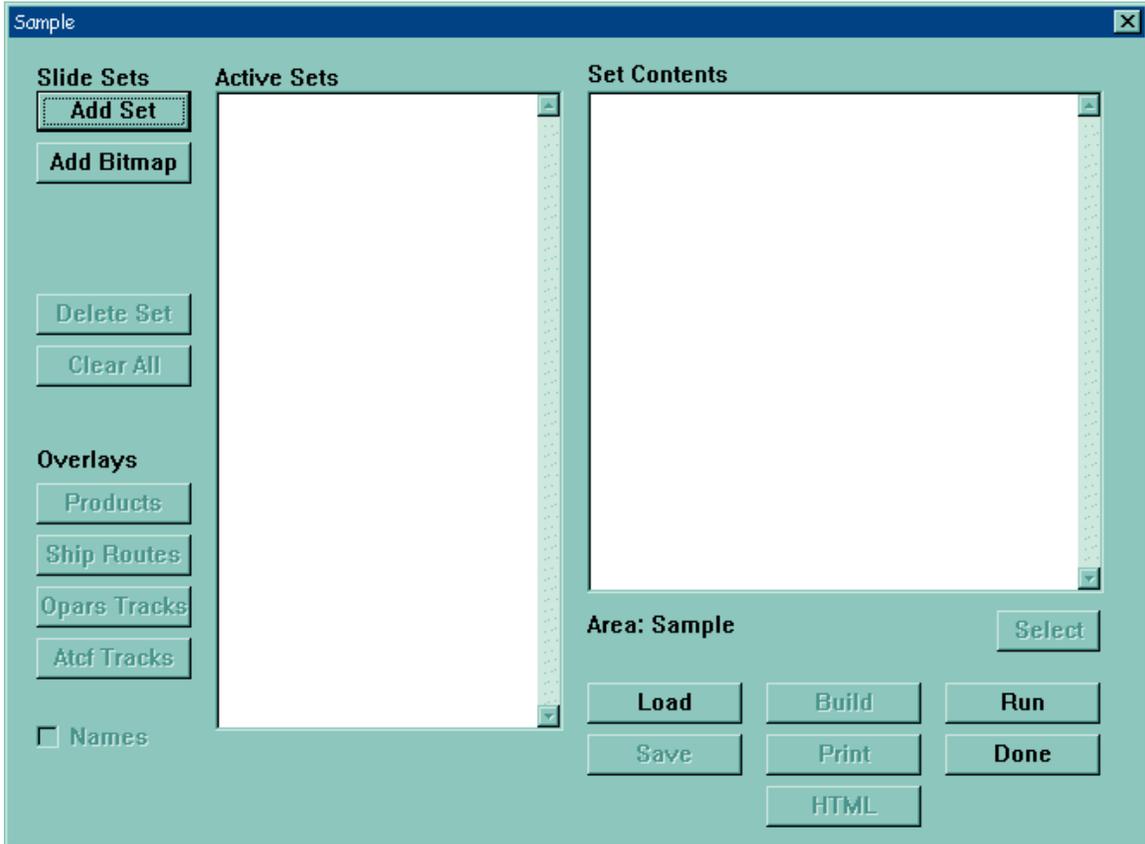
The **Current Auto Update/Print Selections** list box shows the slide shows that are currently set up for auto update. Initially, this box will show all slide shows you have defined. You can delete a show from the list by highlighting it and clicking on the **Delete** button. When you highlight an individual entry (by clicking on it), the auto update settings for that particular entry will be displayed and can be edited.

The **Update Active Setting** check box, when checked, activates the automatic updates. When this box is unchecked, the slide show will stay on the list but will not be automatically updated.

The **Add New Show** button is used to add a slide show to the list of shows to be automatically updated. A file selection dialog will be displayed to let you select the desired slide show file. The show will be added to the Update/Print list, with the **Auto Build Slide Show Type** defaulted to "Slide Show" and the **Update Active Setting** checkbox checked. You may then change the settings as desired. The **OK** button accepts and stores your changes; the **Cancel** button closes the dialog without making any changes to the settings.

## SLIDE SHOW SELECTION DIALOG

This dialog allows you to build slide sets and select overlays for a product slide show. It is used in building a product slide show. A slide show can contain several slide sets. Each slide set is based on a single area (map).



**Figure 150.** Slide Show Selection Dialog

**Add Set:** Adds a new slide set. The set name appears in the **Active Sets** list box, and the area (map) on which it is based is displayed in the **Set Contents** list box. You can change the area by clicking the **Select** button below the **Set Contents** list box; this opens the list of available areas and lets you choose a new one.

**Add Bitmap:** Lets you add a bitmap to the slide show.

**Products:** Opens the Choose Products Dialog to allow you to select the products to be included in this slide set. After the products are selected, the Product Time Selection dialog will be displayed to allow you to choose the forecast times to be included in the slide set.

**Ship Routes:** Opens the Tracks Dialog to allow you to select ship tracks to display on the slides.

**OPARS Tracks:** Opens the OPARS Flight Plans dialog to allow you to select OPARS tracks to display on the slides.

**ATCF Tracks:** Opens the Tropical Storms dialog to allow you to select tropical storm tracks to display on the slides.

**Names:** When checked, includes geographic place names on the slides.

**Load:** Presents a list of existing slide shows and allows you to load one. If there is currently a show in preparation, you will be prompted to save it before loading another show.

**Build:** Prompts you for a name under which to save the slide show, then builds and saves it.

**Run:** Prompts you to select a slide show, then opens it in an animation window.

**Save:** Saves the slide show under a name you provide.

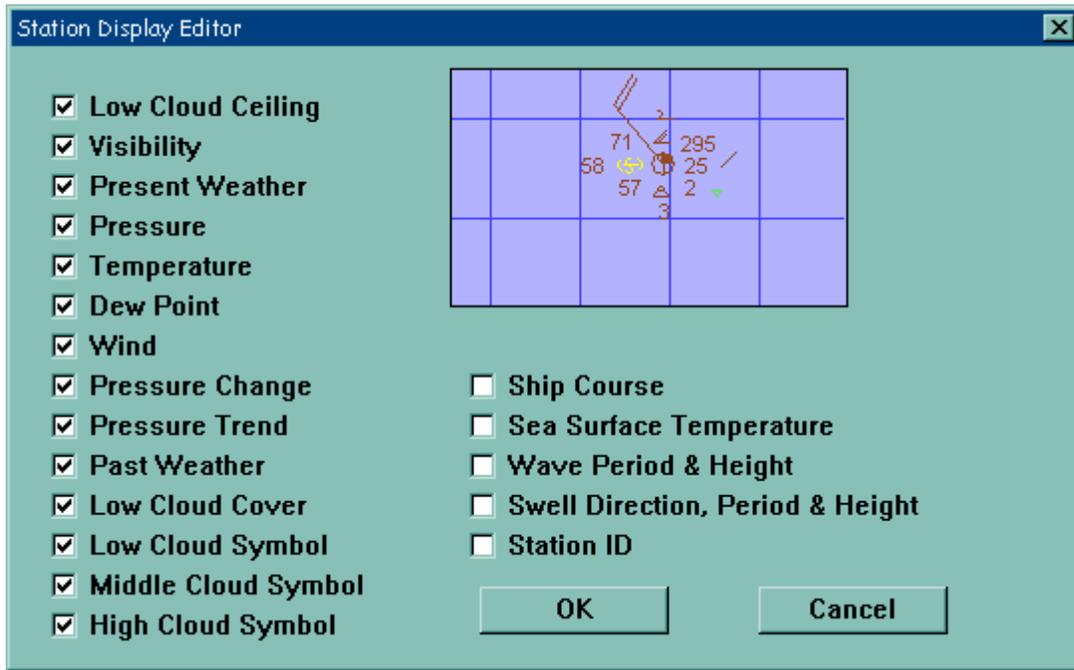
**Print:** Prints the slide show, one frame per page.

**HTML:** Saves the slide show in Hyper-Text Markup Language format for viewing on a web page.

**Done:** Exits the Slide Show Selection Dialog.

## STATION DISPLAY EDITOR DIALOG

This dialog is used to specify the elements which are to be included in the station model for synoptic observation reports on the map display. The check boxes are used to turn items on or off in the display; the sample station model shows the effects of each change.



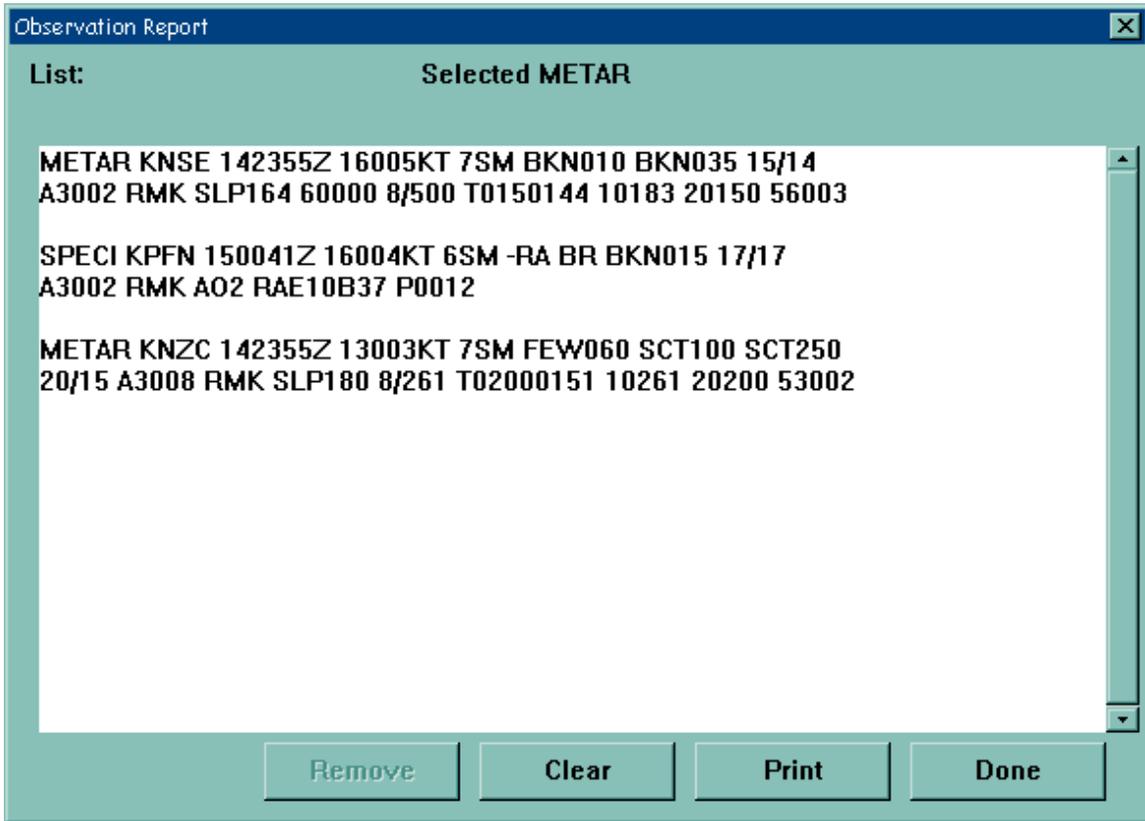
**Figure 151.** Station Display Editor Dialog

The **OK** button closes the dialog and applies your settings, which will remain in effect until changed again.

The **Cancel** button closes the dialog without applying any changes.

## STATION LIST DIALOG

This dialog displays all reports on the custom Station List for the observation type. The example shows the reports on the METAR Station List. See the sections on the METAR Station List and the TAF Station List for more information about the station lists.



**Figure 152.** Station List Dialog Showing the METAR Station List

The **Remove** button is used to remove the selected station from the list (permanently). The station's report must be highlighted before the **Remove** button is activated.

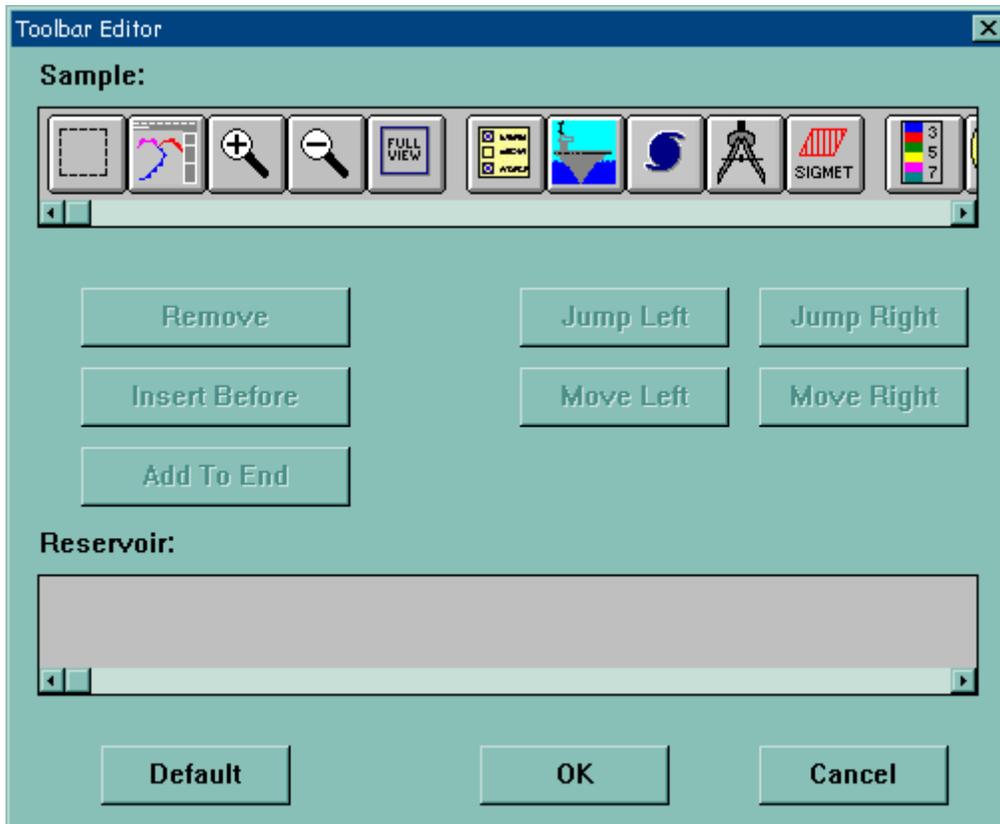
The **Clear** button is used to remove all entries from the station list (permanently).

The **Print** button prints all reports in the station list to the default printer.

The **Done** button closes this dialog.

## TOOLBAR EDITOR DIALOG

This dialog is used when customizing the JMV toolbar.



**Figure 153.** Toolbar Editor Dialog

To remove an icon from the Tool Bar, click on the icon in the Sample tool bar at the top and click the **Remove** button. The icon will be removed from the Sample tool bar and placed in the Reservoir at the bottom, which holds icons that can be added to the tool bar.

To insert an icon from the reservoir into the tool bar, click on the icon to be inserted. To place the icon before an icon already in the tool bar, click on the target icon in the Sample tool bar and click on the **Insert Before** button. To place the inserted icon at the end of the tool bar, click the **Add to End** button.

The **Jump Left** and **Jump Right** buttons are used to move the highlighted icon in the Sample tool bar left and right, respectively, with respect to the other icons in the tool bar. **Jump Left** causes the icon to change places with the icon to its left. **Jump Right** causes the icon to change places with the icon to its right.

The **Move Left** and **Move Right** buttons move the highlighted icon in the Sample tool bar right and left without changing its position with respect to the other icons. Clicking **Move Right** when the selected icon has another icon to its left has the effect of inserting a space between the icons, moving the selected icon and all icons to its right by one space to the right.

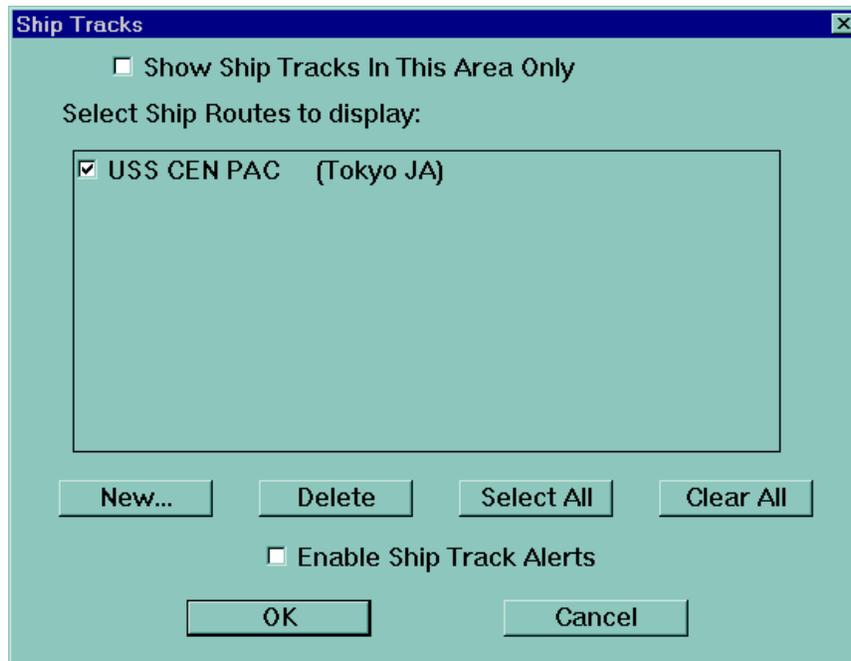
The **Default** button returns the tool bar to its default configuration.

The **Cancel** button exits the dialog without making any changes to the tool bar.

The **OK** button makes the changes you have specified to the toolbar, then closes the Toolbar Editor dialog.

## TRACKS DIALOG

The Tracks dialog allows you to select ship tracks to display on the map, or to select ship tracks for display in a product slide show. It may also be used to create a new ship track. See the Working With Ship Routes topic for more details.



**Figure 154.** Tracks Dialog

The list portion shows the available ship tracks. A checkbox next to each track allows you to select or deselect it.

**New...** opens the Ship Track Editor dialog to allow you to create a new ship route.

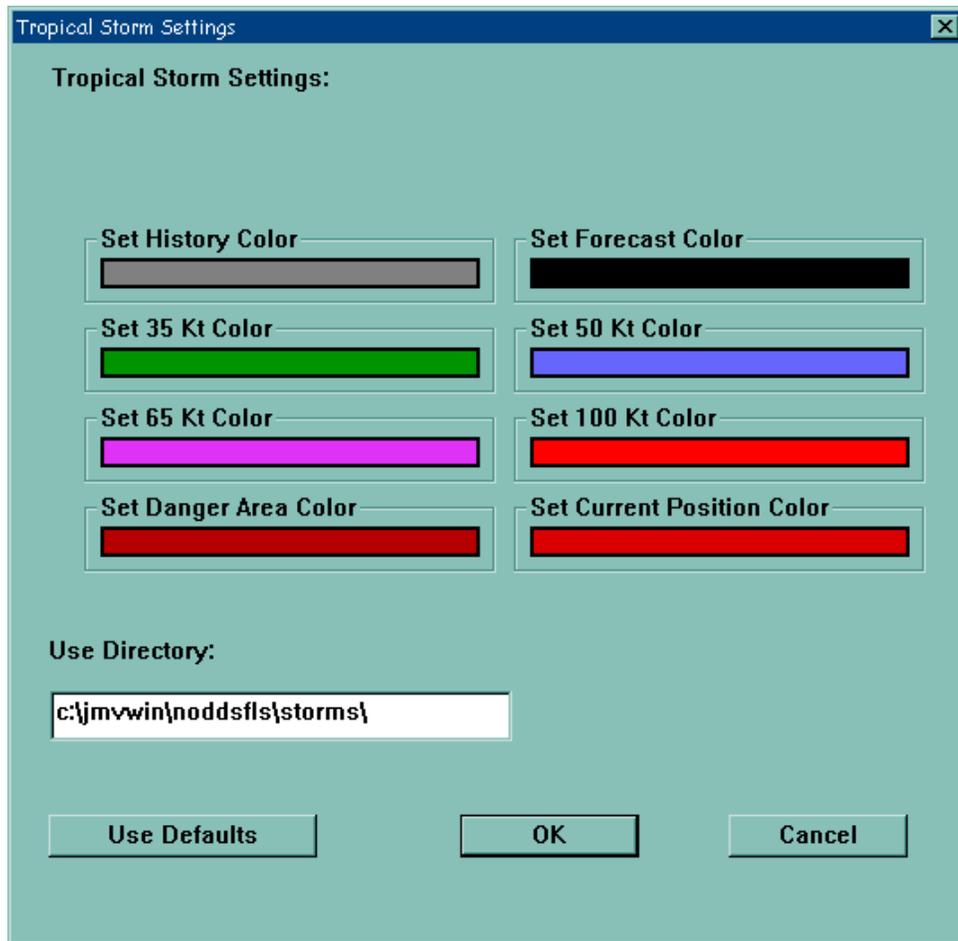
**Delete** deletes the selected ship route from the list.

**OK** accepts the current selections and returns to the calling program.

**Cancel** aborts the selection process and returns without making any selections.

## TROPICAL STORM SETTINGS DIALOG

This dialog is used to set display options for tropical storm warnings.



**Figure 155.** Tropical Storm Settings Dialog

The **Set Color** bars allow you to change the color settings for history (past positions), forecast positions, 35, 50, 65, and 100 knot wind radii, the danger area, and the current position of the storm.

The **Use Directory** entry box lets you specify the directory in which tropical storm warnings are stored.

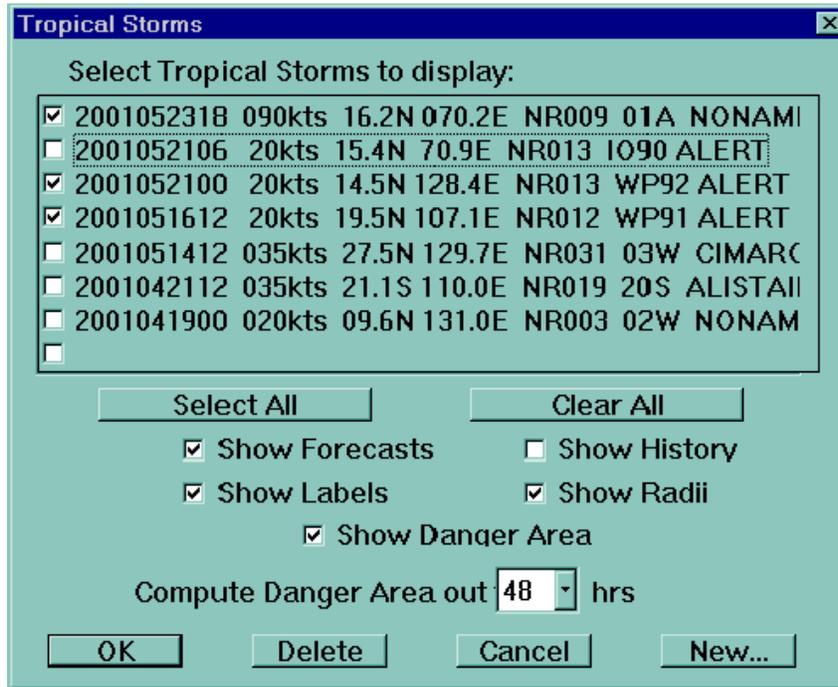
The **Use Defaults** button reverts all settings to their default values.

The **OK** button closes the dialog and applies your settings, which will remain in effect until changed again.

The **Cancel** button closes the dialog without making any changes.

## TROPICAL STORMS DIALOG

The Tropical Storms dialog is used to select tropical storm warnings to display on a map or in a slide show. See the sections on Working With Tropical Cyclone Warnings and Building a Product Slide Show for more details.



**Figure 156.** Tropical Storms Dialog

The **Select Tropical Storms to Display** list box contains a listing of all tropical storm warnings known to JMV, with a check box for each indicating whether or not it is to be displayed.

The **Select All** button selects (checks) all of the warnings in the list box.

The **Clear All** button clears the check marks from (deselects) all of the warnings in the list box.

The check boxes below the **Select All** and **Clear All** buttons specify how the selected storms are to be displayed. You can decide whether to show forecast and historical positions, show labels at each point in the track(s), show wind radii, and show the danger area(s) of the selected storm(s).

The **Compute Danger Area out to** drop-down list lets you select the maximum length of time for which the danger area(s) will be computed. The default is 48 hours.

The **OK** button accepts the current selections and returns them to the calling program.

There is also the ability to manually add a track using **New**. You might consider using this function in cases of delayed data or to look at alternate track scenarios.

The **Delete** button deletes the selected storm definition from the list.

The **Cancel** button exits the dialog without returning a storm selection.

## UPPER AIR DATA EDITOR DIALOG

This dialog is used to create or edit an upper air report. It is opened from the **Edit** menu of the Skew-T, Log P display by selecting **Edit Sounding <number>...** option. The example below shows the Upper Air Data Editor dialog with values filled in, as would be the case when editing an existing sounding.

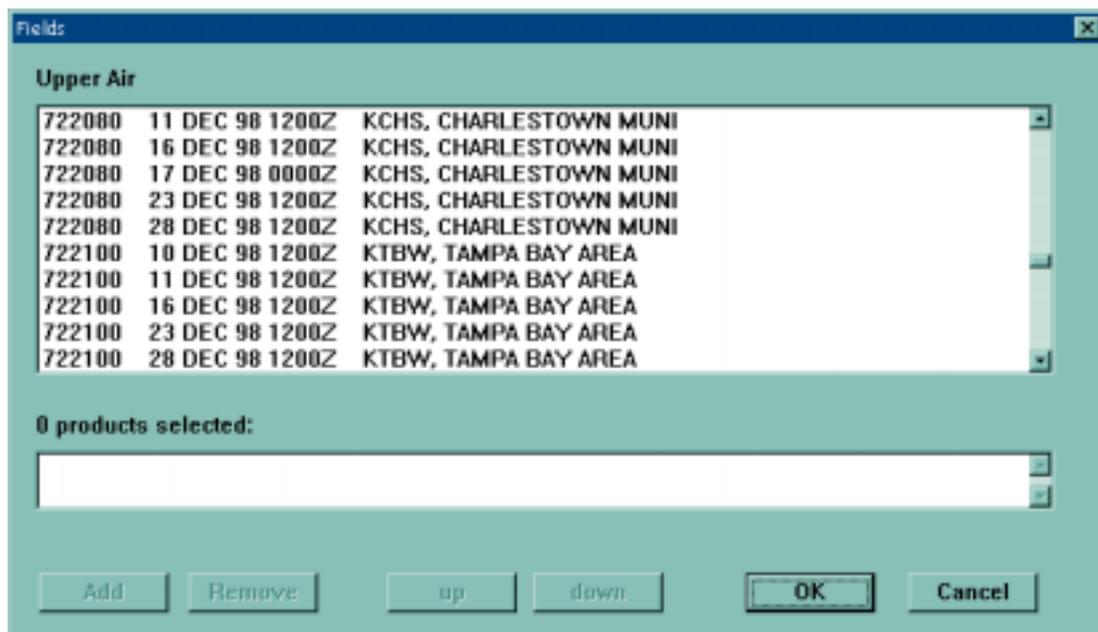
Pressure (mb)	Height (m)	Temperature (deg C)	Depression (deg C)	Wind Direction (deg)	Wind Speed (kn)
1005	0	10.0	11.0	50	4
1005	0	10.0	11.0	0	0
1000	176	13.6	16.0	45	4
996	0	17.8	20.0	0	0
993	0	18.8	21.0	0	0
945	0	18.8	25.0	0	0
925	842	17.8	24.0	335	3
883	0	15.0	23.0	0	0
850	1558	14.2	25.0	320	2
818	0	13.6	25.0	0	0

**Figure 157.** Upper Air Data Editor Dialog

To edit a sounding, fill in values in the entry boxes (missing values may be entered as 0). The **Next >>** and **<< Prev** buttons are used to display hidden portions of the sounding listing. The **Sort** button sorts the entries in order of decreasing pressure. The **OK** button accepts the selections and saves the new or edited sounding. The **Cancel** button exits without saving anything.

## UPPER AIR SOUNDING SELECTION DIALOG

This dialog is used to select upper air soundings from the list of available soundings. It is opened when the **Select...** option is selected from the **Chart** menu in the Skew-T, Log P Diagram window.



**Figure 158.** Upper Air Sounding Selection Dialog

You can select a sounding by double-clicking its name in the upper list or by clicking on it to highlight it and then clicking the **Add** button. It is suggested that you not select more than 3 soundings for display at a time.

To remove a sounding from the **Selected** list, highlight it there and click the **Remove** button.

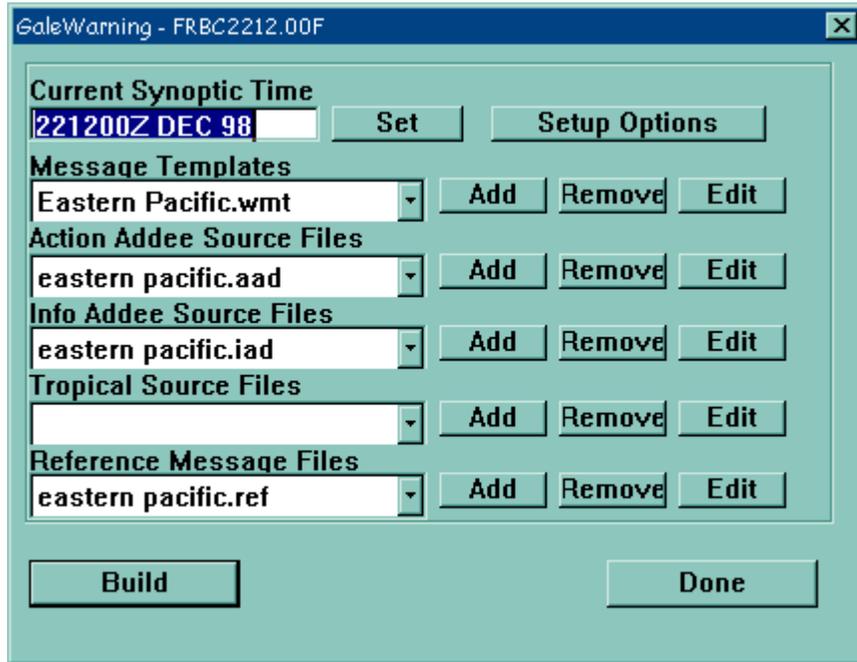
The **up** and **down** buttons are used to change the order of soundings in the selected list. To move a sounding, highlight it and use these buttons to move it.

The **OK** button accepts your selections and displays them in the Skew-T, Log P display. The **Cancel** button exits without changing the display.

## WARNING MESSAGE DIALOG

This dialog is used to select options for building a warning message. It is used to specify the synoptic time, templates for the message itself and the action and info addressees, files containing tropical cyclone warning source, and reference

message files. In most cases, these files will be pre-packaged for your area, and need not be changed. You select each file by clicking the down arrow to activate the drop-down list, then selecting a file from the list. The **Add** button opens a text editor in which you can create a new template. The **Remove** button removes the selected template from the list. The **Edit** button opens the selected template in a text editor so that you can modify it.

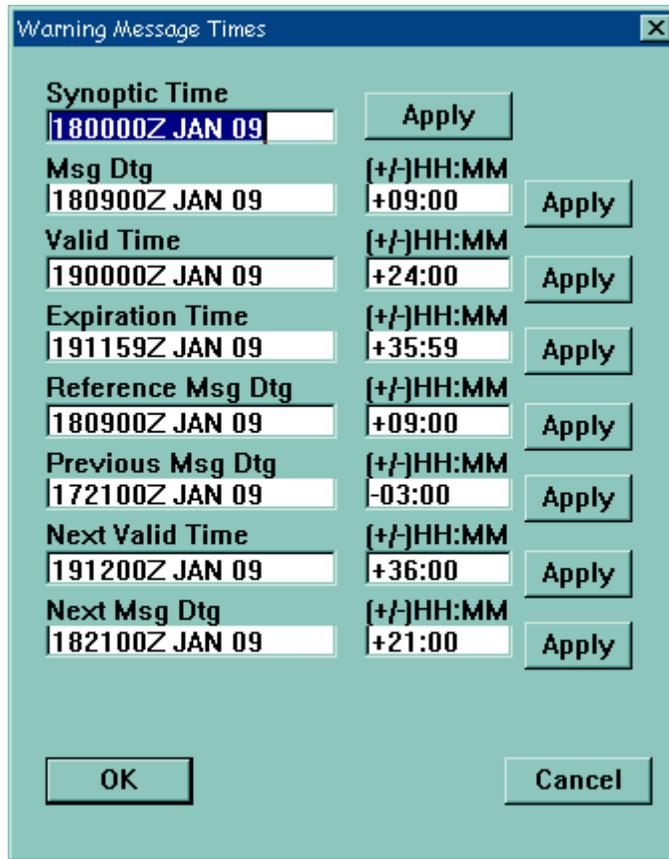


**Figure 159.** Build Warning Message Dialog

- Several text fields refer to various source files (\*.wmt). These source files contain static and dynamic text fields that update automatically during the build phase. To edit these templates press **Edit**. When changes are finished, press **Save** to retain changes.
- To create a Gold message, you must select the Gold message template. To do this, click the **Remove** button and then the **Add** button. This will bring up a window with all the available message templates. Select the appropriate Gold message template for your warning message.
- **Set** invokes the Warning Message Times dialog box. The **HH:MM** field provides the amount of time to be added to or subtracted from the **Synoptic Time**. To permanently adjust the date-time group computation, change the **HH:MM** and press **Apply**.
- **Setup Options** invokes the Setup Options dialog box containing field inputs for MANOPS, Classification, Precedence, User Key, and counters. There is also an "ice block" which adds ice edge information to the warning message.

## WARNING MESSAGE TIMES DIALOG

This dialog is used to specify various times to apply in a high wind or high seas warning message.



**Figure 160.** Warning Message Times Dialog

You can specify each time by typing it into the entry box, or by specifying the offset from the synoptic time using the (+/-)HH:MM boxes. The latter method is preferable, as the settings you make in the offset boxes will also be applied to future messages so that you won't have to access this dialog again. The entries are fairly self-explanatory. The **Apply** buttons apply the individual settings without closing the dialog. The **OK** button accepts the selections and exits. The **Cancel** button exits without changing the settings.

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## APPENDIX A SOLARIS NOTES

### A.1 SUMMARY

The Solaris version of the JMV software is functionally identical to the Windows NT version that is detailed in this manual. All of the documented features, functions, and caveats also apply to the Solaris version of the software, with the exception of the capabilities detailed in the three sections listed below. These sections pertain only to the Windows version of the software.

- Launching the Viewer.
- Working with Thumbnails
- Setting up Remote Link Areas

The screen shots (sample images) used throughout this manual were captured on a PC running Windows NT, therefore, the dialog boxes in the Solaris version will appear slightly different. This difference is purely cosmetic, and is primarily due to the use of a different font type. The software installation and start up procedures for the Solaris version are also slightly different and are detailed below.

**IMPORTANT NOTE:** The speed with which mouse inputs are made in the METCAST Client for Unix may cause problems and hang-ups. In general, fast single or double clicking ahead of the Client program with either the left or right mouse buttons may cause X-windows to hang up. Users should not click ahead of the METCAST Client program, but wait for the Client to complete the requested action before initiating (clicking for) the next action.

If fast clicking has caused an X-window to lock up, refer to Appendix A.5.3 in the METCAST Client User's Manual for terminal recovery instructions.

### A.2 INSTALLATION NOTES

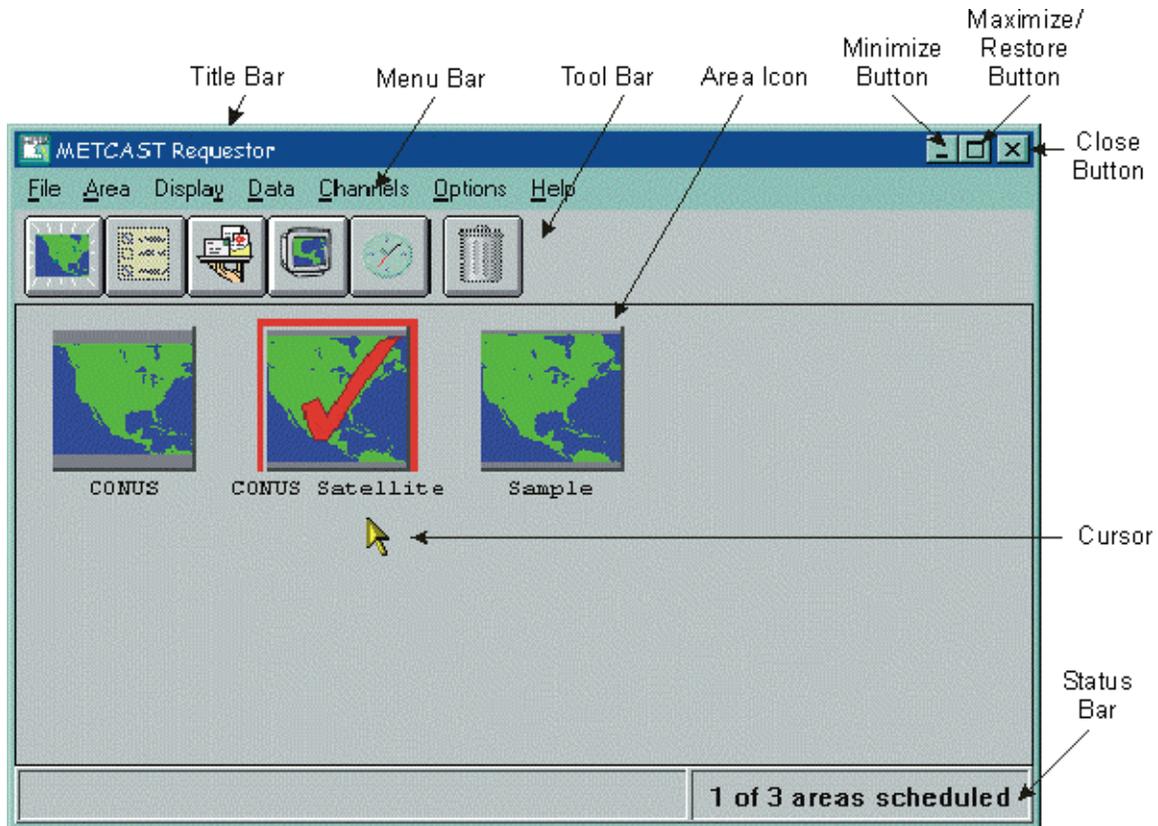
As with the Windows NT version of the JMV software, the installation procedure for the Sun Solaris version is contained in the *Joint Metoc Viewer (JMV) Segment Installation Procedures (IP)*. This document, titled *fnmoc\_jmv\_ip\_35series*, is provided in the **Docs** folder on the installation CD.

The installation program for the Solaris version of JMV and METCAST Client will search the installation directory (selected by the user) and delete existing versions of JMV and METCAST Client software. The User may wish to save

various files and directories before performing the new installation. A list of files and directories that the user may wish to preserve, as well as the rationale for saving them is provided within the Installation Procedures document.

### A.3 STARTING JMV

Unlike the Windows version of JMV, which is often executed independently of METCAST Client, or remotely linked to a central machine running METCAST Client, the Solaris version of JMV is usually launched directly from **METCAST Client** after the desired products have been downloaded. The **METCAST Requestor** screen shown in Figure 161 below, provides four methods to launch JMV:



**Figure 161** The METCAST Requestor Screen

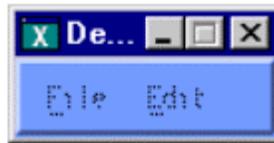
1. Double click on an Area's icon.
2. Click on an area icon to highlight it, then click the **Display Products** button in the toolbar.
3. Click on an area icon to highlight it, then pull down the **Display** menu and select **Map Display...**

4. Right click on an area icon to open its context menu, then select **Display**.

Each of the steps above will open the JMV **Choose Products** dialog box, which is used to select products for display in JMV. See the **Selecting Products to Display** Section, on page 41 of this User's Guide for complete instructions on using this dialog box.

#### A.4 MISCELLANEOUS

The dialog box shown in Figure 162 below will appear when Areas are created or when Products are displayed. (i.e. when the Choose Area Type dialog box or the Display Products menu button are used). This non-functional dialog is an artifact of the software technology that allows the same software to function on both the Windows and Solaris operating systems. This dialog cannot be closed or minimized, but can be repositioned on the users screen. This dialog box will be hidden behind an active window.



**Figure 162 Nonfunctional Dialog**

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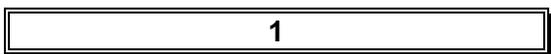
# INDEX



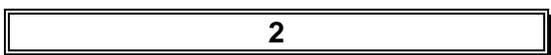
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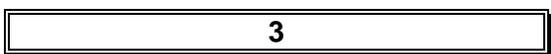
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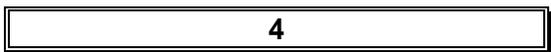
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