AWIPS FORECAST PREPARATION SYSTEM

FORECAST SYSTEMS LABORATORY
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AFPS NEWS

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<="" a="">The Next AFWG Meeting

<="" a=""> The next AFWG Meeting will be held here in Boulder in late September. As you might have guessed, this will be the last formal meeting of the AFWG before operational deployment to the Denver WFO. It's important that we make efficient use of the working group's time during this meeting. In the past, a significant amount of time was expended training AFWG members, so that they could become proficient with the system to develop a basis for comment. After informal discussions, the AFPS staff concluded that for the next AFWG meeting, we need to minimize the training time so that the group could perform as many real-time exercises as possible. This implies that AFWG members need to become familiar with the system *before* the meeting begins. To accomplish this, we will provide you with a draft of the users manual and a set of training exercises that you can do at your home office. Once you get to Boulder, we'll give you a series of exercises that simulate real-time forecast situations. The goal is to get you to use AFPS in an operational setting. We think that's the best way to get the most feedback from AFWG members.

<="" a=""> What do *you* think? Do you have any opinions about what we should do at the next AFWG meeting? Should we focus more on specific aspects of AFPS? What are they? Let us know. Send us E-mail or give us a call at (303) 938-2061.

<="" a="">Multi-Parameter Tools

<="" a=""> When the AFWG last met in the summer of 1995, some members expressed concern about the lack of efficiency when defining the values of several parameters over a particular area. To define a particular weather regime, the system forced you to perform separate edit operations for each parameter. At that time, we promised we would investigate the concept of a multiple parameter paint tool that would allow you to define values for several parameters with a single edit operation.

After several specification and design sessions, we decided that the multi-parameter tool should not be restricted to just painting. Other edit tools such as Bulldoze, SetValue, Smooth, Move/Copy, and Sample will be extended to operate on more than one parameter. Why not all of the tools? Here's the rationale, tool by tool.

Spray, Push/Pull - For these tools, it's sometimes difficult to predict how these tools affect a single parameter. Adding a multiple parameter capability to these tools would approach chaos.

Pencil - The Pencil tool adjusts the position of a single contour. We thought it very unlikely that you would want perform this type of operation on several parameters at once.

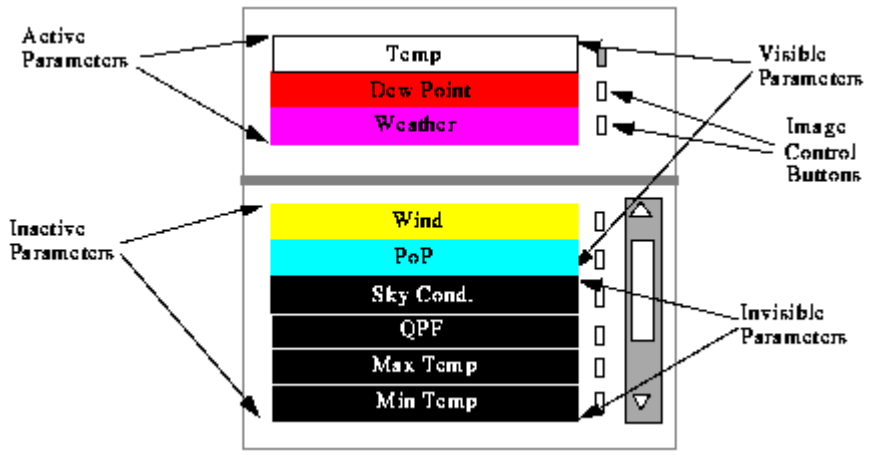
Vector - Since there's only two vector parameters, wind and waves, multi-parameter vector adjustment is virtually useless.

How it works

Surprisingly, the multi-parameter tools work just like their single parameter counterparts. It's what you do before you use the tool that determines which and how parameters get modified. The first step is to insert more than one parameter in the active parameter list by using the Spatial Editor Data Selector.

<="" a="">Spatial Editor Data Selector

The Spatial Editor Data Selector always contains the entire list of parameters that are currently loaded in the AFPS Graphical Forecast Editor (GFE). Each parameter is represented by a single Data Selector entry. In cases where there are too many entries to display, a scroll bar appears allowing the user to find any parameter of interest. The Data Selector will look similar to the figure below.



The Data Selector is divided into two sections. The top section displays labels for the currently active set of parameters (Temp, Dew Point, Weather). The bottom section displays labels for the inactive parameters. During edit operations, only the active set of parameters are modified; inactive parameters are never modified during edit operations.

The color of a parameter label indicates how it's displayed in the Spatial Editor. White labels indicate that the parameter is displayed as an image. Colored labels indicate that the parameter is displayed as a type of graphic and that it's currently visible in the Spatial Editor. The label's color

matches the parameter's graphic or base color. Black labels indicate that the parameter is loaded in the Spatial Editor, but not visible at the moment (i.e., toggled off).

Controlling the Active List

To make a parameter the *only* active parameter, click on that label with mouse button 2. Any other active parameters will become inactive and automatically move to the bottom section. To *add* a new parameter to the active list, hold down the shift key while selecting the label with mouse button 2. The selected parameter will move from the bottom to the top section and if it was invisible, it will become visible. Active parameters are automatically changed to the visible state since we thought that you would always want to view the parameters that you modify.

Controlling Visibility

To toggle the visibility of a particular parameter, just click on its label with mouse button 1. If the parameter was visible, it will become invisible. If the parameter was invisible, it will appear in the Spatial Editor.

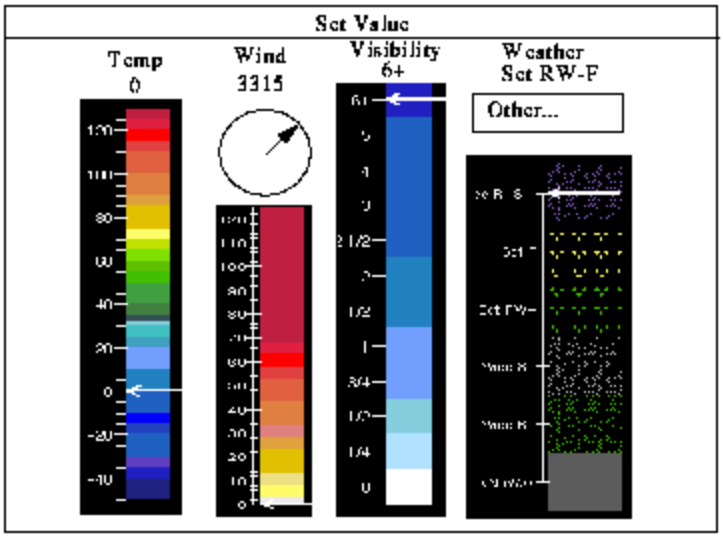
Image Control

You might have noticed the little rectangular boxes to the right of each parameter label. Selecting this small button toggles the display type between image and graphic. If any other parameter was displayed as an image before, it changes to a graphic, since only one parameter at a time may be displayed as an image. The image button is highlighted when its parameter is currently displayed as an image. Selecting the button again toggles the parameter back to a graphic.

Once the list of active parameters is set up just the way you want, you're ready to edit using any of the available tools. Next we'll discuss how each of these tools work when multiple parameters are active.

Paint/SetValue

Since the Paint and SetValue tools edit gridded data in same way, we can discuss them together. The Paint/SetValue tools work exactly the same on multiple parameters as they do on a single parameter. For the Paint tool, you press and hold mouse button 1 and move the mouse over the area you wish to edit. As the cursor moves over the grid points, their values are changed to the current pickup value. This is true for all of the parameters in the active parameter list. The tricky part is properly setting the pickup value prior to the paint operation. To accomplish this, we've invented a new dialog box that displays the legends of all currently active parameters.



When this dialog box is invoked, the legend for each of the active parameters is displayed. From this dialog box, you can set the pickup value for any active parameter by clicking on a value within the legend. This dialog is non-modal, which permits you to leave it open while you perform edit operations elsewhere in the GFE. Note that the weather legend includes a way to add new weather types to the weather legend.

So, to use the Paint/SetValue tools, first you identify the active parameters (as with all multi-parameter tools), then bring up the pickup value dialog box to set the appropriate pickup values for each active parameter, and then Paint. At any time you're free to change the pickup values and paint with the new values.

Bulldoze/Smooth

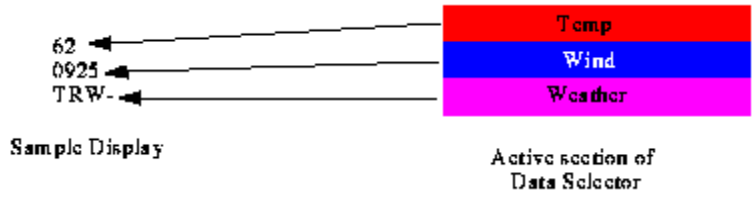
The smooth tools work similarly to the Paint/SetValue tools, except that there's no pickup value to set before each edit operation. Just set the active parameter list and smooth. Each of the parameters in the active list will be smoothed accordingly. Parameters that do not allow smoothing, such as weather, are not modified, even though they're in the active list.

Move/Copy

The Move and Copy tools copy a region from all parameters in the active list and move or copy it to the new location. So if you have a weather regime that is accurate in value but needs some spatial adjustment, define the area and move it to a new location.

Sample

The Sample Tool will be enhanced to display a textual representation of all currently active parameters. The values will be listed vertically in the same order as they appear in the Data Selector.



What do you think?

What do you think about the multiple parameter edit tools? Tell us what you think. We like to hear from you. Besides, time is running out. The design will be complete in just a couple of months, after that, it will be too late to incorporate any new ideas into the system by September.

Next Time

In the next issue, we'll talk about time block editing. It's been greatly simplified, since there's only one edit operation. We've added inter-parameter grid copying, too.