FFMP: Flash Flood Monitoring and Prediction's
FFFG: Forced Flash Flood Guidance
Graphical User Interface

Guide for Users
version **OB8.3**

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-WHAT'S NEW?-

FFMP Advanced provides some interesting and significant new functions to FFMP:

- **Multiple Guidance Sources**
  In FFMP Advanced, we can now make use of Multiple Guidance sources, which means that the FFFG GUI must present additional choices.

- **Variable Guidance Times**
  Now that we have multiple guidance sources, we also have variable guidance times, which also means that the FFFG GUI must present more additional choices

-INTRODUCTION-

The Flash Flood Monitoring and Prediction (FFMP) system is an integrated suite of multi-sensor applications which detects, analyzes, and monitors precipitation and generates short-term warning guidance for flash flooding automatically within AWIPS. FFMP will provide forecasters with accurate, timely, and consistent guidance and supplement forecaster event monitoring with multi-sensor, automated event monitoring. The intended benefits are:

- Longer lead times on warned events
- Fewer missed events
- Increased forecaster situational awareness
- Reduced forecaster fatigue during warning situations

FFMP conducts its precipitation analyses in a "basin world", which means all calculations are done over the areas of mall basins.

FFMP Advanced has been expanded on the previous version of FFMP in several ways. See the What's New section for a summary.

The Forced Flash Flood Guidance (FFFG) GUI provides a method to force FFMPA to use user-defined Guidance values in place of whatever Guidance value the Guidance data source is providing.
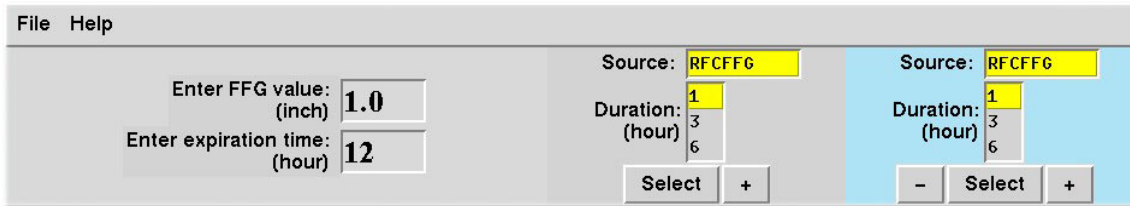
-RUNNING THE FFFG GUI-

Currently, FFFG is run from the command line. Issue the command "**ForcedFFG.tcl**" and the GUI will appear. (See figure below.) When the GUI starts, it ingests the FFMP lookup data that is generated upon localization. This is basically all that it needs to run properly. No actual value data is required.
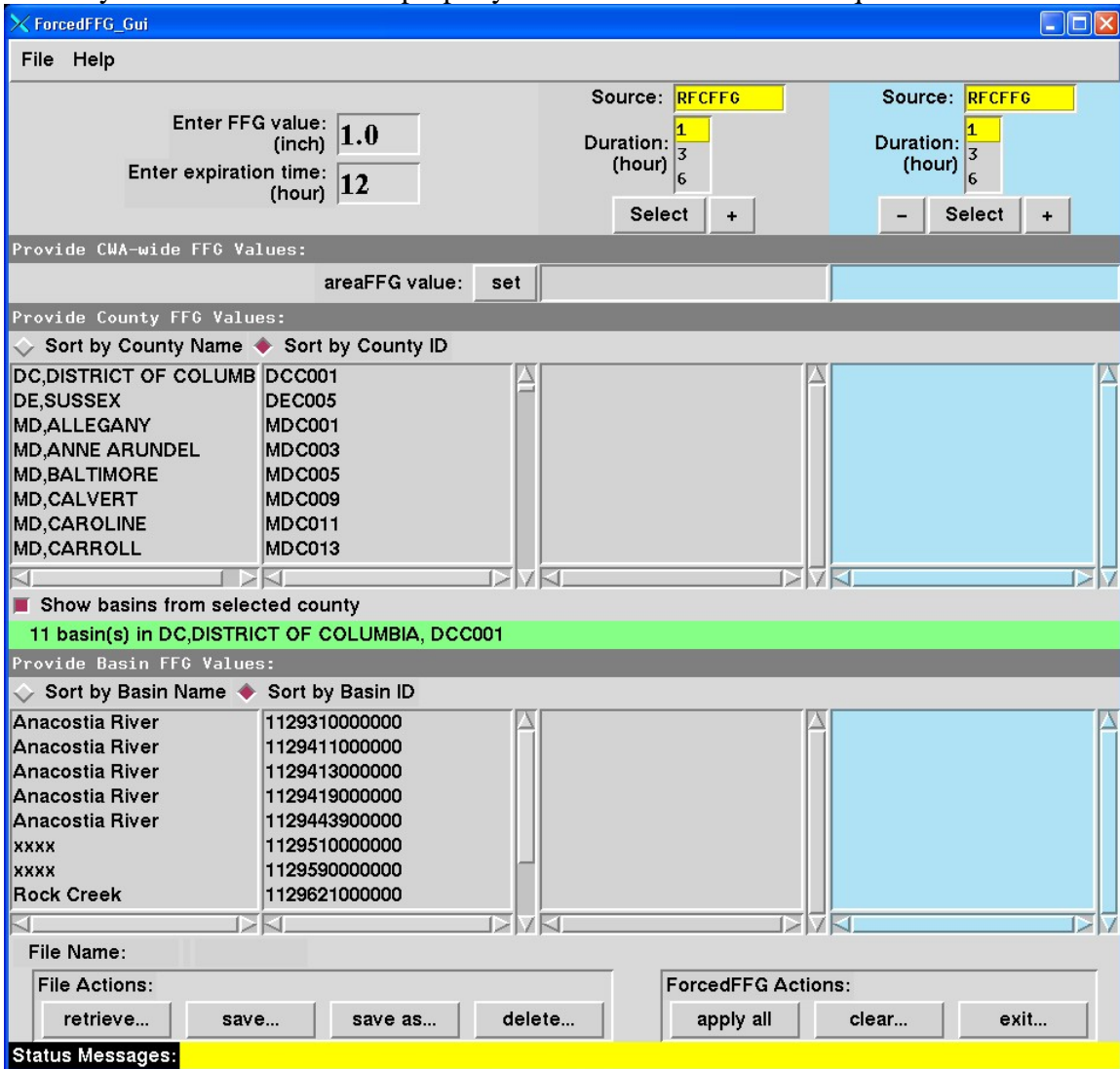
There are 3 main sections to the GUI, detailed below.

-Top Section-

File Menu

The File Menu contains the following:

File Menu Selections		
Selection	**Key shortcut**	**Definition**
retrieve	<Alt-r>	Selecting 'retrieve' will allow you to ingest a previously saved file. This retrieval can take several forms: • **retrieve**: Will clear all data currently in the GUI and replace it with the data read from the chosen file. • **merge overwrite**: Will retain the data currently in the GUI and load the data from the selected file. The data coming in from the selected file will overwrite the data currently in the GUI only when the two conflict. • **merge**: Will retain the data currently in the GUI and load the data from the selected file. The data coming in from the selected file will **not** overwrite the data currently in the GUI when the two conflict. • **cancel**: Cancel the data retrieval operation and retain data currently in the GUI
save	<Alt-s>	Selecting 'save' will save all of the data in the GUI to the file whose name appears above the File Actions section at the bottom of the GUI. (See the Bottom Section XXX below.) If no file name is there, then this 'save' selection will behave the same as the 'save as' selection (below).
save as	<Alt-a>	Selecting 'save as' will save all of the data in the GUI to a file name of your choice. All files are stored in /data/fxa/tstorm and have the .ffg suffix.
delete	<Alt-d>	Selecting 'delete' will delete the chosen file form disk.

File Menu Selections		
Selection	Key shortcut	Definition
apply all	<Alt-p>	Selecting 'apply all' will apply the data in the GUI so that FFMP will see the forced FFG and use it. **NOTE: Applying any forced FFG values will affect any FFMP displays on all machines!**
clear	<Alt-c>	Selecting 'clear' will clear all columns of data.
exit	<Alt-e>	Selecting 'exit' will shut down the GUI without saving any data. You will be asked to confirm.

Provide Data

Guidance Value

The entry widget labeled "Enter FFG value (inch):" is where you provide the FFG value you wish FFMP to use. When you assign an FFG value to an entity (county, basin, or entire CWA), this is the value that gets assigned to the entity. (See the Guidance Section described below.) With this value you can:

- **Override**: Providing just a number will assign that number as the FFG value for the entity chosen.
- **Modify**: If a plus (+) or minus (-) sign is entered before the numeric value, then the according mathematical calculation will be made. The value provided will either be added to or subtracted from the FFG value that the entity currently has. Note that, when the data is applied, the resulting FFG value is not allowed to have a value less than zero.

Expiration

The entry widget labeled "Enter expiration time (hour):" tells FFMP when to no longer use the forced values provided by the GUI. FFMP will know that, if the expiration time is met, it will no longer use the forced FFG values and will revert back to the original values form the Guidance source. *If you enter a value of **zero** for the expiration, the forced FFG values **WILL NEVER EXPIRE**!* This is dangerous and not recommended, but may be logical for some cases. For example - if you wanted to permanently handle urban basins with a single FFG value, setting the expiration value to zero might make sense. If this gets set to zero you can always reset it at a later date and re-apply the data.

If you wish to discontinue the use of Forced Guidance that is currently in use, you can use the FFFG GUI to force values to **no entities** and Apply the settings.

Source Selections

Once you have chosen the data source and time duration, then you can click the "Select" button to highlight the column in light blue. This signifies that the column is ready for

you to force data values. (See the Guidance Section below for details regarding how to actually force the data values for specific entities.)

Source Selection Section	
Item	**Description**
Source	For each forcing column in the GUI, you need to choose a source of data to force.
Duration	Once you have chosen a data source to force, then you must also choose one of the associated time durations to force. This list will change depending on the data Source selected.
Select	Click the "Select" button to highlight the column in light blue and identify it as the active column for forcing.
+	Click the "+" button to add another column.
-	Click the "-" button to remove an entire column.

-GUIDANCE SECTION-
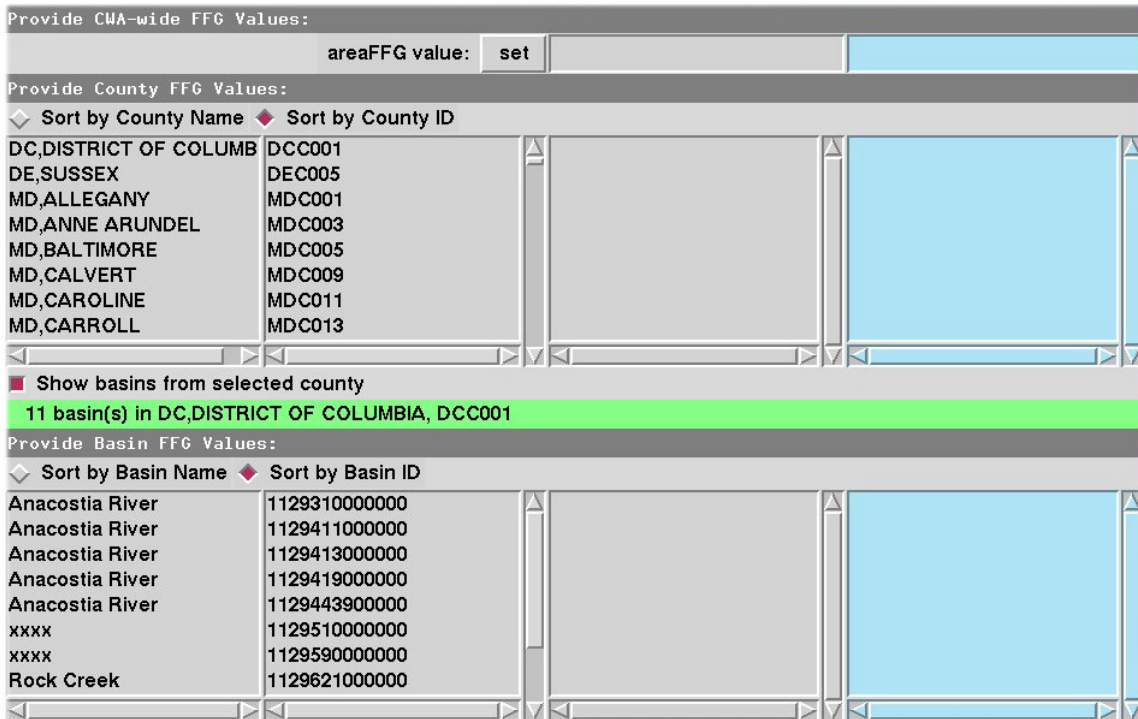
Once you have provided the data value to be used for your forcing, you can apply it to entities in the middle, Guidance Section. There are a few ways to do this . . .

Entire Domain

If you want to force the data value for your entire domain (Primary and any Service Backup CWAs), click the "set" button by the "areaFFG value" text, and it will be recorded in the highlighted column.

County & Basin

For the county and basin sections, there are a few functions:

County/Basin Section Functions		
Function	**Action**	**Description**
Select	**Click**, **Shift-Click**, **Cntrl-Click** on Names or IDs	Select an entity (or multiple entities) in preparation for assigning values. Note that you cannot work in the County **and** Basin sections simultaneously. You must work in one at a time. 'Selecting' is not necessary for single entity assignments – only for multiple entity assignments.
Assign	**Right-Click** on selected or on single	Assigns the value from the "Enter FFG" section for the Data Source and Time Duration to the entity or entities of interest in the highlighted column.
Sort	**Click** 'Sort-by' widgets	Sort the listed entities according to the attribute chosen (name or ID).
Trim Basin List	**Click** 'Show basins from selected county'	ON: The Basin List below the County List will list basins **only in the selected County**, and that County Name and ID will be labelled in the green line above the Basin sub-section. Each time a new county selection is made, the basin list will update. OFF: **All** small basins will be listed in the Basin List section (which will likely be thousands of basins).

-BOTTOM SECTION-

File Name:	test.ffg modified			
File Actions:				**ForcedFFG Actions:**
retrieve...	save...	save as...	delete...	apply all clear... exit...
Status Messages:				

The functionality of each of the buttons in the Bottom Section is duplicated in the File menu. Please see the File Menu section for details.

In addition to the function buttons, there is also a Status Bar that relays information regarding success (or lack thereof) for various actions, and there is additional labeling. If a file is retrieved, merged or saved, the file name will appear next to the "File Name:" text. If a file has been named here and then modifications are made to the FFFG data in GUI, the word "modified" will appear next to the file name with a yellow background.

-HELP-

- Please check the FFMP web page for more detailed information and additional documents at http://www.nws.noaa.gov/mdl/ffmp.
- To report problems with the FFFG GUI, please contact the NCF.
- If you have questions regarding the operation of the FFFG GUI in general, please send e-mail to the FFMP list server: awips-ffmp@infolist.nws.noaa.gov. If you are not subscribed to the FFMP list server, you can sign up from your Lyris account. There is a link on the FFMP web page to point you in the right direction.
- If you have a more involved question, you can also contact FFMPA developers directly, starting with Tom: Tom.Filiaggi@noaa.gov.