

## Q.7 FFMP Troubleshooting

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TASK/PROBLEM:

This procedure provides some basic background and troubleshooting for the Flash Flood Monitoring and Prediction (FFMP) application. The source is Tom Filiaggi, FFMP Task Lead.

PROCEDURE/SOLUTION:

```
*****  
You must have root access to these devices to execute this procedure.  
*****
```

### 1. Check the Basics

- FFMPprocessor

Check to see that the FFMPprocessor is running. On **px1**, issue the following command (or condensed version of the following command):

```
ps -ef | grep FFMP | grep -v DataC | grep -v grep
```

If the FFMPprocessor is running, note its start time from the 'ps' command output. If the FFMPprocessor is not running, the solution may be as easy as re-starting it. However, the other issues below should still be checked. To start or stop the FFMPprocessor, you can issue the following commands as user **fxa** on **px1**:

```
startFFMPprocessor
```

```
stopFFMPprocessor
```

- User-defined time frame:

Does the FFMP user/forecaster have an appropriate time duration defined in the FFMP Basin Table display GUI? For example: if the FFMPprocessor has been processing data for only 30 minutes, there will not be enough data for time durations greater than 30 minutes. Radar data gaps may also invalidate various time frames.

- Radars FFMP recognizes

Check the file **/data/fxa/tstorm/FFMPradarToCWA.txt** and note which radars are listed and which CWA(s) each radar is associated to. Here are some examples of valid entries (but only one entry per radar):

```
klwx LWX
```

```
kakq AKQ LWX
```

Keep in mind, these radars are the only radars FFMP will attempt to use and process!

- Proper Shapefiles

Check to make sure all of the necessary small basin shapefiles exist. In the **/data/fxa/nationalData** directory, you should see a shapefile set for each radar for the following:

**@@@@\_aggr\_basins.\***

**@@@@\_bins.\***

**@@@@\_ref\_sl.\***

(@@@@ = the 4-letter radar ID.) The ref\_sl set is optional, but without it, the basin trace function will not work. Each .shp file should have been compressed with the 'compress' command (and have the .Z extension). If any of these are missing, the site needs to download them from the NOAA1 ftp server.

- **Current Data**

For each radar recognized by FFMP, check to see if data is being created by FFMP for the radar. The directory is **/data/fxa/radar/k@@@@/ffmp**. Check for recent, non-zero files of the format:

**yyyymmdd\_hhmm\***

**accumulation\***

If there are any zero size files, follow the FFMP Forced/Clean Localization instructions. If you do not have them available, check the FFMP web page. (See section 3 below.)

- **Successful Localization**

For each radar recognized by FFMP, check the lookups that get created by the -scan localization. They are in **/data/fxa/radar/k@@@@/ffmp/lookupFiles**. These files are:

**basinLayer#.dat**

**basinToGELTidx.dat**

**binlessBasins.dat**

**binToBasin.dat**

**gridToBasin.dat**

**nearbyRFCs.dat**

**radarHrapLoc.txt**

**scanGridToBasin.dat**

If any of these are of zero size, follow the FFMP Forced/Clean Localization instructions. If you do not have them available, check the FFMP web page. (See section 3 below.)

- **DHR radar product availability**

Check for timestamped files in the directory

**/data/fxa/radar/k@@@@/DHR/layer0/res1/level256**. If this directory is empty or the files in it are old, you may need to verify that the DHR is on the RPS list.

- **FFMP Small Basin GELT**

Check to see that the small basin GELT (GeoEntity Lookup Table) exists for each radar that FFMP recognized. These files are in the **/awips/fxa/data/localizationDataSets/XXX** directory (note that this is local to each LX machine) and are of the form

**k@@@@\_aggr\_basins.\***. If they do not exist or any are of zero size, follow the FFMP Forced/Clean Localization instructions. If you do not have them available, check the FFMP web page. (See section 3 below.)

- **Component timestamp relativity (This should no longer be an issue for AWIPS OB7.2+, but just in case . . .)**

To ensure FFMP's components are all seeing each other properly, check the following relevant times and ensure that they are in the order described here (oldest to newest): (note you can issue a **'ls -l'** command to get the file times)

- **File times** for the GELT files:  
/awips/fxa/data/localizationDataSets/XXX/k@@@\_aggr\_basin\*
- **File times** for the /data/fxa/radar/k@@@/ffmp/lookupFiles files
- **File times** for the data files in /data/fxa/radar/k@@@/ffmp
- **Start time** of the FFMPprocessor process

If, for example, the FFMPprocessor start time is before the file times of the lookupFiles, then follow the FFMP Forced/Clean Localization instructions. If you do not have them available, check the FFMP web page. (See section 3 below.) This example would happen if the WFO re-localized for –scan (for FFMP), but did not re-start the FFMPprocessor.

- **FFG expiration**  
If the FFG expiration is ‘too low’, FFMP may be ignoring FFG (Flash Flood Guidance). You can check the FFG expiration by clicking the ‘FF’ button in Guardian and noting the expiration value defined in the FFTI GUI. MDL suggests this value be 16 to 18 hours.

## 2. Common Problems

- *FFMP doesn't work*: Check Basics (Step 1).
- *FFMP used to work, but now it doesn't*: Check Basics (Step 1).
- *I am not seeing anything in FFMP (or “n/a”s or “xxx”s)*: Check the user-selected Duration, ensure that it is greater than the amount of time the FFMP Processor has been processing.
- *FFG is coming in but FFMP does not seem to see it*:
  - Check the FFG expiration in the FFTI. It should be greater than 12 hours. MDL suggests 16 to 18 hours.
  - FFMP's FFG will not update if there is no precipitation either.

## 3. Troubleshooting Resources

- *Data Monitor System (DMS)*. DMS is launched from a Web browser and tells you if the DHR is in the RPS list or not. It also will tell you if the FFG is being properly ingested.
- *FFMP Web Page*: This page has a lot of information and lots of links including a link to troubleshooting tips, a downloadable User Guide in PDF format, links to lists of new and planned functionality, and a link to a “How to” tutorial. Many instruction documents are in the “Documentation/Pubs” link on the left side menu.

The URL is: <http://www.nws.noaa.gov/mdl/ffmp>

- *Field Report Application*:

The URL is: <http://www.nws.noaa.gov/mdl/fieldreport>.

This contains information on a number of DAB applications (FFMP, SCAN, LSR, WWA, and SAFESEAS) and other MDL branches (IFPS, GFE, NDFD, HWR, Climate, Vfcn, LAMP). Field reports can be searched by TT (if one exists), DR (if one exists), problem title, WFO, root cause, priority, and state (i.e., closed or open).

**Note:** The FRA is not intended to be used as a TT tracker, though some have used it

in this manner. It is intended to aid MDL's customer support and provide additional resources to WFOs and NCF as well as provide feedback to NWS management. It is also intended to reflect the developers perspective. If an item is closed, it means the developers are "done" with it, not necessarily that the TT is closed.

