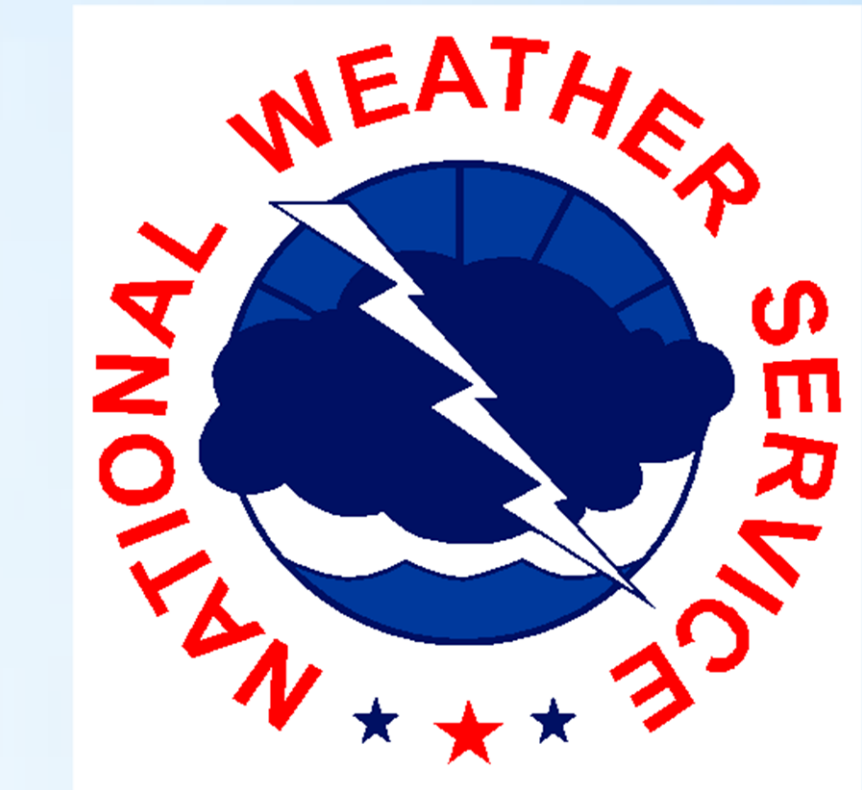


# NEW TOOLS TO TRACK DATA THROUGH THE ADVANCED HYDROLOGIC PREDICTION SERVICE PROCESSES



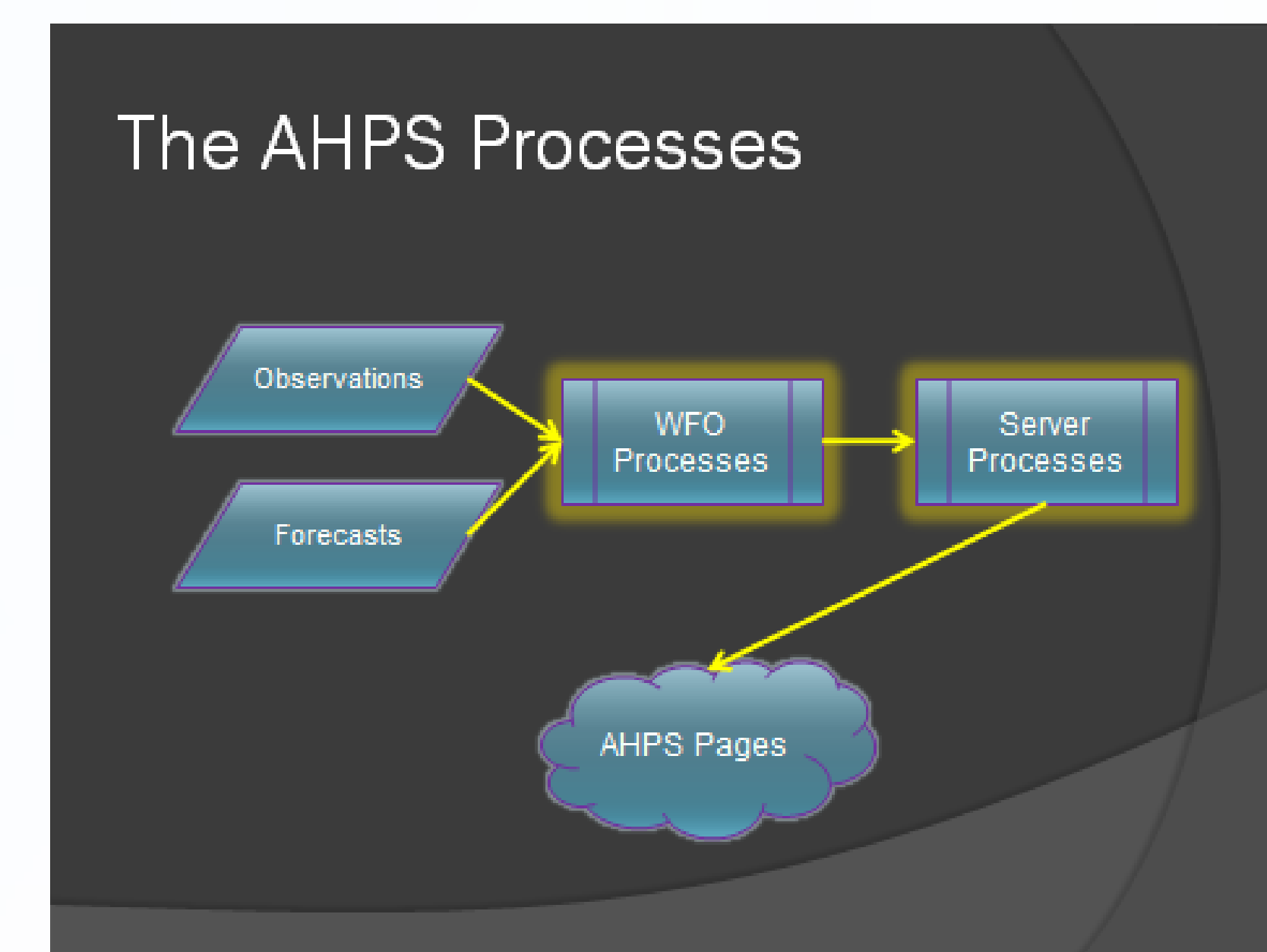
C. Michael Callahan  
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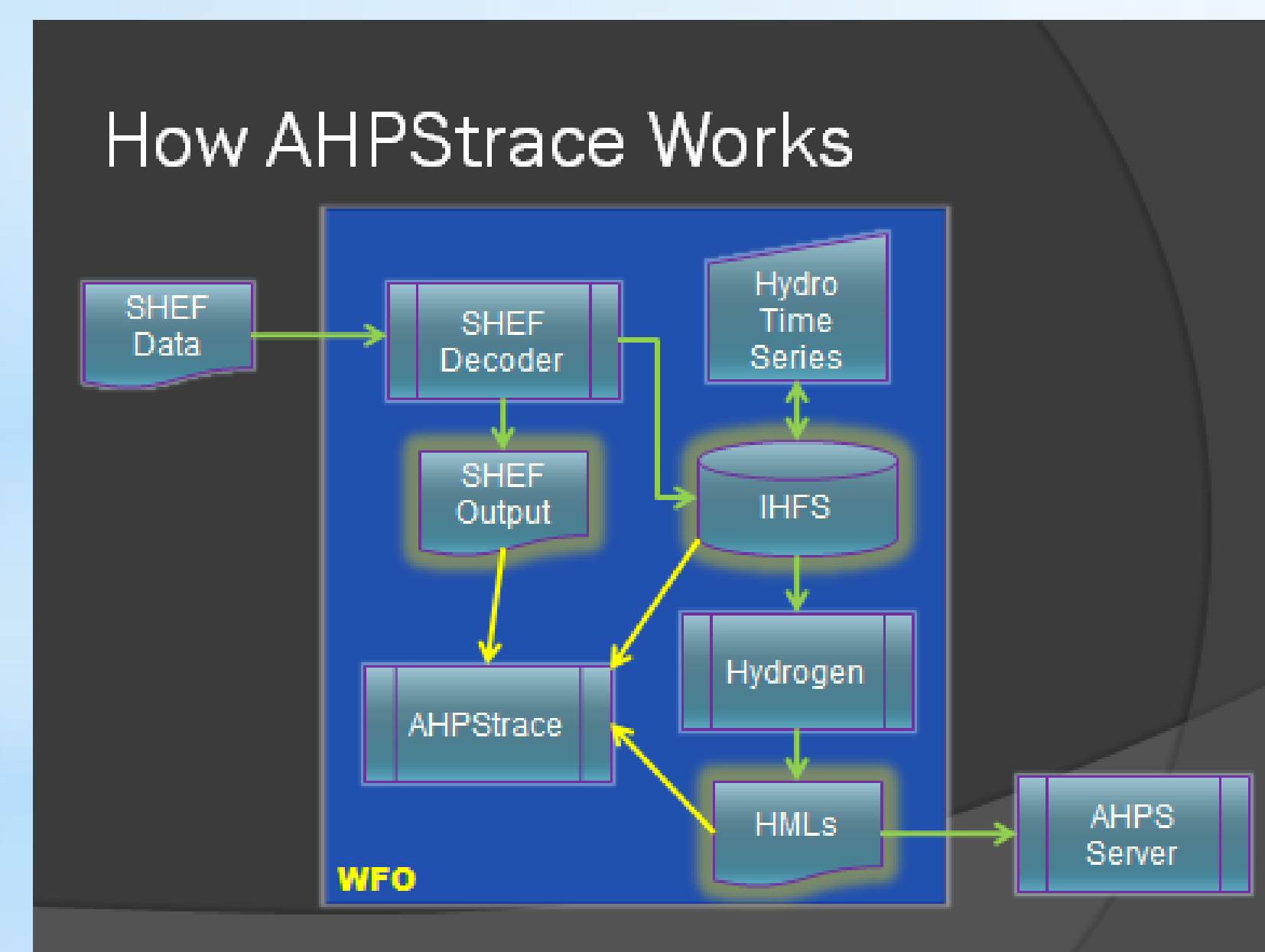
## AHPStrace

**The Problem:** The AHPS data processing path inside a WFO AWIPS system is not easy to trace nor well understood by many. When problems develop, the usual solution is for the WFO to ask for external help. The external group must search inside the WFO system to determine the failure. This wastes time and resources.

**The Solution:** AHPStrace quickly shows how data moves through a WFO AWIPS system. The interface is simple enough that anybody in the WFO with a basic knowledge of AHPS data can follow the data path and recognize any failures.

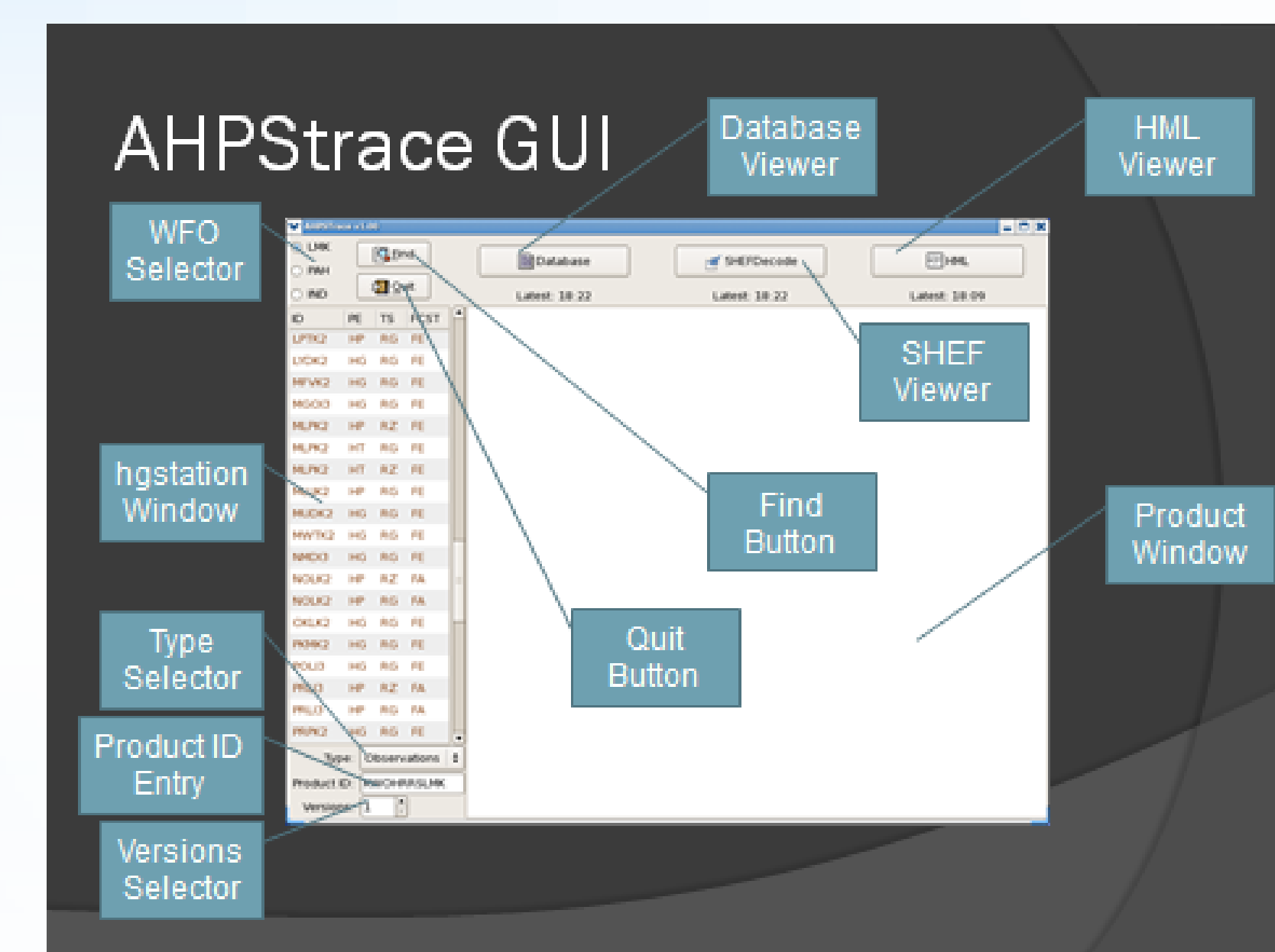


Flowchart showing an overview of NWS AHPS system

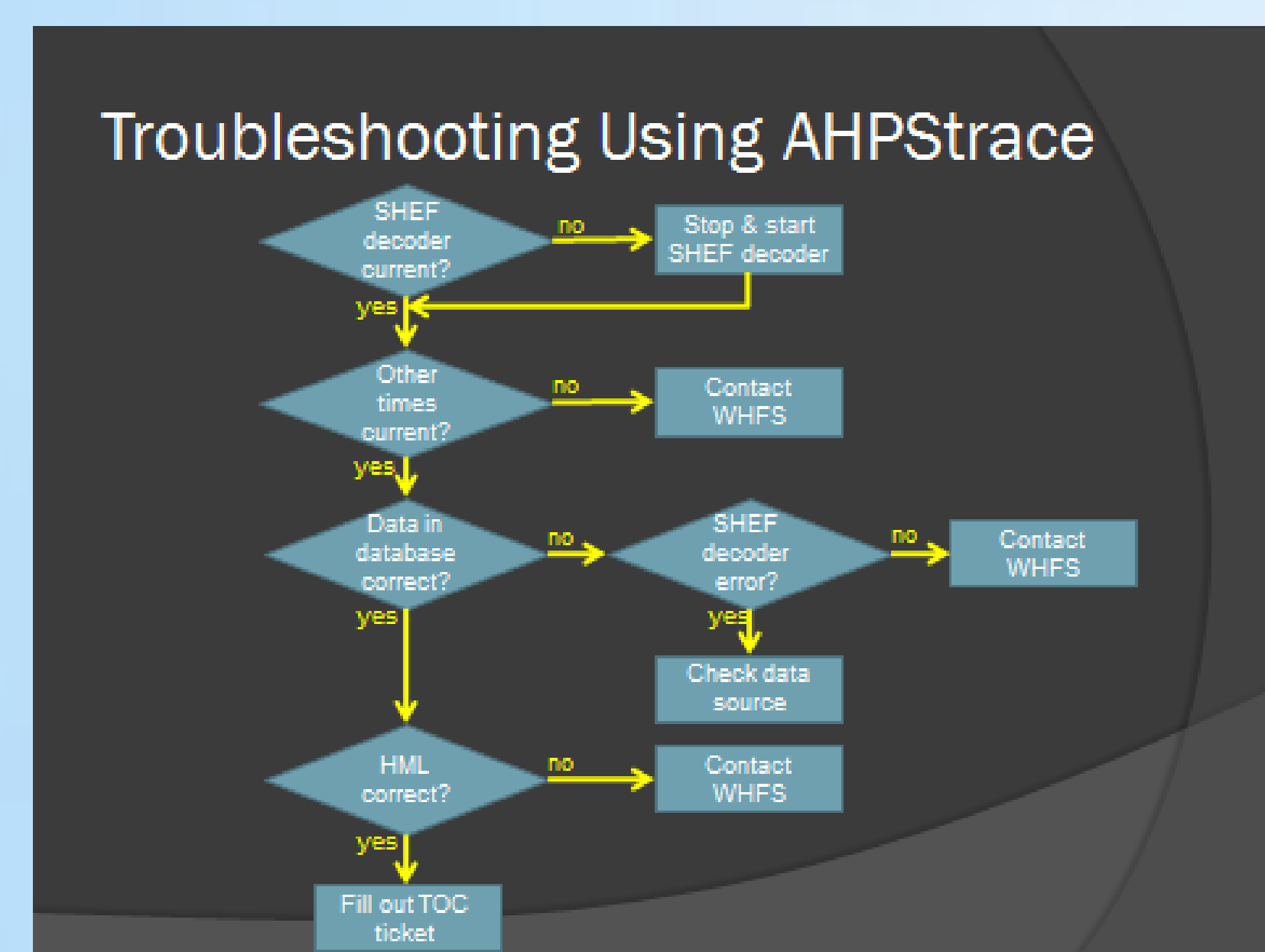


Flowchart showing data flow of a WFO system

AHPStrace acts as a window for three critical WFO processes, the SHEF decoder, IHFS database, and Hydrogen. Using AHPStrace, one can examine SHEF decoder messages, look at records in the IHFS database, or locate a given section in a Hydrogen generated HML product. By looking at these three items, one can quickly determine breaks in the data flow.



Graphical user interface of AHPStrace



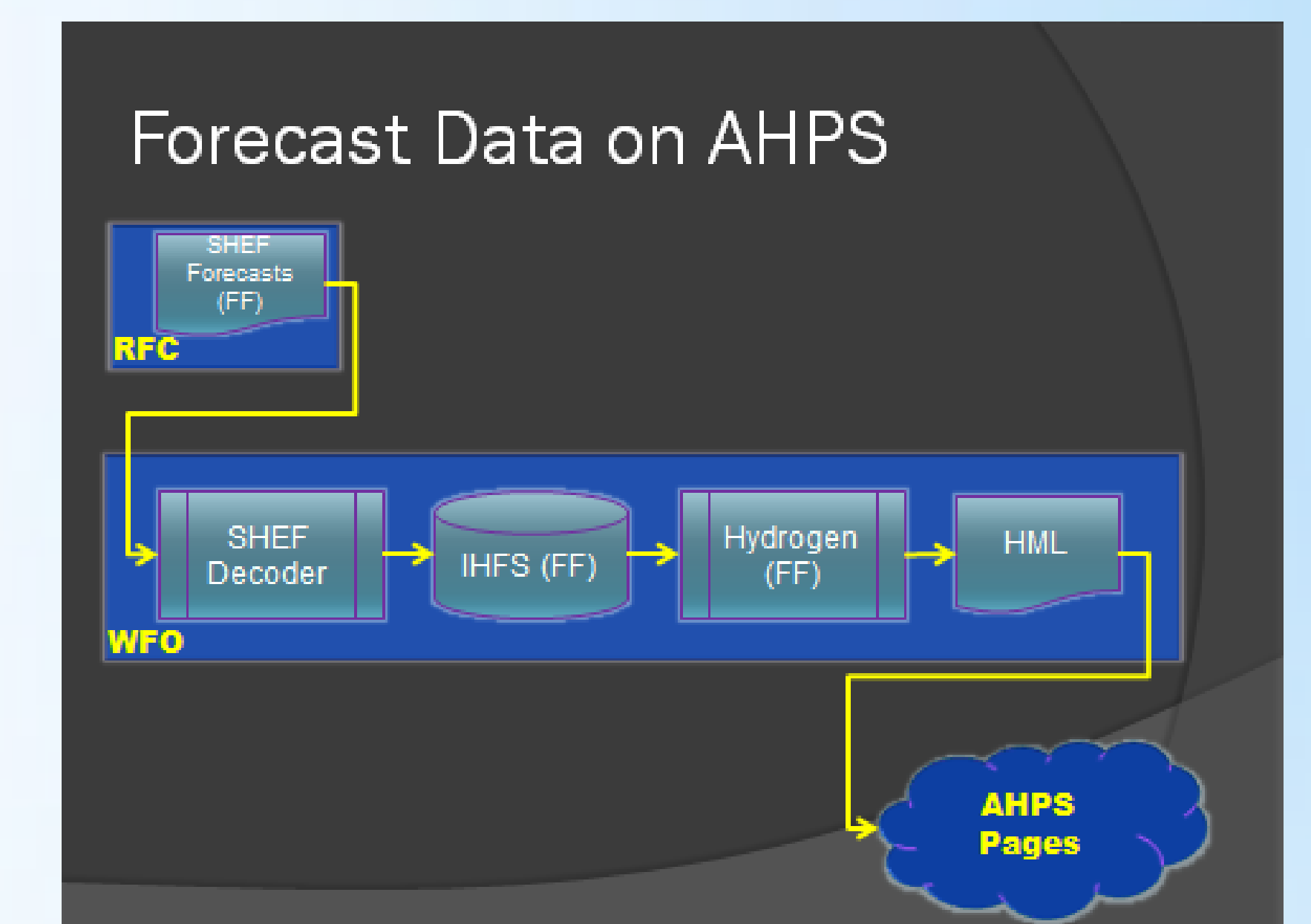
Decision tree for troubleshooting a WFO system using AHPStrace

Using this decision tree with AHPStrace, the user can quickly determine where the breakdown occurred. In simple cases, they may be able to fix the problem without external assistance. If not, they will know which group to contact and they will be able to give the external group valuable information which will expedite repairs.

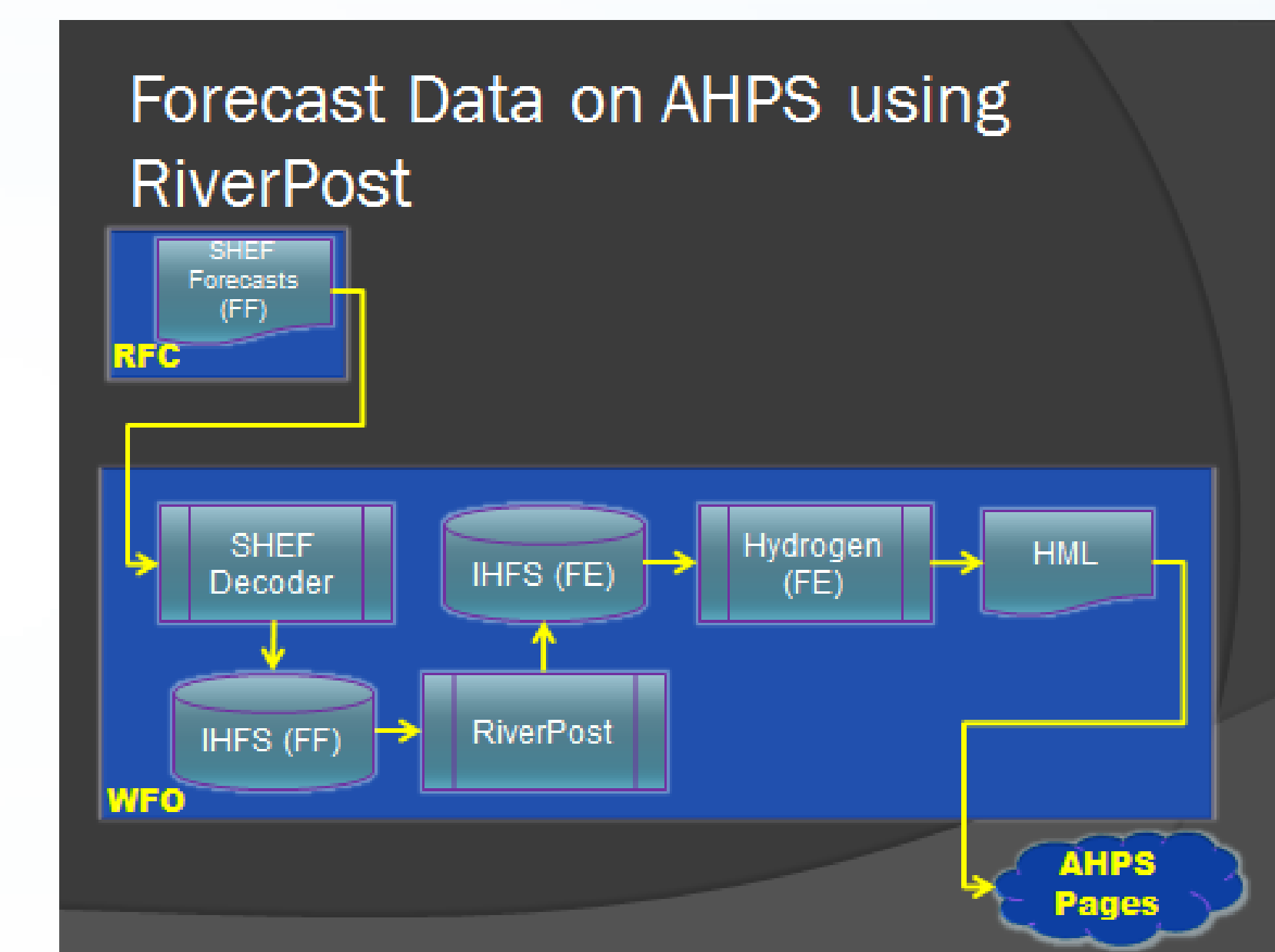
## RiverPost

**The Problem:** The path of river forecasts through most WFO AHPS systems does not allow for any examination of the hydrographs before they appear on the web. Any errors have to be fixed after the public viewing. Also, it is difficult to quickly remove a bad forecast.

**The Solution:** RiverPost breaks the automatic path by allowing the WFO to examine the forecast before public issuance. Also, it is simple to remove a bad forecast.



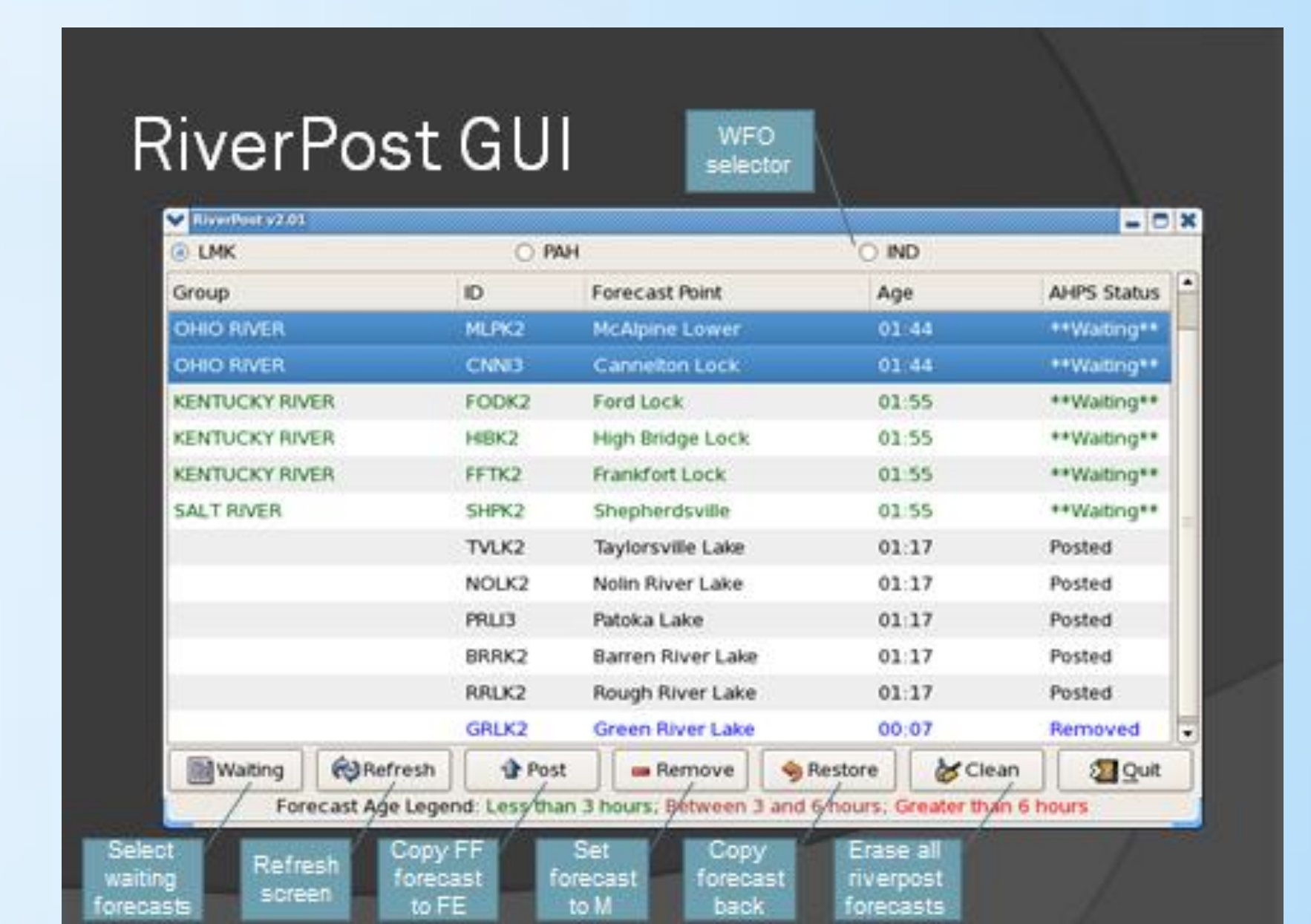
Flowchart showing forecast data flow through a WFO



Flowchart showing forecast data flow through a WFO with RiverPost installed

RiverPost works by taking advantage of the SHEF type code. RFC forecasts have type codes of "FF". Hydrogen can be set up to only issue forecasts with a type of "FE". Riverpost copies a forecast hydrograph from "FF" to "FE". The original RFC forecast is left unchanged in the database. Thus, the WFO is given complete control of which forecasts are automatically posted to the web by choosing which locations in Hydrogen are set to "FE" or "FF". RiverPost can also be programmed to ignore certain type codes.

The graphical user interface of RiverPost is simple. The user sees which forecasts are current in the database and their status. They can select which forecasts to issue either by location or forecast group without issuing all forecasts. The user can also remove bad forecasts from the web. If a forecast is removed by mistake, it is easy to restore. Any database problems can be cleaned up quickly. Moreover, switching over to support backup offices involves only a single mouse click.



Graphical user interface of RiverPost