2.0 Introduction

ESPVS provides software for generating historical Extended Streamflow Prediction (ESP) forecasts and for analyzing the probabilistic nature of ESP forecasts.

Users can specify a historical period over which verification forecasts are to be generated. Using historical data, ESPVS will generate model carryover states using existing carryover as a starting point. The resulting generation consists of probabilistic streamflow ensembles over the historical period.

ESPVS is designed to run in both interactive and batch modes. There is a primary graphical user interface (GUI) that allows the user either to generate or to verify forecasts. Menu options from this primary GUI spawn new displays for input and control of simulations and analyses.

In order to allow a quick implementation of scientific improvements to the algorithms in this system, a two-layer approach is used. The GUI and algorithm portions of this software are independent modules that are connected across a very clearly defined boundary. Together, the two pieces make up the ESPVS system. New forecasts are generated by dynamic generation of control files for existing NWSRFS scripts. These scripts are run and output is redirected appropriately for use in the verification system. ESPVS uses a separate custom file for storing carryover. This portion of ESP was developed and implemented by the HRL within the NWS. RTi assumes no responsibility for this code, data structure, or subsequent modifications to this code or data structures that may affect ESPVS.

Verification statistics are generated on verification forecasts. Options for analysis include limited aggregations as well as specific analysis techniques. Plots and tables can be viewed and exported as image formats and ASCII files, respectively.