V.3 FORECAST COMPONENT OPERATIONS

This chapter contains user information about the various Operations that are available within the Forecast Component.

Program documentation for the Operations can be found in Chapter VIII.3.

A description of the procedure to follow to add new Operations can be found in Chapter VIII.4.

Operations are the building blocks of the Forecast Component and perform a variety of computations using time series data. Operations can be:

- Hydrologic or hydraulic models of processes such as snow accumulation and ablation, soil moisture accounting, temporal distribution of runoff, channel routing, river mechanics and reservoir regulation.
- Procedures for updating the state variables or the output of models based on observations.
- Procedures for displaying time series data in plotted or tabular form or for computing and displaying various statistics.
- Algorithms that perform basic arithmetic computations such as adding, subtracting, clearing and weighting time series.

The control portions of the Forecast Component allow the Operations to be combined in whatever order is needed for the particular situation. The list of Operations in the order that they are performed is referred to as the Operations Table. Information is passed from one Operation to another primarily in the form of time series data. The Operations can be combined in any sequence, as long as the data required by each Operation has been read from files or produced by a preceding Operation.

In operational river forecasting a very large number of Operations must be executed to produce forecasts at hundreds of forecast points. To do this in an efficient and logical manner, the Operations are combined into groups called Segments. A Segment is defined as a group of Operations performed as a unit. A Segment will usually include the Operations needed to produce a forecast at a single forecast point, however, a Segment can contain any list of Operations. Thus, the Forecast Component, through the use of the Operations Table concept, can be used as a general-purpose hydrologic analysis package.

Section V.3.1 contains the input summary for defining Operations.

Section V.3.2 contains a list of the available Operations.

Section V.3.3 contains a description of each Operation.