

Interactive Verification Program

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Interactive Verification Program

- Enables verification of deterministic forecasts of stage, flow, precipitation, and temperature
- Software suite provides the following capabilities:
 - Pair forecasts with observed values
 - Compute verification statistics
 - Output statistics and pairs used in calculations to ASCII tabular format files
 - Generate customizable graphical displays of statistics
 - Produce output for the national verification program

Two Modes of Operation

- IVP Batch Program provides the user the following capabilities:
 - Pair forecasts with observed values according to user specified parameters
 - Calculate statistics and output results to tabular ASCII files
 - Generate user-customizable graphical products display statistics
- IVP GUI program provides the user the following capabilities:
 - Specify all parameters necessary to generate graphs
 - View, format, and save graphs
 - View raw data that comprises a graphic and output data to an tabular ASCII file
 - Create a batch file that can be run by the batch program to generate the same output viewed in the GUI

Design Foundation

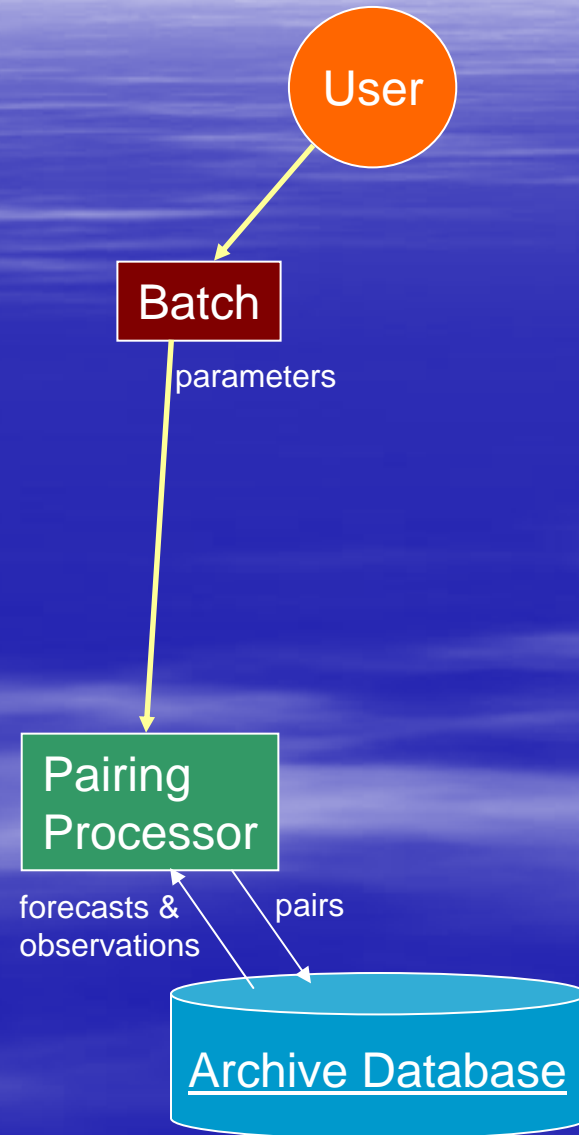
- Archive database provides the following:
 - Raw forecast and observed stage, flow, precipitation, and temperature data
 - Verification location information, including location id, SHEF pedtsep, critical stages/flows
 - Verification forecast-observed pairs



Archive Database

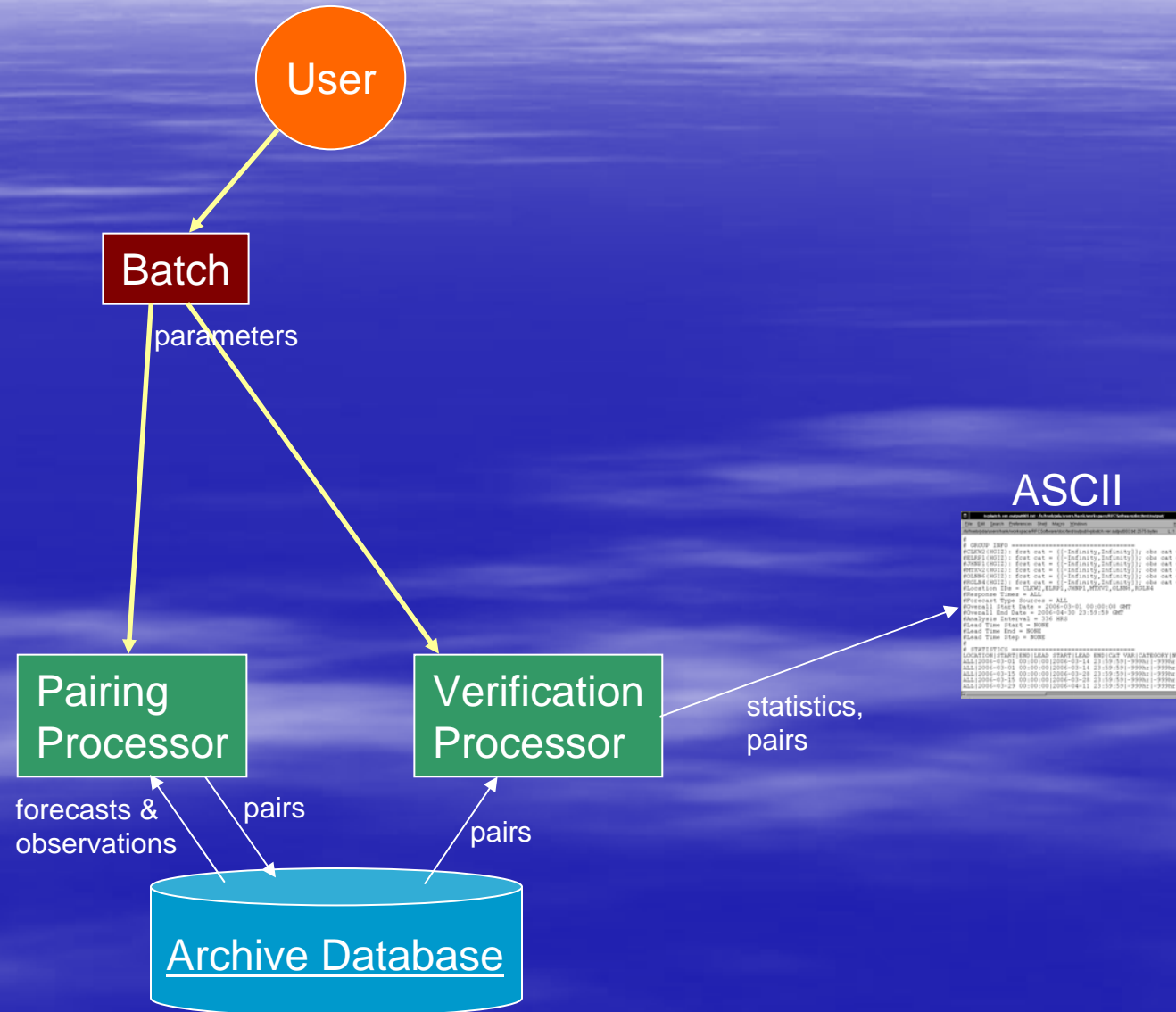
Design

Batch Pairing



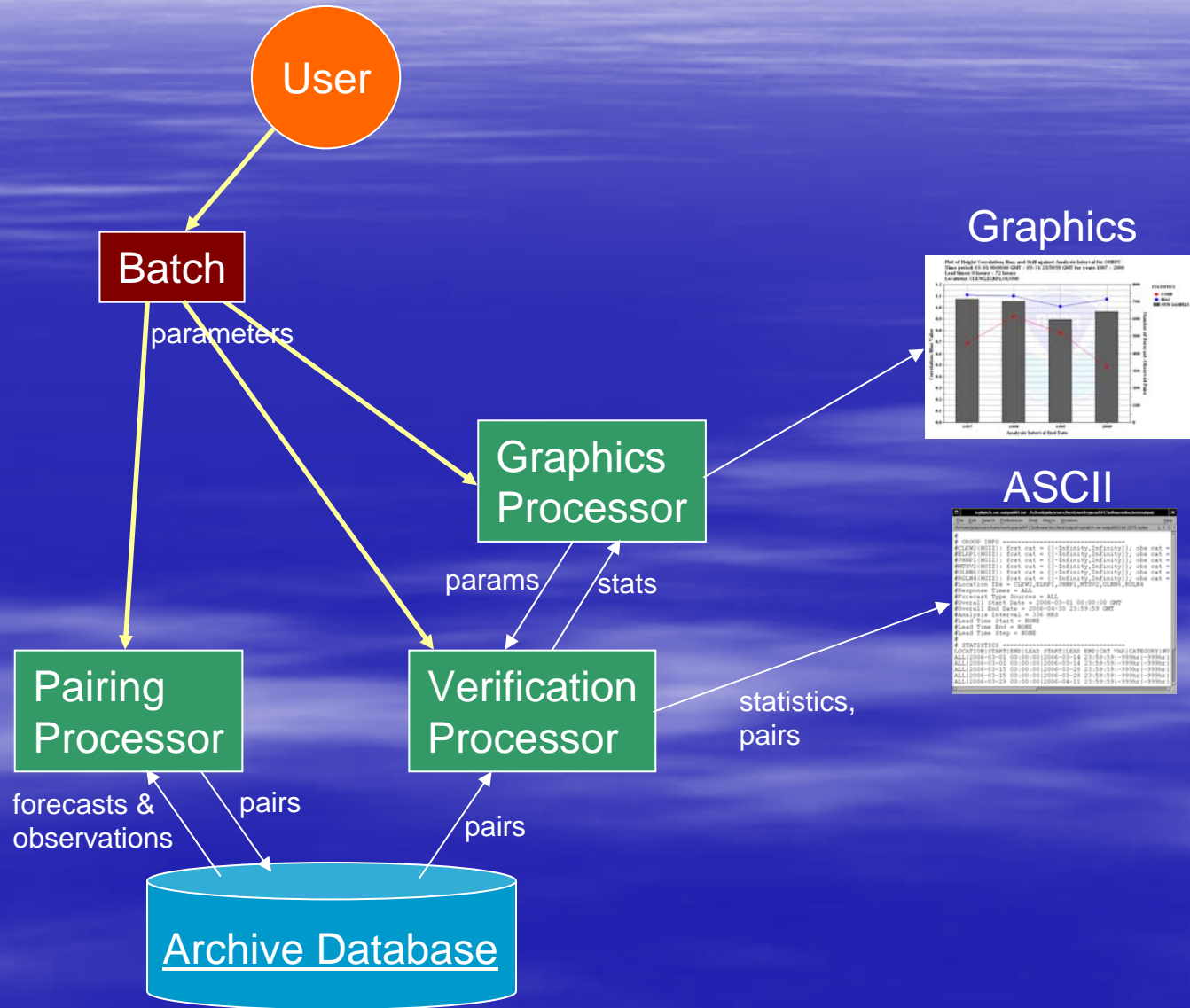
Design

Batch Verification

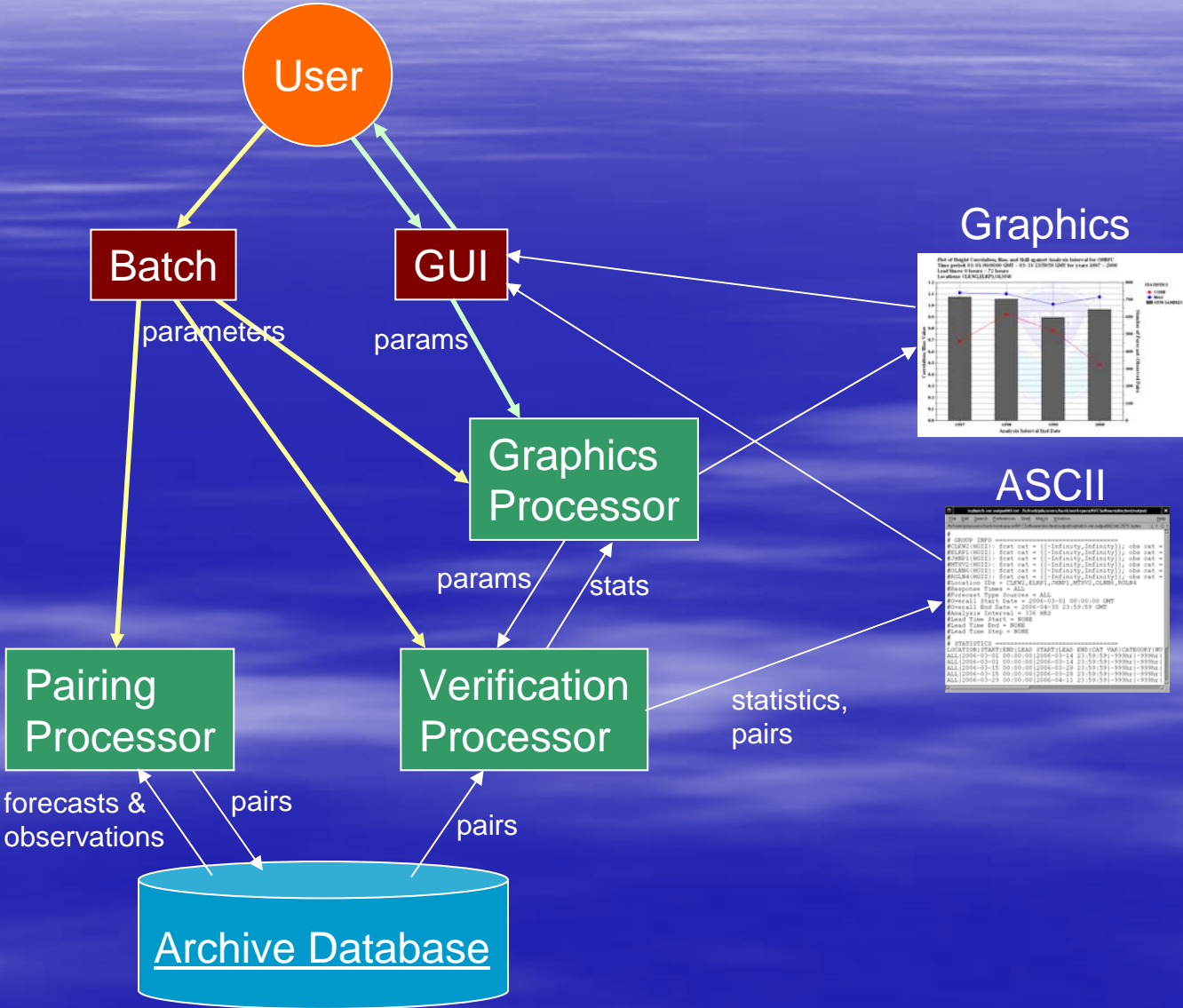


Design

Batch Graphics



Design GUI



OB7.2 Features

- Designed to verify stage data
 - Only 3 of 12 data tables in the archive database can be used
- Computes basic statistical measures
 - Error: RMSE, MaxErr, MAE, ME
 - Categorical: POD, FAR, CSI, OFR, UFR
 - Quantiles: Min, 25%, Median, 75%, Max
 - Others: Sample Size, Average Lead Time to Detection
- User selected variables to breakdown statistics
 - Location id, forecast/observed category, analysis (valid time) interval, lead time interval
 - Graphics displays the variable value along the x-axis
- Graphics can be saved to PNG or JPEG
 - User can customize labels, colors, axis limits, etc.
- Location categories can be set relative to critical stages

New OB8.2 Features

- New data types
 - OB8.2: flow, precipitation, temperature
 - Access to be granted to 10 of 12 data tables
- New statistical measures
 - Moments: forecast/observed Mean and Variance
 - Others: RMSE skill score (vs. persistence), Correlation, Bias (%)
- Special Plots
 - Empirical cumulative distribution functions, estimated probability density functions, ROC
- Comparison variable
 - Graphics displays the variable value within the legend
- New variables used to breakdown statistics
 - Forecast type source
 - Basis (issuance) time of day
- Categories can be set relative to critical flows

Demonstration

- User's Manuals for OB7.2

http://www.nws.noaa.gov/oh/hrl/verification/verification_doc_ob7.php