

SESUG 2007

Automated Streamflow  
Forecasting Using SAS

Samuel T. Croker

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## Topics

- Time Series Modeling Compared to High Performance Forecasting
- SAS High Performance Forecasting System
- Forecasting Examples

## Smoothing Models

## ARIMA Models

## Automatic Forecasting Techniques

Automatic Forecasting differs from traditional modeling in that the goal is to minimize forecast error by selecting from a predefined list the model with the lowest MAPE or other statistic. Each model is fit and then multi-step forecasts are generated over a holdout period of known data. These forecasts are then compared to the known data.

## Commonly Used Statistics

Mean Average Percent Error (MAPE)  $\frac{1}{N}$  Mean  
Average Error (MAE) Symmetric Mean Av-  
erage Percent Error (SMAPE)