Hydrologic post-processing is needed to remove biases present in hydrologic predictions and forecasts. These biases are due to errors in various components of the hydrologic ensemble prediction system, including atmospheric forcing, model structure and parameters, model initial conditions and hydrologic observational data. There are different approaches to hydrologic post-processing. The HEPEX Post-processing and Verification Experiment has been organized to compare different post-processing methodologies. In this study, we compare two post-processing methods: The Bayesian Model Averaging and the General Linear Model. Both methods are constructed based on statistical relationships between normal quantile transformed (NQT) streamflow simulations and corresponding observations. The Bayesian Model Averaging generates post-processed multimodel ensemble streamflow by weighting streamflow simulations from different models according how well the simulations match with observations. The General Linear Model works by multivariate regression between simulations and observations. The hydrologic simulation data provided by workshop organizer are used, which include streamflow simulation data from twelve US MOPEX basins generated by 8 different models, where MOPEX stands for Model Parameter Estimation Experiment. This presentation will show the comparison results.