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Water Resources Research

Supporting Information for

Regional Base-Flow Index in Arid Landscapes Using Machine Learning and Instrumented Records

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Contents of this file

Additional Supporting Information (Files uploaded separately)

1. Full dataset of USGS streamgages used in analyses for this manuscript. Contains spatial information for each gage and list of years used in this analysis.

Introduction

This supporting information contains descriptive datasets, expanded tables referenced in the manuscript, and additional figures to illustrate model performance on subsets of data.

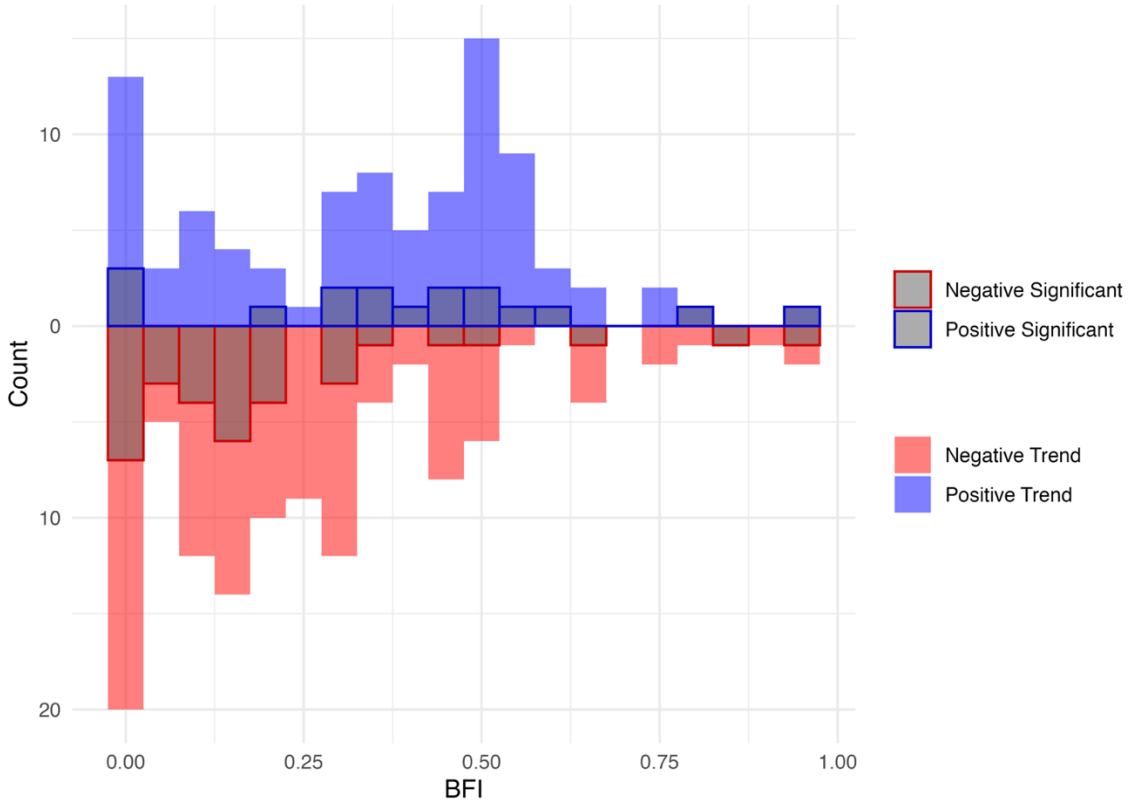

Figure S1. Histogram of BFI trends grouped by long-term instrumented BFI. Significant trends (>0.05) are indicated with bolded borders. More significant negative trends are apparent in low-BFI gauges. Significant positive trends are equally distributed among BFIs.

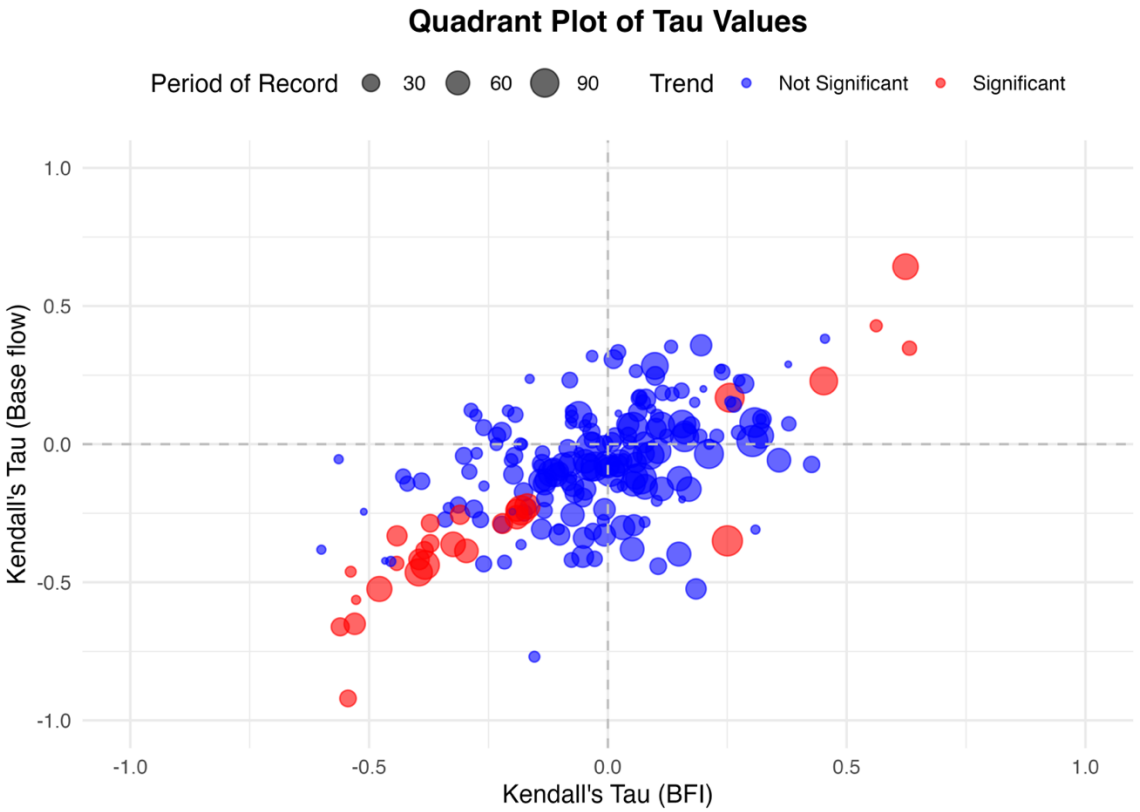

Figure S2. Quadrant plot of Kendall's Tau trends in base flow vs. BFI. Significant trends in base flow and BFI indicate that variations in base flow volumes are coincident with trends in BFI. This indicates that trends in BFI typically follow trends in groundwater discharge (base flow) and that trends in BFI aren't typically due to an overall decrease/increase in streamflow. One site (USGS 9471000) indicates a decrease in base flow volumes and an increase in BFI, suggesting that decreases in surface water inputs is of a greater magnitude than the increase of base flow.

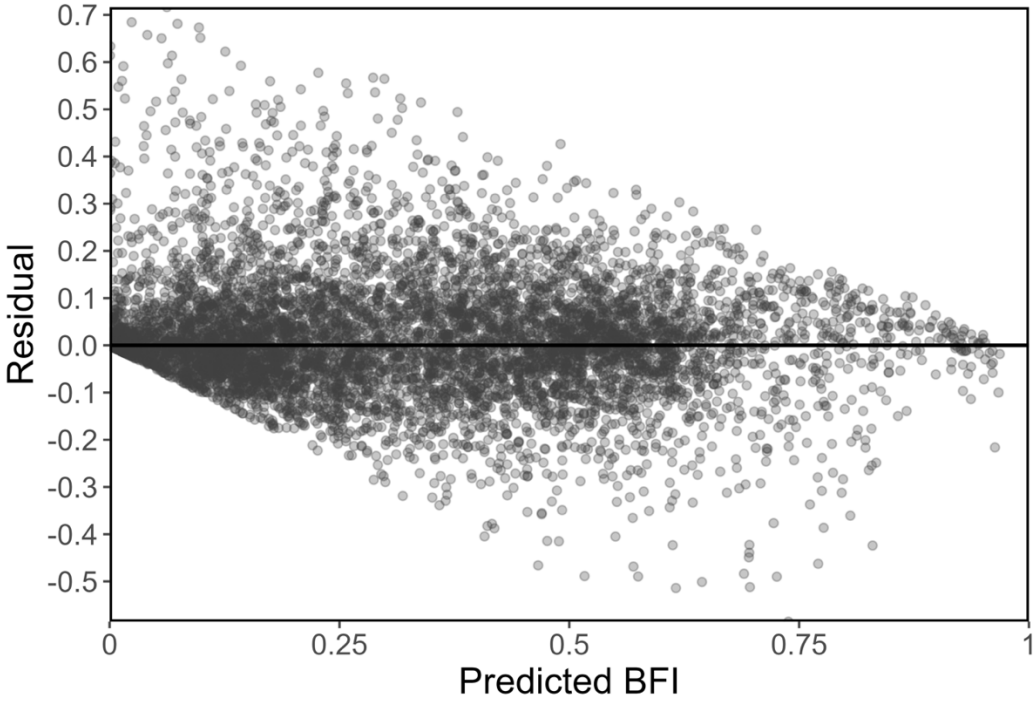

Figure S3. Plot of residuals of predicted BFI vs. observed BFI.