

North Atlantic Hurricane Trend Analysis using Parallel Coordinates and Statistic Techniques

Chad A. Steed

chad.steed@nrlssc.navy.mil

Mapping, Charting, and Geodesy
Naval Research Laboratory

Dr. Patrick J. Fitzpatrick
Northern Gulf Institute
Mississippi State University

Dr. T.J. Jankun-Kelly
Computer Science and Engineering
Mississippi State University

Dr. J. Edward Swan II
Computer Science and Engineering
Mississippi State University

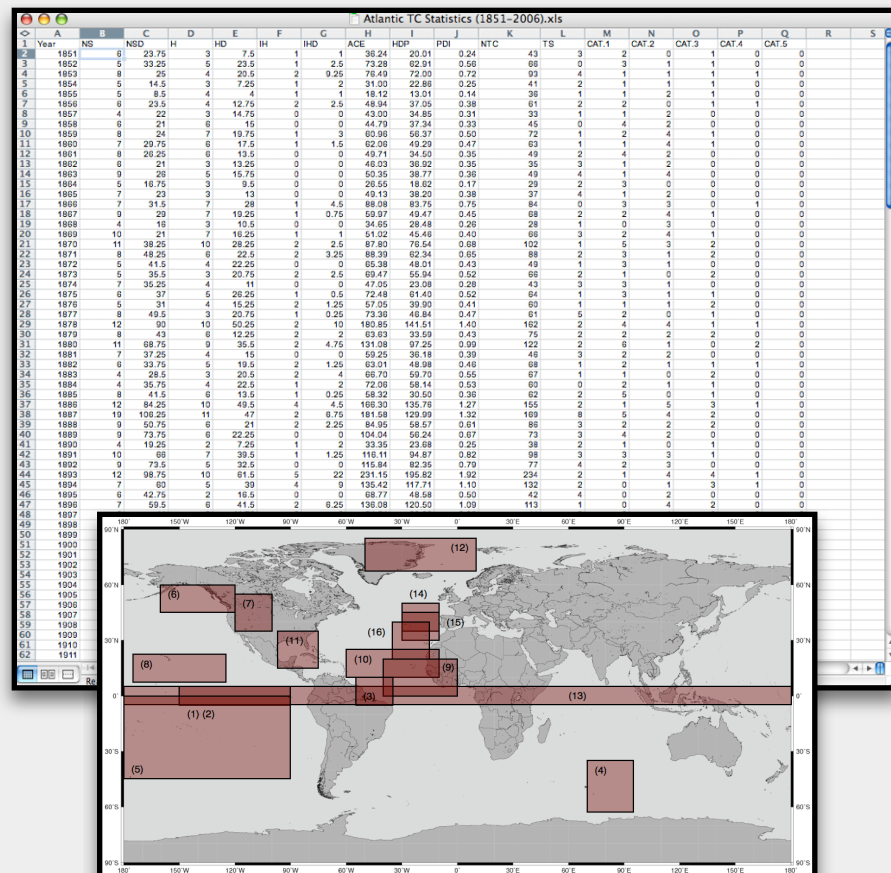


Motivation

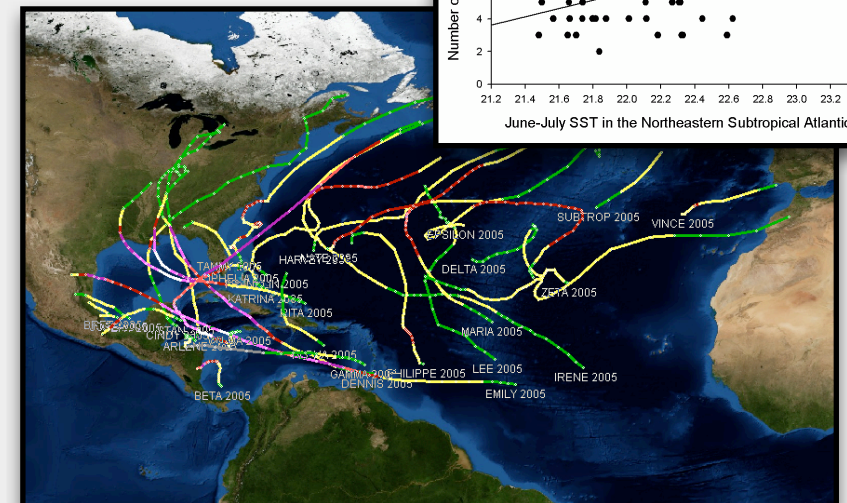
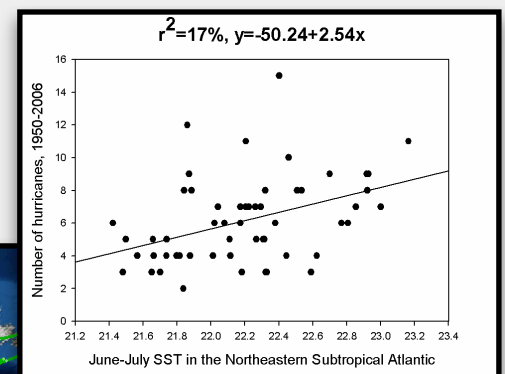
- Destructiveness and variability of recent hurricane seasons has invigorated seasonal forecast efforts.
- Multivariate data sets, complex statistical processes and inadequate visualization techniques make these studies difficult.
- **GOAL:** Connect statistical analytics with interactive visualizations to improve tropical cyclone trend analysis.

Climate Study Data

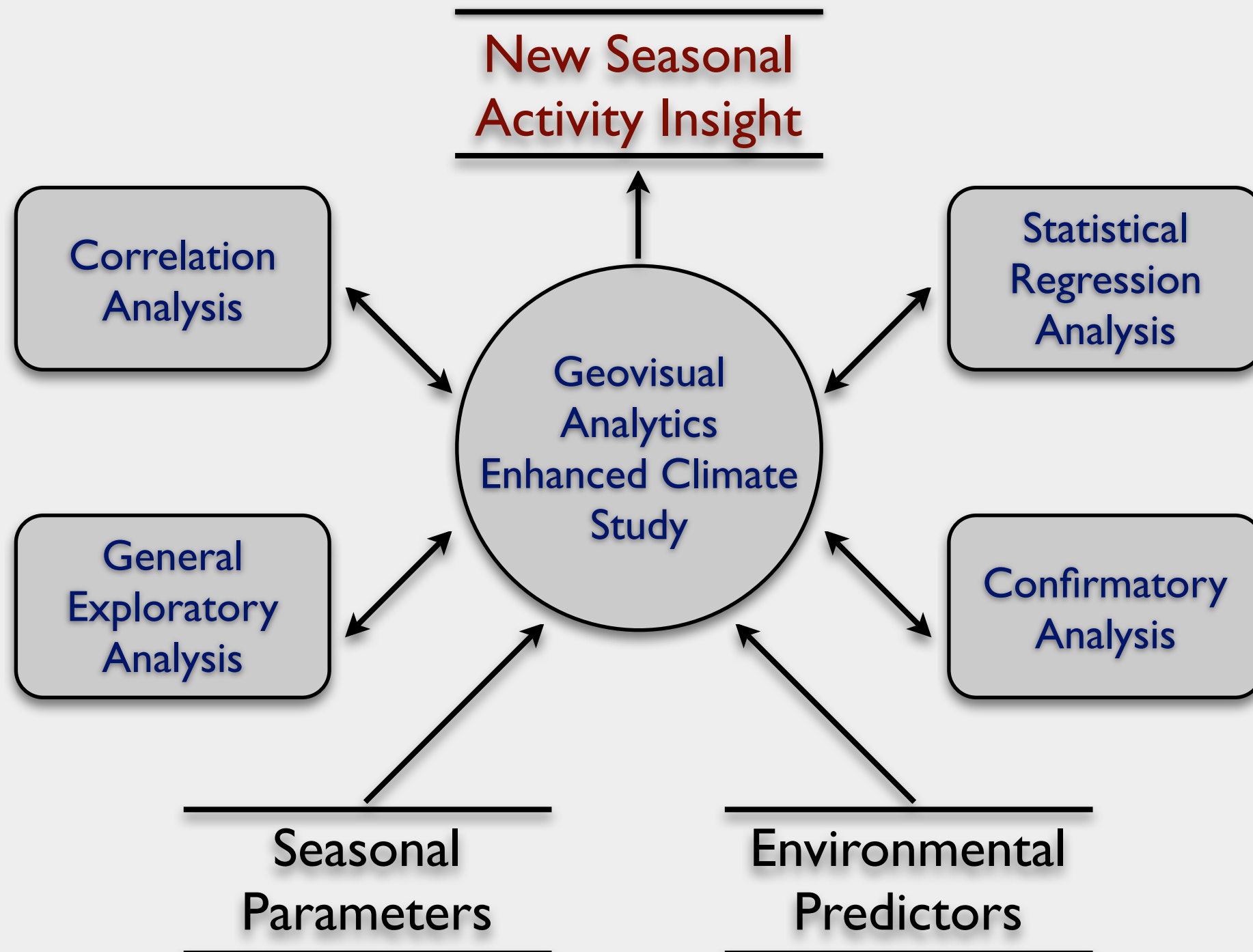
- Provided by Dr. Phil Klotzbach (Colorado State Univ.).
- Environmental predictors of dynamic parameters measured in advance.
- Importance of predictors estimated with statistical regression using historical data.



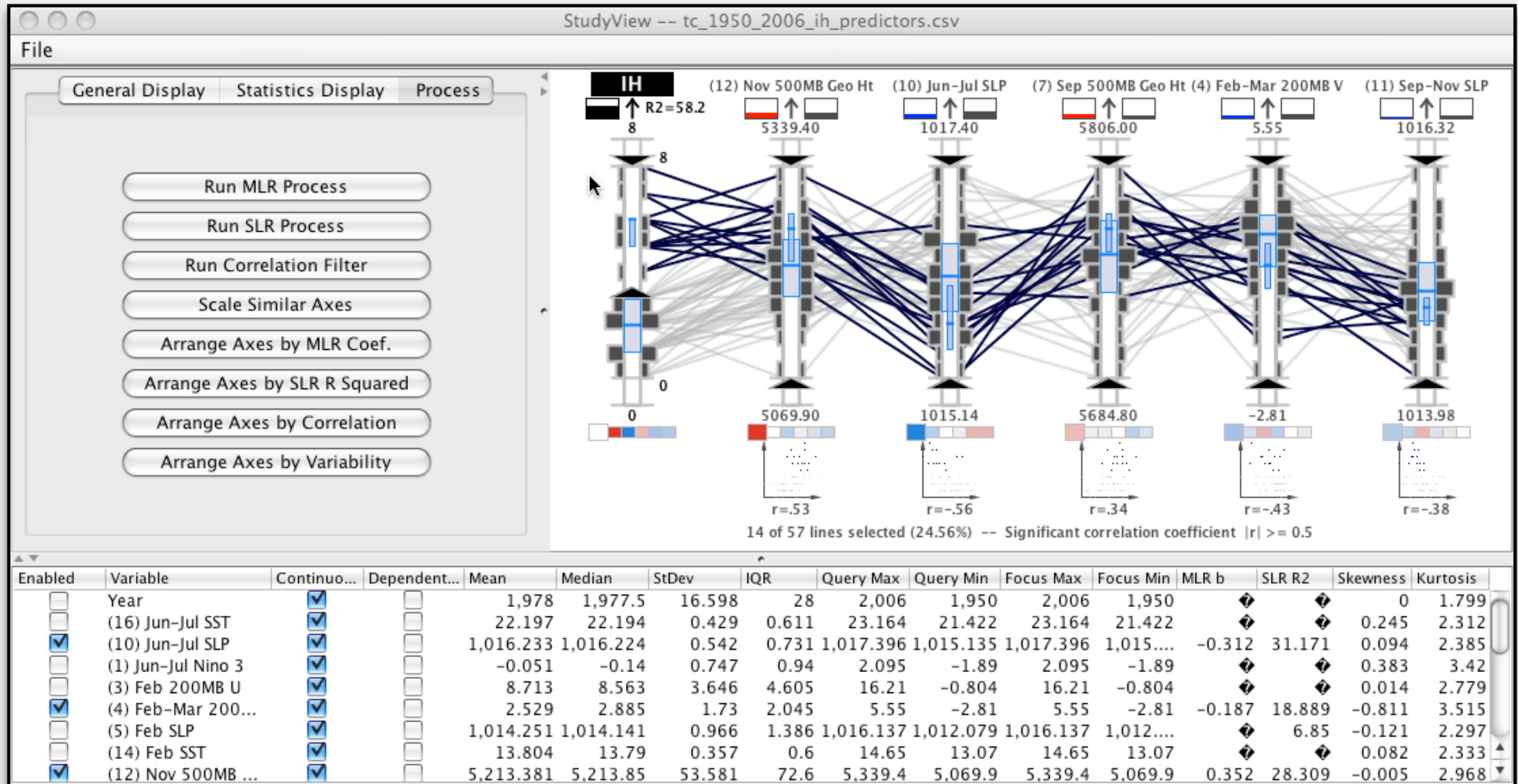
Statistical
Methods



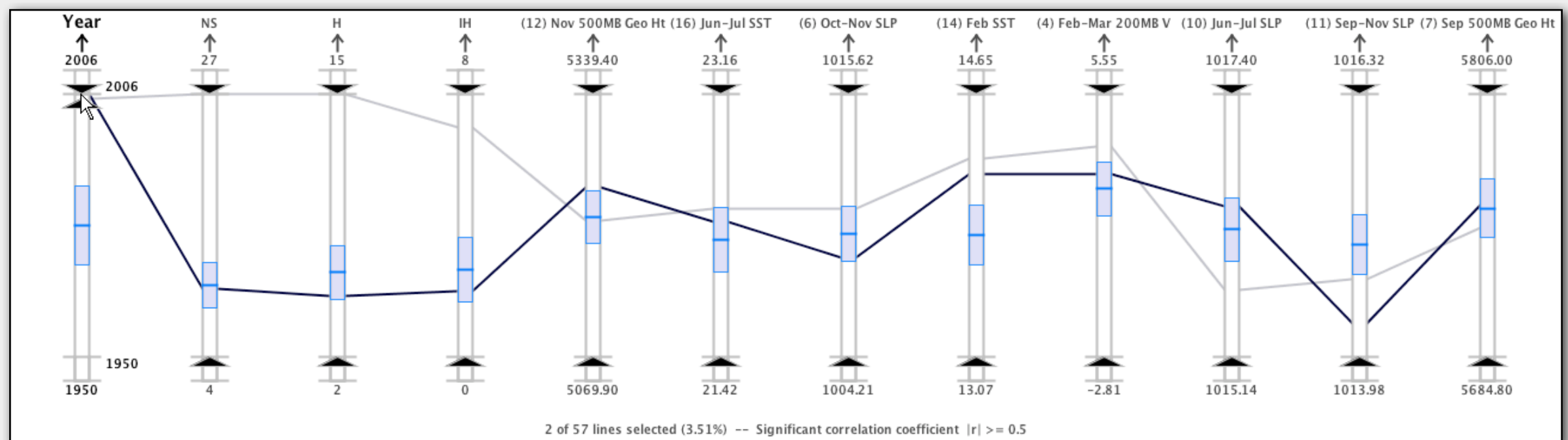
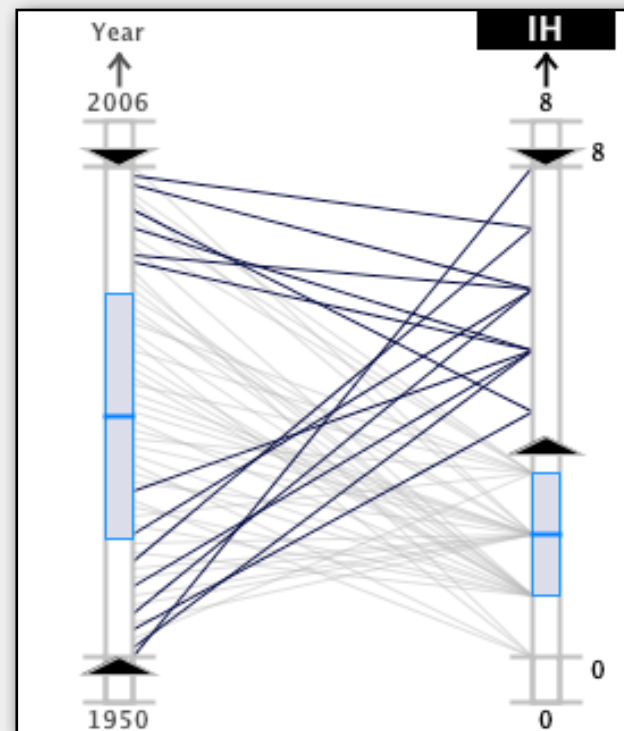
Workflow



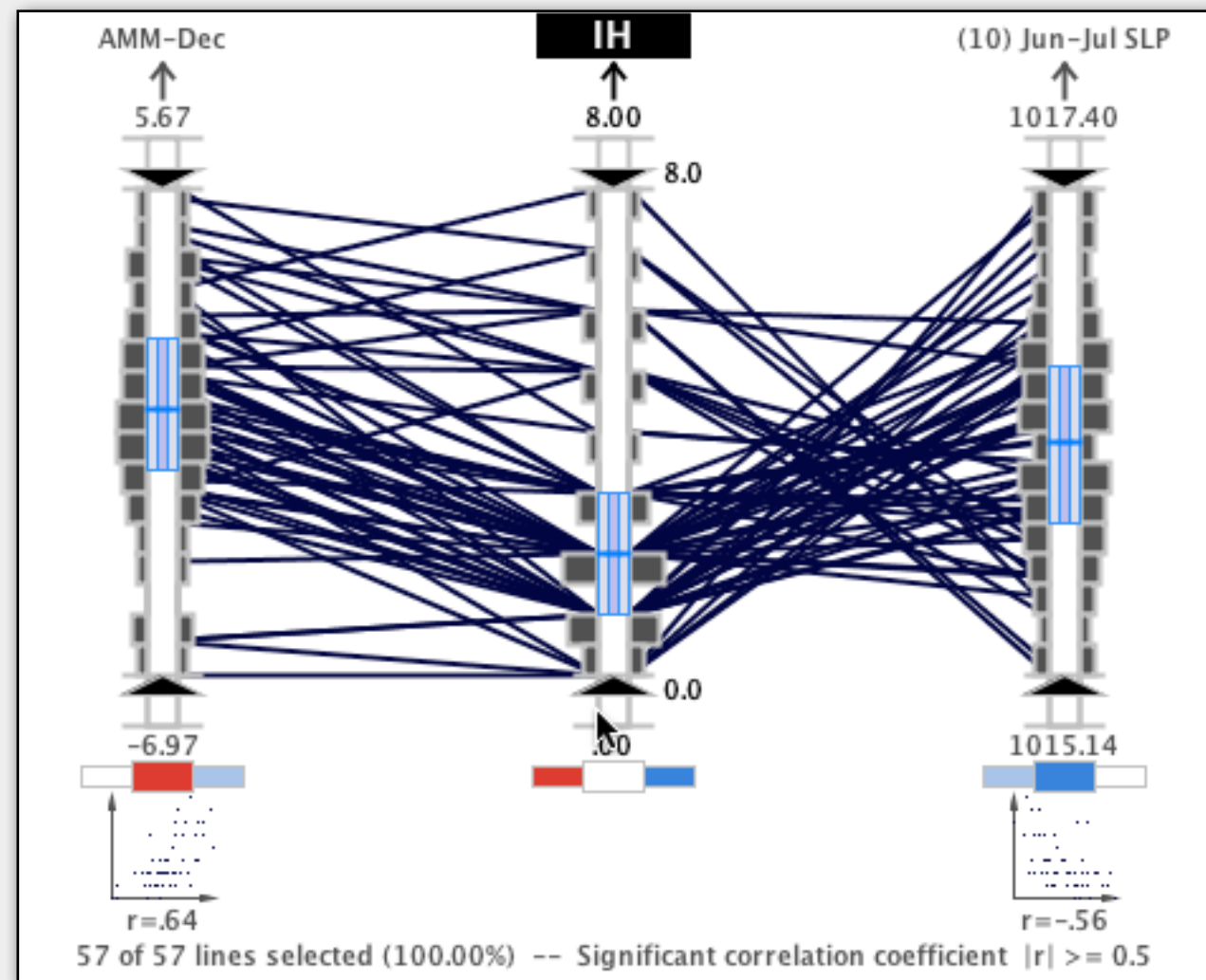
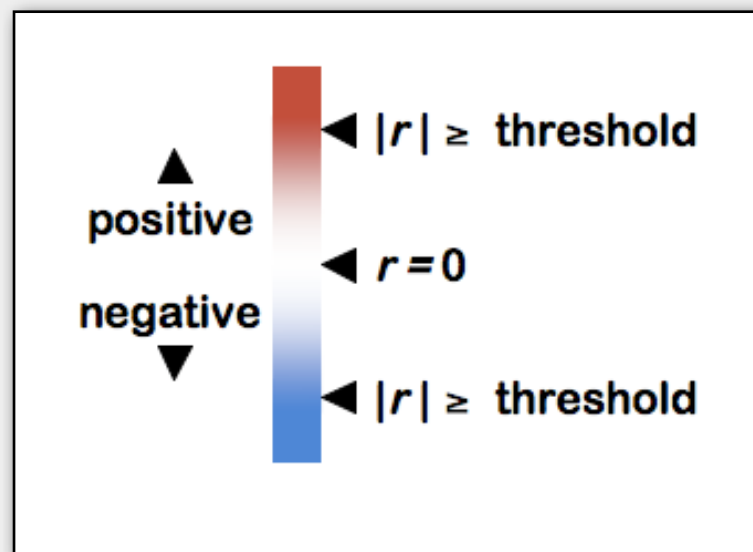
Climate Analysis Tool



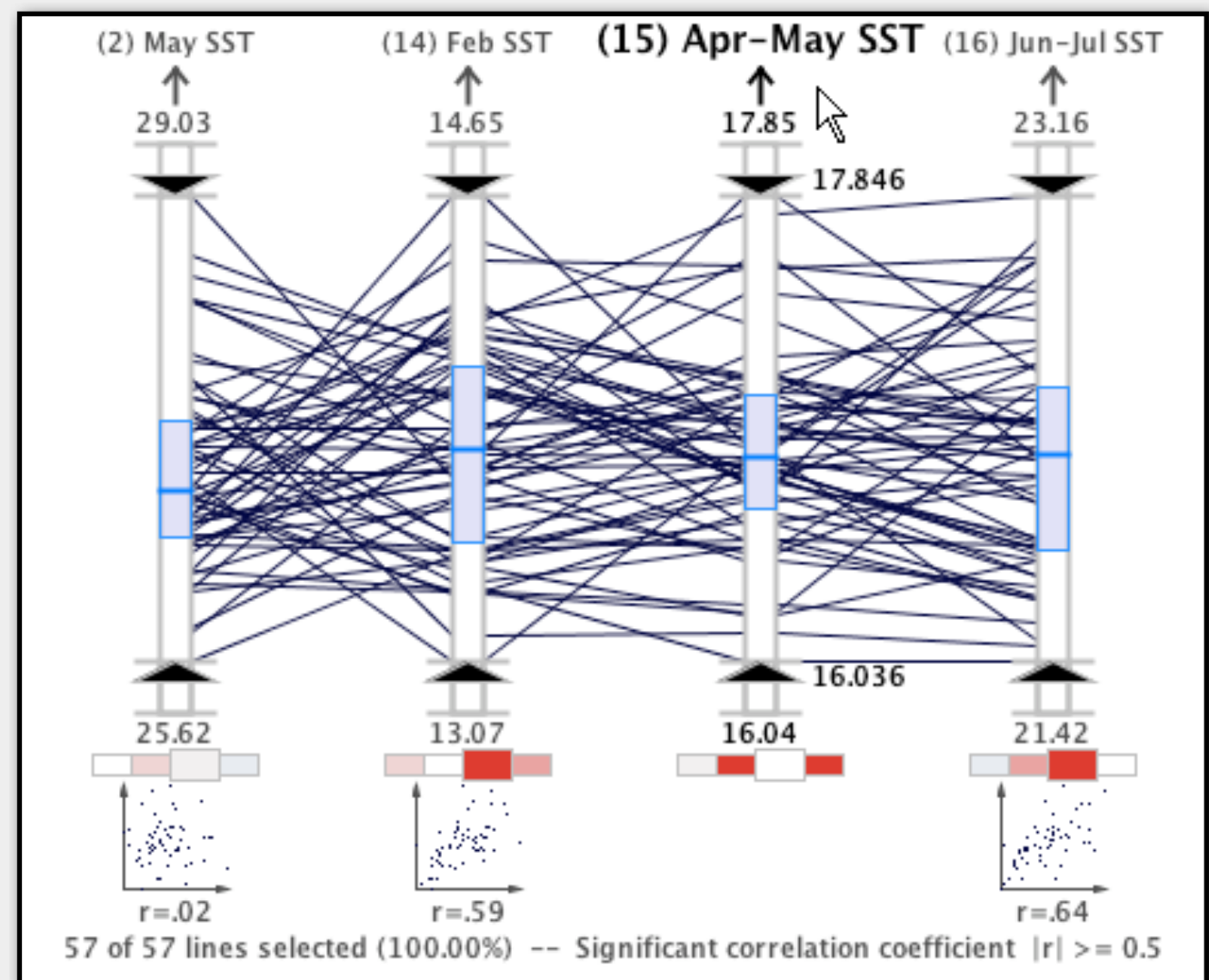
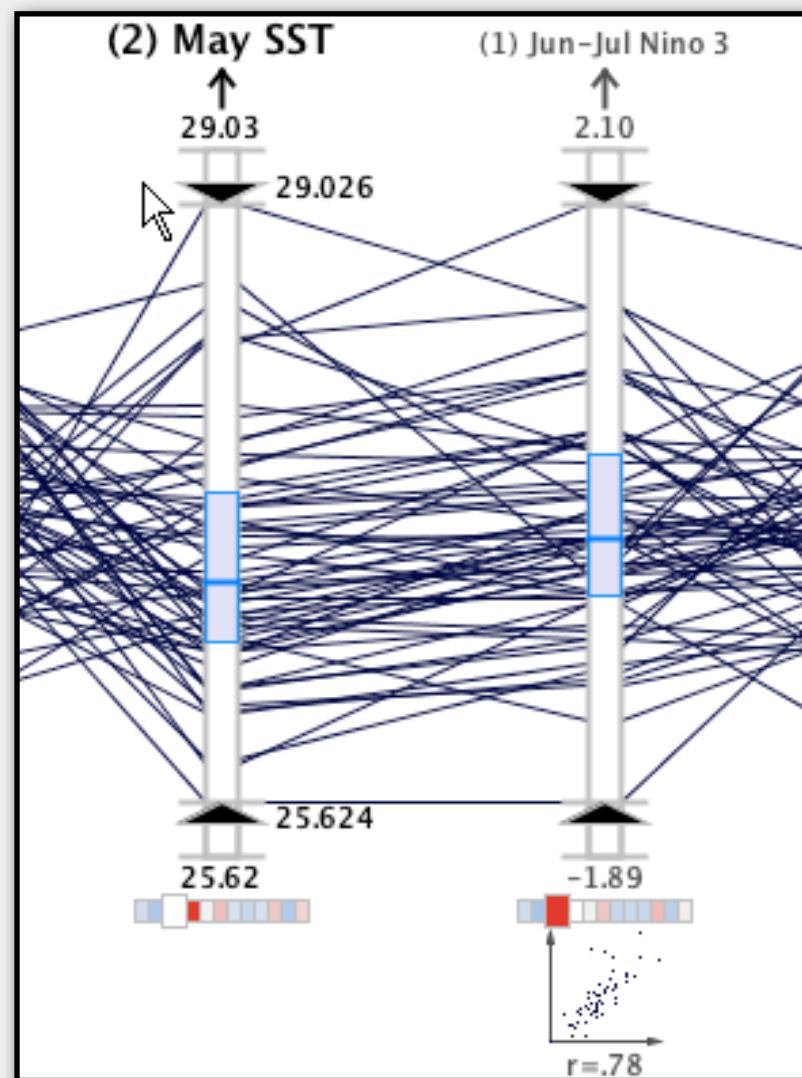
General Trend Analysis



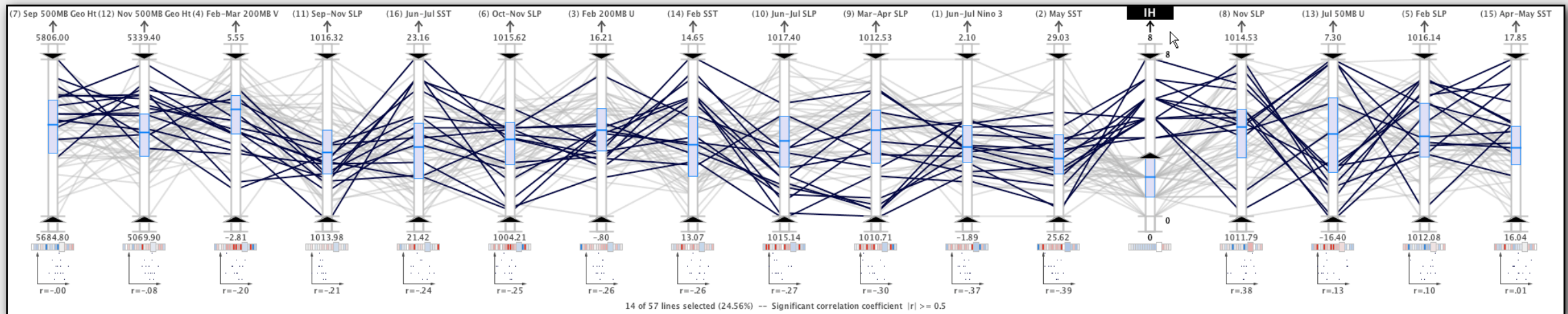
Correlation Analysis Results



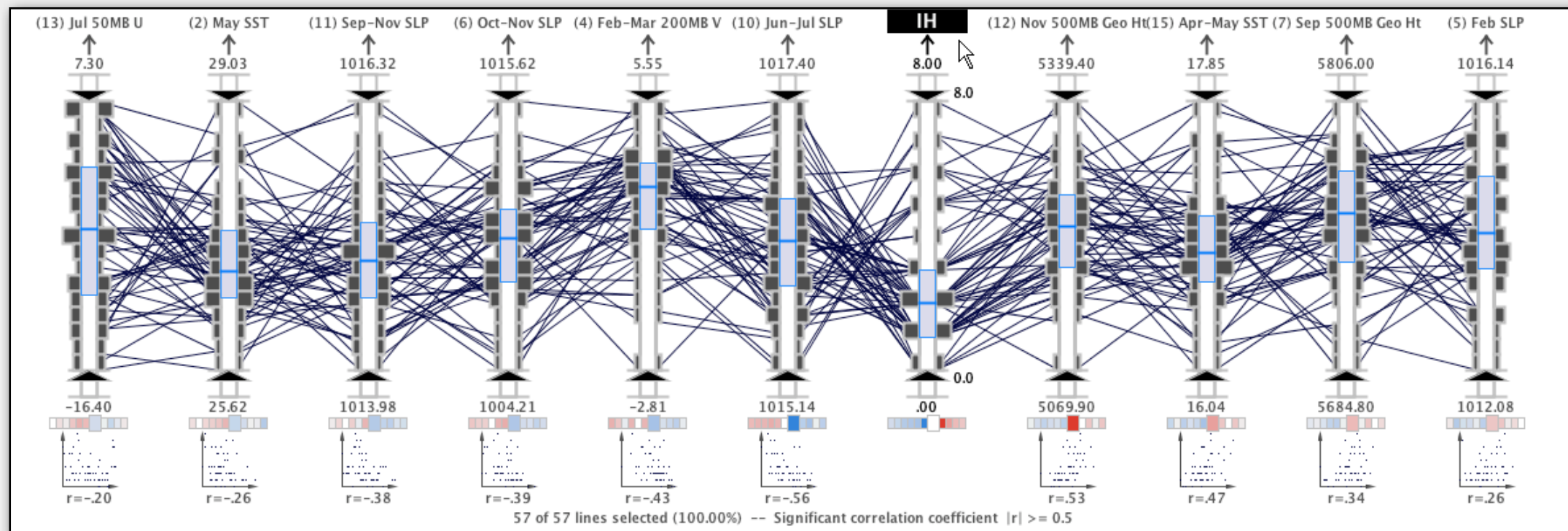
Correlation Analysis Results



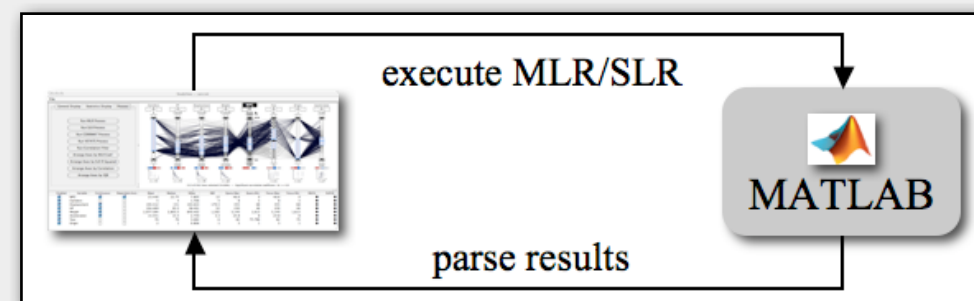
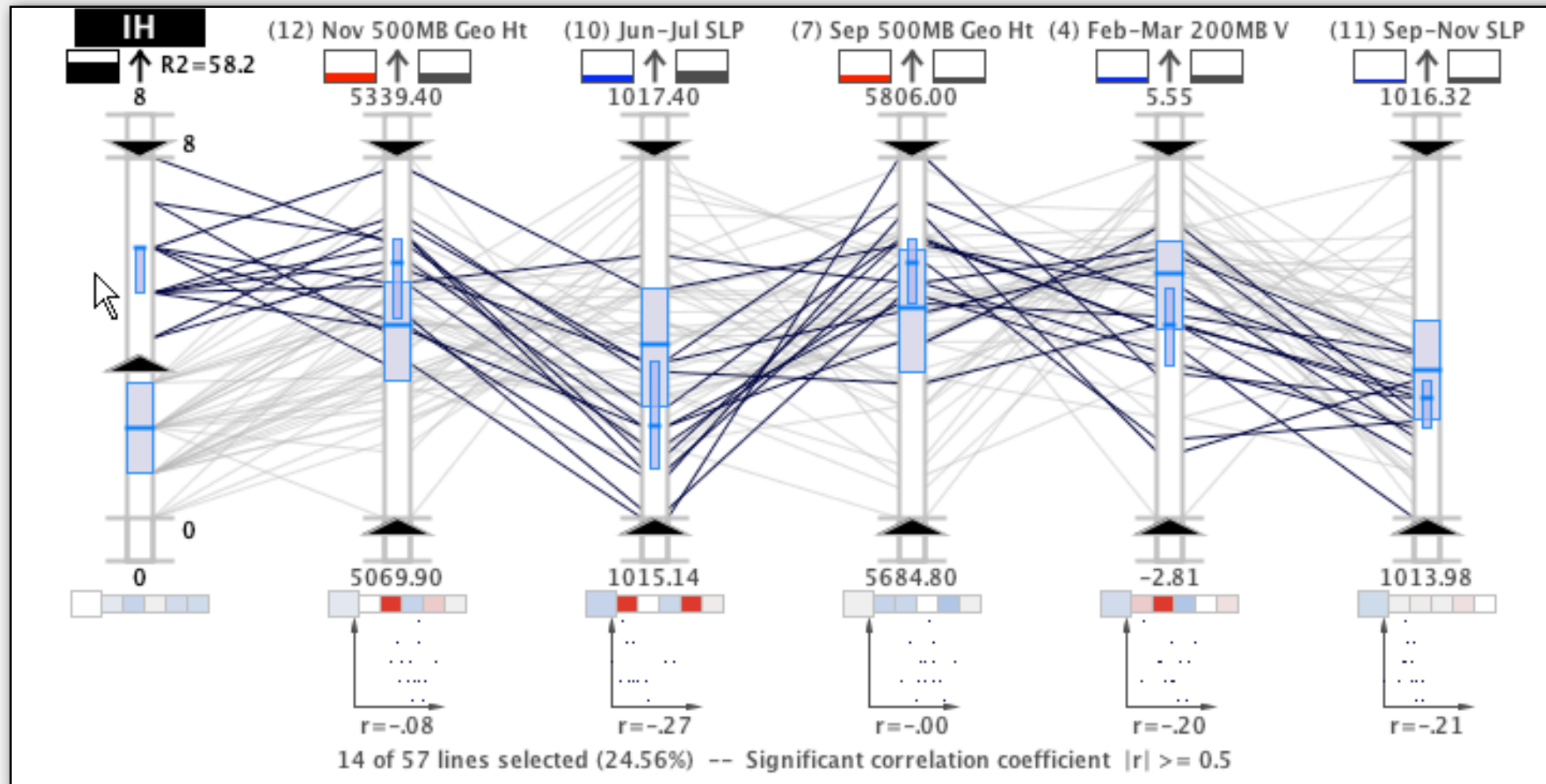
Stepwise Regression Results



Multicollinearity  Filter



Stepwise Regression Results



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Climate Analysis Tool

