

Statistical Modeling of the El Niño/La Niña Phenomena

This research proposes to examine the statistical significance of the El Niño/La Niña phenomenon with regards to its effect on micro climates. The initial model will utilize post WWII temperature data from mid-Michigan in a multiple linear regression context. Independent variables will include temporal information and a student developed index of phenomenon strength and duration. Model diagnostics, as well as testing and inference of the phenomenon's effect will also be evaluated. Upon successful completion of this model, this research will be extended to include other micro climates as well as additional climate metrics; such as precipitation.

To facilitate this research, the following procedure will be supervised by Dr. John Daniels.

1. Familiarization with Statistical Analysis Software (SAS).
2. Data Cleaning / Data Analysis
3. Development of an index of phenomena strength and duration
4. Model Building
5. Model Evaluation
6. Model Enhancement / Model Improvement (iterative process 4,5,6)
7. Final Inference and Testing
8. Research Paper and Presentation.