The Role of Downscaled Data in Decision-Making

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About GLISA

• Works with those who are tackling climate change problems in the Great Lakes region
• Provides climate science expertise
• Co-develops usable climate information for decision-making
Common Information Request

• “Can you give me downscaled data for my region/location?”

• In GLISA’s experience...
  – Working with downscaled data requires a high level of technical expertise
  – End users typically conclude that they DO NOT WANT DOWNSCALED data, but they want a synthesis of the information
GLISA’s Current Approach

• GLISA combines model-based information with knowledge of local weather processes to discuss future climate changes.

**Example:**
Quantitative
Projected Temperature Change + 2-4°C

Qualitative description of important processes (i.e., lake-effects) that are not represented in the models and how that changes our confidence in the data.
GLISA’s Future Goals

• Focus efforts on increasing the quality of quantitative information we can provide

• Determine a set of projections that best represent the Great Lakes region (Great Lakes Ensemble)
Development of GL Ensemble

• Focus on how well physical processes are represented
  – Are the lakes represented?
  – Is a signal of the lakes represented
    • i.e., precipitation minimum over lakes during summer
  – Does the downscaling method assume climate stationarity?
    • i.e., role of winter lake-ice (non-valid assumption)
• GLISA will be rolling out information on the GL Ensemble as it becomes available
  – Check the website for updates
    glisa.umich.edu
• GLISA will develop information products from the GL Ensemble
  – Integration with existing historical climatologies
  – Others based on user needs