Research poster: Software frameworks for improved productivity in climate change research

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**Scope of Software Frameworks Research**

This research involves surveying current state-of-art software support for collaborative interdisciplinary research work (particularly in environmental sciences), finding specific interoperability challenges for connecting climate models, and designing software frameworks to maximize interoperability.

**Research Questions**

What are the specific interoperability challenges for connecting climate models?

How should the software frameworks be designed to maximize interoperability?

What specific modeling scenarios should be run using the software frameworks?

**Current Status**

At this time, exploration of related software environments has been performed and an initial design for the prototype software framework has been completed. This includes definition of framework's architecture, workflows, and user interface prototyping. Procedurally, there are three modes of operations: (i) software model/resource registration; (ii) scenario configuration; and (iii) scenario execution.

**Main Directions of Future Work**

- Finalize implementation of the prototype
- Test the prototype and gather feedback from users
- Convert to a web-based application that includes user input and additional features and functions
- Apply software frameworks on modeling scenarios involving climate change models and sub-models