SUNPRISM: A Software Framework for Climate Change Research

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In order to simulate models in various conditions, and generate views from different perspectives, climate change research involves large sets of heterogeneous data. Often, for model interoperability a dataset from a given data source needs to be extracted and transformed to a different specific data format expected by a subsequent module. This poster presents the SUNPRISM approach and tools aimed at supporting scientific investigation via new capabilities for combining data transformations, model simulations, and output visualizations in application scenarios developed for climate change research. The SUNPRISM framework's defining characteristics are a visual, user-friendly object-based interface for scenario configuration; a workflow-based environment that allows code generation and dataflow scenario execution; and data visualization capabilities for 3D environments, including for immersive virtual environments such as CAVE. The proposed framework addresses known issues pertaining to data and model interoperability, in particular inadequate tool support, and provides new software solutions for defining and running scenarios pertaining to climate change research.