

## Climate Data to Improve Decision-Making: Collaborating with the NOAA Geophysical Fluid Dynamics Lab

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NOAA's Geophysical Fluid Dynamics Laboratory (GFDL) has been an essential part of the South Central Climate Science Center's (SC CSC) Consortium of partner organizations since its inception in 2012. As world leaders in global and regional climate modeling, NOAA GFDL researchers provide climate science knowledge and technical expertise necessary to close critical climate information gaps in the south central region. GFDL

researchers have conducted novel scientific analysis and led the SC CSC's development of localized climate projections that resource managers in the region need to make informed decisions. With SC CSC funding, they are developing projections and maps that provide users with potential future temperature and precipitation changes through 2100. SC CSC stakeholders have already incorporated this information into their planning efforts to address local management concerns. For example, the Citizen Potawatomi Nation incorporated NOAA-SC CSC projections into their new Climate Adaptation Plan. Additionally, knowledge generated via GFDL-led analysis is applicable beyond the confines of the south central region and has been disseminated via the peer reviewed literature. Moving forward, we anticipate the SC CSC partnership with NOAA's GFDL will continue to be foundational to SC CSC research and science communication efforts.

### ***Recent publications resulting from this collaborative work include:***

**Some Pitfalls in Downscaling of Future Climate.** *Bulletin of the American Meteorological Society.* While localized climate projections are extremely valuable for a variety of SC CSC stakeholders, this publication highlights specific circumstances in which they might not be ideal in decision-making.

**Evaluating the Stationary Assumption in Statistically Downscaled Climate Projections: Is Past Performance an Indicator of Future Results?** *Climatic Change.* This research contributes to generating more reliable local-scale climate projections by testing the assumption that the climatological relationships which existed in the past will continue to exist in the future.