Developing Decadal Climate Projection Services Through Stakeholder Guidance and Foundational Science

Climate change is already impacting communities throughout the U.S., and the consequences of these impacts will only become more significant in future decades. Mid-to-long-range (20 years and beyond) outlook information on coastal inundation, extreme heat, flooding, drought, and many other climate events aids infrastructure and resource planning, helps to anticipate the effects of climate change, and allows for risk assessment.

This project will develop the scientific understanding necessary to support reliable, scientifically robust climate projection services. Research areas include heat waves, coastal flood risk, wildfire risk, extreme precipitation, and extreme wind events. A critical component of this research is close collaboration with stakeholders, ensuring that the outcome is both scientifically sound and useful for risk assessment.

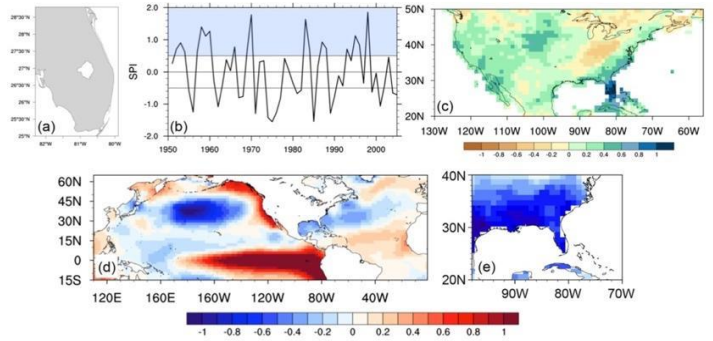

Figure 5: (a) Study area, (b) time series of October–March (ONDJFM) 6-month Standardized Precipitation Index (SPI6) rainfall, where events over SPI 0.5 are highlighted in blue (unitless). (c) Composite of wet precipitation events (i.e., those highlighted in (b); mm/day). (d) Sea surface temperature anomalies regressed onto time series of wet SPI6 rainfall events (°C/standard deviation). (e) As in (d) but 2-m temperature regression.

We have several PhD positions available for this project!

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