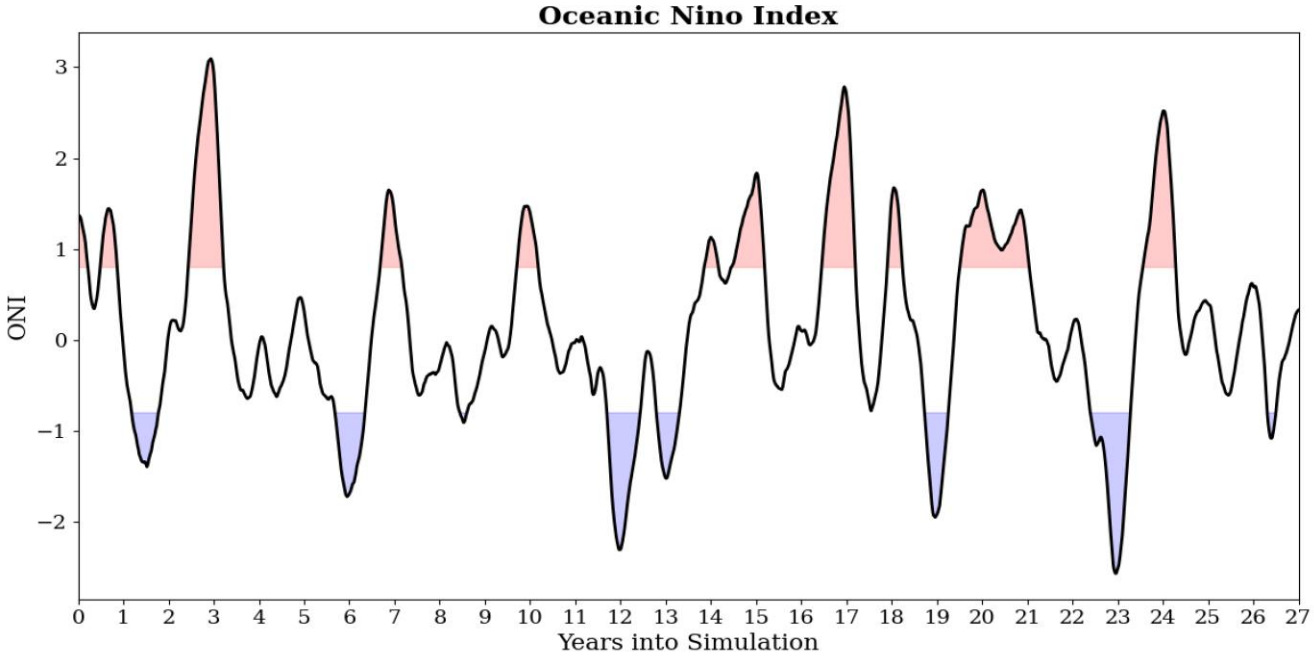
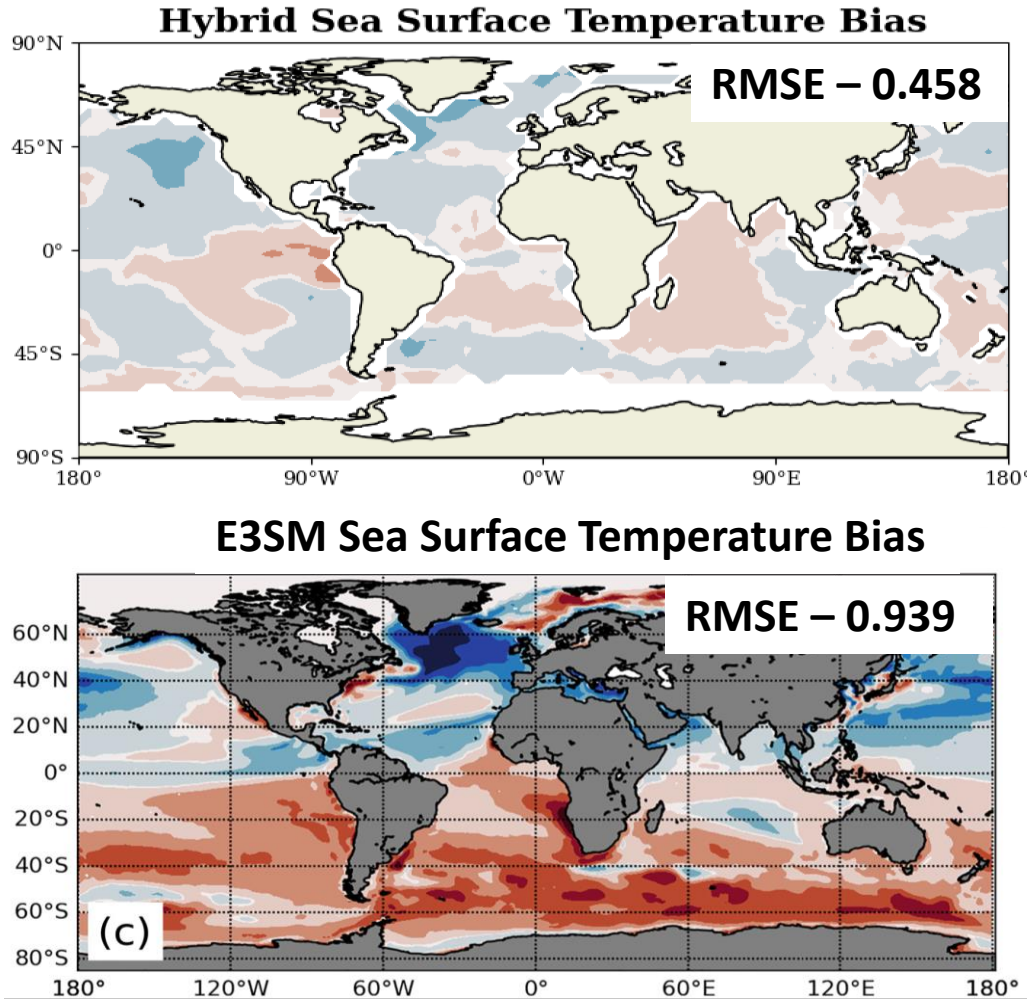
Comparison of Our Machine-Learning/Knowledge-Based Model with a Conventional SoA Climate Model

- Conventional SoA Model (DOE's E3SM Model)
  - Fully coupled Earth system model
  - Run on ~6000 CPU cores
- Coupled Atmosphere/Ocean Hybrid Model
  - Captures ocean dynamics (Annual cycle and ENSO)
  - Once trained can be run using desktop
    - 10-year simulation ~2 hours





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The hybrid is relatively fast, cheap, and accurate, while, e.g., realistically capturing ENSO