Gridded water properties for Chesapeake Bay for model validation, development, and discovery

Objective

High frequency-high resolution datasets are necessary for Earth System Model development and validation.
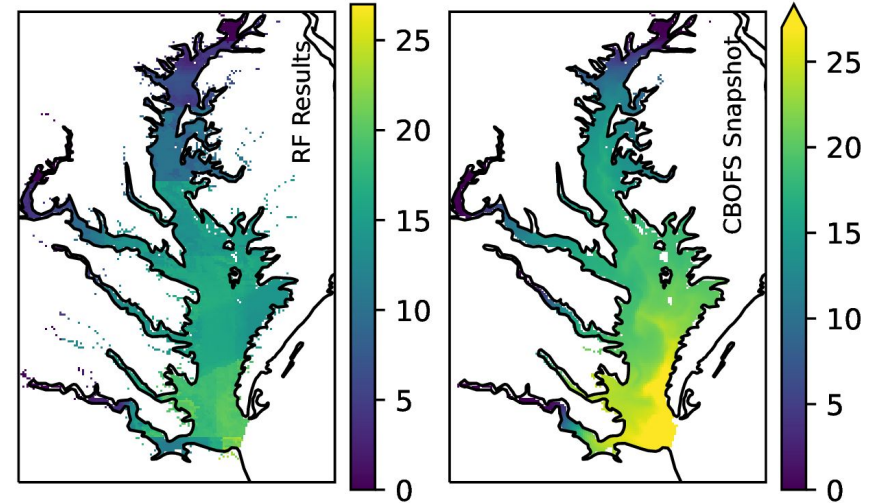
Approach

Assemble a massive collection of observational data spanning 2000-2021.

Develop a novel approach to account for freshwater influence from Bay tributaries.

Impact

Baywide salinity and temperature data at a daily frequency and 30m resolution is now available for 2002-present.

Models have unprecedented accuracy for the upper reaches of Bay tributaries enabling a host of future applications.

Stachelek, J., Avendaño, S., Schwenk, J. 2022. Geographically aware estimates of remotely sensed water properties for Chesapeake Bay. Journal of Applied Remote Sensing, 16(4), 044528. [DOI: 10.1117/1.JRS.16.044528]