

AI-powered spatiotemporal imputation and prediction of chlorophyll-a concentration in coastal oceans

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Supplementary Figures

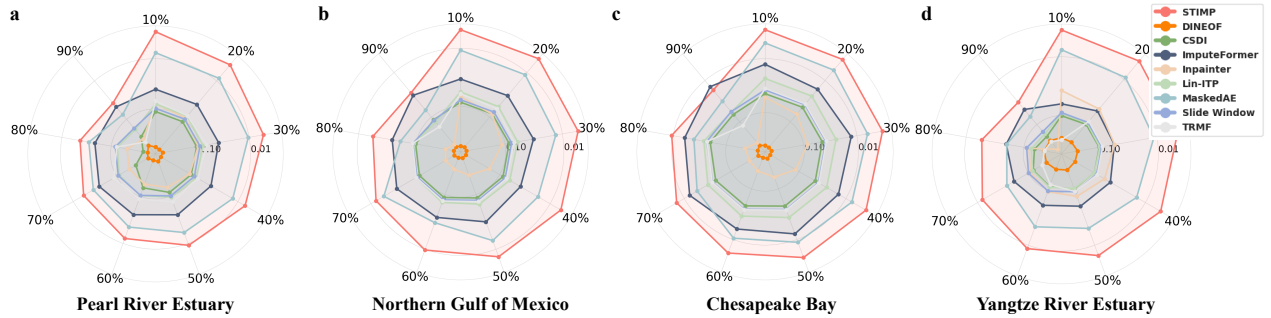


Figure 1: Overall mean square error between ground truth and imputed Chl-a of the compared methods in **a.** Pearl River Estuary, **b.** Northern Gulf of Mexico, **c.** Chesapeake Bay and **d.** Yangtze River Estuary. For each coastal ocean area, we construct datasets with 9 different missing rates, ranging from 10% to 90%.

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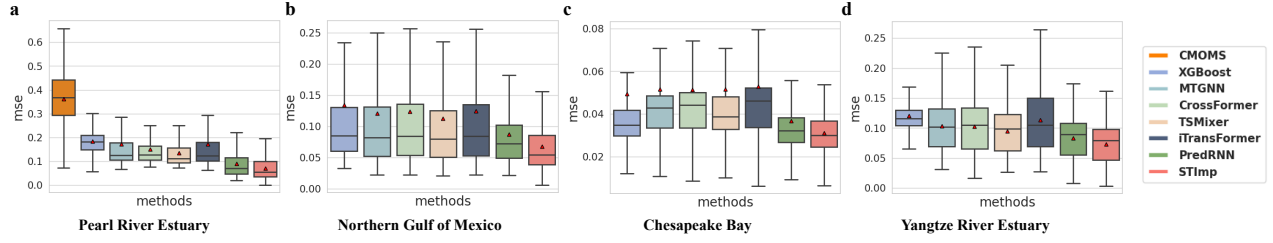


Figure 2: Overall mean square error between ground truth and predicted Chl-a of the compared methods in **a.** Pearl River Estuary, **b.** Northern Gulf of Mexico, **c.** Chesapeake Bay and **d.** Yangtze River Estuary.

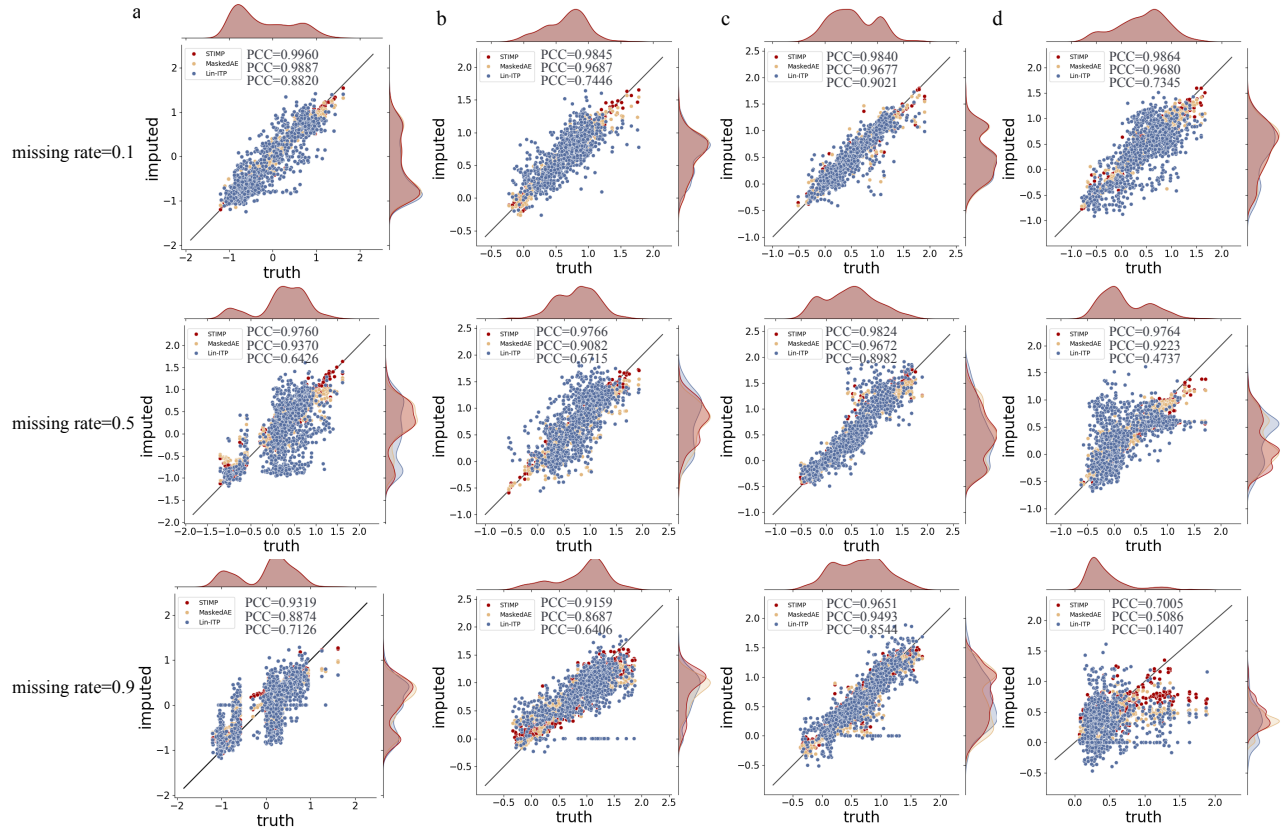


Figure 3: Correlation between the imputed data and the ground truth of STIMP, MAE, and Lin-ITP at missing rates of 10/50/90% in **a.** Pearl River Estuary, **b.** Northern Gulf of Mexico, **c.** Chesapeake Bay, and **d.** Yangtze River Estuary.

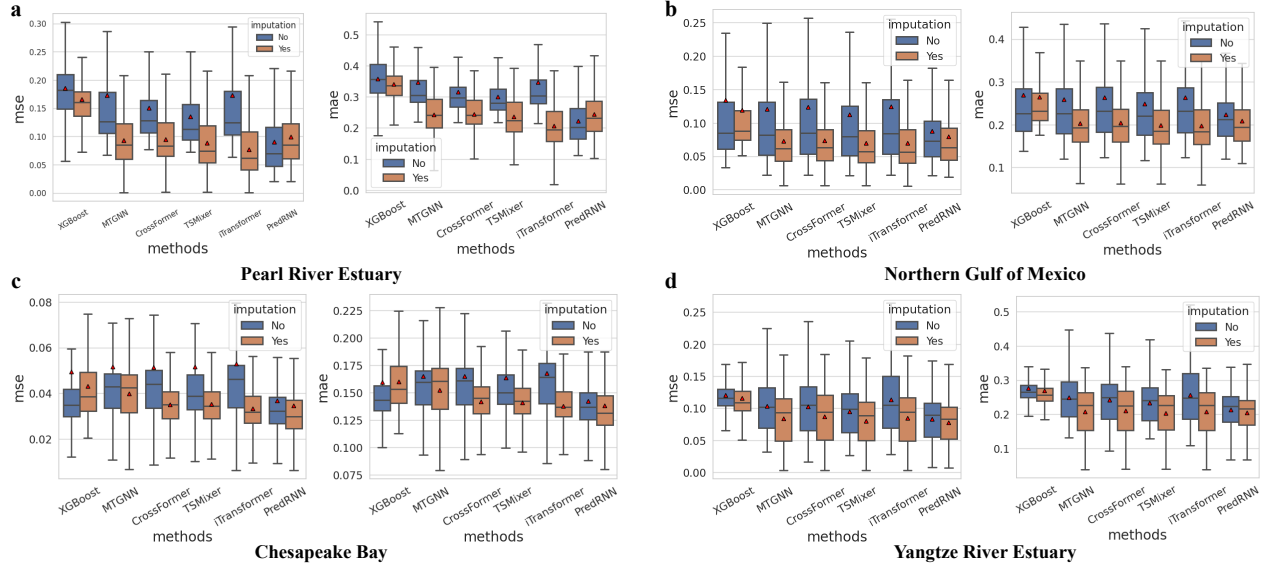


Figure 4: Comparison of prediction performance of other methods before and after imputation using STIMP in **a.** Pearl River Estuary, **b.** Northern Gulf of Mexico, **c.** Chesapeake Bay, and **d.** Yangtze River Estuary.

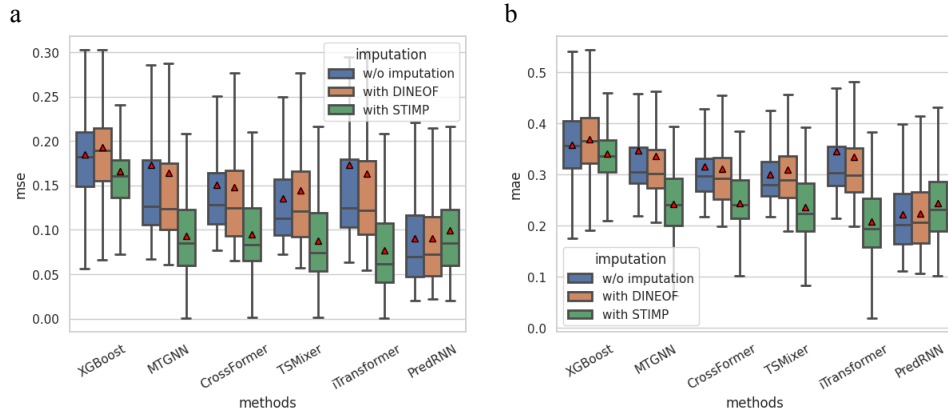


Figure 5: Comparison of prediction performance of other methods without imputation, with imputation using DINEOF and with imputation using STIMP in **a.** Pearl River Estuary, **b.** Northern Gulf of Mexico, **c.** Chesapeake Bay, and **d.** Yangtze River Estuary.

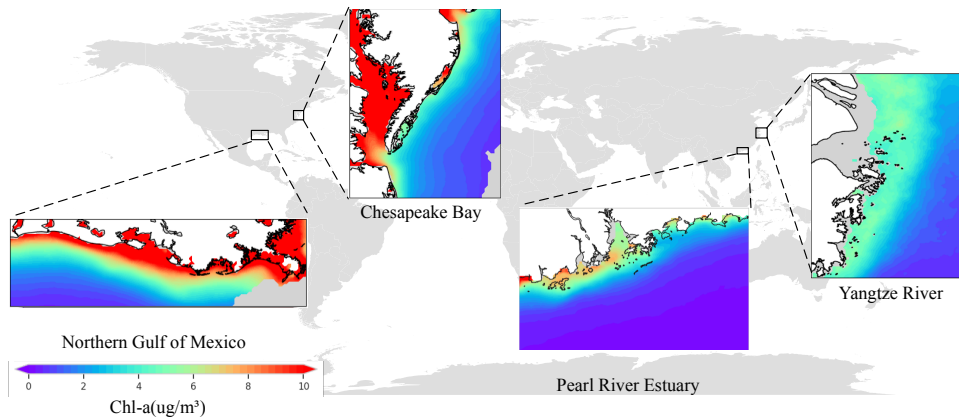


Figure 6: Horizontal distribution of observed temporal averaged Chl-a in four coastal oceans.