

# SEMINARI DEL GIOVEDÌ

## 16/10/2025

Scienze Ambientali, Scienze e Tecnologie per la  
Sostenibilità Ambientale, e Biologia Marina

### **A digital twin approach for coastal ocean science and resilience**

moderatore: LORENZO MENTASCHII

### **SALVATORE CAUSIO**



Salvatore leads the Advanced Coastal Ocean Modelling and Application Research Unit at Euro-Mediterranean Center on Climate Change (CMCC). He is specialized in coastal dynamic processes, focusing on wave-current interactions and extreme events such as waves and storm surges.

He currently explores the integration of AI with numerical models in the context of hybrid-modelling approach. His research develops high-resolution coastal models using unstructured grids for global and local hazard assessment.

The webinar will present the state of the art in our development of the Coastal Digital Twin Ocean (C-DTO) within CMCC's Global Coastal Ocean Division. The integrated, realism-augmented modelling framework consists of five core components: waves, circulation, sediment, vegetation, and flooding.

