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MOIRAI: Multiscale Ocean models and Information for climate Risk Assessment and Impact mitigation

Description

MOIRAI, named after the three Greek goddesses of fate, stands as a pioneering project at the intersection of past, present, and future. MOIRAI endeavors to weave a comprehensive understanding of the ocean's dynamics and biogeochemical cycles through advanced models, integrating historical data, current observations, and future projections. Integrated into the frameworks of Destination Earth (DE) and the European Digital Twin of the Ocean (DTO), key components of the broader Digital and Green transitions, MOIRAI aims to significantly advance our comprehension and mitigation of climate-related challenges.

MOIRAI is set to advance the next generation of regional to coastal ocean and biogeochemical climate models in European seas, bridging the gaps between operational and regional ocean climate models. Benchmarked with improved climate modelling and prediction capacities in the estuarial-coastal-open sea continuum, the developed models will contribute to the European Green Deal, addressing resilience to climate change (both mitigation and adaptation) in coastal areas. The quality of its coastal models forms the backbone of MOIRAI's commitment to delivering reliable outcomes for end-users. At its core, MOIRAI, in conjunction with the establishment of REASSHORE (Resilience and Adaptation Strategies Selection Hub for Ocean risks Assessment and End-users feedback), aims to create replicable scientific frameworks and pave the way for basin-scale services, fostering collaborative initiatives across European regional seas. Designed to be modular and interoperable, REASSHORE will seamlessly integrate with existing and future digital infrastructures for ocean climate and risk services.

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