



OPST-12 Meeting

Montreal

April 15-16-17, 2026





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8:30 - 9:00	Registration	30
9:00 - 9:10	Introduction (welcome, housekeeping, events) Greg or Kirsten	10
9:10 - 9:20	Invited local host talk, land claim acknowledgement - TBC	10
9:20 - 9:50	New TT chairs intro 3-5 min each Rachel Furner - AI-TT (ECMWF) Anass El Aouni - AI-TT (MOI) Chunxue Yang - IV-TT (CNR) Stefania Ciliberti - IV-TT (NowSystems) Marcin Chrust - DA-TT (remote) (ECMWF) Anthony Weaver - DA-TT (CERFACS) (remote)	30
9:50 - 10:05	OP overview and meeting objectives - Greg Smith (ECCC) & Marie Drevillon (MOI)	15
	News and developments - setting the stage	
10:05 - 10:15	OP-DCC and UN decade - Enrique Alvarez (MOI)	10
10:15 - 10:25	ForeSea progress - Eric Chassignet (FSU)	10
10:25 - 10:35	Discussion	10
10:35 - 11:00	Tea/coffee	35
11:00 - 11:10	In-situ observations (Argo, GOOS,...) - TBC	10
11:10 - 11:20	Satellite obs (new missions, etc.) - Pierre-Yves Le Traon (MOI)	10
11:20 - 11:30	AI transformation - Rachel Furner (ECMWF) & Anass El Aouni (MOI)	10
11:30 - 11:40	HPC developments (GPUs, differential modelling) - Kristian Mogensen (ECMWF)	10
11:40 - 11:50	Digital Twins (DITTO) - Joanna Staneva (Hereon)	10
11:50 - 12:10	Discussion	20
	WMO collaborations 30 min	
12:10 - 12:20	JCB - Fraser Davidson (ECCC)	10
12:20 - 12:40	(JWGFVR) Joint Working Group on Forecast Verification Research and related WMO activities - Barbara Casati (ECCC)	20
12:40 - 12:50	Discussion	10
12:50 - 14:00	Lunch	70

	Task team and WG sessions - visions and plans for the next 5 years	
14:00 - 14:20	OPOS-WG - David Ford, Met Office & Fraser Davidson, ECCC	20
14:20 - 15:35	Covers 5 presentations [System presentations (short - 10+5 min)] UK - David Ford (Met Office) France - Yann Drillet (MOI) Korea - Jae-Li Kwon (KIOST) Australia - Mikhail Entel (BoM) Japan - Yosuke Fujii (MRI-JMA)	75
15:35 - 16:00	Tea/coffee	30
16:00 - 16:45	Covers 2 presentations (10+5 min) + 1 slot (30 min) to cover one slide presentations of absent systems USA - Alex Kurapov (NOAA) Canada - Greg Smith (ECCC)	45
16:45 - 17:30	Discussion	15
17:30	Close of meeting	
from 19:00	Dinner in Montreal	

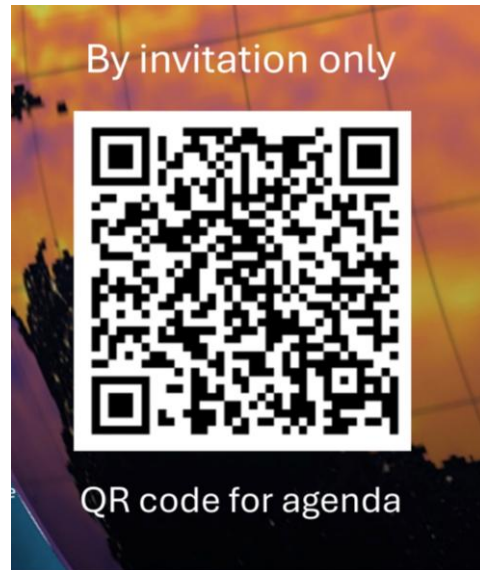
OceanPredict Science Team Meeting 12 – Introduction and Context

Collaborative advances in
Ocean Prediction science

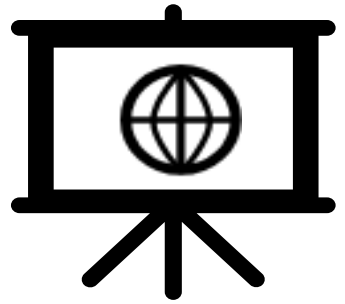


Strategy 2021 -2030

Agenda of OPST-12



- DAY1 : setting the stage, visions for the next 5 years
- DAY2 : task teams + collaboration gaps and opportunities discussions
- DAY3 : drafting OceanPredict implementation plan



Introduction and Context of OPST-12

OceanPredict Science Team Meeting 12 Overview

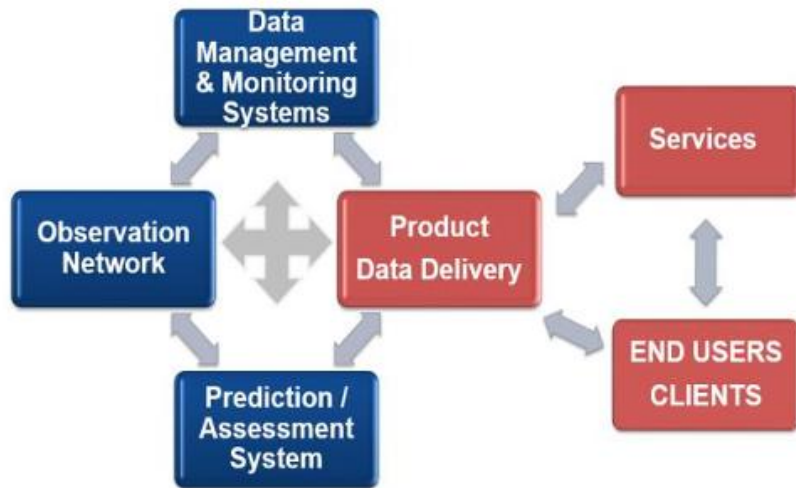


Figure 1: Ocean information value chain for Operational Oceanography. OceanPredict is focused on Prediction / Assessment System but helps ensure the overall societal benefit by collaborating with other component groups off the value chain. Blue boxes refer to information production, orange boxes refer to information uptake/dissemination. Feedback is implicit in this chain with 2-way arrows throughout.

Strategic Gathering

The meeting gathers international ocean prediction experts to assess current status and future priorities collectively.

Five-Year Planning

Focuses on defining priorities and pathways for the science of ocean prediction over the next five years.

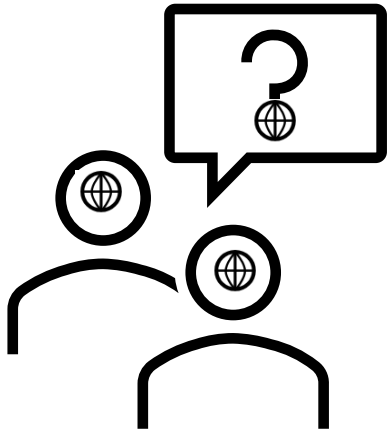
Science Implementation Plan

Sets the foundation for an actionable plan enabling collaboration around research, operations, and services in oceanography.

Collaborative Focus

Ensures all discussions are coherent, focused, and outcome-oriented through shared understanding and framing.

Why a science implementation plan, why now?



Drivers for Strategic Action



Exposition « La baleine » présentée à l'occasion de la Conférence des Nations unies sur l'océan (UNOC), à Nice, le 2 juin 2025. FRÉDÉRIC DIDES/AFP

Technological Advances

AI and machine learning are revolutionizing ocean prediction systems with enhanced operational capabilities.

Enhanced Predictive Models

Coupled ocean–atmosphere–ice–biogeochemical models provide unprecedented capacities in forecasting ocean conditions. Sustained observations are needed to ensure their accuracy.

Growing User Demand

Demand increases for reliable ocean information supporting climate services, disaster preparedness, and blue economy. International cooperation is essential to deliver such services.

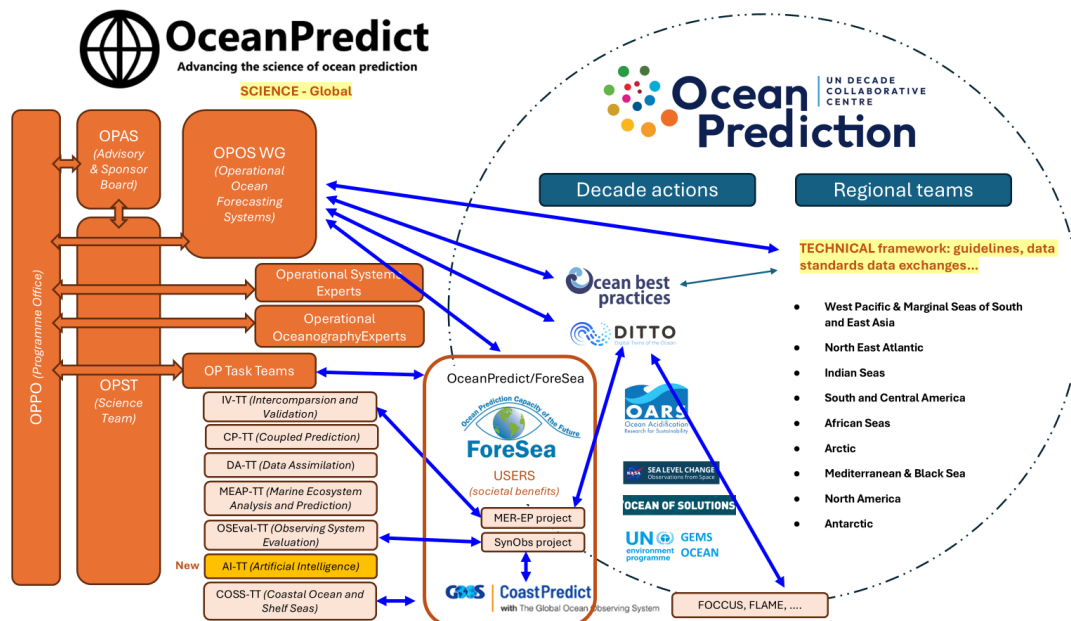
Strategic Forum for Action

OceanPredict/ForeSea serves as a forum to align scientific priorities and implement international collaboration opportunities, towards the end of the **UN ocean decade and the 5th IPY 2032-2033**.



OceanPredict's Role in the Global Landscape

OceanPredict as a Science Integrator



Central Coordination Role

OceanPredict is coordinating global ocean prediction science efforts to serve and interact with ocean prediction community.

Bridging Observations and Models

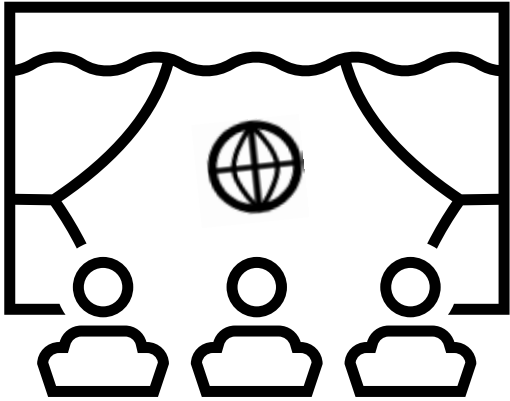
It links observational data with modeling systems to improve prediction accuracy and operational relevance.

Science to Societal Benefits

OceanPredict/ForeSea ensures scientific advances translate into practical benefits for policy makers and end users.

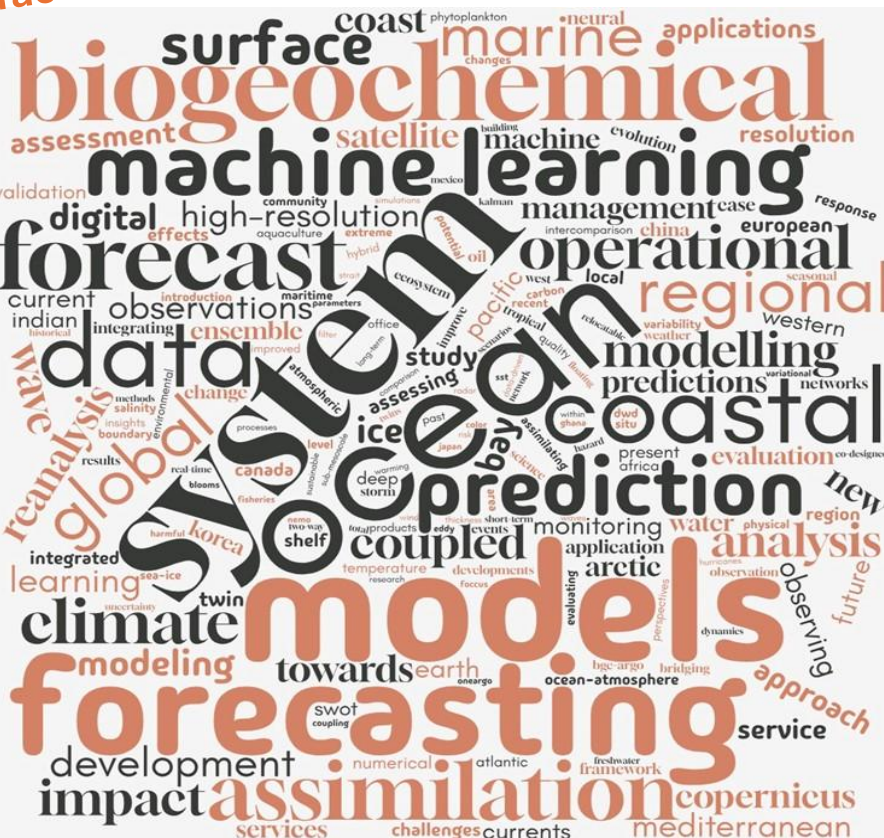
Guiding Collective Priorities

The programme fosters global cooperation to set priorities and align international collaboration efforts for ocean prediction science.



Setting the Stage

Obtained from OP'24
abstract titles



Scientific and Strategic Context

OPST-12 begins by setting the scientific and strategic framework for understanding ocean prediction challenges and opportunities.

Technological Innovations

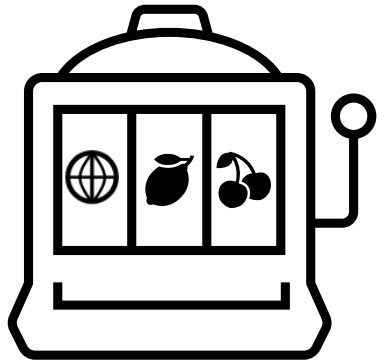
Presentations focus on observation systems, satellite missions, AI, high-performance computing, and digital twins advancing ocean science.

International Collaborations

Presentations and discussions highlight collaborations including WMO, OceanPrediction DCC, and UN Decade programmes integrating global efforts.

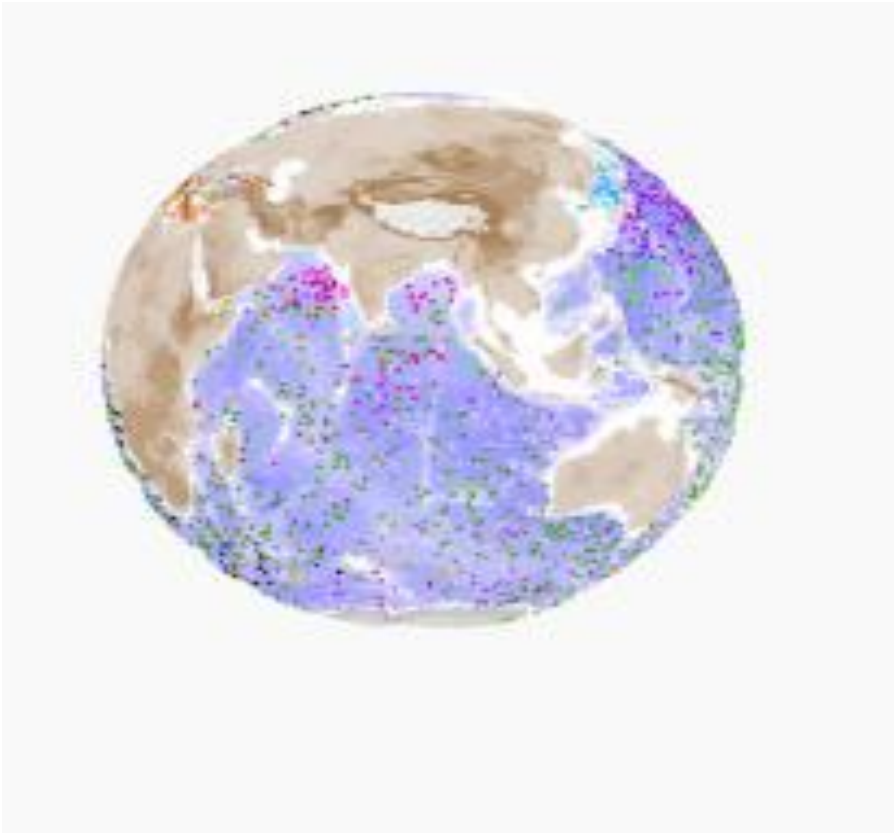
Community Engagement and Analysis

One central objective is to analyse **collaboration gaps and opportunities** and transform into an **OP implementation plan** with key messages and shared understanding.



Identifying Scientific (collaboration) Gaps

Challenges in Current Ocean Prediction Capacity



Observation System Challenges

Sustaining and optimizing ocean observation systems is critical for long-term data coverage and platform integration.

Prediction System Limitations

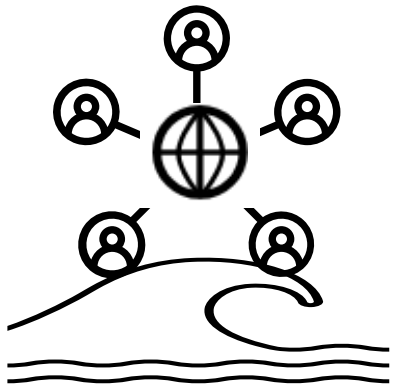
Current prediction systems struggle with fully coupled processes at coastal, sub-seasonal, and ecosystem-relevant scales.

Evaluation and Trust Issues

Evaluation frameworks and uncertainty quantification methods lag behind user needs, limiting trust and product uptake.

Community Collaboration Needs

Addressing shared challenges requires collective identification and prioritization for impactful implementation plans.



Emerging (collaboration) Opportunities

Transformational Directions for the Next Five Years



AI and Physics Integration

Combining AI and machine learning with physics-based models improves prediction accuracy and operational efficiency.

Digital Twin Framework

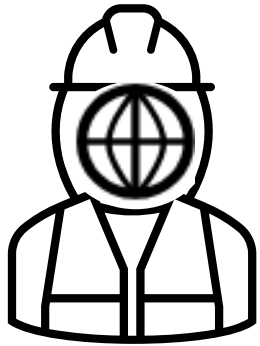
Digital twin technology enables modular and interoperable prediction systems for improved international cooperation, and improved cooperation across the ocean prediction value chain.

User Co-Design

Collaborative design with users ensures scientific advances deliver direct societal benefits and relevance.

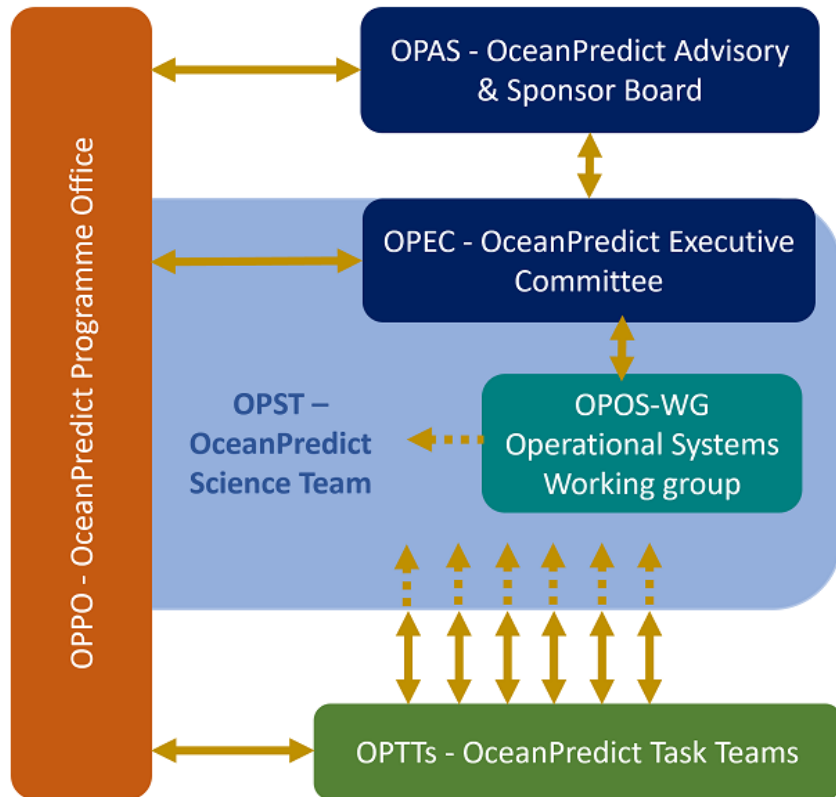
International Collaboration

Aligning with global initiatives enhances impact through coordinated international ocean prediction efforts.



Task Teams reports

Task Team Visions for the Next Five Years



Focused Future Directions

Task Teams present targeted visions in data assimilation, coupled prediction, and coastal systems.

Scientific Priorities and Contributions

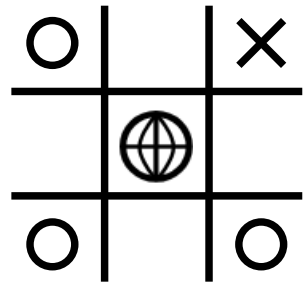
Teams articulate scientific priorities and expected contributions for the upcoming five years.

Strategic Implementation Plan

Insights from Task Teams shape a coherent plan translating aspirations into actionable tasks.

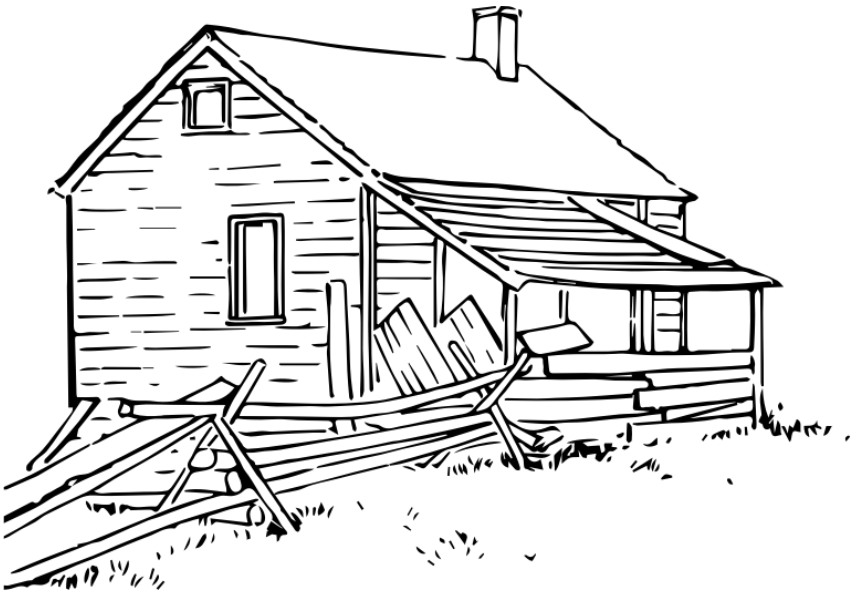
Cross-Team Coherence

Discussions focus on aligning priorities to ensure collaboration and shared objectives across teams.



From Discussion to an Implementation Plan

Deliverables from OPST-12



Shared Understanding and Gaps

OceanPredict community aims to identify priority gaps and opportunities collaboratively by OPST-12 conclusion.

Science Implementation Plan

A draft framework for a five-year science implementation plan is a key outcome of OPST-12 (DAY 3).

Collective Responsibility and Engagement

Strengthened engagement across Task Teams and partners promotes collective responsibility for ocean prediction.

Call to Action

Focus on impact and joint efforts to shape OceanPredict's future contributions globally.

*Enjoy a **BREAK!***



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