

First Workshop on Observing and Predicting the Global Coastal Ocean

Venue: Lecce, Italy

Via Marco Biagi, 5 – 73100 Lecce (LE)

11-13 May 2023

Join Zoom Meeting

<https://cmcc-it.zoom.us/j/83204691520?pwd=TmRQa3JPejl1MFdvS1JrdVBubm96UT09>

Meeting ID: 832 0469 1520

Passcode: 145493

Type of meeting: **in person and online**

For more information: Giovanni giovanni.coppini@cmcc.it and Simone simone.phore@cmcc.it

Main aim of the workshop:

- Overview status of PredictOnTime implementation and discussion on the next steps
- Refine the PredictOnTime contribution to the CoastPredict 'Global Coastal Experiment': principles, proposed selection sites, list of outcomes, what new technologies and methodologies are required, testing of hypotheses etc.
- Overview of current initiatives and projects connected to PredictOnTime work packages and activities

Thursday, 11 May 2023

09:00- 11:25 **Session 1: Introductions and scene setting**

09:00-09:10 (10 min) Welcoming Remarks | Antonio Navarra, CMCC President

09:10-09:20 (10 min) The UN Decade CoastPredict Programme. Nadia Pinardi, Uni. Bologna

09:20-09:30 (10 min) The UN Decade PredictOnTime Project. Giovanni Coppini, CMCC

09:30-09:40 (10 min) Future Coastal Oceans Climate | Flame, Jo Hopkins, NOC

09:40-09:50 (10 min) UN Coastal Resilience DCC | Nadia Pinardi, Uni. Bologna

09:50 - 10:00 Discussion

10:00 - 10:20 (20 min) Guest speaker: "Aquarius: an integrated coastal hazard prediction system", Delphine Lobelle, Fugro

10:20 – 10:50

Coffee break

10:50 - 11:00 (10 min) UN Ocean Prediction DCC | Enrique Alvarez Fanjul, MOi [Online]

11:00 – 13:00 Session 2: Innovative coastal observing systems

Presentations from submitted abstracts

11:00 - 11:15 i) Pauline Mwangi (Oral, online):

*Assessment of impacts of shoreline change
on the nearshore marine environment at
Gazi Bay, Kenya*

11:15 - 11:20 ii) Hellen Kizenga (Online, Poster):

*Variability of mackerel fish catch and remotely-sensed
biophysical controls in the eastern Pemba Channel*

11:20 -11:35 iii) Juliet Hermes (Oral):

Developing a Coastal Observation Lab in a Box - COLaB

11:35 - 11:40 iv) Courtney Bouchard (poster):

*Efforts to use near-real time data collection to assist in the
monitoring and forecasting of the northern Gulf of Mexico
hypoxic event*

11:40-11:55 v) Anwesha Ghosh (oral):

*Phytoplankton community dynamics under potential ocean
acidification scenarios: a case study from the Indian
Sundarbans*

11:55 - 12:00 vi) Jhon Bermudez (poster):

*Low-cost coastal observation system in vulnerable
communities of the Caribbean*

12:00 - 12:15 viii) Alban Lazar (online, oral):

*COCAS: Coastal Ocean Observatory of Climate Change, CO2
and Acidification in the Global South*

12:15 - 12:20 ix) Peter Busumprah (online, Poster):

digitization of Ghana aquaculture sector

12:20 - 12:35 x) Zacharie Sohou (online, oral):

Seasonal and inter-annual ONSET Sea Surface Temperature variability along the northern coast of the Gulf of Guinea

12:35 - 12:40 xi) David Mwandikwa (Poster, online):

EFFECTS OF TRIGGERFISH ABUNDANCE AND HABITAT STRUCTURE ON POPULATIONS OF THE SEA URCHIN *Tripneustes gratilla* IN SEAGRASS MEADOWS OF KENYA

12:40 - 12:45 xii) Viviana Piermattei (poster):

New marine technologies toward a Coastal Ocean Of Things (COOT)

Round Table/ Discussion (10 min)

13:00- 14:00 Lunch

14:00-16:05 **Session 3: Innovative integrated coastal modeling capacity**
Presentations from submitted abstracts

14:00 - 14:10 i) Shan Gao (Oral):

Validation of the operational ecosystem models and forecasts for China coastal seas

14:10 - 14:25 ii) Matías Dinapoli (Online, oral):

Improving the short-range forecast of storm surges in the Southern-West Atlantic Continental Shelf using 4DEnSRF data assimilation

14:25 - 14:30 iii) Pengcheng Wang (Online, Poster):

The Global Deterministic storm Surge Prediction System (GDSPS) v2: Adding Baroclinicity and Sea Ice Effects

14:30 - 14:40 iv) Donata Canu (Online, oral):

The coupled SHYFEM-BFM for scenario analysis in the regulated Venice Lagoon system

14:40 - 14:50 v) Ivan Federico (Oral):

Storm surge model forecasting and the attenuating role of nature based solutions

14:50 - 15:05 vi) Ginevra Rosati (oral):

Developing new tools for contamination assessment and management of coastal-marine ecosystems

15:05 - 15:20 vii) Sara Morucci (online, oral):

Managing the Uncertainty: 'Acqua Alta' in Venice

15:20 - 15:25 viii) Imane Joudar (Online, poster):

Impact of marine submersion on the Atlantic coast case of El Jadida bay

15:25 - 15:30 ix) Nouhaila Erraji Chahid (online, Poster):

Hydrodynamic Modeling of Moulay Bousselham Lagoon (Morocco): Numerical investigations

15:30 - 15:45 x) Stefano Querin (Oral):

Coupled hydrodynamic-biogeochemical modeling for short-term forecasts in the northern Adriatic Sea

15:45 - 15:50 xi) Italo Dos Reis Lopez (Poster):

DEVELOPMENT OF A COASTAL MODELLING SYSTEM FOR FLOOD PREDICTION

15:50 - 16:05 xii) Mahmud Hasan (oral):

Reassessment of heat budget in the Mediterranean Sea and an investigation of probability distributions of heat fluxes using Extreme Value Theory

16:05 - 16:15

Round Table/ Discussion

16.15-16:45 Coffee break

16.45 -17:30 **Session 4: Data assimilation and machine learning in the coastal ocean**
Presentations from submitted abstracts

16:45 - 17:00 i) *Rodrigo Campos Caba (Oral):*

*Preliminary developments for a machine-learning downscaling
and prediction system trained on long-term numerical simulations
of sea levels*

17:00 - 17:15 ii) Dr. Geetali Saha (Online, oral):

Prediction of SSTA HadISST dataset using machine learning
techniques

17:15 - 17:30

Round Table/ Discussion

17:30-19:00 **Drinks reception and posters at CMCC**

Friday, 12 May 2023

09:00 – 11:00 Session 5: End-to-end demonstration through key applications

Presentations from submitted abstracts

09:00- 09:15 i) Joanna Staneva (Oral):

Predicting of Land to Ocean Continuum and What-If Scenario for nature-based solutions

09:15 - 09:30 ii) Joao Souza (oral):

An end-to-end forecast system utilizing ship-based ocean observations

09:30 - 09:45 iii) George Zodiatis (Online,oral):

Examples why operational and down-streaming forecast is useful to the key end-users in the Med-Sea

09:45- 10:00 iv) Marco Marcelli (Oral):

Renovate: Project: ecosystem approach for compensation and mitigation actions in the coastal marine environment

10:00 - 10:15 v) Nkululeko Memela (oral):

Operational Ocean Modelling for Improved Decision Making: a South African Perspective

10:15 - 10:30 vi) Edgard Cabrera (Oral):

Ocean Decade Project: Integrating Coastal Hazard Early Warning Systems for the Tropical Americas and Caribbean (iCHEWS

10:30 - 10:45 vii) Begoña Pérez (Online,oral):

OSPAC: Oceanographic services of ports and cities

10:45 - 11:00 viii) Slim Gana (oral):

Operational Oceanography for fish-farming assistance to day-to-day production

11:00 - 11:05 ix) Milica Predragovic (Poster):

Climate change effects on European marine protected areas

11:05 -11:35

Coffee break

11:35 - 11:50 x) Aldo Drago (Oral):

Connecting Space Data to Society

11:50- 12:00 xi) Augusto Sepp (Oral):

Prototypes for marine pollution management

12:00 - 12:10 xi) Terhile Dominic Uchi (online, oral):

Coastal Resilience and Climate Change

12:10 - 12:20 xii) Magak Adel (online, oral):

COMMUNITY PERCEPTION OF THE EFFECTS OF CLIMATE CHANGE
IN THE LAKE REGION, A CASE STUDY OF HOMA BAY COUNTY

12:20 - 12:35 xiii) Felix Dols (oral):

EDiTO-lab: an EU Horizon project

12:35 – 13:10 Breakout group discussion and activities

13:10 – 13:30 Reporting and discussion in plenary

13:30- 14:30

Lunch

14:30

Session 6: The CoastPredict Global Coastal

(15 min) Global Coast – The CoastPredict Global Coastal Ocean Experiment.
Nadia Pinardi, Uni.Bologna, Italy [Invited speaker]

Discussion

Breakout group discussion and activities

16:30-17:00 Coffee break

17:00-18:00

Session 7: Next Steps

Reporting and discussion in plenary (continued from session 6)
Parallel discussion sessions on Next Steps
Formal close of meeting and remarks from PredictOnTime team

20:00 Conference Dinner (Arryvo)
 Via Adua, 24, 73100 Lecce LE

Saturday, 13 May 2023

10:00-13:00 Networking and Guided Tour in Lecce City Centre