

Draft Workshop Programme

26 October, 13:00 - 30 October, 13:00

Monday 26 October

Time	Session	Author/Chair
13:00-13:30	Arrival, registration, and coffee	
13:30-13:45	Welcome and practical information	
13:45-14:15	Opening keynote or scene-setting presentation	TBD
	Operational prediction systems 1	TBD
14:15-14:35	UK Met Office operational ocean-atmosphere coupled numerical weather prediction system: current status and future outlook	Jonah Robert-Jones, Met Office
14:35-14:55	Development of the NOAA Unified Forecast System and Its Application to Subseasonal and Seasonal Predictions	Phillip Pegion, NOAA
14:55-15:15	Coupled Atmosphere-Ice-Ocean Prediction Systems at Environment Canada	Jean-Philippe Paquin, ECCC
15:15-15:45	Coffee break	
	Operational prediction systems 2	TBD
15:45-16:05	Recent upgrades to the coupled ocean - sea ice prediction system at ECMWF Prediction System	Sarah Keeley, ECMWF
16:05-16:25	Discussion 1: Operational prediction systems	TBD
16:25-17:00	Poster introductions	TBD
17:00-19:00	Icebreaker and poster session with drinks	

Tuesday 27 October

Time	Session	Author/Chair
	Operational prediction systems 3	TBD
09:00-09:20	The role of the oceans for subseasonal prediction: insights from eddy-permitting and eddy-rich coupled forecast systems	Chris Roberts, ECMWF
09:20-09:40	A North-Atlantic-focused ocean prediction system for operations and research: results and ongoing developments at CMRE	Andrea Storto, CMRE
09:40-10:00	Ocean dynamic persistence provides significant predictability for sea surface temperature variation associated with El Nino and El Nina	Tong Lee, NASA/JPL
10:00-10:20	Norwegian Climate Prediction Model Version 2: New Developments and their impact	Francois Counillon, NERSC
10:20-10:40	Discussion 2: Operational Prediction systems	TBD
10:40-11:10	Coffee break	
	Coupled processes and air-sea interactions	TBD
11:10-11:30	Air-Sea Coupling at the Ocean Mesoscale: Some Reflections on the Challenges for Coupled DA	Andrew Moore, UCSC
11:30-11:50	Temporal variability of air-sea fluxes and ocean surface variables under extreme events	Santha Akella, NOAA
11:50-12:10	Prolonged Westerlies in the Equatorial Indian Ocean: Atmospheric Drivers and Upper-Ocean Responses	Prasad Thoppil, NRL
12:10-12:30	Development of Wave-Sea Ice Interactions in the ECMWF Earth System Model	Joshua Kousal, ECMWF
12:30-12:50	Effects of Atmospheric Forcing Frequencies on Ocean Data Assimilation and Coupled Forecasts on NWP Time Scales	Kristian Mogensen, ECMWF
13:00-14:00	Lunch	
14:00-14:20	Discussion: Coupled processes and air sea interactions	TBD
	Advances in machine learning 1	TBD
14:20-14:40	Ocean and Coupled Earth System Emulator Development	Sergey Frolov, NOAA
14:40-15:00	ML-based ocean emulator as a surrogate for ocean forecasting and reanalysis systems	Jungwon Lee, IMT

15:00-15:30	Coffee break	
	Advances in machine learning 2	TBD
15:30-15:50	Combining machine learning with data assimilation to improve the quality of phytoplankton forecasting in a shelf sea environment	Josef Skakala, PML
15:50-16:10	Machine-learning bias correction of passive-microwave sea-ice concentration using SAR improves Arctic analyses and forecasts	Davi Mignac, Met Office
16:10-16:20	Offshore Operations and Maintenance: A GNN-LSTM Wave Forecasting Framework for safe Marine Logistics Operations in the German Bight	Supreeth Hanumappa, LUFI
16:20-16:40	Discussion 1: Advances in machine learning	TBD
16:40	Close of day 2	

Wednesday 28 October

Time	Session	Author/Chair
	Advances in machine learning 3	TBD
09:00-09:20	Stochastic ensemble coupled modeling of pre-industrial control and 1% increasing CO2 scenarios with physically conservative machine learning emulators	James Duncan, ALLENAI
09:20-09:40	Chlorophyll-Conditioned Bias Correction in a Machine-Learned Seasonal Biogeochemical Forecast	Gabriela Martinez Balbontin, Mercator
09:40-09:55	Discussion 2: Advances in machine learning	TBD
	Coupled DA 1	TBD
09:55-10:15	Improvement of SST analysis and near sea-surface atmospheric predictions in the coupled atmosphere-ocean data assimilation system in JMA/MRI	Yosuke Fujii, JMA/MRI
10:15-10:35	Towards strongly coupled ocean-sea ice-atmosphere data assimilation for the Global Forecasting System	Anna Shlyueva, UCAR/NOAA
10:35-11:05	Coffee break	
	Coupled DA 2	TBD
11:05-11:25	Coupled ocean-atmosphere DA in operations at ECMWF	Philip Browne, ECMWF
11:25-11:45	A General Nonlinear and Non-Gaussian Strongly Coupled Ensemble Data Assimilation Capability	Jeffrey Anderson, NSF-NCAR
11:45-12:05	Coupled and nonlinear data assimilation into a regional ocean-biogeochemical model	Lars Nerger, AWI
12:05-12:25	Discussion: Coupled DA	TBD
	Data assimilation systems and methodology 1	TBD
12:25-12:45	Advancing ocean data assimilation towards a JEDI-based framework at the UK Met Office Session 3: Methods, tools, and workflows	Sophia Moreton, Met Office
13:00-14:00	Lunch	
	Data assimilation systems and methodology 2	TBD
14:00-14:20	PDAF - Recent Developments for Open-Source Community Data Assimilation	Lars Nerger, AWI

14:20-14:40	Development of an Ensemble-Based Ocean Data Assimilation System at ECCC	Sergey Skachko, ECCC
14:40-15:00	Implementation of OceanVar2.0 in the Black and Mediterranean Seas analysis and forecasting systems	Ali Aydogdu, CMCC
15:00-15:30	Coffee break	
	Data assimilation systems and methodology 3	TBD
15:30-16:10	Recent Developments in ROMS Data Assimilation and Applications	Hernan G. Arango, Rutgers
16:10-16:30	Multivariate data assimilation across ocean and sea-ice interface	Andrea Cipollone, CMCC
16:30-16:50	Discussion 1: Data assimilation systems and methodology	TBD
From 19:00	Optional self-paid dinner in Reading town centre	

Thursday 29 October

Time	Session	Author/Chair
	Data assimilation systems and methodology 4	TBD
09:00-09:20	Data assimilation in the Met Office's 1.5km model of the North-West European shelf	James While, Met Office
09:20-09:40	Scale-dependent background-error covariance modelling, with application to ECMWF's ocean reanalysis system	Anthony Weaver, CERFACS
09:40-10:00	Modelling wide-swath altimeter observation error correlations with a regularised diffusion operator	Olivier Goux, CERFACS
10:00-10:20	A Multi-Tracer Data Assimilation Framework for Constraining Global Ocean Transport and Mixing	Nabir Mamnun, Imperial
10:20-10:40	Discussion 2: Data assimilation systems and methodology	TBD
10:40-11:10	Coffee break	
	Data assimilation systems and methodology 5	TBD
11:10-11:30	Salinity improvements in the NOAA's US West Coast Ocean Forecast System (WCOFS)	Parisa Heidary, NOAA
11:30-11:50	From surface optics to subsurface ecosystem structure: how reflectance assimilation propagates beyond biogeochemistry	Polina Verezemskaya, University of Liege
11:50-12:10	Assessing the new Met Office high resolution global ocean ensemble hybrid-3DEnVar system	Daniel Lea, Met Office
12:10-12:30	Updated Sea Ice Initialization in JEDI SOCA for the Global Forecast System	Dmitry Dukhovskoy, NOAA
12:30-12:50	Discussion 3: Data assimilation systems and methodology	TBD
13:00-14:00	Lunch	
	Reanalysis activities	TBD
14:00-14:20	Evaluation of a Coupled Regional Reanalysis for the Mediterranean Region Covering the period 1993-2024	Chunxue Yang, CNR-ISMAR
14:20-14:40	An Evaluation of the impact of ocean observations on a weakly coupled data assimilative Earth System Model. Developing NOAAs next reanalysis.	Joao Marcos Azevedo Correia de Souza, CIRES/NOAA
14:40-15:00	A post-process smoother for improving the past reanalyses with sparse observations	Yumeng Chen, Reading University

15:00-15:15	Discussion: Reanalysis activities	TBD
15:15-15:45	Coffee break	
	Impact of observations 1	TBD
15:45-16:05	Impact of assimilating biogeochemical data from multiplatform observing systems on ecosystem indicators	Anna Teruzzi, OGS
16:05-16:25	Assessing the Role of Soil Moisture and Land Memory in Northern European Extremes Using a Coupled Large-Ensemble Prediction System	Francois Counillon, NERSC
16:25-16:40	Discussion 1: Impact of observation	TBD
From 19:00	Optional pub trip in Reading town centre	

Friday 30 October

Time	Session	Author
	Impact of observations 2	TBD
09:00-09:20	Dynamical Influences on Observation Impacts for Ocean Data Assimilation	Andrew Moore, UCSC
09:20-09:40	Assessing ocean observation impacts through the SynObs multi-system observing system experiments.	Jennifer Waters, Met Office
09:40-10:00	Impact of ocean observations on climate signals in ECMWF global ocean reanalysis system	Eric de Boisseson, ECMWF
10:00-10:30	Coffee break	
	Impact of observations 3	TBD
10:30-10:50	Impact of Ocean Observations on the ECMWF Ocean DA System and Medium-range Weather Forecasts	Hao Zuo, ECMWF
10:50-11:10	ECMWF OSES for long time scales: reanalysis and seasonal forecast	Magdalena Alonso Balmaseda, ECMWF
11:10-11:30	Discussion 2: Impact of observation	TBD
11:30-12:00	Workshop summary and closing remarks	TBD
12:00-13:00	Departures or optionally lunch	

List of posters (in alphabetical order by author)

No	First name	Last name	Affiliation	Abstract title
1	Hernan G.	Arango	Rutgers University	Introducing the ROMS-JEDI Interface
2	Dorukhan	Ardag	NASA/GMAO	Coupled Marine DA at GMAO with a JEDI-based DA workflow
3	Ben	Barr	UCAR	A High-Resolution Coupled MPAS-A/MOM6 Model for Air-Sea Interaction Research and Forecasting
4	Francois	Counillon	NERSC	Enhancing Subseasonal-to-Seasonal Prediction of Arctic Summer Sea Ice through hybrid Machine Learning-dynamical modelling
5	Bafana	Gweba	South African Weather Service	Influence of the Agulhas Current on crossing swells along South African coasts
6	Shoji	Hirahara	Meteorological Research Institute / Japan Meteorological Agency	Recent developments in the JMA Sub-Seasonal and Seasonal Ensemble Prediction System
7	Shoji	Hirahara	Meteorological Research Institute / Japan Meteorological Agency	Historical High-Resolution Daily SST Analysis (COBE-SST3) with Consistency to Monthly Land Surface Air Temperature
8	Jiyoun	Kim	Korea Institute of Atmospheric Prediction Systems (KIAPS)	Improving Air–Sea Consistency through Weakly Coupled Atmosphere–Ocean Data Assimilation in the KIM (Korean Integrated Model) Coupled Earth System
9	Jessica	Knezha	CIRES, University of Colorado Boulder	NOAA-NASA Joint Archive (NNJA): Publicly Accessible, Curated Observations
10	Alexander	Kurapov	NOAA National Ocean Service	Can 4DVAR effectively correct the mean pycnocline depth in an ocean model?
11	Tom	Louden-Cooke	Met Office	Hybrid ensemble/variational data assimilation in the North-West European shelf at 7km resolution.
12	Lars	Nerger	Alfred Wegener Institute	Assessing the global ocean carbon sink with data assimilation
13	Charles	Pelletier	European Centre for Medium-Range Weather Forecasts	REPLAY: a practical resolution-flexible surrogate method for ocean initial condition generation

14	Andrew	Peterson	Environment and Climate Change Canada	Impact of Ocean Sub-Surface Observations on Coupled Atmosphere-Ocean 15-day Predictions
15	Nils	Risse	ECMWF	Exploring the coupled assimilation of sea surface salinity derived from SMAP radiances in ECMWF-IFS
16	David	Russell	University of Maryland / NASA	Toward Assimilating SWOT Altimetry Data into the Current and Next-Generation GMAO Subseasonal-to-Seasonal Forecast System
17	Josef	Skakala	Plymouth Marine Laboratory and National Centre for Earth Observation	Impact of surface remote sensing reflectance assimilation and its associated uncertainties on the forecast for the visibility and water quality indicators in the turbid coastal waters
18	Xiaobo	Wu	NMEFC	Formation process of Kuroshio large meander in 2017 analyzed by a hybrid data assimilation system