

The 47th Liège Colloquium on Ocean Dynamics

"Marine Environmental Monitoring, Modelling and Prediction"

University of Liège, Place du 20-Août, 7 - 4000 Liège - Belgium

Program

Monday, May 4th, 2015

08:30 - 9:30 Registration				
Session 1 – Monitoring - in situ observations		Chair: K. Fennel		
09:30 - 10:00	Keynote: Joaquin Tintoré et al.	Paradigm change in ocean studies: multi-platform observing and forecasting integrated approach in response to science and society needs	SOCIB and IMEDEA (CSIC-UIB)	Spain
10:00 - 10:20	Troupin C., J.P. Beltran, B. Frontera, S. Gómara, S. Lora, D. March, K. Sebastian, J. Tintoré	Data management and applications at SOCIB data centre	SOCIB and IMEDEA (CSIC-UIB)	Spain
10:20 - 10:40	Brix H., Baschek B., Breitbach G., Eschenbach C., Horstmann J., Petersen W., Riethmüller R., Schroeder F., Stanev E., Schulz-Stellenfleh J.	The Coastal Observing System for Northern and Arctic Seas (COSYNA): Challenges and Solutions for an Integrated Measurement and Modelling Approach	Institute for Coastal Research Helmholtz-Zentrum Geesthacht	Germany
10:40 - 11:00 Coffee break				
11:00 - 11:20	Sentchev A, Yaremchuk M	Monitoring tidal dynamics by a high resolution current mapping system	CNRS	France
11:20 - 11:40	Gomez R., Helzel T., Thomas N., Merz C., Liu Y., Weisberg R.	Performance Comparison of Two Quality Control Methodologies for HF Radar Surface Current Data in the West Florida Shelf.	Helzel	Germany
11:40 - 12:00	van Leeuwen S.M., P. Tett, D.K. Mills, J. van der Molen	Selecting effective monitoring locations: guidance from multi-decadal modelling	University of Reading, Department of Meteorology	UK
12:00 - 12:20	Gregor L., Kok S., Lévy M., Swart S., Monteiro P.M.S.	Sampling aliasing in the Southern Ocean and its impact on uncertainties in the annual mean flux of CO ₂	Department of Oceanography - University of Cape Town	South Africa
12:20 - 13:30 Break				
Session 1 – Monitoring - in situ observations		Chair: J. Tintoré		
13:30 - 14:00	Keynote: Katja Fennel	Perspectives on combining observations from autonomous platforms with biogeochemical models	Department of Oceanography Dalhousie University	Canada
14:00 - 14:20	Vinci M., Giorgetti A., Lipizer M., Schaap D., Barth A.	Contribution of EMODnet Chemistry to the management and visualization of marine chemical data	OGS	Italy
14:20 - 14:40	De Cauwer K., A.V. Borges, K. Deneudt, X. Desmit, B. De Witte, J. Gauquie, A. Goffin, R. Lagring, A. Nohe, K. Sabbe, Y. Stojanov, F. Strobbe, L. Tyberghein, D. Van der Zande	4 decades of Belgian marine monitoring: uplifting historical data to today's needs – 4DEMON	MUMM	Belgium
14:40 - 15:00	García-Ladona E., M. García-Sotillo, A. Orfila, J. Isern-Fontanet, P. Rodríguez-Rubio, E. Padorno, J. Jiménez-Madrid, D. Conti, E. Capó, A. Lana	The MEDGIB experiment, a valuable data set to test the MYOCEAN system in the Strait of Gibraltar and Alboran Sea	ICM-CSIC	Spain
15:00 - 15:20 Coffee break				
15:20 - 15:40	Llasses J., G. Jordà, D. Gomis	Skills of different hydrographic networks to capture changes in the Mediterranean Sea at climate scales	IMEDEA	Spain
15:40 - 16:00	Brandini C., Taddei S., Fattorini M., Doronzo B., Lapucci C., Ortolani A.	Optimization of an ocean observing system at regional/coastal scales, some case studies from the SICOMAR project.	CNR Ibimet & Consorzio LAMMA	Italy
16:00 - 16:20	Torsvik T., Kalda J.	Analysis of spatial and temporal scales for surface currents in the Gulf of Finland based on surface drifter motion	Tallinn University of Technology	Estonia
Session 2- Monitoring - remote sensing				
16:20 - 16:40	Trindade A., M. Portabella, W. Lin, A. Stoffelen, A. Verhoef	Towards the characterization and removal/mitigation of scatterometer wind sampling errors	ICM-CSIC	Spain
17:00 - 20:00 Ice Breaker party				

Tuesday, May 5th, 2015

Session 2- Monitoring - remote sensing		Chair: E. Stanev		
09:00 - 9:20	Bulycheva E., Kostianoy A.	Spatial and temporal variability of oil pollution by satellite radar data in Southeastern Baltic Sea in 2004-2014	Atlantic Branch of the P.P. Shirshov Institute of Oceanology of Russian Academy of Sciences	Russia
09:20 - 09:40	Zhang H.-M., Huang B., Lawrimore J.	Improving Global Observations for Climate Change Monitoring using Global Surface Temperature	National Centers for Environmental Information	USA
09:40 - 10:00	Vanhellemont Q., Ruddick K.	Processing very high resolution satellite data for coastal applications.	MUMM	Belgium
10:00 - 10:20	Ciancia E., Loureiro C.M., Mendonça A., Di Polito C., Lacava T., Pergola N., Satriano V., Tramutoli V., Martins A.	Assessing Ocean Colour products accuracy with in situ measurements: the case study of CONDOR seamount in the northeast Atlantic Ocean	University of Basilicata	Italy
10:20 - 10:40	Coffee break			
Session 3 - Modelling				
10:40 - 11:00	Keynote: John Wilkin, Julia Levin, Javier Zavala-Garay	Data Assimilative Modeling of the U.S. Mid-Atlantic Bight Shelf	Rutgers University	USA
11:10 - 11:30	He R.	A Coupled Ocean Circulation, Wave, Atmosphere and Marine Ecosystem Prediction System for the Northwest Atlantic Ocean	North Carolina State University	USA
11:30 - 11:50	Bidlot J.-R. , Janssen P.A.E.M, Mogensen K., Breivik O.	Air-sea interaction and ocean waves.	Mercator Ocean	France
11:50 - 12:10	Wolff J.-O., Grashorn S., Lettmann K. A., Badewien T. H., Stanev E.	Wave energies and wave-induced longshore currents in an unstructured-grid model – circulation in front of barrier islands	ICBM	Germany
12:10 - 13:30	Break			
Session 2- Monitoring - remote sensing		Chair: J. Wilkin		
13:30 - 13:50	Gürses Ö., Aydoğdu A., Pinardi N., Özsoy E.	Modeling the Turkish Straits System: Circulation and Mixing based on Inter-Basin Coupling	IMS-METU	Turkey
13:50 - 14:10	Declerck A., Ourmières Y., Molcard A.	High-Resolution modeling along the North-Western Mediterranean coasts using NEMO: assessment and impact on the larger scale circulation.	Université du Sud Toulon Var	France
14:10 - 14:30	Macias D., Garcia-Gorriç E., Stips A.	Quantification and attribution of marine productivity changes in the Mediterranean Sea under climate change scenarios	European Commission, Joint Research Center	Italy
14:30 - 14:50	Janeiro J., Relvas P., Neves A., Martins F.	Mesoscale patterns and their role on oil spill trajectories in the Southwest Iberian coast	CIMA - Instituto Superior de Engenharia - Universidade do Algarve	Portugal
14:50 - 15:10	Coffee break			
15:10 - 15:30	Pham Van C., Deleersnijder E., Soares-Frazao S., Hoitink T., Sassi M.	Unstructured-mesh simulations of flow and sediment fluxes in the Mahakam land-sea continuum, Indonesia	Université catholique de Louvain	Belgium
15:30 - 15:50	Schulz-Stellenfleth J., Stanev E.	Analysis of the up- and downscaling problem in the North Sea using a high resolution 2D barotropic model	Institute for Coastal Research Helmholtz-Zentrum Geesthacht	Germany
15:50 - 16:10	Dabrowski T., Lyons K., Berry A., Nolan G., Cure M.	An operational hydrodynamic modelling system for Irish waters: description, validation and needs for further development	Marine Institute	Ireland

Wednesday, May 6th, 2015

Session 3 - Modelling		Chair: N. Pinardi		
09:00 - 09:30	Keynote: Le Traon P-Y	Operational Oceanography in Europe: status, perspectives and challenges	Mercator Ocean	France
09:30 - 09:50	Hetland R. D., Zhang W., DiMarco S. F., Fennel K.	Seasonal hypoxia in the context of continental shelf and bottom boundary layer dynamics	Texas A&M University	USA
09:50 - 10:10	Mongin M., Jones E., Baird M.	Simulated Chla versus simulated MODIS OC3 in a biogeochemical model of the Great Barrier Reef (eReefs): implications for model calibration and data assimilation.	CSIRO Hobart	Australia
10:10 - 10:30	Lu Y., L. Zhai, J. Lei, S. Higginson, F. Dupont, F. Roy, G. Smith, F. Davidson, J. Chanut	Dependence of meso-scale eddy variability on lateral mixing parameterization in high-resolution ocean model simulations	Ocean and Ecosystem Sciences Division - Fisheries and Oceans Canada Bedford Institute of Oceanography	Canada
10:30 - 10:50	Coffee			
10:50 - 11:10	Tinker J., R. Barciela, J. Krijnen, S. Dye	Investigating predictability in the North West European Shelf Seas	Met Office Hadley Centre	UK
11:10 - 11:30	Westerlund A., L. Tuomi	Analysis of Vertical Mixing in the Northern Baltic Sea based on 3D Modelling and Data from Shallow-Water Argo Floats	Finnish Meteorological Institute	Finland
11:30 - 11:50	Federico I., N. Pinardi, P. Oddo, G. Coppini, R. Lecci, T. Vukicevic	Operational coastal forecast system in Southern Adriatic Northern Ionian seas based on unstructured-grid model	CMCC - Centro Euro-Mediterraneo sui Cambiamenti Climatici	Italy
11:50 - 12:10	Lolla T., Subramani D., Haley P., Lermusiaux P.	Optimal Path Planning for Swarms of Vehicles	Massachusetts Institute of Technology - Department of Mechanical Engineering	USA
12:10 - 13:30	Break			
13:30 - 13:50	<h1>Poster Session with Coffee Break</h1>			
13:50 - 14:10				
14:10 - 14:30				
14:30 - 14:50				
14:50 - 15:10				
15:10 - 15:40				
15:40 - 16:00	Kurapov A. L., S. M. Durski, J. S. Allen, E. Bayler, E. Myers	The US West Coast Ocean Forecast System	College of Earth, Ocean, and Atmosphere Sciences Oregon State University	USA
16:00 - 16:20	Le Bars Y., V. Vallaey, E. Deleersnijder, E. Hanert	Modelling The Congo River Estuary: From a 2D to a 3D Model	Université catholique de Louvain, SST/IMMC/MEMA	Belgium
16:20 - 16:40	D'Agostini A., L. P. Assad, H. T. Decco, E. N. Passos, R. Rangel, C. P. Souza, W. Cossich, F. R. Hochleitner, L. G. Ribeiro, L. Landau	Marine and Atmospheric Forecast System for Nautical Sports in Guanabara Bay (Brazil)	Laboratório de Métodos Computacionais em Engenharia (LAMCE), Universidade Federal do Rio de Janeiro (UFRJ)	Brazil
19:00 - 22:30	Colloquium Dinner: "Crowne Plaza Hotel" - 19:00: Reception at Crowne Plaza Hotel - 20:00: Dinner at Crowne Plaza Hotel			

Thursday, May 7th, 2015

Session 4 - Data assimilation - schemes and systems		Chair: Kurapov A. L.		
09:00 - 09:30	Keynote: Lermusiaux P., Lolla T.	Bayesian Nonlinear Smoothing and Mutual Information for Adaptive Sampling	Massachusetts Institute of Technology - Department of Mechanical Engineering	USA
09:30 - 09:50	Yaremchuk M., A. Koch, P. Martin, G. Panteleev	Development of the adjoint-free 4dVar data assimilation technique for regional models	Naval Research Laboratory	USA
09:50 - 10:10	Chu P.C., Tokmakian R., Fan C.	Ocean Data Assimilation without Background Error Covariance Matrix	Naval Postgraduate School	USA
10:10 - 10:30	Nerger L., Kirchgessner P.	Building Ensemble-Based Data Assimilation Systems for High-Dimensional Models	Alfred Wegener Institute	Germany
10:30 - 10:50 Coffee				
10:50 - 11:20	Keynote: van Leeuwen P.J.	Non-Gaussian Data Assimilation Methods	University of Reading, Department of Meteorology	UK
11:20 - 11:40	Kirchgessner P., Tödter J., Nerger L.	A comparison of linear and non-linear data assimilation methods using the NEMO ocean model	Alfred Wegener Institute	Germany
11:40 - 12:00	Vetra-Carvalho S., Jan van Leeuwen P., Browne P.A.	Using EMPIRE to assess the impact of a fully non-linear data assimilation method with NEMO	University of Reading, Department of Meteorology	UK
12:00 - 12:20	Altaf M. U., Van Velzen N., Verlaan M., Heemink A. W.	OpenDA-NEMO framework for Ocean Data Assimilation	Delft University of Technology	The Netherlands
12:20 - 13:30 Break				
13:30 - 13:50	Barth A., Yan Y., Canter M., Alvera-Azcárate A. and Beckers J.-M.	Local ensemble assimilation scheme with global constraints and conservation	GHER - University of Liège	Belgium
Session 4 - Data assimilation - schemes and systems		Chair: S. Vetra-Carvalho		
13:50 - 14:10	Ford D., Barciela R.	Marine biogeochemical reanalysis for monitoring global air-sea CO ₂ fluxes	Met Office	UK
14:10 - 14:30	Jones E., M. Mongin, M. Baird	Assimilation of remotely-sensed surface reflectance into a coupled hydrodynamic - biogeochemical model of the Great Barrier Reef, Australia.	CSIRO: Oceans and Atmosphere	Australia
14:30 - 14:50	Ciavatta S., S. Kay, S. Saux Picart, M. Butenschon, J.I. Allen	Decadal reanalysis of key biogeochemical fluxes and ecosystem indicators in the North-West European Shelf	Plymouth Marine Laboratory	UK
14:50 - 15:10 Coffee				
15:10 - 15:30	Mattern J-P, Song H., Edwards C.A., Moore A.M., Fiechter J.	Comparing models of different complexities in 4DVAR biogeochemical data assimilation	Ocean Sciences Department University of California Santa Cruz	USA
15:30 - 15:50	Garnier F., P. Brasseur, J.M. Brankart, E. Cosme, J. Verron	Data assimilation in a ¼ ° coupled physical-biogeochemical model of the North Atlantic using error modelling based on stochastic parametrizations of biogeochemical uncertainties	LGGE équipe MEOM	France
15:50 - 16:10	Conchon A., Senina I., Titaut O., Lehodey P.	Acoustic data assimilation for estimating energy transfert parameters of a micronekton model	CLS, Marine Ecosystems Department	France
Session 5 - Data assimilation - state estimation of realistic ocean systems				
16:10 - 16:30	Vandenbulcke L., Barth A., Beckers J.-M.	Assimilation of HF radar in the Ligurian Sea: Spatial and Temporal scale considerations.	GHER - University of Liège	Belgium

Friday, May 8th, 2015

Session 5 - Data assimilation - state estimation of realistic ocean systems		Chair: L. Nerger		
09:00 - 09:20	Brüning T., Janssen F.	Turbulence modelling in the operational circulation model HBM - Status and Outlook	Bundesamt für Seeschifffahrt und Hydrographie (BSH)	Germany
09:20 - 09:40	While J., C. Mao, M. Martin, J. Roberts-Jones, A. McLaren, P. Sykes	The Met Office's new analysis system for diurnal SST	Met Office	UK
09:40 - 10:00	Sumihar J., Zijl F., Verlaan M.	Steady state Kalman filter for operational storm surge forecasting system based on the Dutch Continental Shelf Model v6	Deltares	The Netherlands
10:00 - 10:20	Forget G.	ECCO version 4 : an integrated framework for non-linear inverse modeling and global ocean state estimation.	Massachusetts Institute of Technology	USA
10:20 - 10:40	Coffee			
Session 6 - Data assimilation - impact of observations				
10:40 - 11:00	Aydoğdu A., Pinarci N., Pistoia J., Martinelli M., Belardinelli A., Sparnocchia S.	Assimilation Experiments for the Fishery Observing System in the Adriatic Sea	Centro Euro-Mediterraneo per i Cambiamenti Climatici	Italy
11:00 - 11:20	Grayek S., Schulz-Stellenfleth J., Stanev E. V.	Observation System Evaluation and Simulation Experiments (OSE/OSSE) for the German Bight Observation Network with Emphasis on the Impact of Multi Platform Observations	Helmholtz-Zentrum Geesthacht GmbH	Germany
11:20 - 11:40	Pein J., Grayek S., Schulz-Stellenfleth J., Stanev E.V.	On the feasibility of data assimilation in estuarine systems. Ems Estuary.	Universitaet Oldenburg	Germany
11:40 - 12:00	Verrier S., Remy E., Le Traon P.-Y.	Impact of currents and futures altimetric missions on ocean analysis and forecasting	Mercator Ocean	France
12:00 - 13:30	Break			
Session 5 - Data assimilation - state estimation of realistic ocean systems		Chair: A. Barth		
13:30 - 13:50	Martin C., Barth A.	Bias correction with data assimilation.	GHER - University of Liège	Belgium
Session 7 – Operational oceanography and applications				
13:50 - 14:10	Lellouche J.-M., Le Galloudec O., Greiner E., Bourdallé-Badie R., Reffray G., Garric G., Régnier C., Drévilion M., Testut C.-E., Benkiran M., Drillet Y.	First quality assessment of the next Copernicus Marine Service high resolution global ocean monitoring and forecasting products	Mercator Ocean	France
14:10 - 14:30	Zhan P., Y. Viswanadhapalli, G. Gopalakrishnan, H. Toy, B. Lui, B. El Fquih, B. Johns, I. Hoteit	The Red Sea Forecasting System	KAUST	Saudi Arabia
14:30 - 14:50	Sepp-Neves A.A., Pinarci N., Martins F., Samaras A., Giacomelli L., Janeiro J.	IT – OSRA: applying super-ensemble simulations to estimate the oil spill hazard associated to operational and accidental oil spills	CIRSA - University of Bologna SINCEM Laboratory	Italy
14:50 – 15:10	Coffee			
15:10 - 15:30	Janeiro J., Neves A., Martins F., Relvas P.	Integrating technologies for Oil Spill Monitoring in the South Iberian Coast	CIMA - Instituto Superior de Engenharia - Universidade do Algarve	Portugal
15:30 - 15:50	Ceccaroni L., Blaas M., Wernand M.R., Velickovski F., Blauw A., Subirats L.	A decision support system for water quality in the Wadden Sea	Barcelona Digital Technology Centre	Spain
15:50 - 16:10	Dabrowski T., Lyons K., Nolan G., Westbrook G., Berry A.	Ocean modelling for forensic investigations and search and rescue operations	Marine Institute	Ireland

Posters

Session 1 and 2 – Monitoring - in situ observations

1	Bulycheva E., Kostianoy A.	Numerical modelling of risks of oil pollution in the Southeastern Baltic Sea and in the Gulf of Finland	Atlantic Branch of the P.P. Shirshov Institute of Oceanology of Russian Academy of Sciences	Russia
2	Gauquie J., K. <u>De Cauwer</u> , R. Lagring, B. De Witte	Challenges to combine 40 years of marine contamination data within 4DEMON	MUMM	Belgium
3	Chiba S., Yasunaka S., Toratani M.	Toward the effective global ecological and biogeochemical observation planning - recommendation from the study on new ocean provinces	RCGC/JAMSTEC	Japan
4	Troupin C., J.P. Beltran, B. Frontera, S. Gómara, S. Lora, D. March, K. Sebastian, J. Tintoré	Data management and applications at SOCIB data centre	SOCIB and IMEDEA (CSIC-UIB)	Spain
5	Mihailov M.-E., Buga L., Lazar L.	Natural variability of the cold intermediate layer on the Romanian Black Sea shelf	National Institute for Environmental Protection Research and Development, subunit National Institute for Marine Research and Development “Grigore Antipa”	Romania
6	Buga L., Lazar L., Spânu A.-D., <u>Mihailov M.-E.</u>	Analysis on the main climate variations on extreme winter condition on the Romanian Black Sea waters	National Institute for Environmental Protection Research and Development, subunit National Institute for Marine Research and Development “Grigore Antipa”	Romania
7	Stoicescu S.-T., Buhhalko N., Lips I., Lips U.	Assessment of eutrophication status of the Gulf of Finland using autonomous devices	Tallinn University of Technology Marine Systems Institute	Estonia
8	Lacava T., G. Bernini, E. Ciancia, I. Coviello, C. Di Polito, M. Faruolo, C. Filizzola, A. Madonia, M. Marcelli, S. Pascucci, R. Paciello, A. Palombo, N. Pergola, V. Piermattei, S. Pignatti, F. Santini, V. Satriano, V. Tramutoli, F. Vallianatos	Integration of satellite data and in-situ measurements for coastal water quality monitoring: results from the IOSMOS (Ionian Sea water quality Monitoring by Satellite data) project	CNR - Institute of Methodologies for Environmental Analysis	Italy
9	Torsvik T., Kalda J.	Analysis of spatial and temporal scales for surface currents in the Gulf of Finland based on surface drifter motion	Institute of Cybernetics, Tallinn University of Technology	Estonia
10	Pringle N., Vanhellefont Q., Ruddick K.	Multi-sensor monitoring of suspended particulate matter in Belgian Waters	Operational Directorate for Nature - Royal Belgian Institute of Natural Sciences	Belgium
11	Lana A., M. Juza, B. Mourre, V. Fernández, A. Orfila, J. Tintoré	HF Radar ocean surface current observations in the Ibiza Channel: validation, seasonal analysis and model-data comparisons	IMEDEA	Illes Balears, SPAIN
12	Terseleer N., K. Degrendele, M. Roche, D. Van den Eynde, V.R.M. Van Lancker	Combining data and deterministic modelling to monitor and predict seabed evolution in areas of marine aggregate extraction	SUMO - OD Nature - RBINS	Belgium
13	Pascual A., Lana A., Troupin C., Ruiz S., Faugère Y., Escudier R., Tintoré J.	Assessing SARAL/AltiKa data in the coastal zone with HF radar observations	SOCIB and IMEDEA (CSIC-UIB)	Spain
14	Ruiz S., Pascual A., Allen J., Olita A., Tovar A., Mahadevan A., Claret, Charles Troupin, Pierre Poulain, Temel Oguz, Joaquín Tintoré	ALBOREX: an intensive multi-platform and multidisciplinary experiment in the Alboran Sea	SOCIB and IMEDEA (CSIC-UIB)	Spain
15	Heslop E. E., <u>M. Juza</u> , B. Mourre , J. Tintoré , J. Allen , J-L López-Jurado, M. Torner	Towards a better understanding of ocean variability, combining glider monitoring at a “choke” point and numerical simulation	SOCIB	Spain

Session 3 - Modelling

16	Moreau S., Vancoppenolle M., Delille B., Tison J.-L., Zhou J., Kotovitch M., Thomas D., Geilfus N.-X., Goosse H.	The role of sea ice in the carbon cycle of Polar Seas: 1D to 3D modeling	Université catholique de Louvain, Earth and Life Institute	Belgium
17	Ben Ismail S., Sammari C., Béranger K.	Summer surface circulation features along the Tunisian Coast (Central Mediterranean Sea)	INSTM	Tunisia
18	Barbut L., Vanden Bavière A., Delerue-Ricard S., Robbens J., Volckaert F.A.M., Lacroix G.	Use of survey assessment to calibrate a larval transport model of sole	MUMM	Belgium
19	Pan J., Gu Y.	Temporal and Spatial Variability of Turbulent Mixing in the Pearl River Estuary and Plume Area as Revealed by a Numerical Modeling	Fok Ying Tung Remote Sensing Science Building - The Chinese University of Hong Kong	Hong Kong
20	Yáñez E., F. Plaza, C. Silva, F. Sánchez, M.A. Barbieri, A.Aranis	Climate change and pelagic resources in south-central Chile: Landings forecast for the A2 scenario	Escuela de Ciencias del Mar Pontificia Universidad Católica de Valparaíso	Chile
21	Tinker J., J. Lowe, J. Holt	A preliminary study into climate signal emergence in the North West European Shelf Seas	Met Office Hadley Centre	UK
22	Mourre B., A. Funk, R. Onken, A. Russo, S. Falchetti, I. Borrione, J. Chiggiato, P. Oddo	Model representation of observed subsurface eddies off Western Sardinia	SOCIB	Spain
23	Mourre B., M. Juza, A. Alvarez Ellacuría, R. Escudier, J. Tintoré	Western Mediterranean operational ocean forecasts at SOCIB	SOCIB	Spain
24	Le Bars Y., Vallaëys V., Deleersnijder E., Hanert E.	Unstructured-mesh modelling of the hydrodynamics of the Congo River estuary and adjacent coastal zone	Université catholique de Louvain, SST/IMMC/MEMA	Belgium
25	Seungwon Suh, Hwayoung Lee	Effect of hydraulic gradient on overbanks wetting element in storm surge overtopping simulation	Dept. of Ocean Science and Engineering Kunsan National University	Korea
26	Le Gland G., Mémerly L., Aumont O., Gorgues T.	Global oceanic simulations of trace elements	LEMAR, IUEM	France
27	Staneva J., Wahle K., Behrens A., Stanev E.	Coupling of wave and circulation models in coastal-ocean predicting systems: A case study for the German Bight	Helmholtz-Zentrum Geesthacht GmbH	Germany
28	Dabrowski T., Berry A., Lyons K., Nolan G., Westbrook G.	Operational Storm Surge Modelling at Irish Marine Institute	Marine Institute	Ireland

Session 4, 5 and 6 - Data assimilation

29	Testut C.-E., Garric G., Chanut J., Bricaud C., Smith G.	Recent advances in the Mercator-Ocean reanalysis system: Application to an Arctic configuration	Mercator Ocean	France
30	Nerger L., Altaf U., Barth A., Bertino L., Brankart J.-M., Brasseur P., Candille G., De Mey P., Fowler A., Kirchgessner P., van Leeuwen P.J., van Velzen N., Verlaan M., Vetra-Carvalho S., Beckers J.-M.	The SANGOMA Tools for Data Assimilation	Alfred Wegener Institute	Germany
31	Marmain J., A. Molcard, P. Forget, A. Barth, Y. Ourmières	Assimilation of HF radar surface currents to optimize forcing in the northwestern Mediterranean Sea	Massachusetts Institute of Technology	USA
32	Sursham D., Ciavatta S., Van Leeuwen P.J., Browne, P.	Application of the Equivalent Weights Particle Filter to a Marine Biogeochemical Model	Plymouth Marine Laboratory	UK
33	Pasmans I., Kurapov A.	Hybrid ensemble-4DVAR data assimilation in a coastal ocean model	College of Earth, Ocean, and Atmospheric Sciences Oregon State University	USA
34	Panteleev G., Yaremchuk M., Stroh J., Posey P., Hebert D.	Optimization of the high-frequency radar sites in the Bering Strait region	Naval Research Laboratory	USA
35	Vandebulcke L., Barth A., Capet A., Grégoire M.	The seamod.ro operational stochastic Black Sea forecasting system	GHER - University of Liège	Belgium
36	Ponsar S., P Luyten	Generation of an ensemble for the assimilation of wave glider data in the Belgian coastal zone.	MUMM	Belgium
37	Benkiran M., G. Reffray	Impact of the assimilation of high-frequency data in a regional model	Mercator Ocean	France

38	Le Galloudec O., J.-M. Lellouche, E. Greiner, R. Bourdallé-Badie, G. Reffray, G. Garric, C. Régner, M. Drévillon, C.-E. Testut, M. Benkiran, Y. Drillet	Evaluation of some future updates of the global Mercator Ocean analysis and forecasting system.	Mercator Ocean	France
39	Barth A., Canter M., Van Schaeystroock B., Vannitsem S., Massonnet F., Zunz V., Mathiot P., Alvera-Azcárate A., Beckers J.-M.	Assimilation of sea surface temperature, sea ice concentration and sea ice drift in a model of the Southern Ocean	GHER - University of Liège	Belgium
40	Tödter J., Kirchgessner P., Nerger L., Ahrens B.	Ocean data assimilation with a simple nonlinear ensemble filter	Alfred Wegener Institute	Germany
41	Vervatis V., Testut C.E., De Mey P., Ayoub N., Chanut J., Drillet Y	Towards an ensemble prediction method for Mercator Ocean forecasting system: application to a regional configuration	Mercator Ocean	France
42	Losa S.N., Nerger L., Lorkowski I., Lebreton C., Bruening T., Janssen F., Brockmann C.	Developing a forecasting system of the North and Baltic Seas biogeochemistry	Alfred Wegener Institute	Germany
43	Ayoub N.K., P. De Mey, P. Marsaleix, J. Lamouroux, C. de Nicola	Constraining a coastal ocean model by SST and SSH observations using an Ensemble Kalman Filter	Laboratoire d'Etudes en Géophysique et Oceanographie Spatiales (LEGOS)	France
44	Staneva J., Grayek S., Schulz-Stellenfleth J., Stanev E.	North Sea-Baltic Sea Ocean State Predictions by assimilating of temperature and salinity data	Helmholtz-Zentrum Geesthacht GmbH	Germany
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45	Meyer, E.M.I., Weisse, R.	Transformation of model data to information - experiences with coastDat-data	Helmholtz-Zentrum Geesthacht GmbH	Germany
46	Lora S., K. Sebastian, C. Troupin, J.P. Beltran, B. Frontera, S. Gómar, J. Tintoré	Oceanographic data at your fingertips: the SOCIB App for smartphones	SOCIB and IMEDEA (CSIC-UIB)	Spain
47	Petelin B., Malačič V., Kononenko I., and Kukar M.	Applications of multi-level directed graphs in oceanography: the Mediterranean Sea case study	National Institute of Biology	Slovenia
48	Proctor R., Oke P., Rosebrock U., Davey B., Fu X., Blain P., Pasquer B., Carroll G., Pigot S., Hidas M.	Australia's marine virtual laboratory	Integrated Marine Observing System - University of Tasmania	Australia
49	Hidas M.G. , R. Proctor, S. Mancini, P. Blain, G. Galibert	Infrastructure and Workflows for Australia's Integrated Marine Observing System	Integrated Marine Observing System - University of Tasmania	Australia
50	Viiikmäe B., Soomere T., Torsvik T.	The impact of wind on optimising fairways in the Gulf of Finland	Institute of Cybernetics at Tallinn University of Technology	Estonia
51	Drévillon M., Levier B., Régner C., Mahdon R., Baetens K., Maksymczuk J., Hernandez F., The MyOcean Cal/Val Working Group, and MYOCEAN scientific Teams	Scientific quality of MyOcean analyses and forecasts: from operational quality control to user oriented metrics	Mercator Ocean	France
52	Amar Y, Amar S.B., Belmokhtar Z., Benyounes D.	The structure study and periphytic communities development on hard substrates submitted urban pollution: case of Sidi M'hamed Benali lake (western Algeria)	Département des sciences de l'environnement - Faculté des sciences de la nature et de la vie - Université Djillali Liabes	Algeria