



Università
Ca' Foscari
Venezia

Workshop THEMES 2017- Physics and biogeochemistry of marine environments: multiscale analysis of past and present variability

15th-17th November 2017, Venice, Italy

Program

(Full details of the contributions at the end of the program)

Wednesday 15th November	
Location: Aula Mario Baratto, Ca' Foscari Palace, Dorsoduro 3246 - 30123 (VE)	
8:30-8:45	Registration and welcome drink/eat
8:45-9:00	Angelo Rubino, Antonio Marcomini. Opening and welcome speeches
Session 1: Chaired by Paola de Ruggiero	
<i>Deep and abyssal oceanography and their consequences on the near-surface layers</i>	
9:00-9:15	Manuel Bensi. Shelf and slope dynamics offshore the west Svalbard continental margin
9:15-9:30	Nadia Lo Bue. The role of the bottom turbulence generated by inertial waves in the characterisation of the deep dynamics of the Western Ionian Sea.
9:30-9:45	Andrea Bergamasco. Exploring past and modern bottom current pathways along the continental margin: the Ross Sea survey 2017
9:45-10:00	Vedrana Kovačević. A multiplatform approach to investigate new dense water pathways and their fate in the middle and southern Adriatic: the winter 2015-2016 case
10:00-10:30	<i>Coffee break for all participants</i>
10:30-11:00	Giuseppe Civitarese. Everything you Always Wanted to Know About BiOS* (*But Were Afraid to Ask) (invited)
11:00-11:15	Miroslav Gacic. The Adriatic-Ionian Bimodal Oscillating System-Coriolis Rotating Platform Experiment.
11:15-11:30	Marco Reale. Modeling approaches to BiOS dynamics.
Session 2: Chaired by Giannetta Fusco	
<i>The Mediterranean "miniature ocean"</i>	
11:30-11:45	Christian Ferrarin. Tidal dynamics in the inter-connected Mediterranean, Marmara, Black and Azov seas.
11:45-12:00	Natalija Dunic. Multi-model analysis of the Adriatic-Ionian thermohaline circulation using multi-decadal regional ocean simulations.
12:00-12:15	Eleonora Cusinato. Mediterranean thermohaline response to large-scale atmospheric forcing in a MedMIT12 simulation.
12:15-12:30	Antonio Ricchi. Analysis of a flash-flood event over the North-East Italy by means of a very-high resolution atmosphere-ocean-wave coupled model.
12:30-14:00	<i>Lunch*</i>
Session 3: Chaired by Emilie Dassié	
<i>From small to mesoscale processes</i>	

14:00-14:30	Sandro Carniel. Addressing Atmosphere-Ocean-Wave interactions with a fully coupled numerical model: lessons learnt in transition zones (invited)
14:30-14:45	Federico Falcini. The role of Internal Solitary Waves on sedimentary and mixing processes: from dune-forming to breaking mechanisms.
14:45-15:00	Gian Marco Scarpa. Morphological variations induced by ship wakes in a coastal lagoon
15:00-15:15	Kirill Bulgakov. Numerical Simulation of the Transformation of a Nonlinear Wave at a Finite Depth.
15:15-15:30	Gordana Beg Paklar. Dispersion of the passive tracer in the east Adriatic coastal waters.
15:30-16:00	<i>Coffee break for all participants</i>
16:00-16:15	Pierpaolo Falco. Experimental highlights of the eddy saturation regime in the Southern Pacific Ocean
16:15-16:30	Giannetta Fusco. Surface heat fluxes, polynya extent and thermohaline variability in Terra Nova Bay (Ross Sea - Antarctica).
16:30-16:45	Daniele Zannoni. Sea breeze regime effects on the isotopic composition of water vapor in coastal areas.
16:45-17:00	Enrico Zambianchi. Transport of marine litter in the Mediterranean.
Session 4: Chaired by Elisabeth Kubin From large-scale to global processes	
17:00-17:15	Stefano Pierini. Analysis of the non-autonomous behavior of a low-order ocean model and of its pullback attractors.
17:15-17:30	Marco Bianucci. Timing El Niño: analytical results.
17:30-17:45	Emilie Dassié. Spatio-temporal variability of the South Pacific Convergence Zone fresh pool eastern front from coral-derived surface salinity data.
17:45-18:00	Irena Ciglencečki. Long-term investigations of organic matter content in the Adriatic Sea as an indication of global changes.
18:00-18:30	<i>DISCUSSION</i>

Thursday 16th November	
<i>Location: Aula Mario Baratto, Ca'Foscari Palace, Dorsoduro 3246 - 30123 (VE)</i>	
Session 5: Chaired by Suzana Blesic <i>Marine ecology</i>	
9:00-9:15	Richard Hofmeister. Seamless multi-scale ecosystem modelling of the north-west european shelf seas.
9:15-9:30	Stanislav D. Martyanov. Model estimates of the Barents Sea ecosystem functionality and its contribution in the carbon dioxide exchange between the ocean and the atmosphere.
9:30-9:45	Andrea Augusto Sfriso. Macroalgal growth and phycobiliproteins production in the Northern Adriatic Sea.
9:45-10:00	Daniele Brigolin. Early diagenesis in sediments of the Venice lagoon.
10:00-10:15	Jorge López Parages. Exploring large-scale climate influences on North

	West African fisheries and related implications for statistical forecasting.
10:15-10:30	Elisabeth Kubin. The oceanographic buoy Vida in the Gulf of Trieste and tychopelagic diatoms on the oxygen sensor and throughout the water column
10:30-11:00	<i>Coffee break for all participants</i>
Session 6: Chaired by Debora Bellafiore <i>Monitoring and experimental oceanography</i>	
11:00-11:30	Werner Alpers. On radar signatures of upwelling regions (invited)
11:30-11:45	Filippo Bergamasco. A new technique for sea-current estimation from 3D stereo data
11:45-12:00	Davide Bonaldo. Modelling Continental Shelf Waves in the southern Adriatic Sea: cross-margin transport dynamics beyond dense water cascading.
12:00-12:15	Ivica Vilibic. Sclerochronology: tool for uncovering environmental drivers in a semi-enclosed sea.
12:15-12:30	Elena Mauri. Variability of physical and biochemical properties in the Eastern Levantine Sea in the period September 2016- March 2017.
12:30-14:00	<i>Lunch*</i>
14:00-14:15	Nastjenjka Supić. Preliminary analysis of 2017 winter cruise data in the northern Adriatic within frame of EcoRENA project
14:15-14:30	Paola de Ruggiero. Water masses in the Eastern Mediterranean: an analysis of measured isotopic oxygen.
14:30-14:45	Francesco de Rovere. What can we learn about the equatorial daily cycle from the TAO buoy data? A discussion on implications of radiative heating errors.
14:45-15:00	Volkan Özbey. Determine the Seismic Activity on the Marmara Sea with Using GPS measurements.
15:00-15:15	Carolina Cantoni. Along-path changes of dissolved inorganic carbon in the intermediate layer of the Western Mediterranean.
15:15-15:45	<i>Coffee break for all participants</i>
Session 7: Chaired by Nadia Lo Bue <i>Past, present, future</i>	
15:45-16:15	Georg Umgiesser. The future of Venice: sea level rise, storm surges and the mobile barriers (invited)
16:15-16:30	Nicola Scafetta. Interpretation of the post 2000 temperature standstill
16:30-16:45	Piero Lionello. Comparing the evolution of the Adriatic and Black Sea sea level during the 20th century: a lesson for the future?
16:45-17:00	Feifei Liu. Modelling the Mediterranean Sea interannual variability in the 20th Century.
17:00-17:15	Sara Rubinetti. Hydrological variability over the last two centuries inferred from discharge records of European rivers.
17:15-17:30	Vincenzo Artale. Trend series analysis and oscillations in the Mediterranean - North Atlantic coupled system.
17:30-17:45	Giuliano Dreossi. An extended climate archive from the Eastern Alps: the Mt Orles ice cores.
17:45-18:00	Adriano Mazzarella. The length of the day and the integrated Northern

	Atlantic oscillation indices suggest that the Little Ice Age was 1.0-1.5 °C globally cooler than modern times.
18:00-18:30	<i>DISCUSSION</i>
20:30	<i>Social dinner*</i>

Friday 17th November	
<i>Location: Aula Mario Baratto, Ca'Foscari Palace, Dorsoduro 3246 - 30123 (VE)</i>	
Session 8: Chaired by Sara Rubinetti	
Open session	
9:00-9:15	Davide Zanchettin. Persistent Mesoamerican Monsoon Regime Initiated by Deglaciation in the Early Holocene
9:15-9:30	Maeregu Woldeyes Arisido. Spatio-temporal quantification of climate model errors in a Bayesian framework.
9:30-9:45	Marco Marozzi. Nonparametric methods for testing statistical significance of climate anomalies.
9:45-10:00	Suzana Blesic. Changes in value and character of long-term persistence of the river flow induced by damming.
10:00-10:30	<i>Coffee break for all participants</i>
Session 9: Chaired by Katrin Schroeder	
Open Discussion	
10:30-12:30	Open discussion on possible future cooperation
12:30-14:00	Open end of the workshop

**at participants' cost*

All talk slots, except solicited talks, include a 12-minute presentation and 3 minutes for discussion.

Supported by:

University Ca'Foscari of Venice – DAIS <http://www.dais.unive.it/>

IUGG/IAPSO <http://iapso.iugg.org/>

Detailed list of contributions (ordered according to the program)

- Manuel Bensi**¹, Langone L.², Kovacevic V.¹, Ursella L.¹, Goszczko I.⁵, Rebesco M.¹, De Vittor C.¹, Aliani S.², Miserocchi S.², Relitti F.^{1,7}, Bazzaro M.¹, Deponte D.¹, Laterza R.¹, Mansutti P.¹, Lucchi R. G.¹, Wåhlin A.³, Soltwedel T.⁴, Skogseth R.⁶, Falck E.⁶, Nilsen F.⁶. Shelf and slope dynamics offshore the west Svalbard continental margin
¹OGS – Istituto Nazionale di Oceanografia e di Geofisica Sperimentale, Italy,
²CNR-ISMAR – Consiglio Nazionale delle Ricerche-Istituto di Scienze Marine, Italy
³UGOT – University of Gothenburg, Sweden
⁴AWI – Alfred Wegener Institute for Polar and Marine Research, Germany
⁵IOPAS –Institute of Oceanology - Polish Academy of Sciences, Poland
⁶UNIS - University of Svalbard, Norway
⁷Università degli Studi di Trieste, Trieste, Italy
- Nadia Lo Bue**¹, V. Artale², S. Marullo², M. Bensi³, G. Siena³, A. Rubino⁴, L. Beranzoli^{1,5}, P. Favali⁵. The role of the bottom turbulence generated by inertial waves in the characterisation of the deep dynamics of the Western Ionian Sea.
¹Istituto Nazionale di Geofisica e Vulcanologia, Roma, Italy
²ENEA, Frascati, Italy
³OGS, Trieste, Italy
⁴Università Ca'Foscari di Venezia, Italy
⁵EMSO interim support team
- Andrea Bergamasco**¹, Laura De Santis², Daniela Accettella², Riccardo Codiglia², Florence Colleoni³, Marco Cuffaro⁴, Emiliano Gordini², Jennifer Gales⁵, Yanguang Liu⁶, Cristian Florindo-Lopez⁵, Paolo Mansutti², Elisabetta Olivo², Sookwan Kim⁷, Vedrana Kovacevic², Michele Rebesco², Chiara Sauli², Paolo Sterzai², Isabella Tomini², Paolo Visnovich², Fabrizio Zgur². Exploring past and modern bottom current pathways along the continental margin: the Ross Sea survey 2017
¹ CNR-ISMAR (I)
² OGS (I)
³ CMCC (I)
⁴ CNR-IGAG (I)
⁵ NOC (UK)
⁶ FIO (China)
⁷ KOPRI (South Korea)
- Vedrana Kovačević**¹, Manuel Bensi¹, Vanessa Cardin¹, Riccardo Gerin¹, Zoi Kokkini¹, Elena Mauri¹, Giulio Notarstefano¹, Giuseppe Siena¹, Gordana Beg-Paklar², Branka Grbec², Frano Matić², Hrvoje Mihanović², Ivica Vilibić², Zrinka Ljubešić³. A multiplatform approach to investigate new dense water pathways and their fate in the middle and southern Adriatic: the winter 2015-2016 case
¹Istituto Nazionale di Oceanografia e di Geofisica Sperimentale - OGS, Trieste, Italy
²Institute of Oceanography and Fisheries, Split, Croatia
³University of Zagreb, Faculty of Science, Department of Biology, Croatia
- Giuseppe Civitarese**¹. Everything you Always Wanted to Know About BiOS* (*But Were Afraid to Ask)
¹ Istituto Nazionale di Oceanografia e di Geofisica Sperimentale (OGS), Trieste
- Miroslav Gacic**¹, A. Rubino², G. Civitarese¹, M. Reale³, R. Mosetti¹, V. Malacic⁴, M. Orlic⁵, V. Kovacevic¹, B. Petelin⁴, L. Ursella¹, N.C. Reyes Suarez¹. The Adriatic-Ionian Bimodal Oscillating System-Coriolis Rotating Platform Experiment.
¹ Istituto Nazionale di Oceanografia e di Geofisica Sperimentale (OGS), Trieste

² Università Ca'Foscari di Venezia

³ International Centre for Theoretical Physics, Trieste

⁴ Marine Biological Station, Piran, Slovenia

⁵ Geophysical Institute "Andija Mohorovicic", University of Zagreb, Zagreb, Croatia

7. **Marco Reale**^{1,2}, Alessandro Crise², Riccardo Farneti¹, Renzo Mosetti². Modeling approaches to BiOS dynamics.
¹ICTP-Trieste, Italy
²OGS-Trieste, Italy
8. **Christian Ferrarin**¹, Gianmaria Sannino², Debora Bellafigliore¹, Marco Bajo¹ and Georg Umgiesser¹. Tidal dynamics in the inter-connected Mediterranean, Marmara, Black and Azov seas
¹Institute of Marine Science, National Research Council, ISMAR-CNR, Venice, Italy
²Italian National Agency for New Technologies, Energy and Sustainable Economic Development, Rome, Italy
9. **Natalija Dunic**¹, Ivica Vilibic¹, Jadranka Sepic¹, Florence Sevault², Samuel Somot², Robin Waldman², Thomas Arsouze^{3,4}, Romain Pennel⁴, Pierre Nabat², Gabriel Jorda⁵, Robert Precali⁶: Multi-model analysis of the Adriatic-Ionian thermohaline circulation using multi-decadal regional ocean simulations
¹Institute of Oceanography and Fisheries, Split, Croatia
²CNRM (CNRS/Météo-France), Toulouse, France
³ENSTA-ParisTech, Université Paris-Saclay, Palaiseau, France
⁴IPSL/Laboratoire de Météorologie Dynamique, Ecole Polytechnique, Palaiseau, France
⁵IMEDEA (CSIC-UIB), Esporles, Spain
⁶Centre for Marine Research, Rudjer Boskovic Institute, Rovinj, Croatia
10. **Eleonora Cusinato**¹, Davide Zanchettin¹, Gianmaria Sannino², Angelo Rubino¹. Mediterranean thermohaline response to large-scale atmospheric forcing in a MedMIT12 simulation.
¹University Ca'Foscari of Venice, Dept. of Environm. Sc., Informatics and Statistics, Via Torino 155, 30172 Mestre, Italy
²ENEA - Climate Modelling and Impacts Laboratory, Rome, Italy
11. **Antonio Ricchi**¹, Davide Bonaldo², Guido Cioni³, Mario M. Miglietta⁴, Sandro Carniel². Analysis of a flash-flood event over the North-East Italy by means of a very-high resolution atmosphere-ocean-wave coupled model.
¹Politechnic Univ. of Marche, Ancona, Ancona, Italy,
²CNR-ISMAR, Venice, Italy,
³Max Planck Institute for Meteorology, Hamburg, Germany,
⁴CNR-ISAC, Lecce, Italy
12. **Sandro Carniel**¹, D. Bonaldo¹, A. Ricchi², F. Barbariol¹, A. Benetazzo¹, F.M. Falcieri¹, M. Sclavo¹. Addressing Atmosphere-Ocean-Wave interactions with a fully coupled numerical model: lessons learnt in transition zones.
¹CNR-ISMAR Venezia, Italy
²Univ. Polit. delle Marche, Ancona, Italy
13. **Federico Falcini**¹, R. Droghei¹, G. La Forgia^{1,2}, D. Casalbore^{3,4}, E. Martorelli³, R. Mosetti⁵, G. Sannino⁶, C. Adduce², F. L. Chiocci^{3,4}, R. Santoleri¹. The role of Internal Solitary Waves on sedimentary and mixing processes: from dune-forming to breaking mechanisms.
¹CNR-ISAC, Rome, Italy.
²University of Rome "Roma Tre", Rome, Italy

- ³CNR-IGAG, Rome, Italy.
- ⁴University of Rome "La Sapienza", Rome, Italy
- ⁵OGS, Trieste, Italy.
- ⁶ENEA, Rome, Italy.
14. **Gian Marco Scarpa**¹, Emanuela Molinaroli¹, Luca Zaggia². Morphological variations induced by ship wakes in a coastal lagoon
¹Dipartimento di Scienze Ambientali, Informatica e Statistica, Università Ca' Foscari, Venezia, Italy.
²Istituto di Scienze Marine, Consiglio Nazionale delle Ricerche, Venezia - Italy
15. **Kirill Bulgakov**^{1,2}. Numerical Simulation of the Transformation of a Nonlinear Wave at a Finite Depth.
¹ St. Petersburg Branch of the Shirshov Institute of Oceanology, Russian Academy of Sciences, 30 Pervaya Liniya V.O., St. Petersburg, 199053 Russia
²Russian State Hydrometeorological University, 98 Malookhtinskiy pr., St. Petersburg, 195196 Russia
16. **Gordana Beg Paklar**¹, Tomislav Dzoic¹, Darko Koracin², Slavica Matijevic¹, Branka Grbec¹, Stjepan Ivatek-Sahdan³. Dispersion of the passive tracer in the east Adriatic coastal waters.
¹Institute of Oceanography and Fisheries, Set. Ivana Mestrovica 63, 21000 Split, Croatia
²Faculty of Science, University of Split, Teslina 12, 21000 Split, Croatia
³Croatian Meteorological and Hydrological Service, Gric 3, 10000 Zagreb, Croatia
17. M. Menna¹, Y. Cotroneo², **Pierpaolo Falco**², P.M. Poulain¹, and G. Budillon¹. Experimental highlights of the eddy saturation regime in the Southern Pacific Ocean
¹National Institute of Oceanography and Experimental Geophysics, Sgonico (Trieste), Italy
²Department of Sciences and Technologies, University of Naples Parthenope and CoNISMa, Italy
18. **Giannetta Fusco**¹, Manuela Sansiviero¹, Giuseppe Aulicino¹, Giorgio Budillon¹. Surface heat fluxes, polynya extent and thermohaline variability in Terra Nova Bay (Ross Sea - Antarctica).
¹Dipartimento di Scienze e Tecnologie (DiST), Università degli Studi di Napoli "Parthenope", Italy
19. **Daniele Zannoni**¹, Andrea Bergamasco², Giuliano Dreossi³, Giancarlo Rampazzo¹, Barbara Stenni¹. Sea breeze regime effects on the isotopic composition of water vapor in coastal areas.
¹ Dipartimento di Scienze Ambientali, Informatica e Statistica, Università Ca' Foscari, Venice (Italy)
²Istituto di Scienze Marine, Consiglio Nazionale delle Ricerche, Venice (Italy)
³Istituto per la Dinamica dei Processi Ambientali, Consiglio Nazionale delle Ricerche, Venice (Italy)
20. **Enrico Zambianchi**¹, M. Trani¹, P. Falco¹. Transport of marine litter in the Mediterranean.
¹DiST, Università Parthenope and CoNISMa, Napoli, Italy
21. **Stefano Pierini**^{1,2}, Michael Ghil^{3,4}, Mickael D. Chekroun⁴. Analysis of the non-autonomous behavior of a low-order ocean model and of its pullback attractors
¹Università di Napoli Parthenope, Dipartimento di Scienze e Tecnologie, Naples, Italy
²CoNISMa, Rome, Italy
³École Normale Supérieure and PSL Research University, Paris, France

- ⁴University of California at Los Angeles, USA
22. **Marco Bianucci**¹. Timing El Niño: analytical results.
¹Istituto di Scienze Marine (ISMAR-CNR), UOS La Spezia, Lerici (SP), Italy
23. **Emilie P. Dassié**^{1,2}, Audrey Hasson¹, Myriam Khodri¹, Nicolas Lebas¹, and Braddock K. Linsley². Spatio-temporal variability of the South Pacific Convergence Zone fresh pool eastern front from coral-derived surface salinity data.
¹Laboratoire d'Océanographie et du Climat : Expérimentations et Approches Numériques, LOCEAN - IPSL, UMR 7159 CNRS/UPMC/IRD, Université P. et M. Curie, 4 place Jussieu, 75252 Paris cedex 05, France
²Lamont-Doherty Earth Observatory, Columbia University, 61 Route 9W, Palisades, NY 10964, USA
24. Jelena Dautović¹, Vjeročka Vojvodić¹, Nataša Tepić², Božena Čosović¹, **Irena Ciglencečki**¹. Long-term investigations of organic matter content in the Adriatic Sea as an indication of global changes.
¹Rudjer Boskovic Institute, Division for Marine and Environmental Research, Bijenicka cesta 54, 10000 Zagreb, Croatia
²National Center for External Evaluation of Education, Ulica D. Tomljenovića 11, 10020, Zagreb, Croatia
25. **Richard Hofmeister**¹, Ute Daewel¹, Corinna Schrum¹, Wenyan Zhang¹. Seamless multi-scale ecosystem modelling of the north-west european shelf seas.
¹Helmholtz-Zentrum Geesthacht, Zentrum für Material- und Küstenforschung GmbH, Max-Planck-Straße 1 I 21502 Geesthacht I Deutschland/Germany
26. **Stanislav D. Martyanov**¹, Anton Yu. Dvornikov¹, Vladimir A. Ryabchenko¹, Victor A. Gorchakov¹. Model estimates of the Barents Sea ecosystem functionality and its contribution in the carbon dioxide exchange between the ocean and the atmosphere.
¹Shirshov Institute of Oceanology, Russian Academy of Sciences.
27. **Andrea Augusto Sfriso**¹, Michele Gallo¹, Franco Baldi¹. Macroalgal growth and phycobiliproteins production in the Northern Adriatic Sea.
¹Ca' Foscari University of Venice, Department of Environmental Sciences Informatics and Statistics, Mestre, Italy
28. **Daniele Brigolin**¹, L. Brethous², B. Bombled², C. Demasy², R. Pastres¹, C. Rabouille². Early diagenesis in sediments of the Venice lagoon.
¹Department of Environmental Sciences, Informatics and Statistics, Università Ca' Foscari, Venezia, 30172, Italy.
²Laboratoire des Sciences du Climat et de l'Environnement, UMR CEA-CNRS-UVSQ et IPSL, Gif sur Yvette, F-91198, France
29. **Jorge López Parages**¹, Belén Rodríguez de Fonseca¹, Carlo Gaetan², Davide Zanchettin², Maeregu W. Arisido³, Angelo Rubino², Timothee Brochier⁴, Pierre A. Auger⁵ and Noel Keenlyside⁶. Exploring large-scale climate influences on North West African fisheries and related implications for statistical forecasting.
¹Universidad Complutense de Madrid, Madrid, Spain
²University Ca' Foscari of Venice, DAIS, Italy
³University of Milano, Italy
⁴IRD - UMMISCO
⁵IRD, Laboratoire de Physique des Océans (LPO), Plouzané (France)
⁶Geophysical Institute, Univ of Bergen, Norway
30. **Elisabeth Kubin**¹, Joze Stirn¹, Vlado Malacic¹, Janez Forte¹. The oceanographic buoy Vida in the Gulf of Trieste and tychopelagic diatoms on the oxygen sensor and throughout the water column.
¹OGS, Trieste, Italy
31. **Werner Alpers**¹. On radar signatures of upwelling regions.

- ¹Institute of Oceanography, University of Hamburg, Hamburg, Germany
32. **Filippo Bergamasco**¹, Alvis Benetazzo², Luigi Cavaleri², Luciana Bertotti², Jeseon Yoo³, Kim Sun-Sin³, Shim Jae-Seol³. A new technique for sea-current estimation from 3D stereo data
¹DAIS – Università Ca' Foscari, Venice, Italy.
² Institute of Marine Sciences, Italian National Research Council (ISMAR-CNR), Venice, Italy.
³ Korea Institute of Ocean Science and Technology (KIOST), Haean-ro, Republic of Korea.
33. **Davide Bonaldo**¹, M. Orlic², S. Carniel¹. Modelling Continental Shelf Waves in the southern Adriatic Sea: cross-margin transport dynamics beyond dense water cascading.
¹Institute of Marine Sciences, National Research Council (CNR-ISMAR), Venice, 30122, Italy
² Andrija Mohorovicic Geophysical Institute, Faculty of Science, University of Zagreb, Zagreb, HR-10000, Croatia
34. Melita Peharda¹, **Ivica Vilibic**¹, Tomislav Dzoic¹, Kresimir Markulin¹, Natalija Dunic¹, Hrvoje Mihanovic¹, Miroslav Gacic², Bryan Black³, Hana Uvanovic¹, Daria Ezgeta-Balic¹, Jadranka Sepic¹, Zarko Kovac¹, Ivan Zupan⁴. Sclerochronology: tool for uncovering environmental drivers in a semi-enclosed sea.
¹Institute of Oceanography and Fisheries, Split, Croatia
²OGS, Trieste, Italy
³Marine Science Institute, University of Texas at Austin, Austin, USA
⁴University of Zadar, Zadar, Croatia
35. **Elena Mauri**¹, P.-M. Poulain¹, R. Gerin¹, G. Notarstefano¹, Z. Kokkini¹. Variability of physical and biochemical properties in the Eastern Levantine Sea in the period September 2016- March 2017.
¹National Institute of Oceanography and Experimental Geophysics, Sgonico (Trieste), Italy
36. **Nastjenka Supić**¹, Irena Ciglencečki-Jušić², Jelena Dautović², Tamara Djakovac¹, Mathieu Dutour-Sikirić², Ingrid Ivančić¹, Ivica Janeković², Romina Kraus¹, Nataša Kužat¹, Davor Lučić³, Daniela Marić Pfannkuchen¹, Jakica Njire³, Paolo Paliaga¹, Miroslava Pasarić⁴, Zoran Pasarić⁴ and Robert Precali¹. Preliminary analysis of 2017 winter cruise data in the northern Adriatic within frame of EcoRENA project
¹Center for Marine Research, Rudjer Bošković Institute, Rovinj
²Division for Marine and Environmental Research, Rudjer Bošković Institute, Zagreb
³University of Dubrovnik, Dubrovnik
⁴ Faculty of Science, University of Zagreb, Zagreb
37. **Paola de Ruggiero**¹, Davide Zanchettin¹, Angelo Rubino¹. Water masses in the Eastern Mediterranean: an analysis of measured isotopic oxygen.
¹University Ca'Foscari of Venice, Dept. of Environm. Sc., Informatics and Statistics, Via Torino 155, 30172 Mestre, Italy
38. **Francesco de Rovere**¹, Davide Zanchettin¹, Angelo Rubino¹. What can we learn about the equatorial daily cycle from the TAO buoy data? A discussion on implications of radiative heating errors.
¹University Ca'Foscari of Venice, Dept. of Environm. Sc., Informatics and Statistics, Via Torino 155, 30172 Mestre, Italy
39. **Volkan Özbey**¹. Determine the Seismic Activity on the Marmara Sea with Using GPS measurements
¹Istanbul Technical University, Civil Engineering Faculty - Department of Geomatics Engineering

40. **Carolina Cantoni**¹, Katrin Schroeder¹, Jacopo Chiggiato¹. Mireno Borghini¹, Annalisa Poiana², Pierluigi Barbieri³, Stefano Cozzi¹. Along-path changes of dissolved inorganic carbon in the intermediate layer of the Western Mediterranean.
¹CNR-ISMAR, Venezia, Italy
²Università di Udine, Italy
³Università di Trieste, Italy
41. **Georg Umgiesser**¹, Marco Bajo¹, Christian Ferrarin¹. The future of Venice: sea level rise, storm surges and the mobile barriers.
¹ISMAR-CNR, Venice
42. **Nicola Scafetta**¹, Aberto Mirandola², Antonio Bianchini². Interpretation of the post 2000 temperature standstill
¹Università degli Studi di Napoli Federico II
²Università degli Studi di Padova
43. **Piero Lionello**^{1,2}, L. Scarascia². Comparing the evolution of the Adriatic and Black Sea sea level during the 20th century: a lesson for the future?
¹University of Salento, Italy
²CMCC, Italy
44. **Feifei Liu**¹, Katharina Six¹, Uwe Mikolajewicz¹. Modelling the Mediterranean Sea interannual variability in the 20th Century.
¹Max Planck Institute for Meteorology, Hamburg, Germany
45. Carla Taricco^{1,2}, **Sara Rubinetti**^{1,2}, Davide Zanchettin³, Angelo Rubino³ and Silvia Alessio^{1,2}. Hydrological variability over the last two centuries inferred from discharge records of European rivers
¹Dipartimento di Fisica, Università di Torino, Italia.
²Osservatorio Astrofisico di Torino, INAF, Pino Torinese, Italia.
³Università Ca' Foscari, Venezia, Italia.
46. **Vincenzo Artale**¹, Salvatore Marullo¹. Trend series analysis and oscillations in the Mediterranean - North Atlantic coupled system.
¹ENEA C.R. Frascati, Italy
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48. Adriano Mazzarella¹, **Nicola Scafetta**¹. The length of the day and the integrated Northern Atlantic oscillation indices suggest that the Little Ice Age was 1.0-1.5 °C globally cooler than modern times.
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49. **Davide Zanchettin**¹, Amos Winter^{2,3}, Matthew Lachniet⁴, Rolf Vieten³, Francesco S.R. Pausata^{5,6}, Carla Taricco^{7,8}, Sara Rubinetti^{7,8}, Angelo Rubino¹, Thomas E. Miller⁹. Persistent Mesoamerican Monsoon Regime Initiated by Deglaciation in the Early Holocene

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50. **Maeregu Woldeyes Arisido**¹, Carlo Gaetan², Davide Zanchettin², Angelo Rubino². Spatio-temporal quantification of climate model errors in a Bayesian framework.

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51. **Marco Marozzi**¹, Davide Zanchettin¹, Angelo Rubino¹. Nonparametric methods for testing statistical significance of climate anomalies.

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52. **Suzana Blesic**^{1,2}, Djordje Stratimirovic^{2,3}, Davide Zanchettin¹, Angelo Rubino¹. Changes in value and character of long-term persistence of the river flow induced by damming.

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