

PERSONAL INFORMATION

Alvise Benetazzo

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RESEARCH INTERESTS

Summary Oceanic wind waves and their impact on ocean circulation and air-sea exchanges
Upper-ocean, lower-atmosphere dynamics
Wave climate, past, recent, and future
Extreme events in the coupled ocean-atmosphere-wave system
Ocean observation and sensor developments

Bibliometric Indicators SCOPUS: h-index 33, citations 2919, documents 105
Google Scholar: h-index 36, citations 3904

WORK EXPERIENCE

- 2011-Present Researcher / Senior Researcher / Director of Research (present position)
Institute of Marine Sciences (ISMAR), National Research Council (CNR), Venice, Italy
- 2006-2011 Project Manager of the R&D group
Maritime Engineering Enterprise Protecno. (Padua, Italy)
- 2005-2006 Visiting student
Scripps Institute of Oceanography (SIO), University of California San Diego (UCSD), San Diego, CA, USA.
- 2000-2002 Research fellow
University of Rome "La Sapienza", Rome, Italy.

EDUCATION AND TRAINING

- 2002-2006 Doctorate
Ph.D. degree in Environmental Engineering, University of Padua (Italy).
- 1994-2000 B.Sc. + M.S. degree in Civil-Hydraulic Engineering
University of Padua (Italy). Grade: 110/110 summa cum laude (with highest honor).
- Post-graduate (selected) 2015. Summer school ROGUE AND SHOCK WAVES IN NONLINEAR DISPERSIVE MEDIA, Cargese (France)
- 2013. Wave model WAVEWATCH III, IFREMER (Institut Français de Recherche pour l'Exploitation de la Mer), Brest, France
- 2012. COUPLED OCEAN-ATMOSPHERE-WAVE-SEDIMENT TRANSPORT (COAWST)

RESEARCH ACTIVITIES

Relevant Projects

- 2023. Principal investigator of the project *ASTROWAVES-5. Extreme wind-wave characterization through improved integration of WASS, WASSfast, and HOS*, funded by the Korea Institute of Ocean Science and Technology (KIOST), Republic of Korea.
- 2022. Principal investigator of the project *ASTROWAVES-4. Fusion of WASS stereo-image and HOS model data for extreme ocean wave assessment*, funded by the Korea Institute of Ocean Science and Technology (KIOST), Republic of Korea.
- 2021-2022. Principal Investigator of the *EOL-1 (Extreme Oceanic Waves During Tropical, Tropical-Like, And Bomb Cyclones)* project in a partnership between CNR and the University of Tokyo.
- 2020. Principal Investigator of the project *Analysis of stereo wave data collected from the Ekofisk platform (StereoWaves)*, funded by Norwegian Meteorological Institute (MetNorway, Bergen).
- 2019-2024. Co-Principal Investigator of the project *Sistema di previsione del moto ondoso lungo i litorali del Veneto e del Friuli-Venezia Giulia (PELMO)*, Venice Municipality.
- 2019-2022. Project Partner of NATURAL ENVIRONMENT RESEARCH COUNCIL ("NERC") AWARD "Quantifying Oceanic Whitecap Energy Dissipation and Bubble-Mediated Air-Sea Fluxes"; coordinator Dr. Adrian Callaghan, Civil & Environmental Engineering, Imperial College of Science, Technology and Medicine, GRANT REF: NE/T000309/1.
- 2018-2020. Principal Investigator of the Project "LARGesT wavEs in MARine environment: new products for wave model forecast (LATEMAR)" funded by the Copernicus Marine Environment Monitoring Service (CMEMS).
- 2018. Principal Investigator of the Project "ANALYSIS OF STEREO WAVE IMAGING DATA FOR THE CHARACTERIZATION OF ROGUE WAVES DURING EXTREME WAVE CONDITIONS, INCLUDING TYPHOONS" funded by the Korea Institute of Ocean Science and Technology (KIOST), Republic of Korea.
- 2017. Principal Investigator of the Project "Design of a stereo wave imaging system to be installed at the leodo-ORS for space-time observation of oceanic waves" funded by the Korea Institute of Ocean Science and Technology (KIOST), Republic of Korea.
- 2017-2018. Coordination for ISMAR-CNR activities in the project LabexMER "WAVESCALE". Call: APPEL A PROJETS SUR THEMATIQUES « EMERGENTES » OU « INTER-AXES ». Coordinator: L'Institut Français de Recherche pour l'Exploitation de la Mer (IFREMER).
- 2016. Principal Investigator of the Research Action "Sistemi evoluti di rilevazione onde estreme" ("Observational systems for the detection of oceanic extreme waves") in the Flagship Project RITMARE - Italian Research for the Sea - coordinated by the Italian National Research Council and funded by the Italian Ministry of Education, University and Research within the National Research Program 2011-15.
- 2016. Co-Principal Investigator of the project "Expert assistance in relation to accident 30.12.2015", funded by COSL Drilling Europe AS.
- 2015-2016. Co-Principal Investigator of the project "Adeguamento della via acqua alla Stazione passeggeri di Stazione Marittima di Venezia – Attività per valutazione di impatto ambientale" ("Assessment of the new waterway to the Venetian harbor"), funded by the Venice Port Authority, Italy.
- 2012-2015. Principal Investigator of the Research Action "Sviluppo di sistemi ottico-stereofotogrammetrici per la misura di spettri ondosi da piattaforme fisse e da navi" ("Development of stereo imaging systems for the observation of wave spectra from fixed and moving platforms") in the Flagship Project RITMARE - Italian Research for the Sea - coordinated by the Italian National Research Council and funded by the Italian Ministry of Education, University and Research within the National Research Program 2011-15.
- 2012-2015. Principal Investigator of the Research Unit "Modellistica di supporto alle infrastrutture costiere e off-shore" ("Numerical modeling in support of the design of coastal and off-shore structures") in the Flagship Project RITMARE - Italian Research for the Sea - coordinated by the Italian National Research Council and funded by the Italian Ministry of Education, University and Research within the National Research Program 2011-15.
- 2012-2014. Principal Investigator of the Italy-Israel bi-lateral project "A Novel Stereo Image Method For Determination Of Statistics, Spectra And Dissipation Rates Of Ocean Waves", funded by the Italian Ministry of Foreign Affairs and the Israeli Ministry of Science and Technology.
- 2011. Principal Investigator of the project "WASS measurements of sea surface waves from a moving boat", funded by L'Institut Français de Recherche pour l'Exploitation de la Mer (IFREMER).

Main field campaigns

- 2014, 29 January-10 February (Campaign: CARPET), R/V Urania, Chief Scientist
- 2017, 6 -7 April, Oceanic platform Socheongcho (South Korea), Scientist
- 2013, 11 April-22 April (Campaign: DECALOGO13), R/V Urania, Scientist
- 2009, 20 September-6 October, Oceanic platform Katsively (Ukraine), Scientist

2023-ongoing: Scientific Responsible of the oceanographic research tower Acqua Alta, managed by the Italian National Research Council CNR

Patents	<p>Principal inventor of the Italian patent n. 102015000082942 (UB2015A009299) "Metodo ed apparato per la misura spaziale nel tempo della superficie del mare da piattaforme mobili" (Method and apparatus for the spatio-temporal measurement of the sea surface elevation from moving platforms). International application on 13 Dec. 2016 n° PCT/IB2016/057569.</p> <p>Principal inventor of the Italian patent n. 1410659 "Metodo Ed Apparato Per La Misura Temporale Dei 6 Gradi Di Libertà Di Un Corpo In Movimento Nello Spazio Tridimensionale" (Method and apparatus for the temporal measurements of the 6 degrees of freedom of an object in the 3-D space).</p>
PhD supervision	<p>2019-2023. Candidate: Dr Silvio Davison. University of Padua (Italy)</p> <p>2019-2024. Candidate: Dr Joe peach. Imperial College London (UK)</p> <p>2011-2013. Candidate: Dr Francesco Barbariol. University of Padua (Italy)</p>
Meetings	<p>Session chair al 2019 WISE (Wave In Shallow Environment) 26th meeting, 12-16 May 2019, Jozankei View Hotel, Sapporo, Japan</p> <p>Session chair al EGU General assembly 2017 (Wien, 22-29 April 2017), Session: OS2.3 "Oceanography at coastal scales. Modelling, coupling and observations".</p> <p>Session chair al 2017 WISE meeting, 14-18 May 2017, University of Victoria, Victoria, B.C., Canada.</p> <p>Session chair al PAMS 2017 9th Pacific Asian Marginal Seas Meeting, Jeju, KOREA, 11-13 April 2017, Session co-chairman at ASME (American Society of Mechanical Engineers) 2014 33rd International Conference on Ocean, Offshore and Arctic Engineering - OMAE2014, San Francisco (USA)</p> <p>Session convener at 16th EMS Annual Meeting & 11th European Conference on Applied Climatology (ECAC), 12-16 September 2016, Trieste, Italy.</p> <p>Session chairman at Workshop "THEMES 2016 - Measuring, Modelling and Predicting Marine Environments: State of the Art and Challenges"</p> <p>Session co-convener a European Geoscience Union General Assembly 2017, Wien (Austria) 23-28 April 2017. Session: OS2.3 Oceanography at coastal scales. Modelling, coupling and observations</p>
Computer skills	<p>Programming Languages: Fortran 77/90, C (basic), MATLAB</p> <p>Operating Systems: DOS, macOS, Linux, Windows</p> <p>Member of the wave model WAVEWATCH III® development team</p> <p>Developer of the wave measurement system <i>Wave Acquisition Stereo System</i> (WASS)</p>
Software and datasets	<p>- WASS Wave Acquisitions Stereo System www.dais.unive.it/wass. Elsevier Best Paper of 2017 Award in the "Geoinformatics" category awarded to Bergamasco, F., Torsello, A., Sclavo, M., Barbariol, F., Benetazzo, A., for "WASS: An open-source pipeline for 3D stereo reconstruction of ocean waves", <i>Computers & Geosciences</i> 107, 28-36.</p> <p>- WAVEWATCH III Modeling Framework https://polar.ncep.noaa.gov/waves/wavewatch/</p> <p>- Data set of sea surface stereo images to resolve space-time wave fields. Available at: https://doi.org/10.1038/s41597-020-0492-9, https://sextant.ifremer.fr/eng, and https://doi.org/10.12770/af599f42-2770-4d6d-8209-13f40e2c292f.</p>

ATTACHMENTS

List of the top publications in the main research field (in the last ten years)

According to law 679/2016 of the Regulation of the European Parliament of 27th April 2016, I hereby express my consent to process and use my data provided in this CV

Place and date: Venice, July 29th, 2024

Name: Alvise Benetazzo

List of the top publications in the main research field (in the last ten years)

- Benetazzo, A., Halsne, T., Breivik, Ø., Strand, K. O., Callaghan, A. H., Barbariol, F., Davison, S., Bergamasco, F., Molina, C., and Bastianini, M.: On the short-term response of entrained air bubbles in the upper ocean: a case study in the north Adriatic Sea, *Ocean Sci.*, 20, 639–660, <https://doi.org/10.5194/os-20-639-2024>, 2024.
- Davison S, Benetazzo A, Barbariol F, Ricchi A and Ferretti R (2024) Characterization of extreme wave fields during Mediterranean tropical-like cyclone *Front. Mar. Sci.* 10:1268830. doi: 10.3389/fmars.2023.1268830
- Halsne, T., A. Benetazzo, F. Barbariol, K. H. Christensen, A. Carrasco, and Ø. Breivik, 2023: Wave Modulation in a Strong Tidal Current and Its Impact on Extreme Waves. *J. Phys. Oceanogr.*, 54, 131–151, <https://doi.org/10.1175/JPO-D-23-0051.1>.
- Hung Vuong Pham, Maria Katherina Dal Barco, Marco Cadau, Remi Harris, Elisa Furlan, Silvia Torresan, Sara Rubinetti, Davide Zanchettin, Angelo Rubino, Ivan Kuznetsov, Francesco Barbariol, Alvise Benetazzo, Mauro Sclavo, Andrea Critto, Multi-model chain for climate change scenario analysis to support coastal erosion and water quality risk management for the Metropolitan city of Venice, *Science of The Total Environment*, Volume 904, 2023, 166310,
- Malila, M. P., F. Barbariol, A. Benetazzo, Ø. Breivik, A. K. Magnusson, J. Thomson, and B. Ward, 2023: Statistical and Dynamical Characteristics of Extreme Wave Crests Assessed with Field Measurements from the North Sea. *J. Phys. Oceanogr.*, 53, 509–531, <https://doi.org/10.1175/JPO-D-22-0125.1>.
- Davison S, Benetazzo A, Barbariol F, Ducroz G, Yoo J and Marani M (2022) Space-time statistics of extreme ocean waves in crossing sea states. *Front. Mar. Sci.* 9:1002806. doi: 10.3389/fmars.2022.1002806
- Barbariol F, Pezzutto P, Davison S, Bertotti L, Cavaleri L, Papa A, Favaro M, Sambo E and Benetazzo A (2022) Wind-wave forecasting in enclosed basins using statistically downscaled global wind forcing. *Front. Mar. Sci.* 9:1002786. doi: 10.3389/fmars.2022.1002786
- Guimarães, P.V., Arduin, F., Perignon, Y. et al. Relative current effect on short wave growth. *Ocean Dynamics* 72, 621–639 (2022). <https://doi.org/10.1007/s10236-022-01520-0>
- L. Cavaleri, A. Benetazzo, L. Bertotti, J.-R. Bidlot, A. Pomaro, J. Portilla-Yandun, 2022. The 2015 exceptional swell in the Southern Pacific: Generation, advection, forecast and implied extremes, *Progress in Oceanography*, Volume 206, 2022, v102840, ISSN 0079-6611,
- Alberello, A., Bennetts, L.G., Onorato, M. et al. Three-dimensional imaging of waves and floes in the marginal ice zone during a cyclone. *Nat Commun* 13, 4590 (2022). <https://doi.org/10.1038/s41467-022-32036-2>
- Benetazzo, A.; Davison, S.; Barbariol, F.; Mercogliano, P.; Favaretto, C.; Sclavo, M. Correction of ERA5 Wind for Regional Climate Projections of Sea Waves. *Water* 2022, 14, 1590. <https://doi.org/10.3390/w14101590>
- MP Malila, J Thomson, Ø Breivik, A Benetazzo, B Scanlon, B Ward, 2022. On the Groupiness and Intermittency of Oceanic Whitecaps, *Journal of Geophysical Research: Oceans* 127
- M Onorato, L Cavaleri, S Randoux, P Suret, MI Ruiz, M de Alfonso, 2021. Observation of a giant nonlinear wave-packet on the surface of the ocean, *Scientific Reports* 11 (1), 1-7
- F Barbariol, S Davison, FM Falcieri, R Ferretti, A Ricchi, M Sclavo, 2021. Wind Waves in the Mediterranean Sea: An ERA5 Reanalysis Wind-Based Climatology, *Frontiers in Marine Science* 8, 1615
- C Ferrarin, M Bajo, A Benetazzo, L Cavaleri, J Chiggiato, S Davison et al., 2021. Local and large-scale controls of the exceptional Venice floods of November 2019, *Progress in Oceanography* 197, 102628
- Cavaleri, F Barbariol, M Bastianini, A Benetazzo, L Bertotti, A Pomaro, 2021. An exceptionally high wave at the CNR-ISMAR oceanographic tower in the Northern Adriatic Sea, *Scientific Data* 8 (1), 1-7
- A Benetazzo, F Barbariol, P Pezzutto, J Staneva, A Behrens, S Davison, 2021. Towards a unified framework for extreme sea waves from spectral models: Rationale and applications, *Ocean Engineering* 219, 108263
- Pedro Veras Guimarães, Fabrice Arduin, Filippo Bergamasco, Fabien Leckler, Jean-François Filipot, Jae-Seol Shim, Vladimir Dulov and Alvise Benetazzo, 2020. A data set of sea surface stereo images to resolve space-time wave fields. *Scientific Data* 7: 145, 1-12.
- Luigi Cavaleri, Francesco Barbariol and Alvise Benetazzo, 2020. Wind-Wave Modeling: Where We Are, Where to Go. *J. Mar. Sci. Eng.* 8(4), 260 1-15
- The ISAMR Team: Luigi Cavaleri, Marco Bajo, Francesco Barbariol, Mauro Bastianini, Alvise Benetazzo, Luciana Bertotti, Jacopo Chiggiato, Christian Ferrarin, Fabio Trincardi, and Georg Umgiesser, 2020. The 2019 Flooding of Venice AND ITS IMPLICATIONS FOR FUTURE PREDICTIONS. *Oceanography* 33(1):42–49
- Luigi Cavaleri, Francesco Barbariol, Alvise Benetazzo, Takuji Waseda, 2019. Ocean Wave Physics and Modeling: The Message from the 2019 WISE Meeting. *Bull. Amer. Meteor. Soc.* 100 (12): ES297–ES300.
- L. Cavaleri, M. Bajo, F. Barbariol, M. Bastianini, A. Benetazzo, L. Bertotti, J. Chiggiato, S. Davolio, C. Ferrarin, L. Magnusson, A. Papa, P. Pezzutto, A. Pomaro, G. Umgiesser, 2019. The October 29, 2018 storm in Northern Italy – An exceptional event and its modeling. *Progress in Oceanography* 178, 102178.
- Jesús Portilla-Yandún, Francesco Barbariol, Alvise Benetazzo, Luigi Cavaleri, 2019. On the statistical analysis of ocean wave directional spectra. *Ocean Engineering* 189, 106361.
- J.-F. Filipot, P. Guimarães, F. Leckler, J. Hortsman, R. Carrasco, E. Leroy, N. Fady, M. Accensi, M. Prevosto, R. Duarte, V. Roeber, A. Benetazzo, C. Raoult, M. Franzetti, A. Varing and N. Le Dantec, 2019. La Jument lighthouse: a real-scale laboratory for the study of giant waves and their loading on marine structures. *Phil. Trans. R. Soc. A* 377: 20190008.
- Silvia Torresan, Valentina Gallina, Silvio Gualdi, Debora Bellafiore, Georg Umgiesser, Sandro Carniel, Mauro Sclavo, Alvise Benetazzo, Elisa Giubilo, Andrea Critto, 2019. Assessment of Climate Change Impacts in the North Adriatic Coastal Area. Part I: A Multi-Model Chain for the Definition of Climate Change Hazard Scenarios. *Water*, 11(6), 1157
- Alvise Benetazzo, Luigi Cavaleri, Hongyu Ma, Shumin Jian, Filippo Bergamasco, Wenzheng Jiang, Sheng Chen, and Fangli Qiao, 2019. Analysis of the effect of fish oil on wind waves and implications for air–water interaction studies. *Ocean Science* 15, 725–743.
- Francesco Barbariol, Jean-Raymond Bidlot, Luigi Cavaleri, Mauro Sclavo, Jim Thomson and Alvise Benetazzo, 2019. Maximum wave heights from global model reanalysis. *Progress in Oceanography* 175, 139-160.
- F. Barbariol, A. Benetazzo, L. Bertotti, L. Cavaleri, T. Durrant, P. McComb, M. Sclavo, 2019. Large waves and drifting buoys in the Southern Ocean. *Ocean Engineering* 172, 817-828.
- Pedro Veras Guimarães, Fabrice Arduin, Peter Sutherland, Mickael Accensi, Michel Hamo, Yves Pérignon, Jim Thomson, Alvise Benetazzo, and Pierre Ferrant, 2018. A surface kinematics buoy (SKIB) for wave–current interaction studies. *Ocean Sci.*, 14, 1449–1460.
- Alvise Benetazzo, Filippo Bergamasco, Jeseon Yoo, Luigi Cavaleri, Sun-Sin Kim, Luciana Bertott, Francesco Barbariola, Jae-Seol Shim, 2018. Characterizing the signature of a spatio-temporal wind wave field. *Ocean Modelling* 129, 104–123.
- Cavaleri, L., Abdalla, S., Benetazzo, A., Bertotti, L., Bidlot, J.R., Breivik, Ø., Carniel, S., Jensen, R.E., Portilla Yandun, J., Rogers, W.E., Roland, A., Sanchez-Arcilla, A., Smith, J.M., Staneva, J., Toledo, Y., van Vledder, G.Ph., van der Westhuysen, A.J., 2018. *Progress in Oceanography* 167, 164-233.
- Arduin, F., Aksenov, Y., Benetazzo, A., et al., 2018. Measuring currents, ice drift, and waves from space: the Sea surface Kinematics Multiscale monitoring (SKIM) concept. *Ocean Science* 14, 337–354.
- Bellafiore, D., Zaggia, L., Broglia, R., Ferrarin, C., Barbariol, F., Zaghi, S., Lorenzetti, G., Manfrè, G., De Pascalis, F., Benetazzo, A., 2018. Modeling ship-induced waves in shallow water systems: The Venice experiment. *Ocean Engineering* 155, 227–239.
- Benetazzo*, A., Serafino, F., Bergamasco, F., Ludeno, G., Arduin, F., Sutherland, P., Sclavo, M., Barbariol, F., 2018. Stereo imaging and X-band radar wave data fusion: An assessment. *Ocean Engineering* 152, 346–352.

35. Peureux, C., Benetazzo, A., Ardhuin, F., 2018. Note on the directional properties of meter-scale gravity waves. *Ocean Science* 14, 41–52.
36. Bergamasco, F., Torsello, A., Sclavo, M., Barbariol, F., Benetazzo, A., 2017. WASS: An open-source pipeline for 3D stereo reconstruction of ocean waves. *Computers & Geosciences* 107, 28–36.
37. Benetazzo* A., Ardhuin, F., Bergamasco, F., Cavaleri, L., Guimarães, P.V., Schwendeman, M., Sclavo, M., Thomson, J., Torsello, A., 2017. On the shape and likelihood of oceanic rogue waves. *Scientific Reports* 7, 8276, 1–11.
38. Ricchi, A., Miglietta, M.M., Barbariol, F., Benetazzo, A., Bergamasco, A., Bonaldo, D., Cassardo, C., Falcieri, F.M., Modugno, G., RussoSclavo, M., Carniel, S., 2017. Sensitivity of a Mediterranean Tropical-Like Cyclone to Different Model Configurations and Coupling Strategies. *Atmosphere* 8(5), 92, 1–23.
39. Benetazzo* A., Barbariol, F., Bergamasco, F., Carniel, S., Sclavo, M., 2017. Space-time extreme wind waves: Analysis and prediction of shape and height. *Ocean Modelling* 113, 201–216.
40. Cavaleri, L., Benetazzo, A., Barbariol, F., Bidlot, J.R., Janssen, P.A.E.M., 2017. THE DRAUPNER EVENT The Large Wave and the Emerging View. *Bulletin of the American Meteorological Society* 98(4), 729–735.
41. Benetazzo* A., Gamba, M., Barbariol, F., 2017. Unseeded large scale PIV measurements corrected for the capillary-gravity wave dynamics. *Rend. Fis. Acc. Lincei* 28, 393–404.
42. Barbariol, F., Alves, J.H.G.M., Benetazzo, A., Bergamasco, F., Bertotti, L., Carniel, S., Cavaleri, L., Chao, Y.Y., Chawla, A., Ricchi, A., Sclavo, M., Tolman, H., 2017. Numerical modeling of space-time wave extremes using WAVEWATCH III. *Ocean Dynamics* 67, 535–549.
43. Zavatsky, A., Benetazzo, A., Shemer, L., 2017. On the two-dimensional structure of short gravity waves in a wind wave tank. *Physics of Fluids* 29, 016601–13.
44. Trincardi, F., Barbanti, A., Bastianini, M., Benetazzo, A., Cavaleri, L., Chiggiato, J., Pomaro, A., Sclavo, M., Tosi, L., Umgiesser, G., 2016. The 1966 flooding of Venice: what the time taught us for the future. *OCEANOGRAPHY* 29(4), 178–186.
45. Cavaleri, L., Barbariol, F., Benetazzo, A., Bertotti, L., Bidlot, J.R., Janssen, P.A.E.M., Wedi, N., 2016. The Draupner wave: a fresh look and the emerging view. *JOURNAL OF GEOPHYSICAL RESEARCH: OCEANS* 121, 6061–6075.
46. Bergamasco, F., Benetazzo, A., Barbariol, F., Carniel, S., Sclavo, M., 2016. Multi-view Horizon-driven sea plane estimation for Stereo Wave Imaging on Moving Vessels. *COMPUTERS AND GEOSCIENCES* 95, 105–117.
47. Benetazzo* A., Barbariol, F., Bergamasco, F., Torsello, A., Carniel, S., Sclavo, M., 2016. Stereo wave imaging from moving vessels: Practical use and applications. *COASTAL ENGINEERING* 109, 114–127.
48. Carniel, S., Benetazzo, A., Bonaldo, D., Falcieri, F.M., Miglietta, M.M., Ricchi, A., Sclavo, M., 2016. Scratching beneath the surface while coupling atmosphere, ocean and waves: Analysis of a dense water formation event. *OCEAN MODELLING* 101, 101–112.
49. Bonaldo, D., Benetazzo, A., Bergamasco, A., Campiani, E., Foglini, F., Sclavo, M., Trincardi, F., Carniel, S., 2016. Interactions among Adriatic continental margin morphology, deep circulation and bedform patterns. *MARINE GEOLOGY* 375, 82–98.
50. Carniel, S., Bonaldo, D., Benetazzo, A., Bergamasco, A., Boldrin, A., Falcieri, F.M., Sclavo, M., Trincardi, F., F.M., Langone, L., Sclavo, M., 2016. Off-Shelf Fluxes across the Southern Adriatic Margin: Factors Controlling Dense-Water-Driven Transport Phenomena. *MARINE GEOLOGY* 375, 44–63.
51. Ricchi, A., Miglietta, M.M., Falco, P.P., Benetazzo, A., Bonaldo, D., Bergamasco, A., Sclavo, M., Carniel, S., 2016. On the use of a coupled ocean – atmosphere – wave model during an extreme cold air outbreak over the Adriatic Sea. *ATMOSPHERIC RESEARCH* 172–173, 48–65.
52. Falcieri, F.M., Kantha, L., Benetazzo, A., Bergamasco, A., Bonaldo, D., Barbariol, F., Malačič, V., Sclavo, M., Carniel, S., 2016. Turbulence observations in the Gulf of Trieste under moderate wind forcing and different water column stratification. *OCEAN SCIENCE* 12, 433–449.
53. Barbariol, F., Falcieri, F.M., Scotton, C., Benetazzo, A., Carniel, S., Sclavo, M., 2016. Wave extreme characterization using self-organizing maps. *OCEAN SCIENCE* 12, 403–415.
54. Brando, V.E., Braga, F., Zaggia, L., Giardino, C., Bresciani, M., Matta, E., Bellafiore, D., Ferrarin, C., Maicu, F., Benetazzo, A., Bonaldo, D., Falcieri, F.M., Coluccelli, A., Russo, A., Carniel, S., 2015. High-resolution satellite turbidity and sea surface temperature observations of river plume interactions during a significant flood event. *OCEAN SCIENCE* 11, 909–920.
55. Benetazzo A., Barbariol F., Bergamasco F., Torsello A., Carniel S., Sclavo M., 2015. Observation of extreme sea waves in a space-time ensemble. *JOURNAL OF PHYSICAL OCEANOGRAPHY* 45, 2261–2275.
56. Barbariol F., Benetazzo A., Carniel S., Sclavo M., 2015. Space-time wave extremes: the role of metocean forcings. *JOURNAL OF PHYSICAL OCEANOGRAPHY* 45, 1897–1916.
57. Leckler, F., Ardhuin, F., Peureux, C., Benetazzo, A., Bergamasco, F., Dulov, V., 2015. Analysis and Interpretation of Frequency-Wavenumber Spectra of Young Wind Waves. *JOURNAL OF PHYSICAL OCEANOGRAPHY* 45, 2484–2496.
58. Davolio, S., Stocchi, P., Benetazzo, A., Bohm, E., Riminucci, F., Ravaioli, M., Li, X.-M., Carniel, S., 2015. Exceptional Bora outbreak in winter 2012: Validation and analysis of high-resolution atmospheric model simulations in the northern Adriatic area. *DYNAMICS OF ATMOSPHERES AND OCEANS* 71, 1–20.
59. Sclavo, S., Barbariol, F., Bergamasco, F., Carniel, S., Benetazzo, A., 2015. Italian seas wave extremes: a preliminary assessment. *REND. FIS. ACC. LINCEI* 26(1), 25–35.
60. Benetazzo, A., Bergamasco, A., Bonaldo, D., Falcieri, F.M., Sclavo, M., Langone, L., Carniel, S., 2014. Response of the Adriatic Sea to an intense cold air outbreak: Dense water dynamics and wave-induced transport. *PROGRESS IN OCEANOGRAPHY* 128, 115–138.
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