Ca' Foscari University of Venice
Department of Environmental Sciences, Informatics and Statistics

International Conference Themes 2025 – Long-term trends, abrupt shifts and extreme events in oceanic and atmospheric variability

November 12-14th 2025, Venice, Italy

Program

Wednesday November 12th		
Location: Aula Baratto - Dorsoduro 3246 - 30123 (VE)		
Angelo Rubino	**9:15-9:30**	**Welcome Speech**
Peter Janssen	**9:30 – 10:00**	**INVITED TALK** **Development of a Freak Wave Warning system at ECMWF**
Session 1	**10:00-10:45**	**Oceanic waves**
Eden	Carsten	Direct numerical simulations of surface waves
Alejandro	Caceres Euse	Remote wave forcing effects in local circulation in San Andres Island - Western Caribbean Sea
Francesco	Barbariol	Probabilistic wave and storm surge forecasting at regional scale using reduced ensemble forcings
	10:45-11:30	*COFFEE BREAK*
Session 2	**11:30-12:30**	**Coastal and regional oceanography /1**
Anne	Molcard	Regionalization of extreme wave events in the Caribbean Sea from 60 years of hindcast simulations
Alessio	Rovere	Waves and coastal inundation on tropical coasts under future coral degradation and sea-level rise scenarios
Martin	Vodopivec	Record Bottom Marine Heatwave in the Gulf of Trieste: Summer 2023
Ivica	Vilibić	Surface saline lakes in the Mediterranean Sea
	12:30-14:30	*LUNCH (*)*

Giovanni Liguori	**14:30– 15:00**	**INVITED TALK** **Disentangling ENSO and IOD Teleconnections**

Session 3	**15:00-16:00**	**From large-scale to global perspectives**
Gianluca	Alimonti	The climate "metrics" trilogy
Nicolò	Landi	Revisiting null hypotheses for ENSO-IOD relationship
Natalija	Dunić	Open Science in Oceanography: A Global Perspective
Nicola	Scafetta	Detection, attribution, and modelling of climate change: Key open issues

	16:00-16:30	*COFFEE BREAK*

Session 4	**16:30-17:30**	**Ocean dynamics/1**
Francesco	Paladini de Mendoza	Harnessing the Power of Synergistic, Long-Term Multi-Platform Observations to advance ocean process studies in the Adriatic Sea
Alessandro	Comunian	Filling the gaps in HF radar derived currents: comparing two techniques on the Gulf of Naples dataset
Elysee	Manimpire Gasana	Argo-Derived Geostrophic Currents in the Upper 2000 m of the Mediterranean Sea: Validation and Methods
Sara	Rubinetti	Historical and Future Wind Regimes as Drivers of Marine Connectivity in the German Bight, North Sea

Thursday November 13th

Location: Aula Baratto - Dorsoduro 3246 - 30123 (VE)

Claudia Timmreck	**9:30 – 10:00**	**INVITED TALK** **Studying the climate impact of large volcanic eruptions with a SMILE**

Session 5	**10:00-10:45**	**DEMETRA: understanding volcano-climate interactions**
Stergios	Misios	Mediterranean climate response to large volcanic eruptions in large ensemble simulations
Davide	Zanchettin	Post-Pinatubo cooling: perspectives from CMIP6
Vito	Zago	Technologies for predicting volcanic impacts on climate

	10:45-11:15	*COFFEE BREAK*

Session 6	**11:15-12:30**	**Atmospheric and climate dynamics**
Enrico	Ferrero	Atmospheric flow over schematic urban environment in a rotating water tank
Daniela	Flocco	Air Temperature Reconstruction and Anomaly Clustering in the Naples Region Using Satellite-Derived LST
Sedra	Shafi	Management of missing air pollution data within urban environments using machine learning regressions: a case study for Delhi, India
Luigi	Cavaleri	The personal atmosphere - the basic idea
Angela	Pomaro	The personal atmosphere - software and real time applications

	12:30-14:30	*LUNCH (*)*

Session 7	**14:30-15:30**	**Coastal and regional oceanography /2**
Adolf Konrad	Stips	Baltic Sea eutrophication trends - revisited
Clea Lumina	Denamiel	The Impact of Far-Future Extreme Warming on Adriatic Marine Heatwaves: Insights from a Kilometre-scale Atmosphere-Ocean Model
Davide	Bonaldo	Thermal extremes, circulation regimes and dense water dynamics in the Adriatic Sea in a severe climate change scenario: projections from the AdriE ensemble
Johann	Jungclaus	Long-term trends, abrupt shifts, and extreme events in the North Atlantic realm: Results from Large Ensemble simulations with climate models

	15:30-16:30	*COFFEE BREAK*

Session 8	**16:30-17:15**	**Dynamics of the cryosphere**
Mauro	Masiol	15 years of oxygen and hydrogen isotopic composition of daily precipitation at Concordia station, East Antarctica
Lukrecia	Stulic	Antarctic sea ice variability in multi-model large ensembles
Lorenzo	Pasculli	Arctic Atlantification-related variability observed in the deep-sea time series southwest offshore Svalbard: temporal evolution and possible drivers

Friday November 14th		
Location: Aula Baratto - Dorsoduro 3246 - 30123 (VE)		

Gianmaria Sannino	**10:00-10:30**	**INVITED TALK From Fluid Dynamics to Coastal Inundation: A Review of Climate Modeling for Sea-Level Rise Assessment**
Session 9	**10:30-11:45**	**Ocean dynamics/2**
Stefano	Pierini	Intrinsic oceanic variability: from the North Atlantic Ocean to the Mediterranean Sea
Michele	Gnesotto	Sea Level Variability in The Mediterranean Sea: An Update
Manita	Chouksey	Role of mesoscale eddies in ventilation pathways of the Southern Ocean
Alma	Rebronja	Characterising mesoscale oceanic eddies
Angelo	Rubino	Some reflections on elliptical mesoscale vortices

	11:45 – 12:00	FINAL DISCUSSION
	12:00 – 13:00	END OF THEMES2025

All talk slots, except key-note talks, include a 12-minute presentation and 3 minutes for discussion
(*) at participants' cost

Detailed list of contributions

Alimonti G.(1), Mariani L.(2)
The climate "metrics" trilogy
(1) INFN&UniMi, Milano
(2) Università degli Studi, Brescia – Dicatam

Barbariol F. (1), Ferretti R. (2), Favaretto C. (3), Benetazzo A. (1), Ferrarin C. (1), Bertotti L. (1), Cavaleri L. (1), Redaelli G. (2), Ricchi A. (2), Nastasi M. (2), Bergamasco F. (4), Pistellato M. (4)
Probabilistic wave and storm surge forecasting at regional scale using reduced ensemble forcings
(1) CNR-ISMAR, Venice, Italy
(2) University of L'Aquila, L'Aquila, Italy
(3) University of Padua, Padua, Italy
(4) Ca' Foscari University of Venice, Venice, Italy

Bonaldo D. (1), Bongiorni L. (1), Carniel S. (2), Colucci R. R. (2), Ghezzo M. (1), Pesce A. (1,3), Pranić P. (4), Raicich F. (5), Ricchi A. (6,7), Sangelantoni L. (8), Vilibić I. (9,10), Vitelletti M. L. (1)
Thermal extremes, circulation regimes and dense water dynamics in the Adriatic Sea in a severe climate change scenario: projections from the AdriE ensemble
(1) National Research Council, Institute of Marine Sciences (CNR-ISMAR), Venice, Italy
(2) National Research Council, Institute of Polar Sciences (CNR-ISP), Venice, Italy
(3) Environmental Sciences, Informatics and Statistics Department, Ca' Foscari University of Venice, Venice, Italy
(4) Institute of Oceanography and Fisheries, Split, Croatia

(5) National Research Council, Institute of Marine Sciences (CNR-ISMAR), Trieste, Italy
(6) Department of Physical and Chemical Sciences, University of L'Aquila, L'Aquila, Italy
(7) Center of Excellence in Telesensing of Environment and Model Prediction of Severe Events (CETEMPS), University of L'Aquila, L'Aquila, Italy
(8) CMCC Foundation - Euro-Mediterranean Center on Climate Change, Bologna, Italy
(9) Ruder Bošković Institute, Division for Marine and Environmental Research, Zagreb, Croatia
(10) Institute of Adriatic Crops and Karst Reclamation, Split, Croatia

Caceres Euse A. (1)
Remote wave forcing effects in local circulation in San Andres Island - Western Caribbean Sea
(1) Université de Toulon, Aix Marseille Univ., CNRS, IRD, MIO, Toulon, France

Carsten E. (1), Czeschel L. (1)
Direct numerical simulations of surface waves
(1) Universität Hamburg, Germany

Cavaleri L.(1), Pomaro A.(1)
The personal atmosphere - the basic idea
(1) CNR-ISMAR

Chouksey M. (1), Griesel A. (2), Schäfers S. (3)
Role of mesoscale eddies in ventilation pathways of the Southern Ocean
(1) Leibniz-Institute for Baltic Sea Research
(2) University of Hamburg
(3) GEOMAR, Kiel

Comunian A. (1), Giudici M. (1), Falco P. (2), Zambianchi E. (3), Di Lemma R. (4)
Filling the gaps in HF radar derived currents: comparing two techniques on the Gulf of Naples dataset
(1) Università degli Studi di Milano
(2) Università Politecnica delle Marche
(3) Sapienza Università di Roma
(4) Università degli Studi di Napoli Parthenope

Denamiel C. (1)
The Impact of Far-Future Extreme Warming on Adriatic Marine Heatwaves: Insights from a Kilometre-scale Atmosphere-Ocean Model
(1) Ruđer Bošković Institute

Dunić N. (1), Vilibić I. (2,3)
Open Science in Oceanography: A Global Perspective
(1) Institute of Oceanography and Fisheries, Š.I.Meštrovića 63, 21 000 Split, Croatia
(2) Ruđer Bošković Institute, Bijenička cesta 54, 10 000 Zagreb, Croatia
(3) Institute for Adriatic Crops and Karst Reclamation, Put Duilova 11, 21 000 Split, Croatia

Ferrero E. (1), Manfrin M. (2), Andreoli V. (2), Rubinetti S. (1)
Atmospheric flow over schematic urban environment in a rotating water tank
(1) University of Eastern Piedmont, Vercelli, Italy
(2) University of Turin, Turin, Italy

Flocco D. (1), Piegari E. (1), Scafetta N. (1)
Air Temperature Reconstruction and Anomaly Clustering in the Naples Region Using Satellite-Derived LST
(1) Dipartimento di Scienze della Terra, dell'Ambiente e delle Risorse (DiSTAR), Università di Napoli Federico II

Gasana E. M. (1), Pirro A. (1), Mauri E. (2), Martellucci R. (2), Gačić M. (1), Menna M. (1)
Argo-Derived Geostrophic Currents in the Upper 2000 m of the Mediterranean Sea: Validation and Methods

(1) University of Trieste /OGS, Trieste, Italy
(2) OGS, Italy

Gnesotto M. (1), Rubino A. (1), Zanchettin D. (1)
Sea Level Variability in The Mediterranean Sea: An Update

(1) Ca' Foscari University of Venice

Janssen P.A.E.M. (1)
Development of a Freak Wave Warning system at ECMWF

(1) ECMWF

Jungclaus J. (1), Bader J. (2), Liu Q. (1,3), Nazirova H. (4,1), Lohmann K. (1), Matei D. (1)
Long-term trends, abrupt shifts, and extreme events in the North Atlantic realm: Results from Large Ensemble simulations with climate models

(1) Max Planck Institute for Meteorology, Hamburg, Germany
(2) University of Hamburg, Germany
(3) International Max Planck Research School on Earth System Modelling, Hamburg, Germany
(4) University of Bremen, Germany

Landi N. (1), Liguori G. (1,2)
Revisiting null hypotheses for ENSO-IOD relationship

(1) University of Bologna, Department of Biological, Geological, and Environmental Sciences, Italy
(2) CMCC Foundation - Euro-Mediterranean Center on Climate Change, Italy

Liguori G. (1)
Disentangling ENSO and IOD Teleconnections

(1) University of Bologna

Masiol M. (1), Dreossi G. (1), Zannoni D. (1), Salvini M. (1), Stenni B. (1)
15 years of oxygen and hydrogen isotopic composition of daily precipitation at Concordia station, East Antarctica

(1) Ca' Foscari University of Venice

Misios S. (1)
Mediterranean climate response to large volcanic eruptions in large ensemble simulations

(1) Academy of Athens

Paladini de Mendoza F. (1), Martellucci R. (2), Menna M. (2), Pirro A. (2), Reale M. (2), Gačić M. (2), Poulain P. M. (3), Riminucci F. (4), Le Meur J. (2), Giordano P. (1), Cardin V. (2), Cantoni C. (4), Bergami C. (4), Grilli F. (4), Marini M. (5), Gallo A. (2), Notarstefano G. (2), Toller S. (4), Bastianini M. (4), Krali M. (2), Diociaiuti T. (2), Pacciaroni M. (2), Bussani A. (2), Miserocchi S. (1), Langone L. (1), Mauri E. (2)
Harnessing the Power of Synergistic, Long-Term Multi-Platform Observations to Advance to advance ocean process studies in the Adriatic Sea

(1) National Research Council - Institute of Polar Sciences (CNR-ISP)
(2) National Institute of Oceanography and Applied Geophysics (OGS)
(3) Centre for Maritime Research and Experimentation (CMRE)
(4) National Research Council - Institute of Marine Sciences (CNR-ISMAR)
(5) National Research Council - Institute for Biological Resources and Marine Biotechnologies (CNR-IRBIM)

Caceres-Euse A. (1), **Molcard A. (1),** Orfila A. (2), Morales-Marquez V. (3)
Regionalization of extreme wave events in the Caribbean Sea from 60 years of hincast simulations
(1) University of Toulon
(2) IMEDEA-CSIC
(3) Puertos del Estado

Pasculli L. (1), Bensi M. (1), Kovacevic V. (1), Langone L. (2), Giordano P. (2)
Arctic Atlantification-related variability observed in the deep-sea time series southwest offshore Svalbard: temporal evolution and possible drivers
(1) OGS - National Institute of Oceanography and Applied Geophysics, Trieste, Italy
(2) CNR - National Research Council of Italy, ISP - Institute of Polar Sciences, Bologna, Italy

Pomaro A. (1), Cavaleri L. (1)
The personal atmosphere - software and real time applications
(1) CNR-ISMAR, Venice

Rebronja A. (1), Gnesotto M. (1), Zanchettin D. (1), Rubino A. (1)
Characterising mesoscale oceanic eddies
(1) Ca' Foscari University of Venice

Rovere A. (1), Harris D. (2), Carlot J. (3), Parravicini V. (3)
Waves and coastal inundation on tropical coasts under future coral degradation and sea-level rise scenarios.
(1) Università Ca' Foscari di Venezia
(2) University of Queensland
(3) EPHE, Universitè de Perpignan, France

Rubinetti S. (1,2), Sidorenko V. (2), Ortega M. (3,4,5) & CREATE project members
Historical and Future Wind Regimes as Drivers of Marine Connectivity in the German Bight, North Sea
(1) University of Eastern Piedmont, Vercelli, Italy
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Rubino A. (1), Gnesotto M. (1), Zanchettin D. (1)
Some reflections on elliptical mesoscale vortices
(1) Università Ca' Foscari di Venezia DAIS

Sannino G. (1)
From Fluid Dynamics to Coastal Inundation: A Review of Climate Modeling for Sea-Level Rise Assessment
(1) ENEA - Agenzia nazionale per le nuove tecnologie, l'energia e lo sviluppo economico sostenibile

Scafetta N. (1)
Detection, attribution, and modeling of climate change: Key open issues
(1) University of Naples Federico II

Stips A. K. (1), Polimene L. (1), Parn O. (1), Macias D. (1)
Baltic Sea eutrophication trends - revisited
(1) European Commission, Joint Research Centre (JRC), Ispra, Italy

Stulic L. (1,2), Liguori G. (1,2), Iovino D. (2), Morioka Y. (3)
Antarctic sea ice variability in multi-model large ensambles
(1) Department of Biological, Geological, and Environmental Sciences, University of Bologna, Italy
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(3) Application Laboratory, VAiG, JAMSTEC, Yokohama, Japan

Timmreck C. (1)
Studying the climate impact of large volcanic eruptions with a SMILE
(1) Max-Planck-Institute for Meteorology, Hamburg, Germany

Vodopivec M. (1), Giordano F. (2), Salon S. (2), Querin S. (2), Ličer M. (1,3)
Record Bottom Marine Heatwave in the Gulf of Trieste: Summer 2023
(1) Marine Biology Station Piran, National Institute of Biology, Slovenia
(2) National Institute of Oceanography and Applied Geophysics—OGS, Italy
(3) Slovenian Environment Agency, Slovenia

Pierini S. (1)
Intrinsic oceanic variability: from the North Atlantic Ocean to the Mediterranean Sea
(1) Dipartimento di Scienze e Tecnologie, Università di Napoli Parthenope

Shafi S. (1)
Management of missing air pollution data within urban environments using machine learning regressions: a case study for Delhi, India
(1) University of Naples Federico II

Terzić E. (1), Gardiol C. (2), **Vilibić I. (1,3)**
Surface saline lakes in the Mediterranean Sea
(1) Ruđer Bošković Institute, Division for Marine and Environmental Research, Zagreb, Croatia
(2) SeaTech, Ecole d'ingénieurs – Université de Toulon, Toulon, France
(3) Institute for Adriatic Crops, Split, Croatia

Zanchettin D. (1,2)
Post-Pinatubo cooling: perspectives from CMIP6
(1) Università Ca' Foscari di Venezia DAIS
(2) Istituto Nazionale di Geofisica e Vulcanologia - Osservatorio Etneo, Catania

Zago V. (1)**,** E. Amato (1), L. Basile (1), S. Cariello (1), A. Malaguti (1), F. Torrisi (1), C. Del Negro (1)
Technologies for predicting volcanic impacts on climate
(1) Istituto Nazionale di Geofisica e Vulcanologia - Osservatorio Etneo, Catania