



### Session Information

#### Oral Sessions

Sessions are being held in the **Convention Center (CC)**

#### Poster Sessions

The eLightning Theater is located in Hall C-D (Poster Hall).

Posters are on display in the following venue throughout the week:

**Hall C-D (Poster Hall)**

### Session & Paper Numbering

Paper Numbers - A paper number designates the section, or other sponsoring group, and chronology of the presentation.

Example: **AI21A-01** = Air-Sea Interactions, Tuesday, AM, concurrent session AI, first paper in that session.

**AI 2 1 A - 01**

Discipline	Day	Time	Session	Sequence in Session
<b>Day</b>	<b>Time</b>			
1 = Monday	1 = AM 0800-1000			
2 = Tuesday	2 = AM 1030-1230			
3 = Wednesday	3 = PM 1245-1345 / 1400-1600			
4 = Thursday	4 = PM 1600-1800			
5 = Friday	5 = PM 1830-2030			

*The program is current as of 04 February 2020. An omitted abstract ID number in the presentation order indicates that the abstract has been withdrawn by the presenter from the session. Please refer to the online program at*

*<https://agu.confex.com/agu/osm20/meetingapp.cgi/Home> for updates.*

## Tuesday A.M.

### AIR-SEA INTERACTIONS

#### AI21A 14A, Mezzanine

**Tuesday 0800h**

**Tropical Cyclone-Ocean Interactions: From Weather to Climate I (joint with PL)**

**Moderators: Gregory Foltz**, NOAA Miami; **Karthik Balaguru**

- 0800h **AI21A-01** Arrested development of a tropical cyclone: Measurements from a profiling float array: **S Johnston**, D L Rudnick, J Moum, N Brizuela
- 0812h **AI21A-02** Evaluating the Ocean Response to Hurricanes Irma and Florence in the ECMWF Model: **E Sanabia**, K Mogensen, S R Jayne, L Magnusson, C Densmore, G Rovira-Melendez, S J Sun
- 0824h **AI21A-03** OBSERVED OCEAN-ATMOSPHERE INTERACTIONS DURING TROPICAL CYCLONE MICHAEL'S RAPID INTENSITY CHANGES: **L K Shay**, B Jaimes de la Cruz, J Wadler, L R Centurioni, J Zhang, J Brewster, L Hiron
- 0836h **AI21A-04** AGU Centennial Monograph – ENSO in a Changing Climate: ENSO and Tropical Cyclones: **I I Lin**, S Camargo, C M Patricola, J Boucharel, S Chand, P Klotzbach, J C L Chan, B Wang, P Chang, T Li, F F Jin
- 0848h **AI21A-05** Ocean precursors to the extreme Atlantic 2017 hurricane season: **S Hallam**, R Marsh, S A Josey, P Hyder, J Hirschi
- 0900h **AI21A-06** Impact of ocean conditions on hurricane development and forecast: examples of Hurricanes Maria (2017) and Michael (2018): **M Le Henaff**, R M Domingues, G J Goni, G R Halliwell Jr, F Bringas, H S Kim, J Dong, A Mehra, V Tallapragada
- 0912h **AI21A-07** Wave Coupling Sensitivity Investigations with a Coupled Hurricane-Ocean Model: **H S Kim**, J Meixner, B Liu, A J Wallcraft, A Mehra, V Tallapragada
- 0924h **AI21A-08** Scientific Results from the 2018 & 2019 North Atlantic Hurricane Glider Picket Lines: **S M Glenn**, T N Miles, M F Aristizabal, C Watkins, H S Lim
- 0936h **AI21A-09** Hurricane-Induced Marine Nutrient and Carbon Responses in the Upper Ocean: **L C McGee**, R He

## COASTAL AND ESTUARINE PROCESSES

### CP21A 10, UL

Tuesday 0800h

#### Human Populations and Influences in the Coastal Zone: Effects on Ocean and Human Health (OHH) I (joint with MM, SI)

**Moderators:** **Henrietta Edmonds**, National Science Foundation; **Frederick Tyson**, National Institute of Environmental Health Sciences

- 0800h **CP21A-01** Distribution of pathogenic vibrios in coastal water: **A S Jutla**, R R Colwell, A Huq
- 0815h **CP21A-02** OysterFutures: testing a collaborative modeling process to enhance fisheries and ecosystem health: **E W North**, M J Wilberg, J Blair, J C Cornwell, M Damiano, R Gawde, T Goelz, R M Jones, T W Hartley, C Hayes, R R Hood, M L Jackson, E Nastase, D Taillie, J E Thomas, L A Wainger
- 0830h **CP21A-03** The Effects of Climate Change and Urbanization on the Virulence and Antibiotic Resistance of Vibrio Bacteria Affecting Seafood Safety and Contact Recreation in the Coastal Zone: **G Scott**, S I Chatterjee, C Horton, P A Sandifer, M DeLorenzo, R S Norman
- 0845h **CP21A-04** Oceans and Human Health: The Great Lakes Center for Fresh Waters and Human Health at Bowling Green State University: **G Bullerjahn**
- 0900h **CP21A-05** The complicated, no good, multifaceted and confusing reasons for *Microcystis* blooms.: **S Wilhelm**, R M Martin, L E Krausfeldt, H L Pound, B N Zepernick, B Klein, G R LeClerc, S E Papoulis, H F Castro, X Tang, D Talmy, F Hellweger, A Pinto, E Zinser, S R Campagna, G L Boyer
- 0915h **CP21A-06** Regional Monitoring for Sediment and Water Quality in the Urban Ocean of the Southern California Bight: **K McLaughlin**, K Schiff, N Bednarsek, B Du, D Gillett, J F Griffith, D Greenstein, A Parks, J Smith, S Weisberg
- 0930h **CP21A-07** The Greater Caribbean Center for Ciguatera Research: Climate Change and Human Health: **M Parsons**, R Sobol, D M Anderson, M Richlen, D Erdner, A Robertson, J Pierce, J James, C Daniel, T B Smith, J Lowman
- 0945h **CP21A-08** The Woods Hole Center for Oceans and Human Health: Focus and Findings: **J Stegeman**, D M Anderson, D J McGillicuddy Jr, M E Hahn, M Richlen, N Aluru, M Brosnahan, K Hubbard, J M Panlilio, D K Ralston

### CP21B 9, UL

Tuesday 0800h

#### Impacts of Microplastics on Marine Organisms and Ecosystem Health I (joint with ME, OC)

**Moderators:** **Dorothy Horn**, Portland State University; **Samantha Athey**, University of North Carolina Wilmington

- 0800h **CP21B-01** A Global Review of the Relationship Between Microplastic Ingestion and Trophic Level in Marine Fishes: **G Covernton**, H L Davies, K D Cox, R El-Sabaawi, F Juanes, J Dower
- 0810h **CP21B-02** Abundance and characteristics of microplastics in the mangrove sediment of the semi-enclosed Maowei Sea of the South China Sea: New implications for location, rhizosphere, and sediment compositions: **R Li**, Y Wang, S Wang, K Yu, W Zhang
- 0830h **CP21B-04** Impacts of Microplastics on Swimming Behavior of the Copepod *Temora turbinata* (Dana, 1849): **C Suwaki**, L T de la Cruz, F M Neves, Y G B Felipe, R M Lopes
- 0840h **CP21B-05** Microplastic Distribution and Abundance in Mussels Along the California and Oregon Coasts: **I Mangino**, B Baechler, S A Gravem, E F Granek, J Dickens, S M Brander, L Field
- 0850h **CP21B-06** Microplastic occurrence in marine water and sediments from selected areas of Western Cebu, Central Philippines: **M K Paler**, C Leistenschneider, V Migo, P Burkhardt-Holm
- 0900h **CP21B-07** Microplastic-associated microbes: variability and trends in the Bay of Naples (Italy): **R Casotti**, V Donnarumma, F D'Agostino, R Piredda, E Zettler, C Murano, A Palumbo, A Passarelli, L Amaral Zettler, A Adame Rodriguez
- 0910h **CP21B-08** Occurrences of Microplastics In Relation To Zooplankton Species Abundance In Lagos Lagoon: **O Abiodun**, F I Osuala, A A Otitolaju
- 0920h **CP21B-09** Spatial and Temporal Trends in Microplastic Ingestion by Pacific mole crabs (*Emerita analoga*) in San Diego, CA: **S Searcy**
- 0930h **CP21B-10** Spatial-temporal occurrence of microplastics in *Sebastes melanops* off the coast of Oregon: **K S Lasdin**, A Agrawal, J G Laundry, S M Brander
- 0940h **CP21B-11** The ocean's ultimate trashcan: Hadal trenches as major depositories for plastic pollution: **G Peng**, R G J Bellerby, F Zhang, X Sun, D Li
- 0950h **CP21B-12** Vertical Distribution of Microplastics in Sediment Reflecting Effects of Sedimentation Dynamics and Anthropogenic Activities: **C Sun**

**CP21C 8, UL**

**Tuesday 0800h**

**Nearshore Processes IV**

**Moderators:** **Sylvia Rodriguez-Abudo**, University of Puerto Rico Mayaguez; **Alexander Rey**, Queen's University

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- 0800h **CP21C-01** Hydrodynamics of a Tidally-driven Alongshore Flow over a Fringing Coral Reef: **A M Amador**, G R Pawlak, I B Arzeno, S N Giddings, M Merrifield
- 0815h **CP21C-02** Linear Bottom Friction in Tidal Estuaries with Superimposed Ripples and Reversing Mega-Ripples: **P Traykovski**, Z Cheng, C Hegermiller, D K Ralston, W R Geyer
- 0830h **CP21C-03** Observations and Modeling of Morphological Change in a Tidal Channel at Seasonal to Annual Time Scales: **D K Ralston**, P Traykovski
- 0845h **CP21C-04** Subtidal contributions to hydro- and morpho-dynamics at a wave dominated inlet system: **J L Humberston**, T C Lippmann, J McNinch
- 0900h **CP21C-05** Low-frequency current oscillations triggered by wave-current interactions in a mixed-energy tidal inlet: **C Rojas**, M Olabarrieta, J C Warner, X Bertin, A Valle-Levinson
- 0915h **CP21C-06** Shear Instabilities of Tidal Currents in Inlets and Estuaries: **K A Kirk**, T C Lippmann
- 0930h **CP21C-07** The Hydraulics of Deception Pass: **C L Paternostro**, L A Heilman, G Dusek, K A Kirk, C Kammerer, D Maczko
- 0945h **CP21C-08** Low Frequency Vessel-Generated Waves in a Tidal River: **A Muscalus**, K A Haas

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**CP21D Poster Hall C-D; eLightning Theater**

**Tuesday 0800h**

**Hydrodynamics and Morphodynamics of Tropical Estuaries and Deltas eLightning (joint with PS)**

**Moderators:** **Juan Paniagua-Arroyave**, University of Florida; **Juan Restrepo**, Universidad EAFIT

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**CP21D-01** *eLIGHTNING* Circulation and Suspended Sediment Concentrations in a Highly Stratified Estuary in the Caribbean Sea: **L Velasquez Montoya**, C A Escobar

**CP21D-02** *eLIGHTNING* Sediment Pollution Impacts in The Coastal Zone of Cartagena Bay, Colombia: Monitoring, Modelling and Management: **M Tosic**, J D Restrepo Sr, F Martins, S Lonin, A Izquierdo

**CP21D-03** *eLIGHTNING* Eliminating the effect of artificial ponding in salt marsh flooding and draining: **M Deb**, J T Kirby Jr, F Shi, A Abdolali

**CP21D-04** *eLIGHTNING* Bathymetrically-induced Residual Eddies Revisited: Investigating Enstrophy Balance Using Multiscale Perturbation Expansion: **G Li**, G Coco, M Bowen

**CP21D-05** *eLIGHTNING* Simulation of Freshwater Transport and controls on salt intrusion in the Ganges-Brahmaputra-Meghna (GBM) delta: **Y Sun**, L Bricheno, K Horsburgh, M Payo Payo

**CP21D-06** *eLIGHTNING* Salt Balance Evolution during the Monsoon Onset: a Case Study in the Pearl River Delta (China): **M Payo Payo**, L Bricheno, W Cheng, W Gong, L Amoudry

**CP21D-07** *eLIGHTNING* Physical mechanisms of hypoxic events and temperature inversions in Bahia Almirante, a shallow tropical embayment in Bocas del Toro, Panama: **A E Adelson**, K A Davis, S N Giddings, R Collin, V Reed, A Altieri, G R Pawlak

**CP21D-08** *eLIGHTNING* Sediment-Transport Pathways in Estuarine Channels With Lateral Bathymetric Variation: **J Zhou**, M T Stacey

**CP21D-09** *eLIGHTNING* Mixing in the Johor Strait, an Evaluation of High Intensity Short Duration Storms Using Integrated Inland and Coastal Water model: **S K Ooi**, H Trinh, S H X Tay

**CP21D-10** *eLIGHTNING* Fluvial fluxes from the Magdalena River into Cartagena Bay, Caribbean Colombia: Trends, future scenarios, and connections with upstream human impacts: **J D Restrepo Sr**, M Tosic

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**CHEMICAL TRACERS, ORGANIC MATTER AND TRACE ELEMENTS**

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**CT21A 5B, UL**

**Tuesday 0800h**

**Revealing Biogeochemical Processes on Basin Scales through Ocean Transects III (joint with NC, OB, OM)**

**Moderators:** **Phoebe Lam**, University of California Santa Cruz; **Rob Middag**, Royal Netherlands Institute for Sea Research

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0800h **CT21A-01** Re-analysis of Bioactive Trace Element Atmospheric Deposition along the P16 CLIVAR Line: **W M Landing**, C S Buck, D C Kadko, A Milne

- 0815h **CT21A-02** Constraining iron sources and cycling during seasonal bloom development in the Australian sector of the Southern Ocean: **P M Barrett**, R Grün, R F Strzepek, M J Ellwood
- 0830h **CT21A-03** Copper concentrations and isotopic composition in the North Pacific: **S C Yang**, X Bian, T M Conway, P S John
- 0845h **CT21A-04** Controls of Copper in the Ocean: **S Roshan**, T J DeVries, J Wu
- 0900h **CT21A-05** The distribution of dissolved molybdenum, vanadium and uranium in the Atlantic Ocean: **I Velasquez**, S Poehle, A Koschinsky
- 0915h **CT21A-06** Inter-Basin Comparison of Boundary Scavenging Expressed in Dissolved and Particulate Thorium and Protactinium Along GEOTRACES GN01, GP16, and GA03 Transects: **S M Vivancos**, R F Anderson, M Q Fleisher, F J Pavia, P Zhang, X Li, H Cheng, R L Edwards, Y Xiang, P J Lam
- 0930h **CT21A-07** Lead concentration and isotopic compositions in the central Pacific basin: GEOTRACES PMT (GP15): **E A Boyle**, S Jiang
- 0945h **CT21A-08** Quantifying Atmospheric Trace Element Deposition on a Global Scale with GEOTRACES Transect Data: **D C Kadko**, W M Landing, C Buck, C M Marsay

- 0845h **ED21A-04** Engaging 7-12 grade STEM audiences using novel low-cost sensors as teaching tools for environmental science learning modules: **B T Glazer**
- 0900h **ED21A-05** Using Authentic Data from the Ocean Observatories Initiative in Undergraduate Teaching: **H I Palevsky**, C L Greengrove, C S Lichtenwalner, A Pfeiffer-Herbert, S Severmann, D C Soule, S Murphy, L Smith, K Yarincik
- 0915h **ED21A-06** OOI Data Explorations: A Collection of Online Data Visualization Activities to Engage Introductory Undergraduate Students: **C S Lichtenwalner**, J D McDonnell, C Halversen, D C Soule, A Pfeiffer-Herbert, K I Hunter-thomson
- 0930h **ED21A-07** OOI Data Labs Workshops: Equipping professors with the tools to tap into a fire hose of ocean data for undergraduate education: **A Pfeiffer-Herbert**, D C Soule, B A Love, E A R Iverson, E Altermatt, J D McDonnell, C S Lichtenwalner, C Halversen, K I Hunter-thomson, D Bristol
- 0945h **ED21A-08** Teaching Students Plate Tectonics and Seafloor Magmatism Using Ocean Observing Initiative (OOI) Data and Resources: **B R Jordan**, C S Lichtenwalner

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## HIGH LATITUDE ENVIRONMENTS

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### HE21A 1B, UL

Tuesday 0800h

**Changing Biogeochemical Fluxes, Biodiversity, and Ecological Processes in the Polar Seas, with Special Emphasis on the Coastal Arctic and Sustaining an Integrated Arctic Ocean Observing System I** (*joint with CP, IS, ME, OB, OM, PI*)

**Moderators:** **Maria Tzortziou**, City University of New York; **Ilka Peeken**, Alfred-Wegener-Institut; **Bruce Howe**, University of Hawaii at Manoa; **Maria Vernet**, Scripps Institution of Oceanography

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## EDUCATION, OUTREACH AND POLICY

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### ED21A 11B, UL

Tuesday 0800h

**Teaching with Data: Engaging Students in Learning Ocean Sciences Through Large Data Sets I** (*joint with IS, OD, SI*)

**Moderators:** **Cheryl Greengrove**, University of Washington Tacoma; **Logan Brenner**, Columbia University

- 0800h **ED21A-01** Easy Online Visualization of Oceanographic Data Using NOAA's ERDDAP Data Servers: **C Wilson**, D H Robinson
- 0815h **ED21A-02** Engaging students and teachers in science learning and data literacy through inquiry with real time data in the context of locally relevant climate change phenomena: **S Pedemonte**, E L Weiss, J Apple, C Halversen
- 0830h **ED21A-03** Design and Delivery of a Novel Research-Based Undergraduate Curriculum: Proficiency in Ocean Data Science (PODS): **L Maranda**, R A Pockalny, B D Campbell, C R Kincaid

- 0800h **HE21A-01** The Physical Ocean Environment as a Predictor of Brine Volume and Sea Ice Biogeochemistry: **A Cranch**, B Else, L A Dalman, R P Sims, B Segal, S Jones
- 0815h **HE21A-02** Effects of sea ice coverage on sedimentary iron and manganese cycling at the Eurasian Arctic Margin: **A Tessin**, C März, H J Brumsack, J J Matthiessen, M A Blais, M O'Regan, B Schmetger

- 0830h **HE21A-03** Silicon Cycling in Greenlandic fjords: Comparison of Marine and Land-Terminating Glaciers: **J Hatton**, H C Ng, A Beaton, L Meire, K R Hendry
- 0845h **HE21A-04** First Measurements of Spring Primary Production in central Hudson Bay: **L Matthes**, L A Dalman, J K Ehn, J E Tremblay, J Lee, S Belanger, I Peeken, C J Mundy
- 0900h **HE21A-05** Biogeographical shifts in key Calanus species in the Arctic Ocean driven by sea-ice decline: **E Ershova**, K N Kosobokova, N Banas, B Niehoff, N Hildebrandt, I Ellingsen
- 0915h **HE21A-06** Unexpected Low Diversity of a Key Phytoplankton Group along the West Antarctic Peninsula: **M S Brown**, J S Bowman, Y Lin, N Cassar, O Schofield
- 0930h **HE21A-07** Glacial Discharge and its Impact on Phytoplankton Taxonomic Composition in an Antarctic Fjord: **B J Pan**, M Vernet, L Manck, K Forsch, L Ekern, M Mascioni, K Barbeau, G O Almandoz, A J Orona
- 0945h **HE21A-08** How do light and iron affect phytoplankton populations in the western Antarctic Peninsula?: **H Joy-Warren**, A C Alderkamp, E Baldonado, M Glickman, G van Dijken, K M Lewis, K E Lowry, W van de Poll, K R Arrigo

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**HE21B 2, UL**

**Tuesday 0800h**

**Ice-Ocean Interactions and Circulation Around the Antarctic Margins I** (*joint with OM, PL, PS*)

**Moderators:** **Andrew Stewart**, University of California Los Angeles; **Louise Biddle**, University of Gothenburg

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- 0800h **HE21B-01** Vulnerability of Eastern Thwaites Ice Shelf, West Antarctica to Warm Ocean Water: Insights from First AUV Exploration of Sub-Ice-Shelf Environment: **E C Pettit**, A Wahlin, K J Heywood, B Y Queste, R Hall, L Boehme, T A Scambos, J Lenaerts, M Truffer, A Muto, C T Wild
- 0815h **HE21B-02** Seaglider and Float Observations Beneath Dotson Ice Shelf, West Antarctica: **P Dutrieux**, C Lee, L Rainville, J I Gobat, J B Girton, K A Christianson, T W Kim, S Lee, R Millan
- 0830h **HE21B-03** Updating our understanding of oceanic controls on glacier terminus retreat along the west Antarctic Peninsula: **D Sutherland**, K L Riverman, M S Dinniman, C F Moffat, B Aguiar-González, R Obermeyer, J M Klinck II
- 0845h **HE21B-04** Positive and Negative Feedbacks to Antarctic Ice Shelf Melt in an Eddy Rich Global Ocean–Sea-Ice Model: **R Moorman**, A K Morrison, A M Hogg

- 0900h **HE21B-05** Turbulence Signature of a Cold-Water Plume from below the Nansen Ice Shelf – an Autonomous Underwater Glider Survey: **A Forrest**, A M Friedrichs, J McInerney, C Goodrich, S M Lavanchy, C L Stevens, S T Yoon, S Yun, W S Lee
- 0915h **HE21B-06** The circulation of the Bellingshausen Sea: heat and meltwater transports: **L Schulze**, A F Thompson, K Speer
- 0930h **HE21B-07** Lagrangian pathways and residence time of warm Circumpolar Deep Water on the Antarctic continental shelf: **V Tamsitt**, M H England, S R Rintoul
- 0945h **HE21B-08** Downstream Influence of Totten Glacier Meltwater on Vincennes Bay Dense Shelf Water Production.: **N Ribeiro**, G D Williams, L Herraiz-Borreguero, S R Rintoul, M Hindell, C McMahon

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**OCEAN OBSERVATORIES,  
INSTRUMENTATION AND SENSING  
TECHNOLOGIES**

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**IS21A 14B, Mezzanine**

**Tuesday 0800h**

**Into the Deep: New Insights into Integrated Ocean Mapping and Habitat Characterizations of the North Atlantic and Eastern Pacific Basins I** (*joint with ME, OB*)

**Moderators:** **Caitlin Adams**, NOAA Office of Ocean Exploration and Research; **Kasey Cantwell**, NOAA Office of Ocean Exploration and Research via CNSP

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- 0800h **IS21A-01** Geologic characterization of Northeast Atlantic Submarine Canyons and Seamounts using observations from the NOAA Deep Connections 2019 Expedition: **J Obelcz**, M Putts, D Wagner, M White
- 0815h **IS21A-02** Deepy Creepy: Distribution and Ecology of Deep Water Crabs Observed by ROV on the US Eastern Continental Slope and Canyons (and a Case of Mistaken Identity): **B G Stevens**
- 0830h **IS21A-03** Recent exploration efforts on of the Southeastern US continental margin reveal extensive connected and isolated cold-water coral mounds in areas beyond predictive models: **A M Weinnig**, R Gasbarro, E E Cordes, K L Cantwell, A J Wagner
- 0845h **IS21A-04** Depth-related Barriers to Genetic Connectivity Among Northwestern Atlantic *Lophelia pertusa* Populations: **C Morrison**, A Aunins, J J Lunden, S Brooke, S W Ross

- 0900h **IS21A-05** Spatio-Temporal Oceanographic Variability at Deep-Sea Coral Sites along the U.S. Atlantic Margin: **J J Lunden**, F Mienis, R Gasbarro, A Hallaj, A Keller, E E Cordes
- 0915h **IS21A-06** Seafloor Mapping for Predicting Deep-Sea Coral Habitat, Southeast U.S. Continental Margin: **M Drost**, L Sautter
- 0930h **IS21A-07** Drivers of *Lophelia pertusa* Distribution on the mid-US Atlantic Margin Revealed by Habitat Suitability Modeling at Multiple Scales: **R Gasbarro**, J J Lunden, E E Cordes
- 0945h **IS21A-08** Multifaceted Approach to Protecting Deep-Sea Corals in the U.S. South Atlantic: **C Collier**, M D Poti, H M Coleman

- 0930h **ME21A-07** Host Mortality and Morphology Influence Crustose Coralline Algal-Associated Invertebrate Diversity in Moorea, French Polynesia: **J Glanz**, R Carpenter
- 0945h **ME21A-08** Physiological Responses of Two Key Tropical Macroalgae to Variable Environmental Conditions: **J Serrano**, R Carpenter

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## MARINE ECOLOGY AND BIODIVERSITY

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### ME21A 7A, UL

Tuesday 0800h

#### Ecology and Biogeochemistry of Macroalgae I

(joint with OB, PI)

**Moderators:** **Anna James**, University of California at Santa Barbara; **Tom Bell**, Leidos

- 0800h **ME21A-01** Nutrient availability and programmed senescence spatially structure the dynamics of an ecosystem engineer: **T W Bell**, D Siegel
- 0815h **ME21A-02** Drivers of biogeochemical variability in a California kelp forest and implications for local amelioration against ocean acidification: **H Hirsh**, K J Nickols, Y Takeshita, S Traiger, D Mucciarone, S G Monismith, R B Dunbar
- 0830h **ME21A-03** Disturbance, Resources, and Climate Interactively Synchronize Kelp Forests Across Scales: **M Castorani**, T W Bell, J A Walter, D C Reuman, L W Sheppard
- 0845h **ME21A-04** Cross-ecosystem subsidies support surf zone fish on island beaches: **N Schooler**, K Emery, J Dugan, R J Miller, M Page, D M Schroeder, L D Beresford, J Madden
- 0900h **ME21A-05** Geographic Variation in Growth Response of *Ulva spp.* to Ocean Acidification and Productivity in High Carbon, Low Oxygen Conditions: **J Kubler**, S R Dudgeon, S R Scoma
- 0915h **ME21A-06** Increased Nitrogen Fixation Observed With Degrading *Sargassum* Communities: **Y Raut**, D G Capone

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## OCEAN BIOLOGY AND BIOGEOCHEMISTRY

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### OB21A 4, UL

Tuesday 0800h

#### Marine Deoxygenation in a Changing Climate: Drivers, Detection, and Ecosystem Impacts I

(joint with OC, PC, PI)

**Moderators:** **Jerry Tjiputra**, Uni Research; **Yohei Takano**, Georgia Institute of Technology

- 0800h **OB21A-01** Advancing a global ocean and coastal reference database to document reliable deoxygenation changes: **H E Garcia**, T Boyer, J R Reagan, M Grégoire, D Breitbart, V Garcon, A Oschlies, M Telszewski, K Isensee
- 0815h **OB21A-02** ENSO forcing of the OMZs of the Eastern Pacific: **B Dewitte**, I Montes, V Garcon, A Paulmier
- 0830h **OB21A-03** Mechanisms of low-frequency oxygen variability in the North Pacific: **T Ito**, M C Long, C A Deutsch, S Minobe, D Sun
- 0845h **OB21A-04** Multi-decadal oxygen loss in the North Atlantic driven by stratification and surface nutrient depletion: **A J Margolskee**, T Ito, M C Long, H Frenzel, C A Deutsch
- 0900h **OB21A-05** 'Modulation of the North Atlantic Deoxygenation by The Slowdown of the Nutrient Stream': **F Tagklis**, T Ito, A Bracco
- 0915h **OB21A-06** Implications of Ocean Oxygen Availability from Particulate Organic Carbon-to-Oxygen Respiration Quotient: **A Moreno**, C Garcia, A Larkin, J Lee, W L Wang, F Primeau, J K Moore, A Martiny
- 0930h **OB21A-07** Sensitivity of the ocean oxygen inventory and the size of oxygen minimum zones to the particulate organic matter remineralization length scale: **G L Britten**, F Primeau
- 0945h **OB21A-08** Glacial Deep Ocean Deoxygenation Driven By Biologically Mediated Air-sea Disequilibrium: **E Cliff**, S Khatiwala, A Schmittner

**OB21B 3, UL**

**Tuesday 0800h**

**New Tools and Approaches to Constrain the Marine Nitrogen Cycle: From the Surface to the Sediments II** (*joint with IS, MM, PI*)

**Moderators:** Christopher Some, GEOMAR Helmholtz Centre for Ocean Research Kiel; **Angela Landolfi**, GEOMAR Helmholtz Centre for Ocean Research Kiel

- 0800h **OB21B-01** New Proteomic Windows into the Marine Nitrogen Cycle: **J Waldbauer**, M Coleman, L Zhang
- 0815h **OB21B-02** Towards a global understanding of the role of urea in the ocean nitrogen cycle: **P L Croot**, A Wiczeorek, M I Heller
- 0830h **OB21B-03** Iron requirements and uptake strategies of the globally abundant marine ammonia-oxidising archaeon, *Nitrosopumilus maritimus* strain SCM1: **R Shafiee**, J T Snow, Q Zhang, R E M Rickaby
- 0845h **OB21B-04** Unusual nitrification patterns in a eutrophic coastal basin analyzed by geochemical, isotopic ( $\delta^{15}\text{N}$ ) and microbiological data from a highly-resolved *in situ* time series.: **S Haas**, B M Robicneau, J LaRoche, T Kalvelage, S Rakshit, D Wallace
- 0900h **OB21B-05** Nitrogen cycling and circulation in Baffin Bay investigated with isotopic measurements of  $\text{N}_2$ ,  $\text{N}_2\text{O}$ , and  $\text{NO}_3^-$ : **C C Manning**, A Bourbonnais, J Granger, R C Hamme, L Yeung, D A Valerio, E D Young, Z Zheng, N Lehmann, J E Tremblay, P Tortell
- 0930h **OB21B-07** The link between anthropogenic nutrient enrichment and nitrogen fixation in the coastal Great Barrier Reef: **D Erler**, H Tohidi Farid, T Glaze, N Carlson-Perret, J Lough
- 0945h **OB21B-08** Factors Controlling Nitrogen Removal and Retention in Marine Sediments: **R Presley**, A E Giblin, C K Algar, S O'Neill, J J Rich

OCEAN MODELING

**OM21A 5A, UL**

**Tuesday 0800h**

**Advances in Ocean Data Assimilation, Forecasting, and Reanalysis I** (*joint with IS, PL, PS*)

**Moderators:** Zhijin Li, NASA Jet Propulsion Laboratory; **Aneesh Subramanian**, University of Colorado at Boulder; **Ibrahim Hoteit**, King Abdullah University of Science and Technology

- 0800h **OM21A-01** Ensemble Forecasting in the Gulf of Mexico: LETKF vs. ET: **P J Hogan**, C D Rowley, S Camp, O M Smedstad, P Thoppil
- 0815h **OM21A-02** Interfacing the Modular Ocean Model version 6 (MOM6) with the Joint Effort for Data assimilation Integration (JEDI): **G Vernires**, T C Sluka, R Mahajan, B Menetrier, D Holdaway, H Ebrahimi, S Flampouris, J Kim
- 0830h **OM21A-03** Impact of Atmospheric and Model Physics Perturbations On a High-Resolution Ensemble Data Assimilation System of the Red Sea: **S Sanikommu**, H Toye Mahamadou Kele, P Zhan, S Langodan, G Krokos, O M Knio, I Hoteit
- 0845h **OM21A-04** Impact of simulated SWOT Observations in a Multi-Scale Assimilation: **I Souopgui**, J M D'Addezio, C D Rowley, S R Smith, G A Jacobs, R W Helber, M Yaremchuk
- 0900h **OM21A-05** Quantifying the Synergy Between Different Components of an Ocean Observing Array in a Near Real-time Ocean Analysis-Forecast System: **A M Moore**, J Levin, H Arango, B Laughlin, J Wilkin
- 0915h **OM21A-06** GOFS16: A Global Ocean-Sea Ice Forecast System at Eddy Resolution: **S Masina**, A Cipollone, D Iovino, S Ciliberti, G Coppini, R Lecci, F Trotta, N Pinardi, F Baordo
- 0930h **OM21A-07** The First 1/12° Global Ocean Reanalysis of Copernicus Marine Environment Monitoring Service: Description and Quality Assessment: **R Bourdalle-Badie**, J M Lellouche, M Hamon, M Drevillon, E Greiner, G Garric, O Le Galloudec, C Bricaud, C Regnier, T Candela, Y Drillet
- 0945h **OM21A-08** Bayesian Estimation and Data Assimilation for Probabilistic Regional Forecasts in the northern Indian Ocean: **P Abhishek**, R Gadi, D Subramani

PAST, PRESENT AND FUTURE CLIMATE

**PC21A 1A, UL**

**Tuesday 0800h**

**Atlantic Meridional Overturning Circulation: An Ongoing Challenge I** (*joint with OM, PS*)

**Moderators:** Gokhan Danabasoglu, National Center for Atmospheric Research; **Femke de Jong**, Royal Netherlands Institute for Sea Research

- 0800h **PC21A-01** Volume, heat and freshwater transports across the OSNAP array: 2014-2018: **F Li**

- 0815h **PC21A-02** Moored observations of the Iceland-Scotland Overflow plume along the eastern flank of the Reykjanes Ridge: **W E Johns**, A Houk, M Devana, S Zou
- 0830h **PC21A-03** Redrawing the Iceland-Scotland Overflow Water Pathways in the North Atlantic: **S Zou**, A S Bower, H H Furey, S Lozier, X Xu
- 0845h **PC21A-04** Evidence supporting a new overflow path feeding the meridional overturning circulation through the Faroe Bank Channel: **L Chafik**, H Hátún, B Hansen, J Kjellsson, K M H Larsen, H T Rossby
- 0900h **PC21A-05** Rapid eddy-mediated export of waters formed by boundary convection in the Irminger Sea: **I A A Le Bras**, F Straneo, J Holte, F de Jong, N P Holliday
- 0915h **PC21A-06** The Dynamical Proxy Potential of the OSNAP Array: **N Loose**, P Heimbach, H Pillar, K H Nisancioglu
- 0930h **PC21A-07** Reconstructing Components of the Atlantic Meridional Overturning Circulation Over the Last 300 Years Using Multiple High Resolution Geochemical Proxies Measured in Arctica Islandica Shells: **N Whitney**, A D Wanamaker, B J Johnson, C Ummenhofer, S Griffin, E E Lower, K J Kreutz, P T Dostie, K Luzier, D Introne
- 0945h **PC21A-08** Stability of the Atlantic Meridional Overturning Circulation: A Review and Synthesis: **W Weijer**, W Cheng, S S Drijfhout, A V Fedorov, A Hu, L C Jackson, W Liu, E McDonagh, J Mecking, J Zhang

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## PHYSICAL-BIOLOGICAL INTERACTIONS

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**PI21A 7B, UL**

**Tuesday 0800h**

**From Physics to Predators: Environmental Forcing of Marine Ecosystem Hot Spots I** (*joint with ME, PL*)

**Moderators:** **Jerome Fiechter**, University of California Santa Cruz; **Steven Bograd**, NOAA/NMFS; **James Fahlbusch**, Stanford University

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- 0800h **PI21A-01** Diel Vertical Migration of Krill in a Subsurface Eddy may Promote Retention within Palmer Deep Canyon: **J M Klinck II**, K Hudson, M J Oliver, J T Kohut, M S Dinniman
- 0815h **PI21A-02** Is Zooplankton Community Structure Spatially and Temporally Persistent in the Eastern North Pacific?: **B Hoover**, M Garcia-Reyes, S Batten, C L Gentemann, K B Dohan, W J Sydeman

- 0830h **PI21A-03** Bathymetry Structures Predator-prey Dynamics between Zooplankton and Fish in Marine Pelagic Ecosystems: **J Myrseth Aarflot**, D L Aksnes, P Dalpadado, A Opdal, Ø Fiksen
- 0845h **PI21A-04** Identifying physical drivers of predator-prey hotspots in the California Current Ecosystem: **E M Phillips**, M Malick, S L Parker-Stetter, M A Haltuch, M Hunsicker
- 0900h **PI21A-05** Fine-scale Oceanographic Drivers of Foraging in California Blue Whales: **J Fahlbusch**, M Czapanskiy, D Cade, J Calambokidis, J A Goldbogen
- 0915h **PI21A-06** Voyage to the White Shark Café: **B Block**, J H Witting, L N Thomas, N Truelove, E Andruszkiewicz, T Chapple, E Portner, B H Robison, A B Carlisle, D Haulsee, S Jorgensen, P Kanive, A N Netburn, S Anderson, T White, M J Oliver
- 0930h **PI21A-07** Biomass flows between pelagic predator communities in the California Current: **J Guiet**, D Bianchi, O Maury, F Kessouri, N Barrier
- 0945h **PI21A-08** The emergence of dynamic management approaches in ocean ecosystems with a comparison to management of terrestrial ecosystems: **L Crowder**, W Oestreich, M Chapman, E L Hazen

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## PHYSICAL OCEANOGRAPHY: MESOSCALE AND LARGER

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**PL21A 15A, Mezzanine**

**Tuesday 0800h**

**Ocean Salinity in Support of Scientific and Environmental Demands I** (*joint with CP, PS*)

**Moderators:** **Nadya Vinogradova Shiffer**, NASA Headquarters; **Audrey Hasson**, NASA Jet Propulsion Laboratory

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- 0800h **PL21A-01** 2019 Arctic Saildrone field campaign: measurements of sea surface salinity and temperature for validation of satellite retrievals: **C L Gentemann**, P J Minnett, M Steele, J Vazquez, W Tang, J Hoyer, S Skarpalezos, C Zhang, D Zhang, R Jenkins
- 0815h **PL21A-02** Continental and sea ice melting signature in Arctic sea surface salinity: **J Martínez**, C Gabarró, A Turiel, J Ballabrera-Poy, E Olmedo, C González-Haro, V Gonzalez-Gambau, R P Raj, L Bertino, J Xie, R Catany, M Arias
- 0830h **PL21A-03** Remote Sensing Observations of Sea Surface Salinity Variability in the South China Sea: **D L Yi**, O Melnichenko, P W Hacker, J T Potemra

- 0845h **PL21A-04** Ocean subsurface salinity changes yield an anthropogenic climate change signal: **J P Abraham**, C Lijing
- 0900h **PL21A-05** Salt Budget in the Arabian Gulf and Effects of Water Desalination: **E J Campos**, F Vieira, G Cavalcante, M Abouleish, S Shahriar, R Mohamed
- 0915h **PL21A-06** Barrier Layers and Temperature Inversions form at Sea Surface Salinity fronts in the Eastern Tropical Pacific Fresh Pool: **S Katsura**, J Sprintall
- 0945h Discussion:

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PHYSICAL OCEANOGRAPHY:  
MESOSCALE AND SMALLER

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**PS21A 15B, Mezzanine**

**Tuesday 0800h**

**Vertical Transport: Pathways from the Surface to the Interior I** (*joint with OB, PI, PL*)

**Moderators:** **Dhruv Balwada**, Courant Institute of Mathematical Sciences; **Amala Mahadevan**, Woods Hole Oceanographic Institution

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- 0800h **PS21A-01** Direct observations of Submesoscale Subduction: **E A D'Asaro**, A Y Shcherbina
- 0815h **PS21A-02** Estimating Kinematic Quantities of Submesoscale Structures Along Mesoscale Fronts Using Large Drifter Data Sets: **J Lodise**, T Ozgokmen, P Pierre-Marie, M Iskandarani, R C Gonçalves, E H Ryan, C Guigand
- 0830h **PS21A-03** 3D Lagrangian pathways in the Alboran Sea: **H Huntley**, A D Kirwan Jr, B Mourre, P F J Lermusiaux
- 0845h **PS21A-04** Predicting Ocean Vertical Transport via Surface Coherent Structures: **M Allshouse**, H M Aravind, S Sarkar, V K Verma, P F J Lermusiaux
- 0900h **PS21A-05** Observations of the Almeria-Oran front by underwater gliders: **D L Rudnick**, N Zarokanellos, J Allen, S Ruiz, A Pascual, J Tintore
- 0915h **PS21A-06** Consideration of the biogeochemical implications for mesoscale instability driven cross front filaments in glider oxygen optode sensor data: **N Zarokanellos**, E Alou-Font, M Freilich, A Cabornero, C Munoz, D L Rudnick, A Mahadevan, J Tintore, J Allen
- 0930h **PS21A-07** Biophysical Evidence of Subduction at Submesoscales: **M Dever**, M Freilich, A Y Shcherbina, F M Falcieri, A Mahadevan
- 0945h **PS21A-08** The Vertical Structure of Meso- and Submeso-scale Vertical Transport: **M Freilich**, A Mahadevan

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SOCIAL-OCEAN SCIENCE  
INTERACTIONS AND SDGS

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**SI21A 11A, UL**

**Tuesday 0800h**

**Sustaining Ocean Services in Socioecological Systems: Challenges, Opportunities, and Perspectives in Resilience Science and Natural Resource Management I** (*joint with CP, PI*)

**Moderators:** **Donna Schroeder**, Bureau of Ocean Energy Management Camarillo; **Guillermo Auad**, Department of the Interior Washington DC

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- 0800h **SI21A-01** Resilience Science and Analytics for Ocean Resource Management: **M Kurth**, I Linkov
- 0814h **SI21A-02** Long-Term Shifts in Coastal Biodiversity, Monterey Bay, California: **J Selgrath**, J T Carlton, R Elahi, J Pearse, T Thomas, J Watanabe, F Micheli
- 0828h **SI21A-03** Arctic amplification: How feedback loops chained in tandem amplify Arctic responses to warming and the role of human impacts: **J Holding**, V Eguíluz, K Brown, U S Bhatt, H Huntington, C M Duarte
- 0841h **SI21A-04** Pathways between climate, fish, fisheries, and management: A conceptual integrated ecosystem management approach: **F Wiese**, R J Nelson
- 0854h **SI21A-05** Integrating human dimensions into a global model of the marine wild-capture fishery: **K Scherrer**, E D Galbraith
- 0906h **SI21A-06** Using a socio-ecological-system approach to assess linkages, drivers and likely outcomes of a large-scale marine protected area: **S Lewis**, E Kelly, A Giron, L Hazen, E H Hartge, Y Golbuu, F Micheli, J Leape
- 0918h **SI21A-07** International non-governmental conservation organizations and the adoption and implementation of community-based management of coastal and marine resources: **K Crosman**
- 0930h **SI21A-08** Ocean Science And Vulnerability in the News: A Case Study of Reporting on Pacific Islands and Climate Change: **M Shea**, J Painter, S Osaka
- 0940h **SI21A-09** The Carbon Footprints of Mexican Small-Scale Fisheries Reveal New Insights into Fisheries Management and Policy on a Finite and Warming Planet: **E Ferrer**, O Aburto-Oropeza, C Lopez-Sagástegui, J Cota-Nieto, V Jimenez-Esquivel, I Mascareñas-Osorio
- 0950h **SI21A-10** Stakeholder engagement and conflict resolution in managing sediment for a sustainable ecosystem restoration: **S Khalil**, G Grandy

PLENARIES

6A-F, UL

Tuesday 1030h

Science Plenaries: Heidi Sosik and Erik van

Tuesday P.M.

AIR-SEA INTERACTIONS

AI23A 14A, Mezzanine

Tuesday 1400h

Mesoscale and Submesoscale Ocean-  
Atmosphere Interactions and Influence on  
Earth's Climate I (joint with PS)

**Moderators:** Larry O'Neill, Oregon State University;  
Kyla Drushka, Applied Physics Laboratory University of  
Washington

- 1400h **AI23A-01** Scale and Rossby number dependences of observed wind responses to ocean-mesoscale sea surface temperatures: **N Schneider**
- 1415h **AI23A-02** The relationship between ocean surface wind and current derivatives as observed by high-resolution Doppler scatterometry: **E Rodriguez**, A G Wineteer
- 1430h **AI23A-03** Disentangling the Mesoscale Ocean-Atmosphere Interactions Disentangling the Mesoscale Ocean-Atmosphere Interactions and How to Best Force an Ocean Model: **L Renault**, S Masson, V Oerder, S Jullien, F Colas, G Madec, J C McWilliams, A Thomas
- 1445h **AI23A-04** Sea states across current fronts: a case study using numerical wave models and CFOSAT-SWIM data across Agulhas current: **G Marechal**, F Ardhuin, A Mouche, D Hauser, F Collard, C Tourain
- 1500h **AI23A-05** Air-Sea Fluxes and Atmospheric Boundary Layer Variability Across Ocean Fronts: **C A Clayson**, H Liu, J B Edson
- 1515h **AI23A-06** The vertical changes driven by eddy-wind interaction in the Southern Ocean: **H Song**, J C Marshall, D J McGillicuddy Jr, H Seo
- 1530h **AI23A-07** The role of mesoscale ocean currents in the mixed-layer heat budget and air-sea coupling in the Southern Ocean: **Y GAO**, I V Kamenkovich, N Perlin, B Kirtman

Seville

- 1030h Traits, Rates, and Fates of Plankton: New Views from Automated Cytometry and Imaging: **H M Sosik**
- 1130h The connected ocean: the global-scale transports of heat, nutrients, plankton and plastic by ocean currents: **E van Sebille**

- 1545h **AI23A-08** Feedback between Air-Sea Turbulent Momentum Flux and Oceanic Submesoscale Processes: **X Chen**, W K Dewar, E Chassignet, M A Bourassa, S L Morey

COASTAL AND ESTUARINE PROCESSES

CP23A 10, UL

Tuesday 1400h

Human Populations and Influences in the  
Coastal Zone: Effects on Ocean and Human  
Health (OHH) II (joint with MM, SI)

**Moderators:** Joshua Steele, Southern California Coastal  
Water Research Project; **Rachel Noble**, Organization  
Not Listed

- 1400h **CP23A-01** Coral Reef Organisms: Differential Sensitivities to an Agricultural Pesticide: **H Davis**, C Woodley, L May, A Burnett, Z Moffit, C Miller
- 1415h **CP23A-02** Land-based Pollutants in Hawaiian Reef Fishes and Sediment: **E Nalley**, J Zill, M Donahue
- 1430h **CP23A-03** Organochlorine Pesticides (OCPs) and Total Mercury in Stranded Harbor Seal (*Phoca vitulina*) Pups from the Northeast Atlantic: **R Flamenco**, P Vlahos, Z Baumann, T Romano
- 1445h **CP23A-04** Evaluation of potential biomarkers in natural populations of *Crassostrea virginica* from the Gulf of Mexico exposed to aliphatic and aromatic polycyclic hydrocarbons.: **L L López Galindo**, E A López-Landavery, G Amador, N Ramirez, I Montelongo, S T Morales, C E Galindo-Sanchez
- 1500h **CP23A-05** Anthropogenic activities on Lagos coastal waters: Impact on sea foods and human health: **C Oramadike**, O Olajuyigbe, A Abraham-Olukayode, O Olusola
- 1515h **CP23A-06** Tracking natural seepage and wastewater effluent in and around Boracay Island, Philippines: **C M Jaraula**, D Aga, M V Rañada, S M Mariano, J M Salvador, L G Angeles, M A Limen, E Artuz, F La Valle, J B Ong, A Cohen

- 1530h **CP23A-07** Antimicrobial Resistance in Wastewater Effluent Streams and in Urban Coastal Waters Influenced by Effluent Discharge: **J A Steele**, R Diner, A Zimmer-Faust, M L Griffith, T Harper, J Chokry, D Wanless, J F Griffith
- 1545h **CP23A-08** Occurrences and biological effects of emerging and legacy contaminants in the marine recipient of a wastewater discharge – the SANOCEAN project: **C Espeland**, G Monticelli, S Bøe, J Vastveit, M Obradovic, M Brustugun, M Irfan, E Lyng, C Rautenbach, D Schlenk, L Petrik, D M Pampanin, M Sydnes

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**CP23B 9, UL**

**Tuesday 1400h**

**Impacts of Microplastics on Marine Organisms and Ecosystem Health II (joint with ME, OC)**

**Moderators: Dorothy Horn**, Portland State University; **Samantha Athey**, University of North Carolina Wilmington

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- 1400h **CP23B-01** Effects of Environmentally-Relevant Concentrations of Microplastic Fibers on Pacific Mole Crab (*Emerita analoga*) Mortality and Reproduction: **D A Horn**, E F Granek, C L Steele
- 1410h **CP23B-02** Occurrence and Effects of Microplastics in Commercially Harvested Finfish and Shellfish in North America: Research Needs and Future Directions: **E F Granek**, B Baechler, C Stienbarger, D A Horn, J Joseph, A R Taylor, S M Brander
- 1420h **CP23B-03** An Assessment of Microplastic Ingestion in the Commercially Important Black Sea Bass, *Centropristis striata*: A Lab and Field Study: **S M Brander**, J Joseph, C Stienbarger, S N Athey, B Bonnie Monteleone, A L Andrady, W O Watanabe, P J Seaton, A R Taylor
- 1430h **CP23B-04** Effects of microbial-colonized microplastic beads on the sea urchin *Paracentrotus lividus*: **A Palumbo**, C Murano, V Donnarumma, I Castellano, R Piredda, E Zettler, L Amaral-Zettler, I Corsi, R Casotti
- 1450h **CP23B-06** Plastic: A Potential Carbon Source for Sedimentary Biogeochemical Cycling: **K Rogers**, J A Carreres-Calabuig, S Chiriaev, N R Posth
- 1500h **CP23B-07** Potential impacts of microplastic ingestion in *Acropora cervicornis* and *Pseudodiploria clivosa*: **C Hankins**
- 1510h **CP23B-08** Prey-Size Plastics are Invading Larval Fish Nurseries: **J Gove**, J Whitney, M A McManus, J Lecky, F Carvalho, J Lynch, J Li, P Neubauer, K Smith, J Phipps, D R Kobayashi, K Balagso, E A Contreras, M E Manuel, M Merrifield, J J Polovina, J A Maynard, G P Asner, G J Williams

- 1520h **CP23B-09** Risk Assessment for Microplastic Exposure in the Estuarine Copepod *Acartia tonsa*: **J Cohen**, A Internicola, R A Mason, T Kukulka
- 1530h **CP23B-10** The Effect of Microplastic on Mussel Biodeposit Sinking and Resuspension: **L Harris**, E Carrington
- 1540h **CP23B-11** The influence of microplastics on mercury biogeochemistry in San Francisco Bay and Lake Erie: **K Bowman**, C H Lamborg, A Agather, C R Hammerschmidt
- 1550h **CP23B-12** The Long-Term Effects of Microfibers on the Ecosystem Services Performed by Marine Bivalves: **E Christoforou**, J Lindstrom, D Dominoni, S Spatharis

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**CP23C 8, UL**

**Tuesday 1400h**

**Nearshore Processes V**

**Moderators: Christie Hegermiller**, Woods Hole Oceanographic Institution; **Joshua Humberston**, University of New Hampshire Main Campus

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- 1400h **CP23C-01** Effects of Sea Level Rise on Modeled Storm Surge and Current Speeds in New Hampshire Estuaries: **T C Lippmann**, A Simpson, S Cook, P H Kirshen
- 1415h **CP23C-02** Nearshore coastal dispersion enhanced through estuarine trapping/pumping: **S N Giddings**, F Feddersen, X Wu, N Kumar, D J Grimes
- 1430h **CP23C-03** The Evolution and Effects of Infragravity Waves inside Low Inflow Estuaries with Shallow Inlets: **D Wheeler**, S N Giddings, M Harvey, J M Becker
- 1445h **CP23C-04** Turbulent Erosion of a Sharp Density Interface: **B A Johnson**, J A Lagade Jr
- 1500h **CP23C-05** Submesoscale Influence on Nearshore Lagrangian Transport: How Important is Resolution to Simulated Coastal Connectivity?: **D Dauhajre**, J C McWilliams, L Renault
- 1515h **CP23C-06** Effects of Wave Streaming and Wave Variations on Nearshore Wave-driven Circulation: **P Wang**, J C McWilliams, Y Uchiyama, M Chekroun
- 1530h **CP23C-07** Characterizing the Impact of Wave-Current Interaction on Nearshore Sediment Transport: **J Hopkins**, M A de Schipper, M E Wengrove
- 1545h **CP23C-08** Transient and morphologic rip current dynamics on an alongshore variable beach: **A O'Dea**, N Kumar, M C Haller

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 CHEMICAL TRACERS, ORGANIC  
MATTER AND TRACE ELEMENTS
 

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## CT23A 5B, UL

Tuesday 1400h

**The role of micronutrient cycles in global-scale dynamics I** (*joint with MG, PC*)

**Moderators:** **Andy Ridgwell**, University of California Riverside; **Alessandro Tagliabue**, University of Liverpool

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- 1400h **CT23A-01** Experimental study investigating the abiotic dissolution kinetics of iron during lithogenic particle-water interactions in high-energy regions: **J Klar**, S Fabre, F Lacan, C Jeandel, N Estrade, H Yefsah, L Artigue, D Gonzalez Santana, H Planquette
- 1415h **CT23A-02** Unravelling the Seasonal Cycle of Dissolved Iron on the Antarctic Continental Margins: Fall-Winter Observations from the Ross Sea Polynyas: **P Sedwick**, S F Ackley, M S Dinniman, B Loose, B M Sohst, S E Stammerjohn
- 1430h **CT23A-03** Massive Bloom Fed by Elevated Iron of Possible Hydrothermal Origin in the Pacific Sector of the Southern Ocean: **C Schine**, A C Alderkamp, G van Dijken, L J Gerringa, P Laan, W van de Poll, K R Arrigo
- 1445h **CT23A-04** Constraining the Global Marine Copper Cycle through a Data-based Modeling Approach: **H Liang**, J W Moffett, P S John
- 1500h **CT23A-05** Minimum cobalt and iron requirements of *Prochlorococcus*: predicting micronutrient limitation thresholds for the ocean's most abundant photoautotroph: **N Hawco**, M A Saito, A Tagliabue, R M Bundy, M R McIlvin, T Goepfert, L Valentin-Alvarado, D M Moran
- 1515h **CT23A-06** Nutrient colimitation and an emergent "ligand-iron-microbe" feedback in global ocean biogeochemistry and ecosystem models.: **J M Lauderdale**, R Braakman, G Forget, S Dutkiewicz, M J Follows
- 1530h **CT23A-07** Towards a mechanistic understanding of the decoupling between oceanic iron and carbon remineralization length-scales: **P W Boyd**, P M Barrett, S Eggins, M J Ellwood, R Grün, M Bressac
- 1545h **CT23A-08** Climate change impacts on the distribution and cycling of essential micronutrients: **C Richon**, A Tagliabue

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 EDUCATION, OUTREACH AND POLICY
 

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## ED23A 11B, UL

Tuesday 1400h

**Outreach, Engagement, Impact: Translating Science Applications for Societal and Professional Benefits I** (*joint with SI*)

**Moderators:** **Rebecca Briggs**, NOAA Ocean and Atmospheric Research; **Jacqueline Tweddle**, University of Aberdeen

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- 1400h **ED23A-01** An iterating research, engagement and application cycle to support sea level rise planning in coastal Washington State: A "messy network" case study: **I M Miller**
- 1415h **ED23A-02** Breaking Knowledge Barrier: Fusing Traditional knowledge with Scientific Concepts in Communicating Ecosystem Services in Lagos Lagoon Complex, Nigeria: **P E Ndimele**, O A Ayorinde
- 1430h **ED23A-03** Communicating stories of successful science to management, stakeholders, and communities: NOAA's Integrated Ecosystem Assessment approach: **E Spooner**
- 1445h **ED23A-04** Working with the Marine Renewable Energy Community to Support and Simplify Environmental Permitting: **H Farr**, A E Copping, M C Freeman
- 1500h **ED23A-05** Using Virtual Reality in Sea Level Rise Planning and Community Engagement in Santa Cruz, CA: **J Calil**, T Wise-West
- 1515h **ED23A-06** *Discovery of Sound in the Sea: Effectively Using Webinars as a Tool for Informing Policy Makers and Other Stakeholders about Current Underwater Acoustics Research*: **H Morin**, G Scowcroft, K J Vigness-Raposa, C W Knowlton, D Ketten, A N Popper, J H Miller
- 1530h **ED23A-07** Building an Analytical Framework to Measure Offshore Infrastructure Integrity, Identify Risk, and Strategize Future Use for Oil and Gas: **A Dyer**, L Romeo, J Bauer, K Rose, J Nelson, P Wingo, M Wenzlick, A Barkhurst, M Sabbatino
- 1545h **ED23A-08** The Coastal Coupling Community of Practice: An Interagency Collaboration Working Toward Continental-scale Modeling in the Coastal Transition Zone: **C Dean**, P Burke, A Luscher-Aissaoui, T Flowers

## HIGH LATITUDE ENVIRONMENTS

### HE23A 2, UL

Tuesday 1400h

#### Ice-Ocean Interactions and Circulation Around the Antarctic Margins II (*joint with OM, PL, PS*)

**Moderators:** **Matthew England**, University of New South Wales; **Andrew Thompson**, California Institute of Technology

- 1400h **HE23A-01** Weddell Gyre Warm Deep Water: circulation and heat budget using Argo floats: **K A Reeve**, T Kanzow, V H Strass, O Boebel, R Gerdes
- 1415h **HE23A-02** Bi-stability of the Filchner-Ronne Ice Shelf Cavity Circulation and Basal Melt Rates: **A Stewart**, J Hazel
- 1430h **HE23A-03** Looking through Southern Ocean sea-ice: new insights into the ice-covered Southern Ocean circulation from multi-altimeter combination.: **M Auger**, P Prandi, J B Sallee, A Guillot, G Dibarboure, Y Faugere
- 1445h **HE23A-04** Ventilation of the abyss in the Atlantic sector of the Southern Ocean: **A Haumann**, C Akhoudas, J B Sallee, G P Reverdin, M P Meredith, A Naveira Garabato, L Jullion, G Aloisi, M Benetti, M J Leng, C Arrowsmith
- 1500h **HE23A-05** The cold transit of Southern Ocean upwelling: **D G Evans**, J Peach, J D Zika
- 1515h **HE23A-06** On the Link between the Southern Ocean Fronts and Antarctic Ice Shelves Thinning: **L Herraiz-Borreguero**, A Naveira Garabato
- 1530h **HE23A-07** Submesoscale variability in the recently melted Antarctic Seasonal Ice Zone: **I S Giddy**, S A Nicholson, M du Plessis, S Swart, A F Thompson
- 1545h **HE23A-08** The Effect of Antarctic Sea Ice on Southern Ocean Carbon Outgassing: Ventilation versus Light Limitation: **M Gupta**, M J Follows, J M Lauderdale

## OCEAN OBSERVATORIES, INSTRUMENTATION AND SENSING TECHNOLOGIES

### IS23A 14B, Mezzanine

Tuesday 1400h

#### Into the Deep: New Insights into Integrated Ocean Mapping and Habitat Characterizations of the North Atlantic and Eastern Pacific Basins II (*joint with ME, OB*)

**Moderators:** **Ashley Chappell**, NOAA National Ocean Service; **Jeremy Potter**, Bureau of Ocean Energy Management

- 1400h **IS23A-01** The unknown and the unexplored: Using recent ROV data to derive insights into the Pacific Deep-Sea: **R Rotjan**, K L Cantwell, B R Kennedy
- 1415h **IS23A-02** Finding Biogeographic Boundaries in the Deep Sea: Alaska, Hawaii, and the Emperor Seamount Chain: **L Watling**, A Baco-Taylor, S Bingo, G S Carter, H Dulai, S France, B Lensing, N Morgan, E B Roark, J R Smith Jr, N Summers
- 1430h **IS23A-03** Participatory Processes Effectively Launch Seafloor Mapping and Characterization Initiatives: A Framework for Collaboration: **C Caldow**, B Costa, R Freedman, J Potter, R Brennan, T Battista, A Chappell
- 1445h **IS23A-04** Origins of pockmarks offshore Big Sur, California: **C K Paull**, E M Lundsten, D W Caress, R Gwiazda, G R Cochrane, M A L Walton, M McGann, T D Lorenson, L Kuhnz, L Lundsten, L Gilbane, C White, S C Dobbs
- 1500h **IS23A-05** Integrating Predictions of Deep-Sea Coral and Sponge Habitat with Ocean Mapping and Exploration Offshore the US West Coast – An Example from the EXPRESS Campaign: **M D Poti**, C Whitmire, L Bauer, J J Bizzarro, M E Clarke, M Coyne, M Everett, L Gilbane, T F Hourigan, T Laidig, A Powell, A J Winship, M Yoklavich
- 1515h **IS23A-06** Tracking the Health of Deep-Sea Corals and Sponges: Results from the West Coast Expanding Pacific Research and Exploration of Submerged Systems (EXPRESS) Field Campaign: **M E Clarke**, A Powell, J Anderson, E Fruh, C Whitmire, M Johnson
- 1530h **IS23A-07** Deep-sea community diversity on the U.S. West Coast: eDNA profiles of deep-sea coral and sponge community diversity from the EXPRESS program: **M Everett**, M E Clarke, T Laidig, L Park, N Prouty, D Watters

1545h **IS23A-08** Applications of High Resolution AUV-based Side Scan Sonar Data for Benthic Habitat Mapping: **R Burkhalter-Castro**

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## MARINE ECOLOGY AND BIODIVERSITY

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**ME23A 7A, UL**

**Tuesday 1400h**

### **Hyperspectral Sensing of Coastal Aquatic Environments I** (*joint with IS*)

**Moderators:** **Steven Ackleson**, Naval Research Laboratory; **Heidi Dierssen**, University of Connecticut

1400h **ME23A-01** A Journey Through Hyperspectral Remote Sensing of Earth's Living Oceans: **P S Bontempi**, M Behrenfeld

1415h **ME23A-02** Hyperspectral Remote Sensing of Coral Reef Condition: COral Reef Airborne Laboratory: **E J Hochberg**, M M Gierach

1430h **ME23A-03** Hyperspectral retrievals of phytoplankton abundance and absorption properties in optically complex waters: **N Pahlevan**, B Smith

1445h **ME23A-04** Three-Dimensional Detection of Cyanobacteria Harmful Algal Blooms from a Hyperspectral Aircraft Sensor and Autonomous Underwater Vehicles: **A J Vander Woude**, S A Ruberg, R Errera, G Doucette

1500h **ME23A-05** Hyperspectral In situ Support for PACE (HyperInSPACE); Open source data reduction for autonomously collected shipborne above water radiometry brings to light five years of NASA hyperspectral UV-VIS-NIR data.: **D Aurin**

1515h **ME23A-06** An open-source Hydrolight-based framework for fast inverse modelling of hyperspectral data: **T Holtrop**, H J van der Woerd

1530h **ME23A-07** Estimating Phytoplankton Food Quality Using a Hyperspectral Phytoplankton Functional Type Model for San Francisco Bay, California: **R M Kudela**, S L Palacios, M Peacock, N Taylor

1545h **ME23A-08** Hyperspectral Above-Water Radiometry for Characterization of Phytoplankton Community Composition in Complex Coastal Waters: **S E Lohrenz**, H M Sosik, S Chakraborty, E T Crockford

**ME23B 7B, UL**

**Tuesday 1400h**

### **Pelagic Tunicates: Interactions with the Lower Food Web, Higher Trophic Levels, and Effects on Biogeochemistry I**

**Moderators:** **Michael Stukel**, Florida State University; **Andres Gutierrez-Rodriguez**, National Institute of Water and Atmospheric Research

1400h **ME23B-01** Salp Grazing Effects on the Lower Food Web and Carbon Export, in Subtropical and Subantarctic Waters East of New Zealand: **M Décima**, M R Stukel, K E Selph, A Gutierrez-Rodriguez, K Safi, S D Nodder, F Luskow, C Fender, M Meyers

1415h **ME23B-02** Salp-Mediated Export Processes in the Northeast Subarctic Pacific Ocean: **D K Steinberg**, K Stamieszkin, A E Maas, C A Durkin, U Passow, M L Estapa, K Buesseler, M Roca-Marti, M Omand

1430h **ME23B-03** Microzooplankton grazing and phytoplankton growth in salp-dominated subantarctic waters in austral summer 2018: results from seawater dilution experiments omitting salps, competitors and predators of microzooplankton: **K E Selph**, A Gutierrez-Rodriguez, M R Stukel, K Safi, T B Kelly, N Yingling, S O'Connor, M Décima

1445h **ME23B-04** Role of Salps in Mesopelagic Food Webs: Metabarcoding Analysis of Trophic Interactions and Diet Diversity: **P G Batta-Lona**, J Llopiz, A Govindarajan, A C Bucklin

1500h **ME23B-05** The limited effect of salps on the coupling between microzooplankton and phytoplankton in subtropical and subantarctic oceanic waters east of New Zealand: **S O'Connor**, A Gutierrez-Rodriguez, N Yingling, T B Kelly, M R Stukel, K E Selph, K Safi, A Lopes dos Santos, A Saint-Macary, M Y Gorbunov, S D Nodder, M Decima

1515h **ME23B-06** Interactions between the filter-feeding appendicularian *Oikopleura dioica* and the abundance and fate of marine viruses: **K Mayers**, J Lawrence, J Töpfer, K S Skaar, E Petelenz, A Larsen, G Bratbak, J L Ray

1530h **ME23B-07** Tunicate food chain: a key process of high fishery production in oligotrophic Kuroshio ecosystem: **H Saito**, Y Okazaki, Y Nishibe

1545h **ME23B-08** Global ecological and biogeochemical impacts of pelagic tunicates: a modeling study: **J Y Luo**, C A Stock, J P Dunne

OCEAN BIOLOGY AND  
BIOGEOCHEMISTRY

**OB23A 4, UL**

**Tuesday 1400h**

**Approaches to Studying Marine Oxygen Deficient Zones from Macro to Micro Scales I**

*(joint with CT, IS, ME, MM, OC, PI)*

**Moderators: Andreas Haas; Mark Altabet**, University of Massachusetts Dartmouth

- 1400h **OB23A-01** A float-based autonomous three-year time-series of ODZ biogeochemistry in the Eastern Tropical N. Pacific: **M A Altabet**, C L McNeil, E A D'Asaro, A Bourbonnais
- 1415h **OB23A-02** Characterizing Organic Matter Composition Along Oxygen Gradients In The Eastern Tropical Pacific Oxygen Deficient Zone: **I Koester**, M E White, D Petras, S Vargas, P Dorrestein, M Beman, L Aluwihare
- 1430h **OB23A-03** Impact of Water Column Structure on Oxygen and Carbon Distributions on the Texas-Louisiana Continental Shelf: **L D Perez Squeo**, S F DiMarco
- 1445h **OB23A-04** Fine-scale Estimates of Net Nitrous Oxide Production Rates and Sediment Fluxes Along Vertical Gradients of Dissolved Oxygen in Muddy Sediments from a Temperate Estuary: **B Jameson**, C R Walker, D Grundle, K Juniper
- 1500h **OB23A-05** What does the seafloor sound like ? First exploration of a softbottom underwater soundscape in the Baltic sea along a hypoxia gradient.: **J Lossent**, C Gervaise, A Törnroos
- 1515h **OB23A-06** A seasonal comparison of zooplankton vertical distribution in the OMZ of the Eastern tropical Mexican Pacific.: **J Farber Lorda**, M Rentería, O Molina, D Rivas
- 1530h **OB23A-07** Functional Diversity in an Upwelling System: Temporal Variation in a Normoxia to Hypoxia Depth Gradient: **M Bon**, J B Gusmao, M Fajardo, J Grall, C Harrod, A S Pacheco

**OB23B 3, UL**

**Tuesday 1400h**

**Quantifying Carbon Export Pathways in the Global Ocean III Panel** *(joint with CT, MM, PI)*

**Moderators: David Siegel**, University of California Santa Barbara; **Stephanie Henson**, National Oceanography Center

- 1400h **OB23B-01** The seasonal progression of rates of productivity and export from the North Pacific NASA EXPORTS field study as observed by autonomous assets: **D P Nicholson**, E A D'Asaro, A J Fassbender, C Lee, M Omand, M J Perry, A F Thompson
- 1415h **OB23B-02** A 3-D Model of Lagrangian Marine Particles: **A Rufas Blanco**, T Jokulsdottir, D May, S Barrett, S Khatiwala
- 1430h **OB23B-03** Towards an Eco-Physiological Understanding of the Links Between Surface Phytoplankton Dynamics and Large-Particle Export Events: **G Dall'Olmo**, B R Loveday
- 1445h **OB23B-04** Quantifying Global and Regional Carbon Export and Sequestration Pathways with a Data Assimilation Model of the Biological Pump: **M E Nowicki**, T J DeVries, D Siegel
- 1500h **OB23B-05** The Biological Carbon Pump seen through the "eyes" of multiple high resolution underwater gliders: **F Carvalho**, S Henson, N Briggs, S Thomalla
- 1515h **OB23B-06** Mechanisms Driving Enhanced Particle Export During a Submesoscale Re-stratification Event: Insights from Theory and Large Eddy Simulations: **J R Taylor**, K Smith, C A Vreugdenhil
- 1530h Panel Discussion:  
**OB24F-0517 POSTER** What can we learn about carbon export from optically determined mesopelagic particle abundance?: **A Bochdansky**, R B Dunbar, D A Hansell, G J Herndl  
**OB14E-0417 POSTER** Diagnosing export pathways in the biological pump: Sediment trap data from the EXPORTS North Pacific field campaign: **M L Estapa**, C A Durkin, M Omand, K Buesseler  
**OB14E-0408 POSTER** A Decade of Net Community Production in the North Pacific from Biogeochemical Profiling Floats: **A J Fassbender**, W Haskell, J Long, J N Plant, K S Johnson, S Johannessen, S Riser  
**OB24F-0526 POSTER** Phytoplankton Community Structure and the Efficiency of the Biological Pump: **J K Moore**
- 1400h Panelist: **D K Steinberg**

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## OCEAN MODELING

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**OM23A 5A, UL****Tuesday 1400h****Advances in Ocean Data Assimilation, Forecasting, and Reanalysis II** (*joint with IS, PL, PS*)

**Moderators:** **Ibrahim Hoteit**, King Abdullah University of Science and Technology; **Zhijin Li**, NASA Jet Propulsion Laboratory; **Mohamed Iskandarani**, University of Miami; **Aneesh Subramanian**, University of Colorado at Boulder

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- 1400h **OM23A-01** New Generation of Global Ocean Data Assimilation System at NCEP: **S Flampouris**, G Vernires, T C Sluka, J Meixner, J Kim, J Kuang, S Paturi
- 1415h **OM23A-02** Development of Bureau's Operational Ocean Prediction Systems: **A Zhong**, G B Brassington, X Huang, J Sweeney, P Divakaran, F Colberg, P Sakov, M B Entel
- 1430h **OM23A-03** Assessment of the new NASA/GMAO Ocean Reanalysis: **R M Kovach**, E C Hackert, A Molod, A Borovikov, J Marshak
- 1445h **OM23A-04** Assimilating Multi-source Data in a Highly Variable Coastal Water: **W Lai**, J Gan, Y Liu, Z LIU, J Zhu
- 1500h **OM23A-05** The assimilation of satellite absorption and glider data into novel bio-optical module coupled to ERSEM on the North-West European Shelf: **J Skakala**, S Ciavatta, J Bruggeman, D Ford, R J W Brewin
- 1515h **OM23A-06** Ensemble Forecasting of Return Flow over the Gulf of Mexico: **J M Lewis**, J Hu, S Lakshminarayanan, R Edwards
- 1530h **OM23A-07** Real-Time Implementation of the West Coast Operational Forecast System with Data Assimilation: **J Xu**, A L Kurapov, E J Bayler, A Zhang, Z Burnett, G N Seroka
- 1545h **OM23A-08** Unified Forecast System Development and Operational Implementation Plans for Sub-Seasonal to Seasonal (S2S) Predictions at NCEP/EMC: **V Tallapragada**, Y Zhu, J Meixner, S Saha, A Mehra, A Chawla, J Levit, I Stajner, B Gross, Y Xue, D M Koch, F Adimi

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## PAST, PRESENT AND FUTURE CLIMATE

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**PC23A 1A, UL****Tuesday 1400h****Atlantic Meridional Overturning Circulation: An Ongoing Challenge II** (*joint with OM, PS*)

**Moderators:** **Meric Srokosz**, National Oceanography Center, Soton; **Kathleen Donohue**, University of Rhode Island

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- 1400h **PC23A-01** Simplifying the Dynamics of the Atlantic Meridional Overturning Circulation at 26°N: **E Worthington**, R Marsh, J Mecking, S S Drijfhout, D Smeed, B I Moat, G McCarthy
- 1415h **PC23A-02** How does coastline shape influence meridional overturning and ocean heat transport?: **S Ragen**, K Armour, A Shao, E Maroon, L Thompson
- 1430h **PC23A-03** The Strengthening of the Atlantic Ocean Meridional Overturning Circulation Caused by Enhanced Indian Ocean Warming: **A V Fedorov**, S Hu
- 1445h **PC23A-04** The role of the Indo-Pacific Ocean in mediating the transient response of the Atlantic Meridional Overturning Circulation: **S Sun**, A F Thompson, I Eisenman
- 1500h **PC23A-05** Robust and Non-robust Aspects of Atlantic Meridional Overturning Circulation Variability and Mechanisms in the Community Earth System Model: **G Danabasoglu**, L Landrum, S G Yeager, P R Gent
- 1515h **PC23A-06** The key role of submesoscale advection in the formation of Labrador Sea water.: **A Bracco**, F Tagklis, T Ito, R M Castelao
- 1530h **PC23A-07** Deep Water Formation and Meridional Overturning Circulation in High-Resolution Simulations of the Subpolar North Atlantic: **C W Boning**, A Biastoch, K Getzlaff, P Wagner, S Ruehs, M Scheinert
- 1545h **PC23A-08** Historical AMOC in an Eddy-resolving CESM2 Simulation: **S G Yeager**, G Danabasoglu, P Chang, A Altuntas, F Bryan, F S Castruccio, W M Kim, E Maroon, J Small, L Wu, S Zhang
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**PC23B Poster Hall C-D; eLightning Theater****Tuesday 1400h****Climate Impacts on Marine Species IV**  
**eLightning** (*joint with HE, ME*)

**Moderators:** **Erin Meyer-Gutbrod**, University of California Santa Barbara; **Barbara Muhling**, NOAA-Fisheries

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**PC23B-01** *eLIGHTNING* Marine extirpations under future warming to mirror “the Great Dying”: **J L Penn**, C A Deutsch

**PC23B-02** *eLIGHTNING* Identifying prey traits to predict for predator diet shifts under climate change in albacore tuna: **N Hardy**, C Matuch, E L Hazen, M Jacox, S J Bograd, L Crowder, S Green

**PC23B-03** *eLIGHTNING* Influence of Climate Change on Habitat Utilization of Chesapeake Bay Fishes: **A Schonfeld**, J Gartland, R J Latour

**PC23B-04** *eLIGHTNING* The interaction between ocean warming and spawning latitude on U.S. Northeast Shelf black sea bass (*Centropristis striata*) energetics and reproductive potential throughout the spawning season: **E Slesinger**, G Saba

**PC23B-05** *eLIGHTNING* Depression and recovery of pelagic biomass in response to El Niño events and a warming trend: **E Portner**, K Benoit-Bird, E L Hazen, C M Waluk, C J Robinson, J Gomez-Gutierrez, W F Gilly

**PC23B-06** *eLIGHTNING* Examining surface and subsurface drivers of variability in the distribution of mesopelagic prey through the diet of longnose lancetfish, *Alepisaurus ferox*: **J Chavarry**, E Portner, B Muhling, J J Polovina, P A Woodworth-Jefcoats, A Choy

**PC23B-07** *eLIGHTNING* Sea urchin reproductive performance in a changing ocean: examining the impacts of climate change and environmental variability on gametes, fertilisation and early development in sea urchins: **K Smith**, C N Lewis

**PC23B-08** *eLIGHTNING* Species-specific responses of tropical gastropods to moderate ocean warming: **L Falkenberg**, D L Simons, K M Anderson

**PC23B-09** *eLIGHTNING* The effects of ocean acidification and parental history on eastern oyster (*Crassostrea virginica*) biomineralization and functional morphology: **E McNally**, F Titmuss, A Downey-Wall, K Lotterhos, J B Ries

**PC23B-10** *eLIGHTNING* Latitudinal Variation in Seagrass Wasting Disease from Puget Sound to Alaska: **O Graham**, C Klohmann, S Dayal, E Adamczyk, M Helsing-Lewis, A Olson, T Stephens, N Tolimieri, M E Eisenlord, B Rappazzo, C Gomes, D Harvell

**PC23B-11** *eLIGHTNING* Foraminiferal holobiont thermal tolerance under climate change - Roommates problems or successful collaboration?: **D Pinko**, D Titelboim, S Abramovich

**PC23B-12** *eLIGHTNING* The combined and individual effects of elevated salinity and temperature on foraminiferal growth.: **C Kenigsberg**, O Hyams-Kaphzan, D Titelboim, S Ashckenazi-Polivoda, S Abramovich

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## PHYSICAL OCEANOGRAPHY: MESOSCALE AND LARGER

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### PL23A 15A, Mezzanine

Tuesday 1400h

#### Ocean Salinity in Support of Scientific and Environmental Demands II (*joint with CP, PS*)

**Moderators:** **Nadya Vinogradova Shiffer**, NASA Headquarters; **Audrey Hasson**, NASA Jet Propulsion Laboratory

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1400h **PL23A-01** Mesoscale eddies in satellite observations of SSS and inferred eddy freshwater transports: **O Melnichenko**, P W Hacker, V Müller

1415h **PL23A-02** Lagrangian reconstruction of sea surface salinity to extract small-scale variability from SMAP: **B Barceló-Llull**, K Drushka, P Gaube, A Della Penna

1430h **PL23A-03** Assessing the impacts of tropical rainfall on near-surface salinity and turbulence using observations from the SPURS-2 experiment and a 1-D forced model: **S Iyer**, K Drushka

1445h **PL23A-04** Salinity Physics in the ITCZ - Modelling of Freshwater Lenses Constrained by In Situ Observations: **J J Schanze**, S R Springer, E J Thompson, G S E Lagerloef, R W Schmitt

1500h **PL23A-05** Mean Structure of the Ocean surface Haline wake left by Tropical Cyclones as observed by SMOS and SMAP: **R Nicolas**, B Chapron, S Grodsky, S Guimbar, V Kudryavtsev, G R Foltz, K Balaguru

1515h **PL23A-06** SMAP Sea Surface Salinity Validation and the Observations of the plume of Hurricane Dorian: **G S E Lagerloef**, H Y Kao

1530h **PL23A-07** A Novel Absolute Salinity Sensor for Ocean Science: **J Kapit**, R W Schmitt

1545h Discussion:

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## PHYSICAL OCEANOGRAPHY: MESOSCALE AND SMALLER

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### PS23A 15B, Mezzanine

Tuesday 1400h

#### Vertical Transport: Pathways from the Surface to the Interior II (*joint with OB, PI, PL*)

**Moderators:** **Amala Mahadevan**, Woods Hole Oceanographic Institution; **Julius Busecke**, Princeton University

- 1400h **PS23A-01** Submesoscale Frontogenesis: **R Barkan**, M J Molemaker, J C McWilliams, K Srinivasan, E A D'Asaro
- 1415h **PS23A-02** Three-dimensional Lagrangian transport in turbulence-resolving simulations of a submesoscale front: **S Sarkar**, V K Verma
- 1430h **PS23A-03** On the Vertical Velocity and Nutrient Delivery in Warm Core Rings: **K Chen**, P Gaube, E Pallas Sanz, D J McGillicuddy Jr
- 1445h **PS23A-04** Modeling vertical transport and submesoscale frontal mixing in dense flows along topography: **E A Yankovsky**, S Legg
- 1500h **PS23A-05** Large-scale effects of eddies on ocean biological carbon pump: **L Resplandy**, M Levy, D J McGillicuddy Jr
- 1515h **PS23A-06** Vertical Eddy Iron Transport in the Southern Ocean: **R P Abernathy**, T Uchida, D Balwada, G A McKinley, K S Smith, M Levy
- 1530h **PS23A-07** Do Submesoscales Affect the Large-Scale Structure of the Thermocline?: **A Sinha**, J Callies, D Menemenlis
- 1545h **PS23A-08** Global estimates of 1000-dbar vertical velocity from Argo floats: **K Christensen**, A R Gray, S Riser

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## SOCIAL-OCEAN SCIENCE INTERACTIONS AND SDGS

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### SI23A 11A, UL

Tuesday 1400h

**Ocean-Based Solutions to Address Local to Global Human Impacts I** (*joint with CP, ED, OB, PC*)

**Moderators:** **Lydia Kapsenberg**, Institute of Marine Sciences of Barcelona; **Hayley Carter**, California Ocean Science Trust

- 1400h **SI23A-01** The Ocean Foundation's International Ocean Acidification Initiative: An Interdisciplinary Approach to Building Resilience: **A Valauri-Orton**, A Puritz, M J Spalding
- 1415h **SI23A-02** California's Ocean Acidification Action Plan: A Roadmap for Science-informed Management and Decision Making: **J Kimball**, W Berry, H Carter, A Kellum
- 1430h **SI23A-03** Changing Ocean Chemistry on the US West Coast: From Knowledge to Action: **T M Hill**, A M Ricart, K Kroeker, A Spalding, B Gaylord, E Sanford, J Kauzer, H Carter, E Whiteman, H M Palmer, M Ward, E Kennedy, S Close, E Knight

- 1445h **SI23A-04** Alleviating hypoxia through induced downwelling: **D Koweek**, C A García-Sánchez, P Brodrick, P R Gasset, K Caldeira
- 1500h **SI23A-05** Kelp Farming as a Potential Strategy for Remediating Ocean Acidification and Improving Shellfish Cultivation: **N Price**, S Arnold, P Dobbins, B Honisch, C W Hunt, M Melendez, M Moretti, J Salisbury II, S Shellito
- 1515h **SI23A-06** Local Anthropogenic Nutrients Effects on Coastal Acidification and Hypoxia in Southern California Bight: A Case Study Linking Integrated Systems Modeling to Support Management Decisions: **M Sutula**, F Kessouri, J C McWilliams, D Bianchi, C A Deutsch, N Bednarek, E M Howard, L Renault, K McLaughlin, M Ho, R A Feely, S Weisberg
- 1530h **SI23A-07** Spatial Modelling of Mussel Farm Production and Nutrient Mitigation Potential in the W Baltic Sea: **M Maar**, A Holbach, K Timmermann, D Taylor
- 1545h **SI23A-08** Managing marine protected areas in remote areas: The case of the subantarctic Heard and McDonald Islands: **C M Brooks**, G Epstein, N C Ban

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## TUTORIAL TALKS

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### TT23A 1B, UL

Tuesday 1400h

**Creating Intuitive, Engaging Visualization: Color Tools and Strategies for Quickly and Easily Creating Visualizations Revealing Data and Communicating Science** (*joint with ED, OM, SI*)

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### TT23B 1B, UL

Tuesday 1430h

**Making Science Matter: A Review of 20 Years of SciComm and Strategies for the Future** (*joint with ED*)

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### TT23C 1B, UL

Tuesday 1500h

**Citizen Science in Coastal and Marine Systems** (*joint with ED*)

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### TT23D 1B, UL

Tuesday 1530h

**It's All Good: The Reciprocity of Diversity in STEM Disciplines** (*joint with ED, SI*)

## AIR-SEA INTERACTIONS

### AI24A Poster Hall C-D

Tuesday 1600h

#### Mesoscale and Submesoscale Ocean- Atmosphere Interactions and Influence on Earth's Climate II Posters (*joint with PS*)

**Moderators:** **Hyodae Seo**, Woods Hole Oceanographic Institution; **Mark Bourassa**, Florida State University

**AI24A-2288** *POSTER* A regional coupled model for studies of mesoscale air-sea interaction in the Southern Ocean: **N Perlin**, I V Kamenkovich, Y GAO, B Kirtman

**AI24A-2289** *POSTER* An atmospheric boundary layer model to improve air-sea interactions in eddying ocean models: **G Samson**, F Lemarié, T Brivoal, R Bourdalle-Badie, H Giordani, G Madec

**AI24A-2290** *POSTER* Analysis of the scale dependence of the atmosphere-ocean thermal coupling using cross-spectral methods.: **L Laurindo**, L Siqueira, B P Kirtman, I V Kamenkovich, R J Small

**AI24A-2291** *POSTER* Application of Coincident Sub-Footprint Scale Winds to Observe the Effect of Sea Surface Vorticity on the RapidScat Scatterometer Ku-Band NRCS: **D E Weissman**

**AI24A-2292** *POSTER* Atmospheric Forcing of the South Pacific Sub-tropical Counter-current and Associated Mesoscale Eddy Activity: **S Travis**

**AI24A-2293** *POSTER* Effects of High-Resolution Sea Surface Temperature and Data Assimilation using the WRF-3DVAR for Fog Prediction in the West Coast of South Korea: **S K Song**, S B Han, H S Park, J H Moon

**AI24A-2294** *POSTER* Exploring atmosphere-ocean interaction through a hierarchy of simple ocean models: **T Y Hsu**, F Primeau, G Magnusdottir

**AI24A-2295** *POSTER* Hawaii wind and weather conditions derived from high resolution Sentinel-1 synthetic aperture radars: **J E Stopa**, A Mouche

**AI24A-2296** *POSTER* How does the air-sea coupling frequency affect the convection during the MJO passage?: **N Zhao**, T Nasuno

**AI24A-2297** *POSTER* Impact of high-resolution air-sea interactions on the Australian climate: **G Serazin**, M Roge, A Di Luca, A Sen Gupta, N Jourdain, D Argueso

**AI24A-2298** *POSTER* Impacts of ENSO on the upper ocean in the northern South China Sea during winter: **Y H Tseng**, Y C Kuo

**AI24A-2299** *POSTER* Indirect Oceanic Current Feedback on Atmospheric Dynamics over Western Boundary Currents and Adjacent Continents: **F Desbiolles**, L Renault, A Thomas, C J C Reason

**AI24A-2300** *POSTER* Influence of the Atmospheric Forcing on the Circulation in the Gulf of Mexico: **E R Olvera-Prado**, E Moreles, J Zavala-Hidalgo

**AI24A-2301** *POSTER* Model resolution impacts on vertical heat fluxes in coupled model system: **J C May**

**AI24A-2302** *POSTER* Multiscale Variability of Upper-Ocean Salinity in Eastern Pacific Fresh Pool: **N H Chi**, A Y Shcherbina

**AI24A-2303** *POSTER* Parameterization of Wind Wave Growth Rate, a Direct Numerical Simulation Study: **J Wu**, L Deike

**AI24A-2304** *POSTER* Processes Intensifying Air-Sea Mesoscale Air-Sea Coupling: **M A Bourassa**, Q Shi

**AI24A-2305** *POSTER* Sensitivity of wind stress formulation to wind-current coupling and sea surface temperature: **M Shaner**, E Chassignet, M A Bourassa

**AI24A-2306** *POSTER* Stronger North Pacific Circulation and Transition Zone: **G Navarra**, E Di Lorenzo

**AI24A-2307** *POSTER* Summer Diurnal Precipitation Over the Ocean and Land in Northwest Luzon, Philippines: **A General**, O C Cabrera

**AI24A-2308** *POSTER* The Atmospheric Surface Layer Response to Nonlinear Internal Ocean Waves: **D G Ortiz-Suslow**, Q Wang, J A Kalogiros, R Yamaguchi, D Alappattu, A Olson, P Welch, R K Shearman, I B Savelyev, S Celona, T de Paolo, E Terrill

**AI24A-2309** *POSTER* The Behavior of Atmospheric Boundary Layer near SST Fronts near the Gulf Stream: **H Liu**, J B Edson, C A Clayson

**AI24A-2310** *POSTER* The complete hydrological cycle: **D Dey**, K Döös

**AI24A-2311** *POSTER* The ESA Earth Explorer 10 candidate satellite mission HARMONY: a focus on ocean submesoscales: **P Lopez Dekker**, B Buongiorno Nardelli, B Chapron, S Masina, C Pasquero

**AI24A-2312** *POSTER* Three-to-six day oscillation caused by air-sea interaction: **E Strobach**, A Molod, A L Trayanov, G Forget, J M Campin, C N Hill, D Menemenlis, P Heimbach

**AI24A-2313** *POSTER* Tropical Instability Waves in the Atlantic Ocean and their implications for ocean-atmosphere variability in high-resolution ICON simulations: **M S Specht**, J Jungclaus, J Bader

**AI24A-2314** *POSTER* Wind Forcing and Eddy Killing in the Global Ocean: **S Rai**, M W Hecht, M E Maltrud, H Aluie

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**AI24B Poster Hall C-D**

**Tuesday 1600h**

**Tropical Cyclone-Ocean Interactions: From Weather to Climate II Posters** (*joint with PL*)

**Moderators:** **I-I Lin**, National Taiwan University;  
**Chunzai Wang**, NOAA Miami

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**AI24B-2315** *POSTER* Sensitivity of storm surge to stratified coastal ocean cooling in Hurricane Irene: **T N Miles**, A Ramos Valle, J F Brodie, G N Seroka, S Coakley

**AI24B-2316** *POSTER* Rapid Intensification of Typhoon Hato (2017) over Shallow Water: **I F Pun**, J C L Chan, I I Lin, K Chan, J Price, D S Ko, C C Lien, Y L Wu, H C Huang

**AI24B-2317** *POSTER* A Coupled FVCOM-WRF Model: Applications for Hurricane and Typhoon Simulations: **S Li**, C Chen, Z Wu, Q Jianhua, R C Beardsley, W Dong, D Xu

**AI24B-2318** *POSTER* Analysis of Tropical Cyclone Wakes with multi-sensors observation: contribution of altimeters and synthetic aperture radar (SAR): **A Mouche**, C Combot, Y Quilfen, B Chapron

**AI24B-2319** *POSTER* Atmospheric and Oceanic Influences on Tropical Cyclone Activity over the Yellow Sea: **G Do**, H S Kim

**AI24B-2320** *POSTER* Cyclone Induced Changes in the Ocean and Atmosphere in the north Indian Ocean: **R M Koll**, V K Singh, M S Deshpande

**AI24B-2321** *POSTER* Drivers of Multi-decadal Warming in the Main Development Region for Atlantic Hurricanes: **E Harris**, R Marsh, J P Grist, G McCarthy

**AI24B-2322** *POSTER* Does warm ocean eddy favor rapid intensification of tropical cyclone?: **S M Huang**, L Y Oey

**AI24B-2323** *POSTER* Effect of Surfactants on the Generation of Sea Spray During Tropical Cyclones: **B Vanderplow**, A Soloviev, C Dean, B K Haus, R Lukas

**AI24B-2324** *POSTER* Evaluation of All-weather Sea Surface Wind Speed Product from GCOM-W/AMSR2 Microwave Radiometer Under Tropical Storm Conditions: **N Ebuchi**

**AI24B-2325** *POSTER* Examining the sensitivity of ocean response to oceanic grid resolution in COAMPS-TC during Hurricane Irma: **J E Rudzin**, S Chen

**AI24B-2326** *POSTER* Growth or Just Mixing? Glider-Based Observations of Elevated Phytoplankton Biomass Proxies Over the Scotian Shelf Following Hurricane Arthur: **A Stoer**, A Comeau, R F Davis, H L MacIntyre

**AI24B-2327** *POSTER* Immediate and long-term ocean response to tropical cyclones: turbulent mixing and near-inertial oscillations: **N Brizuela**, M H Alford, S Johnston, J Moum, D L Rudnick

**AI24B-2328** *POSTER* Impact of tropical cyclones on Florida Current transport and associated coastal sea level fluctuations: **D Volkov**, R M Domingues, G J Goni, M O Baringer, R H Smith, R F Garcia

**AI24B-2329** *POSTER* Long-term change of tropical cyclone activity and its impact on Vietnam: **J Yoon**

**AI24B-2330** *POSTER* Numerical study of the effect of Warm-Core Ocean Eddies on Tropical Cyclone Intensity in the Northwest Pacific: **I MA**, I Ginis

**AI24B-2331** *POSTER* Numerical Study of Wind Stress in Coastal Water Under a Tropical Cyclone: **X Chen**, I Ginis, T Hara

**AI24B-2332** *POSTER* Ocean observations under Hurricanes Irma (2017) and Florence (2018): Evolution of the response across the storm wakes: **S R Jayne**, E Sanabia

**AI24B-2334** *POSTER* Ocean Temperature Observations in the Wake of Hurricane Dorian – Examination of Three AXBT Transects East of the Abaco Islands and Other AXBT Observations in the Storm Environment: **J Von Fecht**, M H McAlister, C Densmore, S R Jayne, E Sanabia

**AI24B-2335** *POSTER* Prominent influence of salinity on hurricane rapid intensification: **K Balaguru**, G R Foltz, L R Leung, W Xu, J Kaplan, N Reul, B Chapron

**AI24B-2336** *POSTER* Quantification of the ocean surface and subsurface parameters for Cyclogenesis and intensification in the North Indian Ocean: **B Jangir**, D Swain

**AI24B-2337** *POSTER* Surface and Sub-surface Ocean Response to Tropical Cyclone Phailin: Role of Pre-existing Oceanic Features: **J Lingala**, S Joseph, S P

**AI24B-2338** *POSTER* The TROPIC Data Archive: Ready Access to 9 Years of AXBT Data Collected during USAF 53<sup>rd</sup> Weather Reconnaissance Squadron Missions: **G Rovira-Melendez**, S J Sun, J L Drogowski, S G McAllister, C Densmore, S R Jayne, E Sanabia

**AI24B-2339** *POSTER* Tropical Cyclone-Induced Energy Exchange in an Idealized, Coupled Atmosphere-Ocean Climate Model: **X Wu**, K Reed, S D Bachman, F Bryan, C Wolfe, G M Marques

**AI24B-2340** *POSTER* Warm Core Eddy Response to the Passage of Hurricane Harvey: **C Y Hsu**, H Potter, S F DiMarco

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## COASTAL AND ESTUARINE PROCESSES

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### CP24A Poster Hall C-D; eLightning Theater

Tuesday 1600h

#### Nearshore Processes VII eLightning

**Moderators:** Jenna Brown, USGS; Sylvia Rodriguez-Abudo, University of Puerto Rico Mayaguez

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**CP24A-01** *eLIGHTNING* Modeling nearshore storm waves with unstructured implicit WAVEWATCH III in Duck, NC: **T Hesser**, M A Bryant, A Abdolali, A Roland, J M Smith

**CP24A-02** *eLIGHTNING* An Assessment of a high fidelity hurricane storm surge model for recent storm events: **J Camelo**, T Mayo

**CP24A-03** *eLIGHTNING* Morphodynamic evolution of a natural Inlet: **T R Nelson**, J L Miselis, M Van Ormond

**CP24A-04** *eLIGHTNING* The contribution of aeolian and marine processes to decadal coastal dune evolution along the Dutch coast.: **C van IJendoorn**, S de Vries, C Hallin

**CP24A-05** *eLIGHTNING* Nearshore wave transformation over a rocky reef shoreline: **J H MacMahan**, C J Gon, E B Thornton

**CP24A-06** *eLIGHTNING* Coastal trapped waves in high-scattering regions: Observations of scattering modes and comparison to theory near the Outer Banks, North Carolina: **K E Brunner**, K M M Lwiza, D Rivas

**CP24A-07** *eLIGHTNING* Surface Wave Patterns at a Sharp Front Produced by Runoff from the Mississippi River Identified by Synthetic Aperture Radar Satellite Imagery: **J Kluge**, A Soloviev, C Dean, G Morrison, E Schwarz, S Lehner, H Shen, W Perrie, B K Haus

**CP24A-08** *eLIGHTNING* The implications of uncertainties in HF radar observations for measuring small-scale surface current structures: **B M Emery**, A Kirincich, L Washburn, P J Flament

**CP24A-09** *eLIGHTNING* Understanding change: The effect of invasive algae removal on water circulation in a Native Hawaiian Fishpond: **Y M Rii**, D Lopera, M A McManus, K Kotubetey, P Maurin, R Alegado

**CP24A-10** *eLIGHTNING* Ensemble simulations of nearshore hydrodynamics and morphologic evolution: **A Penko**, M Palmsten, J Veeramony, S R Harrison, K L Edwards, S M Trimble, W Lee

**CP24A-11** *eLIGHTNING* Ensemble simulations of munitions mobility: **M Palmsten**, A Penko, J Veeramony, S R Harrison, S E Rennie

**CP24A-12** *eLIGHTNING* Synthetic Pore Pressure Signals from Seabed Surface Wave Signals within Sandy Seafloors: **M Florence**, N Stark

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### CP24B Poster Hall C-D

Tuesday 1600h

#### Human Populations and Influences in the Coastal Zone: Effects on Ocean and Human Health (OHH) IV Posters (*joint with MM, SI*)

**Moderators:** Rachel Noble, Organization Not Listed; Joshua Steele, Southern California Coastal Water Research Project

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**CP24B-1127** *POSTER* AMBIVALENCES OF A CRUDE OIL SPILL ON THE PLANKTONIC COASTAL COMMUNITIES.: **S Putzeys**, M Juárez, S P Valencia Agami, R Ochoa Rosado, V P Ceja, L P Cetina, S P Morales Ojeda, A Aguilar, G Cruz, I Medina, O González, R Canul Puc, J A Martínez, A Gamboa, R Raygosa, M E Martínez-Cruz, Y B Okolodkov, F Arcega Cabrera, L Aguirre, D Pech, J Herrera-Silveira

**CP24B-1128** *POSTER* Condition of Rock-boring sea urchin (*Echinometra lucunter*) in Puerto Rico: **E Torres-Rivera**, A M Sabat

**CP24B-1129** *POSTER* Effect of the Hydrocarbons Exposure on the Immune Response in *Crassostrea virginica*: **E Lopez**, R Gomez, G Amador, I Montelongo, N Ramirez, C E Galindo-Sanchez

**CP24B-1130** *POSTER* Hydrocarbon accumulation effects in gonadal tissue of *Crassostrea virginica* and expression patterns of sexual maturity related genes.: **S Arroyo**, C E Galindo-Sanchez, E A López-Landavery

**CP24B-1132** *POSTER* Heavy Metal Burden in Water and Sediment, and Oxidative Stress Responses in the Blue Crab *Callinectes amnicola* Rochebrune, 1883 from Lagos Lagoon in Southwest Nigerian.: **F Jerome**

**CP24B-1133** *POSTER* Response of Primary Production to Changing Conditions in Salton Sea Water Chemistry: **C McGuire**

**CP24B-1134** *POSTER* Using ArcGIS to Determine the Long-Term Impacts of Anthropogenic Freshwater Runoff on Los Peñasquitos Lagoon in San Diego, CA: **A Bierzychudek**, K A Uyeda

**CP24B-1135** *POSTER* A quantitative response of evaporation or transpiration to oceanic climate change for the tropical Yongxing Island, China (1981–2017): **X Luo**

**CP24B-1136** *POSTER* Application of Artificial Intelligence (AI), Machine Learning (ML), Big Data Management (BDM) for Marine Risk assessment.: **S Patil**, P De Toro, P J Philip

**CP24B-1137** *POSTER* Changes in Embryonic Zebrafish Cardiac Gene Expression Following Crude Oil Exposure: **D De Alwis**, J Cameron, J Incardona

**CP24B-1138** *POSTER* Pharmaceuticals and cocaine as chemical markers of contamination in coastal waters off Ubatuba, Brazil: **L R Frazão**, R M Lopes

**CP24B-1140** *POSTER* Occurrence of Antibiotics and Pharmaceutical Residues in the Coastal Waters of Mabini, Batangas: **S M Mariano**, L G Angeles, D Aga, C M Jaraula

**CP24B-1141** *POSTER* Characterizing the environmental parameters and microbial ecology of the Los Angeles River: from the Sepulveda Basin to the Golden Shores Estuary.: **A C Jones**, E Ortiz-Villa, J C Gutierrez, R Choi

**CP24B-1142** *POSTER* Understanding cross border fecal pollution flows at the Southwest US Border: **A Zimmer-Faust**, J A Steele, M L Griffith, J F Griffith

**CP24B-1143** *POSTER* Mangroves and microbes, coordinated ecosystem engineers in Coastal Ecuador: **N Erazo**, S N Giddings, J S Bowman

**CP24B-1144** *POSTER* Ocean and aerosol microbial communities during coastal water pollution events: **P Belda-Ferre**, M Pendergraft, D Petras, C Morris, B Mitts, A T Aron, J Minich, L Aluwihare, P Dorrestein, R Knight, K A Prather

**CP24B-1145** *POSTER* Non-targeted tandem-mass spectrometry enables the tracking of anthropogenic pollutants from coastal seawater to sea spray aerosol: **D Petras**, M Pendergraft, P Belda-Ferre, C Morris, B Mitts, J Minich, A T Aron, R Knight, L Aluwihare, P Dorrestein, K A Prather

**CP24B-1146** *POSTER* Response of the Ambient Marine Microbial Community to a Mixture of Pollutants in the Coastal Ecosystem: **N Orel**, T Tinta, V Turk

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## CP24C Poster Hall C-D

**Tuesday 1600h**

### Impacts of Microplastics on Marine Organisms and Ecosystem Health IV Posters (*joint with ME, OC*)

**Moderators:** **Dorothy Horn**, Portland State University; **Samantha Athey**, University of North Carolina Wilmington

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**CP24C-1147** *POSTER* Source And Fate Of Microplastics Fibers In The Ocean - A Case Of Study In Newtown Creek And Flushing Bay: **M Carrera**, E Ragoonath-De Mattos, J I Goes, B Yan

**CP24C-1148** *POSTER* Marine Litter Management Education Through Computer Applications and Ocean Observations: **V C**

**CP24C-1149** *POSTER* Microplastics in Drinking Water in Qingdao, China: **N X Ding**, M Zhang, J Ding, F Jiang, J Li

**CP24C-1150** *POSTER* Investigating the Presence and Trophic Transfer of Microplastics in Ex- and In-Situ North American Otters Through Diet and Scat Analysis: **J E Van Brocklin**, S M Brander, S Larson, T Levi, N Duplaix

**CP24C-1153** *POSTER* Temporal variation of microplastics occurrence in river water discharged to coastal region: **S K Kim**, H J Lee

**CP24C-1155** *POSTER* Microplastic Exposure Pathways in Estuarine Teleost Fishes with Different Feeding Strategies: Importance of What, Where and How you Eat: **G Sancho**, B W Parker, B Ingram, J C Ballenger, B Beckingham

**CP24C-1156** *POSTER* Infiltrating the food web: the role of zooplankton in providing an entry point for microplastics through trophic levels: **J Walden**, K Mackey, D Navarro

**CP24C-1157** *POSTER* Quantification and identification of microplastics in James River and York River, two tributaries of Chesapeake Bay: **C Yañez**, S Fortin, B Song

**CP24C-1158** *POSTER* The Effects of Different Aquatic Environments on the Rate of Polyethylene Biodegradation by *Bacillus Subtilis*: **A Tadimeti**

**CP24C-1159** *POSTER* Microplastics in the digestive systems of groundfish in the Monterey Bay: **A Lorentz**, C Reilly, L Marrack

**CP24C-1160** *POSTER* Examining the trophic transfer of plastic-related pollutants to the endangered Hawaiian monk seal in the Northwestern Hawaiian Island marine ecosystem: **T Russell**, H Allen, A M Cook, W Robberson, A Choy

**CP24C-1161** *POSTER* The Examination of Microplastic Consumption by Zooplankton Collected in an Urban Estuary and a Pristine Antarctic Coastal System: Approaches, Challenges, and Outcomes: **K Walsh**, G Saba, R J Chant, G Arbuckle-Keil, K Sipps, N Fahrenfeld

**CP24C-1163** *POSTER* Using a Metabarcoding Approach to Evaluate the Impacts of Nanoplastic Particles on Benthic Meiofauna Communities: **M Giroux**, T Langknecht, R M Burgess, K Ho

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## CP24D Poster Hall C-D

Tuesday 1600h

### Processes and Management of Altered Estuaries and Deltas in the Era of Anthropocene II Posters (*joint with ME, MG*)

**Moderators:** Timothy Dellapenna, Texas A&M University at Galveston; **Daidu Fan**, Tongji University

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**CP24D-1165** *POSTER* Sediment Dynamics in the Mangroves of Southern Coastal Bangladesh: **R P Hale**, A J Garnand, C Wilson, J Bomer

**CP24D-1166** *POSTER* Effect of tropical storm and frontal passage on marsh erosion in terraced coastal wetlands: **J E French**, A D Skarke, M Brasher

**CP24D-1167** *POSTER* Mapping the Migration Pattern of the Hurricane Harvey Flood Deposit on the Brazos Subaqueous Delta: **C E Hoelscher**, T Dellapenna, J H Churchill, A Z Wang, E Wurgaft

**CP24D-1168** *POSTER* Numerical Simulation of Local Scour around a Submerged Inclined Cylinder: **Y Z Xia**, S H Wang

**CP24D-1169** *POSTER* Automated analysis of geomorphological changes in South Korea's estuaries using remotely sensed surface water data: **N Wellbrock**, T M Dellapenna, D Retchless

**CP24D-1171** *POSTER* Turbulent mixing and sediment induced stratification in macrotidal Qiantang Estuary (China): **J Tu**, D Fan, Y Zhang, G Voulgaris

**CP24D-1174** *POSTER* Seasonal Infilling of an Artificially Abandoned Distributary Channel on the Huanghe (Yellow River) Delta, China: **L L Kumpf**, G C Kineke, B Carlson, M Mullane

**CP24D-1175** *POSTER* Anatomy of a transgressive sediment-rich tide-dominated estuary: the paleo-Yangtze incised valley, China: **J Su**, D Fan, P Liu, Y Wu

**CP24D-1176** *POSTER* The Evolution of Hypoxia off the Changjiang Estuary in the Last 3000 Years: Evidence from Benthic Foraminifera and Elemental Geochemistry: **F Ren**, D Fan, Y Wu, Q Zhao

**CP24D-1178** *POSTER* Changes in estuarine carbon and nitrogen budgets along a gradient of land-use intensity: **J J Chen**, D Eler, N S Wells, B Eyre

**CP24D-1179** *POSTER* Evaluating Phytoplankton Productivity Outcomes to Managed Flow Alteration Actions in the San Francisco Estuary-Delta: **F Wilkerson**, S Blaser, R C Dugdale, J Wilson, T Sommer

**CP24D-1181** *POSTER* Shifts in phytoplankton productivity and community structure in the San Francisco Bay-Delta driven by Delta Outflow: **A D Fischer**, R M Kudela

**CP24D-1182** *POSTER* Waves and Mixing in an Urban Subtropical Lake: Restoration Implications: **N Dudeck**, K Valentine, S M Murshid, G Mariotti

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## CP24E Poster Hall C-D

Tuesday 1600h

### Regional to Global Monitoring of Coral Reef Ecosystems Posters (*joint with IS, SI*)

**Moderators:** Greg Asner, Arizona State University; **Chris Roelfsema**, University of Queensland

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**CP24E-1186** *POSTER* The Forgotten Reef Builders: Giant Clam Blue Carbon, Restoration and Ecocide: **S Frias-Torres**

**CP24E-1188** *POSTER* Multi-species Coral Rescue in Response to the Stony Coral Tissue Loss Disease (SCTLD) on the Florida Reef Tract: **A Ellis**, S Schopmeyer, R Ruzicka, J Moore, L Gregg, K O'Neil, A Bruckner, D Gilliam, M Martinelli, M Johnson, K Kerrigan

**CP24E-1191** *POSTER* Remote sensing of shallow-water bathymetry: leveraging multispectral ocean color observations: **J Wei**, M Wang, Z Lee, H Briceno, X Yu

**CP24E-1192** *POSTER* Fecal pellets of giant clams, as vectors to transport zooxanthellae.: **M Umeki**, Y Nakamura, H Yamashita, G Suzuki, K Koike, S Morishima

**CP24F Poster Hall C-D**

**Tuesday 1600h**

**The Dynamics of Buoyancy-Driven Flows in Estuaries, Continental Shelves, and Polar Seas V Posters** (*joint with HE, PS*)

**Moderators:** Piero Luigi Mazzini, San Francisco State University; Rebecca Jackson, WHOI

**CP24F-1193** *POSTER* An advected-driven upwelling event on the western coast of the Yucatan Peninsula.: **J A Kurczyn**, H Uc, J Uc

**CP24F-1194** *POSTER* The Cooling Box Problem: Lab and Field Measurements: **J Olsthoorn**, E W Tedford, G A Lawrence

**CP24F-1195** *POSTER* Copper River discharges in the Northern Gulf of Alaska: freshwater distribution and evolution during the July 2019 freshet: **A Brydie**, S L Danielson

**CP24F-1196** *POSTER* Discharge plume dynamics at a tidewater glacier: linking upwelling plumes to the downstream exchange flow: **R H Jackson**, J D Nash, E D Skyllingstad, D Sutherland, E Eidam, C Kienholz, J M Amundson, E Pettit, R J Motyka

**CP24F-1197** *POSTER* A Study of the Gulf of St. Lawrence Water Masses in Response to Atmospheric Forcing and Model Resolution Using Quasi-Operational Canadian Coastal Ice-Ocean Prediction Systems: **F Roy**, J P Paquin, G Smith, A A Gauthier, S MacDermid, S St-Onge Drouin, S Senneville, F Dupont, J Chanut

**CP24F-1198** *POSTER* Modeling the impact of sill depth on glacier submarine melting in narrow fjords: **W Bao**, C F Moffat

**CP24F-1199** *POSTER* The Dynamics of Uniformly Stratified Flow over Sills, with Application to Coastal Oceanic Flows: **P G Baines**, L Chan, J Philip

**CP24F-1200** *POSTER* Mixing efficiency for forced, stationary, stratified turbulence: when is it constant?: **Y R Yi**, J R Koseff

**CP24F-1201** *POSTER* Observations and modeling of the horizontal evolution and intertidal variability of a tidal intrusion front: **D Honegger**, M E Scully, M C Haller, R Pittman, A O'Dea, A J Simpson

**CP24F-1202** *POSTER* Observations of Instabilities Along an Intruding Flood Front via sUAS on the James River: **M C Haller**, A J Simpson, J M Thomson

**CP24F-1203** *POSTER* Turbulence Observations in a Macrotidal Estuary with Five Beam Acoustic Doppler Current Profilers: **L Amoudry**, M E Williams, A J Souza, X Wei

**CP24F-1204** *POSTER* Modeling the Generation of Internal Waves by Lateral Circulation in an Idealized Estuary with Channel-Shoal Bathymetry: **R Li**, M Li

**CP24F-1205** *POSTER* Curves, Coriolis, and Cross-Channel Circulation in the Hudson River Estuary: **M Conley**, J A Lerczak

**CP24F-1206** *POSTER* Dispersion in bar-built estuaries: **M E Williams**, R Flores Audibert, A R Horner-Devine, M T Stacey

**CP24F-1207** *POSTER* Exchange through a back-barrier estuary inlet with complex bathymetry: **A Pfeiffer-Herbert**, N Ertle, J Polcino

**CP24F-1208** *POSTER* Enhanced exchange flow during spring tide and its cause in the Sumjin River estuary, Korea: **E Cho**, Y K Cho

**CP24F-1209** *POSTER* Seasonal Variations of Temperature and Salinity at the Saint Johns River: **C Akan**

**CP24F-1210** *POSTER* Secondary circulation in a low-inflow, seasonally inverse estuary: **A R Rodriguez**, S N Giddings, S Graham, J Bredvik

**CP24F-1211** *POSTER* Salinity Intrusion in the Rhine Meuse Delta: Estuarine Circulation or Tidal Dispersion?: **W Kranenburg**, T van der Kaaij, Y Huismans, M Tiessen

**CP24F-1212** *POSTER* Variability in estuarine vertical mixing and its impact on suspended sediment flux in weakly stratified estuaries: **X Wei**, M Williams, H M Schuttelaars, J M Brown, P D Thorne, L Amoudry

**CP24G Poster Hall C-D**

**Tuesday 1600h**

**Transdisciplinary Research and Education in Coastal Systems Posters** (*joint with ED, SI*)

**Moderators:** Robert Chen, University of Massachusetts Boston; Kelly Luis, University of Massachusetts Boston

**CP24G-1213** *POSTER* The Sea Around Us - Raising Awareness and Changing Behaviors to Reduce Single-Use Plastic Consumption on a Coastal College Campus: **A N Siuda**, S Gowans, E Bollier, J Sherry, T Schranck, A Kossoff, S Day

**CP24G-1215** *POSTER* TD Education: Fostering collaborative and transdisciplinary training in marine coastal science: a data informed analysis: **L Ciannelli**, F D L Conway, A Spalding, C Char, J A Jones, M A Banks, K Hoffman, A Gitelman

**CP24G-1216** *POSTER* Transdisciplinarity in practice: Integrating ecological, oceanographic, and human dimensions to support holistic decision-making for Oregon's Marine Reserves: **A Laufer**, M N Wilson, J A T K Wong-Ala, E Howard

**CP24G-1217** *POSTER* Designing a Living Laboratory on the Boston Harbor Islands to Support Transdisciplinary Research and Education on Coastal Resilience: **R F Chen**, M Borrelli, K Bosma, P H Kirshen, L Lockwood, F Peri

**CP24G-1218** *POSTER* TD Education: Increasing coastal resiliency by informing and preparing citizens of the northern Gulf of Mexico through hands-on, multidisciplinary K12 education: **S M Smallegan**, R Collini, S Vedral, A Rellinger, T Miller-Way, E Sparks, T Sempier

**CP24G-1219** *POSTER* Research and Mentoring faculty of Philippine Science High School: Profiling Pharmaceutical and Personal Care Products in the Davao Watershed: **J Constantino**, C M Jaraula, M A Limen, S M Mariano, J Al-Shdifat, D Aga

**CP24G-1221** *POSTER* Kayak oceanography as a vehicle for exploring high latitude processes and coupled human-natural systems in Southeast Alaska: **M R Cape**, H C Heath, M Navarro, G Wright

**CP24G-1222** *POSTER* Trophic transfer of domoic acid: trophic niche proxies of the main vectors and predators affected in central California: **S Bernstein**, I Ruiz-Cooley, R M Kudela, C Anderson, R Dunkin, J C Field

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## CHEMICAL TRACERS, ORGANIC MATTER AND TRACE ELEMENTS

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### CT24A Poster Hall C-D

Tuesday 1600h

#### Ocean Ventilation: Results and Innovations from Transient and Deliberate Tracers Posters

(joint with IS, PL, PS)

**Moderators: Dr. Toste Tanhua**, GEOMAR Helmholtz Centre for Ocean Research Kiel; **Douglas Wallace**, Dalhousie University

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**CT24A-0877** *POSTER* Bullister and Wisegarver's CFC and SF<sub>6</sub> Time Series at Hawaii During the Late 2000s: **R Sonnerup**, J L Bullister, D P Wisegarver, S Mecking, M J Warner

**CT24A-0878** *POSTER* Changes in ventilation and anthropogenic carbon in the Nordic Seas and Arctic Ocean: **E Jeansson**, B Rajasakaren, D T S Tanhua, A Olsen, W M Smethie Jr

**CT24A-0879** *POSTER* Changing ventilation of the Mediterranean Sea studies with a suite of novel halogenated transient tracers: **P Li**, D T S Tanhua

**CT24A-0880** *POSTER* Comparison of Tritium/<sup>3</sup>He and SF<sub>6</sub> Apparent Ages as Water Mass Dating Tools in the Switchyard Region of the Arctic Ocean: **D Song**, P Schlosser, R Newton, W M Smethie Jr

**CT24A-0881** *POSTER* Contrasts in Oxygen Variability of SE Pacific Oxygen Deficient Zone and Subtropical Gyre: **M Martin**, R A Fine, J D Happell

**CT24A-0882** *POSTER* Harnessing of the Transients of Anthropogenic Halogenated Compounds for Understanding Ocean Processes: Critical Steps, Lessons Learned and Ways Forward: **D Wallace**, R A Fine, R H Gammon, M Rhein, W M Smethie Jr, D T S Tanhua, M J Warner, R F Weiss

**CT24A-0883** *POSTER* Investigating Changes in Southern Ocean Circulation through the Use of Transient Tracers: **G Hinde**, M J Messias, M P Meredith, D R Munday, P R Halloran

**CT24A-0884** *POSTER* Is There a Bigger Place for 129I in the Oceanographer's Transient Tracer Toolkit?: **T P Guilderson**, S J Tumey, T A Brown, S Mecking

**CT24A-0885** *POSTER* Mapping the decadal evolution of Antarctic Bottom Water ventilation from CFCs: **G Gebbie**, S G Purkey

**CT24A-0886** *POSTER* Recent Dissolved Oxygen Changes in the World Ocean: **J H Swift**, A Agrawal

**CT24A-0887** *POSTER* Recent Tracer Measurements in the Antarctic Bottom Waters of the Australian-Antarctic Basin: **M J Warner**, R E Sonnerup, S R Rintoul, A M Macdonald

**CT24A-0888** *POSTER* Towards Autonomous Observing Platforms for Use in Ocean Tracer Release Experiments: **J C L'Esperance**, D T S Tanhua, D Wallace

**CT24A-0889** *POSTER* Towards large-scale application of <sup>39</sup>Ar in ocean circulation studies: **W Jiang**, A M Tong, J Q Gu, X Z Dong, S M Hu, Z T Lu, F Ritterbusch, G M Yang

**CT24A-0890** *POSTER* Tracing nutrients released from anoxic sediments with a Tracer Release Experiment - POSTRE: **D T S Tanhua**, M Visbeck, M Freund

**CT24A-0891** *POSTER* Understanding Circulation Processes in the Arctic and sub-Arctic Regions Using a Combination of Anthropogenic Chemical Tracers: **N Casacuberta**, J Smith, A M Wefing, M Castrillejo, M Christl, E Chamizo Calvo, M Lopez-Lora, W M Smethie Jr

**CT24A-0892** *POSTER* Ventilation and water transport in the South China Sea deduced from CFC-12 and SF<sub>6</sub> observations: **P Huang**, W Wang, M Cai, H Ke, B Luo

## CT24B Poster Hall C-D

Tuesday 1600h

**Revealing Biogeochemical Processes on Basin Scales through Ocean Transects V Poster** (*joint with OB, OM*)

**Moderators:** **Karen Casciotti**, Stanford University; **Phoebe Lam**, University of California Santa Cruz

**CT24B-0893** *POSTER* An Inverse Model Interpretation of the GEOTRACES Aluminum Transects: **H Xu**, T S Weber

**CT24B-0894** *POSTER* Using an Ocean Model to Examine the Role of Different Iron Sources and Internal Cycling in Controlling the Distribution of Iron and Iron Isotopes in the Global Ocean: **D Koenig**, A Tagliabue

**CT24B-0895** *POSTER* Dissolved bio-essential metals in the Lazarev and Weddell Sea: **R Middag**, E M Bertrand, C P D Brussaard, I Ardiningsih, C U M Eich, L J Gerringa, M H van Manen, S B E H Pont, G J Reichart, H A Tian

**CT24B-0896** *POSTER* A multi-element overview of upper ocean trace metal cycling in the Pacific Ocean: GEOTRACES GP15 PMT demi stations: **D Halbeisen**, N T Lanning, C P Till, J N Fitzsimmons

**CT24B-0897** *POSTER* Comparison of air-sea exchange of mercury from the GEOTRACES GP15 cruise with data from other cruises in the Pacific Ocean: From similarity to discrepancy: **Y He**, R P Mason

**CT24B-0899** *POSTER* Surface Ocean Trace Metal Distributions across Basin-Scale Transects: Patterns from GEOTRACES GP15 and a Comparison with GP16 and GA03: **R Freiburger**, C Tusei, J I Begorre, J N Fitzsimmons, C P Till

**CT24B-0901** *POSTER* Sulphide and Metal Levels in Hydrothermal Plumes from Major Vents Along the North Mid-Atlantic Ridge: **P Salaun**, A J M Lough, D González-Santana, J A Resing, A Tagliabue, M C Lohan

**CT24B-0902** *POSTER* Contrasting complexation of Cu and Co by organic ligands in the East China Sea determined by forward and reverse titration CLE-AdCSV: **K H Wong**, J Xu, R Muhammad, H Obata

**CT24B-0903** *POSTER* The distribution of Ni and Ni isotopes in the North Pacific: **X Bian**, S C Yang, T M Conway, P S John

**CT24B-0904** *POSTER* Distribution of dissolved Ni, Cu, and Zn and their isotopes in the Southern Ocean and the South Pacific Ocean: **S Takano**, Y Sohrin

**CT24B-0905** *POSTER* Pb and Pb isotope ratios in the North Pacific: observations during the KH-12-4 GEOTRACES Japan cruise: **K Norisuye**, Y Matsubara, H Obata, E A Boyle, T Gamo, M Nakagawa

**CT24B-0907** *POSTER* Development of a method for determination of lead isotope ratios in marine suspended particles: **D Asanuma**, H Obata, Y Matsubara, K Maruyama, K Norisuye, T Fukazawa

**CT24B-0908** *POSTER* Development of a method for determination of dissolved Te species in open ocean water: **T Fukazawa**, D Asanuma, H Obata, S Usui, S Matsuoka, K Norisuye

## CT24C Poster Hall C-D

Tuesday 1600h

**Significance of Photochemistry in Marine Biogeochemical Cycles Posters** (*joint with AI, IS, OB*)

**Moderators:** **Heather Reader**, University of Calgary; **David Kieber**, State University of New York, College of Environmental Science and Forestry

**CT24C-0910** *POSTER* Constraining photochemical production rates of dissolved inorganic carbon in the open ocean using the moderate dissolved inorganic carbon (DI<sup>13</sup>C) isotope enrichment (MoDIE) method: **K Ma**, J Brandes, L Powers, W L Miller

**CT24C-0911** *POSTER* Photobleaching of CDOM: A new approach to quantify apparent quantum yield matrices applicable to spectral photochemical models: **X Zhu**, W L Miller, C G Fichtot

**CT24C-0912** *POSTER* Evaluation of Matrix Effects in Aquatic Dissolved Organic Matter Photochemistry: **L Powers**, M Gonsior

**CT24C-0913** *POSTER* Considering the role of photochemistry in controlling the effective redox state in the surface ocean: **W L Miller**

**CT24C-0914** *POSTER* Photochemical lability of dissolved organic matter in deep water in the western tropical Pacific Ocean: **H Xie**, G S Song, F Yang, P Massicotte

**CT24C-0915** *POSTER* Sunlight-induced changes in fluorophores of dissolved organic matter in the eastern Indian Ocean: **S Takeda**

**CT24C-0916** *POSTER* Photo-oxidation facilitating the preservation of dissolved organic nitrogen in the ocean: **L Sun**, C Xu, P Lin, K Schwehr, P H Santschi

**CT24C-0917** *POSTER* Photochemical source of nitrous acid in the marine boundary layer at Tudor Hill Marine Atmospheric Observatory in Bermuda: **Y Zhu**, Y Wang, X Zhou, Y F Elshorbany, C Ye, M Hayden, A Peters

**CT24C-0918** *POSTER* Photoproduction and Photolysis of Acrylate in Seawater: **D J Kieber**, L Xue

**CT24C-0920** *POSTER* Photochemical degradation of antioxidants: kinetics and molecular end products: **S Semitsoglou Tsiapou**, T Meador, D Kahoun, L Aluwihare

**CT24C-0921** *POSTER* Determining the Photochemical Fate of Organic UV-Filters Commonly Found in Sunscreen: **J Davis**, M Gonsior, L Powers

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## CT24D Poster Hall C-D

Tuesday 1600h

### The Role of Micronutrient Cycles in Global-Scale Dynamics II Posters (*joint with CT, MG, PC*)

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**CT24D-0922** *POSTER* A Purification Method for Nickel from Seawater for Isotope Analysis: **T Grant**, B A Summers, M Sieber, T M Conway

**CT24D-0924** *POSTER* Hydrothermal venting as a globally relevant source of zinc to the oceans.: **N J Wyatt**, A J M Lough, J A Resing, M C Lohan, A Tagliabue

**CT24D-0925** *POSTER* Impact of Inorganic Particles of Sedimentary Origin on Global Dissolved Iron and Phytoplankton Distribution.: **T Gorgues**, H Beghoura, O Aumont, H Planquette, A Tagliabue, P A Auger

**CT24D-0926** *POSTER* Insight into contributions of different iron sources to the ocean from a model of the stable isotopes of iron: **C D Voelker**, Y Ye, M R Vhuyian, M Staubwasser

**CT24D-0927** *POSTER* Southern Ocean Time Series Dissolved and Particulate Zinc Seasonal Stable Isotope Cycling from March 2018 to March 2019.: **R Grün**, P M Barrett, M J Ellwood

**CT24D-0928** *POSTER* Spatial and Temporal Distribution of Bioactive Trace-metals in the North Pacific: MESO-SCOPE, Gradients, and GP15: **P S John**, P Pinedo-Gonzalez, N Hawco, R Zhang, E Seelen, R L Kelly, S C Yang, X Bian, J N Fitzsimmons, N T Lanning, T M Conway, M Sieber

**CT24D-0929** *POSTER* The effect of cell size on cellular Cd and Cd-Zn-CO<sub>2</sub> co-limitation of growth rate in coastal diatoms: **W Li**, W G Sunda, W Lin, H Hong, D Shi

**CT24D-0930** *POSTER* The Effect of Cosmic Dust on Southern Ocean Biogeochemistry is Small but Non-Negligible: **C D Voelker**, J M C Plane, S Dhomse, J F Lamarque, M C Long, A Saiz-Lopez, A Tagliabue

**CT24D-0931** *POSTER* Whither the extended Redfield Ratio? Decoupling of cellular, particulate, and dissolved micronutrient trace metal stoichiometries across the global ocean: **G H E Kim**, A Tagliabue, B S Twining

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## CT24E Poster Hall C-D

Tuesday 1600h

### Understanding Rare Earth Element (REE) Distributions and Isotopic Ratios and the Mechanisms Behind Their Use As Tracers of (Paleo)Oceanic Processes Posters (*joint with CP, MG, OB*)

**Moderators:** **Torben Stichel**, Alfred Wegener Institute Helmholtz-Center for Polar and Marine Research Bremerhaven; **Johan Schijf**, University of Maryland (UMCES CBL)

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**CT24E-0932** *POSTER* Tracing the river-water versus waste-water sources of trace elements using rare earth elements in the Nakdong River estuarine waters: **T Kim**, H Kim, G Kim

**CT24E-0934** *POSTER* Land-ocean inputs traced by Rare Earth Elements and Neodymium isotopic composition in the Solomon Sea: **S M Michael**, Q V Pham, M Belhadj, M Grenier, S E Cravatte, C Jeandel

**CT24E-0935** *POSTER* Rare Earth Elements input from proglacial sediments into Kongsfjorden, Svalbard: **T Stichel**, S Henkel

**CT24E-0936** *POSTER* Trace Element Sources and Fluxes in the Zonal Current System of the Western Tropical Pacific Ocean: Evidence From Combined Rare Earth Element, Nd Isotope Distributions and Physical Observations: **M K Behrens**, K Pahnke, A Delpech, S E Cravatte, F Marin, C Jeandel

**CT24E-0937** *POSTER* Simulation of global distribution of <sup>231</sup>Pa and <sup>230</sup>Th and its ratio in the ocean sediment by using an ocean general circulation model: **A Oka**, Y Sasaki, H Kobayashi

**CT24E-0938** *POSTER* How important is the suspended particulate pool for controlling seawater rare earth element distributions?: **E Hathorne**, M Frank

**CT24E-0939** *POSTER* Rare Earth Elements and Nd Isotopes as Tracers of Modern Ocean Circulation in the Central Mediterranean Sea: **E Garcia-Solsona**, L D Pena, E Paredes, J N Pérez-Asensio, L Quirós-Collazos, F Lirer, I Cacho Lascorz

**CT24E-0940** *POSTER* Short-term variability of dissolved rare earth elements and neodymium isotopes in the entire water column of the Panama Basin: **P Grasse**, E Hathorne, K Pahnke, P Böning, M Frank

**CT24E-0941** *POSTER* Complexation of Yttrium and the Rare Earth Elements with Silicate at Seawater Ionic Strength: **J Dalo**, J Schijf

**CT24E-0942** *POSTER* Factors controlling distribution of Rare Earth Elements in Aragonitic Skeletons of Deep-Sea Scleractinian Corals explored with Laser Ablation Inductively Coupled Plasma Mass Spectrometry: **M Prokopenko**, M Murarka, A Cordova, J F Adkins, L Robinson

**CT24E-0944** *POSTER* Speciation of Yttrium and the Rare Earth Elements in Seawater: Review of a 20-Year Analytical Journey: **J Schijf**, R Byrne

**ED24A-3591** *POSTER* Engaging with Policymakers in the Three Branches of Government: **S Rosenthal**, L Kurtz, A Wilson

**ED24A-3592** *POSTER* Keeping Up with the Changing Face of Science Policy: **B Webster**, E Landau

**ED24A-3593** *POSTER* Life at the science-policy interface: the why and the how of it: **J F Tweddle**

**ED24A-3594** *POSTER* Ocean Science Policy: A Youth Perspective: **A Clark**

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## ED24B Poster Hall C-D

Tuesday 1600h

### Outreach, Engagement, Impact: Translating Science Applications for Societal and Professional Benefits II Posters (*joint with SI*)

**Moderators:** **Rebecca Briggs**, NOAA Ocean and Atmospheric Research; **Jacqueline Tweddle**, University of Aberdeen

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**ED24B-3595** *POSTER* Facilitating the Conservation and Management of Deep-Sea Corals and Sponge Ecosystems through Partnerships, Education and Outreach: **E Duncan**

**ED24B-3596** *POSTER* A Creative Collaborative Approach to Engaging Non-traditional Audiences About Seamount Ecosystem Diversity: **L Elliott**, M Leith, K Juniper, M Scherwath

**ED24B-3597** *POSTER* Adding value to environmental information: Examples of strategic customer engagement with the World Ocean Database and World Ocean Atlas at NOAA's National Centers for Environmental Information: **A Allegra**, M Zweng

**ED24B-3598** *POSTER* Using the Sea Grant model for successful research to application projects: **R A Briggs**, H Jones, E Rohring

**ED24B-3599** *POSTER* Creating Broader Impacts during a Research Cruise with a Virtual Experience for Academic and General Audiences: **M Sutton**

**ED24B-3600** *POSTER* Translating science aboard R/V *Sally Ride* highlights the human connections of research projects at Scripps Institution of Oceanography: **M T Miller**, B Appelgate Jr

**ED24B-3601** *POSTER* WikiProject L&O: Promoting Wikipedia Contributions to Enhance Communication and Public Impact: **M M Brisbin**, B Grunert, W S Beck, J E Brandt, K Farrell, K L Hondula, D W Kincaid, E I Larson, A Shogren

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## EDUCATION, OUTREACH AND POLICY

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### ED24A Poster Hall C-D

Tuesday 1600h

### Getting Your Feet Wet in Science Policy: Options and Strategies for Engagement I Posters

**Moderators:** **Brittany Schieler**, Rutgers University; **Adrienne Sponberg**, American Society of Limnology and Oceanography

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**ED24A-3589** *POSTER* Answering the 'how to': A scientist's guide for engaging in policy: **E Hetherington**, A A Phillips

**ED24A-3590** *POSTER* Ecosystem Services and its vulnerability to Climate Change: a communication tool to support Ecosystem-Based Management implementation in beaches: **M R Corrêa**, M M Andrade, A Turra Sr

**ED24B-3602 POSTER** Carbon's Fate in a Changing World: A Collaboratively Developed High School Curriculum Module on How Carbon Moves Through Air, Sea and Ice: **M Orellana**, B Steffens, M Walker, C Ludwig

**ED24B-3603 POSTER** Making Waves in the Classroom – Engaging Students in STEM through Hands-on Coastal Oceanography and Engineering: **J A Puleo**

**ED24B-3604 POSTER** OUTREACH, ENGAGEMENT, IMPACT; TRANSLATING ENVIRONMENTAL SCIENCE FOR SOCIETAL BENEFITS IN ABESAN ENVIRON LAGOS-NIGERIA: **D Owodunni**

**ED24B-3605 POSTER** Fostering schools to teaching children about climate change.: **L Florez**

**ED24B-3606 POSTER** Stitching Hope for the Louisiana Coast: Science Storytelling with Quilts: **L A Guertin**

**ED24B-3607 POSTER** Understanding the Membership of the National Marine Educators Association (NMEA) and What Drives Participation From Stakeholders: **T Hicks Johnson**, J Philippoff, J East

**ED24B-3608 POSTER** Educating Fishers and Secondary School Students in Lagos State, Nigeria on the importance of Wetland Conservation to Sustainable Fisheries: **L O Ewenla**

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## ED24C Poster Hall C-D

Tuesday 1600h

### Training and Communication Across Disciplines and Methodological Approaches in Marine Science I Posters (*joint with OD, OM*)

**Moderators:** **Christian Lindemann**, University of Bergen; **Øyvind Fiksen**, University of Bergen

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**ED24C-3609 POSTER** Advancing mechanistic frameworks in aquatic sciences through the integration of theory and experiments: **E Litchman**, C A Klausmeier

**ED24C-3610 POSTER** EUROFLEETS+ “An alliance of European marine research infrastructure” – calls for ship-time proposals: **A Strobel**

**ED24C-3611 POSTER** Training Opportunities offered by Sharing Infrastructures in the EU H2020 project Eurofleets+: **A Caburlo**, A Strobel, N Flavin, M Rebesco, A Fitzgerald

**ED24C-3612 POSTER** Ten years of Glider School - Approaching novel ocean-monitoring technologies to marine science community users: **C Barrera**, M J Rueda, D Alcaraz, T Morales, O Llinás

**ED24C-3613 POSTER** Education and Research for the Next Generation of Transdisciplinary Ocean Engineers and Scientists: **T Ito**, E Di Lorenzo, K A Haas, M E Hay

**ED24C-3614 POSTER** Teaching and Training Biology Undergraduate Students Computational Skills to Address Marine Ecological Questions: **D Taniguchi**

**ED24C-3615 POSTER** Engaging undergraduate students in marine science through a mini-mester on deep ocean exploration: **A Bracco**

**ED24C-3616 POSTER** Constructively Aligning Written-Communication Skills with Science Curricula: **R L McLachlan**

**ED24C-3617 POSTER** Data science training for today's oceanographers: Curriculum development across disciplines at Woods Hole Oceanographic Institution: **S Beaulieu**, J Futtelle, A Huang, D Kinkade, R Mazzoli, A Mickle, S Rauch, L M Raymond, N Symmonds

**ED24C-3618 POSTER** Building Oceanhackweek: a week of data science, hacking, collaboration and more: **J Gum**, W J Lee, A Tan, V Staneva, F A Fernandes, E Mayorga, T J Crone, R Abernathy

**ED24C-3619 POSTER** Connecting Field work and Laboratory experiments to numerical Modelling in a changing marine environment (FILAMO): **C Lindemann**, C L Moloney, J Titelman, Ø Fiksen

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## ED24D Poster Hall C-D

Tuesday 1600h

### Teaching with Data: Engaging Students in Learning Ocean Sciences Through Large Data Sets II Posters (*joint with IS, OD, SI*)

**Moderators:** **Denise Bristol**, Hillsborough Community College; **Anna Pfeiffer-Herbert**, Stockton University

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**ED24D-3620 POSTER** Buoy do they like it; Integrating authentic climate and oceanographic data in Norwegian high school curriculum: **M Muilwijk**, H Drange, O Vetti Kvam, E Z Walker

**ED24D-3621 POSTER** Connecting Classroom Learning and Inquiry on Climate Change to Community Observations: **J Putland**, M Hoeberechts, M Pelz

**ED24D-3622 POSTER** Data for all via the Adopt-A-Float program: Southern Ocean Carbon and Climate Observations and Modeling (SOCCOM): **G I Matsumoto**

**ED24D-3623 POSTER** In Situ Sea Surface Temperature Observations and Their Errors: Student's Projects Based on ICOADS Data: **A Kaplan**

**ED24D-3625** *POSTER* Learning With Duct Tape and Zip Ties: Designing, Deploying and Analyzing Data From Simple Ocean Moorings in an Introductory Ocean Sciences Course: **I M Miller**

**ED24D-3626** *POSTER* Oceans in the News: Using Data to Evaluate Media Stories on Polar Science: **J Cohen**, M J Oliver

**ED24D-3627** *POSTER* Using Long-Term Ecological Research (LTER) Data to Assess Penguin Population Dynamics Along the West Antarctic Peninsula: **M Sutton**

**ED24D-3628** *POSTER* Exploring seasonal variability in mixed layer depth with Ocean Observatories Initiative Ocean Data Labs: **R Eveleth**, K Lemkau, I M Miller, C S Lichtenwalner

**ED24D-3629** *POSTER* Implementation of Google Earth and OOI Data Exercises into an Introductory Oceanography Class: **C Venn**

**ED24D-3630** *POSTER* Oceans and the Carbon Cycle: What Drives Air-Sea Exchange of CO<sub>2</sub>? Exploring Large Datasets from the Ocean Observing Initiative (OOI): **R C Rhew**, N Pierrehumbert, R Reed, C S Lichtenwalner, A Pfeiffer-Herbert

**ED24D-3631** *POSTER* Oceans of Data: Enhancing Data Literacy by Bringing Real Data into Introductory Oceanography Courses: **M Nuwer**, C L Greengrove, J E Masura, D S Kelley

**ED24D-3632** *POSTER* Solving Challenges of Integrating Large Datasets into Community College Asynchronous Online Science Classes by Using a Scaffolding-Learning Cycle Approach to Teaching and Learning: **D Bristol**, J Olney, P A Sleszynski

**ED24D-3633** *POSTER* Using Ocean Observatory Initiative (OOI) Data to Enhance Student Learning about the Factors Affecting Primary Production in the Southern Hemisphere Polar Pacific Ocean.: **D DiSantis**, J Anastasia, C S Lichtenwalner, M Iacchei

**ED24D-3634** *POSTER* Using OOI Datasets to Expand Quantitative Skills in an Introductory Oceanography Course: **E S Gordon**

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## HIGH LATITUDE ENVIRONMENTS

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### HE24A Poster Hall C-D

**Tuesday 1600h**

**Arctic-North Atlantic Connectivity: Variability, Changes, and Impacts of Freshwater and Heat Exchange IV Posters** (*joint with IS, OM, PC*)

**Moderators:** **Dmitry Dukhovskoy**, Florida State University; **Igor Yashayaev**, Bedford Institute of Oceanography

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**HE24A-1942** *POSTER* Arctic Ocean and Hudson Bay Freshwater Exports: New Estimates from 7 Decades of Hydrographic Surveys on the Labrador Shelf: **N P Holliday**, C Florindo-Lopez, S Bacon, Y Aksenov, L Chafik, E Colbourne

**HE24A-1943** *POSTER* Arctic Ocean Freshwater Storage and Export in CMIP6 Models: **H M Zanowski**, A Jahn, M M Holland

**HE24A-1944** *POSTER* Decadal physical-biogeochemical changes in the Newfoundland and Labrador ecosystem: **F Cyr**, O T Gibb, D Bélanger, D Desbruyères, G Han, P Pepin

**HE24A-1945** *POSTER* Drift of Arctic Freshwater System in CESM Initialized Decadal Predictions: **T Verma**, W Weijer, J Zhang, C Veneziani

**HE24A-1946** *POSTER* Hudson Strait Inflow: Structure and variability: **P G Myers**, N Ridenour, F Straneo, J Holte, Y Gratton, D G Barber

**HE24A-1947** *POSTER* Linking Variable Nordic Seas Inflow to Upstream Circulation Anomalies: **H Asbjørnsen**, H Johnson, M Årthun

**HE24A-1948** *POSTER* Mechanisms of the Time-varying Sea Level and Heat Content Trend in the Eastern Nordic Seas: **S Broomé**, L Chafik, J Nilsson

**HE24A-1949** *POSTER* Modeling the Present Three-Dimensional Ocean Circulation in the Nordic Seas: **R W Helber**, T Smith, G Panteleev, J F Shriver, D A Hebert

**HE24A-1950** *POSTER* Observations of water mass interactions and freshwater transport inside Tallurutiup Imanga - A student-led field study from the Canadian Arctic.: **M Shaban**, D Gong, N Trenholm, K Kopka, M Digilio, G Scowcroft, C Richards, S H Nudds, D J Torres, B Loose, D Clar

**HE24A-1952** *POSTER* Rapid Cooling and Increased Storminess Triggered by Freshwater in the North Atlantic: **M Oltmanns**, J Karstensen, K Moore, S A Josey

**HE24A-1953** *POSTER* Sources and upstream pathways of the densest overflow in the Nordic Seas: **J Huang**, R S Pickart, R X Huang, P Lin, A Brakstad, F Xu

**HE24A-1954** *POSTER* TEMPORAL VARIABILITY OF PATHWAYS OF DENSE WATER TO DENMARK STRAIT IN A MODEL: **F de Jong**, D van Zanten

**HE24A-1955** *POSTER* The heat budget of the Nordic seas: insights from a 1/12° coupled ocean-atmosphere-ice model: **A M Treguier**, P Mathiot, H Hewitt, C Lique, J Sterlin, C Talandier

**HE24A-1956** *POSTER* The past and future of seasonal warming in the Barents and Nansen Basins as viewed in reanalyses and coupled models: **J Carton**

**HE24A-1957** *POSTER* Variability of freshwater and volume fluxes in Fram Strait from observations and numerical simulations: **D S Dukhovskoy**, P G Myers, L de Steur, W Maslowski

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## HE24B Poster Hall C-D

**Tuesday 1600h**

### Ice-Ocean Interactions and Circulation Around the Antarctic Margins III Posters (*joint with OM, PL, PS*)

**Moderators:** **Andrew Stewart**, University of California Los Angeles; **Louise Biddle**, University of Gothenburg

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**HE24B-1959** *POSTER* Predicting buoyancy stresses and ice shelf calving with viscous and elastic frameworks: **C Mosbeux**, T J W Wagner, M K Becker, H A Fricker

**HE24B-1960** *POSTER* Rates and Mechanisms of Turbulent Mixing in a Coastal Embayment of the West Antarctic Peninsula: **R Scott**, J A Brearley, A Naveira Garabato, M Inall, H J Venables, M P Meredith

**HE24B-1961** *POSTER* Remote control of Filchner-Ronne melt rates by the Antarctic Slope Current.: **C Bull**, N Jourdain, A Jenkins, I Vankova, P Mathiot, P Holland, U Hausmann, J B Sallee

**HE24B-1962** *POSTER* Role of Tides in Ice-Ocean Interactions Over the Antarctic Continental Shelf and Slope: **Y Si**, A Stewart

**HE24B-1963** *POSTER* Sensitivity of Antarctic Basal Melt Rates to Precipitation: **A Barthel**, C Veneziani, M S Dinniman, C Kittel

**HE24B-1964** *POSTER* Temporal variability of Antarctic Bottom Water formation and its drivers: **A Silvano**, A Foppert, S R Rintoul, P Holland, P Castagno, A Naveira Garabato, A Haumann, N Kimura, T Tamura, A M Macdonald

**HE24B-1965** *POSTER* The Effect of the Amundsen Sea Freshwater Balance on Ocean Melting of the West Antarctic Ice Sheet: **D Bett**, P Holland, A Naveira Garabato, A Jenkins, P Dutrieux, S Kimura

**HE24B-1966** *POSTER* The effect of tides on the basal-melting of an ice shelf: large-eddy simulations with a near-wall model: **C A Vreugdenhil**, J R Taylor

**HE24B-1967** *POSTER* The heat budget of the west Antarctic Peninsula Continental Shelf: **C F Moffat**, M S Dinniman, X Wang, B Aguiar-González, J M Klinck II, D Sutherland

**HE24B-1968** *POSTER* The Impact of the Seasonality of Surface Air-Ice-Sea Fluxes on Warm Water Pathway Toward the Filchner Ronne Ice Shelf: **L Vignes**, J B Sallee

**HE24B-1969** *POSTER* The role of tides in ocean-ice-shelf interactions in the southwestern Weddell Sea: **U Hausmann**, J B Sallee, N Jourdain, P Mathiot, C Rousset, G Madec, J Deshayes, T Hattermann

**HE24B-1970** *POSTER* The sensitivity of ice-shelf ocean boundary layer dynamics and ice-shelf melting to local conditions: **C B Begeman**, X Asay-Davis, L Van Roekel

**HE24B-1971** *POSTER* The Sensitivity of Sea Ice and Ocean to the Representation of Antarctic Mass Loss in a Climate Model: **S Mackie**, I Smith, D P Stevens, J K Ridley, P Langhorne

**HE24B-1973** *POSTER* Toward dynamic ice sheet-ocean coupling in the Energy Exascale Earth System Model (E3SM): **X Asay-Davis**, D S Comeau, D Engwirda, M J Hoffman, M R Petersen, S F Price, P J Wolfram Jr, J D Wolfe

**HE24B-1974** *POSTER* Towards Development of the High Precision Supercooling Measurement Instrument (“HiPSMI”) for Supercooling Measurements Under Ice Shelves: **L H Smedsrud**, I Smith, P Russell, M E Richter, B E Schmidt, G H Leonard, J Lawrence, B Hurwitz, J R Everts, M R Meister

**HE24B-1975** *POSTER* Variability and dynamics of along-shelf exchange in the west Antarctic Peninsula (wAP): **X Wang**, C F Moffat, B Aguiar-González, M S Dinniman, J M Klinck II, D Sutherland

**HE24B-1976** *POSTER* Weddell Watch Long-term observing system for the oceanic regime of Filchner-Ronne Ice Shelf, Antarctica: **S Østerhus**

**HE24B-1977** *POSTER* Winter Distribution of Meltwater in Front of Pine Island Ice Shelf Revealed by Seals: **Y Zheng**, K J Heywood, B Webber, D P Stevens, L C Biddle, A Wahlin, L Boehme, M A Fedak

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OCEAN OBSERVATORIES,  
INSTRUMENTATION AND SENSING  
TECHNOLOGIES

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**IS24A Poster Hall C-D**

**Tuesday 1600h**

**Autonomous Observing Systems for  
Macronutrients and Bioactive Trace Metals in  
Coastal and Open-Ocean Settings: Present  
Status, Challenges, and Emerging Technologies I  
Posters** (*joint with CT, NC, OB*)

**Moderators:** **Maxime Grand**, Moss Landing Marine  
Laboratories; **Andrew Bowie**, University of Tasmania

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**IS24A-3271 POSTER** *Clio*: Toward routine operations  
for a fast vertical profiling vehicle designed for global  
ocean biogeochemical mapping: **M Jakuba**, J A Breier Jr,  
M A Saito, R J Johnson

**IS24A-3272 POSTER** A New Generation of Ammonia  
Sensor for Deployment in Oceanic, Coastal and Estuarine  
Waters.: **M S Woodward**, S Korposh, S Erdody, J  
Hromadka

**IS24A-3273 POSTER** CHEMINI: CHEMical  
MINIaturised analyser for *in situ* monitoring of  
macronutrients and bioactive metals in marine waters: **A  
Laes-Huon**, R Davy, L Thomas, J Legrand, D Le Piver, P  
Rousseaux, J Y Coail, M Repecaud, K Bucas, C Cathalot,  
N Gayet, J Sarrazin, P M Sarradin

**IS24A-3274 POSTER** Determination of Nitrate and  
Nitrite in Aqueous Sample Using Vanadium(III)  
Chloride as a Reductant: **T Fang**, J Ma

**IS24A-3276 POSTER** Development and Application of  
Chemical Sensors for Nutrients, Iron and Manganese in  
Coastal Waters: **E P Achterberg**, F Geissler, M Esposito

**IS24A-3277 POSTER** Development of a Microfluidic  
Reverse Flow Injection Analysis (rFIA) Method with  
Automatic Background Fluorescence Correction for the  
Detection of Nanomolar Concentrations of Ammonium  
in Natural Waters: **M Penn**, H Hunt, R T Masserini Jr

**IS24A-3278 POSTER** Development of an Integrated  
Syringe-pump-based Environmental-water Analyzer  
(*i*SEA) for the Determination of Dissolved Reactive  
Phosphorus in Natural Waters: **Y Deng**, J Ma

**IS24A-3279 POSTER** In situ analyser for dissolved iron  
based on the chemiluminescence of luminol: **A Beaton**, S  
Steigenberger, A Birchill, M Namiq, D Tong, R Hanz, M  
Patey, M C Lohan, M C Mowlem

**IS24A-3280 POSTER** Novel programmable flow  
injection (pFI) technique for optimization of reagent-  
based assays was used to enhance performance of  
phosphomolybdenum blue method: **M Hatta**, J Ruzicka,  
C I Measures

**IS24A-3281 POSTER** Proper handling of frozen  
nutrient samples is essential for high quality data: **S M  
Becker**, M T Miller

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**IS24B Poster Hall C-D**

**Tuesday 1600h**

**Development and Application of Acoustical  
Remote Sensing Methods to Measure Ocean  
Parameters and Processes II Posters** (*joint with  
AI, HE, OB*)

**Moderators:** **Megan Ballard**, Organization Not Listed;  
**John Colosi**, Naval Postgraduate School

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**IS24B-3282 POSTER** Application of geoaoustic  
inference to assess the diurnal effects of photosynthetic  
activity in a seagrass meadow: **M S Ballard**, K Lee, J D  
Sagers, G Venegas, A R McNeese, A F Rahman, P S  
Wilson

**IS24B-3283 POSTER** Dependence of acoustic  
propagation in a seagrass meadow on diurnal and seasonal  
time scales: **G Venegas**, K Lee, M S Ballard, A R  
McNeese, M C Zeh, P S Wilson, A F Rahman

**IS24B-3284 POSTER** Using Deep Neural Networks to  
Identify Natural and Anthropogenic Disturbances in  
Seagrass Meadows Observed in Side-scan Sonar Images: **D  
Karkada**, M S Ballard, K Lee, A F Rahman, P Wilson

**IS24B-3285 POSTER** Ocean Monitoring Model Using  
Acoustic by Integrated Autonomous Underwater Vehicle  
(IAUV): **M A Hossain**, S F F Sowrav

**IS24B-3286 POSTER** Coupled Bayesian Data  
Assimilation and Learning for Underwater Acoustics: **W  
H Ali**, M Bhabra, P F J Lermusiaux

**IS24B-3287 POSTER** Application of time warping to  
passive acoustic remote sensing of the coastal ocean: **O A  
Godin**, T W Tan, B Katsnelson, M G Brown

**IS24B-3288 POSTER** A Broadband Acoustic Study of  
the Spatiotemporal Variability of the Baltic Sea Anoxic  
Zone: **E F Weidner**, C Stranne, T C Weber, J Hentati-  
Sundberg, M Jakobsson, L Mayer

**IS24B-3289 POSTER** Generation of the Noise Bursts  
Associated with Nonlinear Internal Waves in Shallow  
Water: **B Katsnelson**, O A Godin, Q Zhang

**IS24B-3290** *POSTER* Impacts of Small Scale Ocean Dynamics on Sound Energy Propagation in Areas of Strong Stratification: **E F Coelho**, K D Heaney, M Schonau

**IS24B-3291** *POSTER* Observations of sound speed structure in the upper ocean and their effects on acoustic propagation at low and mid-frequencies: **J A Colosi**, L Rainville, D L Rudnick

**IS24B-3292** *POSTER* Turbulence Observations in the Upper Ocean from Autonomous Platforms: **A ten Doeschate**, A E Hay, B Ward

**IS24B-3293** *POSTER* Imaging seawater density and sound-speed gradients from intrusions and double-diffusive mixing processes at fronts: **T F Duda**, A C Lavery, W G Zhang

**IS24B-3294** *POSTER* Using a regional ocean model to understand the structure and sampling variability of acoustic thermometry measurements in Fram Strait: **F Geyer**, H Sagen, B D Cornuelle

**IS24B-3295** *POSTER* Dynamically Orthogonal Reduced-Order Models for Stochastic Underwater Sound Propagation: **W H Ali**, M Bhabra, M J Humara, P F J Lermusiaux

**IS24B-3296** *POSTER* Passive Underwater Acoustic Monitoring of LeConte Glacier and the Effects of an Ice Mélange at the Ocean Surface: **M C Zeh**, E C Pettit, M S Ballard, P Wilson, J D Nash, N Bohall, J M Amundson, C Kienholz, R J Motyka, D Sutherland, A Hager, R H Jackson

**IS24B-3297** *POSTER* Acoustical remote sensing of ice sheets and tidewater glaciers: recent progress and remaining challenges: **G B Deane**, O Glowacki, D Stokes

**IS24B-3298** *POSTER* Measurements of Settling Velocity with an Acoustic Backscatter Instrument: **A Smerdon**

**IS24B-3299** *POSTER* Evaluation of a physics-based inversion of multibeam echosounder data for sediment properties using data collected in Sequim Bay, WA.: **B T Hefner**, D R Jackson, A N Ivakin, G Xu, G Wendelboe

**IS24B-3300** *POSTER* Acoustic characterization of the James River Estuary: **D B Reeder**, C Bassett, M C Haller, D Honegger, J Joseph, T A Rago

**IS24B-3301** *POSTER* Observations of Geoacoustic and Geotechnical Properties of Sediments at the James River: **J Calantoni**, N Brill, N Stark, E F Braithwaite III, S Griffith, C Key, J Simeonov, K Autumn, M Isakson

**IS24B-3303** *POSTER* Exploratory Data Analyses on Deep-Sea Side-Scan Sonar Data in the Northern Pacific Ocean: Implication on Interactions between Sedimentation and Bottom Currents: **J Song**, S S Kim, Y Ko

**IS24B-3304** *POSTER* Geoacoustic Inversions in the New England Mud Patch: **D G Potty**, J H Miller

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## IS24C Poster Hall C-D

Tuesday 1600h

### Into the Deep: New Insights into Integrated Ocean Mapping and Habitat Characterizations of the North Atlantic and Eastern Pacific Basins III Posters (*joint with ME, OB*)

**Moderators:** **Kasey Cantwell**, NOAA Office of Ocean Exploration and Research via CNSP; **Jeremy Potter**, Bureau of Ocean Energy Management; **Caitlin Adams**, NOAA Office of Ocean Exploration and Research; **Ashley Chappell**, NOAA National Ocean Service

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**IS24C-3305** *POSTER* Windows to the Deep: new discoveries from two years of exploration offshore the Southeastern US: **K L Cantwell**, C Morrison, A M Weinnig, M White, A J Wagner, L Sautter, S Farrington

**IS24C-3306** *POSTER* Identifying Gaps in Bathymetric Coverage in U.S. Deep Waters: **J D Varner**, M Westington, M Malik, R Medley, J Jencks, M Lobecker

**IS24C-3308** *POSTER* How will future climate changes influence deep sea coral life histories?: **S Brooke**, A Sogluizzo

**IS24C-3309** *POSTER* Characterization of Deep-Sea Octopod Habitat from ROV Videos in the Western North Atlantic: **A Pratt**, S France, M Vecchione

**IS24C-3310** *POSTER* Characterizing Geomorphology of Connected Coral Mounds by Gulf Stream Influence on the Lower Stetson Mesa off the Southeast U.S. Coast.: **A Gibson**, L Sautter

**IS24C-3311** *POSTER* Characterizing the Geomorphology of Richardson 'Jellyfish' Scarp on the Blake Plateau, Southeast U.S. Continental Margin: **J Mueller**, L Sautter

**IS24C-3312** *POSTER* Classifying Interrelationships Between Deep-Sea Coral and Local Geomorphology on a Blake Escarpment Intraslope Terrace, Southeast U.S. Continental Margin: **H C Drennon**, L Sautter

**IS24C-3313** *POSTER* Comparing Seabed Geomorphology at Several Methane Seeps Found Along the North Carolina – Virginia Margin: **N Katz**, L Sautter

**IS24C-3314** *POSTER* Comparison of Geomorphology and Benthic Habitat Type Along Two Ridge Scarps on the Central and Outer Blake Plateau, Southeast US Continental Margin: **T Maharrey**, L Sautter

**IS24C-3315** *POSTER* Comparison of Individual Deep-Sea Coral Mounds at Three Sites in Relation to Proximity to the Gulf Stream: **H Berkimer**, L Sautter

**IS24C-3316** *POSTER* Comparison of Ridge Scarp Edge Geomorphology and Associated Benthic Habitats on the Southeast U.S. Continental Margin: **E Bieri**, L Sautter

**IS24C-3317** *POSTER* Discovery and characterization of two methane seep fields with unique fluid discharge features on the US Atlantic continental margin: **A D Skarke**, M W Kidiwela

**IS24C-3318** *POSTER* Diversity and Abundance of Deep Sea Corals and Sponges in the Steep Bathyal Terrain of West Florida Escarpment: **M Will**, P J Etnoyer

**IS24C-3319** *POSTER* Geomorphologic Characterization of Seabed Features in the Central Region of the Blake Plateau, Southeast U.S. Continental Margin: **M E Kule**, L Sautter

**IS24C-3320** *POSTER* Mapping Benthic Habitat on the West Florida Shelf Using Multibeam Acoustics and Towed Underwater Video to Improve Fisheries Science and Management: **A R Ilich**, J L Brizzolara, S Grasty, J W Gray, M Hommeyer, C Lembke, S D Locker, A Silverman, T Switzer, A Vivlamore, S A Murawski

**IS24C-3321** *POSTER* Prioritizing Areas for Future Seafloor Mapping, Research, and Exploration Offshore of California, Oregon, and Washington: **B Williams**, B Costa, M S Kendall, K Buja, J Kraus

**IS24C-3322** *POSTER* Spatial distribution of stony coral *Lophelia pertusa* in the South East Atlantic region of the US: **P Santiago**, K L Cantwell, M Malik

**IS24C-3323** *POSTER* The Coastal And Marine Ecological Classification Standard (CMECS): Transforming Seafloor Geomorphic Data Into Useful Habitat Information: **K Rose**, K Larsen

**IS24C-3324** *POSTER* Water Column Characterization and Deep-sea Coral Trophodynamics on the U.S. West Coast Region: **N Prouty**, M Everett, M E Clarke, A W Demopoulos, C Fish, N Kreidler, C Souza, D Watters, T Laidig

**IS24C-3325** *POSTER* What's Associated with Deep-sea Corals and Sponges?: **L Anthony**, H M Coleman, T F Hourigan, M Malik

**IS24D-3326** *POSTER* Advancing Underwater Optical Communications Technology via Demonstration Projects for Students, Researchers and Maritime Forces through Partnerships between Government and Industry: **P A McGillivray**, V Chirayath, A Bahr, F Schill, I Martin, L Taylor, R Havens

**IS24D-3327** *POSTER* Development of a Custom Bio-acoustic Sonar System for Use in the Southern Ocean: **S Pearce**, C Reiss, J Buermans, D D Lemon, A Cossio, G Cutter, C DeCollibus

**IS24D-3328** *POSTER* Clear Blue Sea's Startup Success Driven by Collaborations with Ocean Conservancy Nonprofits, Marine Scientists, Blue Tech Industry, and Student Interns from all 4 San Diego Universities: **S Baer**

**IS24D-3329** *POSTER* Exploiting Synergies between Academia and Industry to Mature Seabed Deformation Measurements.: **G West**, C D Chadwell

**IS24D-3330** *POSTER* PLOCAN - An example of ocean-research infrastructures contribution to marine technology development: **C Barrera**, O Llinás, A Cianca, J Hernández, M J Rueda

**IS24D-3331** *POSTER* Sailable's Antarctic Circumnavigation: A Story of Collaboration between Ocean Research Scientists, Ocean Industry, and Philanthropy: **N Cohen**, S de Halleux, R Jenkins

**IS24D-3332** *POSTER* Scripps and RBR collaboration to add ocean measurement capabilities, deployment endurance, and realtime telemetry to Wirewalker platform: **G Johnson**, A J Lucas, T Hughen, R Pinkel, S Coleman, E Siegel

**IS24D-3333** *POSTER* Building Ocean Observing Partnerships with the Energy Industry to Understand Gulf of Mexico Mesoscale Dynamics: **R Perry**, S D Howden, D C Petraitis, B A Kirkpatrick, S F DiMarco, P Leung

**IS24D-3334** *POSTER* Science-Industry Collaboration in the Maritime Sector – Analytical Reflections and Experiences from Sensor Innovation Initiatives: **P Fietzek**

**IS24D-3337** *POSTER* Case Studies in Industry Academia Partnerships: **R Rayner**

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## IS24D Poster Hall C-D

**Tuesday 1600h**

**Power in Partnerships: Innovative Collaborations Between Ocean Scientists and Ocean Industry I Posters** (*joint with OB, PL, PS*)

**Moderators:** **Gwen Nero**, Scripps Institution of Oceanography; **Neil Trenaman**, Ocean Aero

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## MARINE ECOLOGY AND BIODIVERSITY

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### ME24A Poster Hall C-D

Tuesday 1600h

#### Assessing Marine Ecosystem Variability from Paleooceanographic Archives I Posters (joint with MG, PC)

**Moderators:** Michael Schulz, Univ Bremen; Michal Kucera, MARUM - Center for Marine Environmental Sciences, Univ. Bremen

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**ME24A-0083 POSTER** A decadal resolution record of coastal phyto- and zooplankton productivity in the Seto Inland Sea, Japan, over the last 7,000 years: **N Tsugeki**, M Kuwae, M Yamamoto, Y Tani, T Omori, K Yamada, K Ikehara, H Takahara, T Haraguchi, K Takemura

**ME24A-0084 POSTER** Assessing the Effect of Riverine Discharge on Planktic Foraminifera: A Case Study from the Western Bay of Bengal: **S R Bhadra**, R Saraswat

**ME24A-0085 POSTER** Biodiversity and Paleoecology of Plio-Pleistocene Marine Molluscs, Rincon Hill, Santa Barbara County, California: **J Aziz**

**ME24A-0086 POSTER** Complex benthic ecosystem engineering in the Early Triassic: The trace fossil record as a tool for understanding ecosystem function after mass extinction events: **A T Cribb**, D J Bottjer

**ME24A-0087 POSTER** Cross-validation of  $\delta^{13}C_{org}$  and Benthic Foraminiferal Assemblages as proxies of organic matter flux in the Equatorial Pacific: **L J Gezovich**, J Sarao, C L Belanger, F Marcantonio

**ME24A-0089 POSTER** Impact of Diatom Evolution in the Oceans: **D J Conley**

**ME24A-0090 POSTER** Lessons from an ancient coral reef refuge: Ecological and geochemical characteristics of a precarious Early Jurassic reef: **A Godbold**, S Schoepfer, D J Bottjer, H Cothren

**ME24A-0091 POSTER** New Data from Old Cores: Supplementing the Paleooceanographic Sedimentary Archive with Museum Collections.: **C Garcia**, H M Palmer, V Vriesman, T M Hill, P D Roopnarine, M Angel, L K Pearson

**ME24A-0092 POSTER** Oxygenation and ventilation of Southern CA marine basins through the Holocene: evidence from benthic microfossil assemblages and foraminiferal oxygen and carbon stable isotope records: **H M Palmer**, T M Hill, L D Stott, P D Roopnarine, D K Pak

**ME24A-0093 POSTER** Radiolarians exhibit a threshold response to climate change during the late Neogene: **S Trubovitz**, D B Lazarus, J Renaudie, P J Noble

**ME24A-0094 POSTER** Reconstructing Holocene Upwelling Conditions Using Diatom Assemblage Abundance in Monterey Bay, CA: **A Gama**, A J Wagner, J A Addison, J A Barron, J A Carlin, V Schwartz

**ME24A-0095 POSTER** Sedimentary DNA can track decadal-centennial changes in fish species abundance: **M Kuwae**, H Tamai, H Doi, T Minamoto, M K Sakata

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### ME24B Poster Hall C-D

Tuesday 1600h

#### Ecology and Biogeochemistry of Macroalgae II Posters (joint with OB, PI)

**Moderators:** Anna James, University of California at Santa Barbara; Tom Bell, Leidos

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**ME24B-0096 POSTER** *In situ* community contributions to benthic biogeochemistry in temperate rocky reefs: **D Panos**, K J Nickols

**ME24B-0097 POSTER** An Evaluation of Surge Uptake Capability in *Macrocystis pyrifera* in Response to Pulses of Three Different Forms of Nitrogen: **T Cedeno**, R J Miller, D Reed

**ME24B-0098 POSTER** Antibiotic Resistance and Sensitivity in the Giant Kelp Microbiome: a Survey of Novel Cultured Isolates: **F Wossenseged**, A James, E Wilbanks, C A Carlson

**ME24B-0099 POSTER** Biological Contributions to Biogeochemical Variability of Kelp Forest Habitats: **S Traiger**, H Hirsh, B Cohn, D Panos, Y Takeshita, D Mucciarone, R B Dunbar, K J Nickols

**ME24B-0100 POSTER** Complex coastal flows and connectivity between kelp forests and the coastal ocean in the Southern California Bight: **L Washburn**, N Nidzieko, R J Miller, B Emery, A Kirincich

**ME24B-0101 POSTER** Disappearing Coastlines: The Effects of *Dasyatis japonica* on *Mytilus edulis*' Growth, Settlement, and Survivorship.: **K Hannibal**, S R Dudgeon

**ME24B-0102 POSTER** Does the Primary Production from Macroalgae and Seagrass Contribute to the Production of Inshore Juvenile Cod in Coastal Newfoundland?: **M R Anderson**

**ME24B-0103 POSTER** Effects of an epiphytic bryozoan on the growth and photosynthetic production of the giant kelp *Macrocystis pyrifera*: **B Cohn**, K J Nickols

**ME24B-0104** *POSTER* Effects of warming seawater temperatures on the phenology of economically valuable brown macroalgae: **E Jourdain**, N Price, B Honisch

**ME24B-0105** *POSTER* In-situ estimation of benthic macroalgal primary production using a novel flow-through benthic incubation chamber system: **J H Kim**, H Moon, C W Kwak, S Lee, E J Kang, C Kim, K T Park, K Lee, I N Kim

**ME24B-0106** *POSTER* Inter-calibration of common bio-assay species:  $\delta^{15}\text{N}$  and %N parameters of algal tissues as biogeochemical indicators on O'ahu, Hawai'i: **J L Blaha**, N Barling, L Ellison, J P Mason, C M Smith, C R Glenn

**ME24B-0107** *POSTER* Pristine or polluted? Comparison of tropical nearshore macroalgal communities and environmental parameters at Majuro and Arno Atolls: **D Aiseia**, S L Colbert, K McDermid, S Bejang, A Loek, D Melville, M Romain, A Runyan, M Sudnovsky

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## ME24C Poster Hall C-D

Tuesday 1600h

### Hyperspectral Sensing of Coastal Aquatic Environments II Posters (*joint with IS*)

**Moderators:** **Raphael Kudela**, University of California Santa Cruz; **Michelle Gierach**, Jet Propulsion Laboratory, California Institute of Technology

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**ME24C-0108** *POSTER* A Compressive Sensing Based Hyperspectral Ocean Color Imager for CubeSats: **M S Twardowski**, B Ouyang, E Malkiel, G Sanborn

**ME24C-0109** *POSTER* A global compilation of in situ aquatic high spectral resolution inherent and apparent optical property data for remote sensing applications: **K Casey**, C S Rousseaux, W W Gregg, E Boss, A P Chase, S E Craig, C B Mouw, R A Reynolds, D Stramski, S G Ackleson, A Bricaud, B A Schaeffer, M Lewis, S Maritorena

**ME24C-0110** *POSTER* Bright Oceans: Spectral differentiation of whitecaps, sea ice, floating vegetation, plastics, and other flotsam: **H M Dierssen**, S P Garaba, K L Randolph

**ME24C-0111** *POSTER* Can imaging spectroscopy facilitate the detection of wastewater effluent in coastal waters?: **J P Harrington**, K Kaiser, D R Thompson, M M Gierach, C L Cash, C G Fichot

**ME24C-0112** *POSTER* Characterization of Hyperspectral Inherent and Apparent Optical Properties of Harmful Algal Blooms in Lake Erie: **M Sayers**, K Bosse, S A Ruberg, G Fahnenstiel, R A Shuchman, R Sawtell

**ME24C-0113** *POSTER* Coastal Bio-Optical Properties Derived from Empirical Line Calibration of Aircraft and UAV Remote Sensing Imagery: **D Lewis**, R W Gould Jr, G B Smith, D Miller

**ME24C-0114** *POSTER* Hyperspectral Remote Sensing of the Amazon River Plume: **S Bakken**, J Wei, Z Lee, G Johnsen, T A Johansen, J Montoya, A Subramaniam

**ME24C-0115** *POSTER* Polarimetric Imaging of the Ocean Surface: **M Malinowski**, C D Carrizo, P Grottsch, A Gilerson

**ME24C-0116** *POSTER* Potential to Detect *Phaeocystis globosa* Blooms from Radiometric Measurements on a UAV: **S Shang**, Z Lee

**ME24C-0117** *POSTER* Retrieval of Water Quality Parameters from NOAA Hyperspectral Data Using Neural Networks - Western Lake Erie: **K Zolfaghari**, A J Vander Woude, C R Duguay

**ME24C-0118** *POSTER* Sensor Fusion in the Chromatic Domain: Expanding the spatiotemporal reach of the operational ocean color constellation: **J Jolliff**, S Ladner, S McCarthy, D Lewis, A Lawson, R L Crout

**ME24C-0119** *POSTER* Spectral Variability of Sky and Sun Glint in Hyperspectral Above-surface Reflectance Observations: **P Grottsch**, R Foster, A Gilerson

**ME24C-0120** *POSTER* The Uncertainty Variation of Optical Properties between Different Water Classes Based on QA: **S Zhang**, Z Lee, J Wei

**ME24C-0121** *POSTER* Under the Fog: Examining the potential of shipboard hyperspectral sensors for monitoring water quality in San Francisco Bay: **N Taylor**, R M Kudela

**ME24C-0122** *POSTER* WaterSat Imaging Spectrometer Experiment (WISE) for optically shallow and coastal waters assessment: **S Bélanger**, C Araujo, M Cusson, C Blot, F P Danhiez, J Desrochers, Y Gendreau, J P Harrington, G Ifimov, J Laliberté, B Légaré, R Leger-Daigle, J Lemarchand, R Mabit, J Mayrand, S Mukherjee, C Nozais, R Soffer, S Velasquez, M W Weiser

**ME24D Poster Hall C-D**

**Tuesday 1600h**

**Microbial Interactions at the Single-Cell Level and Their Relevance in Oceanic Biogeochemical Cycles I Posters** (*joint with MM, NC*)

**Moderators:** **Francisco Cornejo-Castillo**, University of California Santa Cruz; **Ana Maria Cabello Perez**, University of California Santa Cruz

**ME24D-0123** *POSTER* Role of Carbon Transport Proteins in Fueling Open Ocean Nitrogen Fixing Diatom-Cyanobacteria Symbioses: **M Nieves**, E Flores, M Hagemann, R Foster

**ME24D-0125** *POSTER* Ecological investigations of diatom viruses: bridging environmental and laboratory studies: **L A Zeigler**, S M Schwenck, A Levesque, J Espinoza, H Zheng, A Rabines, S W Polson

**ME24D-0127** *POSTER* BACTERIAL SURFACE ROUGHNESS AFFECTS VIRAL ATTACHMENT IN SEAWATER: **Y Yamada**, N Patel, F Azam

**ME24D-0128** *POSTER* Coccoliths as Adsorptive Reservoirs: **C Johns**, A Matthews, K Bondoc, K D Bidle

**ME24D-0129** *POSTER* The bacterial signal HHQ disrupts phytoplankton-virus interactions: **I Johnson**, E Harvey, K Whalen

**ME24D-0130** *POSTER* Marine Syndiniales Parasites Exhibit Strong Temporal Variability and Ecological Connectivity in Coastal Protist Communities: **S Anderson**, E Harvey

**ME24D-0131** *POSTER* Unusual marine cyanobacteria/haptophyte symbiosis relies on N<sub>2</sub> fixation even in N-rich environments: **M M Mills**, K A Turk-Kubo, G van Dijken, B A Henke, K J Harding, S T Wilson, K R Arrigo, J P Zehr

**ME24D-0132** *POSTER* Follow the Carbon: From Environment to Microbial Prey to Predator and from Host to Virus using SIP-Raman Microspectroscopy: **G T Taylor**, F Weber, E Yakubovskaya, T Zaliznyak, J Martinez-Martinez, V P Edgcomb

**ME24D-0133** *POSTER* Insights into the role of light and of the haptophyte host in gene expression and activity of the symbiotic, diazotrophic cyanobacterium UCYN-A.: **M Landa**, K A Turk-Kubo, F M Cornejo-Castillo, B A Henke, J Zehr

**ME24D-0134** *POSTER* Single-Cell Transcriptome Profiling Reveals Mechanisms of Host-Control and Nutrient Exchange in Acantharia-*Phaeocystis* Photosymbioses: **M M Brisbin**, S Mitarai

**ME24D-0135** *POSTER* Metagenome-amplified genome (MAG) covariation uncovers the genome of the algal host of the marine nitrogen-fixing cyanobacterium UCYN-A: **F M Cornejo-Castillo**, K A Turk-Kubo, A M Cabello Perez, M Landa, J P Zehr

**ME24D-0136** *POSTER* Microscale spatial architecture of "pink berry" microbial aggregates and their symbiotic single-cell interactions using BONCAT-CARD-FISH fluorescence imaging: **B S Castillo Villaseñor**, H Doré, E Wilbanks

**ME24E Poster Hall C-D**

**Tuesday 1600h**

**Pelagic Tunicates: Interactions with the Lower Food Web, Higher Trophic Levels, and Effects on Biogeochemistry II Posters**

**Moderators:** **Michael Stukel**, Florida State University; **Andres Gutierrez-Rodriguez**, National Institute of Water and Atmospheric Research

**ME24E-0137** *POSTER* Biology of *Salpa thompsoni* at the Chatham Rise, New Zealand: Reproduction, diel vertical migration and demography: **F Lüskow**, E A Pakhomov, M Décima

**ME24E-0138** *POSTER* Changing competitive interactions between salps and protistan grazers during salp bloom evolution: **M R Stukel**, M Décima, K E Selph, A Gutierrez-Rodriguez, N Yingling

**ME24E-0139** *POSTER* Elevated particle export fluxes facilitated by salps, east of New Zealand: **S D Nodder**, M R Stukel, T B Kelly, M Décima, A Gutierrez-Rodriguez, S Searson, S Deppeler

**ME24E-0140** *POSTER* Salp distribution in coastal, subtropical, and subantarctic waters off the Southeast coast of New Zealand: linking hydrology with ecosystem function: **M Meyers**, M Décima, K I Currie, L Hoffmann, S Wing

**ME24E-0141** *POSTER* Distribution, abundance and population demographics of *Salpa thompsoni* on the Kerguelen Plateau: **E A Pakhomov**, N Henschke, S Blain, Y Cherel, C Cotté, B Espinasse, B Hunt

**ME24E-0142** *POSTER* New insights into ecology of the Antarctic tunicate *Salpa thompsoni*: ingestion, growth and development dynamics: **E A Pakhomov**, M Iversen, C M Flintrop, N C Pauli, L Pakhomova, W Wessels, B Meyer

**ME24E-0143** *POSTER* Feeding dynamics of *Salpa thompsoni* and *Euphausia superba* in the Western Antarctic Peninsula (WAP) region: **N C Pauli**, M Graeve, M H Iversen, E A Pakhomov, K Metfies, B Meyer

**ME24E-0144** *POSTER* Krill vs salps: dominance shift from krill to salps is associated with higher dissolved N:P ratios: **C Plum**, P M Wenta, D Bahlburg, S D Moorthi

**ME24E-0145** *POSTER* From the Origin of Feces - The Impact of Krill and Salp Fecal Pellets on Iron Chemistry and Iron Bioavailability to Southern Ocean Phytoplankton: **S Böckmann**, F Koch, F Pausch, A Pagnone, D Wilhelms-Dick, L M Laglera, C Sukekava, B Meyer, S Trimborn

**ME24E-0146** *POSTER* In Situ Analysis of Appendicularian Distribution in Relation to Planktonic Biomass and Community Composition: **A C Hagemeyer**, A T Greer, B Penta, J C Lehrter

**ME24E-0147** *POSTER* Revisiting the Trophic Role of Doliolids. Are Doliolids Detritivores?: **M E Frischer**, T L Walters, D M Gibson, E Arneson, L E Lacy, L M Lambole, J Brandes

**ME24E-0148** *POSTER* Impact of *Pyrosoma atlanticum* on the Microbial Loop: Results from Flow Cytometry and 16S rRNA Gene Sequencing: **C Sweeney**, B Pickett, K Sutherland, A Thompson

**ME24E-0149** *POSTER* Resolving Pyrosome Prey Consumption Through Gut Content Analysis: **A Ward**, A Thompson, K Sutherland

**ME24E-0150** *POSTER* The waxing and waning of a bloom of pyrosomes, *Pyrosoma atlanticum*, in the southern California Current System, 2014-2019: **E M Baron Lopez**, L M Sala, M D Ohman

**ME24E-0151** *POSTER* Vertical Distribution of the Pyrosome *Pyrosoma atlanticum* off the US West Coast from Camera Profiles and Depth-Stratified Net Tows: **J Lyle**, R Cowen, S Sponaugle, K Sutherland

**MG24A-2185** *POSTER* Agnostic approaches to extant life detection on Ocean Worlds: **H Graham**, S Johnson, E Anslyn, P Conrad, L Cronin, A Ellington, C J Elsila, P R Girguis, C H House, C Kempes, E Libby, P R Mahaffy, B Sherwood Lollar, A Steele

**MG24A-2186** *POSTER* Emergence of Life in Ocean World Hydrothermal Systems: **L M Barge**

**MG24A-2187** *POSTER* Extreme colds provoke the synthesis of DNA protection proteins that have unique structures that grant stability: **M Mudge**, M Ewert, S D Carpenter, J D Toner, B Light, E Firth, K Junge, B L Nunn

**MG24A-2188** *POSTER* Extremophilic Microbes from Serpentine Mud Volcanoes: **K Mullane**, M Mullis, B Shelton, B K Reese, D Bartlett

**MG24A-2189** *POSTER* General Model for the Global Variation of Seismic Energy Released with Oceanic Lithosphere Age.: **N Pinzón Sr**, C A Vargas-Jimenez

**MG24A-2190** *POSTER* Geophysical investigation of exchange between planetary oceans and rocky interior-knowledge from deep sea scenarios on Earth: **D K Blackman**, A T Fisher

**MG24A-2191** *POSTER* Going the Last Kilometer: Overcoming Challenges to Discovering Life-Supporting Gradients on Ocean Worlds: **E W Chan**, J A Breier Jr, C R German, J A Huber, S E Kobs-Nawotniak, E Shock, N Raineault, M Hauer, K Krasnosky, S Sylva, S K Hu, A R Smith, V P Milesi, D S S Lim

**MG24A-2193** *POSTER* Ocean Circulations in the Outer Solar System: **K M Soderlund**

**MG24A-2194** *POSTER* Oceanography Beyond Earth: A Frontier in Ocean Sciences: **C R German**, K R Arrigo, A E Murray, A Rhoden, B E Schmidt

**MG24A-2195** *POSTER* Taking a planetary science-inspired look at Earth's sea ice-ocean interface – a hot spot for interactions of life, chemical and physical exchange.: **A E Murray**, K R Arrigo

**MG24A-2196** *POSTER* Through the Looking Glass: Understanding Planetary Oceans through their Ice Shells: **B E Schmidt**

**MG24A-2197** *POSTER* Tidal pumping and heating of Enceladus's porous core: **N G Randolph-Flagg**, T Mittal, D Hemingway

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## MARINE GEOLOGY AND SEDIMENTOLOGY

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**MG24A Poster Hall C-D**

**Tuesday 1600h**

**Oceanography Beyond Earth: A Frontier in Ocean Sciences II Posters** (*joint with HE, MM, OB*)

**Moderators:** **Britney Schmidt**, Georgia Institute of Technology Main Campus; **Christopher German**, Woods Hole Oceanographic Institution

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**MG24A-2184** *POSTER* A Terrestrial Perspective on Seawater-Rock Reactions in the Subsurface Oceans of Icy Satellites: **N J Pester**

## MICROBIOLOGY AND MOLECULAR ECOLOGY

### MM24A Poster Hall C-D

Tuesday 1600h

### Marine Microbes in the Omics Epoch: Unveiling Their Critical Roles in the Pelagic and Benthic Environments IV Posters

**MM24A-0301** POSTER A marine bacterium produces three different factors that stimulate animal metamorphosis: **A T Alker**, N Delherbe, T Purdy, B S Moore, N Shikuma

**MM24A-0302** POSTER Prophages in Host-Associated Microbes: The Most Abundant Symbiosis on Earth and Its Relevance in Marine Holobionts: **M Little**, M I Rojas, F Rohwer

**MM24A-0303** POSTER *De novo*-assisted peptidomics helps in the study of marine carbon flux and protein degradation: **M E Duffy**, J Adams, J A Neibauer, C A Fuchsman, R G Keil

**MM24A-0304** POSTER Diel Gene Expression of Eukaryotic Microplankton in the North Pacific Subtropical Gyre: Metatranscriptomic Windows into Temporal Function, Ecology, and Evolution of Uncultured Microbes: **R D Groussman**, S Coesel, B P Durham, R Morales, V Armbrust

**MM24A-0305** POSTER Population dynamics of SAR11 marine bacteria across a temporally-sampled nearshore to open ocean transect: **S J Tucker**, K C Freel, E A Monaghan, C E S Sullivan, O Ramfelt, E G Hoffman, Y M Rii, M S Rappe

**MM24A-0306** POSTER Specific marine bacteria enhance the sexual reproduction and auxospore production of a marine diatom: **M Sison-Mangus**, M Kempnich

**MM24A-0307** POSTER *In Situ* Viral Dynamics off the Coast of Southern California using Transcriptomes from Automated High-Frequency Sampling: **D Nolin**, D Needham, J C Ignacio Espinoza, S Hou, E B Fichot, C Fletcher-Hoppe, M Aleman, J A Fuhrman

**MM24A-0308** POSTER Algae and Associated Viruses in a Marine-Derived Antarctic Lake: **S Cretoiu**, D Paez-Espino, F Schulz, T Woyke, B S Twining, J Martinez-Martinez

**MM24A-0309** POSTER Characterization and Variation of the Olympia Oyster (*Ostrea lurida*) Gut Microbiome: **E Kunselman**

**MM24A-0310** POSTER Chytrids Exhibit Trophic Versatility in Their Interactions with a Microalga: **C Ward**, L T Carney, J E Longcore, J Kimbrel, M P Thelen, R Stuart

**MM24A-0311** POSTER Effects of Future Ocean Conditions on the Microbiome of Crustose Coralline Algae with Implications for Coral Settlement and Growth: **W Sparagon**, B Carroll, C E Nelson

**MM24A-0312** POSTER Epidermal Microbiome Structure of Leopard Sharks (*Triakis semifasciata*) Across Spatial and Temporal Scales: **C Johnson**, M P Doane, A Goodman, Z Quinlan, A C Turnlund, E N Kerr, J Moffatt, M Torres, A P Nosal, C Pien, D A Ebert, M B Reed, M H Peterson, S Johri, I G Livingston, E A Dinsdale

**MM24A-0313** POSTER EVIDENCE OF NITRIFICATION ASSOCIATED WITH JELLYFISH: **N Hubot**, S L C Giering, C Lucas, J Robidart, J Fuessel

**MM24A-0314** POSTER High-Throughput Isolation of novel viruses infecting fastidious and ecologically important bacteria from the Western English Channel: **H Buchholz**, B Temperton, M Michelsen, M Allen

**MM24A-0315** POSTER Inorganic Carbon Assimilation via Chloroplasts in the Aphotic-Dwelling Kleptoplastidic Foraminifer *Nonionella stella*: **J M Bernhard**, F Gomaa, D R Utter, Y Zhang

**MM24A-0316** POSTER Interkingdom signaling molecule leads to genomic instability in *Emiliania huxleyi* causing cell cycle arrest without mortality: Do bacteria use chemical signals to exploit eukaryotic cells?: **S Pollara**, J Becker, B L Nunn, G Downing, E Overton, D Chase, E Harvey, K Whalen

**MM24A-0317** POSTER Linking light-dependent life history traits with population dynamics for *Prochlorococcus* and cyanophage: **D J R Demory**, R Liu, Y Chen, F Zhao, A Coenen, Q Zeng, J S Weitz

**MM24A-0318** POSTER Marine Diatom Virus Investigations: Methodology for the isolation and characterization of environmentally relevant laboratory systems: **A Levesque**, L Zeigler

**MM24A-0319** POSTER Mathematical modeling of the coral microbiome: the influence of temperature and microbial network: **L Lima**, M Weissman, M Reed, N Bhavya, A T Alker, M M Morris, R Edwards, S J de Putron, N Vaidya, E A Dinsdale

**MM24A-0320** POSTER Mechanistic Model of B<sub>12</sub>-based Syntrophy Between *Thalassiosira pseudonana* and *Ruegeria pomeroyi*: **H van Tol**, E V Armbrust

**MM24A-0321** *POSTER* Skin Microbiome of the Round Stingray, *Urobatis halleri*, in Southern California: **E N Kerr**, M Haggerty, M H Peterson, C Johnson, A Goodman, S Johri, M P Doane, M M Morris, L Lima, A C Turnlund, I G Livingston, H A Bursch, E A Dinsdale

**MM24A-0322** *POSTER* The bacterial quorum sensing molecule 2-heptyl-4-quinolone physiological mode of action in *Emiliania huxleyi* controls critical pathways fundamental to algal metabolism and cell division: **K Whalen**, S Pollara, J Becker, B L Nunn, G Downing, E Overton, D Chase, E Harvey

**MM24A-0323** *POSTER* The GALT Prospector™: A Novel Platform for Automated High-Throughput Cultivation and Isolation of Microorganisms: **V Shah**, A Mueller, C L Emery, M Villancio-Wolter, A J Hallock, P Christey

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## OCEAN BIOLOGY AND BIOGEOCHEMISTRY

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### OB24A Poster Hall C-D

Tuesday 1600h

#### Approaches to Study Marine Oxygen Deficient Zones from Macro to Micro Scales II Posters

(joint with CT, IS, ME, MM, OC, PI)

**Moderators:** Annie Bourbonnais, Woods Hole Oceanographic Institution; Andreas Haas

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**OB24A-0442** *POSTER* CONTINUOUS MONITORING OF DISSOLVED OXYGEN ACROSS THE WATER COLUMN AT THE BIOLUMINESCENT BAY, LA PARGUERA, LAJAS, PUERTO RICO: **R Ayala-Torres**

**OB24A-0443** *POSTER* Time Series of Oxygen Concentration, Methane Concentration and Methane Oxidation Rate Change of Deep Santa Barbara Basin Water Column: **Q Qin**, F Kinnaman, K Gosselin

**OB24A-0444** *POSTER* Active, novel and unexpected methanotrophs play a key role in methane oxidation in the Gulf of Mexico hypoxic zone: **K Howe**, K Seitz, L Gillies, B J Baker, J C Thrash, N N Rabalais, M K Rogener, S B Joye, O Mason

**OB24A-0445** *POSTER* Hypoxia in surface coastal waters at the entrance of the Gulf of California and its relation to coastal upwelling: **C A Herrera Becerril**, J A Sanchez-Cabeza, A R Lara Cera, L F Álvarez Sánchez, M L Machain-Castillo, A C Ruiz-Fernández

**OB24A-0446** *POSTER* Numerical simulation of Blue tide and high turbidity in the middle layer of the coastal low-oxygen area.: **T Okada**, M Imamura

**OB24A-0448** *POSTER* Microbial Community Composition, Diversity, and Activity across Oxygen Gradients within the Eastern Tropical North Pacific Oxygen Minimum Zone: **S Vargas**, I Koester, M E White, L Aluwihare, M Beman

**OB24A-0449** *POSTER* Internal Leaf and Meristem O<sub>2</sub> and H<sub>2</sub>S Dynamics of a Tropical Seagrass Identify Mechanisms of Large-Scale Die-Off Events: **M Koch**, C R Johnson, C McNicholl, O Pedersen, C J Madden

**OB24A-0450** *POSTER* Mixotrophic *Noctiluca scintillans* will continue to dominate the Arabian Sea with rising hypoxia: **Y Wen**, W Kuster, H R Gomes, J I Goes

**OB24A-0451** *POSTER* Water Column and Sediment Microbial Ecology of a West Florida Shelf Blue Hole: **Z Dietrich**, N Patin, F J Stewart

**OB24A-0452** *POSTER* Use of Bivalve Shell Size Distribution as a Measure of Transient Anoxia in Heterogeneous Benthic Habitats Exposed to Persistent Currents: **R L Cuhel**, C Aguilar, L Carufel

**OB24A-0453** *POSTER* Tracking hypoxia in flounder: do two parapatric flounder species differ in hypoxia exposure?: **M Samson**, K E Limburg

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### OB24B Poster Hall C-D

Tuesday 1600h

#### Benthic Controls on the Marine Silica Cycle: Continental Margins to Open Ocean Posters

(joint with MG, PC)

**Moderators:** Claudia Ehlert, University of Oldenburg; Jeffrey Krause, Dauphin Island Sea Lab

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**OB24B-0454** *POSTER* The silica cycle in the modern ocean: **P J Treguer**, J Sutton, S B Baines, M A Brzezinski, M A Charette, T J DeVries, S Dutkiewicz, C Ehlert, J Hawkings, A Leynaert, S M Liu, N Llopis Monferrer, M Maldonado, S Rahman, L Ran, O Rouxel

**OB24B-0455** *POSTER* Silicon transport in deep-water sponges deciphered: ecophysiological, evolutionary and biogeochemical implications: **M Maldonado**, M López-Acosta, L Beazley, V Koutsouveli, E Kenchington, A Riesgo

**OB24B-0456** *POSTER* Dissolved Silicon Isotope Dynamics in Large River Estuaries: **Z Cao**, Z Zhang, P Grasse, M Dai, L Gao, H Kuhnert, M Gledhill, C M Chiessi, K Doering, M Frank

**OB24B-0457** *POSTER* Are Diatoms the Main Biogenic Silica Substrate for Authigenic Products in Marine Deltaic Sediments?: **J W Krause**, R A Pickering, L Cassarino, K R Hendry, X S Wang, K Maiti

**OB24B-0458** *POSTER* Resolving Stable Silicon Isotope Signatures in Reactive Silicon Pools of Coastal Marine Sediments: **R A Pickering**, L Cassarino, K R Hendry, X L Wang, K Maiti, J W Krause

**OB24B-0459** *POSTER* Geochemical behavior of Si and Li in a siliciclastic subterranean estuary: **S Rahman**, J B Martin

**OB24B-0460** *POSTER* Benthic cycling of silicon in Arctic and subarctic shelf sediments: insights from silicon isotopes: **C März**, K R Hendry, H C Ng, J Ward, F Sales de Freitas, R A Pickering, J W Krause, S F Henley, S Arndt, J Faust, A Tessin

**OB24B-0461** *POSTER* Sucking up the silica: Extensive authigenic clay mineral formation in Arctic shelf sediments?: **C Maerz**, M Zindorf, A Tessin, J Faust

**OB24B-0462** *POSTER* Water Depth is a Proxy Variable for Benthic Silica Recycling in the Baltic Sea: **P O J Hall**, N Ekeroth, M Y Kononets, S Bonaglia, V Bruchert, A Tengberg

**OB24B-0464** *POSTER* Interactions of Biogenic opal, Sediments and Seawater in the Southern Ocean Tracked by Stable Silicon Isotope in Pore Waters: **I Closset**, M A Brzezinski, D Cardinal, A Dapoiny, J Jones, R S Robinson

**OB24B-0465** *POSTER* Rhizarians and diatoms: their relative impact in the silicon cycle in the Southern Ocean (Ross Sea): **N Llopis Monferrer**, B Moriceau, A Gutierrez-Rodriguez, F Not, P Tréguer, A Leynaert

**OB24B-0466** *POSTER* Differences in Dissolution Characteristics of Biogenic Silica Among Diatom Species: **H Yamaguchi**, K Tada, K Ichimi

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## **OB24C Poster Hall C-D**

**Tuesday 1600h**

### **From the Twilight Zone to the Troposphere: Ocean Optics Applications to Biogeochemical Cycling in and Through the Surface Ocean II Posters (joint with AI, IS, PI)**

**Moderators:** Margaret Estapa, Skidmore College;  
Norman Nelson, University of California Santa Cruz

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**OB24C-0467** *POSTER* Beauty is in the eye of the observatory system, or is it?: **I Cetinic**, W H Slade, N Poulton, P K Lange, L I McKinna, J Werdell

**OB24C-0468** *POSTER* Assessing net growth of phytoplankton biomass on hourly and daily timescales using the GOCI geostationary ocean color sensor.: **B F Jonsson**, J Salisbury II, W Kim, A Mannino

**OB24C-0470** *POSTER* Bridging the euphotic zone depth between optics and biology: **J Wu**, Z Lee, S Shang, Y Xie, B Huang, J F Marra, G Lin, J I Goes

**OB24C-0471** *POSTER* Deep learning applied to ocean color to reconstruct long time-series of phytoplankton biomass in the global ocean: **E C Martinez**, A Brini, T Gorgues, R Fablet, L Drumetz, P Tandeo, G Maze

**OB24C-0472** *POSTER* Global trends of transparency and color based on merged multi-sensor satellite data: **M Bellacicco**, J Pitarch, S Marullo

**OB24C-0475** *POSTER* Metrics to Quantify the Contributions of Different Size Fractions to the Particle Size Distribution Based on Measurements in Arctic Waters: **R A Reynolds**, H Runyan, D Stramski

**OB24C-0476** *POSTER* Relationships between phytoplankton assemblages and bio-optical variability in a coastal environment of the Gulf of St. Lawrence: **C Araujo**, S Belanger, J E Tremblay

**OB24C-0477** *POSTER* Remote-sensing of diatom bloom succession: **P K Lange**, I Cetinic, Z K Erickson, E A D'Asaro, J Werdell

**OB24C-0478** *POSTER* Towards the comprehension of the inter-annual physiological response of phytoplankton to global warming as seen from space: a refined phytoplankton biomass proxy: **M Bellacicco**, J Pitarch, S Marullo

**OB24C-0479** *POSTER* Use of ship-board optical measurements to quantify plankton biomass and productivity across multiple trophic levels in the Northern Gulf of Alaska LTER program: **W Burt**, R R Hopcroft, S Strom, S L Danielson

**OB24C-0481** *POSTER* Biases in the *in situ* measurement of particulate organic carbon and its effect on the calibration and validation of ocean color sensors.: **J E Chaves**, M Novak, I Cetinic, A Mannino

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## **OB24D Poster Hall C-D**

**Tuesday 1600h**

### **Marine Deoxygenation in a Changing Climate: Drivers, Detection, and Ecosystem Impacts II Posters (joint with OC, PC, PI)**

**Moderators:** Jerry Tjiputra, Uni Research; Yohei Takano, Georgia Institute of Technology

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**OB24D-0482** *POSTER* Biogeographically Derived Metabolic Index: a Data-Poor Approach to Understand the Impacts of Warming and Deoxygenation on Marine Organisms: **T Clarke**, C C C Wabnitz, S Striegel, T L Froelicher, G Reygondeau, W Cheung

**OB24D-0483** *POSTER* Climatic control of regional ocean deoxygenation: insights from recent trends in the north Indian Ocean: **Z Lachkar**, M A Azhar, M Mehari, M Levy, K S Smith

**OB24D-0484** *POSTER* Examining the drivers of the deoxygenation signal in the northern California Current System: **M Maier**, D Ianson, R C Hamme

**OB24D-0485** *POSTER* Impact of iron fertilization from glaciogenic dust on glacial deep-water deoxygenation and CO<sub>2</sub> decrease: **A Yamamoto**, A Abe-Ouchi, R Ohgaito, A Ito, A Oka

**OB24D-0486** *POSTER* Interannual Variability in the Oxygen Budget of the Subpolar North Atlantic Ocean: **L Moseley**, G A McKinley, R Dussin, A Nguyen

**OB24D-0487** *POSTER* Local versus remote influences on decadal oxygen variability at Ocean Station Papa: **P P Mongwe**, M C Long, T Ito

**OB24D-0488** *POSTER* Marine O<sub>2</sub> and the ecology of microbial eukaryotes in past and present oceans: **D Mills**, R Simister, T Sehein, V P Edgcomb, S Hallam, E A Sperling, S Crowe

**OB24D-0489** *POSTER* Ocean Modeling Perspectives of Multi-Decadal Ocean Deoxygenation and Heat Content Evolutions: **Y Takano**, J Tjiputra, J Schwinger, M Gröger, J Hieronymus, T Koenigk, S Berthet, R Séférian, L Bopp, A Yool, J Palmieri, M Watanabe, S Urakawa, H Nakano, H Tsujino, M C Long, J P Krasting, J P Dunne, T Ilyina

**OB24D-0490** *POSTER* Oceanic oxygen ‘gO<sub>2</sub>ing’; but where? - ‘Henry’s Law’: is oceanic oxygen buffering atmospheric oxygen loss? - An extinction risk?: **R A Brown**

**OB24D-0491** *POSTER* Reinterpreting the Deoxygenation Trend in the Subarctic NE Pacific with BGC-Argo Data: **A Cervania**, R C Hamme

**OB24D-0492** *POSTER* Ventilation of the Upper Oxygen Minimum Zone in the Coastal Region Off Mexico: Implications of El Niño 2015–2016.: **P Trucco-Pignata**, J M M Hernandez-Ayon, E Santamaria-del-Angel, E Beier, L Sanchez Velasco, V M Godinez, O Norzagaray

**OB24D-0493** *POSTER* Wind synoptic activity and oxygen levels in the tropical Pacific Ocean: **O Duteil**

## OB24E Poster Hall C-D

Tuesday 1600h

### New Tools and Approaches to Constrain the Marine Nitrogen Cycle: From the Surface to the Sediments IV Posters (*joint with IS, MM, PI*)

**Moderators:** **Christopher Some**s, GEOMAR Helmholtz Centre for Ocean Research Kiel; **Angela Landolfi**, GEOMAR Helmholtz Centre for Ocean Research Kiel

**OB24E-0494** *POSTER* Investigating water-column and sediment N<sub>2</sub>O cycling in the Western Arctic using stable isotopes and isotopomers.: **A Bourbonnais**, M A Altabet, J Granger

**OB24E-0495** *POSTER* Can we use functional genetics to constrain the fate of nitrate in estuaries?: **E Raes**, K Karsh, A J Kessler, B Holmes, J van de Kamp, L Bodrossy, A Bisset

**OB24E-0496** *POSTER* Iron and copper requirements of the marine ammonia-oxidising bacterium, *Nitrosococcus oceani*: an examination of the role of trace metals in the niche differentiation and competition between ammonia-oxidising bacteria and archaea: **P Diver**, R Shafiee, J T Snow, R E M Rickaby

**OB24E-0498** *POSTER* New insights into intracellular nitrogen allocation in phytoplankton using δ<sup>15</sup>N distributions of free amino acids and chlorophyll: **J Kharbush**, A Pearson

**OB24E-0499** *POSTER* Salt Marsh Soil Denitrification Rates Stimulated Following Oiling in a Large-scale Marsh Mesocosm Experiment: **A Barnes**, B J Roberts, C A Schutte, R Rossi

**OB24E-0501** *POSTER* The contribution of coral-associated denitrification and N<sub>2</sub> fixation to reef N-cycling: **T Glaze**, D Erler

**OB24E-0502** *POSTER* A new method to analyze δ<sup>15</sup>N of phenylalanine and glutamic acid to reconstruct spatial and temporal variations in N sources and trophic structures: **L Zhang**, W Lee, C Ji, R Roy, A Kreider-Mueller, M A Altabet

**OB24E-0503** *POSTER* Excess Nutrients in a Coral Reef Ecosystem: Dynamics, Sources and Tracer Techniques: **D Whitall**, M Curtis, A Mason

**OB24E-0504** *POSTER* Nitrogen Cycling in the Canadian Arctic and Sub-Arctic: Constraints from Dual Nitrate Isotope Data: **N Lehmann**, C Buchwald, S H Davin, J Granger, M Kienast, M F Lehmann, O Sherwood, J E Tremblay

**OB24E-0505** *POSTER* Paired Nitrogen Isotope of Chlorophyll-*a* and Bulk Sediment in Characterizing Coastal Nitrogen Cycling- a Comparative Study in Yellow Sea of China and Benguela Upwelling System: **Y Xin**, M Yan, X Zhong, S Dong

**OB24E-0506** *POSTER* Seasonal dynamics of geochemical gradients along with anammox and denitrification activities in a subterranean estuary located in the York river estuary: **S J Wilson**, I C Anderson, C R Tobias, B Song

**OB24E-0507** *POSTER* Seasonal transition of the dominant nitrogen source for phytoplankton reconstructed by determining the nitrogen isotope composition for nitrate, ammonium, and individual amino acids of sinking particles in the Northwestern Pacific: **C Yoshikawa**, N O Ogawa, Y Chikaraishi, A Makabe, Y Matsui, Y Sasai, M Wakita, M C Honda, Y Mino, M N Aita, T Fujiki, T Nunoura, N Harada, N Ohkouchi

**OB24E-0509** *POSTER* Quantifying nitrogen assimilation in the deep ocean: urea is an important nitrogen source for bathypelagic microbial communities: **N Arandia Gorostidi**, A E Parada, A R Bausch, A E Dekas

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## OB24F Poster Hall C-D

Tuesday 1600h

### Quantifying Carbon Export Pathways in the Global Ocean V Posters (*joint with IS, MM, OM*)

**Moderators:** **Ivona Cetinic**, NASA Goddard Institute for Space Studies; **Stephanie Henson**, National Oceanography Center

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**OB24F-0510** *POSTER* Seasonal Dynamics of Organic Carbon in the Deep Water Column of the Eastern North Pacific: **C Lopez**, D A Hansell

**OB24F-0511** *POSTER* Temporal change of particle fluxes in the mesopelagic zone of the northwestern South China Sea: the impact of slope currents at the shelf-edge: **Q Li**

**OB24F-0513** *POSTER* Particulate Organic Matter Composition and Distribution in the Twilight Zone: **C Preece**, K Kiriakoulakis, S Blackbird, G A Wolff

**OB24F-0514** *POSTER* Influence of a mesoscale cyclonic eddy on dissolved organic carbon export in the northwest Pacific Ocean: **X Dai**, X Li, M Dai

**OB24F-0515** *POSTER* Quantifying Primary Productivity Rates from Coastal to Open Waters in the NE Pacific Ocean: A Contribution to the 2018 EXPORTS Program: **D E Varela**, R C Hamme, S M Kafrissen

**OB24F-0516** *POSTER* The EXport Processes in the Ocean from Remote Sensing (EXPORTS) Field Campaign: Results from the Northeast Pacific Deployment and Plans Forward: **D Siegel**

**OB24F-0517** *POSTER* What can we learn about carbon export from optically determined mesopelagic particle abundance?: **A Bochdansky**, R B Dunbar, D A Hansell, G J Herndl

**OB24F-0518** *POSTER* Improving carbon export estimates through the paired use of autonomous platforms and remote sensing algorithms near Ocean Station Papa: **J Long**, A J Fassbender, W Haskell, M L Estapa

**OB24F-0520** *POSTER* Partitioning Particulate Carbon Export into Three Distinct Pathways Using Biogeochemical Argo Floats: **J Llort**, P G Strutton, L Lacour, P W Boyd

**OB24F-0521** *POSTER* Interannual variations in net community production in the North Pacific Ocean: **K Lee**, J Y Moon

**OB24F-0522** *POSTER* Revisiting 45 years of <sup>234</sup>Th data: a comprehensive global oceanic database: **E Ceballos-Romero**, K Buesseler, C García-Prieto, M Villa-Alfageme

**OB24F-0523** *POSTER* Updates to the classic small volume (2-4L) <sup>234</sup>Th analysis protocol: **S J Clevenger**, K Buesseler, C R Benitez-Nelson, J Drysdale, S M Pike

**OB24F-0524** *POSTER* Measuring the size distributions of submicron particles in ocean by tracking the Brownian motion: **Y Xiong**, X Zhang

**OB24F-0525** *POSTER* Understanding the remote influences of ocean weather on the episodic pulses of particulate organic carbon flux: **H Ruhl**, F Bahr, S Henson, W B Hosking, B Espinola, M Kahru, P Daniel, P Drake, C A Edwards

**OB24F-0526** *POSTER* Phytoplankton Community Structure and the Efficiency of the Biological Pump: **J K Moore**

**OB24G Poster Hall C-D**

**Tuesday 1600h**

**Seafloor Cold Seepage: Interactions and Effects of Hydrocarbon Emission and Methane Hydrates on the Geological and Biological Environments Posters (joint with ME, MG, PC)**

**Moderators: Davide Oppo**, University of Louisiana at Lafayette; **Tamara Baumberger**, University of Bergen

**OB24G-0527 POSTER** An Insight into Shallow Gas Hydrates in the Dongsha Area, South China Sea: **J Chen**, B Liu, L M Pinheiro, L Yang, S Liu, Y Guan, H Song, N Wu, H Xu, R Yang

**OB24G-0530 POSTER** From the Seafloor to the Surface: In situ Chemical Analysis of Rising Bubbles along the Cascadia Margin: **A Michel**, A S Johnson, K Fauria, V Preston, D P Nicholson, D Hoer, P R Girguis, S D Wankel

**OB24G-0531 POSTER** A chemosynthetic ecotone - 'chemotone' - surrounds deep-sea methane seeps: **L A Levin**, O Ashford, S Guan, D Capone, K Rigney, K Rowley, E E Cordes, V J Orphan, S W Mullin, K Dawson, J Cortés, G W Rouse, G Mendoza

**OB24G-0532 POSTER** Distribution of Naturally Occurring CO<sub>2</sub> in Shallow Marine Sediments in the US deep-water Gulf of Mexico: **J McBee**, B B Bernard, M Gaskins

**OB24G-0533 POSTER** Observations and modeling of submarine hydrocarbon seeps within the hydrate stability zone: **B Wang**, S A Socolofsky, I Jun, M Leonte, J D Kessler

**OB24G-0534 POSTER** Chemical distribution and range of the Cascadia Margin methane seep bubbles: **T Baumberger**, C M Wilkinson, M D Lilley, E J Olson, A W Demopoulos, N Raineault, M Riedel, M Scherwath, J E Lupton

**OB24G-0535 POSTER** Gas hydrate dissociation during relatively sea level highstands: Evidence from U/Th dating of carbonate from gas hydrate drilling core of the South China Sea: **D Feng**, F Chen, X Wang, D Chen

**OB24G-0536 POSTER** Amino acid  $\delta^{15}\text{N}$  identifies mixed nitrogen source utilization in chemosymbiotic mussels (*Bathymodiolus childressi*) from deep-sea methane seeps along the NE Atlantic Margin: **N L Vokshoori**, M McCarthy, H G Close, A W Demopoulos, N Prouty

**OB24G-0538 POSTER** Different Biogeochemical Regimes Structure Faunal Communities in Seep Habitats in the Western Atlantic: **J R Bourque**, A W Demopoulos, S B Joye, J D Chaytor

**OB24G-0539 POSTER** Ecotones at Methane Seeps: Understanding the seepage sphere of trophic influence for carbonate macrofauna: **O Pereira**, J T Le, J Gonzalez, O Ashford, E E Cordes, V J Orphan, S W Mullin, K Dawson, S Goffredi, G W Rouse, L A Levin

**OB24G-0540 POSTER** Observations from controlled experiments on the dissolution of free-gas bubbles and hydrate-coated bubbles in water: **A M Padilla**, W F Waite, T C Weber

**OB24G-0541 POSTER** A Multimethod Approach to Study the Variability of a Natural Hydrocarbon Seep and its Connection to the Surface: **M Razaz**, D Di Iorio, B Wang, S Daneshgar Asl

**OB24G-0542 POSTER** Manganese and Iron Support Anaerobic Oxidation of Methane at Cold Seeps: **J S Karolewski**, V Oldham, A Michel, C Hansel, S D Wankel

**OB24G-0543 POSTER** Presence and succession of cable bacteria at Hydrate Ridge, NE Pacific Ocean: **C Andrade**, C Li, C E Reimers

**OB24G-0544 POSTER** 4D Analysis of Deepwater Hydrocarbon Plumes in the Gulf of Mexico: **G A Mitchell**, J J Gharib

**OCEAN DATA MANAGEMENT**

**OD24A Poster Hall C-D**

**Tuesday 1600h**

**Cloud Data: Challenges and Successes I Posters (joint with IS)**

**Moderators: Barry Eakins**, University of Colorado Boulder; **Kenneth Casey**, NOAA National Centers for Environmental Information

**OD24A-3421 POSTER** Applying data stream processing to handle high volume metadata management needed by ingest and discovery software systems and compatible with on-premise, cloud, or hybrid deployment environments.: **E McQuinn**, D Neufeld, A Jakositz, Z Delk, E Richerson, C Esterlein, S Ghebrechristos

**OD24A-3422 POSTER** Building a Cloud-based Tool for Standardizing and Sharing Map Products: **F Dahl**, B Eakins

**OD24A-3423 POSTER** Challenges and Successes of Implementing NOAA/NESDIS/NCEI's Ingest of Archival Data in a Cloud Environment: **S B Rutz**, K S Casey, D Fischman, J T Mangin

**OD24A-3424** *POSTER* Emerging Lessons from the NOAA/NESDIS Cloud Pilot Project: **K S Casey**, K Shontz

**OD24A-3425** *POSTER* Getting OER seafloor exploration data into the Cloud: **B Eakins**, M Malik

**OD24A-3426** *POSTER* Integrating Cloud Services for Real-Time Wave Buoy Array Monitoring and Data Management: **G Cameron**, J Behrens, D Wright, E Terrill, R E Jensen

**OD24A-3427** *POSTER* PO.DAAC's Transition to the Cloud: Ingest to Science User Needs: **C M Oaida**, J Hausman, Y Chen, M Gangl, M M Gierach, J McAuley, N Quach, S Vannan

**OD24A-3428** *POSTER* Remote Bathymetric Data Processing using the global Nippon Foundation / GEBCO Training Program Alumni network: **R A Wigley**, J A Roperez, W B Dorshow, J Beaudoin

**OD24A-3429** *POSTER* The COASTAL Act Wind and Water Event Database (CWWED) developed on Amazon's Web Services (AWS) Cloud Platform: **S Del Greco**, D Flack

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## OD24B Poster Hall C-D

Tuesday 1600h

### Connecting Data and Managers for Real-World Needs: Innovations from the West Coast Ocean Data Portal and West Coast Ocean Alliance I Posters (*joint with ED, SI*)

**Moderators:** **John Hansen**, West Coast Ocean Alliance; **Andy Lanier**, Oregon Coastal Management Program

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**OD24B-3430** *POSTER* West Coast Regional Ocean Governance: Commissions, Alliances & Portals, Oh My! A History of Melding Ocean Policy, Science & Data: **J Hansen**

**OD24B-3431** *POSTER* Regional Ocean Partnerships: Strengthened Through Tribal Engagement: **K R Wrubel**, J Hansen

**OD24B-3432** *POSTER* West Coast Ocean Data: Federal Agency Perspectives from the Bureau of Ocean Energy Management: **S Guiltinan**

**OD24B-3433** *POSTER* Making Data Digestible: The Creation of a West Coast Ocean Health Scorecard: **M Nixon**

**OD24B-3434** *POSTER* West Coast Tribes' Ocean Data Needs: Supporting Management and Adaptation: **J Schumacker**

**OD24B-3435** *POSTER* Mapping Civics: New Technologies of Oceans Governance: **K Sullivan**

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## OCEAN MODELING

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### OM24A Poster Hall C-D

Tuesday 1600h

### Advances in Coupled Physical-Biogeochemical Modeling: Regional to Global Scales II Posters (*joint with OB*)

**Moderators:** **Jessica Luo**, National Center for Atmospheric Research; **Kristen Krumhardt**, University of Lausanne; **Fanny Monteiro**, University of Bristol

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**OM24A-3101** *POSTER* Ocean Biogeochemistry in GFDL's Earth System Model 4 and its Response to Increasing Atmospheric CO<sub>2</sub>: **C A Stock**, J P Dunne, S Fan, P A Ginoux, J G John, J P Krasting, C Laufkötter, F Paulot, N Zadeh

**OM24A-3102** *POSTER* Light-Dependent Grazing Drives Deep Chlorophyll Maximum Formation and Deepening in a Global Ocean Model: **H Moeller**, C Laufkötter, E M Sweeney, M D Johnson

**OM24A-3103** *POSTER* A Tale of Two Years: Changes in dynamics of physical and biogeochemical processes in an oligotrophic lake.: **S Krishna**

**OM24A-3104** *POSTER* Blooms in Hawaii: An investigation using a high-resolution decadal reanalysis of ROMS+COBALT: **T Friedrich**, B Powell, C A Stock

**OM24A-3105** *POSTER* Coupled C13 isotope transfer in the Community Earth System Model – CESM 2.1: **A Ekici**, F Joos, C He, Z Liu

**OM24A-3106** *POSTER* Coupled physical-biogeochemical modeling investigation on the upper ocean physical and biogeochemical responses to passages of 46 major hurricanes in the Northwest Atlantic Ocean: A historical synthesis: **H Zong**, R He

**OM24A-3108** *POSTER* Diagnostic estimation and evaluation of uncertainty of nutrient limitation of phytoplankton growth in Michaelis-Menten functional form: **T Hashioka**, M N Aita

**OM24A-3109** *POSTER* Evaluation of Ocean Biogeochemistry Simulation within NEMO-TOPAZ, a Newly Developed Ocean Biogeochemistry Model: **H Park**, H Lee, B K Moon, H C Jung, J Y Park, J Wie, Y H Byun, Y J Lim, J Lee

**OM24A-3110** *POSTER* Parameter Optimisation in an Ocean Biogeochemical Model: **S Oliver**, S Khatiwala, C Cartis

**OM24A-3111** *POSTER* Pre-Industrial Spin-Up of Dissolved Oxygen in the NASA GISS Model E2.1, with Emphasis on the Major ODZs.: **P E Lerner**, A Romanou, D P Nicholson, M Kelley, R Ruedy

**OM24A-3113** *POSTER* Sensitivity of chlorophyll annual cycle to growth rate function over the Yangtze River estuary in a physical-biogeochemical model: **Q Wu**, X Wang, P Xiu

**OM24A-3114** *POSTER* Sensitivity tests for Improvement of Chlorophyll Simulation with NEMO-TOPAZ: **H Lee**, B K Moon, J Y Park, J Wie, H C Jung, H Park, Y H Byun, Y J Lim, J Lee

**OM24A-3115** *POSTER* The BGC-Argo floats: a new tool to validate ocean biogeochemical models: **A Mignot**, H Claustre, G Cossarini, F D'Ortenzio, E Gutknecht, L Julien, P Lazzari, C Perruche, S Salon, R Sauzède, V Taillander, A Teruzzi

**OM24A-3116** *POSTER* The BIOPTIMOD Project: Integration of Novel Satellite and BGC-Argo Optical Observations in CMEMS Biogeochemical Models: **P Lazzari**, E Terzic, E Organelli, S Salon, G Cossarini, F D'Ortenzio, V Velluci

**OM24A-3117** *POSTER* The impact of forcing and initialisation on physical-biogeochemical simulations of the Southern Ocean: **A Rochner**, K L Sheen, A J Watson, D Ford, J Shutler, J A Brearley, A Meijers

**OM24A-3118** *POSTER* Zooplankton validation in a physical-biogeochemical model with potentially valuable applications to fisheries management in the Gulf of Mexico: **T Shropshire**, M R Stukel, E Chassignet, S Morey, V Coles, S K Lee, M Karnauskas, G Zapfe, M R Landry

**OM24B-3120** *POSTER* Computationally efficient modeling and data assimilation of near-surface variability: **S Akella**

**OM24B-3121** *POSTER* A High-Resolution Ocean, Wave and Atmosphere Model of the Maritime Continent: Reanalysis and Prediction: **F Colberg**, G B Brassington, S Aijaz, P Sakov, S Zieger, G Dietchmayer, W Lu, G L Roff, Z Sun

**OM24B-3122** *POSTER* An LETKF-based ocean reanalysis for the Asia-Oceania region using Himawari-8 SSTs and SMOS/SMAP SSS: **S Ohishi**, T Hihara, H Aiki, J Ishizaka, Y Miyazawa, M Kachi

**OM24B-3123** *POSTER* A Numerical Study of the Setting Method of System Error in Data Assimilation for Inner Bay: **Y Matsuzaki**, T Inoue

**OM24B-3124** *POSTER* Development of the next-generation operational global ocean data assimilation system in JMA: **S Ishizaki**, Y Fujii, I Ishikawa, T Yoshida, S Hirahara, Y Adachi, Y Kubo, T Komori

**OM24B-3125** *POSTER* Exploration of the Drift Motion Characteristics of Typical Chinese Offshore Fishing Vessels: **H Tu**, L Mu

**OM24B-3126** *POSTER* Computational Performance Analysis of JEDI-based Sea Ice Ocean Coupled Assimilation (SOCA) System: CICE6: **J Kim**, G Vernires, S Flampouris

**OM24B-3127** *POSTER* Evaluating the GECCO3 1948-2018 Ocean Synthesis - a configuration for initializing the MPI-ESM climate model: **A Koehl**

**OM24B-3128** *POSTER* Designing an optimal strategy for GMAO S2S ensemble forecast.: **R M Kovach**, A Borovikov, S D Schubert, Y K Lim, A Molod

**OM24B-3129** *POSTER* Characterizing Buoy Wind Speed Error in High Wind Conditions: **M A Bourassa**, E Wright

**OM24B-3130** *POSTER* Circulation at South China Sea based on the 15-year NCOM East Asian Seas Reanalysis: **D S Ko**, P Martin

**OM24B-3131** *POSTER* Comparison of Regional Performance between EnKF and EnOI in the North Pacific: **S T Lee**, Y K Cho, J Jung, B J Choi, Y H Kim, S Kim

**OM24B-3132** *POSTER* A hierarchical operational regional ocean forecasting system off the Korean peninsula: **Y CHOI**, K Youn, G H Seo, S J Kwon

**OM24B-3133** *POSTER* Enhancing Ensemble Data Assimilation into One-Way-Coupled Models with One-Step-Ahead-Smoothing: **N Raboudi**, B Ait-El-Fquih, A C Subramanian, I Hoteit

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## OM24B Poster Hall C-D

Tuesday 1600h

**Advances in Ocean Data Assimilation, Forecasting, and Reanalysis V Posters** (*joint with IS, PL, PS*)

**Moderators:** **Ibrahim Hoteit**, King Abdullah University of Science and Technology; **Mohamed Iskandarani**, University of Miami; **Zhijin Li**, NASA Jet Propulsion Laboratory; **Aneesh Subramanian**, University of Colorado at Boulder

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**OM24B-3119** *POSTER* Impact of Assimilating Simulated Surface Velocity from a Wide Swath Satellite: **S R Smith**, R W Helber, J Osborne, J M D'Addezio, M Carrier, I Souopgui, A LaRosa, C N Barron, G A Jacobs

**OM24B-3134** *POSTER* High Resolution Water Quality Information Services at Sea for Ports and Aquaculture\*: **A Spinosa**, G El Serafy, S Wanke, S Gaytan Aguilar

**OM24B-3135** *POSTER* Bayesian Inference and Markov Chain Monte Carlo Sampling for Lagrangian Particle Tracking in the Ocean: **I Hoteit**, S El Mohtar, O M Knio

**OM24B-3136** *POSTER* A new boundary small eddy additions technique improves long-term integration results of one-way nested regional ocean model: **J H Hwang**, S V Pham, D H Kim

**OM24B-3138** *POSTER* Implementation of multidomain Unified Forward Operators (UFO) within the Joint Effort for Data assimilation Integration (JEDI): Ocean applications: **H Ebrahimi**, G Vernires, R Mahajan, T C Sluka, D Holdaway

**OM24B-3139** *POSTER* Fast Non-Localized Equal-Weight Particle Filters for Nonlinear Data Assimilation: **P Smith**, P J van Leeuwen, J Amezcua, J Skauvold

**OM24B-3140** *POSTER* An Assessment of Forecasting Skill for GOFS 3.1 and Three Configurations of RNCOM in the Vicinity of Hawaii: **D D H Cadden**

**OM24B-3141** *POSTER* Data Assimilative Modeling Investigation of Gulf Stream Dynamics Along the U.S. East Coast Seaboard: **S Mao**, R He, J Bane, G Gawarkiewicz, R E Todd

**OM24B-3142** *POSTER* A surrogate-aided approach for wave predictions in the Gulf of Mexico: **A Razavi Arab**

**PC24A-1747** *POSTER* Decadal variability in North Atlantic Deep Water transport measured by GRACE satellites and MOVE moorings: **J Koelling**, M J Lankhorst, U Send

**PC24A-1748** *POSTER* Determining nonlinear thermohaline precursors of the 2009 AMOC slow-down in an eddy permitting model: **D Stephenson**, F Sevellec, S Mueller

**PC24A-1749** *POSTER* Eddies effect on low frequency variability of the Atlantic Meridional Overturning Circulation.: **A Hochet**, M R Mazloff, B D Cornuelle, T Huck, F Sevellec, O Arzel

**PC24A-1750** *POSTER* Establishing a Timeline of Upper to Deep AMOC Connections in the North Atlantic Subpolar Gyre Through Observations of Dramatic Freshening in the Iceland Scotland Overflow Plume: **M Devana**, W E Johns, A Houk

**PC24A-1752** *POSTER* Influence of Meridional Overturning Circulation on Ocean Heat Storage Rate in an Idealised Climate Model: **P Shatwell**, A Czaja, D Ferreira

**PC24A-1753** *POSTER* Insights into Decadal North Atlantic Sea Surface Temperature and Ocean Heat Content Variability from an Eddy-Permitting Coupled Climate Model: **B I Moat**, B Sinha, S A Josey, J Robson, P Ortega, N P Holliday, A New, G McCarthy, F Sevellec, J Hirschi

**PC24A-1754** *POSTER* Intermittency of the AMOC multi-decadal variability: Quantification and Mechanisms: **W Cheng**, W Weijer, J Chiang, G Danabasoglu, S G Yeager, W M Kim, P R Gent, J Zhang, D Zhang

**PC24A-1755** *POSTER* Investigating the Atlantic Meridional Overturning Circulation using boundary information: **T Jonathan**, H Johnson, D P Marshall, M Bell

**PC24A-1756** *POSTER* Linking the South Atlantic Meridional Overturning Circulation and U.S. heat waves: **H Lopez**, S Dong, S K Lee, G J Goni

**PC24A-1757** *POSTER* Locally and remotely forced subtropical AMOC variability: A matter of time scales: **Q Jamet**, W K Dewar, N Wienders, B Deremble

**PC24A-1758** *POSTER* On the Ability of Sea Surface Temperature Indices to Hindcast AMOC Variability: **M Zhao**, C M Little

**PC24A-1759** *POSTER* On the structure and transport of the separated Gulf Stream: **M Andres**, J M Toole, K A Donohue

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## PAST, PRESENT AND FUTURE CLIMATE

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### PC24A Poster Hall C-D

Tuesday 1600h

#### Atlantic Meridional Overturning Circulation: An Ongoing Challenge III Posters (*joint with OM, PS*)

**Moderators:** **Meric Srokosz**, National Oceanography Center, Soton; **Femke de Jong**, Royal Netherlands Institute for Sea Research

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**PC24A-1744** *POSTER* A joint Analysis of the Atlantic Meridional Overturning Circulation at 26.5°N using two Observations-based Time Series: **C Schmid**, M P Goes, D Smeed

**PC24A-1745** *POSTER* Along-stream and temporal variability in the boundary currents east and west of Cape Farewell, Greenland: **K A Donohue**, E Thomas, H T Rossby

**PC24A-1746** *POSTER* Control of Bering Strait transport by the meridional overturning circulation: **P Cessi**

**PC24A-1760** *POSTER* PATHWAYS OF THE WATER MASSES EXITING THE LABRADOR SEA: THE IMPORTANCE OF BOUNDARY-INTERIOR EXCHANGES: **C A Katsman**, S Georgiou, S L Ypma, N Brueggemann, J M Sayol, J Pietrzak

**PC24A-1761** *POSTER* Potential shifts in deep convection sites for the Atlantic Meridional Overturning Circulation: **S K Lee**, D Kim, R Lumpkin, D Volkov, M O Baringer, C S Meinen, M P Goes, S Dong, H Lopez, S G Yeager

**PC24A-1762** *POSTER* Response of the Atlantic Meridional Overturning Circulation to Climate Change from a suite of Climate Models: **A S Fortin**, C O Dufour, T M Merlis, L P Nadeau

**PC24A-1763** *POSTER* Seasonal and Interannual Variability for the Atlantic Meridional Overturning Circulation in the Subpolar North Atlantic: **H Wang**, J Zhao

**PC24A-1764** *POSTER* Sources of variability of the overturning circulation in the subtropical North Atlantic: **D Smeed**, E Frajka-Williams, W E Johns, M O Baringer, B I Moat, D Rayner, D Volkov, H L Bryden

**PC24A-1765** *POSTER* Spatial patterns of Atlantic Meridional Overturning Circulation variability: **J C H Chiang**, S Kim, W Cheng

**PC24A-1766** *POSTER* Sustainable Observations of the AMOC: Methodology and Technology: **G D McCarthy**, C N Flagg, L Houpert, C W Hughes, M Inall, K Jochumsen, K M H Larsen, C S Meinen, B I Moat, M Rhein, C Schmid, S A Cunningham, C Cusack, N P Holliday

**PC24A-1767** *POSTER* The development of a coupled data assimilation system using only surface pressure observations: potential for decadal climate prediction initialization: **X Yang**, T L Delworth, F J Zeng, W Cooke, L Zhang

**PC24A-1768** *POSTER* The Meridional Overturning Circulation in the Sub-Polar North Atlantic Ocean: a Model-Observation Comparison: **C Feucher**, P G Myers

**PC24A-1769** *POSTER* The Sensitivity of Ocean Temperature, Heat Content, Sea-Level Rise, and Atlantic Meridional Overturning Circulation to Periodic and Constant Volcanic Forcing: **M M A Dogar**, A Shahid

**PC24A-1770** *POSTER* The Variability of the Deep Bight: Two-years of Moored Observations in the Bight Fracture Zone: **H H Furey**, A S Bower, W E Johns, A Houk, A Ramsey

**PC24A-1771** *POSTER* Transport variability of the Irminger Current: Results from four years of mooring deployment between 2014 – 2018: **N Fried**, F de Jong

**PC24A-1772** *POSTER* Unveiling North Atlantic Deep Water pathways using nonlinear dynamics techniques: **P Miron**, F J Beron-Vera, M J Olascoaga, S Lozier, P Koltai, L Helfmann

**PC24A-1773** *POSTER* Weakening of the Florida Current during 1909-2018: **C G Piecuch**

**PC24A-1774** *POSTER* What can Hydrography Tell Us about the MOC on Centennial Timescales?: **H T Rossby**

**PC24A-1775** *POSTER* Where Do the Subpolar North Atlantic Near-Boundary Sinking Waters Go? A Lagrangian High-Resolution Model Approach: **J M Sayol**, S Georgiou, S L Ypma, N Brueggemann, H Dijkstra, C A Katsman

**PC24A-1776** *POSTER* Wind sensitivity of the Atlantic meridional overturning circulation in an eddying and a non-eddying ocean: **V Lüscho**w, J S von Storch, J Marotzke

**PC24A-1777** *POSTER* Wind-driven Equatorial Oscillations in the Meridional Overturning Circulation: **A T Blaker**, M Bell, J Hirschi

**PC24A-1778** *POSTER* Wind-Forced Variability of the Remote Meridional Overturning Circulation: **M A Spall**, D Nieves

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## PC24B Poster Hall C-D

Tuesday 1600h

**Triumphs and Disasters: Coastal, Marine, and Oceanographic Research in Small Island/Archipelago Settings I Posters** (*joint with CP, ME, PS*)

**Moderators:** **Serena Lee**, Griffith University; **Oceana Francis**, University of Hawaii at Manoa

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**PC24B-1779** *POSTER* A dense water dome generated by Ekman suction in the Adriatic Sea: **M Orlic**, G Beg Paklar, M Bubalo, T Dzoic, I Medugorac, H Mihanovic, S Muslim, M Pasaric, Z Pasaric, A Stanesic, M Tudor

**PC24B-1780** *POSTER* AIR-SEA-LAND MODELING FRAMEWORK TO FORECAST COMPLEX ISLAND SYSTEMS: **R Caldeira**, C Cardoso, R Vieira, J Reis, C Azevedo, J Alves, R Faria

**PC24B-1781** *POSTER* CFD Numerical Simulations to Comprehend the Wind Speed-ups Produced by the Geomorphic Complexity of Puerto Rico: **E L Cruz-Garcia**

**PC24B-1782** *POSTER* Characterization of Shallow-Water Reef Habitats of the Northwest Hawaiian Islands using 3-Dimensional Reconstruction Techniques: **M Silverberg**

**PC24B-1783** *POSTER* Forecasting seasonal sea level anomalies around tropical Pacific islands: **M J Widlansky**, P R Thompson, J J Marra, R Chowdhury, F Porter, D Young, N Komar, X LONG

**PC24B-1784** *POSTER* Insular shelf circulation in deep-sea islands: **R Caldeira**, J Reis, R Vieira, G Silva

**PC24B-1785** *POSTER* New method for quantifying ocean hazards for Hawaiian coastal highways: **O P Francis**, L Yang, H Togia

**PC24B-1786** *POSTER* Numerical modelling experiments using a flexible-mesh finite-volume approach for the Vanuatu Archipelago: **S B Lee**

**PC24B-1787** *POSTER* Ocean Hazard Database for Hawaiian Coastal Highways: **O P Francis**, H Togia, L Yang

**PC24B-1788** *POSTER* Practical sea-level and wave climate information for small-island states: **L Bricheno**, J Wolf, M De Dominicis, S Jevrejeva, J M Brown, S Rynders

**PC24B-1789** *POSTER* The State of Hawaii Statewide Coastal Highway Program Report: **O P Francis**, H Brandes, G Zhang, D Ma, L Yang, O Doygun, H Togia, C Rossi, G T D Costanzo

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## PC24C Poster Hall C-D

**Tuesday 1600h**

### Water Mass Analyses and Transformation for Ocean Physics, Biogeochemistry, and Climate Studies I Posters (*joint with OB, PI, PL*)

**Moderators:** **Emily Newsom**, University of Oxford; **Sjoerd Groeskamp**, UTAS/CSIRO

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**PC24C-1790** *POSTER* How sea-ice impacts large-scale Southern Ocean Overturning Circulation?: **P Violaine**

**PC24C-1791** *POSTER* The Origin and Fate of Subantarctic Mode Water and Antarctic Intermediate Water in the Southern Ocean: **Z Li**, M H England, S Groeskamp, Y Luo, I Cerovecki

**PC24C-1792** *POSTER* Satellite Salinity for the Characterization of Mode Waters at the Interannual Timescale: **A E A Hasson**, J Boutin, R Morrow

**PC24C-1793** *POSTER* The observation-based application of a Regional Thermohaline Inverse Method to diagnose the formation and transformation of Labrador Sea water from 2013-2015: **N Mackay**, C Wilson, N P Holliday, J D Zika

**PC24C-1794** *POSTER* A framework to estimate water mass formation properties from space: **R Sabia**, A Piracha, J Caughtry, M Klockmann, D Fernandez-Prieto

**PC24C-1795** *POSTER* Dynamic sea level change and ocean heat uptake in the North Pacific under global warming in MIROC6: **T Suzuki**, H Tatebe

**PC24C-1796** *POSTER* A Water-Mass Based Approach to Constructing a New Process-Based Vertical Advection/Diffusion Theoretical Model of Ocean Heat Uptake: **R Tailleux**, G A Wolf, A Hochet, D Ferreira, T Kuhlbrodt, J M Gregory

**PC24C-1797** *POSTER* Atlantic ocean heat transport enabled by Indo-Pacific heat uptake and mixing: **J D Zika**, R Holmes, R M Ferrari, A F Thompson, E R Newsom, M H England

**PC24C-1798** *POSTER* Diahaline transport and the global water cycle: **C Bladwell**, R Holmes, J D Zika

**PC24C-1799** *POSTER* Quantifying Ocean Heat Content Changes Related to ENSO, Seasonal Variability, and Trends in Isopycnal Heave: **M V Chung**, G Gebbie, P J Huybers

**PC24C-1800** *POSTER* Rapid water parcel transport across the Kuroshio Extension in the lower thermocline from dissolved oxygen measurements by Seaglider and BGC Argo floats: **S Hosoda**, R Inoue, M Nonaka, H Sasaki, Y Sasai, M Hirano Ms

**PC24C-1801** *POSTER* Variations in Water Properties and Current Velocity at Station K2 in the Western Subarctic North Pacific in Relation to Wind Changes: **M Wakita**, A Nagano, T Fujiki

**PC24C-1802** *POSTER* A pressure-invariant Neutral Density variable for the World's Oceans: **Y Lang**, G Stanley, T J McDougall, P M Barker

**PC24C-1803** *POSTER* The Low-frequency Variability of the Ocean Heat Content in the SCS and Its Related Extreme Subsurface Warm Events: **D Wang**, F Xiao, L Zeng, Q Y Liu, W Zhou

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## PHYSICAL-BIOLOGICAL INTERACTIONS

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### PI24A Poster Hall C-D

**Tuesday 1600h**

### From Physics to Predators: Environmental Forcing of Marine Ecosystem Hot Spots II Posters (*joint with ME, PL*)

**Moderators:** **Jerome Fiechter**, University of California Santa Cruz; **Steven Bograd**, NOAA/NMFS; **James Fahlbusch**, Stanford University

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**PI24A-2489** *POSTER* Methods of Inferring Turbulence Intensity and its Relation to Zooplankton Distributions using Underwater Glider Data: **T Howatt**, T Ross, S Waterman

**PI24A-2490** *POSTER* Linking predator and prey through ocean dynamics in a submarine canyon: **K A A Giddings**, J S Trickey, D A Demer, P J S Franks, S Baumann-Pickering

**PI24A-2492** *POSTER* Combining in-situ and satellite derived proxies of temperature and chlorophyll with microplankton analyses to determine differences at the base of the food web in the northern and southern Benguela Upwelling Systems: **R Koppelman**, B Martin, T Lamont, D Louw, T Moloto, K Heinatz, S Thomalla

**PI24A-2493** *POSTER* Plankton trophic interactions and their spatial variation in the Northern Humboldt Upwelling System: **I Kriest**, M Hill Cruz, Y J S Jose, I Frenger

**PI24A-2494** *POSTER* Winter preconditioning, mesoscale variability and geomorphology influence the distribution and abundance of krill in the California Current System: **M A Cimino**, J A Santora, I D Schroeder, M Jacox, E L Hazen, S J Bograd

**PI24A-2495** *POSTER* Utilizing satellite observations and a simple plankton model to predict zooplankton hotspots in the California Current Ecosystem: **M Messié**, D M Northcott, J Fiechter, J A Santora, F Chavez

**PI24A-2496** *POSTER* Krill hotspots in a moving ocean: environmental drivers and ecosystem significance: **J Fiechter**, J A Santora, F Chavez, D M Northcott, M Messié

**PI24A-2498** *POSTER* Northern elephant seals target meso- to submesoscale temperature features as measured by tags in three dimensions: **T R Keates**, D P Costa

**PI24A-2499** *POSTER* Development of integrated habitat suitability index models of skipjack tuna, Pacific saury and neon flying squid in the western North Pacific: **H Igarashi**, Y Ishikawa, Y Tanaka, S I Saitoh, H Abe

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## PHYSICAL OCEANOGRAPHY: MESOSCALE AND LARGER

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### **PL24A Poster Hall C-D**

**Tuesday 1600h**

**Ocean Salinity in Support of Scientific and Environmental Demands III Posters** (*joint with CP, PS*)

**Moderators:** **Nadya Vinogradova Shiffer**, NASA Headquarters; **Audrey Hasson**, NASA Jet Propulsion Laboratory

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**PL24A-2634** *POSTER* 3D Dynamics of the Freshwater Lenses Produced by Convective Rain and River Runoff in the Near-Surface Layer of the Ocean: **A Soloviev**, B Vanderplow, C Dean

**PL24A-2635** *POSTER* A Gridded Upper-Ocean Stratification Dataset for the Northwestern Tropical Atlantic based on Satellite Observations and a Statistical Model: Feasibility and Potential: **D Nguyen Duc**, G R Foltz, K Balaguru

**PL24A-2636** *POSTER* A Joint ESA-NASA Platform for Satellite Salinity Validation and Exploitation: **S Guimbard**, R Nicolas, R Sabia, S Herlédan, Z El Khoury Hanna, F Collard, S Mecklenburg, H Laur, T Lee, J J Schanze, N Vinogradova Shiffer

**PL24A-2637** *POSTER* An Assessment Of The SMOS Sea Surface Salinity Variability In The Arctic Ocean.: **A Supply**, J Boutin, J L Vergely, N Kolodziejczyk, G P Reverdin, A Tarasenko

**PL24A-2638** *POSTER* Coastal Upwelling Limitation by Salinity-Driven Onshore Geostrophic Flow in the Northern Gulf of Guinea: **G Alory**, D P Loemba, C DA-Allada, S Djakoure, I Dadou, J Jouanno

**PL24A-2639** *POSTER* Eastern Mediterranean salinity variation observed by SMAP: **S Grodsky**, N Reul, A Bentamy, D C Vandemark, S Guimbard

**PL24A-2640** *POSTER* Evaluation and Intercomparison of SMOS, Aquarius and SMAP Sea Surface Salinity Products in the Arctic Ocean: **S Fournier**, T Lee, W Tang, M Steele, E Olmedo

**PL24A-2641** *POSTER* Global-Scale Salinities from the 1870s – Comparisons with Present-Day Values: **S A Cunningham**, W J Gould

**PL24A-2642** *POSTER* High Resolution Rain Impact Model (HiRIM): An Oceanic Salinity Stratification Study: **M M Jacob**, K Drushka, W Asher, W L Jones

**PL24A-2643** *POSTER* Impact of Satellite Sea Surface Salinity Observations on ENSO Predictions from the New NASA/GMAO Seasonal Forecast System: **E C Hackert**, R M Kovach, A Molod, A Borovikov, J Marshak

**PL24A-2644** *POSTER* Impacts of the hydrological cycle on the subpolar North Atlantic upper ocean salinity variability: **J R Reagan**, D Seidov, T Boyer

**PL24A-2645** *POSTER* Improved SMAP Salinity Retrievals in Coastal Areas and Near the Sea-Ice Edge: **A Manaster**, T Meissner, F J Wentz, J Vazquez, S Grodsky, H Y Kao

**PL24A-2646** *POSTER* In-situ observation of sea surface salinity; recent laboratory and field results from an extremely small, low-mass, wave-following discus buoy platform: **J P Boyle**, J Mosia

**PL24A-2647** *POSTER* Influence of Non-seasonal River Discharge on the Ocean: **H A Chandanpurkar**, X Wang, T Lee, H Zhang, I G Fenty, S Fournier, I Fukumori, D Menemenlis, J T Reager II, O Wang, J R Worden

**PL24A-2648** *POSTER* Interannual to Decadal Prediction of Terrestrial Precipitation Using Sea Surface Salinity as a Precursor - Case Study of Australian Rainfall: **S Rathore**, N L Bindoff, C Ummenhofer, H E Phillips, M Feng

**PL24A-2650** *POSTER* The influence of sea surface salinity information when reconstructing ocean currents. The case of freshwater fluxes in the Arctic Sea.: **M Umbert**, E Olmedo, C González-Haro, J Martínez, J Isern-Fontanet, A Turiel

**PL24A-2651** *POSTER* Satellite Sea-surface Density and Spiciness: **E J Bayler**, J R Reagan, T Boyer

**PL24A-2652** *POSTER* Sea surface salinity subfootprint variability from a global high-resolution model: **F Bingham**, J M D'Addezio, S Fournier, H Zhang, K Ulf sax

**PL24A-2653** *POSTER* Seasonal and Interannual variability of freshwater transport at River-Dominated Ocean Margin Systems from 1992-2018: Results from the global ECCO2 with real-time discharge: **Y Feng**, D Menemenlis, H Xue, Z LIU

**PL24A-2654** *POSTER* Seasonal Variability of the Subtropical Front in the Tasman Sea Inferred Using Remotely Sensed Sea Surface Temperature and Salinity Data: **R Smith**, R Vennell

**PL24A-2655** *POSTER* Spreading and vertical structure of the Persian Gulf and Red Sea outflows in the northwestern Indian Ocean: **C de Marez**, P L'Hegaret, M Morvan, T Meunier, X J Carton

**PL24A-2656** *POSTER* Variations in Salinity over the Global Ocean from Multiple Gridded Argo Products: **C Liu**, X Liang, D P Chambers, R M Ponte

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## PL24B Poster Hall C-D

**Tuesday 1600h**

### Atlantic Ocean Variability in a Changing Climate: Observations, Modeling, and Theories IV Posters (*joint with AI, HE*)

**Moderators: Rohit Ghosh**, Max Planck Institute for Meteorology; **Feili Li**, Duke University

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**PL24B-2657** *POSTER* Sensitivity of the Multi-decadal AMOC Variability to High-Latitude Convection Across GCMs and Physical Box Model: **R Maor**, I Marinov, B Asadieh, S Molodtsov

**PL24B-2658** *POSTER* Overturning and Water Mass Property Changes in the North Atlantic from the 1990s to the 2010s: **Y Fu**, F Li, C Wang, J Karstensen, N P Holliday

**PL24B-2659** *POSTER* Wind-driven ocean circulation changes cause the largest freshening event for 120 years in the eastern subpolar North Atlantic: **N P Holliday**, M Bersch, B Berx, L Chafik, H Hátún, W E Johns, S A Josey, K M H Larsen, M Oltmanns, G P Reverdin, H T Rossby, V Thierry, H Valdimarsson

**PL24B-2660** *POSTER* Deep Convection Variability in the Labrador Sea Versus the Irminger Sea over the last Decades as Simulated with an Eddy-Rich Ocean General Circulation Model: **S Ruehs**, K Getzlaff, C W Boning, E Oliver, P G Myers, A Biastoch

**PL24B-2661** *POSTER* Variability of Labrador Sea Water in the central subpolar North Atlantic from the late 1990s to the late 2010s: **D Kieke**, I Yashayaev, R Steinfeldt, M Rhein, B A Klein

**PL24B-2662** *POSTER* AMOC: Densification and Overturning in the Iceland Basin and Irminger Sea: **T Petit**, S Lozier, S A Josey, S A Cunningham

**PL24B-2663** *POSTER* Transport and Evolution of the East Reykjanes Ridge Current: **G Koman**, A Houk, W E Johns

**PL24B-2664** *POSTER* North Atlantic gyres change in two distinct phases under global warming: **R Ghosh**, D Putrasahan, J Jungclaus, K Lohmann, J Bader, E Manzini, D Matei, R Hand, P Keil

**PL24B-2665** *POSTER* Local winds drive interannual variability of the Gulf Stream North Wall: Results from an adjoint sensitivity analysis: **C Wolfe**, X Liu

**PL24B-2666** *POSTER* The Consequences for the North American Shelf of a Shift Toward a Heightened Gulf Stream Presence at the Tail of the Grand Banks: **A Goncalves Neto**, J A Langan, J B Palter

**PL24B-2667** *POSTER* Attribution of Predictive Skill Along the Atlantic Water Pathway: **N Keenlyside**, H R Langehaug, F Counillon, E Maroon, D Matei, J Mignot, P Ortega, S Yang, Y Wang, S G Yeager

**PL24B-2668** *POSTER* THE SANTANDER ATLANTIC TIME-SERIES A deep water observatory representative of the Eastern North Atlantic.: **A Lavin**, R Somavilla, C González-Pola, C Rodriguez Sra, E Tel Dr, D Cano, A Viloría, E Marcos, R Graña, I Reguera

**PL24B-2669** *POSTER* The impact of upwelling and river outflow on the mesoscale variability in the Caribbean Sea: **C G van der Boog**, J Pietrzak, H Dijkstra, C A Katsman

**PL24B-2670** *POSTER* Using network theory to understand changes in the Atlantic Ocean transport patterns: **D Wichmann**, E van Sebille

**PL24B-2671** *POSTER* The Deep Western Boundary Current from Greenland to Argentina - One Century Long Observations Reveal Multidecadal Variability: **S Schmidtke**, J Fischer

**PL24B-2672** *POSTER* Unraveling the Submesoscale Nature of the Subtropical Mode Water in the South Atlantic: **O T Sato**, M Dottori

**PL24B-2673** *POSTER* Discriminating the Dynamical Nature of the Multi-Scale SSH Variability Over Three Transatlantic Sections at 11°S, 24°S and 34.5°S: **P S Polito**, C S Meinen

**PL24B-2674** *POSTER* Direct measurements of upper ocean horizontal velocity and vertical shear in the tropical North Atlantic: **R C Perez**, G R Foltz, R Lumpkin, C Schmid, J A Christophersen

**PL24B-2675** *POSTER* The horizontal circulation of annual wave energy in the tropical Atlantic Ocean as identified by a seamless analysis scheme: **Q Song**, H Aiki

**PL24C-2677** *POSTER* The response of mesoscale variability in the northern Agulhas Current and its sources to changing the wind forcing in a forced ocean simulation: **L Braby**, B Backeberg, M Krug, C J C Reason

**PL24C-2679** *POSTER* Regional Patterns of Ocean Kinetic Energy and its Change During 1980-2018: **N Serra**, F Bryan, D Stammer

**PL24C-2680** *POSTER* Diagnosing the Fluxes and Distributions of Mesoscale Energy, Enstrophy and Other Variances using Structure Functions: **B Pearson**, J L Pearson, B Fox-Kemper

**PL24C-2681** *POSTER* Modeling mesoscale eddy energy transport in idealized experiments: **I Grooms**, M Watwood

**PL24C-2682** *POSTER* Understanding Regional Trends in Southern Ocean Eddy Kinetic Energy: **Y Zhang**, D P Chambers, X Liang

**PL24C-2683** *POSTER* The 3D structure of Mesoscale Eddies in the Northwestern Indian Ocean, and their impact on Submesoscale Dynamics: **C de Marez**, T Meunier, P L'Hegaret, X J Carton, M Morvan

**PL24C-2684** *POSTER* The overturning circulation in the Arabian Gulf: **M AlShehhi**, H Song, M Salim, J M Campin, H Ghedira, J C Marshall

**PL24C-2685** *POSTER* Three-Dimensional Signature of the Red Sea Eddies and Eddy-Induced Transport: **P Zhan**, G Krokos, D Guo, I Hoteit

**PL24C-2686** *POSTER* Evolution of a Coastal Mesoscale Cyclonic Eddy along the Western Bay of Bengal using HF Radar Observations: **S Mandal**, S Sil, A Gangopadhyay, B K Jena

**PL24C-2688** *POSTER* Intraseasonal oscillation of deep currents influenced by mesoscale eddies in the Kuroshio Extension Region: **L Yansong**

**PL24C-2690** *POSTER* Interannual variability of observed surface divergent meridional eddy heat fluxes in the Kuroshio Extension and Gulf Stream: **Y Guo**, S Bishop

**PL24C-2691** *POSTER* Kuroshio Water Intrusion into the South China Sea Inferred from the Lagrangian Coherent Structure: **W Zhuang**, Z Zheng

**PL24C-2692** *POSTER* Seasonal variation of energetics in deep water of the East/Japan Sea: **Y Kang**, Y K Cho

**PL24C-2694** *POSTER* Deep Ocean Storm in the Northeastern Equatorial Pacific from Observation and Simulation: **K N Lee**, J H Park, C Jeon

**PL24C-2695** *POSTER* Modeling of 33-day Barotropic Rossby Wave Radiation in the North Pacific: **T Durland**, J T Farrar

## PL24C Poster Hall C-D

Tuesday 1600h

### Ocean Transport and Eddy Energy V Posters

(joint with OM, PS)

**Moderators:** **Alistair Adcroft**, Princeton University; **Ian Grooms**, University of Colorado at Boulder

**PL24C-2676** *POSTER* The Mann Eddy: formation and interaction with the North Atlantic Current: **A Solodoch**, A Stewart, J C McWilliams

**PL24C-2696 POSTER** Estimating the Surface Current of 17-day and 33-day Tropical Instability Waves in the Equatorial Pacific with Altimeter Observations: **M Wang**, X shang-Ping, Y DU, S S Shen

**PL24C-2697 POSTER** Observations of long-distance radiation of barotropic Rossby waves from an unstable current system: **J T Farrar**, T S Durland

## PHYSICAL OCEANOGRAPHY: MESOSCALE AND SMALLER

### PS24A Poster Hall C-D

**Tuesday 1600h**

#### **Multidisciplinary Upscale Effects of Mesoscale, Submesoscale, and Smaller-Scale Physical Processes I Posters (joint with OM, PI, PL)**

**Moderators: Paulo Calil; Nobuhiro Suzuki**, Brown University

**PS24A-2852 POSTER** *Mixed-layer Instabilities within the Loop Current Eddy, Poseidon (2016-2017)*: **J G Correa Perez**, E Pallas Sanz, M C Tenreiro, J Sheinbaum, P Perez-Brunius, R Durazo

**PS24A-2853 POSTER** On the Role of Turbulent Mixing Produced by Vertical Shear Between the Brazil Current and the Intermediate Western Boundary Current: **C Lazaneo**, D C Napolitano, I C Da Silveira, A Tandon, D G MacDonald, R A Ávila, P Calil

**PS24A-2854 POSTER** The Barreirinhas Eddies Conundrum : Why Are These Super Anticyclones at Low Latitudes so Long-lived?: **I T Simoes-Sousa**, I C Da Silveira, A Tandon, G Flierl, R P Martins

**PS24A-2855 POSTER** The impact of 3D non-hydrostatic phenomena on the upper ocean physical and biogeochemical state: **C N Hill**, A Ramadhan, J M Campin, O Jahn, G L Wagner

**PS24A-2856 POSTER** Trade Wind Reversal Impacts on the Lee Dynamics of Oahu: **V Futch**, P J Flament

**PS24A-2857 POSTER** Turbulence properties of a deep sea hydrothermal plume: field and model comparisons: **I G Adams**, D Di Iorio

### PS24B Poster Hall C-D

**Tuesday 1600h**

#### **Turbulent Mixing of the Ocean Surface Boundary Layer: Observation, Simulation, and Parameterization IV Posters (joint with AI, OB, OM)**

**Moderators: Ivan Savelyev**, US Naval Research Laboratory; **Gregory Wagner**, MIT

**PS24B-2858 POSTER** Submesoscale Processes and Mixing in a Semi-Enclosed Basin: The Case of the Baltic Sea: **E Chrysagi**, P L Holtermann, L Umlauf, H Burchard

**PS24B-2859 POSTER** Submesoscale velocity gradients observed by Saildrones: **C B Rocha**, J T Farrar, A Shcherbina, E A D'Asaro, H H King

**PS24B-2860 POSTER** The impact of climate change on submesoscale instabilities in the surface ocean: **K Feloy**, D B Whitt, G J Brett, K J Richards

**PS24B-2861 POSTER** Observations of submesoscale turbulence using geostationary satellite images: **J Choi**, Y G Park, W Kim

**PS24B-2863 POSTER** Mapping upper ocean horizontal velocity shear from drifting buoys and floats: **R Lumpkin**

**PS24B-2864 POSTER** Vertical velocity asymmetries in high resolution simulations of the surface Ekman layer: **K Duquette**, L P Nadeau, P Bourgault, D Straub, B Tremblay

**PS24B-2865 POSTER** Observations of high-frequency internal wave near submesoscale fronts: **M Shao**, B K Haus, B Lund, R Carrasco, J Horstmann, J M Klymak, D Bogucki, T Özgökmen

**PS24B-2867 POSTER** Modelling the Depth of the Ocean Surface Boundary in the OSMOSIS Scheme.: **A L Grant**, S Belcher, A J G Nurser

**PS24B-2868 POSTER** A New Langmuir Turbulence Parameterization for Ocean Models Developed Under Realistic Forcing Conditions.: **M Solano**, Y Fan, P Martin

**PS24B-2869 POSTER** A Reynolds-averaged methodology resolving Langmuir cells in the coastal ocean: **A Tejada-Martinez**, A Perez, S Zeidi, C Akan, J Penaloza Gutierrez, M Boufadel

**PS24B-2870 POSTER** Numerical simulations of the turbulent flow over an ocean wavefield: **D Conroy**, J W Rottman, L Brandt

**PS24B-2871 POSTER** Ocean surface boundary layer response to abruptly changing wind direction: **X WANG**, T Kukulka

**PS24C Poster Hall C-D**

**Tuesday 1600h**

**Vertical Transport: Pathways from the Surface to the Interior III Posters** (*joint with OB, PI, PL*)

**Moderators:** **Amala Mahadevan**, Woods Hole Oceanographic Institution; **Julius Busecke**, Princeton University

**PS24C-2872** *POSTER* 3D dynamics from uCTD observations of an anticyclonic eddy in the Alboran Sea: **E Cutolo**, A Pascual, S Ruiz, S Johnston, M Freilich, A Mahadevan

**PS24C-2873** *POSTER* Impact of Submesoscale in the Primary Production of a Loop Current Eddy: **S N Estrada-Allis**, J Sheinbaum, J M Azevedo Correia de Souza

**PS24C-2874** *POSTER* Scale-dependency of vertical velocities in the Alboran Sea through high-resolution simulations and glider observations: **M Garcia-Jove**, B Mourre, P F J Lermusiaux, N Zarokanellos, A Santana, J Hernandez-Lasheras, P Haley Jr, C Mirabito, E Cutolo, D L Rudnick, J Allen, J Tintore

**PS24C-2875** *POSTER* Upwelling, Instability, and Mixing West of the Galápagos Archipelago from Glider Observations: **J Jakoboski**, B Owens, R E Todd, K B Karnauskas, D L Rudnick

**PS24C-2876** *POSTER* The processes of surface warming hiatus in the East/Japan Sea: **Y Jeong**, Y H Jo, D Kim

**PS24C-2878** *POSTER* Processes controlling the seasonal evolution of Mixed Layers in the Red Sea: **G Krokos**, I Cerovecki, P Zhan, I Hoteit, M C Hendershott

**PS24C-2879** *POSTER* Four-Dimensional Lagrangian Analysis, Numerics, and Estimation Systems (4D-LANES): **P F J Lermusiaux**, P Haley Jr, C Mirabito, M Doshi, K Girkis, W H Ali, C Kulkarni, B Mourre

**PS24C-2880** *POSTER* Kinematic Properties in the Alboran Sea: Results from Surface and Subsurface Drifter Observations: **D R Tarry**, S Essink, A Pascual, S Ruiz, P Pierre-Marie, T Özgökmen, A Mahadevan, E A D'Asaro, L R Centurioni

**PS24C-2881** *POSTER* Multi-layer drifter deployments in the Western Mediterranean Sea: **I Rypina**, L J Pratt, T R Getscher, A Mahadevan, B Hodges

**PS24C-2882** *POSTER* Vertical Transport Between the Mixed Layer and the Thermocline at Submesoscale Fronts: **V K Verma**, H T Pham, S Sarkar

**PS24C-2883** *POSTER* Climatic variability of spice injection in the upper ocean of the southeastern Pacific during 1992-2016.: **Y Wang**, Y Luo

**PS24C-2884** *POSTER* Using HF-Radar to Quantify the Spatial and Temporal Scales of Mixing During the Fall Transition in the Mid Atlantic Bight: **C Watkins**, J Wilkin, S M Glenn

**PS24C-2886** *POSTER* Reconstructing the dynamics of the Almeria-Oran front using 3 glider vehicles over the spring period of 2018: **N Zarokanellos**, J Allen, D L Rudnick, B Mourre, M Garcia-Jove, S Ruiz, A Pascual, J Tintore

**SOCIAL-OCEAN SCIENCE INTERACTIONS AND SDGS**

**SI24A Poster Hall C-D**

**Tuesday 1600h**

**Responses of Fishing Communities to Ocean Change Posters** (*joint with ME, PC*)

**Moderators:** **James Smith**, University of Santa Cruz and NOAA SWFSC; **Desiree Tommasi**, University of California Santa Cruz and NOAA SWFSC

**SI24A-1568** *POSTER* Effects of Sea Surface Temperature on Tuna Catch of Purse Seine in Eastern Pacific Ocean: **H J Mediodia**, I J Noy, V Kahui

**SI24A-1569** *POSTER* Linking dynamic species distributions and fishing fleets: **J Smith**, D Tommasi, J Sweeney

**SI24A-1570** *POSTER* Adaptation of Small Scale Fisheries to Environmental Change: A Meta-analysis of Community Response: **K Green**, T Frawley, J Selgrath, W Oestreich, E Mansfield, J R Urteaga, S S Swanson, F N Santana, S Green, J Naggea, L Crowder

**SI24A-1571** *POSTER* Commercial Salmon Fishing Behavior on the West Coast During Changing Ocean Conditions: **S Walker**, C Speir, A Mamula

**SI24A-1572** *POSTER* Which factors affect landings in the California Current sardine fishery?: **J Sweeney**, B Muhling, D Tommasi, J Smith

**SI24A-1573** *POSTER* The Response of Fishermen to Climate Change in a Connected Market: **C Sguotti**, E Schuch, T Y Lai, X Cormon, S Gokhale, C Möllmann, A Richter

**SI24A-1575** *POSTER* Fisheries Connectivity Networks to Measure the Adaptive Capacity of Small-Scale Fisheries in Baja, Mexico: **K Nomura**, J Samhuri, S Dundas, A Giron, A F Johnson, J R Watson

**SI24A-1576** *POSTER* Vulnerabilities and Responses of Northeast U. S. Fishing Communities to Shifting Species: **K Mills**, M A Alexander, A Allyn, S Eayrs, B S Franklin, T W Hartley, B K Kennedy, J Labaree, A J Pershing, J D Scott

**SI24A-1577** *POSTER* Policy and environmental constraints on the profitability of the U.S. albacore surface fleet: **D Tommasi**, J Sweeney, B Muhling, J Smith

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## SI24B Poster Hall C-D

Tuesday 1600h

### Sustaining Ocean Services in Socioecological Systems: Challenges, Opportunities, and Perspectives in Resilience Science and Natural Resource Management II Posters (*joint with CP, PI*)

**Moderators:** **Donna Schroeder**, Bureau of Ocean Energy Management Camarillo; **Guillermo Auad**, Department of the Interior Washington DC

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**SI24B-1578** *POSTER* Using results from avian tracking studies to inform assessments of offshore wind energy areas in the US Atlantic: **P Loring**, C S Spiegel

**SI24B-1580** *POSTER* An Arctic Marine Ecosystem Conceptual Model: The Interactions Matrix Revealed: **J Holding**, K Brown, U S Bhatt, H Huntington, C M Duarte

**SI24B-1581** *POSTER* Climate Change Considerations are Fundamental to Sustainable Management of Deep-Seabed Ecosystems: **L A Levin**, C L Wei, D C Dunn, D Amon, O Ashford, W W L Cheung, A Colaço, E Escobar-Briones, H H Davies, J Drazen, K Ismail, D Jones, D Johnson, J T Le, F Lejzerowicz, S Mitarai, T Morato, S Mulsow, P V Snelgrove, A K Sweetman, M Yasuhara

**SI24B-1584** *POSTER* Latitudinal variation in long-term stability and resilience of North American rocky intertidal communities: **J Burnaford**, C M Miner, P Raimondi, S G Whitaker, L Gilbane

**SI24B-1585** *POSTER* Assessing Risk to Ecosystem Services Production Along an Urbanization Gradient in Coastal South Florida: **G Cook**, C R Kelble

**SI24B-1586** *POSTER* Challenges and Opportunities in Preparedness for Climate and Ocean Extreme through Societal Participation: Contextualizing Data Science for Ocean and Marine Sustainability.: **K Chaudhari**, D W Schubotz, B Balino

**SI24B-1587** *POSTER* Developing and improving Sustainable Ocean Governance Through Interdisciplinary Research Linkages And Interactions Between Ocean and Human Systems.: **B Narkhede**, R C Bhattacharjee

**SI24B-1588** *POSTER* Evaluating the Maritime Response to Puerto Rico Following Hurricane Maria using AIS Data: **S D Meyers**, M E Luther

**SI24B-1589** *POSTER* Optimizing Dynamic Ocean Management Strategies to Reduce Whale Ship Strikes: **A P Hausner**, B Abrahms, J Samhoury, E L Hazen

**SI24B-1590** *POSTER* Role of Educational Institutions in Marine Conservation and Action Oriented Learning in Marine Science through Massive Online Open Course-MOOC in Global South.: **V Yavalkar**, S Patil

**SI24B-1591** *POSTER* SCOAPE (SATELLITE COASTAL AND OCEANIC ATMOSPHERIC POLLUTION EXPERIMENT) CRUISE, MAY 2019: GULF OF MEXICO AIR QUALITY NEAR OIL AND NATURAL GAS OPERATIONS: **A M Thompson**, D E Kollonige, R M Stauffer, L N Lamsal, N A Krotkov, H Ensz, G Auad, N Abuhassan, A Kotsakis, R Swap

**SI24B-1593** *POSTER* Sustainable managing of coral reefs and underwater pinnacles for marine tourism in the Gulf of Thailand: **T Yeemin**, M Sutthacheep, S Pongsakun, W Klinthong, C Chamchoy

**SI24B-1594** *POSTER* The Marine Geochemistry and Genesis of ferromanganese nodules from Central Indian Ocean Basin (CIOB): **S K Barman**

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## SI24C Poster Hall C-D

Tuesday 1600h

### The Benefits of Ecosystem-Based Management for Sustainable Oceans and Blue Growth Posters

**Moderators:** **M Robin Anderson**, Fisheries and Oceans Canada; **Margaret Brady**, NOAA

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**SI24C-1595** *POSTER* Understanding motivations and economic contributions of coral reef related recreation and coral reef health to Hawai'i by divers and snorkelers: **N Olsen**, S Lovell, M Weijerman

**SI24C-1596** *POSTER* Indicator selection to support EBM: the Florida Keys National Marine Sanctuary Integrated Ecosystem Assessment: **K Montenero**, C R Kelble

**SI24C-1597** *POSTER* Chesapeake Bay Program: Scientific Assessment and Reporting to Support Ecosystem-Based Management: **B M Sullivan**, C Wu, M Corey, A Wagner, L Abowd

**SI24C-1598** *POSTER* Chesapeake Bay Program: Connecting Water Quality with Ecosystem Restoration and Conservation: **A Wagner**, M Corey, B M Sullivan, L Abowd, C Wu

**SI24C-1599** *POSTER* Chesapeake Bay Program: Adaptive Decision-Making to Improve Management Outcomes: **L Abowd**, M Corey, B M Sullivan, A Wagner, C Wu

**SI24C-1602** *POSTER* EBM Approach For Climate Change Adaptation Policies In Brazil: **L R Goncalves**, L Y Xavier, M G Sá, M R Corrêa, A Turra Sr

**SI24C-1604** *POSTER* Comparing Conceptual Model Simulations for Ecosystem-Based Management: **C R Kelble**, N Trifonova, J Reum, R Wildermuth, C Harvey, S Lucey

**SI24C-1605** *POSTER* Does the European Union Achieve Comprehensive Blue Growth? Progress of EU Coastal States in the Baltic and North Sea, and the Atlantic Ocean against Sustainable Development Goal 14: **W Rickels**, J Schmidt, P Grasse

**SI24C-1606** *POSTER* Adapting the California Current Integrated Ecosystem Assessment products to respond to rapidly evolving environmental conditions: a stress test for Ecosystem Based Fishery Management.: **N Garfield III**, C Harvey, A W Leising, N J Mantua, E L Hazen, G Williams

**SI24C-1607** *POSTER* Implementing Ecosystem-based management in the United States: **M M Brady**, K E Osgood, J Link, K Abrams, W Morrison

**SI24C-1608** *POSTER* Does Science-Based Management Through Indicators Improve Ecosystem Conditions?: **R Martin**, C R Kelble