



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
Day		Time		
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 An omitted abstract ID number in the presentation order indicates that the abstract has been withdrawn by the presenter from the session.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.

Thursday A.M.

AIR-SEA INTERACTIONS

AI41A 14A, Mezzanine

Thursday 0800h

Fluxes and Physical Processes Near the Air-Sea Interface: Observations and Modeling (Cosponsored by the AMS Committee on Air-Sea Interaction) III (joint with CP, IS, PS)

Moderators: **Damien Josset**, US Naval Research Laboratory; **David Ortiz-Suslow**, Naval Postgraduate School; **Helen Czerski**, University College London

- 0800h **AI41A-01** Meridional contrasts of the Southern Ocean mixed layer in response to summer forcing: **M du Plessis**, S Swart, A F Thompson, P M S Monteiro, L C Biddle, S A Nicholson
- 0815h **AI41A-02** Laboratory measurements of ocean surface drag in extreme wind and wave conditions: **B K Haus**, M Curcic
- 0830h **AI41A-03** Noble Gas Fluxes Reveal Links Between Air-sea Gas Exchange, Bubbles, and the Structure of the Air-sea Interface at High Wind Speeds: **R H Stanley**, L Kinjo, A W Smith, H R Alt, C F N Krevanko, D Aldrett, E B Kopp, B K Haus
- 0845h **AI41A-04** Wave-generated Turbulence in the Coastal Ocean During Passage of a Tropical Cyclone: **A Gargett**, D K Savidge
- 0900h **AI41A-05** Modeling whitecaps on global scale: **A Raman**, A Darmenov
- 0915h **AI41A-06** A two-layer model of whitecap spectral reflectance: **R J Frouin**, B Fougne, J Tan
- 0930h **AI41A-07** Spectral Energy Budget Analysis in the Frequency Domain: **P Martin**, B K Arbic, A M Hogg, A E Kiss, J Blundell
- 0945h **AI41A-08** Salt-induced convection in warm wakes: **R Caldeira**, C Azevedo, C Camargo, J Alves

COASTAL AND ESTUARINE PROCESSES

CP41A 9, UL

Thursday 0800h

Interdisciplinary Approaches for Understanding Coastal Ocean Carbon and Biogeochemical Processes and Budgets II (joint with OB, OC, OM)

Moderators: **Yoana Voynova**, Helmholtz-Zentrum Geesthacht; **Holger Brix**, Helmholtz-Zentrum Geesthacht

- 0800h **CP41A-01** Challenges in estimating primary production in estuaries: **C Hu**, H Briceno, R Najjar, D C English, S Chen, J Cannizzaro, M Herrmann, J Absten
- 0815h **CP41A-02** Phenology and Magnitude of Primary Production in the Eastern Bering Sea: **J Nielsen**, C W Mordy, M W Lomas, L B Eisner, P J Staben
- 0830h **CP41A-03** Norwegian Sea Net Community Production Calculated Using O₂ And CO₂ Optodes on a Seaglider: **L Possenti**, J Kaiser, M Humphreys, I Skjelvan, S Loucaides, M C Mowlem, L Fernand
- 0845h **CP41A-04** The role of particle-triggered calcium carbonate precipitation in the coastal ocean: A significant factor to seawater carbonate chemistry?: **A Z Wang**, E Wurgaft, M C Ringham, S Song, T Dellapenna, J H Churchill, T Rivlin, B Lazar
- 0900h **CP41A-05** RECOMMENDATIONS FOR CAPTURING SURFACE AND SUBSURFACE CARBONATE SYSTEM VARIABILITY IN U.S. COASTAL AND CORAL ECOSYSTEMS: **S N Chu**, A J Sutton, B R Hales, D Manzello, J B Mickett, J M Morell, J A Newton, S Noakes, M D Ohman, V C Parker, C Sabine, J Salisbury II, U Send, D C Vandemark, T A Warren
- 0915h **CP41A-06** Carbon Flux and Blue Carbon Potential of Seagrass Ecosystems in the Anthropocene: **R C Zimmerman**, M H Long, D Burdige, V J Hill, B Collister, K A Islam, J Li, M Coffey, B A Schaeffer
- 0930h **CP41A-07** Seasonal Productivity Estimates from the Diurnal Oxygen Budget in Two Subtropical Estuaries: **R Najjar**, M Herrmann, H Briceno, C Hu, J Absten, B Boyer, D C English
- 0945h **CP41A-08** Harnessing autonomous technologies and discrete water sampling to investigate the role of high pCO₂ river inputs on coastal acidification: A case study from the Belize River and Mesoamerican Barrier Reef.: **S Cryer**, P Brown, F Carvalho, T Wood, G Andrews, S Rosado, A Young, R Lampitt, S Loucaides, R Sanders, C Evans

CP41B 8, UL

Thursday 0800h

The Inner Shelf: Impacts of Interconnected Processes II (joint with IS, OM, PS)

Moderators: Amy Waterhouse, Scripps Institution of Oceanography; Jacqueline McSweeney, Oregon State University

- 0800h **CP41B-01** Overtides at the Inner Shelf Offshore of a Cape During Extreme Atmospheric Forcing: **J F Paniagua-Arroyave**, A Valle-Levinson, S M Parra, P N Adams
- 0815h **CP41B-02** High Resolution Internal Wave Tracking via Remote Sensing with Comparison to In-Situ Measurements: **A J Simpson**, M C Haller, J McSweeney, J A Lerczak
- 0830h **CP41B-03** Vorticity Dynamics near a Rocky Headland on the Inner-Shelf: **M Kovatch**, F Feddersen, L Lenain, J Thomson
- 0845h **CP41B-04** Atmospheric forcing controls cross-shelf exchange and bay-scale circulation in Hudson Bay: **I A Dmitrenko**, S Kirillov, J V Lukovich, D Babb, D Volkov, A Komarov, J K Ehn, K Sydor, D G Barber
- 0900h **CP41B-05** Subtidal to Infra-Gravity Variability of Turbulent Stresses in a Mid-Latitude Stratified Inner-Shelf: **A Palóczy**, J A MacKinnon, A F Waterhouse
- 0915h **CP41B-06** Circulation and thermal structure on the northern Omani shelf: **G Bruss**, D Al-Yahyai, W Gallardo, M Claereboudt
- 0930h **CP41B-07** What Drives the Inter-Annual Variability in the Advective Cooling of the Oregon Inner Shelf?: **E P Lemagie**, A Kirincich, S J Lentz
- 0945h **CP41B-08** Observations of a Remarkably Consistent New Form of Coastal Upwelling on the New England Inner Shelf: **S J Lentz**

CHEMICAL TRACERS, ORGANIC MATTER AND TRACE ELEMENTS

CT41A 5B, UL

Thursday 0800h

Controls on Trace Metal Biogeochemistry and Physicochemical Speciation in Seawater III (joint with CP, OB)

Moderators: Emily Estes, University of Delaware; Veronique Oldham, University of Rhode Island

- 0800h **CT41A-01** Incorporation of hydroxamate siderophore and associated Fe into marine particles in natural seawater: **P Lin**, C Xu, W Xing, L Sun, P H Santschi
- 0830h **CT41A-03** Identification of a putative Zn metallochaperone (ZCRP-A) in multiple marine diatoms and characterization in *Phaeodactylum tricornutum*: **M M Kellogg**, M A Saito, M Moosburner, T Coale, A E Allen, M R McIlvin, D M Moran

- 0845h **CT41A-04** Metal uptake and sequestration within Southern Ocean diatom frustules: A significant sink for zinc and iron: **E Castorina**, E D Ingall, P L Morton, M F M McDaniel, L A Brewer
- 0900h **CT41A-05** Influence of volcanic ash on growth and morphology of coccolithophore algae: **G Faucher**, K Wuttig, C Bettoni, E Erba, F Koch, S Trimborn, C Völkner, L Hoffmann
- 0915h **CT41A-06** The Fecal Iron Pump: Animals and Marine Particles Fe Stoichiometry: **P K Le Mézo**, E Galbraith
- 0930h **CT41A-07** Trace Element Dispersal by an Antarctic Subglacial Sediment Plume: **K Forsch**, R M Sherrell, L Hahn-Woernle, M Vernet, K Barbeau
- 0945h **CT41A-08** Importance of the Colloidal Pool for Trace Metal Cycling in Deep-Sea Sediments: **S Paul**, K Schmidt, A Koschinsky

HIGH LATITUDE ENVIRONMENTS

HE41A 11B, UL

Thursday 0800h

Ecosystem Structure and Processes in a Changing Arctic I (*joint with ME, OB, PI*)

Moderators: **Lee Cooper**, University of Maryland Center for Environmental Science; **Jacqueline Grebmeier**, University of Maryland Center for Environmental Science Chesapeake; **Seth Danielson**, UAF

- 0800h **HE41A-01** Impacts of unprecedented loss of sea ice on multiple trophic levels and ecosystem structure in the Chukchi and Beaufort Seas: **E D Goldstein**, K Cieciel, D Cooper, J Duffy-Anderson, L B Eisner, E Farley, D Kimmel, K Kuletz, C A Ladd, E Logerwell, C W Mordy, A H Spear, P J Stabeno
- 0815h **HE41A-02** Flow Patterns over the Chukchi Continental Shelf : 2010-2019: **P J Stabeno**, S W Bell, R M McCabe, C A Ladd, K R Wood
- 0830h **HE41A-03** Beaufort Sea Upwelling and Corresponding Shifts in the Eukaryotic Community: **S V Einarsson**, D Chappell, K Powell, K E Lowry, R S Pickart, C J Ashjian
- 0845h **HE41A-04** Higher Phytoplankton Biomass Drives Recent Increases in Arctic Production: **K R Arrigo**, K Lewis, G van Dijken
- 0900h **HE41A-05** Arctic zooplankton and the Lightscape of Fear: Behavioural Responses to Light Buffer Diel and Seasonal Changes in Visual Predation Risk: **L Hobbs**, N Banas, J Cohen, Ø Varpe

- 0915h **HE41A-06** Morphological traits of zooplankton reveal ecological patterns along ice melt dynamics in the Arctic: **L Vilgrain**, J O Irsson, S D Ayata, M Picheral, M Babin, F Maps
- 0930h **HE41A-07** Year-round Microbial Community Dynamics in the Arctic Ocean (Fram Strait; LTER Hausgarten): **M Wietz**, K Metfies, W J von Appen, S Torres-Valdes, M Cardozo, C Bienhold, A Boetius
- 0945h **HE41A-08** Utilization and Importance of Sea Ice Derived Organic Carbon to Benthic Communities of the Chukchi Sea: Evidence from Highly Branched Isoprenoid Biomarkers: **C Wegner**, T A Brown, C Lalande, J M Grebmeier, L W Cooper

HE41B 1B, UL

Thursday 0800h

Mechanisms for Variability, Circulation, and Transformation of Water Masses in the Southern Ocean I (*joint with OB, PL, PS*)

Moderators: **Edward Doddridge**, Massachusetts Institute of Technology; **Annie Foppert**, CSIRO Marine and Atmospheric Research Hobart

- 0800h **HE41B-01** Genesis of the Antarctic Slope Current in West Antarctica: **A F Thompson**, X Ruan, K Speer, L M Schulze Chretien, K J Heywood, R Oelerich
- 0815h **HE41B-02** What drives the Antarctic Slope Current?: **A Stewart**, A Klocker, D Menemenlis
- 0830h **HE41B-03** Does Topographic Form Stress Impede the Antarctic Slope Current?: **Y BAI**, Y Wang, A Stewart
- 0845h **HE41B-04** Topographic control of mixing in a dense boundary current in the Orkney Passage: **S Legg**, E P Abrahamsen, C E Buckingham, A Forryan, E Frajka-Williams, S Griffies, A Naveira Garabato, K W Nicholls, K L Polzin, J B Sallee, C Spingys, L Wittle
- 0900h **HE41B-05** Mesoscale Eddy Transport Across the Polar Front: a Model-Observation Comparison: **C O Dufour**, A A Gauthier, A R Gray, S Griffies
- 0915h **HE41B-06** Internal Waves, Turbulence and Mixing in the Antarctic Circumpolar Current: **A M Thurnherr**, Y Firing, T K Chereskin, S Waterman
- 0930h **HE41B-07** The regulation of sea ice thickness by double-diffusive processes in the Ross Gyre: **Y Bebieva**, K Speer
- 0945h **HE41B-08** A Major Shift in Southern Ocean Climate System: **A Haumann**, S Bartusek, T Bracegirdle, M P Meredith, J L Sarmiento

OCEAN OBSERVATORIES, INSTRUMENTATION AND SENSING TECHNOLOGIES

IS41A 11A, UL

Thursday 0800h

Innovation in in Situ Instrumentation, Sensors, and Observation Networks to Advance High-Resolution Data Collection and Biogeochemical Insight in Marine Ecosystems I (*joint with CP, NC, OB*)

Moderators: Amy Mueller, Northeastern University;
Brian Glazer, University of Hawaii at Manoa

- 0800h **IS41A-01** *Field Evaluation of a Low-cost Multi-gas Biogeochemical Sensor in the Subpolar North Atlantic:* **S Traylor**, B Colson, W Pardis, H I Palevsky, A Michel, D Nicholson
- 0815h **IS41A-02** Using Mass Spectrometry to Measure Dissolved Gases in Sandy Sediment Porewater: **E Chua**, T Short, A M Cardenas-Valencia, W Savidge, C K Algar, R W Fulweiler
- 0830h **IS41A-03** Solutions Out of Thin Air: Assessment of a Simplified Atmospheric Calibration of Oxygen Optodes for Spray Gliders: **K Conner**, B Jones, M Blum, Y Takeshita
- 0845h **IS41A-04** The development and validation of a profiling glider deep ISFET-based pH sensor for high resolution observations of coastal and ocean acidification: **G Saba**, E Wright-Fairbanks, B Chen, W J Cai, A Barnard, C P Jones, C W Branham, K Wang, T N Miles
- 0900h **IS41A-05** Performance of the Deep-Sea-Durafet pH sensor on a Spray Glider in the Central California Current System: **Y Takeshita**, K S Johnson, B Jones, T Maughan, D L Rudnick, P M Walz
- 0915h **IS41A-06** Developing an In-situ Sensor for High-frequency Measurements of Dissolved Inorganic Carbon, fCO₂, and pH to Enable Fine-scale Studies of Seawater Carbonate Chemistry: **M C Ringham**, A Z Wang, F N Sonnichsen, S Lerner, K Morkeski
- 0930h **IS41A-07** Aquatic Eddy Covariance Measurements from an Ocean Observatory: Oxygen and Heat Transport near the Seafloor of a Hypoxic Fjord: **C E Reimers**, R D Sanders, R K Dewey, R Noel
- 0945h **IS41A-08** Distributed Temperature Sensing (DTS) Application to Oceanography: **G Sinnett**, K A Davis, A J Lucas, S N Giddings, E C Reid, M Harvey

MARINE ECOLOGY AND BIODIVERSITY

ME41A 7A, UL

Thursday 0800h

Advances in the Ecology, Behavior, Physiology, or Conservation of Marine Top Predators I (*joint with PI*)

Moderators: Daniel Palacios, Oregon State University;
Mark Baumgartner, Woods Hole Oceanographic Institution

- 0800h **ME41A-01** Combining Accelerometers and Magnetometers to Better Estimate Energy Expenditure in Albatross Flight: **M Connors**, R Orben, S A Shaffer, L H Thorne
- 0815h **ME41A-02** Conflicting Physiological Challenges between Thermoregulation and Diving Energetics in Elephant Seals: **A Favilla**, M M Horning, D P Costa
- 0830h **ME41A-03** Scalloped hammerhead shark swimming performance and thermoregulation strategies during deep dives into cold water: evidence of a marine mammal-like dive reflex?: **M Royer**, C Meyer, K Maloney, E Cardona, K Whittingham, C Blandino, G Silva, K Holland
- 0845h **ME41A-04** Bringing Ecology, Behavior, and Physiology Together to Inform Conservation Efforts for a Declining Fur Seal Population: **E McHuron**, N Pelland, K Luxa, K Holsman, R Ream, T Zeppelin, J Sterling
- 0900h **ME41A-05** Foraging habitat associations of North Atlantic right whales (*Eubalaena glacialis*) measured using ocean gliders: **D Durette-Morin**, K T A Davies, H Johnson, M Baumgartner, R F Davis, A Comeau, F G Whoriskey, C T Taggart
- 0915h **ME41A-06** Trends in tuna carbon isotopes suggest global changes in pelagic phytoplankton communities: **A Lorrain**, H Pethybridge, N Cassar, A Receveur, V Allain, N Bodin, L Bopp, A Choy, L Duffy, B Fry, N Goñi, B S Graham, A J Hobday, J A Logan, F Ménard, C Menkes, R J Olson, D Pagendam, D Point, A T Revill, C J Somes, J Young
- 0930h **ME41A-07** Dynamic fine-scale sea-icescape shapes adult emperor penguin foraging habitat in East Antarctica: **S Jenouvrier**, S Labrousse, A D Fraser, M Sumner, T Tamura, D Pinaud, B Wienecke, R Kirkwood, Y Ropert-Coudert, R Resinger, I Jonsen, R Porter-Smith, C Barbraud, C A Bost, R Ji
- 0945h **ME41A-08** Mesoscale Dynamics of Blue and Fin Whales and Antarctic Krill off East Antarctica: **A Sirovic**, M Wood, J D Warren, K Stafford, B Miller

MICROBIOLOGY AND MOLECULAR ECOLOGY

MM41A 2, UL

Thursday 0800h

Coupling Meta'omics and Biochemical Measurements to Understand Trophic Strategies or Physiological Adaptations Among Marine Organisms (Micro to Macro) I

Moderators: Brook Nunn, University of Washington; Emma Timmins-Schiffman

- 0800h **MM41A-01** All in a day's work: feeding, digestion and carbon transformation by microzooplankton: **T A Rynearson**, E T Rubin, A L Montalbano, S Menden-Deuer
- 0815h **MM41A-02** Proteome Expression in a Marine Photoheterotroph under Carbon and Nitrogen Limitation: **G Gallagher**, J Waldbauer
- 0830h **MM41A-03** The Impact of Phagotrophic Protists at Hot Spots of Primary Production in the Deep Sea: **S K Hu**, E Herrera, A R Smith, M Pachiadaki, V P Edgcomb, J A Huber
- 0845h **MM41A-04** Evolution of the microbial community within a westward propagating coastal filament in the California Current Ecosystem: **S R Rivera**, D Petras, B M Stephens, A Rabines, A Allen, L Aluwihare
- 0900h **MM41A-05** Probing the cellular pathways governing aerobic anoxygenic phototrophy: **G Vargas**, M Coleman
- 0915h **MM41A-06** Subantarctic phytoplankton communities encounter climate change: Incubations to track the molecular underpinnings of the measured physiology: **E Timmins-Schiffman**, B L Nunn, M J Ellwood, R F Strzepek, P W Boyd
- 0930h **MM41A-07** Diatom community transcriptomic response to nitrate and silicon limitation: **M A Maniscalco**, M A Brzezinski, H McNair, J W Krause, K Thamtrakoln
- 0945h **MM41A-08** Differential activity of coexisting *Prochlorococcus* ecotypes: **A W Thompson**, K Kouba

OCEAN BIOLOGY AND BIOGEOCHEMISTRY

OB41A 4, UL

Thursday 0800h

Effect of Warming on Biological, Ecological, and Biogeochemical Ocean Processes: Responses from Organismal to Ecosystem Scales I (*joint with CP, ME, PC*)

Moderators: Susanne Menden-Deuer, University of Rhode Island; Bingzhang Chen, University of Strathclyde

- 0800h **OB41A-01** Effects of plankton temperature dependence in ocean biogeochemical models: **F Prowe**, I Kriest
- 0815h **OB41A-02** Trait variance leads to the spurious higher temperature sensitivity of heterotrophs than autotrophs: **B Chen**, D Montagnes, Q Wang, S Menden-Deuer
- 0830h **OB41A-03** Hitting a moving target: Microbial evolutionary strategies in a warming ocean: **N M Levine**, N G Walworth, E Zakem, J P Dunne, S Collins
- 0845h **OB41A-04** Do mixotrophs modulate a positive climate feedback loop? Modeling the evolutionary response of mixotrophs to future ocean conditions: **H Moeller**, M Lepori-Bui, C Laufkötter
- 0900h **OB41A-05** Warming promotes bacterial and phytoplankton growth and grazing rates in a Mediterranean coastal lagoon: an *in situ* mesocosm experiment: **J Courboulès**, B Mostajir, S Mas, F Vidussi
- 0915h **OB41A-06** Coastal bacterioplankton communities show resilience to climate change under varying nutrient regimes: **F Deans**, C S Law, S Morales, F Baltar
- 0930h **OB41A-07** Response of bacterial metabolic activity to cyclonic and anticyclonic eddies: **J Xu**, C Hu, X Li
- 0945h **OB41A-08** Biological response of phytoplankton community structure after warm-water anomalies conditions and its implications on Mexican Pacific coastal waters.: **M C Ruiz-de la Torre**, J Villegas-Mendoza, L Mendez-González, J León-López, B López-Calderón

OB41B 3, UL**Thursday 0800h****Linking the Biology, Geochemistry, and Circulation of the Gulf of Mexico I** (*joint with CT, CP, MM*)

Moderators: **Alan Shiller**, University of Southern Mississippi; **Juan Carlos Herguera**, CICESE Center for Scientific Research and Higher Education

- 0800h **OB41B-01** Novel insights into deep ventilation of the Gulf of Mexico and its linkage to the Labrador Sea: **R M W Amon**, J Ochoa, J Candela, J Sheinbaum, J C Herguera, S Z Herzka, P Perez-Brunius, J M M Hernandez-Ayon, V F Camacho-Ibar, R M Key
- 0815h **OB41B-02** Slope currents in the Northeastern Gulf of Mexico: **C Hancock**, K Speer, J M Azevedo Correia de Souza, S L Morey
- 0830h **OB41B-03** Gliders observations of mesoscale and submesoscale flow structures in the Gulf of Mexico: over three years of continuous monitoring.: **E Pallas Sanz**, M C Tenreiro, T Meunier, E Portela, E R Sosa Gutiérrez, M J Ulloa, J Ochoa, A Ruiz Angulo, S Cusí, E Aranda, A Villicaña
- 0845h **OB41B-04** Increase of Caribbean Water Incursion into the Gulf of Mexico: The Need in Biochemistry Studies of a New Characterization of the Upper Waters of the central Gulf of México: **J M Martin Hernandez-Ayon**, J Delgado, G Cervantes, S Tanahara, I Montes, J Sudre, S Z Herzka, V F Camacho-Ibar
- 0900h **OB41B-05** Blue Hole Biogeochemistry in the Greater Gulf of Mexico Context: **A Stancil**, M Tallefert, J Culter, E R Hall, N Patin, F J Stewart, C G Smith, M Quinan, J S Beckler
- 0915h **OB41B-06** Does Submarine Groundwater Discharge Play a Role in Seasonal Hypoxia in the Mississippi Sound?: **A Moody**, A M Shiller, T Pierce, A Almario
- 0930h **OB41B-07** How Did Hurricane Harvey Affect Oxygen and Nutrient Dynamics over the Texas Shelf?: **P Chapman**, S F DiMarco, A H Knap, H Potter
- 0945h **OB41B-08** Physical and biogeochemical controls on O₂, CO₂ and pH in the northern Gulf of Mexico: A synthesis of field research between 2006 and 2018: **W J Cai**

OCEAN DATA MANAGEMENT**OD41A 5A, UL****Thursday 0800h****Artificial Intelligence Systems for Advancing the Study of Aquatic Ecosystems I** (*joint with IS, ME, PI*)

Moderators: **Moritz Schmid**, Oregon State University; **Eric Orenstein**, Scripps Institution of Oceanography

- 0800h **OD41A-01** Machine Learning Techniques Applied to Flow Cytometry and Flow Imaging Data to Assess Phytoplankton Community Dynamics in a Florida Coastal Lagoon and Estuary: **M McFarland**, D Hanisak, N Stockley, S Schreiber, R Brewton, J M Sullivan
- 0815h **OD41A-02** Towards a Balanced-Labeled-Dataset of Planktons for a Better In-Situ Taxa Identification: **O S Kiese**, A Saad, A Stahl Prof
- 0830h **OD41A-03** The relationship between water column stratification, pelagic habitat heterogeneity and plankton diversity in a neritic, river-dominated environment: **C Briseño-Avena**, A T Greer, L Chiaverano, W M Graham, R Cowen
- 0845h **OD41A-04** Automated biometric analysis of early fish life stages via instance segmentation using Mask-RCNN: **B Kvæstad**, E Davies, B H Hansen
- 0900h **OD41A-05** Applying computer vision and machine learning tools to improve the diagnostic accuracy of in-situ and digital image-based assessments of coral health and disease: **J Burns**, G Weyenberg, T Mandel
- 0915h **OD41A-06** Automated Observation and Prediction of Fine-Scale Spatial Distributions of Benthic Fauna: **N Boutros**, J Monk, O Pizarro, S B Williams, N Barrett
- 0930h **OD41A-07** Moving Towards Machine Learning for the Analysis of Deep-Sea Imagery Collected by Autonomous Underwater Vehicle.: **A Powell**, M E Clarke, M D Dawkins, B Richards, A Hoogs
- 0945h **OD41A-08** Image-Based Mapping and Semantic Segmentation for Depiction of Coral Reef Community Structure: **M Yuval**, I Alonso, G Eyal, D Tchernov, A C Murillo, Y Loya, T Treibitz

OCEAN MODELING

OM41A Poster Hall C-D; eLightning Theater

Thursday 0800h

Lagrangian Methods for Understanding Ocean Circulation and Tracer Transport I eLightning

(joint with CT, PL)

Moderators: **Isabella Rosso**, SIO; **Veronica Tamsitt**, University of New South Wales; **Erik van Sebille**, Universiteit Utrecht

OM41A-01 *eLIGHTNING* A New Vortex-in-cell Method for Solving the Shallow Water Equations on the Sphere: **I Lakkis**

OM41A-02 *eLIGHTNING* On Clustering of Floating Tracers: **P S Berloff**, E Ryzhov, K Koshel, D Stepanov

OM41A-03 *eLIGHTNING* Antarctic Biological Invasions Driven by Stokes Drift and Mesoscale Variability: **A K Morrison**, C I Fraser, A M Hogg, E van Sebille, E Macaya Dr

OM41A-04 *eLIGHTNING* Estimating Lagrangian Travel Times from Satellite Tracked Drifters: **M O'Malley**, A Sykulski, R Laso-Jadart

OM41A-05 *eLIGHTNING* Separating Background, Mesoscale and Diffusive Flow from Lagrangian Drifter Trajectories: **S Oscroft**, A Sykulski, J J Early, M P Lelong

OM41A-06 *eLIGHTNING* Investigating Turbulence regimes in the Meso- to Submesoscale-transition from Surface Drifter observations in the Benguela upwelling region: **J Draeger-Dietel**, D Balwada, A Griesel

OM41A-07 *eLIGHTNING* Estimates of Upper Ocean Wind Power Input Using In-Situ Wind Measurements from Surface Drifters in the Iceland Basin: **T Klenz**, H L Simmons, L R Centurioni, J M Lilly, J J Early

OM41A-08 *eLIGHTNING* Fate of debris from aquaculture sites around Korea: **S Seo**, Y G Park

OM41A-09 *eLIGHTNING* Lagrangian-Eulerian mapping in CSOMIO coupled ocean-oil-sediment-biology model: **D S Dukhovskoy**, R Laxenaire, S L Morey, E P Chassignet, X Chen

OM41A-10 *eLIGHTNING* Anthropogenic hydrocarbons and plastic debris modelling in the Mediterranean Sea: **G Coppini**, S Liubartseva, R Lecci, S Cretí, N Pinardi

OM41A-11 *eLIGHTNING* Diffusive Versus Nondiffusive Properties of Coherent Ocean Eddies: **W Zhang**, C Wolfe, R Abernathy

OM41A-12 *eLIGHTNING* Impact zones around Norwegian fish farms from release of bath treatment chemicals: **P N Sævik**, O B Samuelsen, A L Agnalt, M S Myksvoll

PAST, PRESENT AND FUTURE CLIMATE

PC41A 1A, UL

Thursday 0800h

Ecosystem Forecasts and Projections I (joint with CP, ME, OC)

Moderators: **Elizabeth Drenkard**, Woods Hole Oceanographic Inst.; **Enrique Curchitser**, Rutgers University New Brunswick

0800h **PC41A-01** Atlantic Salmon Migration Timing Determined by Ocean Temperature Phenology: **K Mills**, J Kocik, O Mulvey-McFerron, J Valliere, A Thomas, M Barajas

0815h **PC41A-02** Assessing the Reliability of Species Distribution Model Projections in the Face of Climate and Ecosystem Regime Shifts: Small Pelagic Fishes in the California Current Ecosystem: **R G Asch**, K Chan, J Sobolewska

0830h **PC41A-03** Dynamically downscaled climate projections for the California Current Upwelling System: **M Pozo Buil**, M Jacox, J Fiechter, M A Alexander

0845h **PC41A-04** Importance of simulating coastal biogeochemical processes for projections of ocean acidification on the Bering Sea shelf: **D Pilcher**, J N Cross, A J Hermann, S Mogen, K Kearney, W Cheng

0900h **PC41A-05** Recent satellite-measured SST trends and 21st century climate model SST projections in North American east coast Large Marine Ecosystems: **A Thomas**, Q Carey, M A Alexander, N Record

0915h **PC41A-06** Climate change effects on shelf sea's connectivity and oceanographic provinces: **C G Mayorga Adame**, J Harle, J T Holt, Y Artioli, S Wakelin

0930h **PC41A-07** Identifying coral refugia from observationally weighted climate model ensembles: **P Kalmus**, E L Kang, A J Braverman, M M Gierach

0945h **PC41A-08** Effects of Sea Level Rise on the Seasonal Hypoxia of Chesapeake Bay: **M A M Friedrichs**, P St-Laurent, M Li, W Ni

PHYSICAL-BIOLOGICAL INTERACTIONS

PI41A 7B, UL

Thursday 0800h

Ecological Fluid Mechanics: Interactions Among Organisms and Their Fluid Environment I (*joint with ME*)

Moderators: Donald Webster, Brad Gemmell,
University of South Florida Tampa

- 0800h **PI41A-01** The Planktonic Streaking Hypothesis: **B Inman**, P J S Franks
- 0815h **PI41A-02** Dynamic Unsteady Sinking Behavior in Marine Diatoms: Rapid Responses to Changing Nutrient Conditions: **K Du Clos**, L Karp-Boss, T A Villareal, B Gemmell
- 0830h **PI41A-03** Transitory planktonic attachments enhance nutrient transport to the host and symbiont cells: **E Kanso**, R M Lopes, J R Strickler, J Dabiri, J Costello
- 0845h **PI41A-04** Shaping the Coral Diffusive Boundary Layer by Cilia Beating: **C Pacherres**, S Ahmerkamp, G M Schmidt, C Richter, M Holtappels
- 0900h **PI41A-05** Swept Away: Fine-scale Water Motion Encountered by Microscopic Animals on Surfaces in Turbulent Ambient Flow, Hydrodynamic Forces, and Adhesion: **M A R Koehl**, T H Gonzalinez
- 0915h **PI41A-06** Larval Wobble: A Novel Vertical Swimming Behavior in Larvae of the Common Slipper Shell, *Crepidula fornicata*: **L S Mullineaux**, M H DiBenedetto, A Pires, E Anderson, K R Helfrich
- 0930h **PI41A-07** Vigorous self-locomotion drives efficient mate finding in planktonic copepods swimming in turbulence: **M Holzner**, F G Michalec, I Fouxon, S Souissi
- 0945h **PI41A-08** Copepod behavior responses around internal waves: **M Mohaghar**, S Jung, K A Haas, D R Webster

PHYSICAL OCEANOGRAPHY: MESOSCALE AND LARGER

PL41A 15A, Mezzanine

Thursday 0800h

Atlantic Ocean Variability in a Changing Climate: Observations, Modeling, and Theories I (*joint with AI, HE, PC*)

Moderators: Feili Li, Duke University; **Rohit Ghosh**, Max Planck Institute for Meteorology

- 0800h **PL41A-01** A century of AMOC variability reconstructed from observations using the Bernoulli inverse: **N Fraser**, S A Cunningham
- 0815h **PL41A-02** *Changing Sea Ice in the Nordic Seas and its Effect on Water Mass Transformation*: **M F Jensen**, K H Nisancioglu, M A Spall, K Våge
- 0830h **PL41A-03** East-west connectivity in the subpolar gyre: impact on Labrador Sea Water properties: **Y Kostov**, M J Messias, H Johnson, H Mercier, D P Marshall
- 0845h **PL41A-04** Spreading Patterns of the Labrador Sea Water and Nordic Seas Overflow Water in the North Atlantic: **X Xu**, E Chassignet
- 0900h **PL41A-05** Reconciling the role of the Labrador Sea overturning circulation in OSNAP and climate models: **M Menary**, L C Jackson, S Lozier
- 0915h **PL41A-06** Attribution of Subtropical Versus Subpolar Atlantic Overturning Variability: **H Johnson**, Y Kostov, D P Marshall
- 0930h **PL41A-07** Exploring the Information Potency of OSNAP Mooring Data in the Arctic and Subpolar Gyre State Estimate: **H Pillar**, A T Nguyen, P Heimbach, A Bigdeli, N Loose, V Ocaña, S Lozier, F Li
- 0945h **PL41A-08** Mechanisms of low-frequency variability in North Atlantic Ocean heat transport: **D Oldenburg**, R Jnglin Wills, K Armour, L Thompson

PL41B 14B, Mezzanine

Thursday 0800h

Climate Variability, Ocean Dynamics, and Biogeochemical Cycles in the Indian Ocean I (*joint with AI, OB, PC*)

Moderators: Lei Zhang, University of Colorado Boulder; **Weiqing Han**, University of Colorado Boulder

- 0800h **PL41B-01** Air-sea flux and SST Variability associated with Atmospheric Rivers in the Southeast Indian Ocean: **T Shinoda**, W Han, X Feng
- 0815h **PL41B-02** Impact of local atmospheric forcing on the evolution of the South Indian Ocean heat content during and after the 2014-2016 El Niño event: **D Volkov**, M Rudko, S K Lee
- 0845h **PL41B-04** Emergence of an equatorial mode of climate variability in the Indian Ocean: **P N DiNezio**, M Puy, K Thirumalai, J E Tierney, F F Jin
- 0900h **PL41B-05** Ocean Factors of Summer Monsoon Onset in Bay of Bengal: **X Xie**
- 0915h **PL41B-06** Oceanic impacts on detour of Madden-Julian Oscillation near the Maritime Continent: **L Zhou**, R G Murtugudde
- 0930h **PL41B-07** A Lagrangian view of the Red Sea Overflow Water journey from the Gulf of Aden to the Arabian Sea: **V V Menezes**
- 0945h **PL41B-08** Shelf-break upwelling and productivity over the North Kenya Banks: the importance of large-scale ocean dynamics: **Z Jacobs**, F Jebri, D E Raitsos, K Popova, M A Srokosz, S C Painter, F Nencioli, M J Roberts, J Kamau, M Palmer, J U Wihgott

PHYSICAL OCEANOGRAPHY: MESOSCALE AND SMALLER

PS41A 15B, Mezzanine

Thursday 0800h

Interactions Between Internal Waves and Mesoscale/Submesoscale Currents: Physics and Impacts on Ocean Energetics and Mixing I (*joint with OM, PL*)

Moderators: **Caitlin Whalen**, Applied Physics Laboratory University of Washington; **Cesar Rocha**, Scripps Institution of Oceanography

- 0800h **PS41A-01** Energy Sources and Supply Rates of the Internal Wave Continuum: **M H Alford**, A Le Boyer
- 0815h **PS41A-02** internal tides in the Solomon Sea in contrasted ENSO conditions: **M L Tchilibou**, L Gourdeau, F Lyard, R Morrow, A Koch-Larrouy, D Allain, B Djath
- 0830h **PS41A-03** The interaction of mode-1 internal tides with a geostrophic current: **Y He**, K G Lamb
- 0845h **PS41A-04** On the Modulation of Kinetic Energy Transfer by Internal Tides.: **J Lesommer**, A O Ajayi, L Brodeau, B K Arbic, G Serazin, A Albert, P Klein

- 0915h **PS41A-06** The Influence of Near-Inertial Wave-Mesoscale Turbulence Interactions on Passive Tracer Fluxes: **J G Fitzgerald**, J Callies
- 0930h **PS41A-07** Pathways from Internal-Wave Driven Processes to Vortical Mode and Submesoscale Dispersion: **M A Sundermeyer**, M P Lelong, E L Kunze, J J Early, C Wortham
- 0945h **PS41A-08** The impact of internal waves on small-scale geostrophic motions: Implications for submesoscale lateral dispersion: **M P Lelong**, G Hernandez-Duenas, L M Smith

SOCIAL-OCEAN SCIENCE INTERACTIONS AND SDGS

SI41A 10, UL

Thursday 0800h

Ocean Visions: Finding Ocean-Based Solutions to Society's Greatest Global Challenges I (*joint with ED, IS, PC*)

Moderators: **Charles Greene**, Cornell University; **Emanuele Di Lorenzo**, Georgia Institute of Technology Main Campus

- 0800h **SI41A-01** The Green New Deal: Algal Solutions to Reversing Climate Change and Ending World Hunger: **C H Greene**
- 0815h **SI41A-02** Reversing Climate Change within 100 years: The scale to restore natural CO₂ levels: **M E Capron**, A de Ramon N'Yeurt, J K Kim, C Pichach, M D Chambers, R Fuhrman, A T Jones, J R Stewart, R B Blaylock, M A Hasan, D Piper, G Harris, M T Sherman, S C James
- 0830h **SI41A-03** CO₂ Removal from Oceans through Sargassum Macroalgae: **A Myers**, M Filippi, Z Moscicki
- 0845h **SI41A-04** On the potential of Blue Carbon Ecosystems for climate change mitigation and adaptation: **A Mashayek**, E Ellison, N Reynard
- 0900h **SI41A-05** Warming world, changing ocean: adaptation and mitigation for resilient marine systems: **A Meyer**, R Trebilco, J Melbourne-Thomas, P C McCormack, A Fleming, J McDonald, H Fogarty, E Ogier, J McGee, S P Corney, K Norris, N Bax, K Anderson, C Novaglio, K Nash, K Alexander, G Pecl, A J Hobday
- 0915h **SI41A-06** Opportunities for Abiotic, Ocean-based Carbon Dioxide Management: **G H Rau**
- 0930h **SI41A-07** An Analysis of the need of creating microalgae live-culture library for future global research: **E Wang**

0945h **SI41A-08** REMOVING CO₂ AND CONTRASTING SEAWATER ACIDIFICATION: SCENARIOS OF OCEAN LIMING IN THE MEDITERRANEAN SEA: **S Caserini**, F Campo, D Pagano, B Barreto, T Lovato, M Butenschon, S Masina, M Grosso

AIR-SEA INTERACTIONS

AI42A 14A, Mezzanine

Thursday 1030h

Fluxes and Physical Processes Near the Air-Sea Interface: Observations and Modeling (Cospponsored by the AMS Committee on Air-Sea Interaction) IV (*joint with CP, IS, PS*)

Moderators: **Melanie Fewings**, Oregon State University; **Nathan Laxague**, Columbia University of New York City

- 1030h **AI42A-01** Dropsonde Observations Reveal Effect of SST on Low-level Atmospheric Stability Under an Atmospheric River: **A Cobb**, A Michaelis, S Iacobellis, M Ralph
- 1045h **AI42A-02** Simultaneous Remote Measurement of Skin and Sub-skin Temperatures: **A T Jessup**
- 1100h **AI42A-03** The Impact of Wind Gusts on the Ocean Thermal Skin Layer: **C J Zappa**, N Laxague, S E Brumer, S Anderson
- 1115h **AI42A-04** The Marine-Air-Sea-Flux System (MASFlux) for Air-Sea Interaction Studies: **Q Wang**, R Lind, R Yamaguchi, J A Kalogiros, C Zuniga, A E Sweeney
- 1130h **AI42A-05** Observations of the Near Surface Vertical Current Shear: **J Horstmann**, R Carrasco, M Stresser, M Cysewski, B Lund, C Guigand, T Özgökmen, B K Haus, G Novelli, J Lodise, E H Ryan, M Rebozo, H Dai
- 1145h **AI42A-06** Shipboard Marine X-band Radar Current and Bathymetry Retrieval in the Louisiana Bight: **B Lund**, B K Haus, H C Graber, J Horstmann, R Carrasco, G Novelli, C Guigand, S Mehta, N Laxague, T Ozgokmen
- 1200h **AI42A-07** Diurnal Cycle of Air-Sea Interactions in Frontal Regions: **M F Cronin**, D Zhang
- 1215h **AI42A-08** New Technique for Quantifying Air-Sea Interactions Using High Resolution SAR Imagery: **S R Ballard**, H C Graber, N Laxague, R Romeiser, M J Caruso, J MacMahan, D D Flagg

COASTAL AND ESTUARINE PROCESSES

CP42A 8, UL

Thursday 1030h

Close-Range Remote Sensing of Nearshore Processes and Coastal Morphology I (*joint with IS, PS*)

Moderators: **Brittany Bruder**, US Army Corps of Engineers - Engineer Res. and Dev Ctr.; **Shawn Harrison**, Cherokee Nation Technology Solutions, contracted to U.S. Geological Survey

- 1030h **CP42A-01** 3-D Observation of Water Surface in the Nearshore using Stereo Camera: **J Yoo**, M Kim, D Son, S Shin
- 1045h **CP42A-02** Optical nearshore wave gauging with deep neural networks: **D Buscombe**, S R Harrison, J A Warrick
- 1100h **CP42A-03** Swell and Wind Wave Inversion Using a Single Very High Frequency (VHF) Radar: **Z Alattabi**, D Cahil, G Voulgaris
- 1115h **CP42A-04** Remote sensing of transient rip currents and surface waves in a laboratory wave basin: **C M Baker**, M Moulton, M L Palmsten, K L Brodie, N Kumar
- 1130h **CP42A-05** The Use of Wave-Averaged Movies for Measuring Nearshore Circulation: **R A Holman**, G Wilson, S Greydanus
- 1145h **CP42A-06** Deriving Sub-Surface Flows from Two-Dimensional Power Spectral Density Techniques: **E Johnson**, I B Savelyev, P J Rusello, P A Hwang
- 1200h **CP42A-07** Evaluating remotely sensed alongshore currents with in situ observations and model simulations: **S M Trimble**, A Penko, M Palmsten
- 1215h **CP42A-08** Rapid wave model-based nearshore bathymetry inversion with UAS measurements: **J H Lee**, H Ghorbanidehno, M Farthing, T Hesser, M P Geheran, K L Brodie, B L Bruder, E F Darve, P K Kitanidis

CHEMICAL TRACERS, ORGANIC MATTER AND TRACE ELEMENTS

CT42A 5B, UL

Thursday 1030h

Biogeochemical cycles in oxygen minimum zones: mechanisms, drivers, and change I (*joint with OB*)

Moderators: David Janssen, University of Bern; Thomas Weber, University of Washington Seattle Campus

- 1030h **CT42A-01** Constraints on marine ODZ iodine cycling and implications for paleoredox proxy applications: **D Hardisty**, R Moriyasu, Z Evans, T J Horner, A R Babbin, S D Wankel, J W Moffett, S Nielsen
- 1045h **CT42A-02** Sediments in Low Oxygen Environments as a Potential Source of Iron to the Water Column: The Role of Iron Redox Cycling and Sediment Resuspension: **D Burdige**, T Komada
- 1100h **CT42A-03** Organic Complexation of Iron in the Eastern Tropical North Pacific Oxygen Deficient Zone: **L Moore**, M I Heller, J W Moffett, R M Bundy
- 1115h **CT42A-04** Particle size and abundance measurements suggest decreased particle attenuation and disaggregation in the Eastern Tropical North Pacific Oxygen Minimum Zone: **J A Cram**, J Pretty, C A Fuchsman, R M Lekanoff, J Neibauer, M E Duffy, R G Keil, A M P McDonnell
- 1130h **CT42A-05** High-resolution marine flux measurements, *in situ* respiration rate determinations, and meta-omic surveys of sinking particulate matter in the ocean's three primary oxygen deficient zones: **M E Duffy**, J Neibauer, C A Fuchsman, K K Homolka, E Bush, J Adams, W Ruef, A Devol, R G Keil
- 1145h **CT42A-06** Determining Rates of Hybrid Archaeal N₂O Production in the Eastern Tropical North Pacific Ocean with Intramolecular Isotope Measurements: **C L Kelly**, N M Travis, P A Baya, C Frey, B B Ward, K L Casciotti
- 1200h **CT42A-07** Small scale oxygen heterogeneity enhances nitrogen cycling and nitrous oxide production in oxygen minimum zones: **D Bianchi**, S Yang
- 1215h **CT42A-08** Spatio-temporal heterogeneity in marine nitrous oxide emissions of the South Pacific: **A R Babbin**, E Boles

HIGH LATITUDE ENVIRONMENTS

HE42A 11B, UL

Thursday 1030h

Ecosystem Structure and Processes in a Changing Arctic II (*joint with ME, OB, PI*)

Moderators: Jacqueline Grebmeier, University of Maryland Center for Environmental Science Chesapeake; **Lee Cooper**, University of Maryland Center for Environmental Science; **Seth Danielson**, UAF

- 1030h **HE42A-01** Rates and pathways of sediment organic-matter processing across the northern Bering and southern Chukchi Sea shelf: **S M Hardy**, A Thurber, B R Jones, S Seabrook
- 1045h **HE42A-02** *Sediment oxygen consumption in the Pacific Arctic: Impacts of increased temperature and food supply on the benthic community and individual dominant organisms* : **C Goethel**, J M Grebmeier, L Cooper, C Rowe
- 1100h **HE42A-03** Benthic community response to seasonal variations in the pelagic-benthic coupling: In situ high-resolution studies of the benthic oxygen uptake in Arctic deep-sea sediments: **F Wenzhofer**, E M Nothig, A Purser, M Bergmann, T Soltwedel
- 1115h **HE42A-04** Environmental change in the Arctic is reflected in the decadal trend of stable nitrogen isotopes in harp seal teeth over the past 60 years.: **C De La Vega**, R Jeffreys, J Kershaw, D J Yurkowski, A K Frie, S Ferguson, G B Stenson, M Biuw, S Smout, C Mahaffey
- 1130h **HE42A-05** Multifaceted biodiversity distributions in the Eastern Bering Sea over the recent decades, 1990-2018: **I D Alabia**, J García Molinos, S I Saitoh, T Hirata, T Hirawake, F J Mueter
- 1145h **HE42A-06** A new framework for interregional comparisons of biogeochemical models across the Arctic Marginal Ice Zone: **F Grosse**, N Banas, T M Sloughter, M Porter, J Zhang, I Ellingsen
- 1200h **HE42A-07** Acceleration of the hydrological cycle with climate warming disrupts marine ecosystem function in the Arctic Ocean: **W Fu**, J K Moore, F Primeau, J T Randerson
- 1215h **HE42A-08** Winners and Losers in a Warming Arctic: Potential Habitat Gain and Loss for Epibenthic Invertebrates of the Chukchi and Bering Seas: **E Logerwell**, M Wang, L L Jorgensen, K Rand

HE42B 1B, UL**Thursday 1030h****Mechanisms for Variability, Circulation, and Transformation of Water Masses in the Southern Ocean II** (*joint with OB, PL, PS*)**Moderators:** **Annie Foppert**, CSIRO Marine and Atmospheric Research Hobart; **Dafydd Evans**, University of Southampton

- 1030h **HE42B-01** A New Estimate of the Southern Ocean Meridional Overturning Circulation from Argo Float Observations: **A R Gray**, S Riser
- 1045h **HE42B-02** Variability and controls of the interior density structure of the Southern Ocean: **R Somavilla**, A Naveira Garabato, C González-Pola, J M Fernandez
- 1100h **HE42B-03** Interior water-mass variability in the southern-hemisphere oceans during the last decade: **E Portela Rodriguez**, N Kolodziejczyk, C Maes, V Thierry
- 1115h **HE42B-04** A see-saw in Pacific Subantarctic Mode Water formation driven by atmospheric modes: **A Meijers**, I Cerovecki, B A King, V Tamsitt
- 1130h **HE42B-05** Simulated changes in Southern Ocean ventilation since the 1960s driven by wind and buoyancy forcing: **L Patara**, C W Boning, D T S Tanhua
- 1145h **HE42B-06** Ventilation and carbon uptake in the southern oceans: Response to wind stress changes: **D Waugh**, T W N Haine, M H England, P Spence, A M Hogg
- 1200h **HE42B-07** Using Lagrangian Transit Time Distributions to investigate eddy effects on Carbon uptake in the Southern Ocean: **A Griesel**, M Chouksey, C Eden, R Steinfeldt
- 1215h **HE42B-08** A Continental Shelf Pump for CO₂ on the Adélie Land Coast, East Antarctica: **M Arroyo**, E Shadwick, B D Tilbrook, K Kusahara

**OCEAN OBSERVATORIES,
INSTRUMENTATION AND SENSING
TECHNOLOGIES**

IS42A 11A, UL**Thursday 1030h****Innovation in in Situ Instrumentation, Sensors, and Observation Networks to Advance High-Resolution Data Collection and Biogeochemical Insight in Marine Ecosystems II** (*joint with CP, NC, OB*)**Moderators:** **Anna Michel**, Woods Hole Oceanographic Institution; **Brian Glazer**, University of Hawaii at Manoa

- 1030h **IS42A-01** The Moore Underwater Microscope: An *In Situ* Imaging System for Marine Microorganisms: **P Lertvilai**, J S Jaffe, P Roberts
- 1045h **IS42A-02** PipeCyt: A miniature immersed-optic flow cytometer for autonomous platforms.: **J E Swalwell**, F Ribalet, A M Hynes, E V Armbrust
- 1100h **IS42A-03** The annual secondary productivity cycle in Prince William Sound measured with the Prince William Sound Plankton Camera: **R W Campbell**, P Roberts, J S Jaffe
- 1115h **IS42A-04** Developing techniques to investigate superoxide dynamics associated with the coral holobiont: **K C Grabb**, J Kapit, S D Wankel, K Manganini, W Pardis, A Apprill, M Sanchez-Garcia, L Roberson, M Armenteros, C Hansel
- 1130h **IS42A-05** The development of an ultrasonic sediment probe for *in situ* blue carbon estimation: *Toward an improved mapping tool*: **G Venegas**, M S Ballard, K Lee, A R McNeese, M C Zeh, P Wilson, A F Rahman
- 1145h **IS42A-06** Advances in high resolution fiber-optic based ice shelf and sub-ice shelf ocean profiling: **S Tyler**, C K Lee, T Scambos, W S Lee, J S Kim, C B Kratt
- 1200h **IS42A-07** Development of a New Instrument for Measurement of Particle Size Distribution and Optical Properties from Underway Flow-through Systems: **W H Slade**, T Leeuw, D R Dana, C Pottsmith, Y C Agrawal
- 1215h **IS42A-08** A nutrient sensor suite for autonomous ocean vehicles: **A Beaton**, A Morris, M Patey, A Schaap, S Steigenberger, C Cardwell, M C Lohan, M C Mowlem

MARINE ECOLOGY AND BIODIVERSITY

ME42A 7A, UL

Thursday 1030h

Advances in the Ecology, Behavior, Physiology, or Conservation of Marine Top Predators II (*joint with PI*)

Moderators: Mark Baumgartner, Woods Hole Oceanographic Institution; Daniel Palacios, Oregon State University

- 1030h **ME42A-01** Oceanographic Influences on Tuna Dive Behaviors: **S Dedman**, M Castleton, R Schallert, J Ganong, M Stokesbury, B Block
- 1100h **ME42A-03** When Carnivores Clash: Evidence of Competition and Prey-shifting by Brown Bears During a Period of Sea Otter Recovery: **D H Monson**, G Hilderbrand, H A Coletti, J Erlenbach, B E Ballachey, B Pister, B Mangipane, J L Bodkin, T Smith
- 1115h **ME42A-04** The Patchy Distribution of Krill Within Temporally Transient Large Swarms Drives Collective Exploitation By Super Groups of Rorqual Whales: **D Cade**, M Seakamela, K Findlay, J Fahlbusch, S Kahane-Rapport, W Oestreich, J P Ryan, E L Hazen, A S Friedlaender, J Calambokidis, J D Warren, J Fukunaga, S Kirkman, D Kotze, S McCue, M Meyer, C Wilke, J A Goldbogen
- 1130h **ME42A-05** Northern fur seals and fish predators feeding on pollock in the eastern Bering Sea: a look at summer prey availability and spatial overlap over 35 years: **I Ortiz**, E McHuron, J Sterling
- 1145h **ME42A-06** A BIRDSEYE VIEW: HOW CAN WE CAPTURE POTENTIAL SHARK NURSERY AREAS WITH UAV TECHNOLOGY? – SAN CRISTÓBAL, GALÁPAGOS: **L Goodman**, A Hearn
- 1200h **ME42A-07** The effects of seasonal variation, El Niño-Southern Oscillation events, and climate change on the tuna-dolphin association in the eastern tropical Pacific Ocean: **C Birch**, M D Scott
- 1215h **ME42A-08** Mercury stable isotopes reveal sources of mercury and prey in large (≥ 5 year old) Pacific bluefin tuna from the western North Pacific Ocean: **X He**, C M Tseng, J R Reinfelder

MARINE GEOLOGY AND SEDIMENTOLOGY

MG42A 9, UL

Thursday 1030h

Cohesive Sediment Transport Processes I (*joint with CP, PI*)

Moderators: Richard Styles, Coastal and Hydraulics Laboratory; Jarrell Smith, USACE-ERDC Information Technology Laboratory

- 1030h **MG42A-01** A Study of Field Measurements of Suspended Sediment Concentration in the Gaoping River and Numerical Simulation of Hyperpycnal Turbidity Currents in the Gaoping Submarine Canyon: **J L Chen**, Y C Lin, J T Liu
- 1045h **MG42A-02** Grain-resolving Simulations of Cohesive Sediment Transport: **E H Meiburg**, B Vowinkel, J Withers, K Zhao, F Pomes, R Ouillon, T Köllner, P Luzzatto-Fegiz
- 1100h **MG42A-03** Cohesive sediment transport modeling in estuarine shallows: the role of bed erodibility variation: **R M Allen**, J R Lacy, A W Stevens, D B Senn, R Holleman, M T Stacey
- 1115h **MG42A-04** Strain Rate Effects in Soft Estuarine Soils using Portable Free Fall Penetrometers: **D Kiptoo**, N Stark, G Massey, C Wright, C T Friedrichs
- 1130h **MG42A-05** Oil-Mineral Flocculation and Settling Dynamics in Saline Water: **L Ye**, A J Manning, T J Hsu, J Holyoke
- 1145h **MG42A-06** Physical Factors that Influence Muddy Bed Aggregate Production During Erosion: **D W Perkey**, J Smith, K Fall
- 1200h **MG42A-07** Weathering of Cohesive Mud Aggregates by Bedload Transport: **J Smith**, K Fall, R Styles
- 1215h **MG42A-08** Transport modes of marine aggregates: **R Styles**, J Smith, K Fall

MICROBIOLOGY AND MOLECULAR ECOLOGY

MM42A 2, UL

Thursday 1030h

Coupling Meta'omics and Biochemical Measurements to Understand Trophic Strategies or Physiological Adaptations Among Marine Organisms (Micro to Macro) II

Moderators: Sarah Hu, University of Southern California; Alexis Pasulka, California Polytechnic State University, San Luis Obispo

- 1030h **MM42A-01** Molecular biomarkers of nitrogen status in diatoms and other microbes from Monterey Bay, CA: **S Smith**, B Kolody, A E Allen
- 1045h **MM42A-02** Temporal phosphate gradients reveal diverse acclimation responses in phytoplankton phosphate uptake: **C Caceres**, S Spatharis, E Kaiserli, E Smeti, H Flowers, J A Bonachela
- 1100h **MM42A-03** Biogeochemical consequences of diatom-virus interactions in the California Current Ecosystem: **C Kranzler**, J W Krause, M A Brzezinski, B R Edwards, W P Biggs, M A Maniscalco, J McCrow, B A Van Mooy, K D Bidle, A E Allen, K Thametrakoln
- 1115h **MM42A-04** Made of Other Stuff: Membrane Lipid Composition and Function of Deep, Shallow, Cold and Warm Ctenophores: **J Winnikoff**, I Budin, S H D Haddock
- 1130h **MM42A-05** Characterization of biologically reactive dissolved organic matter exuded by major reef primary producers: **Z Quinlan**, I Koester, D Petras, J Comstock, C A Carlson, P Dorrestein, A Haas, L Aluwihare, C E Nelson, L W Kelly
- 1145h **MM42A-06** Fish gut microbiome changes as biological responses after an oil exposure: **G Monticelli**, I Sehgal, A Bagi, D M Pampanin
- 1200h **MM42A-07** Novel metabolisms relevant to short-chain alkane fate in the deep ocean: **E C Arrington**, V Kivenson, D L Valentine
- 1215h **MM42A-08** Synthetic biology can pair with omics to understand mechanisms driving marine biogeochemical cycles: **C A Masiello**, J J Silberg, L Stadler, D Shis, E M Fulk, I Del Valle, X Gao, L C Lu

OCEAN BIOLOGY AND BIOGEOCHEMISTRY

OB42A 4, UL

Thursday 1030h

Effect of Warming on Biological, Ecological, and Biogeochemical Ocean Processes: Responses from Organismal to Ecosystem Scales II (joint with CP, ME, PC)

Moderators: Susanne Menden-Deuer, University of Rhode Island; Gabriel Yvon-Durocher, University of Exeter

- 1030h **OB42A-01** Numerical and functional responses of the mixotrophic dinoflagellate *Alexandrium pohangense* to various water temperatures and irradiances: **H J Jeong**, J H Ok, J H You
- 1045h **OB42A-02** Intraspecific Variability in Thermal Tolerance Buffers Southern Ocean Diatoms from Biogeographic Range Contraction in a Warming Ocean: **I Bishop**, S Anderson, S Collins, T A Rynearson
- 1100h **OB42A-03** Diverse herbivorous protists show common response in growth-temperature dependency: **G Franzè**, S Menden-Deuer
- 1115h **OB42A-04** Turning up the Heat – Implications of Rising Temperatures for Arctic Zooplankton: **P Kaiser**, W Hagen, H Auel Sr
- 1130h **OB42A-05** Effects of warming on the ecology and physiology of the Southern Ocean pteropod, *Limacina helicina antarctica*: **P S Thibodeau**, D K Steinberg, A E Maas
- 1145h **OB42A-06** Measuring Realized Resilience: Transforming Large Area Imagery into Coral Demographic Models in the Face of Disturbance: **T Oliver**, C Couch, C Rodriguez, S A Sandin, J Madine
- 1200h **OB42A-07** What Controls Microzooplankton Biomass and Herbivory Across Marginal Seas of China?: **H Liu**, K LIU, B Chen, B Huang, L Zheng, S Su
- 1215h **OB42A-08** Climate and fishing drive regime shifts in consumer-mediated nutrient cycling in kelp forests: **J Peters**, D Reed, D E Burkepile

OB42B 3, UL**Thursday 1030h****Linking the Biology, Geochemistry, and Circulation of the Gulf of Mexico II** (*joint with CT, CP, MM*)

Moderators: Alan Shiller, University of Southern Mississippi; Juan Carlos Herguera, CICESE Center for Scientific Research and Higher Education

- 1030h **OB42B-01** Physical and Biogeochemical Controls of Dissolved Oxygen Concentration Patterns in the Gulf of Mexico Deep Waters: **J C Herguera**, G Quintanilla, Y V Contreras Pacheco, V Ferreira-Bartrina
- 1045h **OB42B-02** Local boundaries of bottom hypoxia: **V Ruiz Xomchuk**, R D Hetland
- 1100h **OB42B-03** Inorganic Nutrients in the Deep Water Region of the Gulf of Mexico: What Have we Learnt from a Baseline Study of the CIGoM Project.: **V F Camacho-Ibar**, A Valencia, C Hakspiel, J Velasquez, M D C Ávila López, M Muñoz-Anderson, E Lee
- 1115h **OB42B-04** Biogeochemical Impacts of Altered Freshwater Flow to the Mississippi Sound: **K Dillon**, S P Milroy, A M Shiller
- 1130h **OB42B-05** Multi-Element Dissolved Trace Metal Distributions in Surface Waters of the Texas-Louisiana Shelf: A Synthesis From Three Cruises 2017-2019 Showing the Influence of Rivers, Hurricanes, Sediments, and Biology: **H Adams**, L Jensen, B Farran, N T Lanning, J N Fitzsimmons
- 1145h **OB42B-06** Quantifying African dust deposition to the Gulf of Mexico: **C T Hayes**
- 1200h **OB42B-07** Correlated dissolved organic nitrogen and dissolved iron concentrations on the West Florida Shelf: signatures of submarine groundwater discharge and *Trichodesmium thiebautii*: **D Chappell**, K N Buck, C Selden, S Caprara, B A Summers, T Mellett, K Confesor, K Powell, L Donahue, R M Boiteau, T M Conway, M A Charette, J Tamborski, A M McKenna, A N Knapp
- 1215h **OB42B-08** The biogeochemical cycling of Fe and Fe isotopes in the Gulf of Mexico and the Gulf Stream system: **T M Conway**, B A Summers, S Caprara, T Mellett, R Schlaiss, K N Buck, D Chappell, A N Knapp

OCEAN DATA MANAGEMENT**OD42A 5A, UL****Thursday 1030h****New Information Systems Tools for Implementing Autonomous Multisource, Multipoint Observing Systems I** (*joint with ME, OB, PS*)

Moderators: Laura Rogers, NASA Langley Research Center; Wu-Jung Lee, Johns Hopkins University

- 1030h **OD42A-01** SUBMARINE VOLCANO-HYDROTHERMAL SYSTEMS AND THEIR IMPACTS ON THE OVERLYING OCEAN: QUANTIFICATION OF ERUPTING MID-OCEAN RIDGE VOLCANOES - A GENERATIONAL GOAL: **J R Delaney**, D Manalang, D S Kelley, K L Daly, D S Luther, W S D Wilcock, E T Baker
- 1043h **OD42A-02** Adaptive Sampling of Dynamic Processes in Coastal Areas and Fjords using AUVs: **T O Fossum**, Ø Sture, I Ellingsen, M Syre Wiig, M Ludvisen
- 1056h **OD42A-03** Near-real-time reporting of the oceanic turbulent response to atmospheric forcing from unmanned autonomous vehicles: **J Shapiro**, L C St Laurent, S Merrifield, J Hazard
- 1109h **OD42A-04** Autonomous underwater vehicle-based adaptive sensing of natural oil seeps: **E Fischell**, D Gomez-Ibanez, K DuCharme, L Dipinto, R N Conmy, A Kukulya
- 1122h **OD42A-05** Closing the Loop on Sensor-Based Autonomy for Swarms of Underwater Robots: **J Kaeli**, E Fischell, A Kukulya, G Gawarkiewicz
- 1135h **OD42A-06** Systems and technologies for multi-domain synoptic ocean observation: **J T Borges de Sousa**
- 1148h **OD42A-07** Near Real-time Coral Reef Monitoring Using AI Based Environmental Information Synthesizer: **J C Hendee**, M Soden, X Serrano, J Karazsia, L J Gramer
- 1201h **OD42A-08** Automatously Sustainable Solution for Big Ocean Science: **T Huang**
- 1214h **OD42A-09** The NASA Geostationary Littoral Imaging and Monitoring Radiometer (GLIMR) requires advanced processing techniques.: **J Salisbury II**, A Mannino

OCEAN MODELING

OM42A Poster Hall C-D; eLightning Theater

Thursday 1030h

Lagrangian Methods for Understanding Ocean Circulation and Tracer Transport II eLightning

(joint with CT, PL)

Moderators: **Veronica Tamsitt**, University of New South Wales; **Isabella Rosso**, SIO; **Erik van Sebille**, Universiteit Utrecht

OM42A-01 *eLIGHTNING* Simulating Lagrangian particles in the ocean using the Transport Matrix Method: **S Khatiwala**, D May, S Barrett, A Rufas Blanco, E Lamb

OM42A-02 *eLIGHTNING* Kinetic Theory Formulation and Analysis of Lagrangian Oceanic Particle Trajectories: **M L Vianna**, V V Menezes

OM42A-03 *eLIGHTNING* Efficient Bayesian inference for globally defined ocean transport and diffusivity fields: **Y K Ying**, J R Maddison, J Vanneste

OM42A-04 *eLIGHTNING* Identification of Hyperbolic Lagrangian Coherent Structures in Three-Dimensional Time-Varying Flow: **T Nordam**, A M T Løken, S Nordgreen

OM42A-05 *eLIGHTNING* Lagrangian isopycnal RAFOS floats reveal mixing rates and dynamics in the Eastern Tropical North Atlantic Oxygen Minimum Zone: **J B Palter**, D W Rudnickas Jr, H T Rossby, D Hebert

OM42A-06 *eLIGHTNING* Abyssal Pathways and the Northeast Pacific Double Silica Maximum: **S L Hautala**, D E Hammond

OM42A-07 *eLIGHTNING* The North Atlantic Subtropical Gyre Spiral: **K Döös**, S Berglund, S Groeskamp, T J McDougall

OM42A-08 *eLIGHTNING* Mass exchange of Atlantic Water with the Lofoten Basin derived from high-resolution Lagrangian simulations: **J Dugstad**, I M Koszalka, K F Dagestad, I Fer, P E Isachsen

OM42A-09 *eLIGHTNING* A new improved estimation of Agulhas Leakage using observations and simulations of Lagrangian floats and drifters: **H Daher**, L M Beal

OM42A-10 *eLIGHTNING* Cold route versus warm route in the Meridional Overturning Circulation according to ECCO4: **L Rousselet**, G Forget, P Cessi

OM42A-11 *eLIGHTNING* Tracing the Warming and Salinification Processes in the Conveyor Belt; from the Drake Passage to the Tropics: **S Berglund**, K Döös, J Nycander

OM42A-12 *eLIGHTNING* Lagrangian Pathways of Dissolved Inorganic Carbon in the Southern Ocean: **R X Brady**, M E Maltrud, P J Wolfram Jr, N S Lovenduski

PAST, PRESENT AND FUTURE CLIMATE

PC42A 1A, UL

Thursday 1030h

High-Resolution Climate Modeling I (joint with AI, OM, PL)

Moderators: **Justin Small**, International Laboratory for High-Resolution Earth System Prediction (iHESP); **Ping Chang**, Texas A & M University

1030h **PC42A-01** Overview and Application of High-resolution CESM Simulations: **S S Lee**, A Timmermann, C Wengel, J E Chu

1045h **PC42A-02** An Investigation of the Effect of Ocean Mesoscale Variability on the Dynamics of the North Pacific Jet Stream and Storm Track: **R Saravanan**, I Szunyogh, E Forinash, G Gyarmati, Y Jia, P Chang

1100h **PC42A-03** High-Resolution Modeling of Arctic Climate Using the Regional Arctic System Model for Dynamical Downscaling of Global Climate Model Reanalyses and Projections: **W Maslowski**, R Osinski, Y Lee, J L Clement Kinney, A Craig, M W Seefeldt, J J Cassano, B Nijssen

1115h **PC42A-04** The effect of increased resolution in the Energy, Exascale, Earth System Model (E3SM): **L P Van Roekel**, M E Maltrud, C Veneziani, A Roberts, P Caldwell, D Bader, A Mametjanov

1130h **PC42A-05** OM4: GFDL's 1/4 degree ice-ocean model component for CMIP6: **A Adcroft**, J P Dunne, S Griffies, R Hallberg, M Harrison, M Jansen, S Legg, B G Reichl, R Zhang

1145h **PC42A-06** The vertical Lagrangian remapping method, hybrid vertical coordinates, and the prospect of eliminating the spurious diapycnal mixing problem in ocean models: **S M Griffies**, A Adcroft, R Hallberg

1200h **PC42A-07** A New Ocean Model On The Uniform-Jacobian Cubic Grid: **F Engelbrecht**, J L McGregor, P M S Monteiro, N Chang

1215h **PC42A-08** El Niño-Southern Oscillation Dynamics – Scale Interactions and Response to Greenhouse Warming in the ICCP High-Resolution CESM Simulation: **C Wengel**, M F Stuecker, S S Lee, A Timmermann

PHYSICAL-BIOLOGICAL INTERACTIONS

PI42A 7B, UL

Thursday 1030h

Ecological Fluid Mechanics: Interactions Among Organisms and Their Fluid Environment II (*joint with ME*)

Moderators: Donald Webster; Arvind Santhanakrishnan, Oklahoma State University

- 1030h **PI42A-01** Appendage spacing and stroke kinematics in metachronal swimming of crustaceans: **M Ford**, T W Blackshare, A Santhanakrishnan
- 1045h **PI42A-02** Hydrodynamics of Swimming and Maneuvering with Multiple Jets by a Colonial Siphonophore: **K Sutherland**, B Gemmell, S Colin, J Costello
- 1100h **PI42A-03** A Proposed Fluid Mechanical Basis for Anterior Propulsor Placement: **M Leftwich**, E Lederer, J Dabiri, B Gemmell, S Colin, J Costello
- 1115h **PI42A-04** Primitive and modern swimmers solve the challenges of turning similarly to achieve high maneuverability: **J Costello**, J Dabiri, S Colin, B Gemmell, K Lucas, M Leftwich
- 1130h **PI42A-05** Turbulent flow and *monami* in aquatic canopy with various plant flexibility: **S He**, L Shen
- 1145h **PI42A-06** Water flow mediates microscale hypoxia within mussel aggregations: **E Carrington**, W Hoque, C Ogle
- 1200h **PI42A-07** Wave-dominated flow interactions with coral topography and its impact on larval settlement: **M A Reidenbach**, J Stocking, L Szczyrba, C Wendelken
- 1215h **PI42A-08** Hydrodynamic and Kinematic Coordination in Aquatic Jumping: **A Techet**, L Mendelson

PHYSICAL OCEANOGRAPHY: MESOSCALE AND LARGER

PL42A 15A, Mezzanine

Thursday 1030h

Atlantic Ocean Variability in a Changing Climate: Observations, Modeling, and Theories II (*joint with AI, HE, PC*)

Moderators: Rohit Ghosh, Max Planck Institute for Meteorology; **Dian Putrasahan**, Max Planck Institute for Meteorology

- 1030h **PL42A-01** The Contribution of Mesoscale Ocean Dynamics to Atlantic Meridional Heat Transport: **A S Delman**, T Lee, F Bryan, B Qiu
- 1045h **PL42A-02** *Observed variability of the North Atlantic Current in the Rockall Trough, at the crossroad between the subpolar gyre and the Nordic Seas.*: **L Houpert**, S A Cunningham, N Fraser, C Johnson, S C Jones, B I Moat, N P Holliday
- 1100h **PL42A-03** The Gulf Stream path changes and their linkage to the abyssal circulation in the North Atlantic.: **R Hu**, J Zhao
- 1115h **PL42A-04** North-Atlantic Ocean Subtropical Gyre: New perspective and mechanisms of low-frequency Variability: **G Maze**, K Balem, T Penduff
- 1130h **PL42A-05** Mean state and seasonal to interannual variability of the Atlantic Subtropical Cells inferred from recent observations: **F P Tuchen**, J F Lubbecke, S Schmidtke, R M Hummels, C W Boning, P Brandt
- 1145h **PL42A-06** Observational exploration of the subtropical gyre of the South Atlantic: **K Drouin**, S Lozier
- 1200h **PL42A-07** Simulated response of South Atlantic Subtropical Mode Water to air-sea processes: **P S Bernardo**, O T Sato, A Taschetto
- 1215h **PL42A-08** Projected Change of The Southwest Atlantic Circulation: **V Combes**, R P Matano

PHYSICAL OCEANOGRAPHY: MESOSCALE AND SMALLER

PS42A 15B, Mezzanine

Thursday 1030h

Interactions Between Internal Waves and Mesoscale/Submesoscale Currents: Physics and Impacts on Ocean Energetics and Mixing II (*joint with OM, PL*)

Moderators: Caitlin Whalen, Applied Physics Laboratory University of Washington; Cesar Rocha, Scripps Institution of Oceanography

- 1030h **PS42A-01** Three Dimensional Structure of Near-Inertial Waves and Their Interactions with Mesoscale Structures from Direct Observations: **L Rainville**, J B Girton, A Savage, L N Thomas, C B Whalen
- 1045h **PS42A-02** Global Estimates of Near-Inertial Internal Wave Generation: **S M Kelly**, M C Buijsman, K Raja, H L Simmons
- 1100h **PS42A-03** Near-Inertial Wave - Eddy Interactions in Realistic High Resolution Simulations of the North Atlantic Subpolar Gyre: **K Srinivasan**, R Barkan, J C McWilliams, J Gula
- 1115h **PS42A-04** Direct observations of the collapse in lateral scale and subsequent propagation of a near-inertial wave in a dipole vortex: **L N Thomas**, L Rainville, C Lee, O Asselin, W R Young, J B Girton
- 1130h **PS42A-05** On the Evolution of a Wind-Generated Inertial Wave in a Vortex Dipole: **O Asselin**, L N Thomas, W R Young, L Rainville
- 1145h **PS42A-06** Frequency Shift of Near Inertial Waves in the South China Sea: **A Le Boyer**, M H Alford, R Pinkel, T Hennon, Y J Yang, D S Ko, J D Nash
- 1200h **PS42A-07** Lagrangian-Mean Motion Induced By Vertically Trapped Inertia-Gravity Wavepackets: **W Dong**, O Buhler, K S Smith
- 1215h **PS42A-08** Geophysical turbulence dominated by inertia-gravity waves: **J Thomas**

PS42B 14B, Mezzanine

Thursday 1030h

Observing the Ocean Surface Topography at High Resolution: Opportunities and Challenges for the Future SWOT Mission I (*joint with IS, PI, PL*)

Moderators: Lee-Lueng Fu, Jet Propulsion Laboratory; Rosemary Morrow, CNES French National Center for Space Studies

- 1030h **PS42B-01** Submesoscale to Mesoscale Variability in the California Current: Implications for SWOT: **K Drushka**, L Rainville, D Menemenlis
- 1045h **PS42B-02** Finescale horizontal and vertical currents from in-situ observations in preparation for SWOT altimeter mission: **A Pascual**, S Ruiz, B Barceló-Llull, A Sanchez-Roman, E Mason, E Cutolo, D R Tarry, H Antich, L Gomez-Navarro, S Ouala, B Mourre, Y Faugere, R Fablet, J Tintore, A Mahadevan, F d'Ovidio
- 1100h **PS42B-03** Global observational constraints on surface ocean kinetic energy: **S Elipot**, J M Lilly, R Lumpkin, E Zaron
- 1115h **PS42B-04** What will be the finest resolved scale of SWOT SSH data under different dynamical conditions?: **J Lesommer**, L Gomez-Navarro, E Cosme, N Papadakis, J M Molines, A Pascual, B K Arbic, A O Ajayi, A Albert, D Menemenlis, J F Shriver, J G Richman, A Savage, J Ye
- 1130h **PS42B-05** Submesoscale Eddy Vertical Correlations and Dynamical Constraints from High-Resolution Numerical Simulations: **J M D'Addezio**, G A Jacobs, M Yaremchuk, I Souopgui
- 1145h **PS42B-06** Importance of damping in comparison of internal tides in several global hydrodynamical models with altimetry: **J K Ansong**, B K Arbic, D Menemenlis, A J Wallcraft, R Bourdalle-Badie, J Chanut, F Briol, M Schindelegger, R Ray, E P Chassignet, R Hallberg, L Carrère, G Dibarboure, N Picot, M C Buijsman, J G Richman, J F Shriver, C N Hill, M R Mazloff, R M Ponte, A Koch-Larrouy, F Lyard, A T Nguyen
- 1200h **PS42B-07** Low-mode internal tides and small scale surface dynamics in the SWOT cal/val region: **A Savage**, A F Waterhouse, J A MacKinnon, J D Nash, S M Kelly, Z Zhao, J Shapiro, A J Lucas, L St Laurent, M J Lankhorst, U Send
- 1215h **PS42B-08** The Importance of Remote Forcing for Regional Modeling of Internal Waves: **M R Mazloff**, B D Cornuelle, S T Gille, J Wang

SOCIAL-OCEAN SCIENCE INTERACTIONS AND SDGS

SI42A 10, UL

Thursday 1030h

Ocean Visions: Finding Ocean-Based Solutions to Society's Greatest Global Challenges II Panel
(joint with ED, IS, PC)

Moderators: Stephanie Sharuga, Genwest Systems Inc./NOAA NOS OR&R; **Fiorenza Micheli**, Stanford University

- 1030h **SI42A-01** Sustainable Ocean Economies: Palau's National Marine Sanctuary: **F Micheli**, Y Golbuu, J Leape, E H Hartge, L Hazen, A Giron-Nava, E Kelly, S Lewis, K Oleson
- 1035h **SI42A-02** Building Resilience with Blue Parks: Science-Based Standards for Ocean Protection: **L E Morgan**, S Hameed
- 1040h **SI42A-03** Reaching consensus for conserving the global commons: The case of the Ross Sea, Antarctica: **C M Brooks**, L Crowder, H Österblom, A L Strong

- 1045h Panel Discussion Theme 1: Marine Protected Areas: **F Micheli**
- 1100h **SI42A-04** *Microfibers pollution: A global monitoring initiative from Scripps Institution of Oceanography*: **D D Deheyn**, S J Royer
- 1105h **SI42A-05** Oceanworks - Sea Plastics Differently: **R Ianelli**, J Schulz
- 1110h **SI42A-06** Plastic Punch: Innovative Ways to Stimulate Societal Engagement in Marine Plastic Pollution: **R Kennedy Quarcoo**, P Martin, M Foster-Martinez
- 1115h Panel Session Theme 2: Ocean Plastics: **A Miller**
- 1130h **SI42A-07** Changing Tides: Perspectives on The Rise of Entrepreneurship in Ocean and Coastal Sustainability: **S Sharuga**
- 1140h **SI42A-08** Empowering a Global Movement of Ocean Entrepreneurs: **B Levy**
- 1150h **SI42A-09** Entrepreneurial Project to Enhance Coral Reef Resilience, Community Nutrition and Sustainable Livelihoods through Crown-of-Thorns Starfish Control: **B G Mitchell**, S Katz, M V Tabunakawai, L Kirwin
- 1200h Panel Session Theme 3: Ocean Visions and Entrepreneurship: **S Sharuga**, E Di Lorenzo

Thursday P.M.

AIR-SEA INTERACTIONS

AI43A 14A, Mezzanine

Thursday 1400h

Wave Breaking in Ocean-Atmosphere Exchanges I (joint with OM, PS)

Moderators: Luc Deike, Princeton University; **Ana Beatriz Villas Boas**, Scripps Institution of Oceanography

- 1400h **AI43A-01** Short wave modulation, wave breaking and shapes of wave spectra: **F Ardhuin**, C Peureux, P V Guimaraes
- 1415h **AI43A-02** An Experimental Study of Droplet Generation by Plunging Breaking Water Waves: **M Erinin**, S D Wang, X Liu, J H Duncan
- 1430h **AI43A-03** Directly Simulated Wave-Current Mutual Interaction: Surface Wave Modulation Intensifies Langmuir Circulations: **Y Fujiwara**, Y Yoshikawa

- 1445h **AI43A-04** Contribution of Sea-State Dependent Bubbles to Air-Sea Carbon Dioxide Fluxes: **B G Reichl**, L Deike
- 1500h **AI43A-05** Intermittent Wave Breaking-induced Turbulence: a Synergy between High-fidelity Numerical Modeling and Field Observations: **M Derakhti**, J M Thomson, J T Kirby Jr
- 1515h **AI43A-06** Experimental Investigation of Droplet Trajectories and Airflow Above Breaking Waves: **R Ramirez**, P Vollestad, A Jensen
- 1530h **AI43A-07** Wind Wave Generation : Turbulent Windprint below the Wave Onset and its Link with O. M. Phillips 1957 Theory: **S Perrard**, C Nové-Josserand, A Lozano-Duran, M Rabaud, M Benzaquen, F Moisy
- 1545h **AI43A-08** Distribution of Surface Wave Breaking Fronts: **L Romero**

AI43B Poster Hall C-D; eLightning Theater**Thursday 1400h****Processes Affecting Air-Sea Exchange and the Biogeochemistry of the Upper Ocean IV eLightning** (*joint with CT, CP, IS, OB, OM, PI*)**Moderators:** **Mariana Ribas Ribas**, Carl von Ossietzky Universität Oldenburg; **Alison Gray**, University of Washington

AI43B-01 *eLIGHTNING* Air-sea CO₂ fluxes in a tropical region of the Mexican Pacific.: **A I de la Cruz Ruiz**, T L Espinosa-Carreón, S Alvarez Borrego, L Flores Trejo, D U Hernandez-Becerril

AI43B-02 *eLIGHTNING* Direct Wintertime pCO₂ Observations From the Saildrone Gulf Stream Mission Reveal Higher Ocean Carbon Uptake in 2019 than in Climatologies: **S Nickford**, J B Palter, N R Bates, K A Donohue, A J Fassbender, A R Gray, J Long, S Maenner, A J Sutton, Y Takeshita

AI43B-03 *eLIGHTNING* Effects of Phytoplankton Community Composition and Productivity on Sea Surface pCO₂ Variations in the Southern Ocean: **S Takao**, S I Nakaoka, F Hashihama, S Keishi, H Y Inoue, T Hirawake, J Kanda, G Hashida, K Suzuki

AI43B-04 *eLIGHTNING* The impact of sampling density on surface ocean pCO₂ trends: **A R Fay**, G A McKinley

AI43B-05 *eLIGHTNING* Vertical Profiles of Carbon Dioxide in the Lower Troposphere at Mauna Loa Observatory, Hawaii, Determined with a Multi-Copter Drone: **J Yuan**

AI43B-07 *eLIGHTNING* Variability of Organic and Sulfate Concentrations in the North Atlantic: **G Saliba**, C L Chen, S Lewis, L M Russell, P Quinn, T S Bates, M Behrenfeld

AI43B-08 *eLIGHTNING* Impact of physical and biological processes on temporal variations of the ocean carbon sink in the mid-latitude North Atlantic (2002-2016): **R Sanders**, V Macovei, S Hartman, U Schuster, S Torres-Valdes, M M Moore

AI43B-09 *eLIGHTNING* Exploring links between bacteria, enzymes, and organic compounds in seawater and sea spray aerosol: **M Pendergraft**, F Malfatti, D Petras, J Minich, P Belda-Ferre, S DeAngelo, C Morris, K Kimble, M Santander, P Dorrestein, L Aluwihare, R Knight, F Azam, K A Prather

AI43B-10 *eLIGHTNING* pH in the sea surface microlayer: **M Ribas Ribas**, O Wurl

AI43B-11 *eLIGHTNING* The impact of storm origin, local scavenging, and changing land use on rainwater Nitrogen content at a coastal Mid-Atlantic United States site: **J I Czarnecki**, A M Ebling, N R Coffey, A S Wozniak

AI43B-12 *eLIGHTNING* Impacts of Aerosol Depositions from Ship Emissions on Marine Primary Productivity, Biological Community Composition and Biogeochemical Cycling: **J Tavares-Reager**, P Haigh, I M Hasselov, A Nylund, E S Saltzman, T Tran, K Mackey

COASTAL AND ESTUARINE PROCESSES**CP43A 8, UL****Thursday 1400h****Close-Range Remote Sensing of Nearshore Processes and Coastal Morphology II** (*joint with IS, PS*)**Moderators:** **Jonathan Warrick**, U.S. Geological Survey; **Rafael Almar**, LEGOS

1400h **CP43A-01** HF Radar wave-spectrum assimilation using SWAN and application for the CASPER-West Experiment: **P A Muscarella**, D T Walker, K Brunner

1415h **CP43A-02** Wind Wave Energy Dissipation on a Barred Beach Observed with Coherent Marine Radar: **M Stresser**, R Carrasco, J Seemann, J Horstmann, B Baschek, G B Deane

1430h **CP43A-03** Remote Sensing of River Bottom Roughness: **C Chickadel**, R Branch, A R Horner-Devine, A T Jessup, S A Talke

1445h **CP43A-04** Identifying the drivers of structural complexity on Hawaiian coral reefs using photogrammetric measures of linear rugosity: **O McCarthy**, J Smith, S A Sandin, V Petrovic

1500h **CP43A-05** Quantifying the Distribution and Shape of Mussel Mounds in Mesotidal Salt Marshes by Means of UAV LiDAR With Relevance to Salt Marsh Survival: **D Pinton**, A Canestrelli, C Angelini, B Wilkinson, P Ifju, C Ortals, A Ortega, S Williams

1515h **CP43A-06** Surface cobble observations at Torrey Pines State Beach, California: **H Matsumoto**, A Young, R T Guza

1530h **CP43A-07** Comparison of spatially varying optical and in-situ surf-zone currents during large wave events: **D L Anderson**, S Bak

1545h **CP43A-08** Evaluating spatio-temporal dune volume changes from high resolution mobile terrestrial lidar: **I Conery**, N Spore, S Walker, N Cohn, K L Brodie, J Zinnert

CP43B 9, UL

Thursday 1400h

Interdisciplinary Approaches for Understanding Coastal Ocean Carbon and Biogeochemical Processes and Budgets III (*joint with OB, OC, OM*)

Moderators: **Sophie Chu**, NOAA Pacific Marine Environmental Laboratory; **Yoana Voynova**, Helmholtz-Zentrum Geesthacht; **Raymond Najjar**, The Pennsylvania State University

- 1400h **CP43B-01** Biogeochemical Regionalization, Variability and Trends of British Columbia's Coastal Ocean: **A Margolin**, H V Dosser, J Jackson, P R Pata, S Waterman, B Hunt
- 1415h **CP43B-02** Stable Carbon Isotope Evidence for Large Terrestrial Carbon Inputs to the Global Ocean: **E Y Kwon**, T J DeVries, E D Galbraith, J Hwang, G Kim, A Timmermann
- 1430h **CP43B-03** Physical Controls on Estuarine Gas Exchange: The Estuarine Gas Exchange Maximum (GEM): **M E Scully**
- 1445h **CP43B-04** Modulation of CO₂ Air-Sea Exchange by Along-Channel Winds in Chesapeake Bay: **J A Thomas**, M E Scully
- 1500h **CP43B-05** Satellite-based characterizations of tidal wetland hydrology to provide volumetric water flux estimates in support of wetland-estuary biogeochemical exchange characterization: **B T Lamb**, M Tzortziou, K C McDonald
- 1515h **CP43B-06** Primary stressors and mechanisms impacting the long-term variability of the Chesapeake Bay carbonate system: **F Da**, M A M Friedrichs, P St-Laurent, E Shadwick, R Najjar
- 1530h **CP43B-07** Seasonal and Spatial Variability in Surface pCO₂ and Air-water CO₂ Flux in the Chesapeake Bay: **B Chen**, W J Cai, J Brodeur, N Hussain, J M Testa, W Ni, Q Li
- 1545h **CP43B-08** Static Monitoring versus Directional Water Quality Data for Coastal Monitoring Programs: **H Briceno**, R Najjar, C Hu, M Herrmann, D C English, R F Garcia, J Absten

CHEMICAL TRACERS, ORGANIC MATTER AND TRACE ELEMENTS

CT43A 5B, UL

Thursday 1400h

Biogeochemistry of DOM and DOM-Microbe Interactions I (*joint with MM, MM, OB*)

Moderators: **Sasha Wagner**, Rensselaer Polytechnic Institute; **Sinikka Lennartz**, ICBM, University of Oldenburg

- 1400h **CT43A-01** Emerging Patterns in the Global Distribution of Fluorescent Dissolved Organic Matter: **U J Wünsch**, K Murphy
- 1415h **CT43A-02** Challenges and rewards of nontargeted studies of marine dissolved organic matter (DOM) composition using liquid chromatography coupled to tandem mass spectrometry (LC MS/MS): Case studies from coastal, marine environments.: **L Aluwihare**, D Petras, I Koester, L F Nothias, M Ludwig, K Duhrkop, M Wang, S Böcker, P Dorrestein
- 1430h **CT43A-03** Novel Method to Separate Marine Dissolved Organic Matter Based on Thermal Reactivity: **M E White**, T B Nguyen, I Koester, M Beman, K Smith, A P McNichol, S R Beaupre, L Aluwihare
- 1445h **CT43A-04** Application of a novel method for the quantification of dissolved metabolites to diatom culture media and oligotrophic seawater: **B Widner**, M C Kido Soule, F Ferrer-Gonzalez, C A Carlson, M A Moran, E B Kujawinski
- 1500h **CT43A-05** Characterization of Refractory DOC in the Deep Pacific Ocean Using Polymer Theory: **M Orellana**, J Koopman, S Bercovici, D A Hansell
- 1515h **CT43A-06** Structural Elucidation of Deaminated Peptides in Anoxic Sediments: **H A Abdulla**, D Burdige, T Komada
- 1530h **CT43A-07** Bioavailability and Molecular Structure of Dissolved Organic Matter in South Texas Rivers and Adjacent Estuaries: **K Lu**, K Wu, Z Liu
- 1545h **CT43A-08** Optical and geochemical signatures suggest significant processing of dissolved organic matter transported across the terrestrial-aquatic interface within a boreal forest catchment: **A Roebuck**, A Myers-Pigg, N Spehn, S E Ziegler

EDUCATION, OUTREACH AND POLICY

ED43A 14B, Mezzanine**Thursday 1400h**

Changing the Culture: Preparing a Diverse and Inclusive Ocean Sciences Workforce II Panel (joint with SI)

Moderators: **Lisa White**, University of California Berkeley; **Brandon Jones**, National Science Foundation Office of Polar Programs; **Sharon Cooper**, Lamont Doherty Earth Observatory; **Sarah Kolesar**

1400h Introductory Remarks:

1405h **ED43A-01** The Power of Educating the Whole Student: Student Success Practices that Support Emerging Ocean Scientists in an Era of Change: **L H Good**, C Garza

1410h **ED43A-02** Culturally Inclusive Research Internships in Ocean Sciences: **M Peacock**, R J Arnold, S Arques, J Rombold, S L Palacios

1415h **ED43A-03** Developing support structures inside and outside academia for students in the ocean sciences.: **C Garza**, L H Good

1420h **ED43A-04** STEMSEAS: An Inclusive, High-Impact Model for Undergraduates to Discover Their Futures by Going to Sea: **J C Lewis**, S K Cooper

1425h Panel Discussion:

1455h Panel Introduction, Part 2:

1500h **ED43A-05** Creating Spaces to Unpack Diversity in Physical Sciences: The CEOAS of a Professional Learning Community: **A Sanchez-Rios**, M McCracken, M Treviño-Peña, J Waite, A Chan, T B Truong, J A T K Wong-Ala, C L Cosgrove

1505h **ED43A-06** Reconstructing an Oceanographic Campus: Insights on Scripps' Journey to a More Inclusive Culture: **K Auzenne**, A J Griffin, O Ajoku

1510h **ED43A-07** Mentoring Physical Oceanography Women to Increase Retention (MPOWIR): lessons from a decade of mentoring for improving retention of under-represented groups in oceanography.: **S Legg**, C B Mouw, S Clem

1515h **ED43A-08** The AMS Early Career Leadership Academy: **M Behl**

1520h Panel Discussion, Part 2:

1550h Concluding Remarks:

HIGH LATITUDE ENVIRONMENTS

HE43A 10, UL**Thursday 1400h**

The Changing Thermohaline Structure of the Arctic Ocean: Mechanisms and Impacts I (joint with AI, OM, PI, PL, PL, PS)

Moderators: **Jiaxu Zhang**, Los Alamos National Laboratory; **James Thomson**, Applied Physics Laboratory University of Washington; **Matthew Dzieciuch**, University of California San Diego; **Verma Tarun**, Los Alamos National Laboratory

1400h **HE43A-01** Stratified Ocean Dynamics of the Arctic Ocean (SODA): **C Lee**

1415h **HE43A-02** Turbulence and Mixing Statistics and Dynamics in the Southeastern Beaufort Sea: **S Waterman**, J R Carpenter, B Scheifele, L Merckelbach

1430h **HE43A-03** Observations of the heat budget at the ocean-ice interface during an anomalous Arctic winter: **C Witte**, C J Zappa, N Laxague, A R Mahoney, S R Betcher, D Hauser, A Subramaniam, A Whiting, J Goodwin, C Harris, B Schaeffer, R Schaeffer

1445h **HE43A-04** Subduction of Pacific Summer Water into sub-surface eddies; coordinated observations from late summer 2018: **J A MacKinnon**, H L Simmons, J T Hargrove, J Thomson, T Peacock, M H Alford, M S Alberty, B I Barton, S Brenner, N Couto, S L Danielson, E Fine, H C Graber, J Guthrie, J Hopkins, S R Jayne, T Klenz, C Lee, Y D Lenn, A J Lucas, M Smith, S Torres-Valdes, K R Wood, J Woods

1500h **HE43A-05** Evolution of a Warm Water Intrusion in the Beaufort Sea from Remote Sensing and Subsurface Observations: **J T Hargrove**, J MacKinnon, H L Simmons, M Alford, N Couto, B Lund, H C Graber

1515h **HE43A-06** Understanding the variability of the Barents Sea Water: a high resolution model study: **B I Barton**, C Lique, C Talandier, Y D Lenn

1530h **HE43A-07** Missing freshwater found below the mixed layer during the melt season in the Canada Basin of the CESM Climate Model: **E J Rosenblum**, R A Fajber, B Tremblay, J Stroeve, S T Gille, R J Galley, E Carmack

1545h **HE43A-08** Persistent freshening of the Arctic ocean caused by summer-enhanced sea ice decline: **H Li**, A V Fedorov

OCEAN OBSERVATORIES, INSTRUMENTATION AND SENSING TECHNOLOGIES

IS43A 11A, UL

Thursday 1400h

Innovation in in Situ Instrumentation, Sensors, and Observation Networks to Advance High-Resolution Data Collection and Biogeochemical Insight in Marine Ecosystems III (*joint with CP, NC, OB*)

Moderators: **Anna Michel**, Woods Hole Oceanographic Institution; **Aleck Zhaohui Wang**, Woods Hole Oceanographic Institution

- 1400h **IS43A-01** Design and Performance Benchmarking of the μ Float: a Buoyancy-actuated Float for Swarm Sensing in Coastal Waterways: **T W Harrison**, J Noe, J Joslin, T R Mundon, C Crisp, B L Polagye, P Murphy
- 1415h **IS43A-02** Evaluating the use of Autonomous Surface Vehicles for managing Marine Protected Areas and monitoring coastal environmental health: **F La Valle**, A Cohen, C M Jaraula, G S Jacinto, C Villanoy, T Azwell
- 1430h **IS43A-03** A New Profiling Float for Coastal and Upper Water Column Applications: **G Massion**, K S Johnson, E J Martin, E Mellinger, P McGill, P Coenen
- 1445h **IS43A-04** Developments in Mapping Riverine and Coastal Environmental Features Utilizing an AUV-based High Frequency Sonar System in the James River: **A N Kidwell**, A S Davis, K Cullen, X Dawson, D Huff, D Honegger, M C Haller, C L McNeil, S Griffith, E F Braithwaite III, C Key, J Calantoni
- 1500h **IS43A-05** Sustained, High-Resolution Profiler Observations from the Washington Continental Slope: **C M Risien**, R A Desiderio, L W Juranek, J P Fram
- 1515h **IS43A-06** Recent Advances in High-Resolution Current Profile Estimation from Autonomous Underwater Gliders: **S Webster**, A Aravkin, J Stevens-Haas, J D Jonker, L Van Uffelen, R A Krishfield, M A Dzieciuch, P F Worcester
- 1530h **IS43A-07** The Moana Project's Tiro Moana (Eyes on the Sea): Developing a sensor for ocean data collection by the seafood sector to improve ocean prediction in New Zealand: **J Jakoboski**, B Beamsley, M Roughan, J M Azevedo Correia de Souza, J Radford

1545h **IS43A-08** Development and growth of smartcoastlines.org: strategic monitoring and resilience training in coastal watersheds on affordable budgets: **B T Glazer**, H I Lio

MARINE ECOLOGY AND BIODIVERSITY

ME43A 7A, UL

Thursday 1400h

Advances in the Ecology, Behavior, Physiology, or Conservation of Marine Top Predators III (*joint with PI*)

Moderators: **Mark Baumgartner**, Woods Hole Oceanographic Institution; **Daniel Palacios**, Oregon State University

- 1400h **ME43A-01** Temporal variations in blue whale call types in the northeast Pacific at diel, seasonal, and interannual time scales with tag-derived behavioral context: **J Fahlbusch**, W Oestreich, D E Cline, D Cade, J Calambokidis, J Joseph, T Margolina, B Southall, J A Goldbogen, J P Ryan
- 1415h **ME43A-02** Divergent trophic responses of sympatric penguin species to historic anthropogenic exploitation and recent climate change: **K McMahon**, C Michelson, M J Polito
- 1430h **ME43A-03** Through the looking glass: Using epidermal microbiomes to peer into the health of Bristol Bay and Cook Inlet beluga whales: **A Van Cise**, P R Wade, C E Goertz, K Burek-Huntington, K Parsons, R Hobbs, A Apprill
- 1445h **ME43A-04** Potential Impact of Mid-Frequency Active Sonar on Whales from Passive Acoustic Monitoring Data: **A Solsona Berga**, J S Trickey, A Rice, A Sirovic, M A Roch, C Paxton, C S Oedekoven, S M Wiggins, J A Hildebrand, L Thomas, S Baumann-Pickering
- 1500h **ME43A-05** Elucidating climate, density, and oil spill effects on Kemp's ridley sea turtle somatic growth rates: **M D Ramirez**, L Avens, L R Goshe, M L Snover, M Cook, H Haas, S S Heppell
- 1515h **ME43A-06** Humpback and Minke Whales Increase the Intensity of Their Calls in Increased Background Noise From Natural Sources: **R Guazzo**, T Helble, C Martin, I Durbach, G Alongi, S Martin, E E Henderson
- 1530h **ME43A-07** Gain-Modulated Linear Network Reveals Tuna Diving Behavior at Many Scales: **G Weaver**, B Block

- 1545h **ME43A-08** Observations and simulations of interannual variability in the first migration of Bering Sea northern fur seal pups: **N Pelland**, J Sterling, D Johnson, M A Lea

OCEAN BIOLOGY AND BIOGEOCHEMISTRY

OB43A 4, UL

Thursday 1400h

Complexity, Connectivity, and Change in Southern Ocean Food Webs I (joint with AI, ME, PI)

Moderators: Eugene Murphy, British Antarctic Survey;
Eileen Hofmann, Old Dominion University

- 1400h **OB43A-01** On the role of phytoplankton community structure for Southern Ocean carbon export and air-sea CO₂ exchange – a model assessment: **C Nissen**, N Gruber, M Vogt, M Munnich
- 1415h **OB43A-02** Synoptic-scale Weather Imprints on Upper-Ocean Physics and Phytoplankton Blooms in the Southern Ocean: **M M Carranza**, I Frenger, A Di Luca, M C Long, C M Zarzycki, R X Brady, D B Whitt
- 1430h **OB43A-03** Zooplankton and micronekton respond to climate fluctuations in the Amundsen Sea polynya, Antarctica: **H S La**, K Park, A Wahlin, K R Arrigo, D Kim, E J Yang, A Atkinson, S Fielding, J Im, T W Kim, H C Shin, S Lee, H K Ha
- 1445h **OB43A-04** Biomass Density and Transport of Antarctic Krill Measured Using Echosounders and ADCPs Aboard Autonomous Gliders and Moorings: **C Reiss**, G Cutter, J Walsh, A Cossio, G Watters, D Krause, J Hinke
- 1500h **OB43A-05** The Effect of Autumn and Winter Diet on the Physiology of Juvenile Antarctic Krill: **K S Bernard**, K Steinke, J Fontana
- 1515h **OB43A-06** Environmental Drivers of Antarctic Krill Distribution in the South Orkney Islands Region: **E F Young**, S E Thorpe, E J Murphy, A Renner
- 1530h **OB43A-07** Impacts of environmental variability on the Kerguelen Plateau marine ecosystem: **S Corney**, N A Hill, G Semolini Pilo, N J Holbrook
- 1545h **OB43A-08** Penguins as ecosystem proxies? Identifying millennial-scale shifts in carbon sources and phytoplankton regimes in the Antarctic marine ecosystem: **C Michelson**, K McMahon, W P Patterson, S D Emslie, M J Polito

OB43B 3, UL

Thursday 1400h

Linking the Biology, Geochemistry, and Circulation of the Gulf of Mexico III (joint with CT, CP, MM)

Moderators: Alan Shiller, University of Southern Mississippi; Juan Carlos Herguera, CICESE Center for Scientific Research and Higher Education

- 1400h **OB43B-01** Loop Current Entrainment and Advection of Phytoplankton from the Yucatan Shelf into the Southern Gulf of Mexico: **K Weathers**, J D Wiggert
- 1415h **OB43B-02** Spatio-temporal Patterns of Chlorophyll-a in a Wide and Low-relief Shelf Sea of the Gulf of Mexico: Insights of Inter-annual Climatic Forcing on the Phytoplankton Biomass Varying Behavior: **I Medina**, M Cahuich, A Aguilar, G Cruz, M Juárez, I Marino-Tapia, J Herrera-Silveira, C Enriquez
- 1430h **OB43B-03** Phytoplankton dynamics in the Gulf of Mexico: A satellite perspective: **G Silsbe**, N Chaichitehrani, V Coles
- 1445h **OB43B-04** Phytoplankton community (size fraction and pigment composition) response to environmental drivers in the river-dominated estuarine-coastal systems of the northern Gulf of Mexico from Sentinel-3 OLCI ocean color observations: **B Liu**, E J D'Sa, K Maiti, V H Rivera-Monroy, Z G Xue
- 1500h **OB43B-05** The influences of winds on *Karenia brevis* bloom characteristics along the shoreline of southwest coast of Florida: **Y Li**, R P Stumpf, M C Tomlinson
- 1515h **OB43B-06** Connectivity and Larval Dispersal Pathways of *Panulirus argus* in the Gulf of Mexico: A Numerical Study: **J A Lara Hernández**, J Zavala-Hidalgo, P Briones-Fourzán, L Sanvicente Añorve
- 1530h **OB43B-07** Phytoplankton nutrient uptake, size structure and biomass distribution in the spawning region of Atlantic Bluefin Tuna in the oligotrophic Gulf of Mexico: **N Yingling**, T B Kelly, T Shropshire, K E Selph, M R Landry, A N Knapp, S A Kranz, M R Stukel
- 1545h **OB43B-08** Distribution of yellowfin tuna (*Thunnus albacares*) in the southern Gulf of Mexico based on ecological niche models and pop-up satellite archival tags.: **Z Ramírez-Mendoza**, O Sosa-Nishizaki, A Fajardo-Yamamoto, A E Romo-Curiel, M C García-Aguilar, M R Ramírez-León

OB43C 2, UL**Thursday 1400h****Toward BioGeoSCAPES: Exploring Molecular Drivers of Ocean Metabolism and Biogeochemistry I** (*joint with CT, MM, NC*)**Moderators:** **Naomi Levine**, University of Southern California; **Benjamin Twining**, Bigelow Lab for Ocean Sciences

- 1400h **OB43C-01** Gradients in Functional Capabilities in the Sargasso Sea as determined by Metaproteomes collected by the Biogeochemical AUV Clio: **M A Saito**, M R McIlvin, E W Chan, D M Moran, B Searle, N Cohen, M M Kellogg, R Chmiel, P Lopez, F Pacheco, Z Anderson, R J Johnson, M Jakuba, J A Breier Jr
- 1415h **OB43C-02** Chemical and genetic evidence point to arseno-metabolites underpinning the marine arsenic cycle: **K Heal**, A Boysen, B P Durham, L Carlson, E V Armbrust, A E Ingalls, R M Bundy
- 1430h **OB43C-03** Testing model predictions and revealing basin-scale biogeography with whole-community PCR amplicons from GEOTRACES: **J McNichol**, P Berube, S Biller, S W Chisholm, J A Fuhrman
- 1445h **OB43C-04** Opening the black box of iron quotas in natural phytoplankton communities: **R F Strzepek**, P W Boyd
- 1500h **OB43C-05** Exploring Vitamin B₁ Cycling and its Connections to the Microbial Community in the North Atlantic Ocean: **C Suffridge**, L M Bolanos, A Z Worden, K Bergauer, J Morré, M Behrenfeld, S J Giovannoni
- 1515h **OB43C-06** Feel the Churn: A Catalog of South Pacific Microbial Diversity Across Water Masses: **B Kolody**, S G Purkey, R E Sonnerup, E Allen, A E Allen
- 1530h **OB43C-07** Global Biogeography of Picoplankton Ecotype Activity: **A Larkin**, C Garcia, J Lee, A Martiny
- 1545h **OB43C-08** Understanding How Emergent Community Trait-based Modeling (Genome-based EmergeNt Ocean Microbial Ecosystem Model) Influences Biogeochemical, Ecological, and Microbial System Responses: **V Coles**, J Wang, O Mason, M R Stukel

OCEAN CHANGE: ACIDIFICATION AND HYPOXIA**OC43A 11B, UL****Thursday 1400h****The Evolving Ocean Carbon Sink: Processes and Impacts II** (*joint with AI, OB, PC*)**Moderators:** **Galen McKinley**, University of Wisconsin Madison; **Nicole Lovenduski**, University of Colorado

- 1400h **OC43A-01** Decadal variability in the Southern Ocean carbon sink: Reconciling the mismatch between hindcast models and observationally-based products: **L Gloege**, G A McKinley, P Landschutzer, N S Lovenduski, K B Rodgers, A R Fay, T L Froelicher, J C Fyfe, T Ilyina, S Jones, C Rödenbeck, S Schlunegger, Y Takano
- 1415h **OC43A-02** On the Potential of the Southern Ocean Biological Pump to Maintain the Ocean Carbon Sink under Negative Emissions: **J Schwinger**, N Goris, J F Tjiputra, I Pilskog
- 1430h **OC43A-03** Mechanisms modulating ocean carbon uptake beyond 2100: **M O Chikamoto**, P N DiNezio
- 1445h **OC43A-04** THE BOTTLENECK OF BIOLOGICAL CARBON PUMP FEEDBACKS ON ATMOSPHERIC PCO₂: **W Koeve**, A Landolfi, P Kähler, A Oschlies
- 1500h **OC43A-05** The Microbial Carbon Pump: Quantifying the Dynamics of Dissolved Organic Carbon and its Impact on Atmospheric CO₂: **J D Wilson**
- 1515h **OC43A-06** Nutrient Controls on Export Production in the Southern Ocean: **L Arteaga**, M Pahlow, S M Bushinsky, J L Sarmiento
- 1530h **OC43A-07** Variable C/P Composition of Organic Production and its Effect on Ocean Carbon Storage in Glacial Model Simulations: **J Nycander**, M Ödalen, A Ridgwell, K I C Oliver, C Peterson, J Nilsson
- 1545h **OC43A-08** Response of atmospheric *p*CO₂ to glacial changes in the Southern Ocean amplified by carbonate compensation: **H Kobayashi**, A Oka

OCEAN DATA MANAGEMENT

OD43A 5A, UL

Thursday 1400h

Accelerating Ocean Science: Using Artificial Intelligence and Machine Learning to Gain New Insights I (*joint with ME*)

Moderators: **Carrie Wall**, **Jan Saynisch Wagner**,
Helmholtz Centre Potsdam GFZ German Research
Centre for Geosciences

- 1400h **OD43A-01** A 2D Fully Convolutional Neural Network for nearshore and surf-zone bathymetry inversion from synthetic imagery of the surf-zone using the model Celeris: **A Collins**, K L Brodie, S Bak, T Hesser, M Farthing, D W Gamble, J W Long
- 1415h **OD43A-02** VIIRS High Spatial Resolution Ocean Color Data Derived Using the Deep Convolutional Networks: **X Liu**, M Wang
- 1430h **OD43A-03** Deep Learning for Detecting Gulf Stream and Eddies from Satellite Images: **D Subramani**, R Sharma, A Gangopadhyay
- 1445h **OD43A-04** OrcaCNN: Detecting and classifying killer whales from passive acoustic data: **J Lopez**, A Singh
- 1500h **OD43A-05** Using Machine Learning to Find Relationships in Oceanographic Datasets: **C Holder**, A Gnanadesikan
- 1515h **OD43A-06** Extracting submesoscales from drifter observations using adaptive Gaussian Process regression techniques: **R C Gonçalves**, M Iskandarani, G R Halliwell Jr, M Le Henaff, G J Goni
- 1530h **OD43A-07** Oh What a Drag! Using Artificial Intelligence to Catalyze Efficient and Cost-Effective Video Review for At-Sea Electronic Monitoring Systems: **B Woodward**, C Heberer
- 1545h **OD43A-08** First Drain, Then Train: Unleash the Full Potential of AI on Large Underwater Datasets (After Removing the Water from Them): **D Akkaynak**, T Treibitz

PAST, PRESENT AND FUTURE CLIMATE

PC43A 1A, UL

Thursday 1400h

High-Resolution Climate Modeling II (*joint with AI, OM, PL*)

Moderators: **Gokhan Danabasoglu**, National Center for Atmospheric Research; **Shaoqing Zhang**, International Laboratory for High-Resolution Earth System Prediction (IHESP)

- 1400h **PC43A-01** The Response of the Northwest Atlantic Ocean to Climate Change: **M A Alexander**, S I Shin, J D Scott, E N Curchitser, C A Stock
- 1415h **PC43A-02** North Atlantic climate mean state and variability: Local effects of mesoscale ocean dynamics: **A Drews**, K B Matthes, T Martin, J Harlass, A Biastoch
- 1445h **PC43A-04** Dynamical downscaling of future changes in the Tasman Sea – a climate change hot spot: **X Zhang**, M Feng, R Matear, A J Hobday
- 1500h **PC43A-05** Sensitivity of High-Resolution Fully-Coupled Approximate Present Day Transient Climate Simulations to Initial Conditions.: **J McClean**, D Bader, M E Maltrud, D Ivanova, K J Evans, Q Tang, C Veneziani, M Taylor
- 1515h **PC43A-06** Impact of Ocean Eddies on the Response of the Global Coupled Climate System to Strong Greenhouse Gas Forcing: **D Putrasahan**, J S von Storch, K Lohmann, J Jungclauss, H Haak, O Gutjahr
- 1530h **PC43A-07** Understanding the Delayed Warming of the Southern Ocean: **S I Bilgen**, B Kirtman
- 1545h **PC43A-08** SubAntarctic Zone winter mixed layers and Mode Water formation in high-resolution CESM: **J Small**, D B Whitt, A K DuVivier, M C Long

PHYSICAL-BIOLOGICAL INTERACTIONS

PI43A 7B, UL

Thursday 1400h

(Sub)mesoscale Physical/Biogeochemical Interactions I (*joint with ME, OB, PS*)

Moderators: **Peter Gaube**, Applied Physics Laboratory at the University of Washington; **Jessica Luo**, National Center for Atmospheric Research

- 1400h **PL43A-01** Is the vertical flux of nutrients influenced by phytoplankton physiology?: **M Freilich**, A Mahadevan
- 1415h **PL43A-02** Do submesoscale processes shape the structure of Oxygen Minimum Zones in Eastern Boundary Upwelling Systems?: **P Calil**, R Onken, B Baschek
- 1430h **PL43A-03** Modulation of the Equatorial Pacific Oxygen Minima By Tropical Instability Vortices: **Y Eddebbbar**, A Subramanian, M C Long, M R Mazloff, M Merrifield
- 1445h **PL43A-04** Biogeochemical response associated with mesoscale structures in the open North Atlantic Ocean: **S Ramondenc**, F Norrbin, M Koski, R Lampitt, M H Iversen
- 1500h **PL43A-05** Carbon export through submesoscale instabilities: Combining in situ and satellite products: **Z K Erickson**, A F Thompson
- 1515h **PL43A-06** (Sub-)mesoscale Processes Lessen Climate Change Induced Primary Production Decline in an Idealized Simulation of the North Atlantic/Pacific.: **D Couespel**, M Levy
- 1530h **PL43A-07** Oceanic fronts and ecosystems in the Southern Ocean: a review of recent progress: **A Meyer**, C C Chapman, M A Lea, J B Sallee, M Hindell
- 1545h **PL43A-08** The biogeochemical Structure of Southern Ocean cyclonic eddies from Ship-based observation: **R Patel**, P G Strutton, J Llorc, P Condeparado, S Moreau, A Lenton, H E Phillips

PHYSICAL OCEANOGRAPHY: MESOSCALE AND LARGER

PL43A 15A, Mezzanine

Thursday 1400h

Atlantic Ocean Variability in a Changing Climate: Observations, Modeling, and Theories III (*joint with AI, HE, PC*)

Moderators: **Dian Putrasahan**, Max Planck Institute for Meteorology; **Laifang Li**, Duke University

- 1400h **PL43A-01** Historical Reconstruction of Anthropogenic Carbon and Excess Heat Content in the Subtropical North Atlantic Ocean: **M J Messias**, H Mercier
- 1415h **PL43A-02** Changes in ocean water masses reveal accumulation of the climate's excess heat in the Atlantic Ocean: **J D Zika**, J M Gregory, E McDonagh, A Marzocchi, L Clement
- 1430h **PL43A-03** Asymmetries in the thermal and carbon response in climate projections due to effects of air-sea exchange and dynamic redistribution for the Atlantic Ocean: **R G Williams**, A Katavouta, V Roussenov

- 1445h **PL43A-04** Atlantic SST variance changes in warmer climates: Atmospheric and oceanic mechanisms: **R Jnglin Wills**, L Thompson, D Battisti
- 1500h **PL43A-05** Pacific control of the Atlantic Multidecadal Oscillation - El Niño relationship in the Community Earth System Model - Large Ensemble Simulation: **D Kim**, S K Lee, H Lopez, M P Goes
- 1515h **PL43A-06** Of phase lags and causality, with implications for the ocean's role in Atlantic multidecadal variability: **J Emile-Geay**, M A Cane
- 1530h **PL43A-07** The Role of Vertical Mixing in Atlantic Multidecadal Variability Amplitude: **J M Klavans**, L M Goes, A C Clement
- 1545h **PL43A-08** Dynamics responsible for the AMV depends on region: **O Gozdz**, M W Buckley, L L Trenary

PHYSICAL OCEANOGRAPHY: MESOSCALE AND SMALLER

PS43A 15B, Mezzanine

Thursday 1400h

Boundary Currents and Shelf/Deep-Ocean Exchange I (*joint with CP, PI, PL*)

Moderators: **Catherine Edwards**, University of Georgia; **Matthew Archer**, NASA Jet Propulsion Laboratory

- 1400h **PS43A-01** Impact of regional and temporal changes in the Agulhas Current's course on coastal and shelf regions.: **M Krug**, L Braby
- 1415h **PS43A-02** Deep Ocean Interactions with the West Florida Shelf: the Role of the "Pressure Point" on Both Across Shelf Transport and the Penetration of the Loop Current into the Gulf of Mexico: **Y Liu**, R H Weisberg
- 1430h **PS43A-03** Transport and Modification of Water Masses within the Gulf Stream from Underwater Glider Observations: **J Heiderich**, R E Todd
- 1445h **PS43A-04** Warm Spiral Streamers over Gulf Stream Warm-Core Rings: **W G Zhang**, D J McGillicuddy Jr
- 1500h **PS43A-05** Gulf Stream Position, Width, and Orientation Estimates with HF Radar off Cape Hatteras, N.C.: **M Muglia**, H Seim, S Haines
- 1515h **PS43A-06** A subsurface shelf water export event at Cape Hatteras in January 2018: **L Han**, H Seim, J Bane, R E Todd
- 1530h **PS43A-07** Ocean responses to major hurricanes during PEACH: a model synthesis study: **R He**, S Mao, J B Zambon, J Bane, G Gawarkiewicz, R E Todd, H Seim, C R Edwards, M Andres, D K Savidge

1545h **PS43A-08** Atmospheric Forcing of the Hatteras Coastal Ocean during PEACH: **J Bane**, H Seim, S Haines, R He, J B Zambon, G Gawarkiewicz

TUTORIAL TALKS

TT43A 1B, UL

Thursday 1400h

El Niño-Southern Oscillation in a Changing Climate (*joint with AI, PC, SI*)

1400h **T007-01** Nonlinear Interaction Between Cold Tongue Mode and El Niño: Weakening of El Niño Bjerknes Feedback: **D Lemmon**, K B Karnauskas

TT43B 1B, UL

Thursday 1430h

Oceanic Carbon Sequestration: The Role of Particle Injection Pumps (*joint with IS, OB, OM*)

TT43C 1B, UL

Thursday 1500h

An Online Best Practices Guide for Conducting Ocean Global Change Biology Multiple-Driver Experiments (*joint with ED, OB, OC*)

TT43D 1B, UL

Thursday 1530h

Submarine, Overland, and Aerial Assault: A Tutorial on Acidification and Carbonate System Variability in Coastal Waters (*joint with CP, OB, OC*)

AIR-SEA INTERACTIONS

AI44A Poster Hall C-D

Thursday 1600h

Fluxes and Physical Processes Near the Air-Sea Interface: Observations and Modeling (Cosponsored by the AMS Committee on Air-Sea Interaction) VI Posters (*joint with CP, IS, PS*)

Moderators: **Damien Josset**, US Naval Research Laboratory; **Melanie Fewings**, Oregon State University

AI44A-2389 POSTER 1D Ocean-Atmosphere Coupled Model Applied to a Diurnal Warm Layer Case: **H Giordani**, A Voldoire, R Roehrig, Y Zhang, S Xie, H Bellenger

AI44A-2390 POSTER A First Look at Saildrone Measurements of Air-Sea Exchange at Mid-Higher Latitudes: **L Yu**

AI44A-2391 POSTER A Laboratory Investigation of Spume Generation in High Winds for Fresh and Seawater: **S Mehta**, D G Ortiz-Suslow, B K Haus

AI44A-2392 POSTER A Modified COAWST for Surface Oil Transport in the Gulf of Mexico: **D Blair**, Y Zheng, M A Bourassa, S Van Gorder

AI44A-2393 POSTER Acoustic Observations of Bubble Plumes at a Tidal Intrusion Front in the James River Estuary: **C Bassett**, A C Lavery, W R Geyer, J Thomson

AI44A-2394 POSTER Air-Sea CO₂ Fluxes in Hudson Bay during the Spring Sea Ice Melt Season: **M Ahmed**, B Else, B Butterworth, D W Capelle, L A Miller, T N Papakyriakou

AI44A-2395 POSTER Air-sea coupled simulations of steady and unsteady oceanic waves.: **F Drullion**, S Sajjadi

AI44A-2396 POSTER Air-Sea Interactions and Earth System Modeling: An Unified Wave Interface: **S S Chen**

AI44A-2397 POSTER An Observational Study of Momentum Flux Variability in Typhoons: **M Lyu**, H Potter, C O Collins III

AI44A-2398 POSTER Annual Mean Surface Heat Fluxes in the Gulf of Mexico: **M A Calva**, J Zavala-Hidalgo, R Romero-Centeno, M E Osorio-Tai, A Pedraza-Diaz

AI44A-2399 POSTER Bubble mediated gas transfer: **L Deike**, W K Melville

AI44A-2400 POSTER Characterizing Extreme Diurnal Warming in Satellite-Derived Operational Sea Surface Temperature Products: **G A Wick**, S L Castro, D L Jackson

AI44A-2401 POSTER CYGNSS Surface Heat Flux Product: Development and Initial Results: **J Crespo**, S Asharaf, D J Posselt

AI44A-2402 POSTER Development and Testing of the AXBT Realtime Editing System (ARES): **C Densmore**, E Sanabia, S R Jayne

AI44A-2404 POSTER Diurnal to Subseasonal Air-Sea Interaction from a Mooring in the Atlantic ITCZ: **J A Christophersen**, G R Foltz, R C Perez

AI44A-2405 POSTER Diurnal variability of upper ocean temperatures observed from buoys in the northwestern Pacific: **M C Hsieh**, M H Chang, Y H Cheng, Y J Yang, S Jan

AI44A-2406 POSTER Dropsonde Atmospheric Surface Flux Estimates in Tropical Cyclones: **B Mark A**, H Holbach, K Ahern, R C Foster

AI44A-2407 POSTER Effect of component waves on drag coefficient in laboratory experiments: **R Maekawa**, N Suzuki, N Takagaki

AI44A-2408 POSTER Effect of the fluctuation of the wind speed and direction on the drag coefficient investigated using tower-based measurements: **N Suzuki**, T Waseda

AI44A-2409 POSTER Estimation of Autumnal Cooling and Driven circulations in a Large Estuary: **A Ilia**, J O'Donnell, G McCardell

AI44A-2410 POSTER Estimation of extreme significant wave height using satellite altimeter data in the Northwest Pacific: **H J Woo**, K A PARK

AI44A-2411 POSTER Event and Seasonal Scale Variability of Surface Heat and Momentum Fluxes off Oregon and Washington: **E P Dever**, J P Fram, C M Risien, R A Desiderio, C E Wingard

AI44A-2412 POSTER Gas Exchange via Sea Spray: A Refined Model: **A Staniec**, P Vlahos, E C Monahan

AI44A-2413 POSTER Impact of Shoaling Wind Waves on Drag Coefficient in Finite Depth: **T Hara**, X Chen, I Ginis

AI44A-2414 POSTER Impacts of Langmuir Turbulence on upper ocean under Tropical Cyclones: **X Zhou**, T Hara, I Ginis, E A D'Asaro, R R Harcourt, Z Zheng

AI44A-2415 POSTER Lower atmosphere processes affecting the surface ocean: mixed and mixing layer depths: **V Giunta**, B Ward

AI44B Poster Hall C-D

Thursday 1600h

Impacts of Interbasin Interaction on Climate Variability and Extreme Events II Posters (*joint with OM, PC, PL*)

Moderators: Michael Alexander, NOAA Boulder; Belen Rodriguez-Fonseca, Universidad Complutense de Madrid

AI44B-2416 POSTER A Large, Sustained El Niño-Like Response To Nuclear Conflict: **S Stevenson**, J L Coupe, N S Lovenduski, A Robock, C S Harrison, C Bardeen, B Toon

AI44B-2417 POSTER Contribution of ENSO related oceanic teleconnection to asymmetry of the Ningaloo Nino/Nina: **H Kusunoki**, S Kido, T Tozuka

AI44B-2419 POSTER Extreme waves and climatic patterns of variability in the North Atlantic Ocean and the Mediterranean Sea: **V Morales-Márquez**, A Orfila, M Marcos, G Simarro SR

AI44B-2421 POSTER Impact of ENSO-like Tropical Pacific Decadal Variability on the Relative Frequency of El Niño and La Niña Events: **Y Okumura**, T Sun

AI44B-2422 POSTER Impact of Equatorial Atlantic Variability on ENSO Predictive Skill: **B Rodriguez-Fonseca**, E Exarchou, P Ortega, C Prodhomme, T Losada Doval, I Polo

AI44B-2424 POSTER Mechanism of Atlantic Remote Influence on Pacific: **S Liu**, P Chang, X Wan, F S Castruccio, S G Yeager, G Danabasoglu

AI44B-2425 POSTER Oceanic Forcing on Interannual Variability of Sahel Heavy and Moderate Daily Rainfall: **M Diakhate**, B Rodriguez-Fonseca, I Gómara, E Mohino, A L Dieng, A T Gaye

AI44B-2426 POSTER Recent hemispheric asymmetry in global ocean warming induced by climate change and internal variability: **H E Phillips**, S Rathore, N L Bindoff, M Feng

AI44B-2427 POSTER Relation Between Interannual Variability of Regional-scale Indonesian Precipitation and Large-scale Climate Modes in the Last Half Century: **G Alsepan**, S Minobe

AI44B-2429 POSTER Spatio-temporal assessment of long-term historical wave simulation using MIROC6 wind dataset; A global scale study: **H Tatebe**, B Kamranzad, K T Takara

AI44B-2431 POSTER The Inter-annual Variation of the Significant Wave Height in the South China Sea and Western North Pacific region: **S LI**, Y Li, S Peng

AI44B-2436 POSTER Westward Wind Changes over the Tropical and Mid-latitude Pacific Driven by the Tropical Atlantic and Indian Ocean SST Forcing: **X Li**

AI44C Poster Hall C-D

Thursday 1600h

Processes Affecting Air-Sea Exchange and the Biogeochemistry of the Upper Ocean III Posters (*joint with CT, CP, IS, OB, OM, PI*)

Moderators: Mariana Ribas Ribas, Carl von Ossietzky Universität Oldenburg; Alison Gray, University of Washington

AI44C-2437 POSTER A new estimate of the wintertime Southern Ocean CO₂ flux from subsurface summer observations: **N Mackay**, U Schuster, A J Watson

AI44C-2438 POSTER Drivers of future seasonal and interannual changes in pCO₂: **A Gallego**, A Timmermann, T Friedrich, R E Zeebe

AI44C-2439 POSTER Interannual and seasonal surface water pCO₂ in a marsh-dominated estuary: **D P Gillikin**, H O'Hara, D H Goodwin, A D Wanamaker

AI44C-2440 POSTER Protocol for the Assessment and Correction of Moored Surface Water and Air pCO₂ Measurements from the Ocean Observatories Initiative Endurance Array: **C E Wingard**, E P Dever, J P Fram, C M Risien

AI44C-2441 POSTER Rain-induced changes in sea surface salinity and pCO₂: Implications for global air-sea CO₂ fluxes: **D T Ho**, M Kelley, X Perrot, H Bellenger

AI44C-2443 POSTER Carbonate system parameters during the propagation of Agulhas eddies through the South Atlantic Ocean: inferences from satellite data: **I Orselli**, F Galdino, J L Azevedo, R Kerr Sr, C Goyet

AI44C-2445 POSTER Distributions and Air-Sea Exchange of Methane and Nitrous Oxide in the Levantine Basin: **J Dedrick**, S A Yvon-Lewis, Y Makovsky, O M Bialik, D Sher

AI44C-2446 POSTER Effects of air-sea exchange of reactive gases on global atmospheric chemistry system: **T Sekiya**, M N Aita, A Yamamoto, F Taketani, Y Iwamoto, K Kawamoto, K Sudo, Y Kanaya

AI44C-2447 POSTER Leveraging Modern Oceanic Sampling Technologies to Improve Climate Models: **M R Mazloff**, K Rea, M P Meredith, S H Bittleston, D Walker, J Rizzi

AI44C-2448 POSTER VOC Emissions From a Mesocosm Bloom Experiment: Untangling Abiotic and Biotic Processes: **D Dang**, M R C Alves, D Gonzales, S Amiri, K A Prather, V H Grassian

AI44C-2449 POSTER Predicted and Observed Differences in Organic Functional Group Composition in Marine Aerosols from Three Oceans: **L M Russell**, S Lewis, G Saliba, R L Modini, L T Cravigan, Z Ristovski, P Quinn, T S Bates, A A Frossard

AI44C-2451 POSTER Extraction and characterization of surfactants in coastal seawater and atmospheric aerosol particles from Skidaway Island, GA: **T Burdette**, R Bramblett, D Phillips, K Zimmermann, A A Frossard

AI44C-2452 POSTER Understanding the Role of Marine Surface Active Compounds in the Microphysical Properties of Primary Marine Aerosol: **R Bramblett**, T Burdette, A A Frossard

AI44C-2453 POSTER Speciation of Iron in Aerosol Particles Entering the Irish Shelf at Mace Head measured by μ XAS and cathodic-stripping voltammetry: **S L Nicholas**, D Ceburnis, M I Heller, M A Marcus, G Sarthou, P L Croot

AI44C-2454 POSTER Aerosol trace element concentrations and fractional solubility in the North Pacific Ocean: US GEOTRACES GP-15 Pacific Meridional Transect: **C S Buck**, C Marsay, W M Landing

AI44C-2455 POSTER Atmospheric Nitrogen Deposition to the Eastern Indian Ocean during Boreal Autumn: **Y Iwamoto**, K Kawamoto, F Taketani, Y Kanaya, T Sekiya, M N Aita, K Yamaji

AI44C-2456 POSTER Potentials of Deposition of Atmospheric Inorganic Nitrogen Compounds to the Surface Marine Ecosystem at Sea of Japan: **F Taketani**, M N Aita, K Yamaji, T Sekiya, K Ikeda, K Sasaoka, M C Honda, K Matsumoto, Y Kanaya

AI44C-2457 POSTER Aerosol organic matter composition during the US GEOTRACES Pacific Meridional Transect (GP-15): **A S Wozniak**, J I Czarnecki, A M Ebling, N R Coffey, C Buck

AI44C-2458 POSTER Field Evidences for the Positive Effects of Atmospheric Deposition on Primary Productivity in the Oligotrophic Ocean: **K Matsumoto**, F Taketani, K Yamaji, Y Iwamoto, M C Honda

COASTAL AND ESTUARINE PROCESSES

CP44A Poster Hall C-D

Thursday 1600h

Application of Remote Sensing to Coastal/Upwelling Regions II Posters (*joint with IS, ME, PS*)

Moderators: Marisol Garcia-Reyes, Farallon Group LLC; Jorge Vazquez, Jet Propulsion Laboratory

CP44A-1305 POSTER Interactions Between the Subtidal Variability of an Upwelling Front and Wind Stress in the Midriff Archipelago Region of the Gulf of California Using Remote Sensors.: **L Tenorio-Fernandez**, J M Montes-Arechiga, L Sanchez Velasco

CP44A-1306 POSTER Assessing the effects of climate variability on the distribution of albacore tuna (*Thunnus alalunga*) in the southern Indian Ocean using Remote Sensing data: **S Mondal**, M A Lee

CP44A-1307 POSTER Reconstruction of MODIS Daily High Resolution Sea Surface Temperature over South Eastern Arabian Sea for Near Real Time Applications: **S Sunder**, R Ramsankaran, B Ramakrishnan

CP44A-1308 POSTER Closing the Gaps: A Public/Private Partnership for Coastal HF Radar Coverage along the Louisiana Coast: **M T Ogle**, R D Hetland, S F DiMarco, S D Howden, B Williams

CP44A-1309 POSTER Characteristics of Texas Coastal Current from 2018 to 2019 from HF Radar Observations: **X Ge**, S F DiMarco, K Whilden, A Knap, C Y Hsu

CP44A-1310 POSTER Improved HF Radar sensing of Ocean Surface Currents: **I Rodriguez-Alegre**

CP44A-1311 POSTER Systematic scatterometer wind errors near coastal mountains: **T Kilpatrick**, S P Xie, D G Long, N Hutchings, W Chapman, B D Cornuelle

CP44A-1312 POSTER Spatio-temporal visualization of evolving shear instabilities using a multibeam sonar: **D Plotnick**, A C Lavery, W R Geyer, T Marston

CP44A-1313 POSTER Optical Water Quality and Seagrasses in Florida's Big Bend and Apalachee Bay, Northeast Gulf of Mexico: **L Yarbrow**, P R Carlson Jr, B B Barnes, M Poniatowski

CP44A-1314 POSTER Evaluation of empirical and dynamic primary production estimates for the California Current System: **H F Houskeeper**, C A Edwards, R M Kudela

CP44A-1315 POSTER Adjusting Worldview-3 Spectral Radiances for High Resolution Coastal Ocean Color Application: **S Ladner**, D Lewis, M Kappus, R L Crout, A M Wytzka, P Martinolich, J Jolliff, A Lawson

CP44A-1316 POSTER Fusing Multiple Ocean Color Sensors for Coastal Water Clarity Monitoring: **K Luis**, Z Lee

CP44B-1318 POSTER Evaluating the vulnerability of salt marsh soil organic matter to microbial decomposition: **S Luk**, M E Gonnea, J Sanderman, K Gosselin, A C Spivak

CP44B-1319 POSTER Black to Blue: Quantifying Recalcitrant and Labile Carbon Stocks in a DE Tidal Wetland: **C Crawford**, K A StLaurent

CP44B-1320 POSTER Blue carbon stocks in temperate salt marshes (North Carolina, USA) vary in response to accelerated sea-level rise, salinity gradients and hydraulic modifications.: **D C Barber**, C E Parker, M J Aponte

CP44B-1322 POSTER Co-Evolution of Landscape, Forest, and Soil in a Planted Mangrove Eco-Park in Kalibo, Philippines: **W Dimalanta**, C M Jaraula, R R Rollon, M L San Diego-McGlone, K L Bejasa, T Miyajima, F P Siringan, G M G Albano, K P Landicho, J C Munar, C M Dalida, A C Blanco

CP44B-1323 POSTER The Potential of Blue Carbon Management in Mexico. A Case Study From the Biosphere Reserve of Sian Ka'an.: **J Herrera-Silveira**, C Teutli-Hernández, P Arenas, J Montero

CP44B-1324 POSTER Identifying Drivers and Modelling Variability of Blue Carbon Stocks: **C Ewers Lewis**, M Young, D Ierodiaconou, J Baldock, B Hawke, J Sanderman, P E Carnell, P Macreadie

CP44B-1325 POSTER Distribution and Source of Organic Matter in Cored Sediments From the Andaman Sea off Myanmar: **H M Z Hossain**, H Kawahata, Y Sampei

CP44B-1326 POSTER Hurricane Harvey and salt marsh sediment carbon: Impacts of variable storm intensities across stable and dynamic marsh landscapes along the coast of Texas: **J Arriola**, J E Cable, E A Canuel, A P McNichol

CP44B-1327 POSTER Sediment depth and accumulation constrain belowground carbon stocks across northern New World mangroves.: **M T Costa**, E Ezcurra, P Ezcurra, P Salinas de León, B L Turner, J Kumagai, J Leichter, O Aburto-Oropeza

CP44B-1328 POSTER Sources and Characterization of Particulate Organic Matter from Coastal Plain Wetlands of Southeast North Carolina: Impacts from Major Storm Events: **A N Loh**, A D Giametti, A C Lucas

CP44B-1329 POSTER Sediment enhancement and hydrological restoration impacts on salt marsh vegetation and carbon storage in coastal New England: **D Perry**, C Thornber

CP44B-1330 POSTER Turbulence structure and carbon stocks along a seagrass meadow: **J Lei**, J Zhang, H M Nepf

CP44B Poster Hall C-D

Thursday 1600h

Carbon Accumulation and Its Long-Term Stability in Blue Carbon Ecosystems II Posters (joint with MG, OB)

Moderators: **Judith Drexler**, USGS California Water Science Center Sacramento; **James Fourqurean**, Florida International Univ

CP44B-1317 POSTER Assessment of Carbon Storage and Microbial Community Composition in Unique New England Wetlands: **T Pham**, R Vincent, L Webb, S Smriga, A R Babbitt

CP44C Poster Hall C-D

Thursday 1600h

Close-Range Remote Sensing of Nearshore Processes and Coastal Morphology III Posters

(joint with IS, PS)

Moderators: **Shawn Harrison**, Cherokee Nation Technology Solutions, contracted to U.S. Geological Survey; **Rafael Almar**, LEGOS

CP44C-1331 POSTER HF radar surface current estimates using beamforming and direction finding (Beamscan and MUSIC) with a linear array: **D Cahl**, G Voulgaris, L Leonard

CP44C-1332 POSTER Natural wave tank experiment for validating depth inversion algorithm in the intertidal beach: **T Kim**

CP44C-1333 POSTER Detecting wave-attenuation over coral reef during 2019 Atlantic Hurricane season at Tres Palmas, Puerto Rico: **S R Harrison**, P Chardon-Maldonado, M Canals, C Evans, O M Cheriton, J B Logan, K J Rosenberger, D J Nowacki, C D Johnson, C D Storlazzi

CP44C-1334 POSTER Quantifying the Importance of Ice-Rafted Debris to Salt Marsh Sedimentation: **S Stopak**, N K Ganju, Z Defne

CP44C-1335 POSTER Application of Video and Unmanned Aircraft Systems to Study Morphology of a Reflective Beach at Dzita, Ghana: **D Angnuureng**, P N Jayson-Quashigah V, T Stieglitz, R Almar, K Appeaning Addo

CP44C-1336 POSTER Semantic Segmentation of High-resolution Side-scan Sonar Imagery to Assess Changes in Restored Oyster Reef Habitats: **O Caretti**, D R Bohnenstiehl, D Eggleston

CP44C-1337 POSTER Testing of Pattern Recognition Processes in Visual and Thermal PIV: **M Fridge**, M L Palmsten, K M Koetje, A Wargula

CP44C-1339 POSTER Mapping Beaches with Lasers: Operational Considerations for Accurately Quantifying Small-Scale Morphological Changes Over Large Spatial Domains Using Mobile Terrestrial Lidar: **N Spore**, I Conery, N Cohn, K L Brodie

CP44C-1340 POSTER Seagrass Mapping and Density Estimation Using a Drone System – A Case Study in Futtsu Tidal Flat of Tokyo Bay, Japan: **J Chen**

CP44C-1341 POSTER Close-Range, Remote Sensing of Littoral Zones using a Multi-Platform Topographic / Bathymetric Lidar System: **J P Thayer**, A Gisler, C Nderson, G Thompson

CP44C-1342 POSTER Integrating acoustic and optical remote sensing for SAV mapping in a turbid estuary: **J R Krause**, A Hinojosa-Corona, E Watson

CP44C-1343 POSTER Opportunistic Structure-from-Motion Production and Analysis of Digital Surface Models for NOAA Coastal Airborne Imagery from Alaska's Beaufort Sea Coast: **S M Escarzaga**, N Kinsman, C E Tweedie

CP44C-1344 POSTER Calculation of wetlands erosion rates using Unmanned Aircraft Systems (UAS) and comparison with hindcast results from the hydrodynamic model: **J Y Kim**, K A Chang, J M Kaihatu, R A Feagin, T Huff

CP44C-1346 POSTER Comparing Remote Topographic Measurements of a Coastal Beach/Dune/Marsh Complex: **J High**, C R Sherwood

CP44C-1347 POSTER Automated estimation of coastal bathymetry from high resolution multi-spectral satellite images using log-linear inversion model: A Case Study in Sri Lanka: **A P Wijesundara**

CP44C-1348 POSTER Design and deployment of an infrared video monitoring system on an estuarine river: **K M Koetje**, M L Palmsten, S R Harrison

CP44C-1349 POSTER Novel Observation of Bathymetry in the Surf Zone using a UAV-mounted Green LiDAR: **M Banno**, T Tomii, T Tanaya, T Kuwae

CP44C-1350 POSTER Measuring Alongshore Variations in Swash Flows Using Stereophotogrammetry and Multi-Beam Lidar: **B L Bruder**, K L Brodie, N Spore

CP44C-1351 POSTER Video Observations of Shoreline and Sandbar Migration at a Wave Dominated Beach: Northern Monterey Bay, California: **M Pavlock McAuliffe**, S R Harrison, T Connolly

CP44C-1352 POSTER Shoreline Feature Mapping Using UAS-SfM Terrain Models: **E M Mazur**

CP44C-1353 POSTER Stationary LiDAR observations and modeling of runup, inner-surf zone waves, and beach morphology during energetic storm events: **L Kim**, K L Brodie, J W Fiedler, S N Giddings, R T Guza, M Merrifield

CP44C-1354 POSTER Short-Term Seasonal Changes Of Dzita Beach (Ghana) Using GIS And Photogrammetry: **E Brempong**, K Appeaning Addo, D Angnuureng, P N Jayson-Quashigah V

CP44C-1355 POSTER Surf zone bathymetry inversion during storms: **G Wilson**, A Salim

CP44C-1356 POSTER Shallow water bathymetric and habitat mapping of coastal DoD sites using airborne hyperspectral and lidar imagery: **J Ayers**, L Bolick, J Carilli, D Marx, S H Smith, A Young, L Lenain, N Statom, W K Melville, J H Bowles, D Miller

CP44C-1357 POSTER Improving the Understanding of HF Radar Antenna Patterns and Their Influence on Nearshore Surface Current Measurements: **G Mickelsen**, B Emery, L Washburn

CP44C-1358 POSTER Using an ultraportable Terrestrial Laser Scanner (TLS) to monitor coastal erosion in the Boston Harbor Islands: **F Peri**, C Schaaf, I L Paynter

CP44C-1359 POSTER Shoreline-Sandbar Coupling on a Sea-Breeze Dominated Beach: **J Arriaga**, G Medellín, G Simarro SR, T Mendoza, E Ojeda

CP44D Poster Hall C-D

Thursday 1600h

Coastal Processes and Climate Change: Scientific Methods and Tools to Characterize the Impacts of Changing Coastal and Nearshore Processes II Posters (*joint with MG, PC*)

Moderators: Kara Scheu, Organization Not Listed; David Revell, Revell Coastal

CP44D-1360 POSTER Sorting out Spatial Distributions and Temporal Population Fluctuations of the Endangered Light-footed Ridgway's Rail in Southern California Coastal Salt Marshes: **J Taylor**, E D Stein, R Zembal, R F Ambrose

CP44D-1361 POSTER Influence of Burrowing Crabs on Salt Marsh Substrate Stability and Vegetation: **S Courtney**, M Tyrrell

CP44D-1363 POSTER Marsh edge characteristics controlling the distribution and type of edge erosion: **L Houttuijn Bloemendaal**, D FitzGerald, Z J Hughes, A Novak

CP44D-1364 POSTER The Adaptation of Selected Pathogenic Microbes to Elevated Temperature and Their Detection *In Situ* in the Coastal Marine Environment: **V Turk**, N Orel, K Klun, M Ravnika, I Gutierrez-Aguirre

CP44D-1365 POSTER Impacts of the 2019 Mississippi River Flooding on Estuarine Phytoplankton Communities: **A C Jaegge**, J Raabe, B A Stauffer

CP44D-1366 POSTER Computational Model for Integrating Wave Hydrodynamics, Seagrass Blade Motion, and Seagrass Production: **N Tahvildari**, R C Zimmerman

CP44D-1367 POSTER Climate oscillation factors controlling hydrodynamic variability in urban lagoons under extreme environmental conditions in the southern Arabian Gulf, United Arab Emirates: **G Cavalcante**, F Vieira, M Abouleish, S Atabay, E J Campos

CP44D-1368 POSTER Calibration and assessment of two process-based numerical models, XBeach and CShore, for predicting beach profile evolution in southern California: **N Kalligeris**, P Smit, B C Ludka, R T Guza, T Gallien

CP44D-1369 POSTER *Correcting model bias in multiscale coastal storm surge models with climate change:* **J Rogers**, E Yang, S R Sain, A R Karspeck

CP44D-1370 POSTER Studying atmospheric forcing mechanisms for regional sea level changes using ECCO adjoint: **H Zhang**, I G Fenty, I Fukumori, T Lee, D Menemenlis, O Wang

CP44D-1371 POSTER Long-Term, Ensemble, Data-Assimilated Coastal Change Modeling: **S Vitousek**, L Cagigal, J K Montaña Muñoz, A C Rueda Zamora, F J Mendez, G Coco, P Barnard

CP44D-1373 POSTER Ongoing Beach Nourishments in San Diego County, Ca.: **B C Ludka**, M Merrifield, A Young, W C O'Reilly, R T Guza

CP44D-1374 POSTER A proposed acoustic monitoring solution for observing suspended sediments during intense storm events causing coastal erosion in the Western Canadian Arctic: **M G Asplin**, T Mudge, S Pearce, M Taillefer, J Buermans, D D Lemon

CP44D-1376 POSTER A Geotechnical Perspective on High Tide Flooding: Exploring the Relationship Between Site Characteristics and High Tide Flood Impacts: **A Burke**, N Stark, A Rodriguez-Marek

CP44D-1378 POSTER Greening the Grey: Integrating Oysters to Enhance Grey Infrastructure Effectiveness Against Sea Level Rise: **N Woodard**, M Gray, W Nardin

CP44D-1379 POSTER KLAIPEDA CASE OF THE BALTIC SEA BEACHES: PERCEPTION, ACCEPTANCE AND PERSPECTIVES: **E Baltranaite**, L Kelpsaite-Rimkiene, V Kondrat, I Sakurova, R Povilanskas Sr

CP44E Poster Hall C-D

Thursday 1600h

Extreme Sea Levels and Coastal Flood Risk III Posters (*joint with OM, PC, PS*)

Moderators: Thomas Wahl, University of Southampton; Sönke Dangendorf, Old Dominion University

CP44E-1380 *POSTER* High Frequency Tide-Surge Interaction in Estuaries: Causes and Implications for Coastal Flooding: **P Spicer**, K Huguenard, L Ross, L N Rickard

CP44E-1381 *POSTER* A Regional Operational and Storm Surge Model for the Galway Bay :Model Configuration and Validation: **H Nagy**, K Lyons, T Dabrowski

CP44E-1382 *POSTER* Assessing Coastal Water-Level Variability in the Salish Sea via a Spatially Extensive Network of Real-time Water-level Sensors and Hydrodynamic Modeling: **D J Nowacki**, A W Stevens, S C Crosby, E Grossman, N R VanArendonk, B Tehranirad

CP44E-1383 *POSTER* Interannual Variability of Winter Sea Level Induced by Local Atmospheric Forcing in the NorthEast Asian Marginal Seas (NEAMS): 1993-2017: **M M Han**, S Nam, Y K Cho, H W Kang, K Y Jeong, E Lee

CP44E-1384 *POSTER* Coral reef degradation would significantly rise U.S. coastal flooding hazards: **B Reguero**, C D Storlazzi, M W Beck, A D Cole, J B Shope, A Gibbs, K A Cumming

CP44E-1385 *POSTER* Future Nearshore Wave Climate Projection for the Northwestern Atlantic: **A Webb**, T Shimura, N Mori

CP44E-1386 *POSTER* Influence of Mangrove Trees on the Storm Surge Simulation Induced by Tropical Cyclone: **Y Li**, Q Chen Dr, D Kelly, K Zhang

CP44E-1387 *POSTER* A sustained acceleration of global mean sea level rise over altimetry era: **S C Cha**, J H Moon, J H Lee

CP44E-1388 *POSTER* An integrated operational forecast system for coastal, fluvial, and pluvial flooding in the San Francisco Bay area: **L Herdman**, B Tehranirad, C Nederhoff III, L H Erikson, G Pratt, M Leon, P Barnard

CP44E-1389 *POSTER* Generation Mechanisms of Extreme Infragravity Wave Induced Runup: **L H Montoya**, P J Lynett

CP44E-1390 *POSTER* Coupling of statistical and numerical modelling approaches to multi-scale storm surge dynamics at coastal zones: case of the English Channel: **I Turki Sr**, D I Dilmen, S Costa, B Laignel, O Maquaire Sr

CP44E-1391 *POSTER* Historical storm surges in the German Bight: **E Meyer**, R Weisse, B Tinz, T Möller

CP44E-1393 *POSTER* Laboratory Experiments of Tsunami Force Coefficient in Korea: **Y S Cho**, S C Lee

CP44E-1394 *POSTER* Assessing the Skill of Storm Surge Modeling Systems in Operational Forecast, Hindcast, Reanalysis, and Retrospective Applications: **S V Vinogradov**, E P Myers III, Y Funakoshi, S Moghimi, J Calzada

CP44E-1395 *POSTER* Historic and Geologic Sea Level Change in Winyah Bay, SC: **M Fink**, T J J Hanebuth, S A Talke, A Hawkes

CP44E-1397 *POSTER* Modeling return periods of strong storms for Resilient Connecticut: **C Liu**, Y Jia, Y Onat, A Ilia, A Cifuentes-Lorenzen, T Fake, J O'Donnell

CP44E-1399 *POSTER* Modelling flooding in a coastal estuary from combined storm surge and rainfall during hurricanes: **R P Mulligan**, A Rey, D R Corbett

CP44E-1400 *POSTER* Natural Variability in South Florida Sea Level Rise: **A Barroso**, R Burgman

CP44E-1401 *POSTER* Nuisance flooding duration across the United States: **K Serafin**

CP44E-1402 *POSTER* On the Seasonal Circulation and Sea Level Variability of the Gulf of Mexico: **A Pedraza-Díaz**, J Zavala Hidalgo

CP44E-1403 *POSTER* On the Use of Directional Wave Spectra to Identify Distant Swells Approaching a Pacific Atoll: **L Cagigal**, A Rueda, A Ricondo, G Coco, F J Méndez Incera

CP44E-1404 *POSTER* Runup amplification of full-stroke and dam-break waves on a sloping beach in shadow zone by an offshore island: **S Han**, J M Kaihatu, P J Lynett, C Synolakis

CP44E-1405 *POSTER* Simulating the impact of sea level rise on storm surge; a case study in the northeast of the US.: **S Kouhi**, M R Hashemi

CP44E-1406 *POSTER* Statistics of High-Water Events Controlling the After-Storm Recovery of Coastal Dunes: **T Rinaldo**, K A Ramakrishnan, I Rodriguez-Iturbe, O Duran Vinent

CP44E-1407 *POSTER* Storm Surge Modeling in the Southern of Java using Coupled 4D-VAR Circulation-Waves Model : EnsembleKF and Multi-Verification Approach: **E L Siadari**, N F Riama, K R Pratama

CP44E-1408 *POSTER* The amplification mechanism of a meteo-tsunami originating off the western coast of Kyushu Island of Japan: **K Fukuzawa**, T Hibiya

CP44E-1409 *POSTER* The Influence of Seasonal River Runoff on Sea Level Variability: **R Wadehra**, C G Picuch

CP44E-1410 POSTER U.S. East-Coast Shoreline Wave Climate during Intense Hurricane Forcing: Landfall Case Studies from 2016-2019: **E Terrill**, J Behrens, S Merrifield, C Olfe, R Bucciarelli, A Ho, M A Merrifield, T Hesser, R E Jensen

CP44E-1411 POSTER Understanding and Predicting the Response of a Barrier Beach to Extreme Storms; A Case Study on the South Shore of Rhode Island: **J Skaden**, M R Hashemi, B Kresning, A R Grilli, C Baxter, B Oakley, M L Spaulding

CP44E-1412 POSTER Urban Inundation Associated with Hurricane Dorian – An Example from Norfolk, VA: **S McGill**, R P Hale, A J Garnand

CP44F Poster Hall C-D

Thursday 1600h

Interdisciplinary Approaches for Understanding Coastal Ocean Carbon and Biogeochemical Processes and Budgets IV Posters (*joint with OB, OC, OM*)

Moderators: **Holger Brix**, Helmholtz-Zentrum Geesthacht; **Raymond Najjar**, The Pennsylvania State University

CP44F-1413 POSTER Direct spectrophotometric pH measurements of seawater using the sampling bottle: **M Blum**, E E Bockmon, M Verburg, K Mertz, S Gray, Y Takeshita

CP44F-1414 POSTER Quantifying the effect of sea breeze and winter storms on air-water CO₂ exchange in a mega-city estuary: **S Wong**, C J Zappa

CP44F-1415 POSTER Tidal Contribution to local Salt Marsh Metabolism in Santa Barbara County: **V Meza**, N Nidzieko

CP44F-1416 POSTER Resolving the spatial variability in marsh soil dissolved organic matter sorption kinetics: **H Morrisette**, A J Pinsonneault, R R Hood

CP44F-1417 POSTER Total Alkalinity Determined by Titration in the Presence of Dissolved Organic Matter: **J D Sharp**, R Byrne

CP44F-1418 POSTER Examining the relationship between alkalinity and submarine groundwater discharge in a semi-arid estuary: **M McCutcheon**, X Hu, D Murgulet, A R Douglas, C V Lopez

CP44F-1419 POSTER Optical Scattering Cross Sections for Suspended Organic and Mineral Matter in Coastal Waters of the Gulf of Mexico: Variance and Significance of Organic Scattering Cross Sections: **R H Stavn**, A U Falster, N Stockley, D Gray, R W Gould Jr

CP44F-1420 POSTER Carbonate Chemistry in Estuaries Along a Hydrological Gradient in the Northwestern Gulf of Mexico: **X Hu**, H Yao, M McCutcheon, C J Staryk, L Dias

CP44F-1421 POSTER Carbonate Chemistry of Galveston Bay Estuary: Impact of Hurricane Harvey and Implications for Oyster Reef Health: **T L Hicks**, K Shamberger, C Jensen, J N Fitzsimmons

CP44F-1422 POSTER Turf Algae on Dead Corals: Daytime Calcification and Nighttime Dissolution: **M R de Orte**, D Kowek, A J Griffin, K Wolfe, Y Takeshita, T Cyronak, R Albright, A M Szmant, R F Whitehead, K Caldeira

CP44F-1423 POSTER The Impact of Precipitation Events on Aquaculture Due to Coastal Acidification: **S Davis**, F Peri, R F Chen

CP44F-1424 POSTER Daily-to-weekly Impacts of Mixing and Relaxed Upwelling on the Carbonate Dynamics at a Large-River Dominated Shelf, Summer 2016: **W J Huang**, K J Kao, Y S Lin, C T A Chen, J T Liu

CP44F-1425 POSTER Biogeochemical observations and baseline CO₂ conditions in the Agua Hedionda Lagoon: **K Shipley**, T R Martz, B R Hales

CP44F-1426 POSTER Freshwater Endmembers Influencing the Dissolved Inorganic Carbon System of the Mississippi Sound: **A Savoie**, A Moody, K Dillon, A M Shiller, C T Hayes

CP44F-1427 POSTER Re-evaluating total alkalinity (TA) and dissolved inorganic carbon (DIC) relationships in dynamic coral reef systems: **T Cyronak**, Y Takeshita, K Schulz, R Albright, K Caldeira, B Eyre, A J Griffin, D Kowek, M R de Orte, K Wolfe

CP44F-1428 POSTER Seasonal and Interannual Variability in Net Ecosystem Production of Two Subtropical Estuaries: **M Herrmann**, R Najjar, H Briceno, C Hu, N Millette

CP44F-1429 POSTER New autonomous sensors for in situ measurements of marine carbonate chemistry parameters: **S Monk**, A Schaap, M Arundell, S Papadimitriou, S Loucaides, M C Mowlem

CP44F-1430 POSTER Internal tidal wave energy responsible of lithogenic inputs along the Iberian shelf: **M Lagarde**, S Barbot, F Lyard, C Jeandel

CP44F-1431 POSTER Nitrogen sources and fluxes in Western Long Island Sound: **C Menniti**, M M Whitney, P Vlahos, A Byrd

CP44F-1432 POSTER Phosphorus Uptake in Floating Wetlands: A Mass Balance Approach: **O Lopez**, L Harris, J M Testa, I Sanchez Viruet

CP44F-1433 *POSTER* Spatial variability in organic matter stocks and sources in a river-dominated estuary during wet and dry seasons: **L Alvaro**, J C Lehrter, M Fung

CP44F-1434 *POSTER* Determining the Pitzer interaction coefficients of TRIS in aqueous solutions of NaCl, TRISHCl and (TRISH)₂SO₄ by solubility measurements. A new experimental contribution towards the development of a traceable chemical speciation model of pH buffers used for applications involving seawater and other natural waters: **P Lodeiro**, D R Turner, S L Clegg, L González, E P Achterberg

CP44F-1435 *POSTER* Multifunction Calibration of H⁺ Responsive Glass Electrodes in Seawater: **M F Camões**, D Stoica, B Anes

CP44F-1436 *POSTER* Complexities in Estimating the Contribution of Minor, Unidentified Bases to Total Alkalinity in Seawater: **M L Paulsen**, A G Dickson

CP44F-1437 *POSTER* Metrological Challenges for pH Measurements in Natural Waters: **F Bastkowski**, S Seitz, A G Dickson, D Stoica, J D Müller

CP44G Poster Hall C-D

Thursday 1600h

The Inner Shelf: Impacts of Interconnected Processes IV Posters (joint with IS, OM, PS)

Moderators: Amy Waterhouse, Scripps Institution of Oceanography; Emily Lemagie

CP44G-1438 *POSTER* Airborne Remote Sensing of Surface and Internal Wave Processes on the Inner Shelf: **L Lenain**, N Statom, W K Melville

CP44G-1439 *POSTER* Altimeter Observations of Inner Shelf Water Level Changes in Monsoon-dominated Regions: **R L Crout**, A E Rice

CP44G-1440 *POSTER* Are Alabama Upwellings Broken? A Comparison of Burger Number and Velocity Structure: **C Larence**, B Dzwonkowski

CP44G-1441 *POSTER* Characteristics and Generation Mechanisms of Submesoscale Fronts over the Inner to Mid-shelf: **X Wu**, F Feddersen, S N Giddings

CP44G-1442 *POSTER* Comparing a High-Resolution Coupled Wave-Current Ocean Model and Biologging Derived Oceanographic Data: **D Ardag**, J A Lerczak, G Wilson, T H Ozkan-Haller, A G Peck-Richardson, D Lyons, R Orben

CP44G-1443 *POSTER* Inner shelf observations of surface wave energy in the equilibrium range: **P Smit**, T Janssen, J Voermans, A V Babanin

CP44G-1444 *POSTER* Modeling Coastal Upwelling on the Inner Shelf Near Pt. Sal, California: **K A Haas**, S Ahn, E Di Lorenzo, N Kumar, S Suanda, C A Edwards, A J Miller

CP44G-1445 *POSTER* Observations of acoustic intensity fluctuations observed during the Inner Shelf DRI experiment: **K Raghukumar**, F Spada

CP44G-1446 *POSTER* Observations of boundary layer dynamics beneath nonlinear internal waves of depression: **A Zulberti**, N L Jones, G N Ivey

CP44G-1447 *POSTER* Remote Sensing and Modeling of Warm and Cool Plumes Connecting the Surf Zone and Inner Shelf: **M Moulton**, C C Chickadel, J Thomson

CP44G-1448 *POSTER* Three-dimensional inner-shelf circulation downstream of Otago peninsula, New Zealand: **S Suanda**

CP44G-1449 *POSTER* Wave impact on surface Lagrangian movement under high wind events: an observation and process model study: **Y Jia**, J O'Donnell, Y Onat, M M Whitney

CP44H Poster Hall C-D

Thursday 1600h

Coastal Research Related to Hurricane Dorian and the 2019 Hurricane Season I Posters (joint with IS, MG, PC)

Moderators: Arthur Trembanis, University of Delaware; Katherine Brodie, US Army Corps of Engineers; Britt Raubenheimer, Woods Hole Oceanographic Institution

CP44H-3734 *POSTER* Hydrodynamic Effects of Hurricane Dorian at a Rapidly Prograding Barrier Island Spit and Inlet System: **K McPherran**, A C Trembanis, C J Hein

CP44H-3735 *POSTER* Tropical Storm Olga in the Gulf of Mexico October 25-26, 2019: **S D Howden**, A R Diercks, U C Nwankwo, S Tsei

CP44H-3736 *POSTER* Validating an Operational Total Water Level Forecast During Hurricane Dorian: **J J Birchler**, K S Doran

CP44H-3737 *POSTER* Ensemble Simulations of Hydro- and Morphodynamics during Hurricane Dorian at Duck, NC: **A Penko**, M Palmsten, J Veeramony, S R Harrison, K L Edwards, S M Trimble

CP44H-3738 *POSTER* Hurricane Dorian Impacts on Northeast US Shelf Marine Hydrography and Ecosystem: **M Freilich**, A Pacini, J J Suca, L Lobert, E T Crockford, B N Granzow, J Chen, S Cones, F Duffy, A Gaul, J Gong, C Hersh, M Jahns, A Jones, A Krinos, L Ma, P Poemnamthip, M Santos, I Streanga, R Sun, L Taenzer, G Gawarkiewicz

CP44H-3739 *POSTER* Nearshore Extreme Events Reconnaissance (NEER) Association: **N Stark**, B Raubenheimer, J Chen, S Elgar, H A Michael, L J Moore, L Peek

CHEMICAL TRACERS, ORGANIC MATTER AND TRACE ELEMENTS

CT44A Poster Hall C-D

Thursday 1600h

Biogeochemical Cycles in Oxygen Minimum Zones: Mechanisms, Drivers, and Change II Posters (*joint with OB*)

Moderators: David Janssen, University of Bern; Daniele Bianchi, McGill University

CT44A-0976 *POSTER* Biological Sink of Nitrous Oxide in Oxygen Minimum Zones: **X Sun**, J Tracey, C L Kelly, E Wallace, A Jayakumar, K L Casciotti, B B Ward

CT44A-0977 *POSTER* Trace Gases Variability in the Oxygen-Depleted African Eastern Boundary: **D B Sabbaghzadeh**, S Otto, M Glockzin, M Dengler, G J Rehder

CT44A-0978 *POSTER* An East-West transect of N₂ gas Across the Eastern Tropical North Pacific Oxygen Deficient Zone: **C A Fuchsman**, A Devol

CT44A-0979 *POSTER* Testing in situ incubators to measure rates of microbial nitrogen transformations in the Eastern Tropical North Pacific oxygen deficient zone: **K V Gutierrez**, P A Baya, C L Kelly, N M Travis, T Tamasi, A R Babbin, C Taylor, V P Edgcomb, K L Casciotti

CT44A-0980 *POSTER* Microbial Response in a Simulated Overturn of an Oxygen Minimum Zone; Devil's Hole, Bermuda: **R J Parsons**, C A Carlson, S Liu, R Garley, B Temperton, N R Bates

CT44A-0981 *POSTER* Interleaving of oxygenized intrusions into the Baltic Sea redoxcline: **P L Holtermann**, R D Prien, M Naumann, L Umlauf

CT44A-0983 *POSTER* Investigating Cr reduction in the Eastern Tropical North Pacific oxygen deficient zone with Cr isotope signatures: **T Huang**, E A Boyle

CT44A-0984 *POSTER* The cerium anomaly and manganese cycling processes in oxygen deficient zones: **A Floback**, K M Bolster, X Bian, J W Moffett, P S John

CT44A-0985 *POSTER* 9-Year Challenge of the Oxygen Minimum Zone in the Mexican Tropical Eastern Pacific: 2018 vs 2009 and interannual variability: **D Rivas**, J Farber Lorda, F Counillon, N S Keenlyside

CT44A-0986 *POSTER* Applying water masses as a framework to analyze the distribution of redox active compounds in the Pacific Oxygen Deficient Zones and the subsequent implications for low oxygen concentrations across the eastern Pacific Ocean: **Z Evans**, E Boles, J V Kwiecinski, S Mullen, M J Wolf, A Devol, R Moriyasu, S Nam, A R Babbin, J W Moffett

CT44A-0987 *POSTER* Do oceanic hypoxic regions act as barriers for sinking particles? A case study in the eastern tropical north Atlantic: **R Rasse**, G Dall'Olmo

CT44A-0988 *POSTER* *Particle-Associated Biogeochemical Processes in Fayetteville Green Lake, a High Sulfur, Permanently Anoxic Lake*: **A B Cohen**, F Weber, E Lo, G T Taylor

CT44A-0989 *POSTER* Abiotic Sulfurization of Dissolved Organic Matter within the Water Column of the Black Sea: **G V Gomez-Saez**, T Dittmar, A M Pohlabein, M Holtappels, A Lichtschlag, B Schnetger, A Boetius, J Niggemann

CT44A-0990 *POSTER* Comparative study of polymeric silicate formation and decomposition in pore waters of freshwater and saline areas: **J Park**, S Sugahara, Y Seike, M Sugiyama

CT44B Poster Hall C-D

Thursday 1600h

Biogeochemistry of DOM and DOM-Microbe Interactions IV Poster (*joint with MM, OB*)

Moderators: Bryndan Durham, University of Florida; Helena Osterholz, University of Oldenburg

CT44B-0992 *POSTER* Distribution and Physical Characterization of Microgels at Line P: **M V Orellana**, J Koopman, S Bercovici, D A Hansell

CT44B-0993 *POSTER* Chemodiversity of Bacterial Exometabolomes and Marine Dissolved Organic Matter: **J Niggemann**, B E Noriega-Ortega, G Wienhausen, T Dittmar, M Simon

CT44B-0994 *POSTER* How to reveal the bacterial imprint in natural dissolved organic matter: Optimizing ultrahigh resolution mass spectrometry analysis: **S Bercovici**, T Dittmar, J Niggemann

CT44B-0995 POSTER Tracking microbial uptake of phytoplankton derived DOM and model compounds by coral reef bacterioplankton using stable isotope probing: **J Comstock**, C Nelson, A Haas, L W Kelly, I Koester, Z Quinlan, C A Carlson

CT44B-0996 POSTER Substantial activities of organic matter decomposition by deep-sea microbial communities: **K Dykens**, K Ziervogel

CT44B-0997 POSTER Transformation of exogenous dissolved organic matter sourced from the northwest Pacific in the South China Sea: **X Li**, P Jiang, H Chen, K Lu, Z Liu

CT44B-0998 POSTER Evidence for dissolved organic matter diagenetic transformation and associated changes in the microbial community at Ocean Station Papa: **B M Stephens**, C A Carlson, D Petras, K Opalk, L Aluwihare, P Dorrestein, D A Hansell, S Liu

CT44B-0999 POSTER Tracking biodegradation signatures in dissolved organic matter using spectroscopy: **H E Reader**, L M Parsons

CT44B-1000 POSTER Primary producer contribution to a coral reef exometabolome: **A Haas**, C Nelson, L Aluwihare, M Arts, C A Carlson, J Comstock, P Dorrestein, E C Hopmans, I Koester, D Petras, Z Quinlan, L W Kelly

CT44B-1001 POSTER 2018 Hurricane Season Impacts to Dissolved Organic Matter and Microbial Communities in the Albemarle-Pamlico Estuarine System (APES) and Gulf Stream: **S Mitra**, E K Field, D R Corbett, C E Garrison, R Wheatley, A M Lindley

CT44B-1002 POSTER Cycling of Dissolved Organic Nitrogen in a High Turbidity and High Dissolved Inorganic Nitrogen Content River-a case study in Yellow River, China: **Z Yan**, Z Liang, X Zhong, M Yan, Y Xin

CT44B-1003 POSTER Strain-specific Humic-like Fluorescent Organic Matter Production by Diverse Marine Bacterioplankton: **R Paerl**, M R Shields, T S S Bianchi, C L Osburn

CT44B-1004 POSTER Seasonal differences in the optical properties of chromophoric dissolved organic matter (CDOM) in the coastal waters of Puget Sound in northern Washington State: **C D Clark**, A Yamamaura, W J de Bruyn

CT44B-1005 POSTER Variations in size and fluorescent components of dissolved organic matter in a negative estuary, the Fox River plume: **H Lin**, L Guo

CT44C Poster Hall C-D

Thursday 1600h

Controls on Trace Metal Biogeochemistry and Physicochemical Speciation in Seawater V Poster (joint with CP, OB)

Moderators: **Emily Estes**, University of Delaware; **Veronique Oldham**, University of Rhode Island

CT44C-1006 POSTER The Marine Geochemistry and Genesis of ferromanganese nodules from Central Indian Ocean Basin (CIOB): **S K Barman**

CT44C-1007 POSTER Marine Pollution Detection with Real-time Sensors: **Z Khalifa**

CT44C-1008 POSTER Heavy metal content of water, sediment and fish (*Oreochromis niloticus*, Linnaeus, 1758) from industrial effluent-polluted aquatic ecosystem in Lagos, Nigeria: **H Y Kushoro**, P E Ndimele

CT44C-1009 POSTER Assessment of Heavy Metal Concentration in *Chrysichthys nigrodigitatus* (Lacépède, 1803) and *Eichhornia crassipes* [Mart.] Solms from Ologe Lagoon and its Tributaries in Lagos, Nigeria: **A S Sunmonu**, O E Ndimele

CT44C-1010 POSTER Heavy Metals Concentration in Water, Sediment, Plant and *Bathygobius soporator* from Ologe Lagoon, Lagos State, Nigeria: **A A Mustapha**

CT44C-1011 POSTER Trace metals and copper isotope dynamics in the Ala Wai watershed and estuary, Hawai'i: Comparing the 1990s to today, and storm runoff to baseflow.: **L A C M Knor**, O Rouxel, E H De Carlo

CT44C-1012 POSTER Interactions between terrestrial dissolved organic matter and trace metals in the Amazon River plume: **M Seidel**, M Knoke, J S J Marques, H Waska, H Simon, C E Rezende, A Koschinsky, T Dittmar

CT44C-1013 POSTER New Players and Pathways in Manganese Oxidation Along an Estuarine Gradient: **J Necker**, V Oldham, S D Wankel, C Hansel

CT44C-1014 POSTER Using Continuously-Variable Leaching to Quantify Scavenged Particulate Phases in Marine Particles: **D C Ohnemus**

CT44C-1015 POSTER The Elemental Composition of Size Fractionated Particulate Matter Samples from the Central Arabian Gulf: Biotic and Abiotic sources: **O Yigiterhan**, I S Al-Ansari, A Nelson, M Abdel-Moati, J Turner, H A Alsaadi, B Paul, I A Al-Maslamani, M Al-Ansi, J W Murray

CT44C-1016 POSTER The Geochemical Distribution of Trace Metals in Suspended Particulate Matter at the Doha Bay, Exclusive Economic Zone, Qatar: **J Al-Thani**, I S Al-Ansari, Y Soliman, O Yigiterhan, J W Murray

CT44C-1017 POSTER Temporal Variability of Dissolved Aluminum in the Northern Gulf of Alaska: **A Kandel**, A Aguilar-Islas

CT44C-1018 POSTER Characterization of Inert Copper Species Using Solvent-Extraction ICP-MS: **R Moriyasu**, J W Moffett

CT44C-1019 POSTER An algorithm to characterize cobalt ligands in GEOTRACES samples: **J LI**, L Babcock-Adams, Z Song, M R McIlvin, D Repeta

CT44C-1020 POSTER Accumulation of metal(loid)s in plankton in coastal waters: **J Faganeli**, I Falnoga, N Kovac, D Mazej, P Mozetic, T Zuliani

CT44C-1022 POSTER The effects of temperature, salinity, and sediment organic carbon on MeHg uptake in phytoplankton: **A Curtis**, K Buckman, V F Taylor, B P Jackson, C Chen

ED44A-3704 POSTER Using Mentor Maps to Measure the Impact of an Intensive Field Experience Aboard the *JOIDES Resolution*: **K van der Hoeven Kraft**, L H Joseph, S K Cooper

ED44A-3705 POSTER STEMSEAS: Providing Formative At-Sea Research Exposure to Undergraduates: **B Sergeant**, I Kain

ED44A-3706 POSTER Students learning STEM through Sailing - Combining Classroom Techniques with Kinetic Stimulation to Convey Environmental and Physical Concepts: **K Parrish**

ED44A-3707 POSTER Communicating Ocean and Climate Science to Diverse Audiences through the Ambassadors for STEM Training to Enhance Participation (A-STEP) Program.: **L D White**, S K Cooper

ED44A-3708 POSTER Improving Science Communication and Developing Ocean Science Career Pathways through Educational Collaboration: **C Tems**, E B Rivest, R Komperda

ED44A-3709 POSTER How can Scientific Societies Address Disparities on Editorial Boards?: **K Poulson-Ellestad**, S Hotaling, L Falkenberg, P A Soranno

ED44A-3710 POSTER How to Build a More Diverse Workforce in the Geosciences: **P Joyce**, P Chigbu, A Jearld Jr, H Kite-Powell, G Liles, K Chu

ED44A-3711 POSTER Belonging: A Documentary Short and Facilitated Conversation on the Academic, Emotional, Social, Political, and Cultural, Hurdles to STEM Fields for People of Color: **C Martinez**, K Moore

EDUCATION, OUTREACH AND POLICY

ED44A Poster Hall C-D

Thursday 1600h

Changing the Culture: Preparing a Diverse and Inclusive Ocean Sciences Workforce III Posters

(joint with SI)

Moderators: **Jonathan Lewis**, Indiana University of Pennsylvania Main Campus; **Sonya Legg**, Princeton University; **Sharon Cooper**, Lamont Doherty Earth Observatory; **Brandon Jones**, National Science Foundation Office of Polar Programs; **Corey Garza**, California State University, Monterey Bay; **Lisa White**, University of California Berkeley

ED44A-3700 POSTER A Handbook on Running Research Experiences for Undergraduates (REU) in the Geosciences: A Sneak Preview: **V Sloan**, B C Bruno, D M Dalbotten, R Haacker

ED44A-3701 POSTER Challenges and Successes to Recruiting Underrepresented Students in a 15-Year Marine Sciences Research Experiences for Undergraduates Program at Oregon State University: **I Cheung**, K Yalcin

ED44A-3702 POSTER Trends in Participation for Ocean Sciences Research Experiences for Undergraduates Programs: **E L Rom**, T Pounds, A Ousley, M Valdez, S Neilson, S C Sanchez

ED44A-3703 POSTER Broadening Geosciences Preparedness through a Cross-Campus Experiential Partnership: **A C Jones**, D Y Kim, K Heidelberg IV, X Cheng, J Dutton

ED44B Poster Hall C-D

Thursday 1600h

Undergraduate Student Research: A Multidisciplinary Session IV Posters

ED44B-3712 POSTER Development of Two Diagnostic Tools to Detect the Putative Agent of Bacterial Gill Disease of Razor Clams (*Siliqua patula*) and Estimates of Prevalence and Load in Select Pacific Northwest Populations: **B Travis**, M Purcell, M L Groner, W Batts, C Conway, P K Hershberger, L Park

ED44B-3713 POSTER Investigating Marine Wildlife Ecotourism In Southern California: A Case Study for La Jolla Cove: **J Layton**, J A Seminoff

ED44B-3714 POSTER Changing Perceptions of Scientific Research Through Outdoor Learning Experiences: **S Troeh**

ED44B-3715 POSTER Instrumental Characterization of Pretoria clay soil by XRF, XRD, SEM: **A Olaseinde**, M B Shongwe, J Babalola, A Adeshina

ED44B-3716 POSTER Airport Runoff and Heavy Metal Accumulation in Sediment, Mussels and Oysters in San Diego Bay, CA: **S Douglass**, S Searcy, E M Cathcart

ED44B-3717 POSTER Flooding the Margins: Investigating the Compounding Effects of Urban Development and Coastal Hazards on Marginalized Communities: **K Wilkerson**

ED44B-3718 POSTER Anticyclonic Eddies and their Influences on Salinity in the Mid-Atlantic Bight: **A Martinez**, J Zhao, L P Sanford

ED44B-3719 POSTER Consequences of food limitation on the performance of early stage American lobster larvae: **J Capista**, A J Contreras, A Ascher, M Niemisto, D Fields, R Wahle

ED44B-3720 POSTER Dungeness Crab Zoea Distributions in the Northern California Current: **A Chin**, K Sweica, S Sponaugle, R Cowen

ED44B-3721 POSTER Gaining new perspectives of air-ocean-ice coupling in the Canadian Arctic using a Remotely Operated Vehicle and aerial drone: **M Digilio**, K Kopka, M Tzortziou, M Shaban, D Gong, N Trenholm, B Loose, G Scowcroft, H Morin

ED44B-3722 POSTER Elevated Springtime Macronutrient Concentrations near Freshwater Inputs of Humboldt Bay, California and their Effects on Primary Productivity: **C Dressler**, O Borisovaite, A K Bowley, J R Burr, J R Cupp, J Davey, C E Figueroa, R Floyd, R Freiburger, D M Hernandez, W J Kernkamp, M M Rayburn, W Warren, T B Barriquand, C Cass

ED44B-3723 POSTER Circadian Rhythms in Respiration Rates of Juvenile Antarctic Krill: **J Fontana**, K S Bernard

ED44B-3724 POSTER Spatial Distribution and Burrowing Behavior of the Invasive Mussel *Arcuatula Senhousia* in a Southern California Estuary: **A Gong**, N Reynolds, E M Cathcart

ED44B-3725 POSTER Making a Functional Fluid Dynamics Lab: The Más Lab: **A Isaac**, M S Hoecker-Martinez, D Stubbs

ED44B-3726 POSTER Extending the pH Range of the pHyer: **R Lindsay**, R S Spaulding, D B Podrasky

ED44B-3727 POSTER Variation in Concentration and Isotopic Composition ($\delta^{13}\text{C}$; C/N) of Sedimentary Organic Matter between Urban Bays and Offshore Shelves and Hypoxic Basins of the California Continental Margin: **C Nelson**, R Sarner, J Saavedra-Alvarado, S C Gray

ED44B-3728 POSTER The Effect of Climate Change and Predator Presence on the Metabolic Rate of Red Abalone (*Haliotis rufescens*): **K Nichols**, S Y Litvin, C Lovera, J P Barry

ED44B-3729 POSTER Understanding the Seasonal Dynamics of Chemical and Biological Processes in a Bay of the Central Coast of California: **A Norgaard**

ED44B-3730 POSTER Investigating the Past and Present Occurrence of Humpback Whales (*Megaptera novaeangliae*) in the New York Bight: **V Panagis**, D Brown, J Wiedenmann

ED44B-3731 POSTER A Localized Study of Tidal Influence on Air-Sea Methane Flux in the Gulf of Maine: **L Quirk**, K Posman, S D Archer

ED44B-3732 POSTER Freshening and Warming of Antarctic Intermediate Water Along a Transect from New Zealand to French Polynesia Using a Historical and Modern Data Comparison: **A Racioppi**, C Gaunt, D Goodwin

ED44B-3733 POSTER Photodegradation of Chlorinated Organic Compounds in Surface Waters: **C Tusei**, B DiMento, C Aepli

HIGH LATITUDE ENVIRONMENTS

HE44A Poster Hall C-D

Thursday 1600h

The Changing Thermohaline Structure of the Arctic Ocean: Mechanisms and Impacts II Posters (joint with AI, OM, PS)

Moderators: Jiaxu Zhang, Los Alamos National Laboratory; James Thomson, Applied Physics Laboratory University of Washington; Matthew Dzieciuch, University of California San Diego; Verma Tarun, Los Alamos National Laboratory

HE44A-2068 POSTER Long Term Observations of Thermal Diffusivity in the Arctic Pycnocline: **T P Stanton**, W J Shaw

HE44A-2069 POSTER Momentum Fluxes Across the Air-Ice-Ocean Interface in the Beaufort Sea: **S Brenner**, L Rainville, J Thomson, J A MacKinnon, C Lee

HE44A-2070 POSTER Wave-driven transport and shear along a sea ice edge: **J M Thomson**, B Lund, J T Hargrove, J A MacKinnon, M Smith, J Horstmann

HE44A-2071 POSTER Observations from the edge of the Beaufort Gyre: Ice-Tethered Profilers in 2018-2019: **S T Cole**, J M Toole, R A Krishfield

HE44A-2072 POSTER Eddy Shedding from a Pacific Summer Water Plume: **N Couto**, M H Alford, J T Hargrove, A J Lucas, J A MacKinnon, T Peacock, H L Simmons, J M Thomson

HE44A-2073 POSTER Whither the Chukchi Slope Current?: **T Peacock**, S Boury, P Odier, R S Pickart, P Lin, M Li, E Fine, J A MacKinnon

HE44A-2074 POSTER Near-inertial waves and microstructure mixing observations in the Beaufort Sea: **E Fine**, M H Alford, J A MacKinnon, J B Mickett

HE44A-2075 POSTER The effects of ice formation on wave-driven upper-ocean turbulence and air-sea exchanges.: **P Sutherland**, D Dumont

HE44A-2076 POSTER Changes in ocean-atmosphere heat and momentum fluxes during sea ice melt and breakup: **C J Zappa**, S Brown, N Laxague, C Witte, A R Mahoney, S R Betcher, D Hauser, A Subramaniam, A Whiting, J Goodwin, C Harris, B Schaeffer, R Schaeffer

HE44A-2077 POSTER Changing Freshwater Fluxes in the Arctic: A Tale of Melted Ice, River Runoff and the Bering Strait: **L W Cooper**, C Magen, J M Grebmeier, R M Holmes

HE44A-2078 POSTER Delayed Chukchi Sea Ice Advance by the Anomalous Warm SST in November 2018: **T Kodaira**, T Nose, T Waseda, J Inoue

HE44A-2079 POSTER Property change of the Atlantic water observed around the Chukchi borderland of the western arctic ocean: **J H Park**, Y Choi, C Jeon, K H Cho, T Park, Y G Park, S Seo, J Noh, J Y Chae

HE44A-2080 POSTER The Effect of the Changing Arctic on Acoustic Propagation in the Beaufort Sea: **M A Dzieciuch**, P F Worcester

HE44A-2081 POSTER Tidal and Wind-Forced Near-Inertial Current and Shear Variability in the Upper Ocean of the Eastern Arctic: Sensitivity to Changing Ocean and Sea Ice State: **L Padman**, T Baumann, I V Polyakov, I Fer, A T Nguyen, S L Howard

HE44A-2082 POSTER Turbulence, heat fluxes and the thermohaline structure along the eastern Arctic continental slopes in 2018: **K Schulz**, M A Janout

HE44A-2083 POSTER Turbulence north of Svalbard in summer 2018: mixed layer evolution and Atlantic Water layer dynamics: **Z Koenig**, E Kolås, I Fer, R Skogseth, M Marnela, F Nilsen

HE44A-2084 POSTER Inferring Mixing from Echosounder Observations of Double-Diffusive Staircases in the Arctic Ocean: **N Shibley**, M L Timmermans, C Stranne

HE44A-2085 POSTER Space & time variability of pan-Arctic estimates of internal wave-driven dissipation, mixing, and heat fluxes inferred from the Ice-Tethered Profiler network: **M Chanona**, H V Dosser, S Waterman, N Shibley, M L Timmermans

HE44A-2086 POSTER Response of Total and Eddy Kinetic Energy to the recent spin-up of the Beaufort Gyre: **C Lique**, H Regan, G Meneghello, C Talandier

HE44A-2087 POSTER Polar Amplification Due to Enhanced Heat Flux Across the Halocline: **E Beer**, I Eisenman, T J W Wagner

HE44A-2088 POSTER Idealized Numerical Modeling of Internal Wave Propagation Through Density Staircases: **M Schee**, N Grisouard

HE44A-2089 POSTER Growth and Decay of Baroclinic Eddies in the Seasonally Ice-Covered Arctic Ocean: **G Meneghello**, J C Marshall, C Lique, P E Isachsen, E Doddridge, J M Campin, H Regan, C Talandier

HE44A-2090 POSTER Changes of Stratification Structure in the Arctic Ocean in a Regional Ocean Model: **R Hordoir**, A B Sandø, V Lien, W P Budgell

HE44B Poster Hall C-D

Thursday 1600h

Ecosystem Structure and Processes in a Changing Arctic V Posters (*joint with ME, OB, PI*)

Moderators: **Jacqueline Grebmeier**, University of Maryland Center for Environmental Science Chesapeake; **Lee Cooper**, University of Maryland Center for Environmental Science; **Seth Danielson**, UAF

HE44B-2091 POSTER Finding the Estuaries Using Microbial Eukaryote Communities Along River to Sea Continuums in Hudson Bay, Canada.: **L Jacquemot**, C Lovejoy

HE44B-2092 POSTER Harmful Algae in the Canadian Arctic: The Phantom Menace?: **K Dionne**, M Poulin, A Rochon, M Gosselin

HE44B-2093 POSTER Phytoplankton Community Structure across a Distributed Biological Observatory in the Pacific Arctic Region: **L Young**, K E Frey, M T Kavanaugh

HE44B-2094 POSTER Phytoplankton dynamics in a changing Arctic Ocean: **M Ardyna**, K R Arrigo

HE44B-2095 POSTER Quantification of the pelagic primary production beneath Arctic sea ice: **J L Clement Kinney**, W Maslowski, R Osinski, M Frants, Y Lee

HE44B-2096 POSTER Resolving the Community Size Structure of Arctic Protist Plankton – Are We Missing Important Details?: **V Lampe**, E M Nothig, M Schartau

HE44B-2098 *POSTER* Changing occurrence of fall phytoplankton bloom and its impact on phytoplankton size structure in the Pacific Arctic: **H Waga**, T Hirawake

HE44B-2099 *POSTER* Copepod production in a high latitude shelf system: **A Poje**, C Smoot, R R Hopcroft

HE44B-2101 *POSTER* Modelling Calanus population dynamics under climate change along the North American Pacific margin from the California Current to the Arctic: **N Banas**, A Hunter, C J Ashjian, J E Keister, R G Campbell, D G Kimmel, L B Eisner, S A Ferreira, J Zhang

HE44B-2102 *POSTER* Biogeographic distributions of Ostracoda in the Bering, Chukchi and Beaufort Seas: **L Gemery**, H J Dowsett, L W Cooper, T M Cronin, J M Grebmeier

HE44B-2104 *POSTER* Recent Changes in Benthic Prey Populations in Relation to Gray Whale Feeding in the Pacific Arctic: **J M Grebmeier**, S Moore, L Cooper

HE44B-2106 *POSTER* Summer 2018 repeat autonomous vehicle surveys indicate age-0 Arctic cod are largely retained over the Chukchi Sea shelf: **R Levine**, A De Robertis, D Grunbaum, R A Woodgate, C Mordy, E D Cokelet, N Lawrence-Slavas, H M Tabisola

HE44B-2107 *POSTER* Trophic Dependencies of Arctic and Saffron Cod in the Nearshore Beaufort Sea, Alaska: **A Stanek**, V R von Biela, S M Laske, K H Dunton

HE44B-2108 *POSTER* BOEM's Alaska Environmental Studies Program: A Review of the At-sea Seabird Surveys and Red Phalarope Tracking Study: **R Raymond**, K Kuletz, R Lanctot

HE44B-2110 *POSTER* Timing and Occurrence of Upper Trophic Predators from the Northern Bering to the Western Beaufort Seas: Acoustic Detections of Arctic and Subarctic Marine Mammals at Ecosystem Observatories in 2017-18: **K Stafford**, S L Danielson, C J Ashjian

HE44C Poster Hall C-D

Thursday 1600h

Mechanisms for Variability, Circulation, and Transformation of Water Masses in the Southern Ocean III Posters (joint with OB, PL, PS)

Moderators: Annie Foppert, CSIRO Marine and Atmospheric Research Hobart; Dafydd Evans, University of Southampton

HE44C-2111 *POSTER* Changes of Antarctic Bottom Water in the central region (near 115°E) of the Australia-Antarctic Basin: **T Kobayashi**

HE44C-2112 *POSTER* Spatial and temporal variability of deep water-mass properties within the Australian Antarctic Basin captured by Deep Argo: **G Thomas**, S G Purkey

HE44C-2115 *POSTER* Atmospherically forced interannual variability of Subantarctic Mode Water volume and properties: **I Cerovecki**, A Meijers

HE44C-2116 *POSTER* Drivers of Interannual Variability in Southeast Pacific Subantarctic Mode Water: **R Sanders**, A Meijers, P Holland, A Naveira Garabato

HE44C-2117 *POSTER* Eastward-propagating interannual variability in Southern Ocean deep mixed layers: **Y Lu**, L D Talley, I Cerovecki, S P Xie, M R Mazloff, S T Gille, Q Liu, Y Zhang

HE44C-2118 *POSTER* ENSO Teleconnections to Subantarctic Mode Water Formation in the Southeast Pacific: **Q Li**, M H England

HE44C-2119 *POSTER* The Response of the Southern Ocean to Sudden and Persistent Extreme SAM Forcing: **K D Stewart**, M H England, A M Hogg

HE44C-2120 *POSTER* Positive phase of SAM influences winter APO anomalies over the Southern Ocean: **D R Munro**, C D Nevison, N S Lovenduski, R F Keeling, M Manizza, E J Morgan, C Rödenbeck

HE44C-2121 *POSTER* Long term observed changes of the global and Southern Ocean surface layer: **J B Sallee**, P Violaine, E Pauthenet, C Akhondas, L Vignes

HE44C-2122 *POSTER* The Global Warming Hiatus and Southern Ocean: **C H Park**, W Moon, S W Son

HE44C-2123 *POSTER* Time of Emergence of Human-Induced Climate Signal in the World Ocean Water-Masses: **Y Silvy**, E Guilyardi, J B Sallee, P J Durack

HE44C-2124 *POSTER* Water mass transformation by surface buoyancy flux in the Southern Ocean and its possible impact on AMOC in CMIP6 experiments of JMA/MRI: **S Urakawa**, H Tsujino, H Nakano, T Toyoda, K Sakamoto, G Yamanaka

HE44C-2125 *POSTER* Impacts of ice-shelf melting on water mass transformation in the Southern Ocean from E3SM simulations: **H Jeong**, X Asay-Davis, A K Turner, D S Comeau, S F Price, R Abernathy, C Veneziani, M R Petersen, M J Hoffman, M R Mazloff, T Ringler

HE44C-2126 *POSTER* Linking the Antarctic Circumpolar Current with Weddell Sea convection and with the meridional overturning circulation in a hierarchy of GFDL models: **S Molodtsov**, I Marinov, B Asadieh, J E San Soucie, A Cabre, R Maor

HE44C-2127 POSTER Ice loss induced by wind-induced anomalous heat storage in the Antarctic seasonal ice zone: **E Doddridge**, J C Marshall, J M Campin, M Kelley

HE44C-2128 POSTER Water-Mass Transformation in the Weddell Gyre: **S Bailey**

HE44C-2129 POSTER Characterising the influence of deep-ocean eddies and fronts on the shelf seas of a sub-Antarctic Archipelago in the Southern Ocean: The Prince Edward Islands: **T Lamont**, M Van den Berg, I J Ansorge

HE44C-2130 POSTER Origin, pathways, and characteristics of deep-ocean mesoscale eddies influencing the shelf seas of a sub-Antarctic Archipelago in the Southern Ocean: The Prince Edward Islands: **T Lamont**, M Van den Berg

HE44C-2131 POSTER Along-slope variability of cross-slope eddy transport in East Antarctica: **A Foppert**, S R Rintoul, M H England

HE44C-2132 POSTER Effect of horizontal resolution on the Southern Ocean circulation in the new GFDL OM4 model: **C O Dufour**, A Adcroft, S M Griffies

HE44C-2133 POSTER The impact of Southern Ocean mesoscale eddies on the uptake and transport of CO₂ and CFC-12: **J K Rieck**, L Patara

HE44C-2134 POSTER Mean and Seasonal Eddy Heat Fluxes Estimated from a 20-year Time Series of Upper-Ocean Observations in Drake Passage: **T K Chereskin**, M O Gutierrez-Villanueva, J Sprintall

HE44C-2135 POSTER Southern Ocean standing meander and sea level anomalies: over 20 years of trends: **A Meyer**, C Langlais, N Constantinou, B Legresy, A M Hogg, N L Bindoff

HE44C-2136 POSTER Processes Responsible for the Southern Ocean Heat Uptake and Redistribution under Anthropogenic Warming: **X Zhang**, K Lyu, J Church, Q Wu

HE44C-2137 POSTER Description and Dynamics of the Santos Bifurcation: **Á Piffer Braga**, I C Da Silveira, A Gangopadhyay

HE44D-2138 POSTER From ice to ocean: Tracking the composition, fate, and impact of submarine glacial discharge in the nearshore coastal ocean in the Canadian Arctic Archipelago: **P Williams**, M Roberts, C Dhoonmoon, D Burgess, E M Bertrand, S Waterman, M Bhatia

HE44D-2139 POSTER A Large Eddy Simulation of Turbid Meltwater Plumes at a Marine-terminating Glacier Front: **Y Matsumura**, N Kanna, S Sugiyama, S Aoki

HE44D-2140 POSTER Measuring tidewater glacier melt rates with underwater noise: **G B Deane**, O Glowacki, D Stokes, M Moskalik, M Chitre

HE44D-2141 POSTER Representing the break-up of tabular icebergs in models: **M England**, T J W Wagner, I Eisenman

HE44D-2142 POSTER Modelling Phytoplankton Blooms and the Resulting Biophysical Feedbacks within an Antarctic Coastal Polynya.: **A Twelves**, D Goldberg, S F Henley, M R Mazloff, D Jones

HE44D-2143 POSTER The Potential Role of Glacial Dynamics in the Life History of Two Contrasting Fjord Populations of Harbor Seals (*Phoca vitulina*): **J Jansen**, J ver Hoef, G M Brady, P Boveng

HE44D-2144 POSTER Arctic Air-Sea Energy Fluxes during Rapid Sea-Ice Reduction: **C Zhang**, D Zhang, Q Yang, K R Wood, E D Cokelet, C W Mordy, J N Cross, A M Chiodi, M Wang, E F Burger, K O'Brien, C Meinig, N Lawrence-Slavas, C L Gentemann, R Jenkins

HE44D-2145 POSTER Evidence from the Subtropical North Atlantic Ocean for the Influence of Iceberg Discharge on Ocean Circulation and Climate during the Last Ice Age: **M Cohall**, J F McManus, Y Zhou

HE44D-2146 POSTER Variability of topographic Rossby waves observed on the shelfbreak of the Chukchi Sea: **A Ku**, J H Park, Y H Seung, C Jeon, Y Choi, K Shimada, K H Cho, E Yoshizawa

HE44D-2147 POSTER Improving model representation of freshwater flux and glacial processes in ocean models: **F Habbal**, A T Nguyen, P Heimbach

HE44D-2148 POSTER Variation in North Atlantic Iceberg Numbers from 1950: **R W Dixon**

HE44D-2149 POSTER The influence of sea ice melt on phytoplankton spring bloom dynamics in Fram Strait: **C Lester**, T J W Wagner, D McNamara, M R Cape, H Koopman, S Rivero-Calle

HE44D-2150 POSTER Iron Biogeochemistry in the Northern Barents Sea: Seasonal Variability in Distribution and Concentration in a Changing Arctic Ecosystem: **N Sanchez**, M V Ardelan

HE44D Poster Hall C-D

Thursday 1600h

Moving Beyond Melt: The Impact of Melting Glaciers, Icebergs, and Sea Ice on Ocean Environments III Posters (joint with CT, PI, SI)

Moderators: Lars Smedsrud, University of Bergen; Johnna Holding, Aarhus University

HE44D-2151 *POSTER* “Fjord” for Thought: Regimes in Circulation at LeConte Glacier: **M Shaya**, E Pettit, J D Nash, R H Jackson, J M Amundson, C Kienholz, D Sutherland, D Winters

HE44D-2152 *POSTER* Differences in First and Multi-Year Sea Ice Melt Signatures and Impacts on the Local Ecosystem during Spring in Fram Strait: **E Bailey**, T J W Wagner, M R Cape, A Castagno, S Rivero-Calle, A H Alipour, C Alves-de-Souza, R York

HE44D-2154 *POSTER* N and Fe as Factors Controlling Phytoplankton Limitation in Fram Strait at 79°N, Arctic Ocean: **S Krisch**, T Browning, P Lodeiro, M J Hopwood, M Graeve, K U Ludwichowski, S Roig, L J Gerringa, E P Achterberg

HE44D-2155 *POSTER* A Box Model of Estuarine Amplification Within a Glacial Fjord: **T Morrison**, F Bryan, G M Marques, J McClean

HE44D-2156 *POSTER* Greenland liquid water runoff from 1979 through 2017: **K Mankoff**, X Fettweis, B Noel, A Ahlstrom

HE44D-2158 *POSTER* Quantifying the Release, Transport, and Fate of Iceberg Melt in Greenland Fjords: **D Carroll**, D Sutherland, M J Hopwood, T A Moon, D Menemenlis

HE44D-2159 *POSTER* Modification of freshwater export by fjord circulation at Sarqardleq Fjord, West Greenland: **R Sanchez**, F Straneo, D Slater

HE44E Poster Hall C-D

Thursday 1600h

Sea Ice Dynamics and Predictability II Posters

(joint with AI, OM, PC)

Moderators: Mary-Louise Timmermans, Yale University; **Dimitrios Giannakis**, New York University

HE44E-2160 *POSTER* Estimation of Arctic Sea Ice Thickness using Passive Microwave: **Y Kim**, D Han, J Im, S SIM, E Jang, H C Kim

HE44E-2161 *POSTER* Recent behavior of the Nares Strait ice arches: anomalous collapses and enhanced transport of multi-year ice from the Arctic Ocean: **K Moore**, S Howell, M Brady, K McNeil, X Xu

HE44E-2162 *POSTER* The influence of icebergs on landfast sea-ice around Greenland: **T A S Rasmussen**, J Buus-Hinkler, A M U Gierisch, M Ribergaard, S M Olsen

HE44E-2163 *POSTER* On the seasonal cycle of sea ice in the eastern Arctic Ocean: **M M Faulkner**, M A Spall

HE44E-2164 *POSTER* An Autumn Arctic Pacific Sea-ice Dipole as a Source of Predictability for Subsequent Spring Barents-Kara Sea-ice Condition: **Y C Liang**, C Frankignoul, Y O Kwon

HE44E-2165 *POSTER* Skillful seasonal predictions of Antarctic sea ice in a dynamical forecast system: **M Bushuk**, M Winton, A Haumann

HE44E-2166 *POSTER* Observed Antarctic sea ice expansion reproduced in a climate model after correcting biases in the sea ice drift velocity: **I Eisenman**, S Sun

HE44E-2167 *POSTER* Modeling Seasonal and Interannual Variability of Great Lakes Ice Cover using FVCOM+ice+wave Model: **J Wang**, P Bai, A Fujisaki-Manome, J Kessler, P Chu

HE44E-2169 *POSTER* Wind wave generation in the ice-covered ocean: **X Zhao**

HE44E-2170 *POSTER* Constraining Wave Dissipation and Non-Linear Interactions in The Marginal Ice Zone: **D Dumont**, J Baudry, P Sutherland, L Barast

HE44E-2171 *POSTER* Machine learning approaches for inferring large-scale sea ice rheology from Lagrangian and Eulerian data: **D Giannakis**, G Manucharyan, J Slawinska, S Das

HE44E-2172 *POSTER* Improving High Resolution Sea Ice Simulation with a C-grid Compatible Finite Element Framework: **C Mehlmann**, T Richter

HE44E-2173 *POSTER* Parameter Optimization in a Sea Ice Model with Elasto-Visco-Plastic (EVP) Rheology: **G Panteleev**, M Yaremchuk, J Stroh, O P Francis, R A Allard

HE44E-2174 *POSTER* A new numerical approach to solve 1D Viscous Plastic Sea Ice Momentum Equation: **F Alam**, B Khouider

OCEAN OBSERVATORIES, INSTRUMENTATION AND SENSING TECHNOLOGIES

IS44A Poster Hall C-D

Thursday 1600h

Innovation in in Situ Instrumentation, Sensors, and Observation Networks to Advance High- Resolution Data Collection and Biogeochemical Insight in Marine Ecosystems IV Posters *(joint with CP, NC, OB)*

Moderators: Aleck Zhaohui Wang, Woods Hole Oceanographic Institution; **Anna Michel**, Woods Hole Oceanographic Institution

IS44A-3392 POSTER Comparison of HPLC Derived Phytoplankton Pigments from Autonomously Collected Samples and CTD Methods to Evaluate the Integration of Autonomous Vehicles as Platforms for Enhancing Ocean Time-series Programs.: **C Medley**, J A Breier Jr, M Jakuba, E W Chan, R J Johnson, M R McIlvin, Q W Montgomery, P Lopez, M A Saito

IS44A-3394 POSTER Autonomous Total Alkalinity and pH Measurements on a Barrier Reef of Kāneʻohe Bay: **E Briggs**, T R Martz, E H De Carlo, C Sabine, N Howins

IS44A-3395 POSTER pOCO – the Tunable Laser Diode Absorption Spectroscopy (TLDas)-based pCO₂ Instrument: **B Colson**, A Michel

IS44A-3396 POSTER Acoustic Monitoring Across the Oceanographic Front Between the Tsugaru Warm and Oyashio Currents: **Z LU**, D Hasegawa, T Tanaka, D M Spencer, Y Okazaki, T Okunishi

IS44A-3397 POSTER An Undulating Towed Array (UTA) for high-resolution observations of the upper ocean: **D M Spencer**, D Hasegawa, T Tanaka, Z LU, Y Okazaki, T Okunishi

IS44A-3398 POSTER Evaluation of angle of attack of underwater glider using an electromagnetic current sensor and ADCP: **T Tanaka**, D Hasegawa, T Okunishi, I Yasuda, P Welch

IS44A-3399 POSTER Expanding operational ocean-observing capabilities with gliders across the Macaronesia region: **C Barrera**, T Morales, R Moran, E Caudet, R Marrero, A Cianca, D Alcaraz, F Campuzano, C Fernandes, J T Borges de Sousa, M J Rueda, O Llinas

IS44A-3400 POSTER Using Sensors on Biogeochemical APEX Profiling Floats: Pre-deployment Characterization and Calibration of MBARI Built Deep-Sea-Durafet pH and ISUS NO₃ Sensors: **P M Walz**, C M Sakamoto, L Coletti, Y Takeshita, K S Johnson

IS44A-3401 POSTER Improving path-planning for glider operations: A current-forecast based approach applied in the Gulf of St. Lawrence: **N von Oppeln-Bronikowski**, M Zhou, B DeYoung

IS44A-3402 POSTER Comparison of Sentinel-3a/SLSTR derived SST with MAERI Measurements: **B Luo**, P J Minnett, G Szczodrak, K A Kilpatrick, M Izaguirre

IS44A-3403 POSTER OBSERVA.PT and OBSERVA.FISH: Autonomous Observing Systems to Support of Marine Ecosystem Management in the Northeast Atlantic Ocean: **A M P A Santos**, C Guedes Soares, A J Carvalho, I Sousa Pinto, A C Oliveira

IS44A-3404 POSTER New Tools for OOI Surface Profiler Data Delivery and Visualization: **I Black**, J P Fram, C M Risien

IS44A-3405 POSTER Current Measurement Showdown: Workhorse 300 vs Signature 55 vs MAVS: **D J Torres**, K L Polzin, S Wjiffels, G Voet, M Alford, B Hogue

IS44A-3406 POSTER Engineering validation of a novel trace metal clean sampler for profiling and mobile deployment in pressure chamber tests: **A V Mueller**, J Crusius, F Shaikh

IS44A-3407 POSTER Glider and profiling float CTD dynamic performance and correction algorithms through a strong thermocline: **M Halverson**, J M Leconte, G Johnson

IS44A-3408 POSTER Motion Characterization and Correction of Fine-scale Velocity Measurement on Wirewalker: **B Zheng**, A J Lucas, R Pinkel

IS44A-3409 POSTER Merging in-situ and Discrete Sampling with Bioinformatics to Determine Cross-Reactivity of *Pseudo-nitzschia spp.* probes during Environmental Sample Processor Deployments in the Gulf of Maine: **A Wittenberg**, A Farrell, K Hubbard, C Chadwick, B Keafer, D M Anderson, J H Graber, J Disney

IS44A-3410 POSTER AUTOHOLO: A novel, in situ, autonomous holographic imaging system for long-term particle and plankton characterization studies in diverse marine environments: **A R Nayak**, M McFarland, J M Sullivan, F Dalglish, L Garavelli

IS44A-3411 POSTER PhRePhOx — an *in-situ* approach to quantifying carbon cycling processes: **S Chen**, C P Ward, A Z Wang, M H Long

IS44A-3412 POSTER Long-term stability of salinity measurements by autonomous observing systems with RBR inductive conductivity sensors: **N Nezhlin**, M Halverson, J M Leconte, E Siegel, I Shkvorets, G Johnson

IS44A-3413 POSTER Assessment of RBR_{coda} T.ODO performance on long-term deployment and profiling in Bedford Basin: **R Zhang**, C Richards, M Halverson, J Taylor, E Siegel, G Johnson

IS44A-3414 POSTER Development and Validation of a Deep-Sea Chemiluminescent Sensor for Measuring Reactive Intermediates: **L Taenzer**, K C Grabb, J Kapit, S D Wankel, W Pardis, C Hansel

IS44A-3415 POSTER Indicator impurity corrections for accurate spectrophotometric pH measurements: **M B Fong**, A G Dickson

IS44A-3416 POSTER Field Performance of an ISFET based Profiling pH Sensor: **C W Branham**, V Simontov, Y Takeshita, D J Murphy

IS44A-3417 POSTER Ultra-low-cost optical pH sensors for high-density and community-assisted coastal/estuarine monitoring: **F J Sansone**

IS44A-3418 POSTER Low-cost Hyperspectral Handheld Radiometer System for Improved Spatial and Temporal Water Quality Monitoring: **K Bosse**, R A Shuchman, M Sayers, R Sawtell

IS44A-3419 POSTER Sampling errors arising from carousel entrainment and insufficient flushing of oceanographic sampling bottles.: **C R Paver**, L A Codispoti, V Coles, L Cooper

IS44A-3420 POSTER Can hydrodynamic electrodes improve the capabilities of in situ detection?: **P Chace**, C Reimers

ME44A-0231 POSTER Stable mercury levels and trophic position in three tropical tuna species in the South-West Pacific Ocean over the past 18 years: **A Médieu**, A Receveur, D Point, O Gauthier, V Allain, C Menkes, A Lorrain

ME44A-0232 POSTER Untargeted Metabolomic Serum Profiles of Three Captive Shark Species for the Generation of a Semi-Invasive Chondrichthyes Health Metric: **A Goodman**, M P Doane, C Johnson, B S Soni, E N Kerr, S Johri, M Mora, M Torres, J Moffatt, E Forsberg, E A Dinsdale

ME44A-0233 POSTER Mercury isotopes as tracers of ecology and metabolism in two sympatric shark species: **G LE Croizier**, A Lorrain, S Jaquemet, G Schaal, L Besnard, M Renedo, J Sonke, D Point

ME44A-0234 POSTER Studying Lag Among Upwelling Metrics: Using Remotely Sensed Environmental Data to Predict Blue Whale Distribution in the South Taranaki Bight, New Zealand: **C Garvey**, L Torres, D Barlow

ME44A-0235 POSTER Stable isotope analysis of juvenile white sharks inside a nursery area reveal foraging in demersal-inshore habitats and trophic overlap with sympatric sharks: **E Garcia Rodriguez**, S Z Herzka, C G Lowe, O Sosa-Nishizaki

ME44A-0236 POSTER Temporal foraging patterns of a top predator in the California Current Ecosystem revealed by stable isotope analysis: **S E Nehasil**, A Orr, C M Kurle, K Danil, C Clay

ME44A-0237 POSTER Intrapopulation Foraging Response of *Zalophus californianus* to Environmental Stress: **M Davis**, A Orr, R L Lewison, C T Lai

ME44A-0238 POSTER Quantifying, Identifying and Culturing Marine Blowhole Ciliates in Captive Beluga Whales: **J Wojtasik**, G B McManus, S Smith

ME44A-0239 POSTER Cetacean occurrence near the South Shetland Islands based on long-term passive acoustic monitoring: **J S Trickey**, A Rice, A Solsona Berga, A Bartlett, S Baumann-Pickering, A Sirovic, J Hildebrand, M L Melcon, V Reyes, M Iniguez

ME44A-0241 POSTER eSDM: A tool for creating and exploring ensembles of predictions from species distribution and abundance models: **S Woodman**, K Forney, E Becker, M DeAngleis, E L Hazen, D M Palacios, J Redfern

ME44A-0242 POSTER Finding the Lost Years: Using Stable Isotopes to Identify Habitat Use Patterns of Post-Hatchling Hawksbill Turtles (*Eretmochelys imbricata*) in the Eastern Pacific: **T Lohroff**, C Turner Tomaszewicz, M J Liles, J A Seminoff

MARINE ECOLOGY AND BIODIVERSITY

ME44A Poster Hall C-D

Thursday 1600h

Advances in the Ecology, Behavior, Physiology, or Conservation of Marine Top Predators IV Posters (joint with PI)

Moderators: Mark Baumgartner, Woods Hole Oceanographic Institution; Daniel Palacios, Oregon State University

ME44A-0223 POSTER Checklist of Macroinvertebrates of Ebonyi River Southeastern, Nigeria: **E S Okwuonu**, G E Odo

ME44A-0224 POSTER Morphology and abundance of Crabs (Decapoda) in Opi Lake, Enugu State, Nigeria: **C B Ikele**, A Chinedu

ME44A-0225 POSTER The effect of pile driving noise on mating behavior in squid (*Doryteuthis pealeii*): **M Schumm**, I Jones, T A Mooney

ME44A-0227 POSTER Large baleen and small toothed whales face greatest energetic consequences from sonar disturbance: **M F Czapanskiy**, M Savoca, W Gough, D Cade, P S Segre, J A Goldbogen, D M Wisniewska

ME44A-0228 POSTER Spatial comparison of bluefin tuna larval growth rates and their nitrogen isotopic signatures: **E Malca**, J M Quintanilla, R Laiz-Carrión, A Uriarte, C Johnstone, T Gerard, J T Lamkin, A Garcia

ME44A-0230 POSTER Albacore Tuna Diet and Foraging Ecology in the Northern California Current: **C Nickels**, B Muhling, O Snodgrass, H Dewar

ME44A-0243 POSTER Finding the lost years of a nearly lost population: Revealing key demographic parameters of eastern Pacific hawksbill sea turtles (*Eretmochelys imbricata*): **C Turner Tomaszewicz**, M J Liles, J A Seminoff

ME44A-0244 POSTER Tooth Length and Occlusion in Four Species of Piscivorous Fishes: Getting a Grip on Prey: **E Carr**

ME44A-0245 POSTER Early life ecology of the invasive lionfish (Pterois sp.): **J Mostowy**, E Malca, L K Rasmuson, T Gerard, L Vasquez-Yeomans, J T Lamkin

ME44A-0246 POSTER Non-linear and unstable stock-recruitment dynamics in a depleted top-predator population: the case of Western Baltic cod.: **X Cormon**, C Sguotti, S Funk, R Plonus

ME44A-0247 POSTER The Enigmatic Spawning Strategy of Bluefin Tuna: **Ø Fiksen**, P Reglero

ME44A-0248 POSTER Feeding ecology and nitrogen sources of developing Atlantic Bluefin Tuna (*Thunnus thynnus*) larvae in the Gulf of Mexico: **R Swalethorp**, E Malca, A Shiroza, T Gerard, J Lamkin, M R Landry

ME44A-0249 POSTER Pelagic Habitat Partitioning of Late-Larval and Juvenile Tunas in the Oceanic Gulf of Mexico: **N Pruzinsky**, R Milligan, T Sutton

ME44A-0250 POSTER Effects of Sea Star Wasting Disease on Mussel Recruitment: **E Chui**, F Micheli, A J Haupt

ME44A-0251 POSTER Early Stages of Eastern Caribbean Cephalopods: Identification, Abundance, and Distribution: **A Mnich**, T Gerard, E Malca

ME44A-0252 POSTER Discovering what Shark Species Inhabit the Waters of Puerto Rico.: **D Lopez-Morales**, R Espinoza, R Hueter, A M Sabat

ME44A-0253 POSTER The Biomechanics of Climbing in Grapsid Crabs: **E N Sajdah-Bey**, J R Taylor

ME44A-0254 POSTER Cuvier's Beaked Whale Tracks in Southern California: **E Snyder**, R Parkes, S M Wiggins, S Baumann-Pickering, K E Frasier, J Hildebrand

ME44A-0255 POSTER Demographic Seasonality of Sperm Whale Presence in the Central Gulf of Alaska and the Aleutian Islands: **N Posdaljian**, A Solsona Berga, K E Frasier, C Soderstjerna, J Hildebrand, S Baumann-Pickering

ME44A-0256 POSTER Facilitating the conservation and management of Hawaiian odontocetes using an echolocation click type 'library': **M Ziegenhorn**, K E Frasier, E Oleson, J L McCullough, S Baumann-Pickering

ME44A-0257 POSTER Space-time analyses and association with environmental factors of marine mammal stranding across biogeographic regions of the Philippines: **H L Laggui**, L V Aragonés, O C Cabrera

ME44A-0258 POSTER Approaches for Identification of Delphinid Species in Passive Acoustic Data for Population Management Applications: **R Cohen**, A Leu, K E Frasier, M Soldevilla, J Hildebrand

ME44A-0259 POSTER Migratory Shifts of Humpback Whales in Australia and Climate Change: **O Meynecke**

ME44B Poster Hall C-D

Thursday 1600h

Underwater Flux Studies and Their Ecological Implications II Posters (joint with CP, IS)

Moderators: Peter Berg, University of Virginia; Clare Reimers, Oregon State University

ME44B-0260 POSTER Benthic Isoprene Flux from Permeable Carbonate Sediments on the Great Barrier Reef: **V Hrebien**, E Deschaseaux, B Eyre

ME44B-0262 POSTER Resolving Community Metabolism of Eelgrass (*Zostera marina*) Meadows by Benthic Chambers and Eddy Covariance in Dynamic Coastal Environments: **N Camillini**, K Attard, B Eyre, R N Glud

ME44B-0264 POSTER Benthic Oxygen Fluxes in a coastal upwelling system (Ría de Vigo, NW Iberia) measured with the Aquatic Eddy Covariance technique: **M Amo Seco**, C G Castro, N Villacieros-Robineau, F Alonso-Perez, R Graña, R Bañuelos, G Roson, P Berg

ME44B-0265 POSTER The Influence of an Oscillating Bottom Boundary Layer on Oxygen Fluxes across the Sediment-Water Interface: **J R Nielson**, C K Ruder, S D'Ambrosio, L Bryant, R Ellis, D Wain, J Harrison, S M Henderson

ME44B-0267 POSTER Temporal and Spatial Variability of Sediment Fluxes of Carbon and Nutrients on a River Dominated Shelf: **J C Lehrter**, R Devereux, B J Roberts, W J Cai

ME44B-0268 POSTER Vertical Flux of Arsenic from Bottom Sediments in a Shallow Urban Lake: **S Fung**, E Hull, K Burkart, J Gawel, R B Neumann, A R Horner-Devine, M Barajas

MARINE GEOLOGY AND SEDIMENTOLOGY

MG44A Poster Hall C-D

Thursday 1600h

Sediment Delivery, Transport, and Deposition in Marine and Lacustrine Environments IV Posters (joint with CP)

Moderators: Courtney Harris, Virginia Institute of Marine Science; Andrea Ogston, University of Washington Seattle; Guan-hong Lee, Inha University; D. Corbett, UNC Coastal Studies Institute

MG44A-2216 POSTER Sediment delivery to deltaic land surfaces in the absence of artificial levees: Contrasting the Ayeyarwady and Mekong Deltas: **A S Ogston**, A T Fricke, C Nittrouer, H Glover, C Aung, T Naing, H P Vo Long

MG44A-2211 POSTER Seasonal Variability in Hydrodynamics and Suspended-Sediment Transport in a Bar-Built Mississippi River Estuary: **A R Payandeh**, D Justic, G Mariotti, K Valentine

MG44A-2212 POSTER A numerical investigation on seasonal variations of mass transport between Bohai and Yellow Seas, China: **C Wang**, L Zhang, J Xu, Z LIU, H Wang

MG44A-2213 POSTER Observations of sediment resuspension by non-linear internal waves at two sites on the Northwest Shelf of Australia: **W Edge**, N L Jones, M Rayson, G N Ivey, A Zulberti

MG44A-2214 POSTER Geoacoustic Investigation and in-situ P-wave Speeds of Muddy and Sandy Top Strata in Jinhae Bay, Southern Korea: **W H Ryang**, G S Lee, J Hahn

MG44A-2215 POSTER Historic Reconstruction of Polycyclic Aromatic Hydrocarbon Pollution in Southwest Florida Coastal Sediments: **J Javaruski**, P L Adhikari

MG44A-2217 POSTER Impacts of Channel Depth and Estuarine Stratification on Particle Aggregation and Deposition: **R L McLachlan**, A S Ogston, M A Allison, D Di Leonardo

MG44A-2218 POSTER Modern Depositional Processes within Astoria Canyon, Cascadia Margin: **E Lahr**, A S Ogston, A T Fricke, J C Hill, H Glover

MG44A-2219 POSTER Spatial variability of oceanographic energy and sediment dispersal and trapping on the Ayeyarwady continental shelf: **M J Fair**, C K Harris, S A Kuehl, P Liu, D Tarpley

MG44A-2220 POSTER Tectonic Roles of Sediment Transport and Deposition in the Northern Andaman Sea and Eastern Bay of Bengal: **A C Pierce**, P Liu

MG44A-2221 POSTER Value of Local Data to Modelling Coastal Sediment Delivery in a Remote Unmodified Data-poor Tropical Island Environment: **N Hutley**, A R Grinham, B Gibbes, S Albert

MG44A-2222 POSTER Settling velocity and drag coefficient of platy shell fragments: **Y Li**, Q Yu, S Gao, B W Flemming

MG44A-2223 POSTER The Effect of Varying Wave Skewness and Asymmetry on Sediment Transport across Intertidal Flats: **I D Lichtman**, M Williams, C A Unsworth, P D Thorne, L Amoudry

MG44A-2224 POSTER Application of the Finite Volume Community Ocean Model (FVCOM) to the analysis of sediment processes in Green Bay, Lake Michigan: **E J Anderson**, B Khazaei, J V Klump, T R Miller, H Bravo

MG44A-2225 POSTER The effects of wind on tidal asymmetry in shallow tidal basins with varying hypsometries and consequences for sediment transport: **J C Mullarney**, P de Ruiter, K R Bryan, C Winter

MG44A-2226 POSTER Relative contribution of dam construction and land reclamation to geomorphological change in the Nakdong Estuary: **J Chang**, G H Lee, C K Harris

MG44A-2227 POSTER CHANGES OF SUSPENDED PARTICLE MATTER IN THE WATER MIXING ZONE OF THE YANGTZE RIVER ESTUARY AND THEIR SEDIMENTARY IMPLICATION: **D Fan**, Y Pang, X Sun

MG44A-2228 POSTER Armoring and Exposure Effects on Wave-Driven Onshore Sediment Transport in Sheet Flow: **Y Rafati**, T J Hsu, S P Bateman, J Calantoni

MG44A-2230 POSTER Exploring submerged vegetation controls on hydrodynamics and sediment resuspension in a back-barrier coastal bay: **Q Zhu**, P Wiberg

MG44A-2231 POSTER Sediment Transport Processes in Shallow Receiving Basin: A Case Study at Barataria Bay, Louisiana, USA: **G Li**, K Xu, S J Bentley, Y Ma, Z G Xue, R Bales

MG44A-2232 POSTER Seasonal Wave Attenuation in the Muddy Nearshore Environment of the Modern Huanghe Delta from In Situ Observations and SWAN Modeling: **M Mullane**, G C Kineke, L L Kumpf, B Carlson

MG44A-2233 POSTER The Influence of Particle Size on Turbulence and Stratification in Wave-Supported Gravity Flows: **Z Han**, A Horner-Devine, A S Ogston, T J Hsu

MICROBIOLOGY AND MOLECULAR ECOLOGY

MM44A Poster Hall C-D

Thursday 1600h

Coupling Meta'omics and Biochemical Measurements to Understand Trophic Strategies or Physiological Adaptations Among Marine Organisms (Micro to Macro) III Posters

Moderators: Emma Timmins-Schiffman; Brook Nunn, University of Washington

MM44A-0338 POSTER A multi-omics approach to the analysis of coral health: **A Williams**, D Bhattacharya, X Su

MM44A-0339 POSTER Accurately Determined Expression Levels of Nitrate and Phosphate Transporter Genes in the Diatom, *Skeletonema subsalsum*, at a Coastal Site in the East China Sea: **J Chang**, W K Huang, C Y Shih

MM44A-0340 POSTER An Analysis of Protist Diversity in Oxygen Deficient Zones: Understanding the Relationship between Prochlorococcus and Grazing: **L Cherubini**, M Hays, C A Fuchsman

MM44A-0341 POSTER Comparative genomics of *Phaeocystis* species to reveal cold adaptations: **Z Füßy**, I V Grigoriev, K Barry, J Schmutz, R D Hayes, A Healey, C P D Brussaard, M E Frischer, K R Arrigo, A Allen

MM44A-0342 POSTER Development and validation of gene delivery methods for *Crassostrea virginica*: **A Tracy**, R Yadavalli, D Bishop-Bailey, J Fernandez-Robledo

MM44A-0343 POSTER Effects of Hydrostatic Pressure on the Metabolic Enzymes of Ctenophores from Different Habitat Depths.: **T Bachtel**, J Winnikoff, T M Wilson, E V Thuesen, S H D Haddock

MM44A-0344 POSTER Engineering Synthetic Biologic Marine Microorganisms for Biosensing *in situ*: **D Shis**, E M Fulk, J J Silberg, C A Masiello

MM44A-0345 POSTER Estimation of eel larvae diet and feeding environment based on oceanographic observations and metagenomics: **T Watanabe**, S Nagai, J Kikuchi, N Inaba, Y Taniuchi, T Asakura, H Kurogi, S Chow, T Tomoda, D Ambe, D Hasegawa

MM44A-0346 POSTER Evaluating the distribution and genomic content of novel microbes in deep-sea sediments: **A E Parada**, J L Fortney, A Bishara, E Moss, A Bhatt, A E Dekas

MM44A-0347 POSTER Profiling Spatial & Temporal Gene Expression Responses of a Copepod (*Calanus pacificus*) from the Northern California Current Using a Novel RNA-Seq Procedure: **M DeSimone**, D P Jacobson, K Jacobson, M A Banks

MM44A-0348 POSTER Transcriptional and Translational Regulation of Nitrate Transporter Genes in a Marine Diatom *Skeletonema tropicum*: **C Yeh**, L K Kang, J Chang

MM44A-0349 POSTER Utilizing Large-Scale Sequencing to Select Housekeeping Genes as Comparative Standards for Measuring the Expressions of Nitrogen and Phosphorus Absorption-Related Genes in Marine Diatoms: **Y W Chuang**, C Y Shih, J Chang

OCEAN BIOLOGY AND BIOGEOCHEMISTRY

OB44A Poster Hall C-D; eLightning Theater

Thursday 1600h

Linking the Biology, Geochemistry, and Circulation of the Gulf of Mexico IV eLightning (joint with CT, CP, MM)

Moderators: Alan Shiller, University of Southern Mississippi; **Juan Carlos Herguera**, CICESE Center for Scientific Research and Higher Education

OB44A-01 eLIGHTNING ADCP's on gliders: features and applications.: **M C Tenreiro**, E Pallas Sanz, M J Ulloa, J Ochoa, T Meunier, A Ruiz Angulo, J Sheinbaum, J Candela, S Cusi, S Cisneros

OB44A-02 eLIGHTNING Outflow of Gulf of Mexico Waters Below 600 m Through the Western Yucatan Channel Suggested by Biogeochemical Tracers and Hydrography: **J A Valencia Gasti**, V F Camacho-Ibar, J M Martin Hernandez-Ayon, L Barbero

OB44A-03 eLIGHTNING A gulf-wide isoscape of zooplankton $\delta^{15}\text{N}$ values reflects regional importance of NO_3 and N_2 fixation as sources of new N in the Gulf of Mexico: **O Hernández**, S Z Herzka, V F Camacho-Ibar, J C Compaire, M Le-Alvarado, L Barbero

OB44A-04 eLIGHTNING The isotopic composition of water column nitrate in the Gulf of Mexico and Florida Straits: **A N Knapp**, S Howe, C Miranda, C T Hayes, R T Letscher

OB44A-05 *eLIGHTNING* Elemental and isotopic composition of particular organic carbon and nitrogen in the Gulf of México: **Y V Contreras Pacheco**, J C Herguera, S Z Herzka, D Bobadilla, M R Barradas, G Quintanilla

OB44A-06 *eLIGHTNING* Effect of Sediment Inputs from the Mississippi River on Diagenetic Processes Across the Northeastern Gulf of Mexico Continental Margin: **S M Owings**, L Bréthous, E M Eitel, B P Fields, A Boever, J S Beckler, E Metzger, B Bombled, J Richirt, B Lansard, C Rabouille, M Tallefert

OB44A-07 *eLIGHTNING* Importance of iron-mediated organic matter preservation in northern Gulf of Mexico shelf sediments: **K Maiti**, N A Ghaisas

OB44A-08 *eLIGHTNING* Early Diagenesis in Hypoxic Zones of the Northern Gulf of Mexico: a Disconnection Between Water Column and Sediment Reactivities: **C Rabouille**, B Lansard, S Owings, B Bombled, E Metzger, L Bréthous, E M Eitel, J S Beckler, M Tallefert

OB44A-09 *eLIGHTNING* Exploring Deep Nepheloid Layers in Mexican and U.S. Gulf of Mexico Waters, Summers of 2015-2017: **W D Gardner**, M J Richardson, A V Mishonov, J C Herguera, M Diaz Asencio, Y V Contreras Pacheco

OB44A-10 *eLIGHTNING* Characterizing the Potential Habitat of Ichthyoplankton in the Gulf of Mexico for Species with Contrasting Life Histories: **G Dauden-Bengo**, L D P Echeverri García, S P A Jiménez-Rosenberg, S Z Herzka

OB44A-11 *eLIGHTNING* Developing an Operational Sea Turtle Stranding Analysis System to Improve Understanding of Sea Turtle Mortality in the Gulf of Mexico: **Z Wang**, R W Nero, M Cook, Y Lau, K Larsen, D E Sallis

OB44A-12 *eLIGHTNING* Identification of cetacean hotspots in the Gulf of Mexico based on niche models: **M R Ramírez-León**, M C García-Aguilar, O Sosa-Nishizaki, A E Romo-Curiel, Z Ramírez-Mendoza, A Fajardo-Yamamoto

OB44B-0662 *POSTER* Factors Influencing the Trophic Structure of Deep-pelagic Micronekton Assemblages in the Gulf of Mexico: **T Richards**, T Sutton, R J D Wells

OB44B-0663 *POSTER* Deep Breathing: In Situ Respiration Rates of Bathypelagic Animals: **K Reisenbichler**, C Okuda, R Sherlock, B H Robison

OB44B-0664 *POSTER* Detecting mesopelagic-organism using biogeochemical-Argo: **N Haëntjens**, A Della Penna, E Boss, L Karp-Boss, N Briggs, P Gaube, H Claustre

OB44B-0665 *POSTER* Game theory: a method to mechanistically model optimal diel vertical migration behaviors of mesopelagic organisms: **J Pinti**, T Kiørboe, T Norin, A W Visser

OB44B-0666 *POSTER* High Frequency Migrations of the Deep Scattering Layer: **N Walcutt**, M Omand, D Bianchi

OB44B-0667 *POSTER* Sounding out life in the deep: acoustic data from ships of opportunity: **H Kunnath**, R Kloser, T Ryan, R Downie

OB44B-0668 *POSTER* Running the gauntlet: potential threats to vertical migrators of Monterey Bay: **R Sherlock**, K Reisenbichler, P McGill, B H Robison

OB44B-0669 *POSTER* Diel cycles in the twilight ocean: novel interactions between mesopelagic fishes and heterotrophic prokaryotes: **X A G Morán**, F C Garcia, A Røstad, L Silva, N Al-Otaibi, X Irigoien, M L Calleja, T M Huete-Stauffer

OB44B-0671 *POSTER* The environmental preference of mesopelagic shrimp *Pasiphaea japonica* in the shelf waters of southern East China Sea: **M A Lee**, Y C WANG, S C Kao

OB44B-0672 *POSTER* Exploring the emergent niche of Greater argentine (*Argentina silus*) along gradients of topography, light and advection.: **T Langbehn**, C Jørgensen, K Enberg

OB44B-0673 *POSTER* Ontogenetic habitat differences of *Benthosema pterotum* on summer in the shelf region of southern East China Sea: **Y C WANG**, M A Lee

OB44B-0674 *POSTER* LARVAL FISH HABITATS AND DEOXYGENATION IN THE NORTHERN LIMIT OF THE OXYGEN MINIMUM ZONE OFF MEXICO: **L Sanchez Velasco**, V M Godinez, E Ruvalcaba-Aroche, A Márquez-Artavia, E Beier, E D Barton

OB44B-0675 *POSTER* Feeding Ecology of Deep-Pelagic Fish Larvae in the Northern Gulf of Mexico: **E Gipson**, V Wang, K Dillon, F Hernandez Jr

OB44B Poster Hall C-D

Thursday 1600h

Beyond Just Discovery in the Ocean's Midwater: Novel and Mechanistic Approaches to Understanding Mesopelagic and Bathypelagic Ecosystems III Posters (joint with ME, MM)

Moderators: Joel Llopiz, Woods Hole Oceanographic Institution; **Christopher Bassett**, Applied Physics Laboratory, University of Washington

OB44B-0676 POSTER Visualizing mesopelagic food webs in the western North Atlantic using stable carbon isotope analysis of essential amino acids.: **K Gardner**, S Thorrold, L A Houghton, R Francolini, S G Glancy, P Caiger, H McMonagle, J Llopiz

OB44B-0677 POSTER On the Age and Growth of Meso-Bathypelagic Fishes, with Case Studies of *Omosudis lowii*, *Stomias affinis* and *Lampanyctus lineatus* from the Gulf of Mexico: **N Slayden**, T Sutton

OB44B-0678 POSTER Revisiting Accumulated "Discoveries": Museum Deep-sea Fish Specimens Can Provide New Insights into Their Parasites: **R Kawanishi**

OB44B-0679 POSTER Using Environmental DNA (eDNA) to Illuminate the Ocean's Twilight Zone: **A Govindarajan**, R Francolini, J M Jech, A C Lavery, J Llopiz, P H Wiebe, W G Zhang

OB44B-0680 POSTER Surface Phytoplankton Shape Deep Ocean Prokaryotic Communities: **C Ruiz-González**, M Mestre, M Estrada, M Sebastián, G Salazar, S Agustí, E Moreno, C M Duarte, M M Sala, J M Gasol

OB44B-0681 POSTER Xenobiotic Response Genes in the Midwater Fish *Sigmops elongatum*: **J Stegeman**, B Lemaire, D C Lamb, J V Goldstone, S Karchner

OB44B-0682 POSTER Conserving a Sea of Shadow and Substance: Should there be a Moratorium on the Harvest of Twilight Zone Fish?: **S Dowd**, P Hoagland

OB44C Poster Hall C-D

Thursday 1600h

Biogeochemistry in the BGC-Argo Era: From Process Studies to Ecosystem Forecasts II Posters (joint with IS, OM, PI)

Moderators: **Paolo Lazzari**, National Institute of Oceanography and Applied Geophysics OGS; **Katja Fennel**, Dalhousie University

OB44C-0683 POSTER Assessing the Value of BGC Argo Profile Observations for Ocean Biogeochemical Data Assimilation in a Model of the Gulf of Mexico: **B Wang**, K Fennel, C M Gordon, L Yu

OB44C-0684 POSTER Atmospheric and in-water radiative transfer model validation with BGC-Argo float data in the Mediterranean Sea: **E Terzic**, P Lazzari, S Salon, W W Gregg, E Organelli, F D'Ortenzio, V Velluci

OB44C-0685 POSTER BGC ARGO Floats Measurements in the Baltic Sea – Dynamics of the Dissolved Oxygen Concentration.: **W Walczowski**, D Rak, M Merchel

OB44C-0686 POSTER Evaluation of biogeochemical float pCO₂ estimates and empirical approaches to estimate total alkalinity in the Southern Ocean using carbonate system observations from the Drake Passage: **D R Munro**, Y Takeshita, S M Bushinsky, C Sweeney, T Takahashi

OB44C-0687 POSTER Evolution of a Subducted Carbon Rich Filament on the Edge of the North Atlantic Gyre: **A Johnson**, M Omand

OB44C-0688 POSTER Forecasting the Near-term Evolution of the Southern Ocean Aragonite Saturation Horizon: **D A Feagins**

OB44C-0689 POSTER How well do we estimate particulate backscatter from satellites as compared to autonomous profiling floats in the open ocean?: **K Bisson**, E Boss, T K Westberry, M Behrenfeld

OB44C-0690 POSTER Inferring Biomass, Rates, and Diversity from Biogeochemical Profiling Float Arrays: **G Forget**, S Dutkiewicz, O Jahn, M J Follows

OB44C-0691 POSTER Quantifying the Effects of Phytoplankton Self-shading on Ocean Heating and Circulation with BGC Argo: **R Echols**, S Riser

OB44C-0692 POSTER Simulating Argo profiling float trajectories and along-track biogeochemical variability in the California Current System using a high-resolution global model: **X Liu**, J P Dunne, E Drenkard, G C Johnson

OB44C-0694 POSTER Synergistic use of Remote Sensing and Modeling for Estimating Net Primary Productivity in the Red Sea with models Intercomparison: **W Li**, S P P Tiwari, H M El-Askary, M Qurban, V Amiridis, K P ManiKandan, M J Garay, O V Kalashnikova, T Piechota, D Struppa

OB44C-0695 POSTER The North Atlantic Spring Bloom and the Critical Depth Hypothesis: A reassessment using Bio-ARGO profiles and long time series of satellite data: **J Wu**, J I Goes, Z Lee, S Shang

OB44C-0696 POSTER Triple collocation between BGC-Argo, Copernicus GloColour datasets and CMEMS Global modelling: **M Bretagnon**, P Garnesson, A Mignot, F D'Ortenzio, H Claustre, F D Odile, A Mangin

OB44C-0697 POSTER Using an Autonomous Biogeochemical Profiling Float to Determine the Effect of Natural Hydrocarbon Seeps and a Tropical Depression on the Gulf of Mexico System: **R H Gates**, J Montoya, H Fargher, A R Juhl, A Subramaniam

OB44C-0698 POSTER Using BGC-Argo Data to Disentangle the Physical and Biogeochemical Uncertainty in the Quality of Operational Biogeochemical Products: **S Salon**, L Feudale, G Cossarini, A Teruzzi, G Bolzon, E Clementi

OB44D Poster Hall C-D

Thursday 1600h

Complexity, Connectivity, and Change in Southern Ocean Food Webs III Posters (joint with AI, ME, PI)

Moderators: Eugene Murphy, British Antarctic Survey; Eileen Hofmann, Old Dominion University

OB44D-0699 POSTER Physiology of Lipid-storing Copepods During Summer Along the West Antarctic Peninsula: **A M Tarrant**, D K Steinberg, C A Berger

OB44D-0700 POSTER Trophic interactions of micro- and mesozooplankton in the Amundsen Sea polynya during austral late summer: **E J Yang**, Y Lee, S H Lee, T W Kim

OB44D-0701 POSTER Regional variability of Antarctic krill (*Euphausia superba*) diet as determined using lipid, fatty acid and sterol composition: **N Hellesey**, J A Ericson, P D Nichols, S Kawaguchi, S Nicol, N Hoem, P Virtue

OB44D-0702 POSTER The Environmental Drivers of the Physiological Condition of Young-of-Year and Mature Female Antarctic Krill: Implications for Krill Recruitment: **K Steinke**, K S Bernard, R M Ross, L Quetin

OB44D-0703 POSTER Calibration, operation, and analysis of data from the Nortek Signature100 ADCP to estimate biomass and transport of Antarctic krill: **G Cutter**, S Nylund, C Reiss, D Velasco

OB44D-0705 POSTER Modelling the distribution of Antarctic krill at the South Orkney Islands: the impact of krill behaviour on large-scale population connectivity: **E F Young**, S E Thorpe, E J Murphy, A Renner

OB44D-0706 POSTER Lowered Cameras Reveal Hidden Seasonal, Diel, and Swarm Density Shifts in Antarctic Krill Behaviors Throughout the Water Column: **M K Kane**, A Atkinson, S Menden-Deuer

OB44D-0707 POSTER Mortality of Krill in Austral Fall Within Wilhelmina Bay in the West Antarctic Peninsula: **Z Su**, M Zhou, Y Zhu, B Espinasse, E L Hazen

OB44D-0708 POSTER How will Antarctic krill habitat respond to future climate change?: **S P Corney**, D Veytia, S Kawaguchi, K Meiners, E J Murphy, S Bestley

OB44D-0709 POSTER Developing projections of change for conservation and management in the Southern Ocean: **E J Murphy**, N Johnston, S P Corney, K Reid, R Cavanagh

OB44D-0710 POSTER A Review of the Impacts of Climate Change and Fishing on Penguins in the Western Antarctic Peninsula and Scotia Sea Region: **N C Bransome**, C M Brooks, A Cobb

OB44D-0711 POSTER Foraging Behavior and Movement Patterns of the Leopard Seal in the Antarctic Peninsula: **D P Costa**, S S Kienle, S Trumble, S Kanatous, M E Goebel, D E Crocker

OB44E Poster Hall C-D

Thursday 1600h

Effect of Warming on Biological, Ecological, and Biogeochemical Ocean Processes: Responses from Organismal to Ecosystem Scales III Posters (joint with CP, ME, PC)

Moderators: Susanne Menden-Deuer, University of Rhode Island; Gabriel Yvon-Durocher, University of Exeter

OB44E-0713 POSTER The Gulf Stream's effect on the variance of temperature at Cape Hatteras shelf: **M Byrd**, A Kaltenberg

OB44E-0714 POSTER The Synergistic Impact of Multiple Stressors on the Photophysiology of the Cyanobacteria *Synechococcus Elongatus*: **M Pelletier**, N D'souza, U Passow

OB44E-0715 POSTER A Comparison of the Combined Impact of CO₂, Temperature, and Light on Growth and Productivity of Two Marine Phytoplankton – the Cyanobacteria *Synechococcus elongatus*, and the Diatom *Thalassiosira pseudonana*: **N D'souza**, M Pelletier, U Passow

OB44E-0716 POSTER Are temperature sensitivities of *Synechococcus* and *Prochlorococcus* growth suppressed by resource supply in the oligotrophic Western Pacific Ocean?: **K LIU**, K Suzuki, B Chen, H Liu

OB44E-0717 POSTER Increased temperature influences iron growth kinetics in the key polar diatom *Fragilariopsis cylindrus*: **L Jabre**, E M Bertrand

OB44E-0718 POSTER Effects of warming on the toxinology and toxicity of Harmful Algal Blooms (HAB): **L Basti**, S Nagai

OB44E-0719 POSTER Effects of temperature and irradiance on the growth of the mixotrophic dinoflagellate *Takayama helix*: mixotrophy as a survival strategy: **J H Ok**, H J Jeong, J H You

OB44E-0720 POSTER The Evolution of Mixotrophic Nanoflagellates in Response to Increasing Ocean Temperatures: **M Lepori-Bui**, H Moeller

OB44E-0721 POSTER Impacts of temperature and CO₂ on the coupling between phytoplankton growth and microzooplankton grazing in the western Arctic Ocean: **K Sugie**

OB44E-0723 POSTER Zooplankton in Warming and more Oligotrophic Coastal Sea: the Northern Adriatic Case: **A Malej**, D Lucic, M Licer, T Kogovsek, P Lucic

OB44E-0724 POSTER Temperature-Dependent Population Dynamics, Production, and Feeding of the Chaetognath *Aidanosagitta crassina* in a eutrophic Temperate Inlet: **S I Uye**, D Liang

OB44E-0725 POSTER Evidence of Effect of Short Term Increase in Seawater Temperature on Composition of Benthic Communities in NE Baltic Sea: **G Martin**, K Torn, T Paalme, I Kotta

OB44E-0726 POSTER Holobiont acclimatization dynamics of *Pocillopora acuta* and *Montipora capitata* in response to warming and acidification: **E Strand**, H Putnam

OB44E-0727 POSTER Effects of parental heat stress on the larval thermal performance of *Porites astreoides*, a brooding coral: **R Ju**, K H Wong, H Putnam, G Goodbody-Gringley

OB44E-0728 POSTER Investigating the Effects of Nutrient and Sediment Loading on Coral Thermal Tolerance in a Branching Coral Species: **D M Becker**, N Silbiger

OB44E-0729 POSTER Comparative thermal performance of the reef-building coral *Orbicella franksi* at its latitudinal range limits: **N Silbiger**, G Goodbody-Gringley, J F Bruno, H Putnam

OB44E-0730 POSTER Molecular Mechanisms of Coral Holobiont Heat Tolerance on Bleaching-resilient, Marginal Inshore Patch Reefs of the Florida Keys: **D Manzello**, C Aguilar, I Enochs, G Kolodziej

OB44E-0731 POSTER Scaling Up Coral Demography: Measuring Coral Vital Rates Using Repeated Photomosaics: **C Rodriguez**, T Oliver, C Couch

OB44E-0732 POSTER Variable drivers of ocean warming along the coast of the Gulf of Alaska evidenced and tracked by a persistent range expansion of the market squid, *Doryteuthis opalescens*: **M Navarro**

OB44E-0733 POSTER The Temperature Inside the Nests of the Diamondback Terrapin, *Malaclemys terrapin*, and Its Relationship with the Air Temperature of the Nesting Site.: **A Williams**, D Liang, C Rowe

OB44E-0734 POSTER Tracing Change in Marine Ecosystem Using Compound Specific Stable Isotope Analysis of Amino Acids Archived in Baleen Whale Earplug: **F Mansouri**, J M Fulton, D Crain, Z Winfield, S Trumble, S Usenko

OB44F Poster Hall C-D

Thursday 1600h

Linking Microbial, Isotope, Micronutrient, and Other Approaches to Understand Carbon and Nutrient Cycling in the Ocean II Posters (joint with CT, ME)

Moderators: Robert Letscher, University of New Hampshire; Katherine Dawson, California Institute of Technology

OB44F-0735 POSTER A Targeted Lipidomics and Compound-Specific Isotope Ratio Analysis Approach in Profiling Microbial Community in Submarine Groundwater Discharge in Southern Luzon, Philippines: **J Al-Shdifat**, C M Jaraula, M B Cardenas, A F K Elegado, D M C Liang, R Rodolfo, M Lapus

OB44F-0736 POSTER AIBECs.jl: the ideal tool for marine biogeochemistry modelling: **B Pasquier**, F Primeau

OB44F-0737 POSTER Amino Acid Carbon Isotopes in Core-Top Sediments of the Northern Labrador Sea and Baffin Bay Track the Origins of Export Productivity across Environmental Gradients: **O Sherwood**, S Chen, C R Fougère, B S Tibert, M Kienast

OB44F-0738 POSTER Ammonium Dynamics in the South China Sea-Kuroshio and the Mid-Atlantic Shelf Break Frontal Zones: **Y Zhu**, M Dai, D J McGillicuddy Jr, M R Mulholland, D Chappell, S Clayton

OB44F-0739 POSTER Characterizing Isotopic Fingerprints of Eukaryotic Microalgae to Study Sources and Cycling of Organic Matter through Food Webs: **A Stahl**, T A Rynearson, K McMahon

OB44F-0740 POSTER Controls on dissolved organic carbon and nitrogen distributions in the upper South Pacific Ocean: **M B Bif**, A Bourbonnais, J Granger, M A Altabet, D A Hansell

OB44F-0741 POSTER Determining the ¹⁵N and ¹⁸O isotope effects of nitrite oxidation in multiple species of nitrite-oxidizing bacteria in continuous culture: **J Butler**, C Buchwald

OB44F-0742 POSTER Development of a high-precision seawater DIC isotope analysis system: **J L Dohner**, M K Brooks, B Paplawsky, A J Andersson, R F Keeling

OB44F-0743 *POSTER* Mangroves and seagrasses as nutrient subsidies for coral reefs in the Red Sea: **B H Jones**, A Dunne, U Struck

OB44F-0744 *POSTER* Nitrification in Mode Water Formation Regions and its Contribution to Low Latitude Nitrogen Supply: **P Buchanan**, R Tuerena, A Tagliabue, R Ganeshram

OB44F-0745 *POSTER* Nitrite cycling experiments across the upper and lower boundaries of the Primary Nitrite Maximum in the Eastern Tropical North Pacific: **N M Travis**, K L Casciotti, C L Kelly

OB44F-0746 *POSTER* Nitrogen fixation can support a substantial fraction of pelagic primary production in Brazilian waters: **A Fernández-Carrera**, A M S Detoni, P Brandt, A Subramaniam

OB44F-0747 *POSTER* Nitrogenous Nutrient Preferences and Intracellular Ammonium Accumulation by the Bloom-Forming Mixotroph Green *Noctiluca scintillans*: **A D'Souza**, A Schwarz, H Luo, H R Gomes, J I Goes

OB44F-0748 *POSTER* Phytoplankton Uptake of Nitrate and Ammonium in Different Regions of Southern East China Sea: **L K Kang**, K Z Chang

OB44F-0749 *POSTER* Primary productivity and nitrogen uptake in the eastern tropical Pacific Ocean: **M R Mulholland**, C Selden, P W Bernhardt, B Widner

OB44F-0750 *POSTER* Put it in Reverse: Isotopic Insights From a Nitrite-oxidizer Performing Nitrate Reduction: **C Buchwald**, S D Wankel

OB44F-0751 *POSTER* The kinetics of ammonium uptake and oxidation during winter across the Indian sector of the Southern Ocean: **M Mdutyana**, X Sun, J Burger, S J Thomalla, B B Ward, F Sarah

OB44F-0752 *POSTER* Towards a Better Understanding of Coastal Carbon Cycling and Sequestration: Quantifying Sinking Carbon in the Bedford Basin and Beyond: **S Kienast**, E E Black, C K Algar

OB44F-0753 *POSTER* Vitamin B₁₂ and the microbial heterotrophic and autotrophic metabolism in two regions influence by the California current.: **J Villegas-Mendoza**, M C Ruiz-de la Torre, K Lugo-Ibarra, D Rodriguez Escobar, A Cano-Suzan

OB44G Poster Hall C-D

Thursday 1600h

Planktonic Recorders: Using Tiny Organisms to Understand Past, Present, and Future Oceans II Posters (*joint with ME, PC*)

Moderators: **Rosie Oakes**, Academy of Natural Sciences of Drexel University; **Federico Baltar**, University of Vienna

OB44G-0755 *POSTER* Genomic traits and biogeographic pattern reflect adaptation of the Atlantic Ocean microbiome to Nitrogen availability and acquisition: **M Simon**, L Dlugosch, A Poehlein, B Wemheuer, R Daniel

OB44G-0756 *POSTER* Oxidation of ¹⁵N from ammonium, urea and putrescine by bacterioplankton communities in coastal waters off the West Antarctic Peninsula (PAL-LTER): **J T Hollibaugh**, B N Popp, N Wallsgrove, A Oyinlade-Oyekan, J Damashek, X J Mou, H W Ducklow

OB44G-0757 *POSTER* Variability of Total Dissolved Amino Acids in the North Atlantic Ocean Reveal Microbial Transformation of Dissolved Organic Matter on Diel to Seasonal Time Scales: **S Liu**, C A Carlson, N Baetge, K Opalk, E R Halewood, R J Parsons, R Johnson

OB44G-0758 *POSTER* Atlantic and Pacific Ocean bacterioplankton diversity: **F Milke**, S Sanchez, J McNichol, J A Fuhrman, I Wagner-Döbler, M Simon

OB44G-0759 *POSTER* Biogeochemical Cycling and Metabolic Flexibility in the Lower Oceanic Crust: **V P Edgcomb**, P Mara, J Li, F Schubotz, G Burgaud, J B Sylvan, F Klein, D J Beaudoin, S Y Wee, M Quemener, D K Blackman, L A E Meyer

OB44G-0760 *POSTER* Linking extracellular enzymes to phylogeny indicates a predominately particle-associated lifestyle of deep-sea prokaryotes: **Z Zhao**, F Baltar, G J Herndl

OB44G-0761 *POSTER* Chemoautotrophy drives plankton activity under the Ross Ice Shelf: **F Baltar**, S Morales, D De Corte, C L Hulbe, C Ohneiser, C L Stevens, B Thomson, Z Zhao, C Greening, J M Gonzalez, R Stepanauskas, R Logares, G J Herndl, C Martínez-Pérez

OB44G-0762 *POSTER* Climate implication for the poleward migration of marine calcifiers: **A Winter**, M Manizza, H Zhao

OB44G-0763 *POSTER* Contrasting *Prochlorococcus* temperature niches in the lab and across ocean basins: **A Smith**, G Hennon, E Zinser, B C Calfee, A D Barton

OB44G-0764 POSTER Global marine phytoplankton and zooplankton diversity shifts under climate change.: **F Benedetti**, M Vogt, N Gruber, D Righetti, T L Froelicher

OB44G-0765 POSTER Long-time-scale Investigation on the Seasonal Variation of Phytoplankton Size Class Distribution Patterns in the Arabian Sea: **R Shunmugapandi**, S S Gedam, A B Inamdar

OB44G-0766 POSTER Phenological pattern of coccolithophore blooms in global shelf regions: **H Zhao**, A Winter

OB44G-0767 POSTER The Effect of SST Variability on Community Growth Rates and Composition: **J Zaiss**, P W Boyd, J Havenhand, N M Levine

OB44G-0768 POSTER The global explosion of eukaryotic algae in Cryogenian Oceans: the potential role of phosphorus?: **L Eckford-Soper**, D E Canfield

OB44G-0769 POSTER Tropical Pacific-Wide Variability in Vertical Zooplankton and Micronekton Distributions Related to ENSO: **S Leung**, A Smith-Mislan, L Thompson

OB44G-0770 POSTER Exploring planktonic foraminifera biogeography under changing climate conditions using a global ocean trait-based ecosystem model: **M Grigoratou**, F M Monteiro, J D Wilson, A Ridgwell, D N Schmidt

OB44G-0771 POSTER Understanding the vertical dimension of species niche in planktonic foraminifera: **M Kucera**, M Greco, L Jonkers, D Villela De Oliveira Lessa, J Meilland, R Morard, M R Siccha Dr, M Weinkauf

OB44G-0772 POSTER Ontogenic vertical migration and lunar reproduction cycle in planktonic foraminifera: myth or reality?: **M Kucera**, J Meilland, M R Siccha Dr

OB44G-0773 POSTER The FORCIS project (Foraminifera Response to Climatic Stress: evaluating biodiversity changes of calcifying zooplankton in response to multiple stressors), and Mediterranean context for the response of planktonic foraminifera: **P G Mortyn**, T de Garidel-Thoron, F Working Group

OB44G-0774 POSTER Western Mediterranean marine cores show that foraminiferal mass and flux are being influenced by enhanced anthropogenic pressure: **S Pallacks**, G Anglada I Ortiz, A F Espéjo, P G Mortyn, M Grelaud, B Martrat, A Incarbona, R Schiebel, J Garcia-Orellana, P Ziveri

OB44G-0775 POSTER Morphological Variability of the Deep Dwelling Foraminifer *Globorotaloides hexagonus*: A clue to changing conditions within the Oxygen Minimum Zone?: **C V Davis**, K Wishner, R Thunell, P M Hull

OB44G-0776 POSTER Stable isotopes of *Heliconoides inflatus* pteropod shells record near-surface conditions in the Cariaco Basin: **R L Oakes**, C V Davis, J A Sessa

OB44G-0777 POSTER Ocean Acidification, Not Warming, May Reduce Pteropod Abundance in the Mediterranean Sea: **R Johnson**, C Manno, P Ziveri

OB44G-0778 POSTER Population genomics reveals dispersal barriers in the subtropical shelled pteropod *Limacina bulimoides*: **L Q Choo**, M Choquet, G Hoarau, P Ramos-Silva, E Goetze, K Peijnenburg

OB44H Poster Hall C-D

Thursday 1600h

Seasonal Cycles of Ocean Biogeochemistry and Ecosystems Under a Changing Climate II Posters (joint with OC, PC, PL)

Moderators: Jorg Schwinger, NORCE Climate; Andrea Fassbender, Monterey Bay Aquarium Research Institute

OB44H-0779 POSTER A climatology of spatial and seasonal patterns of carbonate chemistry parameters on the Northeast U.S. Continental Shelf: **C Melrose**, A Z Wang

OB44H-0780 POSTER Benthic Fluxes of Dissolved Inorganic Carbon (DIC) and Total Alkalinity (TA) in the Northern Gulf of Mexico Shelf Sediments: **H Beck**, K Maiti, W J Cai, N Hussain, B Chen

OB44H-0781 POSTER Biological Impacts of Physics through Idealized Tracers: Changes in the seasonal cycle of vertical exchange from early to late 21st century: **G J Brett**, K J Richards, D B Whitt, M C Long

OB44H-0782 POSTER Coral skeleton-bound nitrogen isotopes reconstruct patterns of upwelling on the Great Barrier Reef: **H Tohidi Farid**, D Erler

OB44H-0783 POSTER Creating a New England Salt Marsh Sediment Profile: Methods and Implications for Climate Change Mitigation Strategies: **H Schiebel**, A MacFarland, T Templeton

OB44H-0784 POSTER Decadal Study: What are the Factors Influencing the Carbon Cycle in the Western European Coastal Ecosystems?: **J P Gac**, T Cariou, E Grossteffan, E Macé, P Rimmelin-Maury, M Vernet, Y Bozec

OB44H-0785 POSTER Depicting the Need for High Temporal Resolution pH and Oxygen Variability in a Dynamic Alaskan Estuary: **C A Miller**, A Kelley

OB44H-0786 POSTER Diel and Seasonal Cycles of Coastal Acidification and Carbonate Chemistry at Elkhorn Slough: **L Champlin**, E Watson

OB44H-0787 POSTER Evaluation of model representations of the Southern Ocean seasonal air-sea carbon dioxide flux: **S M Bushinsky**, S Manabe, S Schlunegger, A Haumann, P Landschuetzer, M R Mazloff, A R Gray, J L Sarmiento

OB44H-0788 POSTER High-frequency multiyear time-series highlights seasonal and annual pH variability along a freshwater gradient in Alaska's Beaufort Sea: **A Kelley**, A Muth, K H Dunton

OB44H-0789 POSTER Influence of Drought, Periodic Storm Events, and Hurricane Harvey on the Phytoplankton Community in a South Texas Estuary: **S V Douglas**, J Xue, Z Liu, A Hardison

OB44H-0790 POSTER Picophytoplankton Phenology in the Global Ocean Addressed by Quantitative Niche Models: **N Visintini**, P Flombaum

OB44H-0791 POSTER Seasonal and tidal pH changes in a New England salt marsh: climate change implications for marsh functionality: **A MacFarland**, H Schiebel

OB44H-0792 POSTER Seasonal carbon remineralization in the Mediterranean Sea: Results from a paired-radioisotopic approach: **W Bam**, R Hansman, B Gasser, P Swarzenski

OB44H-0793 POSTER Seasonal time series profiles provide insight into iron sources to Gulf of Alaska surface waters: **J Crusius**

OB44H-0794 POSTER Seasonal variations in Rates of Net Community and Gross Primary Production on the Northeastern Shelf: **A Mehta**, H R Alt, E Lambert, E B Kopp, Z Sandwith, H M Sosik, R Stanley

OB44H-0795 POSTER Spatial and temporal variability in the carbonate system of Galveston Bay: **L Dias**, X Hu, H Liu

OB44H-0797 POSTER The importance of the biological pump for reducing uncertainties in future carbon uptake projections: **T Bourgeois**, N Goris, J Schwinger, J Tjiputra

OB44H-0798 POSTER The spatiotemporal variability in ocean acidification on the Newfoundland and Labrador Shelves: **F Cyr**, O T Gibb, D Bélanger, P Pepin, G Maillet

OB44H-0799 POSTER Unusually High Solar Flux Triggered Extreme Productivity Patterns During the Spring Bloom 2018 in the Central Baltic Sea suggesting Vertical Nutrient Shuttling: a Glimpse into a Potential Future?: **G J Rehder**, J D Müller, H C Bittig, M Kahru, S Kaitala, B Schneider, S M Siirä, L Tuomi, N Wasmund

OB44I Poster Hall C-D

Thursday 1600h

Structure, Function, and Biogeochemical Role of Plankton Communities in the Nutrient-Limited Open Ocean IV Posters (*joint with CT, ME, MM*)

Moderators: **Adam Martiny**, University of California Irvine; **Robert Letscher**, University of New Hampshire

OB44I-0800 POSTER Cyanophage Host-Derived Genes Reflect Changes in Host Ecotype and Depth in the Water Column: **D Garcia Prieto**, M Hays, M Carlson, C A Fuchsman

OB44I-0802 POSTER Determining the Contributions of Microorganisms to H₂O₂ Degradation and its Implications for the Success of *Prochlorococcus* in the Oligotrophic Ocean: **B C Calfee**, D Talmy, S Wilhelm, E Zinser

OB44I-0803 POSTER Marine Microbial Processes at Interfaces: Cellular to Global Scales and Processes: **R B Rivkin**

OB44I-0804 POSTER Running Aground in Paradise: Community Differentiation as Plankton in the Nutrient Limited Open Ocean Encounter Coral Reefs.: **C Nelson**, J L Hensch, J Comstock, C A Carlson, K Remple, A James, L Washburn, A L Alldredge

OB44I-0805 POSTER SAR11 and Pelagiphage Distribution and Viral Host Gene Analysis Through Metagenomic Depth Profiles in Oligotrophic Ocean Environments: **M Hays**, C A Fuchsman

OB44I-0806 POSTER Nuclear and mitochondrial ribosomal ratio as an index of animal growth rate: **R Machida**, W L Kong

OB44I-0807 POSTER The Effects of Feeding Activity on the Bioenergetics of a Pelagic Calanoid Copepod, *Pleuromamma xiphioides*: **I A Milton**, A M Tarrant

OB44J Poster Hall C-D

Thursday 1600h

Toward BioGeoSCAPES: Exploring Molecular Drivers of Ocean Metabolism and Biogeochemistry III Posters (*joint with CT, MM, NC*)

Moderators: **Erin Bertrand**, Dalhousie University; **Naomi Levine**, University of Southern California

OB44J-0808 POSTER The influence of hydrothermal metal inputs on protistan and particle-associated bacterial metabolism in the Lau Basin of the tropical South Pacific Ocean: **N Cohen**, D M Moran, M R McIlvin, A E Noble, J McCrow, A E Allen, M A Saito

OB44J-0809 POSTER Function over form: Using metaproteomics to identify the rates of functional and compositional changes within two Arctic microbiomes: **B L Nunn**, M Mikan, E Timmins-Schiffman, M Riffle, W S Noble, H R Harvey

OB44J-0810 POSTER Resource co-limitation drives competition between phytoplankton and bacteria in the Southern Ocean: **L Ratnarajah**, I Obernosterer, P W Boyd, S Blain, M Fourquez, A Tagliabue

OB44J-0811 POSTER Lanthanide Distribution is an Important Driver on Aerobic Methylophore Community Composition and Distribution in the Sargasso Sea: **A C S Meyer**, D Grundle, J T Cullen

OB44J-0812 POSTER Comparative Study of Adaptation of Eukaryotic Marine Phytoplankton to Iron Limitation: **R Sutak**, R Malych, J Mach, M Eichner, E Kotabova, O Prášil

OB44J-0813 POSTER Synergistic impacts of viral infection and iron limitation on diatom-mediated biogeochemical cycling: **C Kranzler**, K Thametrakoln, M A Brzezinski, M A Maniscalco, N Cohen, R H Lampe, J Mack, J R Latham, D Talmy, B S Twining, A Marchetti

OB44J-0814 POSTER Capturing Southern Ocean diatom community response to Fe enrichment and potential interactions with bacteria using metatranscriptomics: **L Z Holland**, K M Gomes, K N Buck, D Chappell, R M Bundy, B D Jenkins

OB44J-0815 POSTER A Spectrum of Nutrient Limitation in the Heterotrophic Prokaryotic Community of the California Current Ecosystem: **L Manck**, T Coale, C L Dupont, A E Allen, K Barbeau

OB44J-0816 POSTER New insights into direct cell surface-to-chloroplast trafficking of organic and inorganic iron substrates in marine diatoms: **A Allen**, J Turnsek, T Coale, K Barbeau, J K Brunson, V A Bielinski, R H Lampe

OB44J-0817 POSTER Phytoplankton responses to upwelling dynamics under varying iron conditions: **A Marchetti**, R H Lampe, L Whitehouse, J Lin, O Torano, E Pierce, M T Maldonado, G Jian, M P Hurst, C P Till, R Freilinger, T Mellett

OB44J-0818 POSTER Effects of Iron Limitation on the Elemental Stoichiometry and Molecular Physiology of Four Southern Ocean Diatoms: **C Moreno**, M Bernish, G Hernandez, E Pierce, A Marchetti

OB44J-0819 POSTER Chronic Iron Limitation in the Chlorarachniophyte *Bigelowiella natans*: **O Prášil**, E Kotabova, M Eichner, R Malych, J Mach, R Sutak

OB44J-0820 POSTER Diazotrophs Distribution and N₂ fixation Drivers in the Northern North Atlantic Ocean: **D Fonseca Batista**, F Deman, J Tolman, D Desai, F Desprez de Gesincourt, H Planquette, G Sarthou, F Dehairs, J LaRoche

OB44J-0821 POSTER Exploiting Adaptation in Phytoplankton as Environmental Biosensors for Nutrient Stress: **L Ustick**, C Garcia, A Larkin, J Lee, A Martiny

OB44J-0822 POSTER HPLC Method for Simultaneous Quantification of Marine Microbial Metabolic Stocks and Turnover Rates of ATP, ADP, and AMP: **K B Lanpher**, K J Popendorf

OB44J-0824 POSTER Nutrient limitation of cyanobacteria in the Tropical Pacific: **T Browning**, M A Saito, X Wang, A Tagliabue, A Engel, E P Achterberg

OB44J-0826 POSTER Siderophore production in the mesopelagic ocean is an indicator of iron stress in heterotrophic bacteria: **R M Bundy**, J Park, K Heal

OB44J-0827 POSTER The effects of trace metals on global microbial communities: trace metal analysis from the TARA Pacific Expedition: **R L Kelly**, N Cohen, P Pinedo-Gonzalez, N Hawco, F Lombard, G Bourdin, P S John

OB44J-0828 POSTER The Structure and Diversity of Prokaryotic and Eukaryotic Plankton Communities Within the Southern California Bight (2014-2018): **C C James**, A D Barton, L A Zeigler, R H Lampe, A Schulberg, H Zheng, R Goericke, K D Goodwin, A E Allen

OCEAN CHANGE: ACIDIFICATION AND HYPOXIA

OC44A Poster Hall C-D

Thursday 1600h

Chemical and Biological Impacts of Ocean Acidification in the Pacific Ocean III Posters (joint with CP, OB, OM)

Moderators: Richard Feely, NOAA Pacific Marine Environmental Laboratory; Nina Bednarsek, Southern California Coastal Water Research Project

OC44A-1478 POSTER Role of Catalytic Oxidants in Remediation of subsurface and above-ground Water Systems & Control of Environmental Pollution Through Development of Predictive Model of Chemical Reaction Kinetics (MCRK): **V K Goswami**

OC44A-1479 POSTER Anthropogenic Carbon Concentrations along the West Coast of North America: **R A Feely**, B R Carter, S R Alin, D Greeley

OC44A-1480 POSTER Dominant Drivers and Effects of Anthropogenically Modified Carbonate Chemistry in a Temperate Fjord System: **T Jarnikova**, S Allen, D Ianson

OC44A-1481 POSTER Investigating the effects of ocean acidification and light chemistry on a reef-building crustose coralline alga from the tropical Pacific at different depths: **A Isaak**, R Carpenter

OC44A-1482 POSTER Modulation of the Southern Annular Mode on Surface Acidification rates in the Southern Ocean: **L Xue**, W J Cai, T Takahashi

OC44A-1483 POSTER Seawater CO₂-Chemistry Variability in the Near-Shore Environment of the Southern California Bight: **S Kekuewa**, T Cyronak, T Courtney, K Pedersen, A J Andersson

OC44A-1484 POSTER The Control of Calcite Dissolution Kinetics by the Major Ion Composition of Seawater: **J F Adkins**, J Naviaux, H Li, N Rollins, W Berelson

OC44A-1485 POSTER A potential threat of elevated heavy metal bioaccumulation in *Ruditapes decussatus* by Ocean acidification: **M Awad**, N Shaltout, F E Madkour, M E abu El-Regal, E El-Wazzan

OC44A-1486 POSTER Aragonite saturation, dissolved inorganic carbon and pH variability in Marietas Islands, a fringing reef in the Mexican Pacific: **M Cupul**, J M Martin Hernandez-Ayon, O Norzagaray, A L Cupul-Magaña Sr, P Rodríguez-Troncoso

OC44A-1487 POSTER Characterization of Ocean Acidification Impacts in the Southern California Bight with a Coupled Chemical-Biological Monitoring Program: **D Shultz**, K McLaughlin, N Bednarsek, M Sutula, K Chung, S Bowen

OC44A-1488 POSTER Contrasting changes in diel variations of net ecosystem calcification support that carbonate dissolution can be more sensitive to ocean acidification than coral calcification: **W C Chou**, P J Liu, Y H Chen

OC44A-1489 POSTER Effect of elevated CO₂ on Dungeness crab (*Cancer magister*) larvae and juveniles: long-term survival, development rate, size and metabolic rate: **P McElhany**, S Busch, K Donahue, A Lawrence, M Maher, N Manteufel, D Perez, E Reinhardt, K Rovinski, E Tully

OC44A-1490 POSTER Effects of Fluctuating vs. Static Exposure to Hypoxia and High pCO₂ on Gill Transcriptomes in Three Rockfish Species: **H Doerr**, M Palmisciano, C Flannery, S L Hamilton, C Logan

OC44A-1491 POSTER Examining the Effects of Varying pCO₂ Conditions on the Early Development of the Painted Sea Urchin, *Lytechinus pictus*: **B Buyanurt**, T S Leach, G Hofmann

OC44A-1492 POSTER How pH and Temperature Impact the Growth, Molting and Exoskeleton of the Tuna Crab, *Pleuroncodes planipes*: **S Webb**, Z Sebright, J R Taylor

OC44A-1493 POSTER Inter-annual Variability of Ocean Surface Carbonate System Parameters and Their Trends in the Pacific Ocean Since 2001: **S I Nakaoka**, Y Nojiri, S Yasunaka, T Ono, S Takao, M Telszewski

OC44A-1494 POSTER Juvenile Dungeness Crabs Reared in High CO₂ Have Higher Base Metabolic Rates: **E Tully**, K Donahue, D Perez, K Rovinski, M Maher, E Reinhardt, P McElhany

OC44A-1496 POSTER Ocean acidification in the Tsugaru warm current: **M Wakita**, K Sasaki, M Takada, J Yoshino, A Nagano, T Tanaka, T Okunishi, H Abe, K Kimoto

OC44A-1497 POSTER Pacific (*Crassostrea gigas*) and Olympia (*Ostrea lurida*) Oyster Shell Dissolution Rates in Yaquina Bay, OR: **O Otenburg**, T J Myers, G G Waldbusser

OC44A-1498 POSTER Resilience of a Cosmopolitan Diatom to Induced Ocean Acidification Based on C, N, Si and Chlorophyll-*a* Stoichiometric Ratios, Nutrient Uptake Rates, and Morphology: **S Wyatt**, B McNabb, D E Varela

OC44A-1499 POSTER Size-Normalized Shell Weights in Foraminifera Indicate Changes in Carbonate Dissolution and in Organism Physiology during Deglacial Deoxygenation: **C Payne**, C L Belanger, S Sharon

OC44A-1500 POSTER Testing a portable infrared CO₂ gas system for the coastal region: **A G Uribe López**, O Norzagaray, J M M Hernandez-Ayon, J Santander-Cruz, A Mejía-Trejo, L Martínez, F Chavez

OC44A-1501 POSTER The Combined Effect of El Niño Events and Climate Change on Growth and Photophysiology of the Coccolithophore *E. huxleyi* in the Santa Barbara Channel: **M Lowry**, N D'souza, U Passow

OC44B Poster Hall C-D

Thursday 1600h

Interdisciplinary Approaches for Understanding the Biological Consequences of Global Ocean Change III Posters (joint with IS, OB, PC)

Moderators: David Hutchins, University of Southern California; Emily Rivest, Virginia Institute of Marine Science

OC44B-1502 POSTER *Calanus Pacificus*, a Marine Copepod, Shows Poor Avoidance of Hypoxic Water: **R Wright**, A Wyeth, J E Keister, D Grunbaum

OC44B-1505 POSTER Cascading Impacts of Foundation Species Loss on Ecosystem Functioning Within Oregon Rocky Intertidal: **J Fields**, N Silbiger

OC44B-1506 POSTER Changes in Gene Expression of Ion Regulatory Proteins in Developing Atlantic Silverside (*Menidia menidia*) Subjected to Elevated Temperature and Acidity: **M Peña-Lobel**, J Nye, M Hahn, T G Schwemmer, H Baumann, N Dheilly

OC44B-1507 POSTER Conspecific comparison on the effects of abiotic conditions on the swimming and metabolic performance of Pacific chub mackerel (*Scomber japonicus*) among stocks distributed in different area: **C Guo**, S I Ito, M Enomoto, T Aono

OC44B-1508 POSTER Contrasting bloom potential of green-tide forming alga *Ulva ohnoi* under ocean acidification and warming: **E J Kang**, A R Han, I N Kim, S Lee, J H Kim

OC44B-1509 POSTER Cytotoxicity of Environmental Toxins PFOA and Gen X: **L H Zane**, T Shultz

OC44B-1510 POSTER Decrypting the Cryptic: A Multidisciplinary Approach to Elucidating *Pseudocalanus* Diversity and Morphological Variation off the Oregon Coast: **N Brocchini**, K Jacobson, D P Jacobson, M A Banks

OC44B-1511 POSTER Emulating probabilities of coral reef bleaching and mortality using a coupled model framework: **C Hartin**, A Snyder, S Pennington, K Dorheim, J Huster, M Binsted

OC44B-1512 POSTER Future Concentrations of CO₂ and O₂ Threaten the Association of Host *Noctiluca scintillans* and Its Endosymbionts: **J Kreinik**, W Wen, A Ang, H R Gomes, J I Goes

OC44B-1513 POSTER High-resolution UAV mapping for investigating eelgrass wasting disease over the west coast of North America: **B Yang**, T Hawthorne, M Feinman, H Searson

OC44B-1514 POSTER Increasing Vessel Traffic in the Bering Strait: How an Agent Based Model Can Aid in Understanding Wildlife Impacts: **T Jones**, R Itami, R Antunes, M Robards, P Neitlich, A Poe

OC44B-1515 POSTER Lateral, Vertical, and Temporal Variability of Seawater Carbonate Chemistry at Hog Reef, Bermuda: **A Pezner**, T Courtney, H Page, C Beatty, M D DeGrandpre, S N Giddings, A J Andersson

OC44B-1516 POSTER Life adrift: coastal species transport on ocean plastics: **L Haram**, G Ruiz, J T Carlton, C Murray, M Crowley, L R Centurioni, A Shcherbina, J Hafner, N A Maximenko, J Par

OC44B-1519 POSTER Predicting Future Viable Aerobic Habitat for the Green Sea Urchin (*Strongylocentrotus droebachiensis*) in the Northeastern Pacific: **A Marquez**, D Mills, T H Boag, E A Sperling

OC44B-1520 POSTER Response of Phytoplankton Assemblages from Naturally Acidic Coastal Ecosystems off Chile to Ocean Acidification: **N Osma**, L Latorre-Melín, B Jacob, P Contreras, P von Dassow, C A Vargas

OC44B-1521 POSTER Revisiting the prevalence of Nemertean parasite *Pseudocarcinonemertes homari* in American Lobster within the Gulf of Maine: **D Buck**, Y Velasquez, S Quiroga, J Gonzalez-Cueto

OC44B-1522 POSTER Seasonal changes in seawater calcium and alkalinity in the Sargasso Sea and across the Bermuda carbonate platform: **A J Griffin**, Z Anderson, J Ballard, N R Bates, R Garley, R Johnson, T R Martz, F Pacheco, Y Takeshita, A J Andersson

OC44B-1523 POSTER Successes and Challenges of Interdisciplinary Ocean Acidification Research in Alaska: **J N Cross**, D Pilcher, T P Hurst, W C Long, M Dalton, R J Foy, J Thorson

OC44B-1524 POSTER Understanding the Impacts of Future Fluctuating CO₂ Concentrations on the Behavior of *Amphiprion percula*: **H Cooper**, D L Dixon, M A Vaughan

OC44B-1525 POSTER Warming and growth on urea increase the tolerance of the toxic diatom *Pseudo-nitzschia multiseries* to UV exposure and so may facilitate establishment of near-surface harmful blooms: **K Kelly**, X Jiang, L He, D Xu, N Ye, D A Hutchins, K Gao, F Fu

OCEAN DATA MANAGEMENT

OD44A Poster Hall C-D

Thursday 1600h

Accelerating Ocean Science: Using Artificial Intelligence and Machine Learning to Gain New Insights II Posters (*joint with ME*)

Moderators: Carrie Wall; Jan Saynisch Wagner, Helmholtz Centre Potsdam GFZ German Research Centre for Geosciences

OD44A-3473 POSTER Target Detection and Classification Capabilities of Two Multibeam Sonars: **E Cotter**, C Bassett, B L Polagye

OD44A-3474 POSTER Abnormally High Water Temperature Prediction using Machine Learning: **H Yang**, M Kim, H J Han

OD44A-3476 POSTER Classifying Short-finned Pilot Whale Acoustics with Deep Learning: **V G Pan**, D Nowacek, N Quick

OD44A-3477 POSTER A Study on the Prediction Algorithm of Sea Fog Dissipation based on Machine Learning: **J Han**, H Joo, K J Kim, Y T Kim, S J Kwon

OD44A-3478 POSTER Improving short-term wave forecasts with convolution neural networks and regional buoy observations: **J Z Mooneyham**, S C Crosby, N Kumar, B Hutchinson

OD44A-3479 POSTER Sediment types identification and seafloor geomorphology classification through machine learning in Buzzards Bay, Massachusetts: **H Liu**, K Xu, B Li

OD44A-3480 POSTER Prediction of Sea Surface Temperature off the Southern Korean Coast using Spatial-Temporal Neural Network: **Y CHOI**, Y M Park, Y K Ju, S J Kwon, Y T Kim, H B Choi, G H Seo

OD44A-3481 POSTER Using machine learning to predict oceanic wind forcing errors: **C Irrgang**, J Saynisch Wagner, M Thomas

OD44A-3482 POSTER Retrieving Global Subsurface Salinity from Satellite Observations Using Deep Learning: **L Meng**, X H Yan

OD44A-3483 POSTER A machine learning approach to simulate dissolved oxygen and summer hypoxic volume in Chesapeake Bay: **X Yu**, J Shen, J Du

OD44A-3484 POSTER Deep learning techniques for nearshore and riverine bathymetry estimation using water-surface observations: **H Ghorbanidehno**, Y Qian, J H Lee, M Farthing, T Hesser, P K Kitanidis, E F Darve

OD44B Poster Hall C-D

Thursday 1600h

Artificial Intelligence Systems for Advancing the Study of Aquatic Ecosystems II Posters (*joint with IS, ME, PI*)

Moderators: Christian Briseño-Avena, University of San Diego; Emlyn Davies, SINTEF Materials and Chemistry

OD44B-3485 POSTER An Open-Source System for Do-It-Yourself AI in the Marine Environment: **A Hoogs**, M D Dawkins, B Richards, G Cutter, D Hart, M E Clarke, W Michaels, J Crall, L Sherrill, N Siekierski, M Woehlke, K Edwards

OD44B-3486 POSTER Vision-based Real-time Zooplankton Detection and Classification using Fast R-CNN: **A Saad**, S Ansari, A Stahl Prof, M Rajachandran

OD44B-3487 POSTER LAPS Plankton Detector: A User-Friendly Computer Vision Tool for Automatic Plankton Identification: **L T de la Cruz**, H Yamazaki, R M Lopes

OD44B-3488 POSTER Recent Advances in Visual Sensing and Machine Learning Techniques for in-situ Plankton-taxa Classification: **A Saad**, E Davies, A Stahl Prof

OD44B-3489 POSTER A UUV simulator for generating sidescan training data for ANNs: **H C Brown**

OD44B-3490 POSTER High-temporal resolution *in situ* imaging and machine learning to observe copepod-parasite interactions: **E C Orenstein**, C Briseño-Avena, P Roberts, J S Jaffe, P J S Franks

OD44B-3491 POSTER Prey and predator overlap at the edge of a mesoscale eddy: fine-scale, in-situ distributions to inform our understanding of oceanographic processes: **M S Schmid**, R Cowen, K L Robinson, J Y Luo, C Briseño-Avena, S Sponaugle

OD44B-3492 POSTER Automated Surveying of Phytoplankton Population Development in a Mesocosm Experiment: **J Walker**, J S Jaffe, E C Orenstein, S Amiri

OD44B-3493 POSTER Ecosystem Dynamics of the Summer Flounder: **C Best-Otubu**

OD44B-3494 POSTER Re-training a Joint U-Net-CNN Deep Learning Image Classification Pipeline for the Segmentation of Subsea Macrofauna: **M Scott**, B Malladihalli Shashidhara, A Marburg

OD44B-3496 POSTER Investigation of 3D, 4D, and hybrid automated methods to expedite high-precision coral segmentation: **H Runyan**, V Petrovic, N Pedersen, C B Edwards, S A Sandin, F Kuester

OD44B-3497 POSTER Leveraging automated image analysis tools to transform our capacity to assess status and trends on coral reefs.: **C Couch**, I Williams, O Beijbom, T Oliver, B Vargas-Angel, B Schumacher, R E Brainard

OD44B-3498 POSTER Using Machine Learning and Artificial Intelligence to Identify Deep Water Benthic Organisms: Facilitating Environmental Analysis to Evaluate Offshore Wind Deployment Using A Novel Web-Based Tool: **B Ruttenberg**, L Stanchev, H Egbert, A Wolman, D E Cline

OD44B-3499 POSTER Probabilistic Habitat Modeling for Benthic Surveys: **J Shields**, O Pizarro, S B Williams

OD44B-3500 POSTER Artificial Intelligence and Computer Vision for Cost-Effective Benthic Habitat Characterization: **B Sackmann**, E Revelas, K Whitehead, C A Jones

OD44C Poster Hall C-D

Thursday 1600h

Data Science for Modern Oceanography: Statistics, Machine Learning, Visualization, and More IV Posters (*joint with OB, OM, PL*)

Moderators: Alison Gray, University of Washington; Mikael Kuusela, Carnegie Mellon University

OD44C-3501 POSTER Metrics and Citations for Data and Software: **J Hausman**, L J McGibbney, S Vannan, S Bond, D Chiang

OD44C-3502 POSTER CF Conventions for netCDF: Support for Data Access, Analysis, and Visualization: **E Davis**, G P Castelao, D Hassell, J Hausman, A Jelenak, D Lee, K O'Brien

OD44C-3503 POSTER CruisePack: A Tool to Facilitate Submission and Archiving of Cruise-Based Data: **C Anderson**, B Meyer

OD44C-3504 POSTER The CIGOM Data Management portal: **F Medrano**, A Ronquillo

OD44C-3505 POSTER Near real-time data management of multiplatform autonomous vehicles fleet and integration with multi-source heterogeneous data in a web-based visualization tool for data-sharing, dissemination, and operational purposes: **R Marrero**, T Morales, R Moran, E Caudet, C Barrera, O Llinas, P Rivera

OD44C-3506 POSTER A Machine Learning Approach to Quality Control Oceanographic Data: **G P Castelao**

OD44C-3507 POSTER Visualizing oceanic and atmospheric fields on a tile based web map: a new gridded product comparison tool in the Argovis web application: **T Tucker**, D Giglio, M Scanderbeg

OD44C-3508 POSTER PyEcholab: Processing Water Column Echosounder Data in the Cloud: **V Martinez**, C Anderson, C Wall, R Towler, G Cutter, J M Jech

OD44C-3509 POSTER EchoFish - Visualizing water column sonar data: **C Wall**, C Slater, R Klucik, C Anderson, V Martinez

OD44C-3510 POSTER The NOAA/NCEI Data Assembly Center for NOAA/OMAO's ship and aircraft fleet: **C R Paver**, S Tadele, F Katz

OD44C-3511 POSTER World Ocean Database and WODSelect: a nexus between aggregation, dissemination, and utilization of ocean profile data: **T Boyer**

OD44C-3512 POSTER GOANA, a Global Ocean Atlas, Neutrally Averaged: **P M Barker**, T J McDougall

OD44C-3513 POSTER A Synthetic Ensemble of Global Ocean Chlorophyll Concentration: **G Elsworth**, N S Lovenduski, K A McKinnon, R X Brady

OD44C-3515 POSTER How to save 95% of computational load of numerical modeling in examining the coastal protection decision scenarios: **R Q Wang**, G Jia

OD44C-3516 POSTER Using machine learning to improve operational wave forecasts: **J Hansen**, C Wu, P Watson, D J Greenslade

OD44C-3517 POSTER A 2DVAR Blending Method for CYGNSS Wind Speed Observations: **X Wang**, Z Li, Y Yi, C K Shum, J T Johnson

OD44D Poster Hall C-D

Thursday 1600h

Integrating, Disseminating, and Visualizing Quality Data at the Regional Scale to Support Resilient Coastal Communities II Posters (*joint with ED, IS, SI*)

Moderators: Debra Hernandez, Southeast Coastal Ocean Observing Regional Association. SECOORA; Barbara Kirkpatrick, Texas A&M University College Station; John Morrison, Northeastern Regional Association of Coastal and Ocean Observing Systems

OD44D-3518 *POSTER* Monitoring, partnership, and decision-support tools for an expanding U.S. West Coast shellfish aquaculture industry: **A Harper**, C Anderson, D Dugan, J Newton, H Ruhl

OD44D-3519 *POSTER* The Northeast Ocean Data Portal: Maps and Data for New England's Oceans: **K Knee**, E Shumchenia, N Napoli, J Ducharme, J Fontenault, S Sontag, D Martin, P Taylor, M Ribera

OD44D-3520 *POSTER* The Mid-Atlantic Coastal Acidification Network (MACAN): Utilizing the Mid-Atlantic Ocean Data Portal to Identify Monitoring Gaps for Regional Ocean and Coastal Acidification: **A Bristow**, G Saba, K Vilacoba, K Goldsmith

OD44D-3521 *POSTER* IOOS.US: Connecting Regional Ocean Data to the U.S. Integrated Ocean Observing System: **K Bailey**, T C Vance, M Wengren, K Knee, R J Bochenek, S Buckelew

OD44D-3522 *POSTER* Democratizing Data Through Art: A Web-Based, User-Centric Approach to Water Quality Analysis and Visualization: **W B Bray**, R Vincent, K Shaw

OD44D-3523 *POSTER* Integrated ocean observing systems for assessing marine protected areas across California: **H Ruhl**, C Anderson, C A Edwards

OD44D-3524 *POSTER* A machine learning approach to anomaly detection and tide forecasting in a coastal sensor network: **L Reichmann**, I Houghton, D Uminsky, C Swanson, S H I Lio, B T Glazer

OD44D-3525 *POSTER* Creating Reproducible Workflows to Relate Changes in Small Pelagic Fish Diets to Prey Distribution and Environmental Factors across the Northeast U.S. Shelf: **J Wolfe**, S Beaulieu, J Llopiz, J J Suca

OD44D-3526 *POSTER* Data Management and Outreach Strategies for a Sustainable Phenological Species Monitoring Program in a Great Lakes Research Reserve.: **O Drake**

OD44D-3527 *POSTER* Development of New Bathymetric DATA for Ocean Numerical Model in South Korea: BADA 2019: **S Han**, J Mun, W Park, W Cho, G H Seo, S J Kwon, R Heo

OD44D-3528 *POSTER* Leveraging Community Partnerships to Predict and Communicate Coastal Responses to a Changing Greenland Ice Sheet: **D F Porter**, M Turrin, K J Tinto, J Austermann, J Kingslake, R E Bell

OD44D-3529 *POSTER* NOAA NCEI CUDEM Program – Continuously-Updated Digital Elevation Models - Development and Research: **M R Love**, C Amante, K S Carignan, K J Stroker, N P Arcos

OD44D-3530 *POSTER* Non-linear Physiology and Gene Expression Responses of Harmful Alga *Heterosigma akashiwo* to Ocean Acidification: **G Hennon**, O M Williamson, M D Hernandez Limon, S T Haley, S Dyhrman

OCEAN MODELING

OM44A Poster Hall C-D

Thursday 1600h

Lagrangian Methods for Understanding Ocean Circulation and Tracer Transport III Posters

(joint with CT, PL)

Moderators: **Veronica Tamsitt**, University of New South Wales; **Erik van Sebille**, Universiteit Utrecht

OM44A-3177 *POSTER* The Continuous Improvement of an Offline Particle Tracking Model: Nested grid applications.: **E J Hunter**, H L Fuchs, R J Chant, G P Gerbi, J Wilkin

OM44A-3178 *POSTER* Developments of the OceanParcels Lagrangian Ocean Analysis framework: **E van Sebille**, P Delandmeter

OM44A-3179 *POSTER* Some Pitfalls in Numerical Modelling of Vertical Turbulent Mixing: **E Litzler**, T Nordam, R Nepstad, R Kristiansen, J Röhrs

OM44A-3180 *POSTER* Modelling Produced Water Transport and Mixing with a Lagrangian Particle Model: **R Nepstad**, T Nordam, I Ellingsen, L Eisenhauer, E Litzler

OM44A-3184 *POSTER* Following the Nutrients: Subsurface Lagrangian Pathways in the Gulf of Maine: **K C Burkholder**, T Ladue, R He

OM44A-3185 *POSTER* Backtracing of marine litter and microplastic from OSPAR beaches in the North Atlantic: **J Röhrs**, K F Dagestad, C Mauritzen, K O Strand, B E Grøsvik, L A Nogueira

OM44A-3186 *POSTER* Influence of microfiber properties and environmental processes on their dispersal in estuaries: **D Lindo-Atichati**, M Desai, G G Seijo-Ellis, I Jalon-Rojas Dr, J L Alexander, P Montero, M Miro

OM44A-3187 *POSTER* Assessing spatio-temporal patterns of drifting fish aggregating devices (dFADs) entering the EEZ of French Polynesia: **H Raapoto**, K Maamaatuaiahutapu, E C Martinez, M Taquet, M Tanetoea

PAST, PRESENT AND FUTURE CLIMATE

PC44A Poster Hall C-D

Thursday 1600h

Ecosystem Forecasts and Projections II Posters

(joint with CP, ME, OC)

Moderators: Elizabeth Drenkard, Woods Hole Oceanographic Inst.; Peter Kalmus, NASA Jet Propulsion Laboratory

PC44A-1839 POSTER A Decision Support System to Monitor Hypoxic Blooms of Noctiluca in the Coastal Waters of Oman: **D A Kiefer**, Z C Siegrist, S deRada, F Chai, J I Goes, L Al-Kharusi

PC44A-1840 POSTER The PNW HAB Bulletin Project: Optimizing the role of modeling in a sustained-service harmful algal bloom early warning system in the Pacific Northwest: **H B Stone**, N Banas, P MacCready, V L Trainer, R M McCabe, B M Hickey, D L Ayres, M Hunter

PC44A-1841 POSTER Analysis of Sea-Run and Freshwater Fish Abundance Trends in the Penobscot River 2000-2019: **J Chandler-Holtz**, J Valliere, M Simpson, J Kocik

PC44A-1842 POSTER Characterization of In-River Plus Growth in Atlantic Salmon Smolt Scales: **R Kim**, R Haas-Castro, M Renkawitz, B Ellingson

PC44A-1843 POSTER CO₂ and Temperature Effects on the Early Life-Stages of an Important Northwest Atlantic Forage Fish, Atlantic Silverside (*Menidia menidia*): **G OMalley**, R C Chambers

PC44A-1844 POSTER Development of a Maryland Coastal Bays Ecosystem Model to Assess the Influence of Climatic Factors on Biomass Distributions of Fish and Macroinvertebrates, Food Web Linkages and Community Structure: **K Rubalcava**, H Townsend, P Chigbu

PC44A-1845 POSTER Effects of the environment and the spawning stock structure on the distribution of Northeast Arctic cod larvae: **C A Kajiya Endo**, N A Yaragina, F B Vikebø, S S Hjøllø, L C Stige, M D Skogen

PC44A-1846 POSTER Environmental drivers of the presence and persistence of sand lance hotspots on the Northeast US Shelf: **J J Suca**, D Wiley, T L Silva, A R Robuck, D Richardson, S G Glancy, T Giandonato, M A Thompson, P Hong, H Baumann, L Kaufman, J Llopiz

PC44A-1847 POSTER Using joint species distribution models to assess changing predator-prey co-occurrence patterns within a rapidly warming marine ecosystem: **A Allyn**, K Mills, L A Kerr

PC44A-1848 POSTER Predicting Regions of North Atlantic Right Whale, *Eubaleana Glacialis*, Habitat Suitability in the Gulf of Maine: **C Ross**, N Record, D Pendleton, B Tupper

PC44A-1849 POSTER Statistical Analysis of Local Oceanographic Variability Relative to Abalone Habitats at Isla Natividad: **H Lee**, Y Sun, C Reilly, L Marrack, F Micheli, G De Leo

PC44A-1850 POSTER The Importance of Environmental Exposure History in Forecasting Dungeness Crab Megalopae Occurrence Using J-SCOPE, a High-Resolution Model for the US Pacific Northwest: **E L Norton**, S Siedlecki, I Kaplan, A J Hermann, J L Fisher, C Morgan, S Officer, C Saenger, S R Alin, J A Newton, N Bednarsek, R A Feely

PC44A-1851 POSTER Identifying spatial and temporal tradeoff of fish early life stages in the Gulf of Alaska and Bering Sea regions: **L Ciannelli**, L Rogers, S Porter

PC44A-1852 POSTER Local and large-scale environmental conditions can affect maternal investment, larval growth and recruitment of rockfish (*Sebastes spp.*) in the Southern California Bight: **N Ben-Aderet**, A Thompson

PC44A-1853 POSTER Match-mismatch on the move: time, space and climate change: **S A Ferreira**, J Durant, K O Kvile

PC44A-1854 POSTER Outlook on Changes in Bering Sea Oxygen Cycling: **S Mogen**, D Pilcher, J N Cross

PC44A-1855 POSTER Phenological Variability of Coastal Upwelling in the California Current System: **S J Bograd**, M Jacox, E L Hazen, I D Schroeder

PC44A-1856 POSTER It's Not Just About Sea Surface Temperature: Synthesizing Information to Communicate Climate Change Projections for European Seas: **S Kay**

PC44A-1857 POSTER Projecting extremes in California Current acidification: **G Cazares**, N S Lovenduski, R X Brady, E Middlemas

PC44A-1858 POSTER Managing Uncertainty: Strategic Downscaling of Climate Change Impacts on CCS Oceanography and Fisheries: **E Drenkard**, C A Stock, A J Miller, S Mcclatchie, E N Curchitser

PC44A-1859 POSTER Expanding the biophysical ensemble: hybrid dynamical-statistical downscaling methods based on spatial/temporal scale: **A J Hermann**

PC44B Poster Hall C-D

Thursday 1600h

High-Resolution Climate Modeling III Posters

(joint with AI, OM, PL)

Moderators: Justin Small, International Laboratory for High-Resolution Earth System Prediction (iHESP); Ping Chang, Texas A & M University; Gokhan Danabasoglu, National Center for Atmospheric Research; Shaoqing Zhang, International Laboratory for High-Resolution Earth System Prediction (iHESP)

PC44B-1860 POSTER A global eddy-resolving reanalysis with the CESM2 ocean component: **F S Castruccio**, A R Karspeck, G Danabasoglu, J L Anderson, B Kirtman, N Collins, J Hendricks, T J Hoar

PC44B-1861 POSTER A global eddying hindcast ocean simulation with OFES2: **H Sasaki**, S Kida, R Furue, H Aiki, N Komori, Y Masumoto, T Miyama, M Nonaka, Y Sasai, B Taguchi

PC44B-1862 POSTER Variable-Resolution Simulations with the DOE Energy, Exascale, Earth System Model (E3SM): **M R Petersen**, X Asay-Davis, S Brus, D Engwirda, K Hoch, M E Maltrud, A Roberts, K L Rosa, L Van Roekel, J Wolfe, P J Wolfram Jr

PC44B-1863 POSTER Comparison of the Ocean Components POP2 and HYCOM in the Community Earth System Model (CESM) at High Resolution: **A Bozec**, E Chassignet

PC44B-1864 POSTER Determination of spatiotemporal resolution in one-way nesting of ocean regional circulation model: **D H Kim**, J H Hwang, S V Pham

PC44B-1865 POSTER Regional Modeling with MOM6: **K Hedstrom**, R Hallberg, A Adcroft, M Harrison, E N Curchitser

PC44B-1866 POSTER MPAS-Ocean Simulation Quality for Variable-Resolution North American Coastal Meshes: **K Hoch**, M R Petersen, S R Brus, D Engwirda, K L Rosa, P J Wolfram Jr

PC44B-1867 POSTER An efficient implementation of a semi-implicit barotropic mode solver for the MPAS-Ocean: **H G Kang**, K J Evans, P Jones, M R Petersen, A Salinger, R S Tuminaro

PC44B-1868 POSTER Strategies for Optimizing the Barotropic-Baroclinic Splitting of the Time-Stepping Algorithm in High Resolution Ocean Models: **S Bishnu**, M R Petersen, B Quaipe

PC44B-1869 POSTER Tropical cyclones in a warming world - first results from the ICCP high-resolution CESM simulations: **J E Chu**, A Timmermann, S S Lee, C Wengel

PC44B-1870 POSTER Downscaling of CMIP5 ocean future projections around Japan using high-resolution regional ocean models: **S Nishikawa**, T Wakamatsu, Y Ishikawa, H Ishizaki

PC44B-1871 POSTER Assessing future climate changes in the northwestern North Pacific around Japan using a high-resolution regional ocean model: **G Yamanaka**, H Nakano, T Toyoda, K Sakamoto, S Urakawa, H Tsujino, S Nishikawa, T Wakamatsu, Y Ishikawa

PC44B-1872 POSTER Dynamical downscaling to resolve spatial difference of sea level change in the Northwestern Pacific marginal seas: **Y Y Kim**, Y K Cho, K Y Jeong, E Lee

PC44B-1873 POSTER Evaluation of various wind products around the Yangtze River Estuary: **H Li**, X Wang, Z Chen, Y He

PC44B-1874 POSTER Extreme Adriatic Sea Wave Events Under Climate Change: **I Vilibic**, C Denamiel, P Pranic, F Quentin, H Mihanovic

PC44B-1875 POSTER High-resolution climate modelling of the Adriatic (Mediterranean Sea): **I Vilibić**, C Denamiel, P Pranic, H Mihanovic

PC44B-1876 POSTER Improved Internal Gravity Wave Spectral Continuum in a Regional Ocean Model: **A Nelson**, B K Arbic, D Menemenlis, W R Peltier, M H Alford, N Grisouard, J M Klymak, Y Pan

PC44B-1878 POSTER Gulf Stream impacts of regional resolution refinement in the E3SM unstructured-mesh ocean model MPAS-Ocean: **K L Rosa**, M R Petersen, S R Brus, D Engwirda, K Hoch, M E Maltrud, L Van Roekel, P J Wolfram Jr

PC44B-1879 POSTER Heat Budget Responses of the Eastern China Seas to Global Warming in a Coupled Atmosphere-Ocean Model: **D Tian**

PC44B-1880 POSTER Impact of ocean resolution on SST over the Arabian Sea and Indian monsoon precipitation in a coupled GCM: **Y Yamagami**, M Watanabe, H Tatebe

PC44C Poster Hall C-D

Thursday 1600h

Marine Heat Waves and Ocean Biogeochemical Extremes III Posters (joint with AI, ME, OC, PI, PS)

Moderators: Thomas Froelicher, University of Bern; Hillary Scannell, University of Washington Seattle

PC44C-1882 POSTER A new ocean state after nuclear winter: **C S Harrison**, T Rohr, A K DuVivier, E Maroon, N S Lovenduski, C Bardeen, S Stevenson, A Robock, O B Toon, J L Coupe, J Stevens, P Neubauer, V Rangel

PC44C-1883 POSTER Amplification of marine heatwaves in shallow coastal bays: **P Wiberg**

PC44C-1884 POSTER Changes and Extreme Events in Temperature of an Ocean Reanalysis Product around Japan: **T Miyama**, Y Miyazawa

PC44C-1885 POSTER Coastal Marine Heatwave Analysis: Distribution, Characteristics and Climate Change Impact: **M Marin**, M Feng, H E Phillips, N L Bindoff

PC44C-1886 POSTER Contrasting hemispheric responses in seasonal surface ocean pH extremes: **L Gregor**, N Gruber, M Vogt, M Munnich

PC44C-1887 POSTER Deep Learning to predict the Marine Heatwaves over East Asian Marginal Seas: **S Lee**, M S Park

PC44C-1889 POSTER Impacts of Marine Heatwaves on *Euphausia pacifica* in the Northern California Current: **C Cass**, E Bjorkstedt, R Robertson

PC44C-1890 POSTER Influence of the 2013-2015 marine heatwave on zooplankton community structure in the lower Cook Inlet, Alaska: **C Mckinstry**, R W Campbell, K Holderied

PC44C-1891 POSTER Long-term trends and spatial patterns of marine heatwaves in the East Sea: **I N Kim**, J E Yoon, H J Oh, J D Hwang, J H Kim

PC44C-1892 POSTER Major climate drivers of East Asian marine heatwaves: **M S Park**, S Lee, M Kwon, Y H Kim, Y G Park

PC44C-1893 POSTER Marine Biogeochemical Extreme Events in European Shelf Seas: **O Andrews**

PC44C-1894 POSTER Marine Heat Waves Alter Phytoplankton Community Composition in the Columbia River Estuary: **T Dodrill**, J A Needoba, T D Peterson

PC44C-1895 POSTER Marine Heatwaves Impacts on the Global Surface Phytoplankton Variability: **K M Noh**, H G Lim, J S Kug

PC44C-1896 POSTER Marine heatwaves reveal coral reef zones susceptible to bleaching: **L Genevier**, T Jamil, D E Raitsos, G Krokos, I Hoteit

PC44C-1897 POSTER Mechanisms and Predictability of the 2013-2016 Northeast Pacific Marine Heat Wave: **A Capotondi**, P D Sardeshmukh

PC44C-1898 POSTER Primary Drivers of Marine Heatwaves in the Northwest Atlantic: **R Schlegel**, K Chen, E Oliver

PC44C-1899 POSTER Regional Wind Patterns and the Spatial Structure of Marine Heat Waves off the Western United States: **M R Fewings**, K S Brown

PC44C-1900 POSTER Spatial variability in the resistance and resilience of giant kelp in southern and Baja California to a multiyear heatwave: **K C Cavanaugh**, D Reed, T W Bell, M Castorani, R Beas-Luna

PC44C-1901 POSTER The Blob and Queen Charlotte: Predicting Ocean Properties in an Upwelling System during Anomalous Conditions: **H V Dosser**, S Waterman, J Jackson, C G Hannah

PC44C-1902 POSTER The Discovery of New Coastal Climate Mode: Chile Niño/Niña: **J Xue**, J J Luo, C Yuan, T Yamagata

PC44C-1903 POSTER Unexpected Positive Effects of the Pacific Marine Heatwave on Zooplankton and Juvenile Salmon in the Salish Sea: **J E Keister**, A Winans, B Herrmann, I Kemp

PC44C-1904 POSTER Variability of Marine Heatwave Events in the Southeast Indian Ocean using an Ocean General Circulation Model: **S Ryan**, C Ummenhofer, G Gawarkiewicz, M Scheinert, A Biastoch, C W Boning

PC44C-1905 POSTER What Causes Heatwaves in the Ocean?: **N J Holbrook**, H A Scannell, A Sen Gupta, J Benthuyssen, M Feng, E C Oliver, L Alexander, M T Burrows, M Donat, A J Hobday, P J Moore, S Perkins-Kirkpatrick, D E Smale, S E Straub, T Wernberg

PHYSICAL-BIOLOGICAL INTERACTIONS

PI44A Poster Hall C-D

Thursday 1600h

Ecological Fluid Mechanics: Interactions Among Organisms and Their Fluid Environment III Posters (joint with ME)

**Moderators: Donald Webster; Arvind
Santhanakrishnan, Oklahoma State University**

PI44A-2514 POSTER (Un)synchronized rowing: importance of phase lag in metachronal swimming performance: **A Santhanakrishnan**, M Ford

PI44A-2515 POSTER A New Mathematical Model to Explore Microbial Processes and their Constraints in Phytoplankton Colonies and Sinking Marine Aggregates: **A Khalili**, N Moradi, B Liu, M H Iversen, M M M Kuypers, H Ploug

PI44A-2516 POSTER Benthic jellyfish facilitate the release of sediment pore water in coastal mangrove habitats: **D M Durieux**, K Du Clos, B Gemmell

PI44A-2517 POSTER Characterizing animal-fluid interactions in the deep sea benthos using combined *DeepPIV* and respiration measurements: **J Daniels**, A S Kahn, J Lord, K Katija, J P Barry

PI44A-2518 POSTER Characterizing light limited growth and orientation of elongate colonial diatoms under laminar and turbulent Couette flow regimes: **R Barua**, M McFarland, J M Sullivan, J Rines, M Omand, A R Nayak

PI44A-2519 POSTER Daphnia are Tangential Flow Filter Feeders: **J R Strickler**, A J Cambell, A I Cruz, A Nihongi

PI44A-2520 POSTER Fluid Mechanics of Feeding by the Hydromedusa *Clytia gregaria* Determines the Trophic Niche of this Ubiquitous Coastal Predator: **M V Corrales**, K Sutherland

PI44A-2521 POSTER Hop and escape behavior of *Acartia tonsa* in response to turbulent-like eddies: **D Elmi**, S Soumya, D R Webster, D Fields

PI44A-2522 POSTER Host-Virus Interactions Under Turbulent Flow Regimes: **K Bondoc**, C Johns, H L Fuchs, R J Chant, K D Bidle

PI44A-2523 POSTER Hydrodynamics and bio-locomotion of krill caridoid response maneuver: **A Connor**, D Adhikari, D Ranjan, D R Webster

PI44A-2524 POSTER Hydrodynamics of metachronal propulsors in aquatic swimmers: **S Colin**, J Costello, B Gemmell, K Sutherland, J Dabiri

PI44A-2525 POSTER Larval Fish Feeding: Strategies for Capturing Prey: **I Chang**, P H Lenz, D K Hartline, D Takagi

PI44A-2526 POSTER Mechanical sensing of particles enhanced by controlled agitation: **D Takagi**, J R Strickler

PI44A-2527 POSTER Metachronal Swimming in Pacific krill, *Euphausia pacifica*: **M Ruszczyk**, D R Webster, J Yen

PI44A-2528 POSTER Metamorphosis of Larval Slipperfishes, *Crepidula plana*, in Response to Jet-Stirred Turbulence: **M Whittaker**, A Pires, M H DiBenedetto, E Anderson, K R Helfrich, K Meyer-Kaiser, L S Mullineaux

PI44A-2529 POSTER Odor tracking in marine organisms: the role of temporal and spatial intermittency of the odor signal: **B Michaelis**, M A Reidenbach, K Leathers, B Ache, Y Yuriy Bobkov, J Principe, R Barhaloo

PI44A-2530 POSTER Orientation of hydrodynamic cues affects differential behavior responses in mud crab larvae: **D R Webster**, A C True, M J Weissburg

PI44A-2532 POSTER Pore Water Release and Mixing by Epibenthic Upside-down Jellyfish: **M G Gaddam**, A Santhanakrishnan

PI44A-2533 POSTER Stokes Drift in Shallow Layers Above Coral Reefs: Theory, Field Observations, and Biological Implications.: **H E Huppert**, M A R Koehl, J Webber

PI44A-2534 POSTER Swimming Kinematics In “Sea Butterflies” - Using Image Tracking Software To Characterize The 3D Swimming Of Pteropods: **J Wingate**, F Karakas, D W Murphy, A E Maas, P Rossi

PI44A-2536 POSTER The most efficient metazoan swimmer creates a ‘virtual wall’ to enhance performance: **B Gemmell**, K Du Clos, S Colin, K Sutherland, J Costello

PI44A-2537 POSTER The physical and biological roles of mesoscale eddies on migration of Japanese eel larvae in western Pacific Ocean: **Y L Chang**

PI44A-2538 POSTER Towards Quantification of Biologically Generated Turbulence Through 3D Scanning Particle Image Velocimetry: **M Fu**, I Houghton, J Dabiri

PI44A-2539 POSTER Using videography to quantify copepod movement and behavior: Effects of temperature, viscosity, and diet: **A Tyrell**, H Jiang, N S Fisher

PI44A-2540 POSTER Wake Tracking by Copepods: importance of chemical and fluid mechanical cues: **J Yen**, B Colvert, M Alsalman, Y Huang, E Kanso

PI44A-2541 POSTER What’s Lost Is Found: Wake Energy From Pectoral Fins Can Be Recaptured By Caudal Fin During Fish Swimming: **N B Tack**, K Du Clos, B Gemmell, A Bhutta

PI44B Poster Hall C-D

Thursday 1600h

Population Connectivity in Aquatic Ecosystems III Posters (joint with ME)

Moderators: Atsushi Fujimura, University of Guam;
Satoshi Mitarai, Okinawa Institute of Science and Technology

PI44B-2542 POSTER Coastal Surface Connectivity Of The Gulf Of Mexico From Transition Matrices.: **J Rodriguez Outerelo**, P Perez-Brunius, M J Olascoaga, P Miron, F J Beron-Vera, P García-Carrillo, J Sheinbaum, J M Azevedo Correia de Souza, J Jouanno, S N Estrada-Allis, J Zavala-Hidalgo

PI44B-2543 POSTER A comparative study of spatial resolution in ocean circulation models and its impact in Lagrangian particle tracking simulations: **J A T K Wong-Ala**, L Ciannelli, S M Durski

PI44B-2544 POSTER Predicting the Location of Current-Driven Biogeographic Boundaries in the Coastal Ocean: **W Lush**, J M Pringle

PI44B-2545 POSTER Approaches to understanding transport of marine organisms: **A Fujimura**

PI44B-2546 POSTER Estimating spawning locations of the deep-sea red and blue shrimp *Aristeus antennatus* (Crustacea: Decapoda) in the northwestern Mediterranean Sea with a backward trajectory model: **E W North**, M Clavel-Henry, J Solé, N Bahamon, M Carretón, J B Company

PI44B-2547 POSTER Caribbean Dispersal Patterns Vary with Larval Fish Behavior, Hydrography, and Habitat Availability: **C Hernandez**, C B B Paris, A C Vaz, B Jones, J Kellner, D Richardson, R Cowen, S Sponaugle, J Llopiz

PI44B-2549 POSTER Connectivity Patterns of Coastal and Neritic Fish Larvae in Deep Waters in the Western Gulf of Mexico: How Ichthyoplankton Surveys Can Be Helpful to Evaluate the Reliability of the Velocity Fields Provided by the Circulation Models?: **J C Compaire**, S P A Jiménez-Rosenberg, J Rodriguez Outerelo, L D P Echeverri-García, P Perez-Brunius, S Z Herzka

PI44B-2550 POSTER The Small World of Global Marine Fisheries: The Cross-Boundary Consequences of Larval Dispersal: **N Ramesh**, J A Rising, K L Oremus

PI44B-2551 POSTER Running with Hooligans: population structure, biology, and cultural importance of the Nooksack River Longfin Smelt (*Spirinchus thaleichthys*): **R J Arnold**

PI44B-2552 POSTER *Fundulus parvipinnis* in Mission Bay: Understanding Patterns of Fecundity and Reproduction: **I Rivera Larrea**, D M Talley

PI44B-2553 POSTER A Genetic Assessment of Channeled Whelk, *Busycotypus canaliculatus*, Population Structure and Occurrence of Multiple Paternity in the mid-Atlantic: **S Askin**, J McDowell, R Fisher

PI44B-2555 POSTER Potential Predictability of Skipjack Tuna (*Katsuwonus pelamis*) Catch in the Western Central Pacific: **J Kim**, H Na, Y G Park, Y H Kim

PI44B-2556 POSTER Using Chemical Tracers to Understand Where Fish Were Born: **D Robichaux**, P Chittaro

PI44B-2557 POSTER Relationship Between Calanoid Copepods and Epibiont Suctorian Ciliates in the North Pacific Ocean: **Y Endo**, Y Sato, A Yamaguchi, I Dovgal

PI44B-2558 POSTER Assessment of Spatial and Temporal Distribution of *Crassostrea virginica* Spat and Fouling Organisms to Determine Oyster Restoration Feasibility in the Maryland Coastal Bays: **M Farmer**, D Cullen, B G Stevens

PI44B-2559 POSTER Stuck Between a Rock and a Hard Place: Boring Sponges Undermine Oyster Restoration Efforts Outside of a Narrow Salinity Regime in Pamlico Sound: **Z Knorek**, N Lindquist, J Fodrie

PI44B-2561 POSTER Habitat Turnover of Host Anemones *Stichodactyla gigantea* and *Heteractis magnifica* Affect the *Amphiprion percula* Population: **L Fitzgerald**, H Harrison, R Gatins, P Saenz-Agudelo, G P Jones, S Planes, M L Berumen

PI44B-2562 POSTER Spatial genetic structure and phenotypes of *Galaxea* corals in the Ryukyu Archipelago: **Y Nakajima**, P H Wepfer, S Mitarai

PI44B-2563 POSTER Mobile fauna communities associated with the three common holopelagic *Sargassum* morphotypes in the western North Atlantic, Caribbean Sea, and Gulf of Mexico: **L Martin**, M Taylor, G Huston, D Goodwin, J M Schell, A N Siuda

PI44B-2564 POSTER Ocean mooring panels contribute to our understanding of the interaction between marine debris and invasive species: **L Haram**, C Murray, C Wright, G Ruiz, J T Carlton, N A Maximenko, A Shcherbina, L R Centurioni, M Crowley, J Hafner

PI44B-2565 POSTER Testing top-down vs bottom-up influences on marine biofilm communities: **S Morales**, S P Tobias-Hünefeldt, J Wenley

PI44C Poster Hall C-D

Thursday 1600h

(Sub)mesoscale Physical/Biogeochemical Interactions III Posters (joint with ME, OB, PS)

Moderators: Peter Gaube, Applied Physics Laboratory at the University of Washington; Daniel Whitt, University of Cambridge

PI44C-2566 POSTER A Double-Thermostad Warm-Core Ring of the Gulf Stream: **I M Belkin**, A Foppert, H T Rossby, S Fontana, C R Kincaid

PI44C-2567 POSTER A scaling estimate for upper ocean productivity based on horizontal eddy diffusivity: **N Nidzieko**, W Haskell, A Fisher

PI44C-2568 POSTER Biogeochemical float observations in the Kuroshio recirculation gyre during the spring transition: **R Inoue**, C Sukigara, T Nagai, A J Fassbender, Y Takeshita, S Bishop, E Oka

PI44C-2569 POSTER Biogeochemical responses to seasonal oceanic variability around a ridge area along the Kuroshio off Japan: **X Zhang**, Y Uchiyama, Y Suzue, H Yamazaki

PI44C-2570 POSTER Biophysics of submesoscale features in a Central New Zealand shelf sea from glider observations: **K Jhugroo**, J O'Callaghan, C Stevens, F Elliott

PI44C-2571 POSTER Determining the influence of mesoscale eddies on near-surface currents and phytoplankton populations in the mixed layer: **P Gaube**, A Della Penna, E Mason

PI44C-2572 POSTER Diurnal and Submesoscale Surface Variability in the Region of the Bermuda Atlantic Time-series Study (BATS) Site.: **Z Anderson**, R Johnson, N R Bates, P Lethaby

PI44C-2573 POSTER Diurnal Variations of Surface Chlorophyll-a Concentration from in-situ and Satellite Measurements and its Relation to Physical Forcing: **J E Park**, K A PARK, S Nam

PI44C-2574 POSTER Dynamics of bioluminescence potential and physical, bio-optical properties on the shelf and shelf-slope of the Delaware Bay.: **I Shulman**, B Penta, S C Anderson, M A Moline, M J Oliver, J Cohen, K Hudson, C D Rowley, A E Rice

PI44C-2575 POSTER Eddies generated by the salinity front instability in the Arctic Ocean: **Y Liu**, J Dong, M Jin, C Dong, X Lin

PI44C-2576 POSTER Eddy Stirring and Diapycnal Transfer of Nutrients to the Euphotic Zone and Upper Thermocline of the North Atlantic Subtropical Gyre: **C Spingys**, A Forryan, R Williams, R E Tuerena, A Naveira Garabato, C Vic, J Sharples

PI44C-2577 POSTER Effects of Atmospheric Forcing on Interannual Variability of Chlorophyll Concentration in the Antarctic Coastal Polynyas: **T Park**, E Ko, E K Shin, J Park

PI44C-2578 POSTER Evaluation of Sub-Mesoscale Nutricline Variability on Pre-Conditioning the Extent of the Spring Bloom at the Bermuda Atlantic Time-Series: **E Davey**, R J Johnson, N R Bates, P Lethaby, C Medley

PI44C-2579 POSTER Extreme phytoplankton blooms in the Southern Tropical Indian Ocean in 2011: **X Liao**, G Wu, Y DU, T WANG, Q He, H Zhan

PI44C-2580 POSTER Factors affecting the massive phytoplankton bloom in the Amundsen Sea, Antarctica: **J Park**, M Y Gorbunov, E Ko

PI44C-2581 POSTER Impacts of Cyclonic Eddy on Phytoplankton Biomass and Spring Bloom Onset Time in the Kuroshio Extension Region: **E Siswanto**, Y Sasai

PI44C-2582 POSTER Impacts of Internal Waves on Phytoplankton Communities in Two Contrasting Habitats of the Northern South China Sea: **L Ma**, W Xiao, E A Laws, K P Chiang, X Liu, B Huang

PI44C-2583 POSTER Investigation of Eddy - Storm Induced Near Inertial Wave Motions in the Northern Sargasso Sea: **J Hilditch**, M H Conte, R J Johnson, F Pacheco, R Pedrosa Pamies

PI44C-2585 POSTER Mesoscale Features and Zooplankton Biomass Distribution: A Case of Study in the Eastern Pacific Tropical-Subtropical Transition Zone: **J G Gutiérrez Bravo**, L Tenorio-Fernandez, L Sanchez Velasco

PI44C-2586 POSTER Physical Modulation to the Biological Productivity in the Summer Vietnam Upwelling System, Western South China Sea: **W Lu**, L Y Oey, E Liao, W Zhuang, X H Yan, Y Jiang

PI44C-2587 POSTER Physical-Biological Interactions Resultant from the Confluence of Water Masses on the New Jersey-Delaware Continental Shelf, Spring 2018: **B Penta**, A E Rice, I Shulman, A C Hagemeyer, A T Greer, J C Lehrter, M McFarland, A R Nayak, N Stockley, B M Binder, K M Boswell

PI44C-2588 POSTER Reduced Order Biogeochemical Flux Model For Use In High-Resolution Multi-Scale Biophysical Simulations: **K Smith**, P Hamlington, S Kern, N Pinardi, M Zavatarelli, K Niemeyer, E Klee

PI44C-2589 POSTER Stratification in a shelf sea: response to different atmospheric forcings: **A Akpinar**, M R Palmer, M Toberman, M Inall

PI44C-2590 POSTER Stratification triggered by winter rain events: is there enough light for primary production?: **J Jardine**, M R Palmer, C Mahaffey, J T Holt

PI44C-2591 POSTER Submesoscale and mesoscale eddies in the Florida Straits: Observations from satellite ocean color measurements: **Y Zhang**, C Hu, Y Liu, R H Weisberg, V Kourafalou

PI44C-2592 POSTER Submesoscales enhance storm-driven vertical mixing of nutrients: insights from a biogeochemical large eddy simulation: **D B Whitt**, M Levy, J R Taylor

PL44C-2593 POSTER The impact that resolving the internal tide in shelf sea models makes to the dynamics and variability of phytoplankton growth with the subsurface chlorophyll maximum: **L Drysdale**, J Hopkins, S Wakelin

PL44C-2594 POSTER The Sub-surface Biogeochemical Structure of Southern Ocean Eddies: **J Su**, P G Strutton

PL44C-2595 POSTER Wind-driven Vertical Mixing and Light Availability Control the Evolution of Phytoplankton Blooms on a Tidally Energetic Shelf: **J Hopkins**, M R Palmer, J Sharples, A E Hickman, A J Poulton

PHYSICAL OCEANOGRAPHY: MESOSCALE AND LARGER

PL44A Poster Hall C-D

Thursday 1600h

Climate Variability, Ocean Dynamics, and Biogeochemical Cycles in the Indian Ocean II Posters (joint with AI, OB, PC)

Moderators: **Lei Zhang**, University of Colorado Boulder;
Weiqing Han, University of Colorado Boulder

PL44A-2750 POSTER Dynamics of dissolved organic carbon in the northern Indian Ocean: **C Shah**, A K Sudheer, R Bhushan

PL44A-2751 POSTER A New Climatology of Barrier Layer Thickness and Temperature Inversions in the Bay of Bengal from Argo Data: **M Ishaque**, S Clayton

PL44A-2752 POSTER A prolonged high-salinity event in the Northern Arabian Sea during 2014-2017: **Y Zhang**, Y DU, D Jayarathna, Q SUN, F Yao, M Feng

PL44A-2753 POSTER Distribution of phytoplankton biomass and abundance in the Arabian Gulf and the Sea of Oman: **I Polikarpov**, M Saburova, F Y Al-Yamani

PL44A-2754 POSTER Radiative Impacts of Low-level Clouds on the Subtropical High in the South Indian Ocean Simulated in a Coupled General Circulation Model: **A Miyamoto**, H Nakamura, T Miyasaka, Y Kosaka

PL44A-2755 POSTER Estimating a time series of meridional heat transport of the Indian Ocean at 34°S: **K McMonigal**, L M Beal, S Elipot, J K Willis, J C Hermes

PL44A-2756 POSTER Indian Ocean Salt Transport Variability at 34°S: **K Gunn**, L M Beal, S Elipot, K McMonigal

PL44A-2757 POSTER Shifts in bacterial communities reveal subtle biogeochemical regimes of the central Indian Ocean: **M Brock**, A Larkin, A Martiny

PL44A-2758 POSTER Environmental Controls on Carbon:Nitrogen Variability in Surface Ocean Plankton: **N S Garcia**, C Garcia, A Larkin, J Lee, A Martiny

PL44A-2759 POSTER Effects of climate modes on decadal variability of upwelling in the tropical Indian Ocean: **X Zhang**, X Tian, W Han

PL44A-2760 POSTER The Anomalous Heat Content/Sea Level Changes in the South Indian Ocean During 1992-2018: **M Rudko**, D Volkov, S K Lee

PL44A-2761 POSTER An extreme negative Indian Ocean Dipole event in 2016: dynamics and predictability: **B Lu**, H Ren, A A Scaife, H L Ren, N J Dunstone, D M Smith, J Wan, R Eade, C MacLachlan, M Gordon

PL44A-2763 POSTER Elucidating the response of the ocean to the Madden Julian Oscillation: **W C Hsu**, K J Richards, H Annamalai, K Kikuchi, Y Jia

PL44A-2764 POSTER Improving the prediction of western North Pacific summer precipitation using a Bayesian dynamic linear model: **W Xing**, W Han, L Zhang

PL44A-2765 POSTER Indian Ocean Warming Trend Reduces Pacific Warming Response to Anthropogenic Greenhouse Gases: An Interbasin Thermostat Mechanism: **L Zhang**, W Han, K B Karnauskas, G Meehl, A Hu, N A Rosenbloom, T Shinoda

PL44A-2766 POSTER Ningaloo Niño/Niña and their regional climate impacts as recorded by corals along the coast of Western Australia: **Y DU**, L Su, M Feng, J Li

PL44A-2767 POSTER Role of Model Configurations in MJO Simulations: **Y Hu**, X Wang

PL44A-2768 POSTER Salinity anomaly as a brake on the positive Indian Ocean Dipole-Experimental assessments using a regional ocean model-: **S Kido**, T Tozuka, W Han

PL44A-2769 POSTER Simulation of the Leeuwin Current System by Eddy-resolving Ocean General Circulation Model: **X Feng**, T Shinoda

PL44A-2770 POSTER THE ROLE OF INTRASEASONAL OSCILLATION IN THE TROPICAL CYCLONE ACTIVITY IN BAY OF BENGAL: A CASE STUDY FOR ROANU (2016): **D Wang**, L Yang

PL44A-2771 POSTER Tropical Oceanic Intraseasonal Variabilities associated with Central Indian Ocean Mode: **Z Meng**, L Zhou, R G Murtugudde, Q Yang, K Pujiana

PL44A-2772 POSTER Warming rage change in the Agulhas system during the past decade: **L Huang**, W Zhuang, X H Yan

PL44B Poster Hall C-D

Thursday 1600h

Ocean Tides: From Planetary to Turbulent Scales III Posters (*joint with CP, OM, PI*)

Moderators: **Maarten Buijsman**, University of Southern Mississippi; **Mattias Green**, Bangor University

PL44B-2774 POSTER Directional Decomposition of Internal Tides from Satellite Altimetry.: **Y Gong**, M Rayson, N L Jones, G N Ivey

PL44B-2775 POSTER Using CryoSat-2 to detect M2 internal tides in Arabian Sea: **J Ma**, D Guo, P Zhan, I Hoteit

PL44B-2776 POSTER On the Magnitude of Mixing in Submarine Canyons: **C Burns**, R Nazarian, S Legg, M C Buijsman, B K Arbic

PL44B-2777 POSTER Modeling Seasonal Variability of Arctic Barotropic and Baroclinic Diurnal Tides: Implications for the Tide's Role in Evolving Arctic Ocean State: **S L Howard**, L Padman, A T Nguyen

PL44B-2779 POSTER Tidal mixing effects on the Last Glacial Maximum global overturning circulation: **S B Wilmes**, M Green, A Schmittner

PL44B-2780 POSTER Radiation of multi-source internal tides in the northwestern Pacific: **Y Wang**, Z Xu, B Yin, Y Hou

PL44B-2782 POSTER A second-generation global internal tide model from satellite altimetry: **Z Zhao**

PL44B-2783 POSTER Evaluating Ocean Tide Models Using Surface Drifters: **E Zaron**, S Elipot, R Lumpkin

PL44B-2784 POSTER Reveal of Dynamics of Barotropic Exchange between the Sea of Okhotsk and North Pacific through Tidal Forcing in High-Resolution Ocean General Circulation Model: the Modification of the Western Boundary Current Pathway by Tidal Rectification: **H W Shu**, H Mitsudera, K Yamazaki, T Kawasaki, H Sasaki, T Nakamura, H Nishikawa

PL44B-2785 POSTER Tidal Residual Circulations in the Arabian Gulf: **M AlShehhi**, M Salim, H Song, J M Campin, H Ghedira, J C Marshall

PL44B-2786 POSTER Quasi-Realistic Model Simulations of Hybrid Kelvin-Edge Waves in the Bay Of Biscay: **H Kaur**, M C Buijsman, C H Jeon, A E Yankovsky

PL44B-2787 POSTER Representation of Tides in ICON-O: **E Hertwig**, J S von Storch

PL44B-2788 POSTER Tidal Effects in a High Resolution Global Ocean Model: **F Borile**, N Pinardi, D Iovino, S Masina

PL44B-2789 POSTER Explicit modelling of external and internal tidal waves in the global 1/12° NEMO ocean model: **J Chanut**, R Bourdalle-Badie, B Tranchant, D Allain, L Carrère, A Koch-Larrouy, F Lyard, Y Morel

PL44B-2790 POSTER The Effects of Remotely Generated Internal tides in Regional Model Simulations of the California Current System.: **O Siyanbola**, M C Buijsman, R Barkan, B K Arbic, J C McWilliams

PL44B-2791 POSTER Application of adjoint frequency response analysis to low-mode internal tides on the Australian North West Shelf: **K Shimizu**, K Nakayama

PL44B-2792 POSTER Barotropic to baroclinic energy conversion rate calculation based on time-varying background density: **S Omidvar**, M Fagundes, C B Woodson

PL44C Poster Hall C-D

Thursday 1600h

Turbulent Pathways and Deep-Ocean Ventilation III Posters (*joint with OM, PC, PS*)

Moderators: **Ali Mashayek**, Imperial College London; **Lynne Talley**, University of California San Diego

PL44C-2793 POSTER Transition to Turbulence in Flow over Rough Topography in the Southern Ocean: **L Baker**, A Mashayek

PL44C-2794 POSTER Transport and Mixing from Observed Tracer Fields Structuration by Mid-depth Zonal Jets in the Tropical Pacific Ocean.: **A Delpech**, S E Cravatte, F Marin, Y Morel, C Menesguen, E Kestenare

PL44C-2795 POSTER Abyssal Stratification Decrease in the Southwest Pacific Basin: Implications for Heat Fluxes and Internal Tidal Generation: **H Zhang**, C B Whalen, N Kumar, S G Purkey

PL44C-2796 POSTER Deep Argo Quantifies Bottom Water Warming Rates in the Southwest Pacific Basin: **G C Johnson**, S G Purkey, N V Zilberman, D H Roemmich

PL44C-2797 POSTER Hydraulics and mixing in the deep branch of the Indonesian Throughflow: **L J Pratt**, S Tan, D Yuan, C Corvianawatie

PL44C-2800 POSTER Abyssal Mixing in the Equatorial Pacific from Realistic Simulations: **B Delorme**, L N Thomas

PL44C-2802 POSTER Near-Boundary Turbulent Dissipation, Suspended Particle Dispersal, and Stratified Turbulent Layers: a Comparison of Two Eastern Pacific Submarine Canyons: **E E McPhee-Shaw**, A F Waterhouse, E L Kunze, J B Girton, J Xu

PL44C-2803 POSTER Long-term observations of the variability of abyssal plain currents from Ocean Networks Canada's seafloor observatory.: **S F Mihalý**, M Wang, R Thomson

PL44C-2804 POSTER Hydraulic Control and Overturn Age in an Abyssal Channel: **G S Carter**, L J Pratt, M H Alford, G Voet, J B Girton, S Tan, K Pearson, J Cusack

PL44C-2805 POSTER Importance of mesoscale advection in setting AMOC pathways and timescales: **I V Kamenkovich**, Z D Garraffo

PL44C-2806 POSTER Impact of surface wind and buoyancy forcing on the energetics and transport in a rotating wind-forced horizontal convection model of a reentrant channel: **V Zemskova**, B L White, A D Scotti

PL44C-2807 POSTER Mesoscale activity downstream of the Denmark Strait Sill and high frequency variability in the Denmark Strait Overflow plume: **S Kritsotalakis**, T Kanzow

PL44C-2809 POSTER The Impact of Eddy Advection and Diffusion on Passive Tracer Transport in a Global Ocean Model: **A Riaz**, N L Bindoff, P G Strutton, S Wotherspoon

PHYSICAL OCEANOGRAPHY: MESOSCALE AND SMALLER

PS44A Poster Hall C-D

Thursday 1600h

Defining the New Frontiers of Ocean Mixing Research III Posters (joint with CT, OB, OM)

Moderators: Toshiyuki Hibiya, University of Tokyo;
Naomi Harada, Japan Agency for Marine-Earth

PS44A-3011 POSTER A new look at Lagrangian particle dispersion in contour-based coordinates: **Y K Qian**, S Peng

PS44A-3012 POSTER Lateral diffusivity from linear and nonlinear internal waves: **J J Early**, C Wortham, M P Lelong, M A Sundermeyer, E L Kunze

PS44A-3013 POSTER Can tidal forcing alone generate a GM-like internal wave spectrum?: **Z Chen**, S Chen, Z Liu, J Xu, J Xie, Y He, S Cai

PS44A-3014 POSTER Instabilities of finite-amplitude internal wave beams: **Y Onuki**, Y Tanaka

PS44A-3015 POSTER Instabilities of a Time-Dependent Shear Flow: **T Radko**

PS44A-3016 POSTER Towards Improved Prediction of Turbulent Diapycnal Mixing in Oceanic Flows: Challenges and Insights: **S K Venayagamoorthy**

PS44A-3017 POSTER Uncertainty of the mixing coefficient investigated with microstructure surveys in coastal oceans: **E Masunaga**, K Wada, S K Venayagamoorthy, H Yamazaki

PS44A-3018 POSTER Development of Efficient and Autonomous Microstructure Measurement System Using Fast-response Thermistors Attached to CTD, Glider and Deep-profiling float, to Elucidate Turbulence Distribution: **K Lee**, I Yasuda, Y Goto, M Nagasawa, S Zhai, D Yanagimoto, S Fujio, M Tanaka, S Kouketsu, T Nakano, D Sasano, T Tanaka

PS44A-3019 POSTER Density inversions observed in double-diffusive layer from the northern North Pacific: **M Tanaka**, I Yasuda, J Yoshida, K Lee, Y Goto, T Tanaka

PS44A-3020 POSTER Enhanced double diffusive convection at the Oyashio-TWC front: **D Hasegawa**, T Tanaka, T Okunishi, I Yasuda

PS44A-3021 POSTER Observation of vertically propagating near-inertial internal waves into the Japan Sea proper water: **A Sakai**, T Senjyu, K Mori, T Endoh

PS44A-3022 POSTER Flow Intensification by the Superposition of Near-inertial Internal Waves in the Abyssal Japan Sea (East Sea): **T Senjyu**, H R Shin

PS44A-3023 POSTER Near-inertial oscillations observed by one-year abyssal mooring in Main Gap of the Emperor Seamount Chain: **D Yanagimoto**

PS44A-3025 POSTER Observed bottom Turbulent Kinetic Energy Dissipation Rate and its relation with Topography near Luzon strait: **J Wang**, F Yu, F Nan, Q Ren

PS44A-3026 POSTER Trapped Core Formed within Second-mode Nonlinear Internal Waves over the Shelf Break of the East China Sea: **T Endoh**, E Tsutsumi, C S Hong, G N Baek, M H Chang, Y J Yang, T Matsuno, J H Lee

PS44A-3027 POSTER Examining the Mixing Mechanisms Forced by Non-Linear Internal Waves: **C Whitwell**, G N Ivey, N L Jones

PS44A-3028 POSTER Fortnightly tidal mixing signatures in sea surface temperature: A global perspective: **R D Susanto**, R Ray

PS44A-3029 POSTER Development of the loop method on long-fetch conditions in wind wave tank: **Y Uemura**, N Suzuki, N Takagaki

PS44A-3030 POSTER Upper Ocean Turbulence in the Icelandic Basin Under Strong Forcing: **H L Simmons**, L C St Laurent, L R Centurioni, S Merrifield, J Shapiro

PS44A-3031 POSTER Simulation of Deep Cycle Turbulence by an Ocean General Circulation Model: **S Pei**, T Shinoda

PS44A-3032 POSTER Mixed Layer heat budget in the North Eastern Arabian Sea during winter and spring and relative contribution of diapycnal heat flux: **J Joseph**, A Kuriakose, G M S, N Sureshkumar, S V Raju, S Kumar, V P Thangaprakash, S S, E P Ram Rao, S S C Sheno

PS44A-3033 POSTER Feedback of Mixing to ENSO Phase Change: **S J Warner**, J Moum

PS44A-3034 POSTER Numerical Reevaluation of the Tide-induced 18.6-year Climate Variability over the Pacific using a Climate Model with an Eddy-permitting OGCM: **H Tatebe**, T Kawasaki, Y Tanaka, I Yasuda, H Hasumi

PS44A-3035 POSTER Bottom water warming in the Pacific Ocean in an ocean state estimation using tidally induced mixing parameterization: **S Osafune**, S Masuda, N Sugiura, T Doi, T Hemmi

PS44A-3036 POSTER Role of the deep ocean mixing on the global carbon cycle evaluated with an Earth system model: **M Watanabe**, A Yamamoto, T Hajima, H Tatebe

PS44A-3037 POSTER Impacts of interdecadal climate variability and vertical mixing on biological production: **M N Aita**, Y Komuro, K Tadokoro, H Tatebe, T Fujiki, T Watanabe, T Hashioka, N Harada

PS44A-3038 POSTER Analysis of Nd isotopic composition in seawater by using newly developed solid phase extraction and MC-ICP-MS: **H Tazoe**, H Amakawa, K Suzuki, T Hara, H Obata

PS44A-3039 POSTER Iron supply from the marginal seas and its influence on biological production in the North Pacific Ocean: **J Nishioka**, H Obata, T Hirawake, I Yasuda

PS44A-3040 POSTER Reproduction of Iron-rich Intermediate Water in the Subarctic North Pacific by High-resolution Biogeochemical Model: **H Nishikawa**, H Mitsudera, H Yoshinari, T Nakanowatari, T Nakamura, K Uchimoto, H Hasumi

PS44A-3041 POSTER Time-series observations of primary production in the subtropical western North Pacific by an underwater profiling buoy system: relationship between GOP and dissolved oxygen: **T Fujiki**, R Inoue, M C Honda, M Wakita, C Sukigara, Y Mino, O Abe

PS44A-3042 POSTER Decadal variation of biological settling particle fluxes controlled by physical process in the subarctic western North Pacific: **N Harada**, H Ueno, I Fujita, N Mitsudera, J Onodera, M C Honda, M N Aita, T Fujiki, K Minoru, M Sato

PS44A-3043 POSTER Influence of tide on the growth and migration of walleye pollock (*Gadus chalcogrammus*) in the Oyashio region: **S I Ito**, H Nishikawa, H Mitsudera, M Ishino

PS44B Poster Hall C-D

Thursday 1600h

Multiscale Oceanic Processes and Air-Sea Interactions in the Kuroshio-Oyashio Extension Region: Observations and Modeling II Posters

(joint with AI, IS, OM)

Moderators: Xiaohui Ma, Ocean University of China; Ping Chang, Texas A & M University

PS44B-3045 POSTER A Mesoscale Ocean-Atmosphere Coupled Pathway for Quasi-decadal Variability of the Kuroshio Extension System: **T Wang**, B Gan, L Wu, H Yang

PS44B-3046 POSTER Glider observation of an eastward moving anticyclonic eddy in the western North Pacific: **K Toyama**, H Ono, N Kosugi, H Tsujino, M Ishii

PS44B-3048 POSTER Intensification of future North Pacific extreme sea level pressure events and their oceanic response in a changing climate.: **K Giamalaki**, C Beaulieu, S Henson, A Martin, D Faranda

PS44B-3050 POSTER Ocean Currents and Sea Surface Height (SSH) Variability in the Kuroshio Extension from a mooring system.: **A J Noh**, Y G Park, D G Kim, S Seo

PS44B-3051 POSTER Surface Heat Flux Induced by Mesoscale Eddies Cools the Western Boundary Current Extensions: **X Shan**, Z Jing, B Gan, L Wu, P Chang, X Ma, Z Chen, H Yang, S Wang

PS44B-3052 POSTER The Response of Atmospheric Boundary Layer and Its clouds to Oceanic Eddies in the Kuroshio Extension: Observations and Simulations: **S Zhang**, Y Jiang, Q Wang, S P Xie, J R Norris

PS44C Poster Hall C-D

Thursday 1600h

Physical Processes Governing the Distribution and Transport of Dispersed Particles in the Ocean IV Posters (*joint with CP, IS, PL*)

Moderators: **Stefano Aliani**, Institute of Marine Sciences CNR; **Nimish Pujara**, University of California Berkeley; **Michelle DiBenedetto**, Stanford Earth Sciences

PS44C-3053 POSTER Modeling and Forecasting Sargassum Movement in the Caribbean Sea: **J Sheinbaum**, H Verdugo, F J Beron-Vera, M J Olascoaga, J Jouanno

PS44C-3054 POSTER Building a Maxey-Riley framework for \emph{Sargassum} drift modeling: **F J Beron-Vera**

PS44C-3056 POSTER Diagnosing the Dispersion and Variance of Reacting Tracers: A Case Study In Narragansett Bay (RI): **J L Pearson**, A Sane, B Fox-Kemper, T Ben-Horin

PS44C-3057 POSTER Modeling Weakly Buoyant Particles in a Regional Ocean: **W DONG**, J Liang, C Dong, D Justic, D Holstein, R D Hetland, D Kobashi

PS44C-3058 POSTER Advances in modeling ultra deep-sea oil spills: **C B B Paris**, N Perlin, A C Vaz, S Pesch, R Faillietaz, M Schlüter, Z M Aman

PS44C-3059 POSTER Modeling Water Column Oil Concentrations with a Lagrangian Element Oil Spill Model (GNOME): **C H Barker**, A MacFadyen

PS44C-3060 POSTER SOILED model results of Salish Sea oil spill fate by oil type, location, sea state, and ocean properties.: **R Mueller**, S Li, V Do, A Bhudia, K Forsysinski, D Latornell, B Moore-Maley, S E Allen, S Chang, H Niu

PS44C-3061 POSTER Where does the litter go? Surface drifters reveal pathways of floating marine debris in tidally influenced areas of the North Sea: **T H Badewien**, J Meyerjürgens, E V Stanev, O Zielinski

PS44C-3062 POSTER Hindcasting Surface Drift Trajectories in the St. Lawrence Estuary Using Operational Numerical Modeling vs. Measurements of Surface Currents From High-Frequency Radars: **S O Gregorio**, C P Chavanne, T Tamtare, D Dumont

PS44C-3063 POSTER Transport and Dispersion within the Upper 10 m layer of Port Valdez, Alaska driven by Winds, Estuarine Circulation and Mesoscale Eddies: **S M Gay III**

PS44C-3065 POSTER A study of dissolved and particulate material exchanges among different waterbodies and between shallow water and deep channel: **J Xiong**, J Shen, Y Chen, J Du

PS44C-3067 POSTER Zooplankton distribution patterns and vertical patchiness as they vary between stratified to deeply mixed ocean conditions.: **Y Lindemann**, J S Jaffe, P L Roberts, A Genin

PS44D Poster Hall C-D

Thursday 1600h

The Roles of the Indonesian Mix-Master, Including Contributions from Adjacent Seas I Posters

Moderators: **Robin Robertson**, Xiamen university Malaysia; **Shiqiu Peng**, SCSIO South China Sea Institute of Oceanology, Chinese Academy of Sciences

PS44D-3069 POSTER Effect of tides on the circulation and hydrography in the Indonesian Seas: Comparison of a model with and without tidal forcing: **A Katavouta**, J Polton, J Harle, J T Holt

PS44D-3070 POSTER Estimation of the Baroclinic Tidal Energy in the Timor Sea Based on a General Circulation Model: **X Wen**, S Peng

PS44D-3071 POSTER Submesoscale Instability in idealized Mesoscale eddies: **C Dong**, X Jiang, W Sun, H Wang

PS44D-3072 POSTER The combined effect of tidal mixing in narrow straits and the Ekman transport on the variability of SST in the southern Indonesian Seas: **T Nagai**, T Hibiya

PS44D-3073 POSTER The Tidal Effects on the Upper Sea Temperature Cooling Northeast off the Hainan Island: **Y Li**, E N Curchitser, S Peng, J Wang

PS44D-3075 POSTER Tidal Mixing Estimation in the Indonesian Seas and Its Effects on Water Mass and Circulations: **S Peng**, Y Liu, X Wen

SOCIAL-OCEAN SCIENCE INTERACTIONS AND SDGS

SI44A Poster Hall C-D

Thursday 1600h

Ocean Renewable Energy and Synergies with Ocean Technologies III Posters (*joint with CP, IS, OM*)

Moderators: Bryson Robertson, Oregon State University; Zoe Hutchison, University of Rhode Island Narragansett Bay

SI44A-1659 POSTER A Modeling Study of Tidal Energy Resource Characterization in Cook Inlet, Alaska: **T Wang**, Z Yang, S Waldman

SI44A-1660 POSTER Tidal Currents Effect on the Performance of a Heaving Point Absorber: **M Leary**, M R Hashemi, J M Dahl

SI44A-1662 POSTER Tidal range resource of Western Australia: **S P Neill**, A Angeloudis, M A Hemer, M J Lewis

SI44A-1663 POSTER A modeling assessment of nearshore wave resource of Hawaii, USA: **Z Yang**, G Garcia-Medina, N Li, K F Cheung, T Wang, W C Wu

SI44A-1664 POSTER Reconnaissance Level Wave Energy Resource Characterization and Assessment for Regional Wave Climates in the USA: **V S Neary**, S Ahn, K A Haas

SI44A-1666 POSTER Offshore Wind Potential in the Yucatan Peninsula: **E Garcia**, C M Appendini

SI44A-1667 POSTER Investigating the Role of Coastal Upwelling and Synoptic Conditions in the Prediction of Wind Ramp Events: **J F Brodie**, B P Frei, T N Miles, D E Veron, E Allen

SI44A-1668 POSTER Impact of Rapidly Evolving SST fields during Coastal Upwelling Events on Offshore Wind Power Production: **S Murphy**, T N Miles, J F Brodie, M F Crowley, M J Oliver, L J Nazzaro

SI44A-1669 POSTER On the Characterization of Hurricane Wind and Wave Generated Loads for the Proposed Wind Farms Sites Off the Northeast Coast of the US: **B Kresning**, M R Hashemi

SI44A-1670 POSTER Mapping the wake of a full-scale floating tidal turbine platform: **M A Guerra**, A E Hay, R Karsten, R A Cheel, G Trowse

SI44A-1671 POSTER Modelling Wave Energy Converter pointer absorbers by using Adaptive Mesh Refinement (AMR) techniques with subcycling and non-subcycling for time evolution: **Y Zeng**, L Shen

SI44A-1672 POSTER From baseline assessment to post-decommissioning monitoring: the need for data collection consistency to facilitate permitting for marine renewable energy developments: **L Hemery**, A E Copping, M R Pinza, G J Staines, M C Freeman, A M Gorton, G Harker-Klimes

SI44A-1673 POSTER NoiseSpotter: Real-time underwater acoustic characterization in support of marine renewable energy projects: **F Spada**, K Raghukumar, G Chang, C A Jones

SI44A-1674 POSTER The Impacts of Marine Hydrokinetic Devices on Coastal Ocean Morphodynamics: **H Mohamadi Moghadam**, A C Ortiz

SI44A-1675 POSTER The Potential of Wave Energy Conversion to Mitigate Erosion in Coastal Regions of the United States: **C Ozkan**, T Mayo

SI44A-1676 POSTER Multi-scale Interaction between Wind Turbines and Coastal Processes: coupling OpenFAST with a regional coupled air-sea modeling system: **R Q Wang**, T N Miles, J F Brodie

SI44A-1677 POSTER Wave Energy Converter Array Optimization: Influence of WEC Geometry and Location: **C Sharp**

SI44A-1678 POSTER Ecosystem framework applied to site characterizations at offshore wind farms: **S Sturdivant**, M L Guarinello, D A Carey

SI44A-1679 POSTER Efficient plugging of leaky wells using nano-additive enhanced barrier materials: **S V K Vissa**, M Radonjic