

# **57<sup>th</sup> Annual Eastern Pacific Ocean Conference**

22-25 September 2010

Timberline Lodge, Mt. Hood, Oregon

## **Meeting Program**



EPOC President: Albert Hermann

EPOC Treasurer: Stephen Pierce

Conference Co-Chairs: Jim Lerczak and Lorenzo Ciannelli

Graduate Student Organizing Committee: Angela Johnson, Cathleen Vestfals and Dongwha Sohn



2010 Eastern Pacific Ocean Conference

**Agenda**

**Wednesday, September 22**

After 16<sup>00</sup> Arrival and check-in  
Dinner (included in registration package)  
Informal mixer

**Thursday, September 23**

7<sup>30</sup>-8<sup>15</sup> Breakfast  
8<sup>20</sup>-12<sup>00</sup> Morning session

*Harmful Algal Blooms – Raphael Kudela and Clarissa Anderson, co-chairs*

8<sup>20</sup> Emily Sekula-Wood, Claudia-Benitez Nelson, Steven Bograd and Clarissa Anderson. “Is Climate Driving Decadal Trends in Toxic Blooms in the California Current System?”

8<sup>40</sup> Sergey Frolov, John Ryan, Raphe Kudela, and James Bellingham. “Scales of phytoplankton bloom variability along the U.S. West Coast: implications for monitoring of harmful algal blooms.”

9<sup>00</sup> Ryan M. McCabe, Barbara M. Hickey, Neil S. Banas, Michael G. G. Foreman, Raphael M. Kudela, Evelyn J. Lessard, Parker MacCready, Diane Masson, and Richard E. Thomson. “PNWTOX, physical controls on HAB variability in the northern California Current System.”

9<sup>20</sup> Julia K Parrish, Raphael Kudela, Barbara Hickey, Nancy Kachel, Vera L. Trainer, Brian D. Bill, Mary Sue Brancato, André Punt, Peter Strutton, Jane Dolliver, David Foley, Richard Stumpf and Anthony Odell. “Perfect Storm: The Largest Documented Seabird Die-off Due to a HAB Event.”

9<sup>40</sup> Susanne Menden-Deuer and Elizabeth L. Harvey. “Avoidance, movement, and mortality: The role of predator-prey interactions in harmful algal bloom dynamics.”

10<sup>00</sup>-10<sup>20</sup> coffee break

10<sup>20</sup> Richard Dugdale, F. Wilkerson and P. Gilbert. “Nitrogen imbalance: effects on primary productivity and species composition”

10<sup>40</sup> Angel White, M. Wood, P. Strutton, B. Eberhart, Z. Forster, M. Hunter, S.M. McKibben, W.T. Peterson, V. Trainer, D. Smith and J.F. Tweddle. “MOCHA: Monitoring Oregon Coastal Harmful Algae”

*General Session – Jim Lerczak, chair*

11<sup>00\*\*</sup> J. Ashley T. Booth, Erika E. McPhee-Shaw, Paul Chua, William F. Gilly, Steven J. Bograd, Lou D. Zeidberg, Mark Denny and Roger Phillips. “Hypoxic and acidic deep-water in nearshore marine environments in Monterey Bay, California.”

11<sup>20</sup> John A. Barth, S. D. Pierce, F. Chan and Collaborators. “Spatial and Temporal Variability in Near-Bottom Hypoxia over the Pacific Northwest Continental Shelf.”

11<sup>40\*\*</sup> Jeannette Bedard, Eric Kunze, Richard Dewey and Jody Klymak. “Lee Wave Formation Over Fraser Ridge.”

12<sup>00</sup>-16<sup>00</sup> Lunch and free time

16<sup>00</sup>-17<sup>40</sup> Afternoon session

*Phenology and Matching Among Trophic Levels – Andy Thomas and Bill Sydeman, co-chairs*

16<sup>00</sup> Andrew Thomas, Ryan Weatherbee and Roy Mendelsohn. “Separating variability in phenology from longer-term trends and episodic anomalies in northern California Current chlorophyll time series.”

16<sup>20</sup> Erika McPhee-Shaw, K. J. Nielsen and J. Largier. “Near-coast Chlorophyll a events and wave-driven transport.”

16<sup>40</sup> Bill Peterson, Leah Feinberg and Jay Peterson. “The seasonal cycle of production in the northern California Current: the importance of production during winter months.”

17<sup>00\*\*</sup> Megan Wolfe and Susan Allen. “Impact of advection loss due to wind and estuarine circulation on the timing of the spring phytoplankton bloom in a British Columbia fjord.”

17<sup>20</sup> Andrew Leising. “Match-mismatch of larval fish first feeding vs wind-driven turbulence in the CCS: application of a mechanistic-based model for sardine and anchovy”

19<sup>00</sup>-22<sup>00</sup> Hors d’oeuvre Reception and Poster Session

## ***Friday, September 24***

7<sup>30</sup>-8<sup>15</sup> Breakfast

8<sup>20</sup>-12<sup>00</sup> Morning session

*General Session – cont’d*

08<sup>20</sup> Antonio M. Baptista, Charles Seaton, Joseph Needoba, Michael Wilkin, Katie Rathmell, Paul Turner, Sarah Riseman and Curtis Roegner. “The Columbia River estuary as an ocean sentinel: temperature, hypoxia and other tales.”

08<sup>40</sup> Richard Dewey. “VENUS: A Bottom-Up Coastal Ocean Observatory.”

09<sup>00</sup> Chris Mooers, Ted Strub, Chris Edwards, Yi Chao, and Rich Patchen. “Initial Development of the Eastern Pacific Ocean Prediction Forum (ePOPf).”

*Dispersal and Connectivity in Marine Organisms: Implications for Productivity, Spatial Distribution, Population Structure and Ocean Zoning (e.g., Marine Reserves) – Loo Botsford and Chris Edwards, co-chairs*

09<sup>20</sup> Tatiana Rynearson, Chris Piecuch and Jeremy Lins. “Genetic connectivity in plankton populations: from Lagrangian surface drifters to microsatellite markers.”

09<sup>40</sup> Lorenz Hauser, Maureen Hess, Mitsuhiro Kawase, Raymond Buckley and Larry Leclair. “Finding Nemo in Puget Sound: larval dispersal estimates from genetic parental identification in brown rockfish (*Sebastes auriculatus*).”

10<sup>00</sup>-10<sup>20</sup> coffee break

10<sup>20</sup>\*\* Ata Suanda, John A. Barth, Merrick Haller and Patrick Mcenaney. "Observations of High-Frequency Internal Waves Approaching Newport, Oregon."

10<sup>40</sup>\*\* Kerry Nickols, B. Gaylord and J. L. Largier. "Nearshore velocity gradients lower the speed limit for coastal dispersers."

11<sup>00</sup> Sangil Kim and Jack Barth. "Connectivity of Larval Dispersal along the Oregon Coast by Numerical Simulations."

11<sup>20</sup> C. Brock Woodson, M.A. McManus, J.A. Tyburczy, J.A. Barth, L. Washburn, M.H. Carr, D. Malone, P.T. Raimondi, B.A. Menge and S.R. Palumbi. "Persistent frontal features and climate change: Structuring of connectivity in the Eastern Pacific."

11<sup>40</sup> Steven Morgan and Jennifer Fisher. "Larval advection and control regulating larval recruitment in upwelling regions: Implications for population connectivity."

12<sup>00</sup>-16<sup>00</sup> Lunch and free time

16<sup>00</sup>-17<sup>40</sup> Afternoon session (5 talks)

*General Session – cont'd*

16<sup>00</sup> Marlene Noble and Kurt Rosenberger. "Temporal and spatial patterns in wind stress curl over the central Southern California Bight."

16<sup>20</sup>\*\* Thomas P. Connolly and Barbara M. Hickey. "Seasonal upwelling over the Washington shelf: effects of submarine canyons and the California Undercurrent."

16<sup>40</sup>\*\* Kate Adams, Jack Barth, Justin Brodersen. "Wind- forced currents and advection of dissolved oxygen off the central Oregon coast during the 2009 upwelling season."

*Climate Change and Spatial Ecology – Nick Bond and Ryan Rykaczewski, co-chairs*

17<sup>00</sup>\*\* Robert Ireland, Lorenzo Ciannelli, Renee Bellinger, Pete Lawson and Michael Banks. "Marine Distribution and aggregation of discrete populations of Chinook salmon (*Oncorhynchus tshawytscha*) taken in the Oregon troll fishery."

17<sup>20</sup>\*\* Kyle Cavanaugh, David Siegel and Daniel Reed. "Seasonal to Decadal Dynamics of Giant Kelp Biomass in the Santa Barbara Channel."

17<sup>45</sup>-18<sup>30</sup> EPOC business meeting

18<sup>30</sup>-20<sup>00</sup> Dinner Banquet

20<sup>00</sup>-21<sup>00</sup> Fireside Chat (Dr. Curt Peterson, Portland State University). "Pre- and Post-Missoula Flood Geomorphology of the Ancestral Columbia River Valley."

## **Saturday, September 25**

7<sup>30</sup>-8<sup>15</sup> Breakfast

8<sup>20</sup>-12<sup>00</sup> Morning session

### *Climate Change and Spatial Ecology – cont'd*

- 8<sup>20</sup> Jessica M. Kleiss, Nicholas A. Bond, Albert J. Hermann and Enrique Curchitser. "How well are Mesoscale Phenomena along the Coast of Washington Linked to Eastern Pacific Climate Forcing?"
- 8<sup>40</sup> Ryan R. Rykaczewski and John P. Dunne. "Changes in the nutrient supply to the eastern North Pacific with global warming and increased stratification in a coarse-resolution earth system model."
- 9<sup>00</sup> Julie E. Keister, Emanuele Di Lorenzo, Vincent Combes, Cheryl A. Morgan and William T. Peterson. "Climate-related changes in ocean transport control North Pacific zooplankton biogeography."
- 9<sup>20</sup> Elliott L. Hazen, Salvador Jorgensen, Ryan Rykaczewski, Dave Foley, Steven Bograd, John Dunne, Ian Jonsen, Arliss Winship, Greg A. Breed, Autumn-Lynn Harrison, James Ganong, Mike Castleton, Alan Swithenbank, Daniel Costa and Barbara Block. "Modeling Pacific top predator habitat in a changing climate."
- 9<sup>40</sup> Louis W. Botsford, Matthew D. Holland and Alan Hastings. "Effect of fishing on the spectral sensitivity of fish populations to climate variability."

10<sup>00</sup>-10<sup>20</sup> coffee break

### *General Session – cont'd*

- 10<sup>20</sup> Jan Newton, R. Feely, C. Sabine, S. Alin and A. Devol. "Understanding ocean acidification in the Pacific Northwest: contributions from NANOOS."
- 10<sup>40</sup> Nicole .L. Goebel, Chris .A. Edwards, Jon P. Zehr and Mick Follows. "Modeled Phytoplankton Biodiversity in the California Current System."
- 11<sup>00</sup> Roger M. Samelson, S. Kim and C. Snyder. "Toward an uncertainty budget for a coastal ocean model."
- 11<sup>20</sup> Melanie Fewings and Libe Washburn. "Coastal-Trapped Waves: Wind in Baja California Drives Temperature and Circulation in the Santa Barbara Channel."
- 11<sup>40</sup> David A. Sutherland, Parker MacCready, Neil S. Banas and Lucy F. Smedstad. "A model study of the Salish Sea estuarine circulation."

12<sup>00</sup>

EPOC 2010 closes

## Poster Session (Thursday, September 23, 19<sup>00</sup> to 22<sup>00</sup>)

### *Harmful Algal Blooms*

Madeline Peek, Andrew Thomas and Ryan Weatherbee. "Environmental Factors Linked to Interannual Variability in Shellfish Toxicity in the Gulf of Maine."

David Rivas, Rocio Mancilla-Rojas, Ernesto Garcia-Mendoza, Antonio Almazan-Becerril. "On the origin of the waters associated with the Pseudo-nitzschia toxic bloom occurred in Todos Santos Bay (northwestern Baja California) during April 2007."

\*\*Morgaine McKibben, Angel White, Pete Strutton, Michelle Wood, Gwenn Miller, Bich-Thuy Eberhart and Vera Trainer. "Regression models for Pseudo-nitzschia blooms and domoic acid off the Oregon Coast."

### *Phenology and Matching Among Trophic Levels*

Eric Bjorkstedt, Kathryn Crane, Anna Morgante, Steve Ralston, and Rob Van Kirk. "Progress towards environmental recruitment indices for California rockfish."

### *Dispersal and Connectivity in Marine Organisms*

\*\*Cathleen Vestfals, Lorenzo Ciannelli, Janet Duffy-Anderson, Carol Ladd and Dongwha Sohn. "Physical factors affecting the distribution of Greenland halibut (*Reinhardtius hippoglossoides*) and Pacific halibut (*Hippoglossus stenolepis*) early life history stages in the Eastern Bering Sea."

Christopher A. Edwards, Patrick Drake and John A. Barth. "Dispersion and connectivity estimates along U.S. west coast from a realistic numerical model."

Mitsuhiro Kawase, Lorenz Hauser, Larry Leclair, Ray Buckley and Maureen Hess. "A Lagrangian Perspective on the Recirculatory Flow around Vashon Island, Puget Sound, Washington."

\*\*Xiuning Du, William T. Peterson and Tracy Shaw. "Feeding rates of adult *Euphausia pacifica* on natural particle assemblages in the coastal upwelling zone off Oregon, USA."

### *Climate Change and Spatial Ecology*

Nick Bond, P. Spencer and A. Hollowed. "Impacts of Climate Change on the Habitat of Bering Sea Arrowtooth Flounder."

Albert J. Hermann, Kerim Aydin, Nicholas A. Bond, Wei Cheng, Enrique N. Curchitser, Georgina A. Gibson, Kate Hedstrom, Ivonne Ortiz, Muyin Wang and Phyllis J. Stabeno. "Modes of biophysical variability on the Bering Sea shelf."

Cheryl A. Morgan, William T. Peterson, Joseph P. Fisher and Jesse F. Lamb. "Effects of climate variability on the distribution, abundance and habitat usage of juvenile salmonids in the coastal waters of the northern California Current."

### *General Session*

\*\*Piero L.F. Mazzini, J.A. Barth, R.K. Shearman, A.Y. Erofeev, J. Brodersen, L. Rubiano and K. Adams. "Seasonal Variation of Fresh Water Content off the Oregon Coast Estimated from Glider Observations."

\*\*Noel Pelland, Charles Eriksen and Craig Lee. "Cross-shore Hydrographic Structure off the Washington Coast: Observations of the California Undercurrent and Other Prominent Features from the Cascadia Seaglider Time Series."

Scott R. Springer and G. S. E. Lagerloef. "Satellite-observed changes in the upper ocean heat budget of the northeast Pacific during 1993-2004."

Sung Yong Kim, Eric J. Terrill, Bruce D. Cornuelle, Burt Jones, Libe Washburn, Mark A. Moline, Jeffrey D. Paduan, Newell Garfield, John Largier, Greg Crawford and P. Michael Kosro. "Observations of high-resolution coastal surface circulation on the U. S. West Coast."

\*\*Mark Brzezinski, Libe Washburn, Chris Gotschalk and Nick Dellaripa. "The Influence of Physical Drivers on Primary Productivity and Biomass Distribution in the Santa Barbara Channel."  
G. Curtis Roegner, Joseph A. Needoba and António M. Baptista. "Coastal upwelling supplies oxygen-depleted water to the Columbia River estuary."

\*\*Denotes student presentation.