



56th Annual Eastern Pacific Ocean Conference 2009 Sidney, Vancouver Island

EPOC 2009 - Agenda

Wednesday 23 September

After 14:30 Hotel check-in

18:30 to 20:00 Icebreaker reception at the Sidney Pier Hotel (see map on page 4)

Thursday 24 September

8:00 *Bus pickup from Travelodge to the Institute of Ocean Sciences*

8:30 to 8:40 **Opening Remarks**

8:40 to 10:00 **Transport processes, mixing and Lagrangian dynamics**

Co-chairs: Jody Klymak and Jerry Smith

8:40 **Matthew Alford**

Annual cycle of internal wave energy observed at station PAPA

9:00 **Yi Chao**

A regional ocean modeling, data assimilation and forecasting system

9:20 **Mark Halverson**, Carter Ohlmann, Scott Pegau and Art Allen

Upper water column circulation of Prince William Sound from drifting buoys during the Sound Predictions 2009 Field Experiment

9:40 **Jody Klymak**

Horizontal stirring in the Eastern Gulf of Alaska

10:00 *Coffee Break*

10:40 to 12:00 **Transport processes, mixing and Lagrangian dynamics**

Co-chairs: Jody Klymak and Jerry Smith

10:40 **Marlene Noble**, Burt Jones, Peter Hamilton, Jingping Xu, George Robertson, Leslie Rosenfeld and John Largier

Cross-shelf transport into nearshore waters due to shoaling internal tides in San Pedro Bay, CA.

11:00 **David Rivas** and Roger M. Samelson

A numerical modeling study of the upwelling source waters along the Oregon coast during 2005

11:20 **Hajoon Song**, Art Miller and Bruce Cornuelle

Changes in California Current upwelling water sources driven by different wind forcing

- 11:40 **J. Wilson White** and Louis W. Botsford
Larval connectivity and MPA design: matching connectivity descriptions to the needs of population models
- 12:00 to 16:00 *Lunch and free time*
- 16:00 to 18:00 **Bio-geochemical cycles**
Co-chairs: Angelica Pena and Nadja Steiner
- 16:00 **Melissa Blakely** and Professor Raphael Kudela
Tidal Effects on Regenerated Nitrogen Supply in the Columbia River Estuary
- 16:20 **Rob Campbell**, Fei Chai and Yi Chao
An empirical test of an NPZ model during the 2009 AOOS observing system experiment
- 16:40 **A. J. Hermann**, K. Aydin, N. A. Bond, W. Cheng, E. N. Curchitser, G. Gibson, K. Hedstrom, M. Wang, P. J. Stabeno and Y. Ortiz
The Bering Sea Integrated Ecosystem Research Program: downscaling climate change to a subarctic region.
- 17:00 **Angelica Pena**
Phytoplankton and nutrient dynamics along Line P in the NE subarctic Pacific
- 17:20 **Marie Robert** and Nadja Steiner
A look at DMS observations along Line P from 1996 to 2009.
- 17:40 **Nadja Steiner**, Ken Denman, Marie Robert and Anissa Merzouk
Modelling the DMS cycle at Station P
- 18:00 to 21:00 *Dinner at IOS and **Poster Session** (See page 5 for list of titles)*

Friday 25 September

- 8:00 *Bus pickup from Travelodge to the Institute of Ocean Sciences*
- 8:30 to 10:10 **Climate change, acidification and hypoxia**
Co-chairs: Debby Ianson and Emanuele Di Lorenzo
- 8:30 **Curtis Deutsch** (*Invited*) and Taka Ito
Oxygen variability in the North Pacific
- 9:00 **D.L. Mackas** and M.D. Galbraith
Pteropod time series from the NE Pacific
- 9:20 **Louis W. Botsford**, Lee Worden, Michael J. Fogarty, Francis Juanes, Alan Hastings, Steven Teo, Matt Holland, Will White and Hui-Yu Wang
Variation in species response to environmental variability: Pacific salmon as an example.
- 9:40 **F. Whitney** (*Invited*) and Alan Sinclair
Impacts of hypoxia on groundfish
- 10:10 *Coffee Break*

- 10:40 to 12:00 **General oceanography of the eastern Pacific and the Bering Sea**
Co-chairs: Bill Crawford and Bill Williams
- 10:40 **Bill Crawford** and Nick Bolingbroke
Cross-shelf exchange by mesoscale eddies in the northeast Pacific Ocean
- 11:00 **Jaclyn Clement Kinney**, Wieslaw Maslowski and Steven Okkonen
On the processes controlling shelf-basin exchange and outer shelf dynamics in the Bering Sea
- 11:20 **Christopher A. Edwards** and Milena Veneziani
On the dynamics of the California Undercurrent
- 11:40 **David A. Jay**
Long-term Changes in Eastern Pacific Ocean Tides
- 12:00 to 14:00 *Lunch and free time*
- 14:00 to 14:40 **Climate change, acidification and hypoxia**
Co-chairs: Debby Ianson & Emanuele Di Lorenzo
- 14:00 **Emanuele Di Lorenzo**, Annalisa Bracco, Niklas Schneider and Thomas Kilpatrick
Low-frequency dynamics of mesoscale eddies in the California Current
- 14:20 Vincent Combes, **Emanuele Di Lorenzo**, Steve Bograd and Mark Ohman
Low-frequency dynamics of cross-shelf and alongshore advection in the California Current
- 14:40 **Thomas Kilpatrick**, Niklas Schneider and Emanuele Di Lorenzo
Stochastic salinity variability in the subsurface: Theory and application
- 15:00 **Scott Springer** and Gary Lagerloef
Upper ocean dynamics related to the Pacific Decadal Oscillation using altimeter-derived velocity fields
- 15:20 **Todd Mitchell**, Nate Mantua and Eric Salathe
The past and future of coastal and open ocean upwelling in the NE Pacific
- 16:15 to 17:45 Travel by bus to Duncan
- 17:30 to 18:30 *No-host bar and Traditional Native Dance*
- 18:30 to 19:30 *Dinner at Qu'wutsun' Centre*
- 19:30 **EPOC BANQUET-FIRESIDE CHAT**
Richard Thomson, DFO
West Coast Tsunamis – Case Studies of a Regional Hazard
- 20:45 Travel back to Sidney

Saturday 26 September

8:00 *Bus pickup from Travelodge to the Institute of Ocean Sciences*

8:40 to 10:40 **General oceanography of the eastern Pacific and the Bering Sea**
Co-chairs: Bill Crawford and Bill Williams

8:40 **Christopher N. K. Mooers**

Thoughts on a Modeling and Analysis Subsystem for the Integrated (and Sustained) Ocean Observing System (IOOS) in the EPOC Domain

9:00 **Steve Ramp**, Joe Rice, Mark Stacey, John Largier and Toby Garfield
SF Bayweb 2009 - Initiating a new observing system in the San Francisco Bay

9:20 **Michal Hodal** and Rich Pawlowicz
Developing a Nutrient budget for Rivers Inlet, British Columbia

9:40 Aneesh C. Subramanian, **Art Miller**, Bruce Cornuelle and Emanuelle Di Lorenzo
4DVAR data assimilation and Adjoint-based sensitivity analysis in an eddy resolving ocean model of the Peruvian Current System

10:00 **David A. Sutherland**, Parker MacCready and Neil Banas
Connecting the sound to the shelf: a numerical model study of the Salish Sea

10:20 **Eduardo Loos** and Maycira Costa
Optical Properties of the Waters of the Strait of Georgia, BC, Canada

10 :40 **Meeting Adjourned**



 The Victoria Airport Travelodge



The Sidney Pier Hotel

**Poster Session
18:00 to 21:00 Thursday September 24 at IOS**

CLIMATE CHANGE, ACIDIFICATION AND HYPOXIA

VENUS as a Test Bed for Ocean Change Biogeochemical Sensor Technologies

Authors: **Richard Dewey**, Verena Tunnicliffe and Karen Douglas
VENUS Project, University of Victoria

BIO-GEOCHEMICAL CYCLES

Observations of extremely high nearshore pCO₂ in the Oregon upwelling system

Authors: **Wiley Evans**, Burke Hales and Peter Strutton
College of Oceanic and Atmospheric Sciences, Oregon State University

What determines the dominant species of phytoplankton blooms: sensitivity analysis of biological parameters in a time-dependent NPZD-type ecosystem model.

Authors: Hey-**Jin Kim** and Francisco Chavez
Monterey Bay Aquarium Research Institute

TRANSPORT PROCESSES, MIXING AND LAGRANGIAN DYNAMICS

Effect of shelf slope and stratification on nutrient supply in upwelling regions - an idealized model study

Authors: **Michael G Jacox** and Christopher A Edwards
University of California, Santa Cruz

The Coastal Ocean as a Supplier of Global Iron: Mechanisms for Iron Export in an Upwelling Regime

Authors: **S. Siedlecki**¹, A. Mahadevan² and D.E. Archer¹
¹ University of Chicago; ² Boston University

Bi-PADS - A novel instrument for wave-current interactions

Author : **J.A.Smith**
Scripps Institute of Oceanography

GENERAL OCEANOGRAPHY OF THE EASTERN PACIFIC AND THE BERING SEA

Physical State of the Gulf of Alaska in 2000-2005 Simulated by ROMS

Authors: **Wei Cheng** and Albert Hermann
University of Washington and NOAA/PMEL

Multi-year ocean modelling for the Pacific Coast of Canada

Authors: **Issac Fine** and Diane Masson
Institute of Ocean Sciences, Fisheries and Oceans Canada

Coastal Circulation Studies at Oregon State University

Adriana Huyer and Robert L Smith
Oregon State University

Variability of the M2 Internal Tide in Interaction with Wind-Forced Flows on the Oregon Shelf

Authors: **J. Osborne**, A. Kurapov, G. Egbert and P.M. Kosro,
College of Oceanic and Atmospheric Sciences, Oregon State University

A High Resolution Ocean Vector Wind Product for the California Current System from 10 years of QuikSCAT scatterometer data

Authors: **Craig Risien**¹², B.A. Vanhoff¹², P.T. Strub¹² and D.G. Foley³⁴

¹ College of Oceanic and Atmospheric Sciences, Oregon State University

² Cooperative Institute for Oceanographic Satellite Studies, Oregon State University

³ Joint Institute for Marine and Atmospheric Research, University of Hawaii, Honolulu

⁴ NOAA Southwest Fisheries Science Center, Environmental Research Division, CA

Satellite-measured time and space patterns of chlorophyll phenology in the California Current

Andrew Thomas¹, Ryan Weatherbee¹, P. Ted Strub² and Roy Mendelssohn³

¹ School of Marine Sciences, University of Maine

² College of Oceanic and Atmospheric Sciences, Oregon State University

³ NOAA National Marine Fisheries Service, Southwest Fisheries Science Center

Bio-physical front detection from MODIS-Aqua satellite observations

Roberto M. Venegas¹, R. Letelier¹, P. T. Strub¹ and P. Kovesi²

¹ College of Oceanic and Atmospheric Sciences, OSU, USA.

² School of Computer Science & Software Engineering, UWA, Australia.

Spatial and Seasonal Variability in Sea Surface Temperature, Chlorophyll concentration, Sea Level Anomaly and Sea Surface Wind Along the Four Major Eastern Boundary Upwelling Ecosystems.

Roberto Venegas¹, P.Ted Strub¹, Ricardo Letelier¹, David Rivas¹, Larry O'Neill¹ and Sergio Navarrete²

¹ College of Oceanic and Atmospheric Sciences, Oregon State University, Corvallis, Oregon, USA.

² Centro de Estudios Avanzados en Ecología y Biodiversidad, Universidad Católica de Chile, Santiago, Chile.

Bio-physical interactions along the Gulf of Alaska.

Roberto Venegas¹, P.Ted Strub¹, Ricardo Letelier¹, David Rivas¹ and Larry O'Neill²

¹ College of Oceanic and Atmospheric Sciences, Oregon State University, Corvallis, Oregon, USA.

² Naval Research Lab, Monterey-California, USA.