# CERF 2015

**8-12 November 2015 ▪ Portland, OR**

Grand Challenge in Coastal & Estuarine Science: Securing Our Future

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*CERF 2015 Conference artwork illustrated by Ram Papish, www.rampapish.com. Artwork is available in the Silent Auction and prints will be given away as door prizes during the conference!*




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# Welcome to Portland and CERF 2015

Welcome to CERF 2015, where you will find an impressive schedule of valuable workshops, first-rate research, and networking opportunities! You will also have the opportunity to experience the best Portland has to offer at our social events and during your free time.

A long-standing CERF tradition is our friendly and collegial conference environment and our unwavering support of early career scientists. This tradition continues in Portland with many scheduled events, but I also encourage senior scientists to interact with the students, post-docs and junior researchers at the many opportunities available during CERF 2015. Our attendees include nearly 700 students and early career scientists, and we can all benefit from engaging with this group that will one day determine the future direction of coastal and estuarine science.

My term as CERF President has been an extremely rewarding one, and I have had great guidance and support by CERF's Board, its membership and our office staff. CERF has amazing members whose volunteer work makes this organization special and deserving of continued support by coastal and estuarine scientists. For those attendees who have not previously been CERF members, I encourage you to join the CERF family. I know you will be glad you did.

CERF has always provided great science and great fun at its conferences, and CERF 2015 will be no exception. Enjoy the meeting and your stay in Portland, and please say hello when you see me in the hallways and at social events.

Ken Heck

**Kenneth L. Heck, Jr.**

# Welcome from the Conference Committee


Ron Thom


Walt Nelson

The co-chairs of CERF 2015 welcome you to Portland, The Rose City, aka Beervana, aka Portlandia. It's a marvelous, quirky city full of great food and drink, all kinds of music, outdoor opportunities at every hand, and great views. We won't mention the rain. It's great to have the CERF conference return to the Pacific Northwest.

The 17 member Scientific Program Committee, led by Leila Hamdan, John Rybczyk and Catherine Corbett, has organized a phenomenal slate of cutting-edge scientific papers and posters, a stimulating array of plenary sessions and speakers, and an outstanding keynote address by Beth Kerttula (Director of the National Ocean Council). We hope that you will also take advantage of the pre-conference workshops and field trips, and will participate in events such as the Student Career Night, the Women in Science Luncheon, and the Student Mentoring Program. Always needed is help with the Student Presentation judging, which is a great service to the conference. We really hope you will also join in the fun for what should be a great get together at the Punch Bowl Social (a great place to hang out and have a good time), and the ever popular Pub Night.

The conference would not happen without a great deal of hard work by all the 53 members of the Conference Organizing committees, the CERF Business Office staff, and students and other volunteers that have stepped up to continue the great tradition of the Biennial CERF Conferences. We could not have begun to get the conference together without all these wonderful folks.

Finally, thanks to all of you who have registered for the conference, and who will by your presence and participation, make this such a fun and scientifically stimulating event. If you are not a member of CERF, please consider joining the organization at the conference to help insure the future of coastal and estuarine research.

We look forward to seeing you all here in Portland.

Ronald M. Thom  Walter Nelson

**Ron Thom and Walt Nelson**

# CERF 2015 CONFERENCE COMMITTEES

### Conference Co-Chairs

Ron Thom, *Pacific Northwest National Lab*
Walt Nelson, *US EPA*

### Scientific Program Committee

**Co-Chairs**
Catherine Corbett, *Lower Columbia Estuary Partnership*
Leila Hamdan, *George Mason University*
John Rybczyk, *Western Washington University*

**Oral Sessions Leads**
Jeff Gaeckle, *Washington State Department of Natural Resources*
Gary Johnson, *Pacific Northwest National Lab*

**Posters Session Leads**
Tony D'Andrea, *Oregon Dept. of Fish and Wildlife*
Steve Rumrill, *Oregon Dept. of Fish and Wildlife*

**Workshops Leads**
Cheryl Brown, *Environmental Protection Agency*
Heida Diefenderfer, *Pacific Northwest National Lab*

**Plenary Leads**
Andrea Copping, *Pacific Northwest National Lab*
Joe Needoba, *Oregon Health & Science University*

**Student Education Lead**
Janet Nestlerode, *Environmental Protection Agency*

**First Nations/Native American Lead**
Gary Williams, *G L Williams & Associates Ltd.*

**At-Large Committee Members**
Kate Buenau, *Pacific Northwest National Lab*
John Marton, *Louisiana Universities Marine Consortium*
Tawnya Peterson, *Oregon Health & Science University*

### Marketing & Communications Committee

**Committee Chair**
Ron Thom, *Pacific Northwest National Lab*

**International Affairs Leads**
Jae Sang Hong (East Asia), *Inha University*
Si Simenstad (ESCA), *University of Washington*
Fred Short (Americas, Europe, Australia), *University of New Hampshire*

**Oceanographic Societies Lead**
Jan Newton, *University of Washington*

**Social Media Leads**
Jeff Clements, *University of New Brunswick*
Leanna Heffner, *Louisiana State University*

**Society Alliances Lead**
Jan Newton, *University of Washington*

**Journal Special Issues Leads**
Roy Kropp, *Pacific Northwest National Lab*
Si Simenstad, *University of Washington*

**Media Lead**
Vanessa Bird, *Lower Columbia Estuary Partnership*

### CERF Advisory Committee

Steve Bollens, *Washington State University - Vancouver*
Andrea Copping, *Pacific Northwest National Lab*
Jan Newton, *University of Washington*
Si Simenstad, *University of Washington*
Steve Weisberg, *Southern California Coastal Water Research Project*

### Attendee Experience Committee

**Co-Chairs**
Cristina Bourassa, *University of New Hampshire*
Leanna Heffner, *Louisiana State University*

**Attendee Experience Committee** (continued)

**5K Fun Run Leads**
Melanie Garate, *University of Rhode Island*
Kate Hewett, *University of California-Davis*
Brian Turner, *Portland State University*

**Conference Art Lead**
Walt Nelson, *EPA Newport*

**Field Trip Leads**
Amy Borde, *Pacific Northwest National Lab*
Curtis Roegner, *NOAA*

**Mentoring Program Leads**
Liz Canuel, *Virginia Institute of Marine Science*
Ted DeWitt, *Environmental Protection Agency*

**Punch Bowl Social Leads**
Ted DeWitt, *Environmental Protection Agency*
Keith Marcoe, *Lower Columbia Estuary Partnership*

**Silent Auction Leads**
Sarah Biegel, *NOAA/NMFS – West Coast Region*
Brita Jessen, *University of Rhode Island*
Autumn Oczkowski, *Environmental Protection Agency*

**Student Career Networking Dinner**
Leanna Heffner, *Louisiana State University*

**Student Judging Lead**
Lora Harris, *University of Maryland Center for Environmental Science*
Leanna Heffner, *Louisiana State University*
David Johnson, *Marine Biological Laboratory*

**Student Pub Night**
Leanna Heffner, *Louisiana State University*

**Student Travel Lead**
Martha Sutula, *Southern California Coastal Water Research Project*

**Women in Science Luncheon Lead**
Cristina Bourassa, *University of New Hampshire*

# CERF GOVERNING BOARD, COMMITTEES AND STAFF

### Governing Board 2013-2015

**President 2013-2015**
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James Hagy, *Research Ecologist*

**International Member at Large, 2011-2015**
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**Members at Large, 2013-2017**
Sharon Herzka, *Centro de Investigacion Cientifica y de Educacion Superior de Ensenada* (*CICESE*)
Elizabeth Canuel, *Virginia Institute of Marine Science*

**Student Member at Large (2013-2015)**
Leanna Heffner, Post Doctoral Researcher
*Dept of Oceanography & Coastal Sciences, Coastal Sustainability Studio*

### Governing Board 2015-2017

**President 2015-17**
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**Past President**
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Martha Sutula, *Southern California Coastal Water Research*

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Jim Hagy, *Research Ecologist*

**International Member at Large, 2015-2017**
Sharon Herzka, *Departamento de Oceanografía Biológica Centro de Investigación Científica y de Educación Superior de Ensenada*

**Member at Large, 2013-17**
Liz Canuel, *Virginia Institute of Marine Institute*

**Members at Large 2015-19**
Mark Brush, *Virginia Institute of Marine Science*
Ruth Carmichael, *Dauphin Island Sea Lab*

**Student Member at Large**
Mary Grace Lemon, *UNCW Center for Marine Science*

## CERF GOVERNING BOARD, COMMITTEES AND STAFF (*continued*)

### 2013-2015 Affiliate Society Presidents

**ACCESS** | Gail Chmura, *McGill University*

**AERS** | Treda Smith Grayson, *US EPA*

**CAERS** | Martha Sutula, *Southern California Coastal Water Research Project*

**GERS** | Ken Dunton, *University of Texas at Austin*

**NEERS** | Jamie Vaudrey, *University of Connecticut*

**PERS** | Tony D'Andrea, *Oregon State Dept. of Fish and Wildlife*

**SEERS** | Eugene (Geno) Olmi, *NOAA*

### 2015-2017 Affiliate Society Presidents

**ACCESS** | Bruce Hatcher, *Bras d'Or Institute/Cape Breton University*

**AERS** | Danielle Kreeger, *Partnership for the Delaware Estuary*

**CAERS** | Christine Whitcraft, *CSU Long Beach*

**GERS** | Mike Murrell, *US EPA*

**NEERS** | Sara Grady, *Massachusetts Bays Program/ NSRWA*

**PERS** | Jude Apple, *Western Washington University*

**SEERS** | Erik Smith, *University of South Carolina*

### Journal Officals

**Co-Editors in Chief**
Wayne S. Gardner, *Marine Science Institute*
Charles (Si) Simenstad, *University of Washington*

**Editorial Coordinator**
Taylor Bowen

**Reviews Editor**
Iris C. Anderson
*Virginia Institute of Marine Science*
CESN Managing Editor

**Merryl Alber**
*University of Georgia*

**Science Writer**
Nancy Steinberg

### CERF Staff

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**CERF Chief Operating Officer**
Louise Miller

**CERF Conference Director**
Terry Onustack

**CERF Abstract Manager**
Ben Fertig

**CERF Administrative Team**
SBI Management Services

### CERF Committees & Chairs

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Robert Twilley
Walter Boynton

**Finance/Investments**
Jim Hagy

**International Relations**
Robert Twilley
Sharon Herzka

**Membership**
Martha Sutula

**Publications**
Ken Dunton

**Outreach and Career Development**
Leanna Heffner

**Executive Committee**
Ken Heck

**Policy & Public Outreach**
Robert Twilley

# CERF 2015 CONFERENCE SCHEDULE-AT-A-GLANCE

## Sunday 8 November

| | | Location |
|---|---|---|
| Various times | **Field Trips** | |
| Various times | **Workshops** | **Various** |
| 11:00AM – 12:00PM | **Student Worker Orientation and Training** | **B 115** |
| 1:00 – 6:00PM | **Registration Opens** | **Pre-function A** |
| 4:00 – 5:30PM | **Awardee & Sustaining Members Reception** (By Invitation) | **Skyview Terrace** |
| 5:00 – 5:45PM | **Orientation for First-Time CERF Conference Attendees** | **A 107-109** |
| 6:00 – 8:00PM | **Keynote Address & Scientific Awards** | **Ballroom 201-202** |
| 8:00 – 10:00PM | **Silent Auction Open** | **Expo Hall** |
| 8:00 – 10:00PM | **President's Welcome Reception with Exhibitors** | **Expo Hall** |

## Monday 9 November

| | | Location |
|---|---|---|
| 7:00 – 7:45AM | **Daily Morning Meditation** | **C 123-124** |
| 7:00 – 8:00AM | **CESN Team Meeting/Breakfast** (By Invitation) | **A 104** |
| 8:00 – 9:45AM | **Session 1** | **Various** |
| 9:45 – 10:15AM | **Networking Break with Exhibitors** | **Expo Hall** |
| 10:15AM – 12:00PM | **Session 2** | **Various** |
| 12:00 – 1:30PM | **Lunch** (*on your own*) | **Expo Hall** |
| 12:25 – 1:30PM | **Ocean Frontiers Film Viewing** (Brown bag lunch) | **C 123-124** |
| 1:30 – 3:00PM | **Session 3** | **Various** |
| 3:00 – 3:30PM | **Networking Break with Exhibitors** | **Expo Hall** |
| 3:30 – 5:00PM | **Plenary Session** | **Ballroom 201-202** |
| 5:00 – 7:00PM | **Poster Sessions & Happy Hour with Exhibitors** | **Expo Hall** |
| 5:30 – 7:00PM | **New Research Vessel Workshop** | **B 115** |
| 7:00 – 9:00PM | **Student and Recent Graduate Career Event** | **Ballroom 204** |
| 9:00PM – CLOSE | **Student and Recent Graduate Pub Night** | **Rontoms/600 East Burnside St.** |

## Tuesday 10 November

| | | Location |
|---|---|---|
| 7:00 – 7:45AM | **Daily Morning Meditation** | **C 123-124** |
| 7:00 – 8:30AM | **5K Fun Run & Walk** (Ticketed Event) | **Waterfront Park Trail** |
| 8:00 – 9:45AM | **Session 4** | **Various** |
| 9:45 – 10:15AM | **Networking Break with Exhibitors** | **Expo Hall** |
| 10:15AM – 12:00PM | **Session 5** | **Various** |
| 12:00 – 1:30PM | **Women In Science Luncheon** (Ticketed Event)<br>*or* **Lunch** (*on your own*) | **Ballroom 204**<br>**Expo Hall** |
| 1:30 – 3:00PM | **Session 6** | **Various** |

# CERF 2015 CONFERENCE SCHEDULE-AT-A-GLANCE

## Tuesday 10 November (*continued*)

| | | Location |
|---|---|---|
| 3:00 – 3:30PM | **Networking Break with Exhibitors** | **Expo Hall** |
| 3:30 – 5:00PM | **Plenary Session** | **Ballroom 201-202** |
| 5:30 – 6:30PM | **Affiliate Society Meetings** | **Various** |
| 7:00 – 10:00PM | **Punch Bowl Social** (Ticketed Event) | **Pioneer Place, 340 SW Morrison St.** |

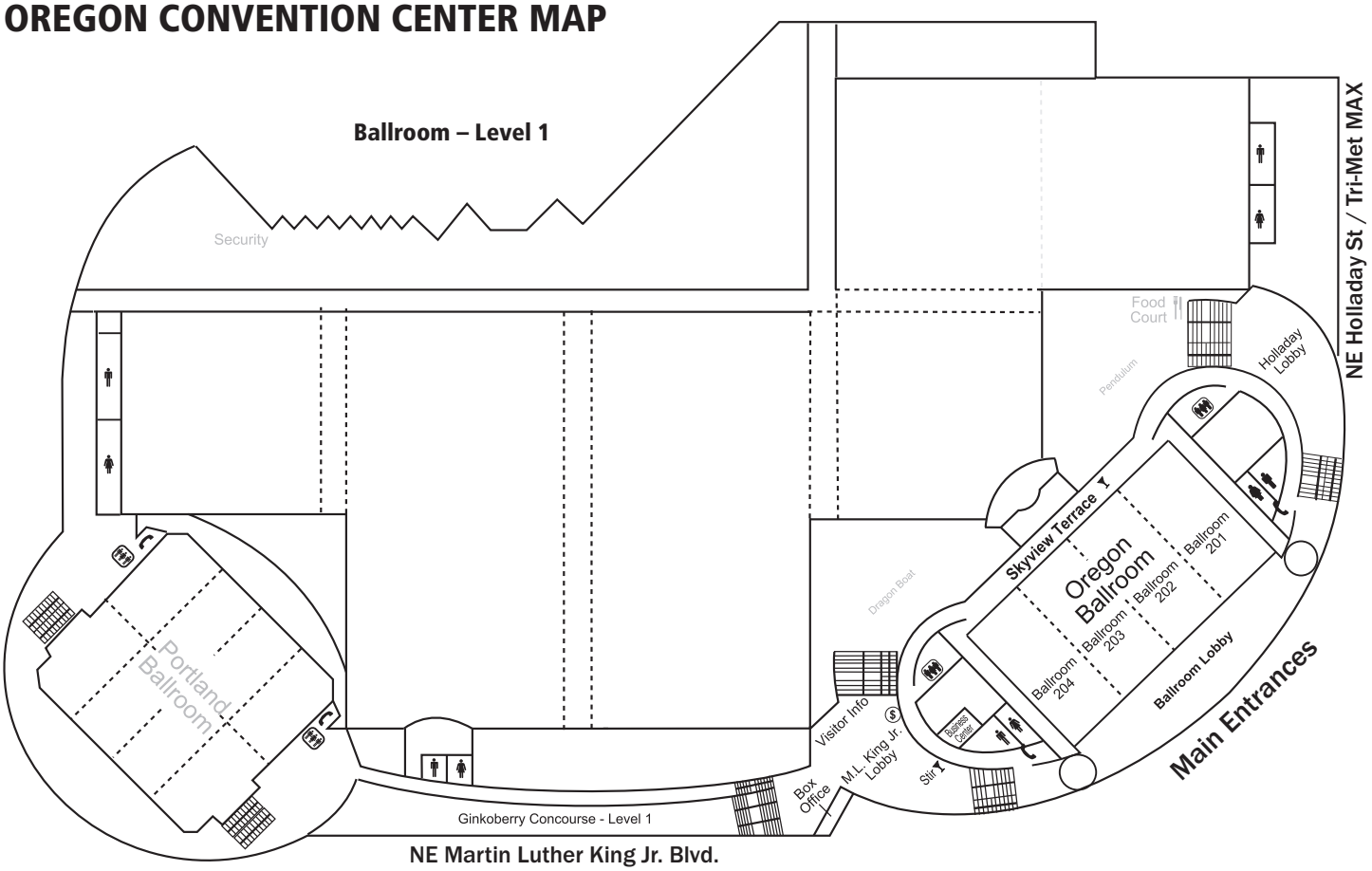
## Wednesday 11 November

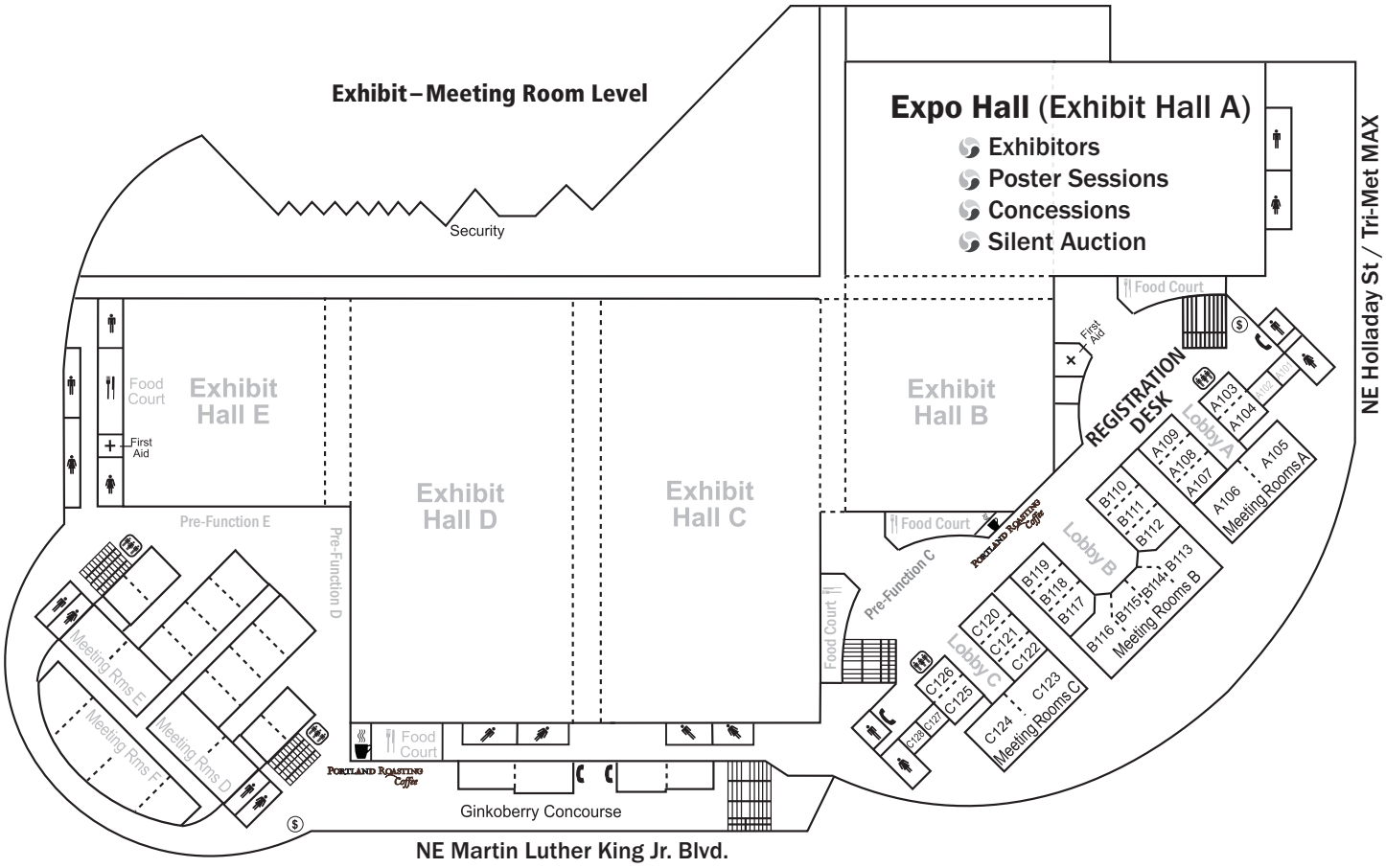
| | | Location |
|---|---|---|
| 7:00 – 7:45AM | **Daily Morning Meditation** | **B 117-119** |
| 7:00 – 8:00AM | **President's Breakfast** (By Invitation) | **DoubleTree – Halsey** |
| 7:00 – 8:00AM | **CERF Conference Mentorship Program Breakfast** (By Invitation) | **C 123-124** |
| 8:00 – 9:45AM | **Session 7** | **Various** |
| 9:45 – 10:15AM | **Networking Break with Exhibitors** | **Expo Hall** |
| 10:15AM – 12:00PM | **Session 8** | **Various** |
| 12:00PM | **Close of Silent Auction** | **Expo Hall** |
| 12:00 – 1:30PM | **Ignite Session** | **C 123-124** |
| 12:00 – 1:30PM | **Lunch** (*on your own*) | **Expo Hall** |
| 12:00 – 1:30PM | **Estuaries & Coasts Editorial Board Lunch** (By Invitation) | **A 103** |
| 1:30 – 3:00PM | **Session 9** | **Various** |
| 3:00 – 3:30PM | **Networking Break with Exhibitors** | **Expo Hall** |
| 3:30 – 5:00PM | **Session 10** | **Various** |
| 5:00 – 7:00PM | **Poster Sessions & Happy Hour with Exhibitors** | **Expo Hall** |
| 6:30 – 7:30PM | **Annual CERF Business Meeting** | **C 123-124** |

## Thursday 12 November

| | | Location |
|---|---|---|
| 6:45 – 8:00AM | **CERF 2017 Committee Breakfast** (By Invitation) | **A 104** |
| 7:00 – 7:45AM | **Daily Morning Meditation** | **C 123-124** |
| 8:00 – 9:45AM | **Session 11** | **Various** |
| 9:45 – 10:15AM | **Networking Break with Exhibitors** | **Expo Hall** |
| 10:15AM – 12:00PM | **Session 12** | **Various** |
| 12:00 – 1:30PM | **Lunch** (*on your own*) | **Expo Hall** |
| 1:30 – 3:00PM | **Session 13** | **Various** |
| 3:00 – 3:30PM | **Networking Break with Exhibitors** | **Expo Hall** |
| 3:30 – 5:00PM | **Session 14** | **Various** |
| 5:30 – 8:30PM | **Close Out Party & Student Awards Presentation**<br>**Passport to Prizes Drawing** | **Ballroom 203-204** |

# OREGON CONVENTION CENTER MAP



# GENERAL INFORMATION

## REGISTRATION

Conference check-in for pre-registered attendees and registration of on-site attendees will take place in Exhibit Hall – A Foyer. The registration desk will be open during the following hours:

| | |
|---|---|
| Sunday, 8 November | 1:00 – 6:30 PM |
| Monday, 9 November | 7:00 AM – 5:00 PM |
| Tuesday, 10 November | 7:30 AM – 5:00 PM |
| Wednesday, 11 November | 7:30 AM – 5:00 PM |
| Thursday, 12 November | 7:30 AM – 5:00 PM |

## PRESENTATION ROOM

The Presentation Room will be located in C125-126 and will be open to Oral Presenters during the following hours for on-site submission, review and editing of PowerPoint Presentations:

| | |
|---|---|
| Sunday, 8 November | 12:00 – 5:00 PM |
| Monday, 9 November | 7:00 AM – 5:00 PM |
| Tuesday, 10 November | 7:00 AM – 5:00 PM |
| Wednesday, 11 November | 7:00 AM – 5:00 PM |
| Thursday, 12 November | 7:00 AM – 5:00 PM |

## WI-FI

Free WiFi is available to conference attendees in all contracted meeting rooms and the exhibit hall via the CERF2015 network. There is no password required, although some devices may require a restart before web connection can be established.

## CONFERENCE APP

Create your personalized conference agenda and view session abstracts, connect with presenters and other attendees, learn about sponsors and exhibitors, and more! To download the app to your mobile device:

1. Search for "Eventpilot Conference App" in the Apple, Google Play or Amazon App Stores
2. Download and open the app
3. Enter the code "CERF 2015" when prompted

## SOCIAL MEDIA #CERF2015

CERF encourages the use of social media, such as Facebook, Twitter and blogging as a way to summarize, highlight, excerpt, review, critique, and/or promote presentations, exhibit materials, and the conference in general, provided that the material is not shared in full, and the author or speaker is referenced and cited appropriately in each case.

We Encourage You To:

- Stay connected and check out our Facebook and Twitter pages;
- Blog, post, and tweet highlights of and comments on the conference;
- Suggest sessions and workshops to attend and events to enjoy; discuss favorite speakers and posters; chat about products and services in the Exhibit Hall; post job openings and opportunities.

## PARKING

The building's underground garage provides onsite parking. Combined, the two levels offer 800 spaces.

Enter the garage through either the Northeast First Avenue (P1) or Lloyd Boulevard (P2) entrance. Clearance on the P1 level is 7 feet; clearance on the P2 level is 9 feet.

The maximum daily rate to park is $10. Overnight parking is prohibited.

Hourly rates available Monday through Sunday:

$5 for 15 minutes to 1 hour
$6 for 1 to 2 hours
$7 for 2 to 3 hours
$8 for 3 to 4 hours
$10 for 4 to 18 hours (over 18 hours incurs an additional $2 per hour charge)

Time is determined from the minute you enter the garage to the time you exit. The parking garage generally opens daily at 6 a.m. Arrangements may be made for the garage to open earlier if needed.

Note: Some privately owned lots around the OCC promote "convention center parking" but these are not operated by the OCC.

## RESTAURANTS & CONCESSIONS

Oregon Convention Center offers several onsite food-service concession options for conference attendees. In addition to these outlets, several local eateries, including a Food Court at Lloyd Center, are within walking distance from the convention center and our hotels.

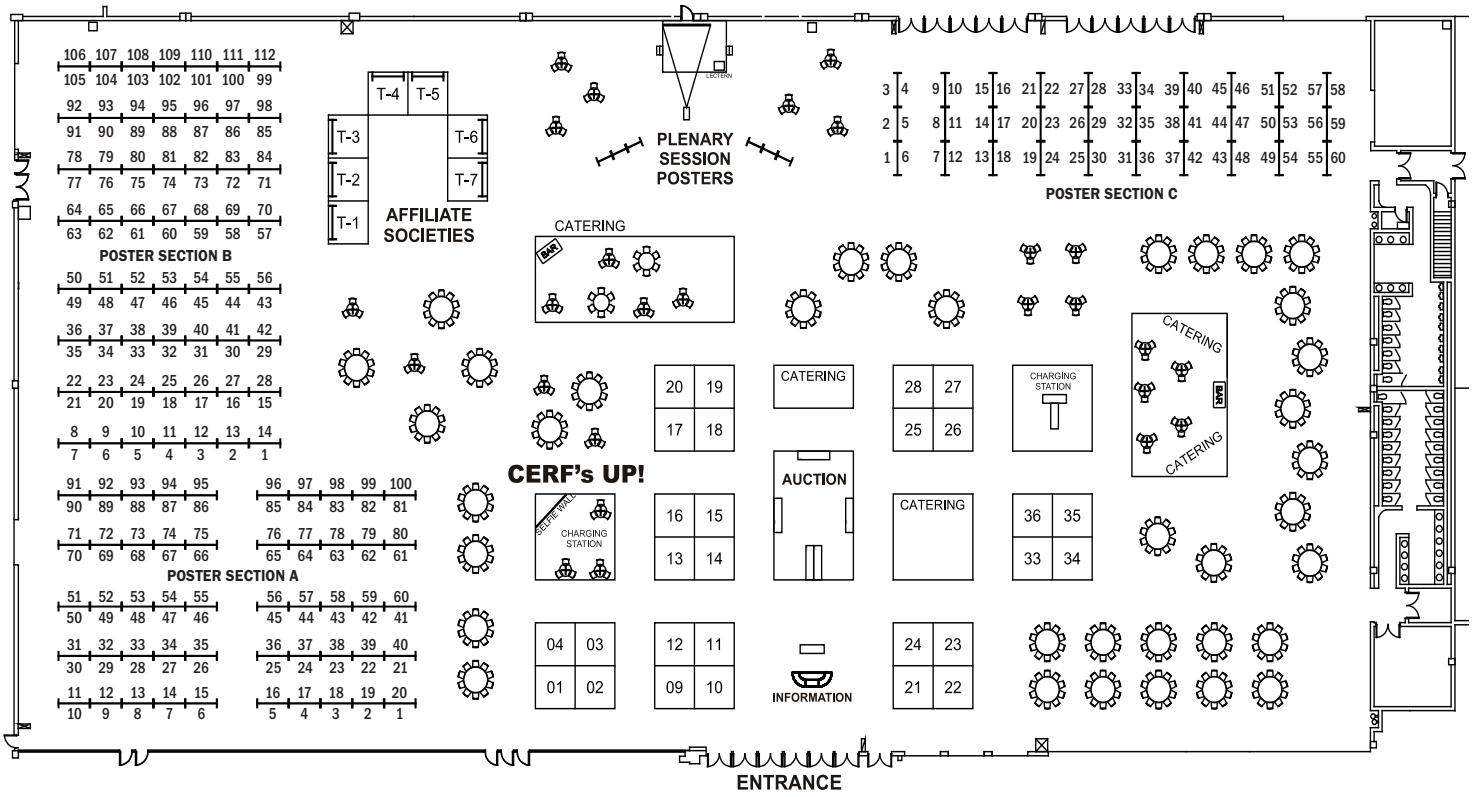
- Portland Roasting serves organic coffees, fresh bakery goods, oatmeal breakfasts, yogurt and premade sandwiches. Located in Pre-function C.
- Stir Lounge and Bistro is a full-service restaurant with a menu focused on local products. Located in the MLK Blvd. Lobby.
- Orbit Café serves burgers, hot dogs, fries and other quick cuisine. Located in Pre-function A and Exhibit Hall A Food Court.
- Chili Pepper offers tacos, nachos and the like. Located in Exhibit Hall A Food Court.
- Enzo's Pizza specializes in pizza and salads. Located in Exhibit Hall A Food Court.

## TRIMET TRANSIT PASS

All registered attendees of CERF 2015 will be eligible to receive one TriMet pass at the CERF registration desk . Your TriMet pass will be valid through the dates of the convention plus one extra day to allow you to travel back to the airport. MAX light rail is Portland's efficient light-rail system that connects the metro area, Portland International Airport and the downtown core.

- **TriMet transit pass information**
  - Your TriMet transit pass is valid upon receipt.
  - Please carry your transit pass with you at all times.
  - There is no validation, stamping, ticket exchange, or additional step needed before riding public transportation.
  - The pass is valid on busses, MAX light rail and streetcars in the city of Portland.
  - For information on routes, schedules or instructions in other languages visit www.trimet.org
  - If you do not have a valid pass, the fine is $175.
  - If you lose your pass, the fare for an Adult TriMet ticket is $2.50/2 hours or $5.00/day.

## EXPO HALL MAP




# 5K Fun Run/Walk

**Tuesday, 10 November | 7:00-8:30 am**

This year's route is along the west bank of the Willamette River using the Waterfront Park trail.

**Cost: $20**

Sign up at the Registration Desk!

# Join Us!

Continue to engage with and learn from the community of scientists and managers you meet this week!

Learn more about the benefits of membership at www.erf.org

# MEET OUR SPONSORS & EXHIBITORS

| SPONSORS & EXHIBITORS | | Booth Number |
|---|---|---|
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| Bay Instruments | | 33 |
| BioSonics, Inc. | | 22 |
| Campbell Scientific | | 34 |
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| Coastal Resource Management PhD Program at ECU | | 13 |
| Eureka Water Probes | **Supporter Sponsor** | 24 |
| LSU School of the Coast & Environment | | 16 |
| Onset Computer Corporation | | 26 |
| Oregon Sea Grant | **Supporter Sponsor** | 10 |
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| RBR Ltd. | | 27 |
| Restore America's Estuaries (RAE) | **Supporter Sponsor** | 11 |
| School of Coastal and Marine Systems Science, Coastal Carolina University | | 15 |
| Sea-Bird Coastal | | 12 |
| Smithsonian Environmental Research Center | | 2 |
| Springer | | 14 |
| State Key Laboratory of Estuarine and Coastal Research | | 17 |
| The Data Detekiv | | 18 |
| Turner Designs | | 35 |
| Unisense A/S | | 3 |
| University of Maryland Center for Environmental Science | **Supporter Sponsor** | 4 |
| University of South Alabama Marine Sciences/Dauphin Island Sea Lab | | 19 |
| West Coast Regional Assoc. of IOOS | | 20 |
| Wildlife Conservation Society | | 25 |
| YSI, a Xylem Brand | **Benefactor Sponsor** | 36 |

| AFFILIATE SOCIETIES | Table Number |
|---|---|
| Atlantic Canada Coastal and Estuarine Science Society (ACCESS) | T-1 |
| Atlantic Estuarine Research Society (AERS) | T-2 |
| California Estuarine Research Society (CAERS) | T-3 |
| Gulf Estuarine Research Society (GERS) | T-4 |
| New England Estuarine Research Society (NEERS) | T-5 |
| Pacific Estuarine Research Society (PERS) | T-6 |
| Southeastern Estuarine Research Society (SEERS) | T-7 |

# OVERVIEW OF OPENING SESSION

## WELCOME, INTRODUCTIONS & PRESIDENT'S ADDRESS

*Date & Time*: Sunday 9 November | 6:00 – 8:00 PM
*Location*: Ballroom 201-202
**Ken Heck**, CERF President 2013-2015

### Distinguished Service Award

**Dr. Janet Nestlerode**, *US Environmental Protection Agency*

## SCIENTIFIC AWARDS

### Odum Award for Lifetime Achievement

**Joy Zedler, Ph.D.**, *Professor of Botany and Aldo Leopold Chair in Restoration Ecology*, Botany Department and Arboretum, University of Wisconsin, Madison, WI

### Cronin Award for Early Career Achievement

**Autumn J. Oczkowski, Ph.D.**, *United States Environmental Protection Agency*, Atlantic Ecology Division, Narragansett, RI

### William A. Niering Outstanding Educator Award

**Peggy Fong, Ph.D.**, *Professor, Department of Ecology and Evolutionary Biology*, University of California Los Angeles, Los Angeles, CA

### Donald W. Pritchard Award for Estuaries and Coasts Geophysics Paper

*Seasonal Growth and Senescence of a Zostera marina Seagrass Meadow Alters Wave-Dominated Flow and Sediment Suspension within a Coastal Bay*
**Jennifer Hansen, Ph.D.** and **Matthew Reidenbach, Ph.D.**

## CONFERENCE CHAIR'S ADDRESS

**Ron Thom**, *Pacific Northwest National Lab* and
**Walt Nelson**, *US EPA*

## KEYNOTE ADDRESS

**Beth Kerttula**, *Director of the National Ocean Council*

Beth Kerttula is the Director of the National Ocean Council, where she oversees the Council's efforts to implement the National Ocean Policy. In this capacity, she also works closely with stakeholders and with the nine marine regions to facilitate regional marine planning and other ocean management activities. She came to that position from Stanford's Center for Ocean Solutions, where she was a visiting fellow working to bring together policymakers from multiple disciplines to discuss the critical interplay of oceans, climate change, and society. She is a 15-year veteran of the Alaska House of Representatives, where she served as Minority Leader from 2006 to 2013, and has held positions in the State of Alaska Attorney General's Office.

Beth was the original sponsor of landmark cruise ship pollution legislation as well as other important environmental bills. She also led efforts to defend and improve the Alaska Coastal Zone Management Program and supported research efforts by the University of Alaska on ocean acidification and community sustainability. Beth was also a member of the State of Alaska's first Arctic Policy Commission, which created Alaska's first Arctic policy recommendations for the state legislature.

## CLOSING REMARKS

**Robert Twilley**, CERF President 2015-2017
All attendees are invited to attend the Presidents' Welcome Reception from 8:00 to 10:00PM.

## Award Winner Profiles

**Distinguished Service Award:** Dr. Janet Nestlerode, *US Environmental Protection Agency*
Dr. Nestlerode is a Research Ecologist for the U.S. Environmental Protection Agency at the Gulf Ecology Division in Gulf Breeze, Florida. She is currently leading a project to assess relationships between water quality and ecosystem functioning, which includes examining organism-sediment interactions across stressor gradients using Sediment Profile Imaging. She is also part of the National Aquatic Resource Survey Technical Support Team for the National Wetlands Condition Assessment (NWCA) and is assisting EPA's Office of Water in their assessment of wetland water quality and ecological conditions. She earned her PhD from the College of William & Mary at the Virginia Institute of Marine Science.

Dr. Nestlerode has distinguished herself within the CERF community through her record of service, dedication to student engagement, and development of programs. She has served in key roles on every conference organizing committee since 2005, with roles including organizing student workers, developing education content for scientific programs and implementing the CERF 5K Fun Run, and Silent Auction, the latter two which benefit the student endowment. Nestlerode served on the CERF Governing Board as a Member at Large from 2009-2013, the governing boards of AERS and GERS in evolving capacities since 1996. She also chaired the CERF Education Committee from 2010-2013. She has demonstrated an exemplary level of volunteerism which continues to inspire peers and students across generations to get involved in the work of CERF.

**2015 Cronin Award Selection:** Autumn J. Oczkowski, *US Environmental Protection Agency*
The CERF Cronin Award Committee has selected Autumn J. Oczkowski to receive the 2015 Cronin Award. Dr. Oczkowski is a Research Biologist at the EPA's Atlantic Ecology Division in Narragansett, R.I. Autumn is a classical estuarine scientist, whose strong interdisciplinary background has enabled her to make major contributions to our understanding of anthropogenic impacts on coastal ecosystems, particularly the effects of nutrient loading.

Autumn has applied her understanding of nutrient dynamics across the estuarine landscape to include coastal bays, lagoons, salt marshes, and oyster reefs over two continents. She has effectively used a variety of tools, including stable isotopes, mesocosms, and intensive field monitoring to address questions on the drivers and

mechanisms that affect estuarine food webs. Her work has profound societal effects and as one letter of recommendation states "has direct implications for understanding the productivity, resilience, and management of coastal ecosystems".

Since Autumn's arrival at EPA, her scientific leadership, positive personality, and boundless energy have resulted in numerous senior- and co-authored publications as well as countless invited and contributed presentations. Her research continues to produce significant contributions and fundamental new knowledge on the role of nutrients and climate on estuarine function that are important for resource management. Recently she has begun working with scientists in Puerto Rico to address complex nutrient loading problems that have profound socioeconomic and health implications for local communities. Her curiosity, ability to work collaboratively, and productivity make an ideal choice for the 2015 Cronin Award.

**Odum Award:** Joy Zedler, *University of Wisconsin*
We are pleased to award the 2015 Odum Lifetime Achievement Award to Dr. Joy Zedler. The Odum Award is named for the three outstanding ecological scientists in the Odum family: Dr. Howard T. Odum; Dr Eugene P. Odum and Dr. William H. Odum III. The award recognizes the lifetime achievements of an outstanding scientist by honoring sustained accomplishments and important contributions to understanding of estuaries and coastal ecosystems. Dr. Zedler is the Aldo Leopold Professor of Restoration Ecology in the Botany Department and Arboretum at the University of Wisconsin Madison. Like the Odums, she is recognized for contributing to a broad-based understanding of coastal marine ecosystems, addressing critical management questions, serving the scientific community, and educating multiple generations of students.

One of the letters in support of Dr. Zedler's nomination described her as an irrepressible force for better science, conservation and management of estuaries. Dr. Zedler has been instrumental in the metamorphosis of the field of marsh restoration from an art into a science. She is a consummate ecologist who sets wetland science and restoration in the broader context of ecological principals and theories. She has contributed to the fundamental understanding of wetland ecosystems and their restoration with an impressive breadth of issues she has addressed and constituents she has reached. A recent Google Scholar search found over 11,000 citations of Zedler's nearly 260 scientific publications and an impressive h-index of 58. Her publications include classic works in wetland ecology including her pioneering research published in the paper "Canopy architecture of natural and planted cordgrass marshes: selecting habitat evaluation criteria," in 1993 in Ecological Applications. This paper represents many years of research, and made a significant contribution to the development of the ecological criteria for managing habitat for clapper rails by tying together plant ecology, hydrology, bird population censuses, and wetland restoration techniques. Dr. Zedler's books range from 'Foundations of Restoration Ecology', considered a must-read for graduate students and restoration ecologists, to a how-to 'Handbook for Restoring Tidal Wetlands' to a book on 'Salt Marsh Secrets' for middle- and high school students.

Dr. Zedler's service to the scientific community and dedication to the use of sound science in service to society has also been extraordinary. Dr. Zedler was Vice President of the Estuarine Research Federation from 1987-1989 and has served on Editorial Boards of Estuaries (now Estuaries and Coasts), Restoration Ecology, Ecosystem Health and Sustainability, Ecological Applications, the Journal of Ecotechnology, Wetlands Ecology and Management, and Ecosystems. She has served on 5 National Research Council committees and the National Governing Board of the Nature Conservancy. Dr. Zedler's advisory activities have ranged from international to local; she is currently a member of an international panel advising South Korea's National Institute of Ecology and has served on the Wetland Advisory Board for the City of San Diego. Dr. Zedler was previously recognized by CERF as the first recipient of the William A. Niering Outstanding Educator Award in 2001. She has graduated 24 MS and PhD students in the last 15 years alone, and many more during her long and esteemed career.

**Pritchard Award – Physical Oceanography Paper**: Jennifer Hansen and Matthew Reidenbach, *University of Virginia*
This award was established to honor Dr. Donald W. Pritchard, whose insightful research on the physical dynamics of coastal systems set the stage for much of the research in physical oceanography that is being conducted today. The Pritchard Award recognizes the authors of the best physical oceanography paper published in Estuaries and Coasts within the two-year interval between CERF conferences.

Hansen and Reidenbach (2013) detailed the influence of seagrass meadows on wave-dominated flows and sediment resuspension in South Bay, Virginia, within the Virginia Coastal Reserve. They deployed acoustic and optical instruments in vegetated and unvegetated sites of the reserve over multiple seasonal periods, while also measuring seagrass characteristics such as shoot density and blade length. They computed wave climate, turbulent quantities, and shear stress at these sites and compared them to suspended-sediment concentration measurements.

They found that seasonal changes in seagrass density altered the turbulence and shear stress regime, as well as sediment resuspension. The positive feedback between vegetative density, turbulence and shear stress reduction, and decreased sediment resuspension increases light availability for the meadow, thereby contributing to further growth. They also showed that sparse coverage in the winter did not promote sediment stabilization as compared to an unvegetated site, suggesting that there may be a tipping point where low seagrass coverage does not initiate the positive feedback loop.

The novelty of this study lies in the application of advanced hydrodynamic techniques within an ecosystem type, with consideration of seasonal and spatial variability in the ecosystem. The authors quantified an intuitive process with robust measurement techniques and great clarity. Their results will be useful for restoration efforts, model development, and basic understanding of hydrodynamics and sediment transport mechanisms. This study provides a model for future work in estuaries and coastal regions, where quantifying fundamental physical processes is a critical component of interdisciplinary science.

**AWARD WINNER PROFILES** (*continued*)

**William A. Niering Outstanding Educator Award:** Dr. Peggy Fong, *UCLA*

Dr. Peggy Fong is the recipient of the 2015 William A. Niering Outstanding Educator Award. No one can argue that Dr. Fong is an excellent and influential scholar. Dr. Fong, however, is much, much more to the many individuals that she has directly or indirectly touched at UCLA. As repeatedly mentioned by her former students and colleagues, Dr. Fong is gifted educator, mentor and role model. Undergraduates are captivated by her lessons, which occur in both the classroom and the field. Many of these students were experiencing nature and field science for the first time. As a result of her curriculum and her passion for science, undergraduate students have had the opportunity to see the world through the lens of science, secure their own funding, and publish in leading journals. The beauty of Dr. Fong's approach is that she shows students that science is within everyone's reach. Many of these undergraduates have gone on to receive Ph.D. degrees and become leading scientists and communicators of science. Dr. Fong was also a principal investigator on a Center for Ocean Science Education Excellence (COSEE) award so that K-12 students could also be inspired to pursue degrees in science. Outside of academia, Dr. Fong has shown her students that you can have the life that you choose, especially where family is concerned. One former student stated, "Peggy teaches that success is not just the number of publications we have, it is also achieving balance between our work and our families. I hope I can show my own son that you can integrate your family and your career without sacrificing one for the other." Congratulations Dr. Peggy Fong!

# PROGRAMMING

## PLENARY SESSION ON SEA LEVEL RISE AS A THREAT TO ESTUARIES AND COASTS

*Date & Time*: Monday 8 November | 3:30 – 5:00 pm
*Location*: Ballrooms 201-202
*Moderator*: Andrea E. Copping, *Pacific Northwest National Laboratory*, Seattle, WA

Sea level rise (SLR) is a well-accepted result of climate change, yet predictions for its timing and extent are highly uncertain at the ocean basin and local coastal scale. The ability to plan and design coastal defenses, relocation strategies for critical infrastructure, and protection of natural resources is compromised by this uncertainly, as well as by a lack of broad public and political support to carry out the necessary mitigations. This plenary will explore a range of solutions that includes engineering designs to protect coastal resources and increase resiliency; natural defenses that can protect the coast and estuaries; and practical solutions for meeting the challenges of SLR. Resilient solutions will be described in the context the pros and cons of strictly fortified solutions versus innovative alternatives such as those explored in the contests Changing Course and Rebuild by Design. Natural shoreline defenses will propose methods for restoring natural infrastructure such as wetlands, dunes, living shorelines, and open space, which can produce a host of benefits to communities in addition to flood protection, including clean water, habitat for fish and wildlife, increased opportunities for recreation and tourism, and savings for taxpayers nationwide. Political will and methods to increase coastal resilience will be examined through new and innovative mechanisms for financing, managing land ownership, integrating with other coastal protection and restoration programs that provide specific forward thinking approaches to important issues surrounding SLR. These strategies will include: gaining the political and public support needed to achieve coastal protection and resiliency; identifying new coalitions beyond traditional conservation and science communities that are needed; and harnessing natural processes be harnessed to increase coastal resilience.

PLENARY PRESENTATIONS:

**Fortifying for a Resilient and Sustainable Future**

*Abstract*: Preparing for and adapting our coastal areas to be resilient to increasing flood risk means engineers must adapt and rethink their traditional design approaches. To be resilient means we are able to prepare, withstand, recover, and adapt in the face of adverse conditions and increasing risk brought about by climate change, aging and inadequate infrastructure, and growing populations and development along our coasts. Engineers have excelled at designing infrastructure that can absorb or withstand large loading events. Simply continuing the approach that we can fortify our coasts by building flood protection will not be fiscally feasible nor socially desirable for a resilient and sustainable future. It will be important to take a multidisciplinary and creative systems approach, that engages the communities and stakeholders impacted, in developing non-traditional and multi-faceted solutions. Preparing for a resilient future means we must imagine the impossible, while we design for the inevitable.

**Sandra Knight, PhD, PE, D.WRE, D.NE**
*University of Maryland, College Park*

Sandra Knight is a Senior Research Engineer in the Department of Civil and Environmental Engineering at the University of Maryland where she works with her colleagues in the development of water policy, disaster resilience and flood risk management initiatives to support the Center for Disaster Resilience. Additionally, she is founder and President of WaterWonks LLC in Washington, DC. Her company was formed to capitalize on her extensive experience in federal disaster reduction, flood risk management and marine transportation policies and programs, having spent more than 30 years administering these and other policies at three federal agencies.

Sandra finished her federal career in October 2012 as the Deputy Associate Administrator for Mitigation, FEMA, responsible for the nation's floodplain mapping, management and mitigation grants supporting the National Flood Insurance Program, environmental compliance for the agency, and oversight of the National Dam Safety Program. At NOAA, 2007-2009, she was responsible for the development of policies and strategies to ensure scientific excellence and improved performance of NOAA's research portfolio. Prior to that, she spent 26 years with the US Army Corps of Engineers. Her last position with USACE was as Technical Director for navigation research.

She has a PhD from the University of Memphis, MS from Mississippi State University and a BS from Memphis State University, all in Civil Engineering. She is a registered professional engineer in Tennessee, a Diplomate Water Resource Engineer and a Diplomate Navigation Engineering. She is a member of the American Society of Civil Engineers, the American Meteorological Society, the Society of Women Engineers, Sigma Xi and a Fellow for PIANC.

**Natural Defenses from Coastal Hazards**

*Abstract*: This presentation will focus on fundamental principles and sensible, accomplishable policy recommendations to make coastal communities safer and more resilient to floods and hurricanes by focusing on natural and nature-based approaches for reducing risks in an era of climate change. It will highlight examples of cost-effective efforts to protect and restore natural infrastructure such as wetlands, dunes, living shorelines, and open space, which can produce a host of benefits to communities in addition to flood protection, including clean water, habitat for fish and wildlife, increased opportunities for recreation and tourism, and savings for taxpayers nationwide.

**Patricia Glick**
*National Wildlife Federation*

The issue of climate change has guided Patty Glick's work for more than 24 years, the past 17 of which have been with the National Wildlife Federation.

Throughout her career, Patty has played an important role in educating diverse constituencies about climate change, and in developing and promoting meaningful management and policy solutions. Since 1998, Patty has been instrumental in helping NWF build a targeted grassroots global warming campaign, which has grown from a small program with just a handful of staff into one of NWF's top conservation priorities.

Today, Patty is part of a team dedicated to forwarding NWF's efforts to safeguard wildlife from climate change – often termed climate change adaptation. She has led major research studies on the impacts of sea-level rise on U.S. coastal habitats, including major areas of Florida, the Pacific Northwest, the Chesapeake Bay region, and coastal Louisiana and participated in several governor-appointed working groups to develop state-based climate change adaptation strategies. In addition, she has authored and co-authored numerous publications about climate change and wildlife and has presented information on climate change at major workshops and conferences across North America.

In 2011, Ms. Glick and a team of colleagues were honored with a Partners in Conservation award from the U.S. Department of the Interior for their work on climate change vulnerability assessment; and in 2007, Patty was one of 23 women around the world named as an "outstanding woman working on climate change issues" by the World Conservation Union (IUCN).

**In Search of the Unicorn: Science and Decision Making in Support of SLR**

*Abstract*: It is increasingly clear that our scientific capabilities are under appreciated and underutilized especially with regard to highly contentious issues such as climate change and its attendant effects. Part of this is due to cultural differences in perception and communication, another component is our ability to bring forth positive solutions has lagged behind our modeling capabilities, and finally there is just real world politics. Addressing these shortcomings may help advance...not just the dislog...but our actual efforts to adapt to an increasingly changing environment.

**Margaret Davidson**
*National Ocean Service (NOS)*

Margaret Davidson has been an active participant in coastal resource management issues since 1978, when she earned her Juris Doctorate in Natural Resources Law from Louisiana State University. She later earned a Master's Degree in Marine Policy and Resource Economics from the University of Rhode Island.



Davidson served as special counsel and assistant attorney general for the Louisiana Department of Justice and later as the executive director of the South Carolina Sea Grant Consortium. She joined NOAA as the founding director of the NOAA Coastal Services Center in 1995. Davidson also served as the acting assistant administrator for NOAA's National Ocean Service from 2000 to 2002. She holds a faculty appointment at the University of Charleston.

Davidson has served on numerous local, state, and federal committees and has provided leadership for national professional societies. She has focused her professional work on environmentally sustainable coastal development practices and the reduction of risk associated with extreme events and climate.

From April 2012 to May 2014, as Acting Director of NOAA's Ocean and Coastal Resource Management (OCRM) Office, Davidson led the formal integration of OCRM and the Coastal Services Center to bring more effective products and services to constituents and coastal communities.

Among her recent professional awards: Fulbright Fellowship, American Meteorological Society Fellow, Gilbert White Fellow, 2007 Nobel Prize for the IPCC, and Zurich Fellowship for Climate Adaptation. She has also been recognized by NOAA for her work: Presidential Merit Awards in 2002 and 2010 and a NOAA Administrator's Award in 2014.

## PLENARY SESSION ON MULTIPLE STRESSORS IN COASTAL ECOSYSTEMS

*Date & Time*: Tuesday November 10 | 3:30 - 5:00 pm
*Location*: Ballrooms 201-202
*Moderator*: Joseph Needoba, *Oregon Health & Science University*, Portland, OR

For decades coastal ecosystems have undergone environmental change as a result of synergistic effects from human activities such as industrialization, development, burning of fossil fuels, and agriculture. Issues such as eutrophication, climate disruption, ocean acidification, invasive species, and loss of habitat are significant concerns unto themselves, but when occurring together can amount to "wicked" problems that appear overwhelming and have no obvious solution. This session will explore the notion that the familiar scientific approaches to environmental issues must be abandoned in favor of more collaborative and integrative approaches to science and stewardship practices that are inclusive of broader societal perspectives. This also requires changes in communication and public engagement so that experts, decision-makers and stakeholders together define and find solutions to the multiple stressor problems we face. The scientific community can and must learn and build from success stories and communicate these successes to the public. Together we can take actions that will have meaningful consequences for the long-term sustainability and resiliency of coastal ecosystems and all of us who rely on them.

PLENARY PRESENTATIONS:

**Designing the Coast for the Future to Effectively Deal with Multiple Stressors**

*Abstract*: Most of the problems we face today in estuaries and other coastal ecosystems and the stresses that cause them have been with us for decades. Today, many, perhaps most, are more intense and more extensive. With the projected increase in the rise of sea level, an additional stress will be added, a stress that will take its greatest toll on human coastal ecosystems. Instead of efforts to restore natural coastal ecosystems, we should focus our efforts on designing and creating the coast for the future, one that focuses on humans and on nature. It is a wicked problem, and wicked problems require approaches different from those we have been trained to solve. While wicked problems can't be solved, they can, if properly posed, be managed to minimize regret. That's our challenge. I will outline steps in designing the coast for the future.

**Jerry Schubel, Ph.D.**
*Aquarium of the Pacific*

Dr. Jerry R. Schubel has been president and CEO of the Aquarium of the Pacific since 2002. He is president and CEO Emeritus of the New England Aquarium, and from 1974-1994 was Dean of Stony Brook University's Marine Sciences Research Center. For three of those years he served as the University's provost and is Distinguished Service Professor emeritus. Prior to 1974, Dr. Schubel was an adjunct professor, research scientist and associate director of The Johns Hopkins University's Chesapeake Bay Institute. Dr. Schubel holds a Ph.D. in oceanography from Johns Hopkins University. He received an honorary doctorate from the Massachusetts Maritime Academy in 1998.



He has worked throughout his professional life at the interfaces of science-management-policy on issues dealing with the ocean with an emphasis on the coastal ocean. Dr. Schubel has published more than 225 scientific papers and has written extensively for general audiences. He is a member of NOAA Science Advisory Board, California Ocean Science Trust Board, and the Science Advisory Team for California's Ocean Protection Council. He chaired the National Sea Grant Review Panel; the National Research Council ("NRC") Marine Board; the NRC Committee on the St. Lawrence Seaway, Phase I and Phase II, the Ocean Research and Resources Advisory Panel, and the NRC Committee on the Value and Sustainability of Biological Field Stations, Marine Laboratories and Nature Reserves in 21st Century. He is a former member of EPA's Science Advisory Board, the Census of Marine Life U.S. National Committee and the National Science Foundation's Education and Human Resources Advisory Committee.

At the Aquarium of the Pacific, he created the Aquatic Forum that brings together scientists, policy-makers and stakeholders to explore alternative ways of dealing with important, complex, and often controversial environmental issues facing the nation. He also directs the Aquarium's Marine Conservation Research Institute and the Aquarium's Aquatic Academy programs. He has been interviewed by hundreds of media outlets on a variety of environmental and scientific topics for international, national and local stories.

**Triaging the Coastal Ocean**

*Abstract*: Coastal systems have long been ideal spots for habitation because of the rich benefits they provide. Coastal systems filter nutrients, dampen storm surges, and are essential habitat for nutritionally and economically valuable shellfish and finfish. Unfortunately, human activities alter coastal systems in numerous negative ways – threatening ecosystem function and long-term sustainability. But is it all bad news? And is it possible to assess which problems are most immediate and severe? This talk will focus on some of the most important issues coastal ecosystems have faced and will face in the near future. Using specific case studies we will highlight stories of success – where human actions brought positive change to coastal systems. The ultimate goal is to provide a working framework for a path forward that will allow us to feel hopeful about the future and motivated to take action.

**Robinson W. ("Wally") Fulweiler, Ph.D.**
*Boston University*

Wally received her Ph.D. at the Graduate School of Oceanography at the University of Rhode Island in 2007 and went on to do a postdoc at Louisiana State University. In 2008, she became an Assistant Professor at Boston University. In 2014, she was awarded tenure at Boston University in the Department of Earth and Environment and the Department of Biology. She is a biogeochemist and ecosystems ecologist whose research is focused on answering fundamental questions about energy flow and biogeochemical cycling of nutrients (nitrogen, phosphorus, and silica), carbon, and oxygen in a variety of environments. Her recent focus has been on how climate change may influence the nitrogen cycle in estuarine and shelf systems and how anthropogenic activities alter nutrient cycling along the land-ocean continuum. She was awarded a Sloan Fellowship in 2012, the first time this award was given in Ocean Sciences. In 2014, she was awarded the Cronin award from the Coastal Estuarine Research Federation.

**Communicating Multiple Stresses: Countering Overwhelm, Engendering Hope**

*Abstract*: Climate change and interacting environmental and social pressures are perpetually difficult to communicate, not least because they seem still distant in both time and space. Once the challenges become tangible for people or impacts actually experienced, they easily provoke a sense of overwhelm and powerlessness. This presentation will offer insights about effective communication and community engagement in the climate-coastal-ocean context, and focus particularly on ways to engender hope and active response to the multiple stresses we face.

**Susanne Moser**
*Susanne Moser Research & Consulting*

Susanne Moser is Director and Principal Researcher of Susanne Moser Research & Consulting, in Santa Cruz, CA, USA, a Social Science Research Fellow at Stanford's Woods Institute for the Environment, and a Research Associate of the Institute for Marine Sciences at the University of California-Santa Cruz. As a nationally and internationally recognized expert in climate change communication for social change, adaptation, and science-policy interactions, she works with practitioners, researchers, governmental and non-governmental organizations in the US, Europe and Australia. Dr. Moser is a geographer (Ph.D. 1997, Clark University) with broad interdisciplinary expertise, and previously held positions at the National Center for Atmospheric Research in Boulder, CO, the Heinz Center in Washington, DC, and the Union of Concerned Scientists in Cambridge, MA. She currently or has in the past served on scientific and advisory boards for Future Earth, the International Social Science Council, the International Human Dimensions Program, the US National Research Council, and numerous other agencies and organizations. She contributed to the Fourth and Fifth Assessment Reports of the IPCC and served as a Review Editor for the IPCC Special Report on extreme events, disaster risk management and adaptation. She also was a member of the federal advisory committee on the Third US National Climate Assessment, co-lead that committee's Engagement and Communication working group, and served as one of the Convening Lead Authors on the assessment's coastal chapter. She is a fellow of the Aldo Leopold Leadership, Kavli Frontiers of Science, Donella Meadows Leadership, Google Science Communication, and Walton Sustainability Solutions Programs.

# WORKSHOPS

CERF 2015 offers a diverse and exciting line-up of workshops, and students, many of these are aimed at you! All workshops will be held on **Sunday November 8**, beginning as early as 9AM. Plan to arrive early to the workshops to make the most of this year's unique offerings.

**9:00AM – 5:00PM**
**Beginning Videography for Science Professionals**
(limit 20 participants)
*Cost*: $50 (includes boxed lunch)
*Location*: A 105
*Convener*: Karen McKee
This full day workshop is designed to teach participants the basics of planning, shooting, editing, and publishing an effective and professional science video. Videography skills will become increasingly important for the scientist of the future to keep pace with the rapid changes in communication technology and electronic publishing. As public demand for more accessible and engaging science information increases and as competition for science jobs, research funding, and space in journals becomes more intense, those with multimedia skills such as videography will be at a distinct advantage. Through hands – on exercises, you will develop a brief video to convey information about your research, to develop outreach materials, or to meet some other purpose—with the goal of creating a useable, information product.

**9:00 – 11:30AM**
**Social Media and Science**
*Cost*: $25
*Location*: B 116
*Lead Convener*: Jeff Clements
Given the increasing interest and expansion of social media among the scientific community, this workshop will provide researchers, scientific professionals, and students with the skills and tools to enhance their professional outreach through the use of social media. In general, this workshop will introduce various social media platforms (Facebook, Twitter, blogging, etc.) and provide tips on how to utilize them to enhance outreach and networking. The workshop will also explore how to optimize the use of social media for the research needs and goals of both early-career (students and recent graduates) and well-established scientists. Examples of how scientists are currently using social media will also be explored along with "dos and don'ts" of using social media for science.

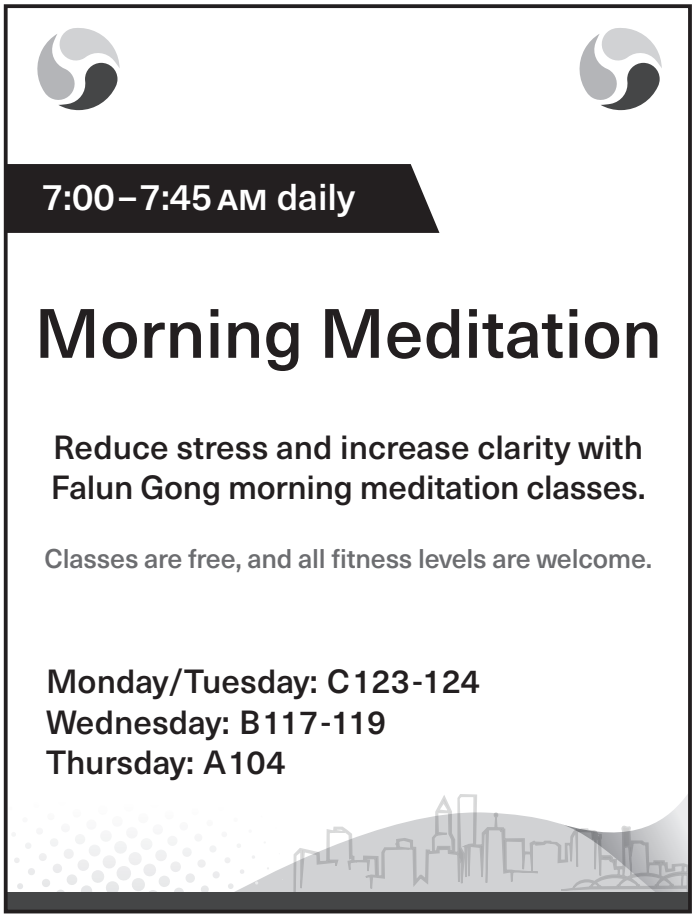
**1:30PM – 3:30PM**
**Demystifying the Peer-Review Process: A Guide for Reviewers**
*Cost*: $25
*Location*: B 110-112
*Lead Convener*: Janet Nestlerode
The peer-review is an integral part of our scientific research process. Journals rely on objective reviews by knowledgeable researchers to ensure the quality of the papers that are published. Through presentations by experienced peer reviewers and journal editors including Estuaries and Coasts, Biogeochemistry, and Limnology and Oceanography, this workshop will provide an overview of the elements of an effective peer review to help participants improve their own peer-reviewing experience and skills.

Topics to be covered will include: the peer review process and the critical role the reviewer plays, ethical responsibilities of reviewers, and expectations of reviewers from editorial boards. Conflict of interest, associate editor-reviewer interactions, scope of reviewer commentary provided to guide the revision of the paper, and the shared responsibility for contributing to peer review will also be discussed. Emphasis will be placed on how to improve the peer review process, what makes a review useful for an editor, and what common practices complicate the editorial process.

**9:00AM – 12:00PM**
**The Academic Job Search: From A to Z**
*Cost*: $15
*Location*: C 120-122
*Lead Convener*: Elizabeth Canuel
The goal of this workshop is to provide participants with as "behind the scenes" look at the job search process so that early career scientists can understand and negotiate the process more successfully. The workshop will include introductions followed by four parts: (1) a description of the institutional timeline for job searches, (2) an explanation of what is expected of job candidates in different types of academic institutions, (3) interactive sessions on key aspects of the job search process, including preparing competitive application materials and a strong "job seminar" or "job talk", and (4) a discussion about preparing for interviews and interview questions. Each of the four parts will include a question and answer period where participants can get feedback from the workshop leaders. The workshop may also include the opportunity to review teaching and research statements from successful job searches.

**10:30AM – 12:00PM**
**Tutorial on Scientific Writing and Publishing**
Cost: $25
*Location*: B 110-112
*Lead Convener*: James Cloern
This popular 90-minute workshop, given at three previous CERF conferences by a veteran journal editor, is geared for students and others with little or no experience writing and publishing scientific articles. The first half will focus on attributes of well-written scientific articles.

Students are expected to read in advance the following paper for discussion: G.W. Kling et al. 1987. The 1986 Lake Nyos Gas Disaster in Cameroon, West Africa. SCIENCE, 236(4798):169-175. The second half will focus on diverse aspects of publication, e.g.: how to determine authorship, choose a journal, write a cover letter, communicate with editors, respond to reviewer comments, deal with rejection (it happens!).


**9:00 AM – 2:30 PM**
**Quality Control and Management of Continuous, High-Frequency, Biogeochemical Sensors** (limit 30 participants)
*Cost*: $50 – Includes transportation and boxed lunch
*Location*: A107-109
*Lead Conveners*: Yoana Voynova, Corey Koch, and Douglas Wilson
There is increasing availability and use of continuous, high-frequency, and automated instruments for monitoring and studying biogeochemical cycles in estuarine, coastal, and marine settings. This workshop, for current and future users of this type of instrumentation, will focus on instrumental operations, operating procedures, and will include site-specific procedures developed to improve data reliability, quality and utility in contrasting settings. The goal is to generate community discussions and develop collaborations between the user community and instrument developers to address quality assessment questions that have been encountered in the community. Another goal is to transfer procedures and best practices developed by the current user community to existing and future users in order to standardize practices across various ecosystems and applications.

**1:30 PM – 3:00 PM**
**Business Basics for Scientists**
*Cost*: $25
*Location*: C120-122
*Lead Convener*: Anne Thessen
According to the Department of Education, more than 40% of teaching staff at universities are part-time faculty without tenure or adjunct faculty. This has left an entire generation of talented scientists with poor academic employment prospects. This workshop aims to provide students and scientists information about 1) What they can do now to prepare for a career in the private sector, 2) How to start their own science-based company, and 3) The many misconceptions about industry. This workshop will focus on resources and best practices for transitioning from academia to industry including, but not limited to 1) Interview and resume skills, 2) Differences and similarities between academia and industry, 3) Discovering your value proposition, 4) Navigating SBIR and STTR, and 5) Finding resources for starting your own company.

**1:30 PM – 5:00 PM**
**Remotely Mapping Areal and Depth Distributions of Estuarine/Near-Coastal SAV**
*Cost*: $25
*Location*: B116
*Lead Convener*: David Young
This workshop will address research and measurement techniques for investigating challenges of Sea Level Rise (SLR) to Rooted Submerged Aquatic Vegetation habitats (SAV) in estuarine and near-coastal ecosystems. Targeted subjects for discussion include: (1) Novel techniques for remotely delineating the areal distribution of native and non-indigenous seagrasses. (2) Improved techniques for assessing the accuracy of remotely sensed data. (3) Methods for quantifying changes in SAV distribution and condition (4) GIS techniques to assess bathymetric distribution of existing SAV habitats. (5) Models incorporating environmental variables that influence SAV distributions. (6) Nearshore landscape characteristics that permit or prohibit SAV migration with SLR.

# FIELD TRIPS

Escape the traditional conference atmosphere and explore the Portland area by joining one of the field trips offered at CERF 2015. All field trips will be held on **Sunday 8 November**, and include lunch and transportation.

### Bonneville Dam and Bonneville Fish Hatchery Tour

*Duration*: 9:00AM – 5:00PM
*Cost*: $35
Take a ride through the majestic Columbia River Gorge to visit the impressive Bonneville Dam and the Bonneville Fish Hatchery. Bonneville Dam, completed in 1938, is the first of the major hydroelectric power systems on the river, and significant effort has been expended over the years to alleviate passage barrier effects on anadromous fishes.

Box lunch and transportation will be provided. Please bring rain gear, warm clothing, and comfortable shoes.

### Columbia River Gorge Restoration

*Duration*: 9:00AM – 5:00PM
*Cost*: $35
The Lower Columbia River is one of 28 estuaries within EPA's National Estuary Program. The upstream section of the lower Columbia is included within the Columbia River Gorge National Scenic Area, and designated part of the Ice Age Floods National Geologic Trail, managed through the National Park Service.

Box lunch and transportation will be provided. Please bring rain gear, warm clothing and hiking boots.

### Portland Brewery Bicycle Tour

*Duration*: 2:00PM – 3:00PM, 2:30PM – 4:30PM, 3:00PM – 5:00PM
*Cost*: $20
Portland is known for both its bike and beer cultures, and now you can experience both with a "BrewCycle" tour! You pedal while a designated driver steers and guides you through the streets to visit several iconic Portland brewpubs. Three pubs are on the menu over a two hour period. It can be a bit of a workout, but that only makes the beer at the next spot more rewarding! Bring your tunes to plug into the onboard stereo system and get the party moving!

### Willamette Valley Winery Tour

*Duration*: 10:00AM – 5:00PM
*Cost*: $110 (*not including tasting fees*)
Enjoy the scenic Willamette Valley on an exclusive winery tour designed specifically for CERF! Join Backroads Wine Tours and Dr. Scott Burns, Professor Emeritus of Geology at Portland State University, for an educational and unforgettable tour of this world-renowned wine region.

The tour includes round-trip travel from the Convention Center, expert tour guides, and a gourmet lunch.

### Scappoose Bay Kayak Tour

Duration: 10:00AM – 4:30PM
Cost: $75
Explore the beautiful sloughs and wetlands of the Scappoose Bay lowlands on an expert guided kayak tour. This area, just 30 minutes from Portland, is located in the broad floodplain at the confluence of the Willamette and Columbia Rivers and supports an extensive network of tidal freshwater habitats. Because the area is an important stopover on the Pacific Flyway, November is an excellent time to view the many populations of migratory waterfowl, shorebirds, and neotropical songbirds. The area is also home to herons, osprey, eagles, and other resident birds.

This trip is designed for kayakers from beginner to expert levels and will include round-trip travel from the Convention Center, a catered lunch, experienced guide, and all kayak equipment. Suggested items to bring include raingear, warm layers, camera, and binoculars.


SAVE THE DATE
SPONSORSHIPS NOW AVAILABLE!
RESTORE AMERICA'S ESTUARIES
Coalition to Restore Coastal Louisiana
THE COASTAL SOCIETY
Collaborate to Present
Our Coasts, Our Future, Our Choice
8th National Summit on Coastal and Estuarine Restoration
and
25th Biennial Meeting of The Coastal Society
December 10-15, 2016
Please join us for the largest national gathering of the coastal restoration and management community in 2016!
www.estuaries.org/summit
"Filling Oyster Sacks" © 2013, Marian Brister Martinez

# SPECIAL MEETINGS & EVENTS

## Sunday 8 November

**Awardee & Sustaining Members Reception** (By Invitation)
*Time*: 4:00 – 5:30PM
*Location*: Skyview Terrace
CERF invites our sustaining members and CERF 2015 Committee members to attend a special reception to thank you for your support of the Federation, congratulate the 2015 scientific awardees, and meet the keynote speaker, Beth Kerttula.

**Orientation for First-Time CERF Conference Attendees**
*Time*: 5:00 – 5:45PM
*Location*: A106
New to CERF? From navigating to networking - this orientation will help you make the most of your first conference experience.

**Keynote Address & Scientific Awards**
*Time*: 6:00 – 8:00PM
*Location*: Ballroom 201-202
Ken Heck, CERF President 2013-2015, and Walter Nelson and Ronald Thom, CERF 2015 Conference Chairs for the keynote address and presentation of the 2015 Distinguished Service Award and Scientific Awards. The CERF 2015 keynote address will be delivered by Beth Kerttula.

**President's Welcome Reception with Exhibitors**
*Time*: 8:00 – 10:00PM
*Location*: Expo Hall
On behalf of the Federation's Presidents, we invite you to attend the President's Welcome Reception to greet old friends and new and celebrate our 23rd Biennial Conference. Plan to kick-off what promises to be the largest CERF conference ever.

**CERF Silent Auction**
*Date and Time*: Opens Sunday at 6 pm
*Location*: Expo Hall
Make sure you check out the fabulous gear and gifts at this year's CERF silent auction! The CERF 2015 Silent Auction will raise funds for the CERF Odum Fund to support CERF student participation, travel awards and development activities. A variety of items will be on display and available for bidding, including original artwork created for CERF 2015, and other items such as books, scientific instrumentation, outdoor sports equipment, gift certificates and CERF memorabilia donated by members, conference vendors and businesses. Join us for a good cause, and great deals on highly-prized items!The auction booth will be open from 6:00 p.m. on Sunday, November 8th and ends on Wednesday, November 11th at noon. All bids must be placed prior to the close of the auction.

**CERF'S UP!**
**Looking for a convenient place to gather, hang out, or chat? Plan a meet-up or tweet-up at "CERFs Up!", located in the Expo Hall – where you can charge your devices, take a selfie with new friends, and learn more about CERF!**

## Monday 9 November

**CESN Team Meeting/Breakfast** (By Invitation)
*Time*: 7:00 – 8:00AM
*Location*: A104

**Ocean Frontiers Film Viewing** (Brown bag lunch)
*Time*: 12:25 – 1:30PM
*Location*: C123-124
Join us for a viewing of the film ***Ocean Frontiers***. The film duration is 60 minutes, and covers four case studies in environmental management and stewardship. The main thrust of the film is the need and value of Marine Spatial Planning. Please bring your own lunch.

**Poster Sessions & Happy Hour with Exhibitors**
*Time*: 5:00 – 7:00PM
*Location*: Expo Hall
Enjoy light snacks and a cash bar while viewing posters and speaking with presenters. See page 51 for a list of scheduled poster sessions and presenters for Monday evening.

**New Research Vessel Infrastructure for Estuarine and Coastal Science**
*Time*: 5:30 – 7:00 PM
*Location*: B 115
This will be an open forum for sharing information on new research vessels being constructed for the US academic fleet that is coordinated by the University National Oceanographic Laboratory System (UNOLS). Specifically, the conveners will give presentations describing the National Science Foundation's Regional Class Research Vessel (RCRV) project and the University of Washington's R/V Clifford A. Barnes replacement project that are expected to deliver four technically-advanced coastal research vessels to bolster the marine science research capabilities of the United States during the next 10 years.

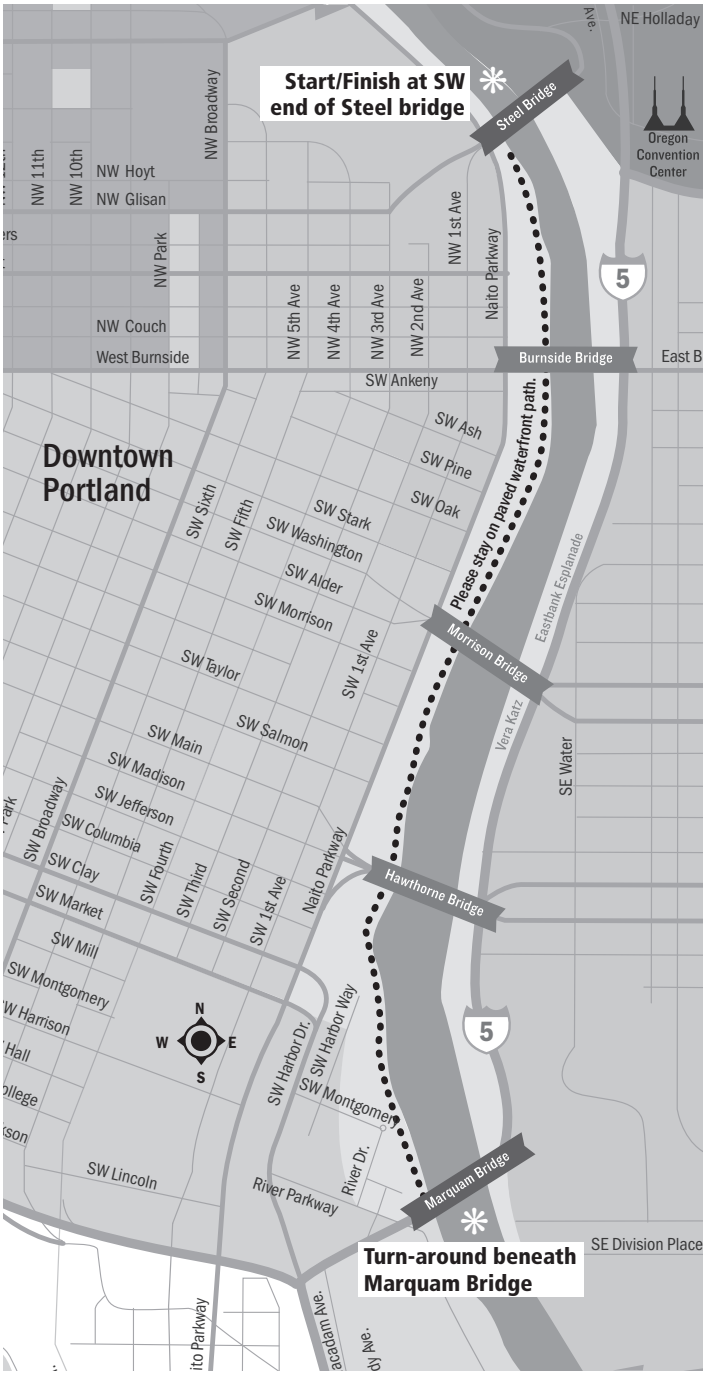
**Student and Early Career Networking Dinner**
*Time*: 7:00 – 9:00PM
*Location*: Ballroom 204
Join us for this popular networking event to rub elbows with faculty, professionals, post-docs, and other students while enjoying a complimentary meal and beverages! Get valuable information on various career options, including alternatives to academia, and make professional connections that may lead to job opportunities and future collaborations. Formatted in a "speed-dating" style, participants will be able to sit down and chat with a number of coastal and estuarine science and management professionals.

**Student and Recent Graduate Pub Night**
*Time*: 9:00PM – Closing Time
*Location*: 600 East Burnside Street, Portland, OR 97204
Join fellow CERF students and early career professionals for a fun night out! Grab drinks, chow down on snacks, listen to some tunes, and best of all get to know other students and professionals in your field in a relaxed and casual atmosphere. This event is open and everyone is welcome to join!

# Tuesday 10 November

**5K Fun Run/Walk** – ***Sign up to participate and pick up your race number at Registration!***
*Time*: 7 – 8:30AM
*Cost*: $20
*Location*: This year's 5K route is down and back along the West bank of the Willamette River using the Waterfront Park Trail.

Hit the ground running! CERF will once again host a 5K (3.1 miles) fun run/walk as a part of the 2015 biennial conference. All paid participants will get a keepsake after the race, and prizes will be awarded to the top male and female finishers.




**Women in Science Luncheon**
***Tickets are available for purchase at Registration***
*Time*: 12:00 – 1:30PM
*Cost*: $45 | $30 Student
*Location*: Ballroom 204
The Women in Science Luncheon is an event that will provide participants with an opportunity to hear and discuss major challenges and triumphs faced by females in scientific fields; engage in cross-discipline and professional networking; and foster a community that supports peers through their professional pursuits.

The 2015 luncheon speakers include a panel of scientists who represent a range of career levels within both social and biological sciences!

**Emilie Aries**
*Founder and Chief Executive Officer of* **Bossed Up**
Emilie Aries is the founder and CEO of Bossed Up, a personal and professional training organization that helps women craft sustainable careers using the latest social science, cognitive and behavioral psychology, and gender equity research. She delivered a TEDx talk on the "Power of No" for drawing healthy boundaries and investing in one's long-term achievement. Emilie has also served as a keynote speaker at Brown University's Women's Mentorship Program Kickoff; training on combating gender bias in the interview and hiring process for Brandeis University's Hiatt Career Center; and the Women in Leadership program through the University of Maryland's Carey School of Law.

**Catalina Martinez**
*Physical scientist with National Oceanographic and Atmospheric Administration's (NOAA) Office of Exploration and Research*
Catalina Martinez is the Regional Program Manager and Certified Diversity Professional (CDP) for NOAA. She is an active member in several networks including Minorities Striving and Pursuing Higher Degrees of Success in Earth Systems Science (MSPHDSS) and the Earth Science Women's Network (ESWN). Catalina has also served as a panelist for events and has hosted workshops related to empowering young minority and female scientists.

## Tuesday 10 November (*continued*)

**Doctor Susan Williams**
*Marine ecology professor at the University of California, Davis' Bodega Marine Laboratory and 2009-2011* ***Coastal and Estuarine Research Federation President***

Dr. Susan William is a former CERF president with experience and knowledge of the CERF community and history of CERF. She was the 2013 recipient of the CERF Distinguished Service Award, honored for Outstanding Leadership by CERF in 2011, and was awarded the 2009 Outstanding Mentor by the Consortium for Women in Research, UC Davis.

### Affiliate Society Meetings

*Time*: 5:30 – 6:30PM

Connect with colleagues and find out more about coastal and estuarine activities in your area at one of the regional Affiliate Society meetings. You may also learn more about Affiliate Societies in the Expo Hall! Meetings and locations are listed below:

**Atlantic Estuarine Research Society** (AERS): B 110-112
**California Estuarine Research Society** (CAERS): C 120-122
**Gulf Estuarine Research Society** (GERS): A 105
**New England Estuarine Research Society** (NEERS): A 106
**Pacific Estuarine Research Society** (PERS): B 113
**Southeastern Estuarine Research Society** (SEERS): B 116

## PUNCH BOWL SOCIAL

*Time*: 7:00 – 10:00PM
*Cost*: Regular $45 | Student $35
**PURCHASE YOUR TICKET AT REGISTRATION!**
*Location*: Punch Bowl Social, Pioneer Place, 340 SW Morrison St, Portland, OR 97204
*Transportation*: Use your complimentary TriMet pass to take the MAX Red or Blue line to SW 5th Ave MAX station.

Punch Bowl Social is a modern gastro diner where drinkers, diners, gamers and clubbers unite. CERFers are about to experience a venue that is HIP, FUNKY, OUT-OF-THE-BOX, LAID-BACK, STYLISH, and FUN—the very essence of Portland!! If you've never been here, you are missing out!

Enjoy the company of your friends and colleagues while interacting and conversing through games, and hanging out in a very Portland-esque experience where you feel like you have been transported back in time to an even hipper version of vintage decades. Punch Bowl Social offers bowling, karaoke, ping pong, darts, corn hole and more! Sip on your favorite beverage — this ain't no kid's arcade!

Included with the ticket is one drink ticket, stationed food and appetizers, music, games and a night of fun interaction.

# Wednesday 11 November

**President's Breakfast** (By Invitation)
*Time*: 7:00 – 8:00AM | *Location*: DoubleTree – Halsey

**CERF Conference Mentorship Breakfast** (By Invitation)
*Time*: 7:00 – 8:00AM | *Location*: A104

**Estuaries & Coasts Editorial Board Lunch** (By Invitation)
*Time*: 12:00 – 1:30PM | *Location*: A103

### Ignite Session: Igniting the Fire to Answer Grand Challenges

*Time*: 12 – 1:30PM | *Location*: C123-124

Join us for an exciting, engaging event that will inspire and motivate! These talks are not traditional science talks and do not follow a specific structure. Passion, humor, and creativity are encouraged!As scientists, educators, and managers we are faced with the sometimes-daunting task of addressing grand challenges in coastal and estuarine sciences. From climate change, to multiple stressors, big data, urbanization, and conflicting resource use, the need to rise to these challenges, and the obstacles we face, have never been more present. Rising to these challenges can seem overwhelming, and it can be unclear where to even get started. In this Ignite session, speakers will share the stories of where they draw inspiration and motivation to address these challenges, what keeps them committed to working toward solutions, and how they begin to tackle these large problems.

### Poster Sessions and Happy Hour with Exhibitors

*Time*: 5:00 – 7:00PM | *Location*: Exhibit Hall A

Enjoy light snacks and a cash bar while viewing posters and speaking with presenters. See page 58 for a list of scheduled poster sessions and presenters for Monday evening.

### Annual CERF Business Meeting

*Time*: 6:30 – 7:30PM | Location: C123-124

Meet with CERF Executive Director, Mark Wolf-Armstrong, and learn more about what is happening within CERF at the annual CERF Business Meeting.

### MORNING MEDITATION

- Time: Monday–Thursday, 7:00 – 7:45AM
- Location: C 123-124

Interested in reducing stress, increasing energy and mental clarity? Then come along and try out the Falun Gong meditation classes, offered each morning prior to the conference early morning sessions. Falun Gong has 5 simple moving meditation exercises, and is an advanced form of qigong – an ancient practice of cultivating the mind and body. With the combination of easy-to-learn exercises and principles for how to align one's mind to universal laws, it is renowned for its incredible impact on health and modern day stresses.

Classes are suitable for any fitness level, and as we won't be working up much of a sweat just come in your conference clothes. Classes are free of charge.

# Thursday 12 November

**CERF 2017 Committee Breakfast** (By Invitation)
Time: 6:45 – 8:00 AM
Location: A104

**Close-out Party and Student Awards Presentation Awards, Passport to Prizes Drawing** (*Pre-registration is required*)
Time: 5:30 – 8:30 PM
Location: Ballroom 203-204
*Cost*: Free
Volunteer judges will be evaluating student oral and poster presentations throughout the conference. At the Close-Out Party, the highest-ranking students will receive monetary awards and recognition for their exceptional work. Come support the students and celebrate another successful conference! Light hors d'oeuvres and refreshments will be available.


## SIDE MEETINGS & EVENTS

**NASA Missions and a NASA Arctic Field Campaign Scoping Study**
*Date and Time:* Monday 9 November | 5:00-6:30 PM
*Location*: C 123-124
**Arctic-COLORS: Coastal Land Ocean inteRactions in the Arctic:** Arctic-COLORS is a proposed NASA program that combines field process studies, models, and remote-sensing, to study the coastal Arctic as an integrated land-ocean-atmosphere system, to determine present and future impacts of terrigenous, atmospheric and oceanic fluxes on coastal ecology, biogeochemistry, and ecosystem services. The aim of the town hall is to update the community and obtain feedback.

*Date and Time*: Tuesday 10 November | 5:00-6:30 PM
Location: C 123-124
**Benefits and Challenges of Diurnal (hourly) Ocean Remote Sensing – Science and Applications:** Future satellite observations can provide hourly measurements of coastal regions from NASA's GEO-CAPE mission. This capability is necessary to study estuarine and shelf waters to monitor water quality, detect/track hazards, and improve models. The aim is to provide an update on GEO-CAPE and obtain input from managers and scientists.

**Meeting to Discuss Australian Affiliate Society**
*Date and Time:* Tuesday 10 November | 5:30-6:30 PM
*Location*: B 114
Interested in forming a CERF affiliate society in Australia? If so, please come to the room B114 to meet with CERF President Ken Heck and learn about the benefits of forming a CERF affiliate society. There is no cost and refreshments will be provided.

**The Carbon Cycle Interagency Working Group (CCIWG)**
*Date and Time*: Wednesday 11 November | 12:30-1:30 PM
*Location*: A104
A CCIWG-funded workshop in January 2016 will develop a template to submit to the USCCSP toward establishing a Global Science and Data Network for Coastal Blue Carbon (SBC). At CERF 2015, we seek to gather insights from scientists and coastal practitioners on network and database structural goals to optimize accessibility, quality and utility. For more details, visit https://www.carboncyclescience.us/news/workshop-global-science-and-data-network-coastal-blue-carbon.

**Town Hall on Monitoring Coastal Acidification**
*Date and Time*: Wednesday 11 November | 5:00–7:00 PM
*Location*: A104
This town hall will provide an overview of efforts to monitor the progression and impacts of ocean acidification in coastal and estuarine ecosystems and discuss a common way forward. We welcome all who are interested, and hope to build a more integrated community of those working in this field.

**West Coast Eelgrass Discussion**
*Date and Time*: Wednesday 11 November | 5:00–7:00 PM
*Location*: A103
Recently, large-scale changes in eelgrass cover have been reported from several locations on the West Coast of the United States and Canada. This discussion group provides a chance to share information on the status and reasons for changes in eelgrass in this region.

# SILENT AUCTION

*Bidding Opens*: Sunday 8 November | 8:00PM
*Bidding Closes*: Wednesday 11 November | 12:00PM
*Payment Due By*: Thursday at 3:30PM
*Location*: Expo Hall
*Follow us on twitter*: #cerfauction

**OVERVIEW:**
This year there are two Exciting options at the Silent Auction! We have added the opportunity to win Door Prizes. The traditional silent auction offerings are very grand this year! Participants will use bid sheets to attempt to win the auction item that they desire. Don't forget to keep checking back, because you never know who may sneak in and try to outbid you.

New… Door Prizes! Door prize tickets are available for purchase at the registration desk and you enter to win by placing your ticket in the tub adjacent to the item you are interested in winning. We'll be drawing a few winners each day (items will be noted).

We will accept cash, check, or credit card donations. Winners are responsible for the collection and transport of their items. Remember that every bid you make and ticket you purchase will increase the amount of money going to support CERF students

**HOW IT WORKS:**
**Silent Auction**
Items available for the silent auction will have an associated bid sheet. The head of the bid sheet will list the item and identify the minimum starting bid (if pertinent) and bid increment amounts. To bid, write your name, contact information (email and/or cell) and bid amount in the appropriate columns. Check back often to see if you've been outbid and raise the stakes.

At noon on Wednesday, November 11, the auction will close and the person who bid the highest amount will be declared the winner. If you've won, we will notify you via the provided contact information and you will have until 3:30 PM on Thursday, November 12 to pick up and pay for the item. If you've won, collect the bid sheet and item (if available) from the auction area and proceed to the registration desk to make your donation. Some items like gift cards and scientific equipment may be waiting for you at registration, but the bid sheets will stay at the auction table. Auction assistants will be available to help facilitate this process. Please pick up, and pay for, your items by 1:00 PM on Thursday and if you fail to do so, the item will be awarded to the next highest bidder.

**Door Prizes**
Door prizes will be displayed at the auction table and won through a random drawing. Of course, like the lottery, you have to play to win! And to play, you have to purchase tickets ($2 per ticket or 3 tickets for $5) from the registration desk or, when available, from an auction assistant near the display tables in the poster hall. Please write your name and contact information (email and/or cell) on the ticket before you drop it in the tub associated with the door prize you hope to win. We'll be drawing a few door prize winners at the end of the Monday and Tuesday Plenary Sessions although the bulk of the items will be drawn on Wednesday at noon. The date and time of the drawing will be noted on the tubs and you don't have to be present to win. We will track you down.

## ◦ ART

**Greening Donation**
Holly Greening has once again donated some of beautiful bird photos taken by herself and Gerold Morrison. There will be a pair of 8 x 10 images (shown) Also, 5 sets of note cards featuring the photos.

**Marsden Donation**
DNA Print: Vallisneria americana: A printed and framed piece of original art depicting the submersed aquatic plant, Vallisneria americana. This piece highlights the important interplay between a genotype and a phenotype. From far away the image appears to be a simple silhouette of the pant, but upon closer inspection the silhouette is composed of the 4 nucleotides that DNA is composed of: A, T, C, and G. The sequence of DNA used in this piece is unique to the Vallisneria genus and was downloaded from the National Center for Biotechnology Information's nucleotide BLAST (Basic Local Alignment Search Tool) database. An 8 x 10 print in a 16 x 20 frame. Primarily green.

More detailed descriptions can be found (and purchased) here: https://www.etsy.com/shop/BittyBrittsy?ref=hdr_shop_menu

**Marsden Donation II**
DNA Print: Arabidopsis thaliana: A printed and framed piece of original art depicting the widely studied model plant, Arabidopsis thaliana. This piece highlights the important interplay between a genotype and a phenotype. From far away the image appears to be a simple silhouette of the pant, but upon closer inspection the silhouette is composed of the 4 nucleotides that DNA is composed of: A, T, C, and G. The sequence of DNA used in this piece is unique to the Arabidopsis thaliana and was downloaded from the National

Center for Biotechnology Information's nucleotide BLAST (Basic Local Alignment Search Tool) database. An 8 x 10 print in a 16 x 20 frame. Primarily blue.

More detailed descriptions can be found (and purchased) here: https://www.etsy.com/shop/BittyBrittsy?ref=hdr_shop_menu

### Coupland Donation

Tow 5 x 7 photographs on 8x10 mat, unframed.

First photograph is a night scene of a lifeguard chair at Narragansett Beach. The second photograph is of the beach from inside an old stone church in Scarborough, RI

Both photos taken by Katie Coupland, graduate student at the University of Maine in Oceanography and former student at the URI Graduate School of Oceanography
Minimum bid of $35

### Coupland Donation II

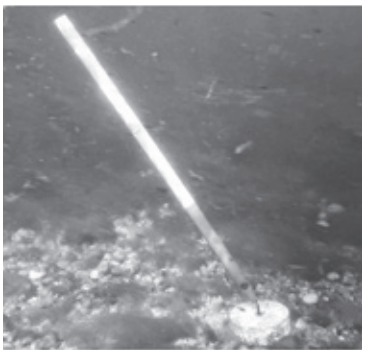
Enjoy this set of three photos of the Pemaquid Point Lighthouse in Maine. Photos are 5 x 7 mounted on 8x10 mat, unframed.

The first photo is the lighthouse shot from the rocks below at sunset, the second is a night photograph of the Milky Way behind the lighthouse, and the third is a shot of the stairs leading up to the top of the lighthouse.

Photos by Katie Coupland, a graduate student in Oceanography at the University of Maine.
Starting bid of $65.

## EQUIPMENT

### Lowell Instruments, LLC Donation



Tilt Current Meter valued at $999.

This TCM-1 Tilt Current Meter with integrated data logger, dual 0-40 and 0-80 cm/s range, 4 GB micro SD card, USB interface cable and software download
Minimum bid $250

### Finegan/YSI Donation

New Wiped Conductivity and temperature sensor for the EXO sonde platform

This new sensor is compatible with the EXO2 sonde platform and allows the central wiper to clean the electrode before each reading. The sensor will help reduce the number of site visits, time required to maintain the sensor, and reduce data correction efforts in post processing. (Note: you must have an EXO2 sonde with wiper to use). We have TWO of these. They are valued at $1500 EACH. https://www.ysi.com/WipedCT

### Onset Donation

One water level logger, software, and base station. http://www.onsetcomp.com/products/data-loggers/U20L-data-loggers

## MISC DONATIONS

### Great Donations that Don't have Pictures

**From Joe Germano**

- A bottle of Single Cask Malt Speyside Breakfast Dram. This is an exclusive release by the scotch malt whiskey society from Aultmore Distillery in Keith, Banffshire. The palate has burnt toffee, black bun and Jamaica cake; water will release chocolate raisin notes. This is one of only 273 bottles in existence!
- One year full membership to CERF
- Portland Aquarium and Oregon Zoo Tickets
- Two nights in a premium room at the Doubletree
- One year membership to the Pacific Rivers and Pacific Rivers gift bag ( http://pacificrivers.org/ )
- $75 gift certificate to the Altabira City Tavern at the top of the Eastlund Hotel
- Case of Homemade Cider from George Waldbusser

### EC Helme Donation

Enjoy a 3-hour sail around Newport Harbor aboard Spirit, a J-92s sailboat based in Newport. Spirit is 30 feet long and can accommodate up to 5 people during this sail, snacks and cocktails will be provided. Captain of the boat is EC Helme, arrangements can be made directly with him for the sail. Weeknights are preferable but some weekend days are available based on EC's schedule.
Minimum bid of $75.

## MISC DONATIONS (*continued*)

### Simenstad & Syncline Winery Donations


4 Syncline Winery donations:

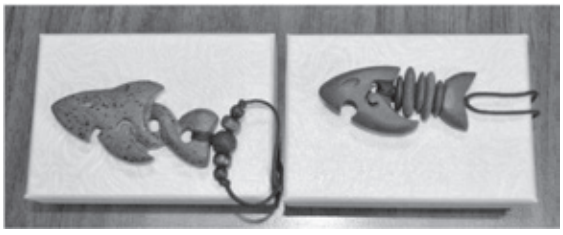
- The first is a wine tasting for two and magnum of 2012 Mourvedre-Red Mountan wine. The wine tasting includes a cellar tour at the Syncline Winery in the Columbia River Gorge
- Wine tasting for two, with cellar tour, and $50 gift certificate at Syncline Winery.
- Two bottles of 'library' Syncline Winery red wine from Charles ("Si") Simenstad's cellar: (1) 2008 Syrah-McKinley Springs Vineyard, Horse Heaven Hills; and, (2) 2008 Pinot Noir-Columbia Gorge.
- Two bottles of 'library' Syncline Winery red wine from Charles ("Si") Simenstad's cellar: (1) 2008 Mourvedre-Coyote Canyon Vineyard, Horse Heaven Hills; and, (2) 2009 Cuvee Elena (Rhone Blend) – Columbia Valley.

### Stafford Donation

Bid on a portrait session with Eterna Studios.

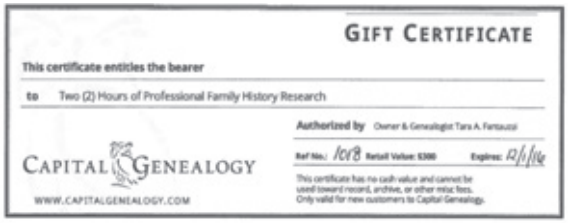

### RockYouWear Donation

- These two hand-carved necklaces will be auctioned off separately. Check out this one of a kind wearable art.
- Etsy shop: https://www.etsy.com/shop/RockYouWear?ref=l2-shopheader-name



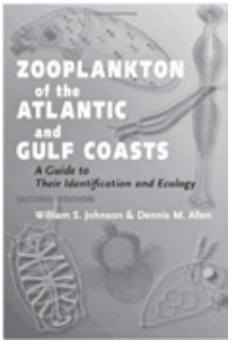
### Capital Genealogy Donation

Gift certificate for two hours of professional family history research.




### Allen Donation

Book: Zooplankton of the Atlantic and Gulf Coasts
by William S. Johnson and Dennis M. Allen

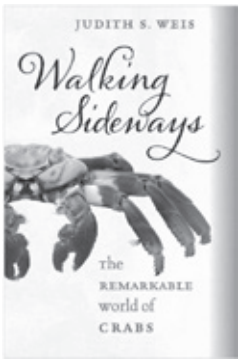



### Alber Donation

Book: And the Tide Comes In… Exploring a Georgia Salt Marsh
by Merryl Alber


### Mitchell Donation

Book: Walking sideways the Remarkable World of Crabs
by Judith S. Weis



# ORAL SESSIONS Monday 9 November | Early Morning 8:00–9:45AM

| | Room A 105 | Room A 106 | Room A 107-109 | Room B 110-112 | Room B 113 |
|---|---|---|---|---|---|
| | **SCI-101A**<br>**Tropicalisation of Temperate Coastlines and Estuaries: Mechanisms and Consequences**<br>Adriana Verges | **SCI-102A**<br>**Mud, Macrofauna and Microbes: An Ode to Benthic Organism-abiotic Interactions at Varying Scales**<br>Leila Hamdan | **SCI-103A**<br>**Explaining Drivers of Change in Riverine and Estuarine Water Quality**<br>Jenni Keisman | **SCI-104A**<br>**Estuarine Acidification: Embracing and Synthesizing Complexity**<br>George Waldbusser | **SCI-105**<br>**Fish as Integrators of Ecosystem Health in Coastal Watersheds**<br>Thomas Bigford |
| **8:00 AM** | Varying effects of climate change on different coastal ecosystems. **Robert Livingston** | Deposit feeders as ecosystem engineers: Past Solutions and open questions. **Jeffrey Levinton** | Detecting water quality regime shifts in Jamaica Bay, New York. **Danielle Hagans**, Annesia Lamb, Brett Branco | How do estuarine waters acidify due to biogeochemical reactions and uptake of anthropogenic CO2? **Wei-Jun Cai** | Groundfish predation on diadromous fish in the Gulf of Maine. **Christine Lipsky**, Brian Smith, Stacy Rowe, Tim Sheehan, Keri Stepanek |
| **8:15 AM** | Ecological impacts of climate-related ichthyofaunal shifts and invasive lionfish upon Gulf of Mexico reef fishes. **Anthony Marshak**, Kenneth Heck Jr. | In situ organism-sediment interactions: novel observations of bioturbation and biogeochemistry in a highly depositional estuary. **Samuel Sturdivant**, Megumi Shimizu | History of suspended sediments in the Chesapeake Bay 1977-2015 from Landsat imagery & monitoring data. **Lauren Freeman**, Steven Ackleson | Factors influencing the formation of corrosive conditions in Puget Sound. **Simone Alin**, Beth Curry, Jan Newton, Richard Feely, Adrienne Sutton, Christopher Krembs | Variation in growth parameters and maturity schedules in adult river herring among Chesapeake Bay rivers. **CJ Carroll Schlick**, Kim de Mutsert, Matthew Ogburn |
| **8:30 AM** | Influence of Avicennia germinans on Ecosystem Dynamics at the Edge of their Northern Limit. **Aaron Macy**, Just Cebrian, Ken Heck, Josh Goff, Shailesh Sharma, Eric Sparks, Whitney Scheffel, Matthew Johnson | Oil Spill Impacts on Artificial Reefs: Implications for Archaeology, Microbial Ecology, and Benthic Ecosystem Monitoring. **Leila Hamdan**, Jennifer Salerno, Caitlin Blackwell, Lisa Fitzgerald, Melanie Damour | Adaptation of a weighted regression approach to evaluate water quality trends in an estuary. **Marcus Beck**, James Hagy III | The vulnerability of semi-enclosed estuarine regions to ocean acidification and hypoxia: a Fisheries perspective. **Debby Ianson**, Rowan Haigh, Susan Allen, Ben Moore-Maley | Survival and abundance of a resident estuarine fish among tidal creeks across a developing landscape. **Paul Rudershausen**, Jeffrey Buckel, Joseph Hightower, Matt ODonnell, Todd Dubreuil, Ben Letcher |
| **8:45 AM** | Carbon storage and coastal protection: A look at the potential impacts of mangrove range expansion. **Cheryl Doughty**, Adam Langley, Wayne Walker, Ilka Feller, Ronald Schaub, Samantha Chapman | How the eastern oyster influences coastal nutrient cycling: stable isotopes in a mesocosm study. **Amanda Vieillard**, Craig Tobias | Identifying trends and responses to nutrient reductions in Chesapeake Bay water quality. **Rebecca Murphy**, Elgin Perry | Frequency of occurrence of favorable carbonate conditions for larval oyster recruitment in Willapa Bay, Washington. **Burke Hales**, Andy Suhrbier, George Waldbusser, Richard Feely, Jan Newton | Assessing the national status and trends of estuarine fish habitats. **Kristan Blackhart**, Tony Marshak |
| **9:00 AM** | Climate-driven shifts in herbivory and the tropicalization of temperate marine ecosystems: A global perspective. **Adriana Verges**, Yohei Nakamura, Alexandra Campbell, Ezequiel Marzinelli, Hamish Malcolm, Marina Garcia, Andrew Hoey, Mat Skye, Ana Vila-Concejo, Peter Steinberg | Effects of Marenzelleria spp. on seasonal nutrient dynamics in the northern Baltic Sea. **Laura Kauppi**, Joanna Norkko, Jussi Ikonen, Alf Norkko | Decadal-scale trends in nitrogen and related variables in a stratified estuary. **Michael Kemp**, Jeremy Testa, Walter Boynton | Vulnerability and resistance of early life stage bivalves to concurrent ocean acidification and hypoxia. **Christopher Gobler**, Hannah Clark, Andrew Griffith | Methodology for estimating population trends for data poor species: ESA listed rockfishes in Puget Sound. **Nick Tolimieri**, Elizabeth Holmes |
| **9:15 AM** | The salt marsh-mangrove ecotone in a changing climate; structure, biomass and carbon stocks. **Loraé Simpson**, Todd Osborne, Ilka Feller | Stable isotope evidence challenges assumption of overwhelming allochthonous contribution to reflective sandy beach ecosystem. **Eunah Han**, Jung Kwak, Dongyoung Kim, Sukyoung Chung, Chang-Keun Kang | Multidecadal responses of nekton communities to varying freshwater in a riverine estuary. **George Guillen**, Stephen Curtis, Jenny Oakley, Mandi Moss | The anthropogenic carbon signal in the coastal upwelling region along the Washington-Oregon-California continental margin. **Richard Feely**, Simone Alin, Brendan Carter, Burke Hales, Francis Chan, Tessa Hill, Brian Gaylord, Nina Bednarsek, Dana Greeley, Lauren Juranek | Vessel Noise Alters Toadfish Behavior, Reproduction and Feeding Ecology. **Cecilia Krahforst**, Joseph Luczkovich |
| **9:30 AM** | Precocious reproduction in the mangrove range expansion: cause or consequence? **Emily Dangremond**, Ilka Feller | Quantifying Relationships between Water Quality and Aquatic Life Use Attainment using Sediment Profile Imagery (SPI). **Janet Nestlerode**, James Hagy III, Michael Murrell | Linear and non-linear trends of macrobenthos in Chesapeake Bay relative to water quality and streamflow. **Roberto Llanso**, Daniel Dauer, Michael Lane | Ocean forcing of San Francisco Bay: intrusion of upwelled water. **Kate Hewett**, John Largier, Matt Robart | Factors affecting long term fish surveys of longfin smelt in the San Francisco Estuary. **Shawn Acuña**, David Fullerton |
| **BREAK 9:45-10:15 AM** | | | | | |

# ORAL SESSIONS Monday 9 November | Early Morning 8:00–9:45AM

| Room B 114 | Room B 115 | Room B 116 | Room B 117-119 | Room C 120-122 | |
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| **SCI-106A**<br>**Role of Historical use and Cultural Values in Tribal and First Nation Governance, Research and Restoration**<br>Charles Hudson | **SCI-107A**<br>**Hydrodynamics and Sediment Dynamics in Estuaries and Coastal Seas**<br>Carl Friedrichs | **SCI-108**<br>**Integrating Undergraduate Research Experiences in Coastal and Estuarine Research**<br>Erin Burge | **SCI-109**<br>**Using Surface Elevation Dynamics to Manage and Mitigate the Risks of Climate Change on Coastal Wetlands**<br>Kerrylee Rogers | **SCI-110A**<br>**Seagrass Ecosystems: Challenges in Evaluating Function,Health, Abundance and Restoration (Restoration)**<br>Jeffrey Gaeckle | |
| Invocation. **Davis Washines** | Parameterizing turbulent mixing in a strongly stratified and sheared tidal river plume. **Joseph Jurisa**, Jonathan Nash | The Experienced@Coastal program provides structured research opportunities for undergraduates in marine science. **Erin Burge**, Jane Guentzel, Daniel Abel, George Boneillo, Diane Fribance, Karen Fuss, Jenna Hill, Eric Koepfler, Susan Libes, Eric Rosch, Richard Viso, Robert Young | Assessing coastal wetland risks to climate change using surface elevation dynamics. **Donald Cahoon** | A geospatial modelling approach to predict seagrass habitat recovery under multiple stressor regimes. **Naomi Detenbeck**, Steve Rego | **8:00 AM** |
| Role of Historical Use and Cultural Values in Tribal, First Nation Governance, Research and Restoration. **Charles Hudson** | Stratified turbulence in a salt wedge estuary: mechanics, mixing and heterogeneity. **Rusty Holleman**, W. Rockwell Geyer, David Ralston | Building oceanographic moorings in a non-lab introductory ocean science course. **Ian Miller** | Surface elevation and accretion dynamics in natural and constructed Mediterranean wetlands. **Carles Ibáñez**, Juan Calvo-Cubero, Albert Rovira, Peter Sharpe, Siobhan Fennessy | Habitat engineering to augment eelgrass (Zostera marina) restoration in Puget Sound, Washington: lessons learned. **John Vavrinec**, Amy Borde, John Kern, Tom Ostrom, Rich Brooks, Jeff Gaeckle, Veronica Henzi, Ron Thom | **8:15 AM** |
| Historical Use of Estuaries and Coasts, Place-based Perspectives. **Roy Sampsel** | Tidally-Induced Dispersion in the Delaware River near Philadelphia: Insights from a Large-Scale Dye Experiment. **Philip Duzinski**, Robert Chant, Elias Hunter | | Sea level rise and the fate of mangroves in the Indo-Pacific Region. **Catherine Lovelock**, Donald Cahoon, Glenn Guntenspergen, Ken Krauss, Megan Saunders, Kerrylee Rogers, Andrew Swales, Neil Saintilan, Le Xuan Thuyen, Tran Triet | Challenges for eelgrass restoration in Scandinavian waters. **Per-Olav Moksnes**, Louise Eriander, Eduardo Infantes | **8:30 AM** |
| First Foods Management: A Reciprocity Approach to Managing Anadromous Fish and other Tribal First Foods. **Eric Quaempts**, Scott O'Daniel | Influence of tidal mixing asymmetries on residual exchange flow in the James River estuary. **Kimberly Huguenard**, Arnoldo Valle-Levinson, Ming Li, Robert Chant, Alejandro Souza | Incorporating field-based research into a marine science curriculum at a small coastal campus. **Timothy Dellapenna**, Joshua Williams | Mangrove and saltmarsh elevation dynamics in southeastern Australia: implications for sea-level rise and saltmarsh decline. **Kerrylee Rogers**, Neil Saintilan, Colin Woodroffe | Eelgrass response to different light and temperature conditions: implications for restoration in high latitude environments. **Louise Eriander** | **8:45 AM** |
| | The upside-down tropical estuary: rotating the reference frame by 90 degrees. **Arnoldo Valle-Levinson**, Jackie Branyon, Jon Martin, Caitlin Young, Andrea Pain, Ismael Mariño, Mario Rebolledo | The biomathematics workshop: A new model for inter-institutional collaboration and interdisciplinary undergraduate research. **Ian Besse**, Vanessa Green, Mark Ward, Nievita Watts, Antonio Baptista | Tidal marsh elevation response to long-term fertilization and resilience to sea level rise. **Glenn Guntenspergen**, Alice Yeates, Donald Cahoon | Unknown pathogenic (Halo) Phytophthora species strongly reduce sexual reproduction of eelgrass- implications for management and restoration. **Laura Govers**, Johan Meffert, Tjeerd Bouma, Patricia Van Rijswick, Willem Man in 'tVeld, Jannes Heusinkveld, Marieke Van Katwijk, Tjisse Van der Heide | **9:00 AM** |
| Economic Analysis in the Okanagan Basin—The Importance and Value of an Unchannelized Okanagan River Section. **Ed MacMullan**, Richard Bussanich | Lateral mixing within the curved channel of the North Passage in the Changjiang River estuary. **John Z. Shi** | "I want to study dolphins": Channeling enthusiasm for marine science into valuable undergraduate research experiences. **James Powell** | Two decades of surface elevation data for Micronesian mangrove forests: rates and potential process controls. **Nicole Cormier**, Ken Krauss, Richard MacKenzie, Donald Cahoon | Impact of the shore-crab Carcinus maenas seed-predation on eelgrass restoration. **Eduardo Infantes**, Per-Olav Moksnes | **9:15 AM** |
| Fisheries and Traditional Resource Management on the Fraser River. **Ernie Victor** | Rapid response to coastal upwelling in the Ría de Vigo. **Miguel Gilcoto**, Nicolás Villacieros-Robineau, Francisco de la Granda, Fernando Alonso-Pérez, Ricardo Torres, Silvia Piedracoba, Ricardo Torres, John Largier, Eric Barton | Robots in the air, robots in the sea- students in the age of environmental robotics. **Douglas Miller**, Arthur Trembanis | Potential impacts of diversity and land use on mangrove sedimentation and belowground carbon accumulation rates. **Richard MacKenzie**, Patra Foulk, J. Klump, Daniel Murdiyarso, Joko Purbospito, Daniel Donato, Vien Ngoc Nam, Kim Weckerly | Developing a Method of Seagrass Restoration in Indo-Pacific Region. **Rohani Ambo-Rappe**, Susan Williams | **9:30 AM** |
| **BREAK 9:45-10:15 AM** | | | | | |

# ORAL SESSIONS Monday 9 November | Mid-Morning 10:15AM–12:00PM

| | Room A 105 | Room A 106 | Room A 107-109 | Room B 110-112 | Room B 113 |
|---|---|---|---|---|---|
| | **SCI-101B**<br>**Tropicalisation of Temperate Coastlines and Estuaries: Mechanisms and Consequences**<br>Adriana Verges | **SCI-102B**<br>**Mud, Macrofauna and Microbes: An Ode to Benthic Organism-abiotic Interactions at Varying Scales**<br>Leila Hamdan | **SCI-103B**<br>**Explaining Drivers of Change in Riverine and Estuarine Water Quality**<br>Jenni Keisman | **SCI-104B**<br>**Estuarine Acidification: Embracing and Synthesizing Complexity**<br>George Waldbusser | **SCI-112A**<br>**Coastal Habitat Connections to Offshore Fisheries Productivity**<br>Kristan Blackhart |
| **10:15 AM** | El Niño and La Niña events, accelerate leaf apparition in seagrass: 15 years of data. **Elena Solana-Arellano**, Silvia Ibarra-Obando, Olga Flores-Uzeta, Carlos Cabrera-Ramos | Estuarine Pedology? **Martin Rabenhorst**, Mark Stolt | Dinoflagellate cysts as indicators of water quality in northwestern Atlantic estuaries. **Andrea Price**, Vera Pospelova, Michael Coffin, James Latimer, Gail Chmura | Acidification of a shallow subtropical estuary – reduced freshwater inflow, hypoxia, and ocean acidification. **Xinping Hu**, Hongming Yao | Science and data needs to guide habitat conservation efforts and support marine fisheries. **Christopher Meaney**, Terra Lederhouse |
| **10:30 AM** | Overshooting the frontier: mismatch between expanding mangroves and their inhabitants. **Cora Johnston**, Megan Riley, Daniel Gruner | The Alternate CMECS Approach for Describing and Classifying the Benthic Environment. **Mark Stolt** | Effect of extreme drought on nutrients, phytoplankton and productivity in the urban San Francisco Estuary. **Frances Wilkerson**, Edmund Antell, Richard Dugdale, Sarah Blaser, Jamie Lee, Alexander Parker | Monitoring of pH at an East Coast Shellfish Hatchery: Correlations to Dissolved Oxygen and Upwelling. **Matthew Poach**, Daphne Munroe, Ian Abrahamsen, Sarah Borsetti | Objective driven habitat considerations: strategies for sustainable Mid-Atlantic fisheries. **Jessica Coakley**, Christopher Moore |
| **10:45 AM** | Tropicalisation of the Mediterranean Sea: potential impacts of warming on native seagrass – herbivore interactions. **Fiona Tomas Nash**, Gema Hernan, Alberto Martinez Gandara, Jorge Terrados | Soft-Sediment Biodiversity Monitoring: Infaunal Community Variation in the Rhode River. **Benjamin Rubinoff**, Dean Janiak | Assessing trends in estuarine water quality using high frequency spatial and temporal sampling. **David Parrish**, Kenneth Moore, Betty Neikirk | A novel pHstat system with variable pH capabilities for the culture of estuarine phytoplankton. **Rachel Golda**, Mark Golda, Jacqueline Hayes, Tawnya Peterson, Joseph Needoba | Do mangrove forests support fisheries? A global meta-analysis **Mauricio Carrasquilla**, Francis Juanes |
| **11:00 AM** | Tropicalization effects in temperate seagrass meadows: consequences to ecosystem processes and services. **Glenn Hyndes**, Kenneth Heck Jr., Euan Harvey, Gary Kendrick, Paul Lavery, Kathryn McMahon, Robert Orth, Mathew Vanderklift, Scott Whiting, Thomas Wernberg, Shaun Wilson | Polychaete feeding - Synthesized and updated – New diet of worms. **Kelly Dorgan**, Peter Jumars, Sara Lindsay | High-frequency ammonium measurements in the San Francisco Bay-Delta: Characterizing the fate of anthropogenic nutrient loading. **Aaron Strong**, Kevin Arrigo, Chris Francis, Matt Mills | Effects of CO2 enrichment on calcareous sessile epifauna on seagrass in Akkeshi-ko estuary, Hokkaido, Japan. **Minako Ito**, Masahiro Nakaoka | Fish community variation among temperate shallow water coastal habitats. **Diana Perry**, Thomas Staveley, Mathew Silas, Said Mgeleka, Regina Lindborg, Martin Gullström |
| **11:15 AM** | Regional variability in the controls of poleward mangrove range limits. **Kyle Cavanaugh**, James Kellner, Ilka Feller, John Parker | Macrobenthic metrics in relation to substrate type and profile structure for artificial reefs in Mississippi **Chet Rakocinski**, Patrick Gillam | Can bivalve filtration shape phytoplankton communities? **Lisa Luca**s, James Cloern, Janet Thompson, Jeffrey Koseff, Mark Stacey | Seagrass contributions to estuarine carbon dioxide variability: a shellfish's perspective. **Stephanie Smith**, George Waldbusser, Burke Hales | A model framework to determine fish abundance and production derived from coastal ecosystems. **Melisa Wong**, Michael Dowd |
| **11:30 AM** | Implications of Northern Gulf of Mexico mangrove encroachment: Will coastal faunal community composition change? **Carolyn Weaver**, Ashley Whitt, Anna Armitage, Sean Charles, Sayatani Dastidar, Hongyu Guo, Zoe Hughes, John Kominoski, Steven Pennings | Forecasting benthic fauna response in a shallow marsh using the Benthic Ecology Model (BEM). **Evan Turner**, Elizabeth Del Rosario, Richard Kalke | Top-down control overrules environmental forcing in sheltered coastal bays. **Serena Donadi**, Åsa Nilsson, Joakim Hansen, Ulf Bergström, Göran Sundblad, Britas Klemens Eriksson, Johan Eklöf | Carbonate system fluctuations within seagrass meadows, and implications for coastal acidification. **Thomas Arnold**, A. Whitman Miller | Distribution and abundance of juvenile demersal fishes on the Oregon coastal shelf. **Kathryn Sobocinski**, Lorenzo Ciannelli, Waldo Wakefield, Matthew Yergey |
| **11:45 AM** | Genetic diversity and population structure of West Indian manatees in the northcentral Gulf of Mexico. **Kayla DaCosta**, Margaret Hunter, Ruth Carmichael, Robert Bonde | Effects of suspended and accreted sediment on marine invertebrate fouling communities of Humboldt Bay. **Katie Houle** | Sediments tell the story of ecosystem restoration in the Back River estuary, Maryland. **Walter Boynton**, Jeremy Testa, Casey Hodgkins, Maria Ceballos, Eva Bailey, Jen Humphrey | Food web woes: response of macroalgae and herbivores to combined effects of acidification and eutrophication. **Gordon Ober**, Carol Thornber | Extreme low oxygen and decreased pH conditions naturally occur within developing squid egg capsules. **Matthew Long**, T. Mooney, Casey Zakroff |
| **BREAK 12:00-1:30 PM** | | | | | |

# ORAL SESSIONS Monday 9 November | Mid-Morning 10:15AM–12:00PM

| Room B 114 | Room B 115 | Room B 116 | Room B 117-119 | Room C 120-122 | |
|---|---|---|---|---|---|
| **SCI-106B**<br>**Role of Historical use and Cultural Values in Tribal and First Nation Governance, Research and Restoration**<br>Charles Hudson | **SCI-107B**<br>**Hydrodynamics and Sediment Dynamics in Estuaries and Coastal Seas**<br>Carl Friedrichs | **SCI-114**<br>**Successful Undergraduate Research Experiences**<br>Mary Carla Curran | **SCI-115**<br>**Integrated Studies on Storm-Induced Coastal Change**<br>Kathryn Smith | **SCI-110B**<br>**Seagrass Ecosystems: Challenges in Evaluating Function,Health, Abundance and Restoration (Mapping)**<br>David Young | |
| Estuarine Health for Upper Columbia River Ecosystem-Based Function and Anadromous Fish Reintroduction. **D.R. Michel**, Keith Kutchins, Stephen Smith | Wave and suspended sediment measurements in a shallow back-barrier estuary. **Steven Suttles**, Neil Ganju, Patrick Dickhudt | Scaffolding the undergraduate research experience. **Elizabeth Lacey** | Marine habitat mapping insights from Fire Island National Seashore **Monique LaFrance Bartley**, John King, Charles Roman, Fred Hegg, Bradley Peterson, Keith Brewer | Rapid assessment monitoring of SAV using SONAR and video in Albemarle Sound, North Carolina. **Hilde Zenil**, Joseph Luczkovich | **10:15 AM** |
| Estuarine Restoration is Integral to the Health and Cultural Restoration of a Tribal Nation. **Nathan Reynolds** | Architecture and evolution of tidal point bars: a conceptual approach to processes that affect sedimentation. **Pricilla Souza**, Ioannis Georgiou, Zoe Hughes, Nick Howes, Royhan Gani, Duncan FitzGerald | Assessing the value of an REU program multi-mentor system for enhancing student outcomes. **Michael Allen**, Jenna Clark | Benthic habitat mapping in response to Hurricane Sandy: Cape Cod National Seashore, Massachusetts. **Mark Borrelli**, Cristina Kennedy, Theresa Smith, Katrina Malakhoff, Emily Shumchenia | Detecting and characterizing the deep edge and canopy height of eelgrass using a multi-beam echosounder. **Ashley Norton**, Semme Dijkstra | **10:30 AM** |
| Struggle to Overcome Lack of Support for Resource Protection and Restoration. **Heather Ray** | Sediment flux between estuarine shallows and marshes. **Jessica Lacy**, John Callaway, Matthew Ferner | Peer mentoring as a method of developing communication skills among early undergraduate REU interns. **Margaret Sexton**, Paulinus Chigbu | Storm-related barrier island-estuary connectivity: implications for barrier island response to sea level rise. **Jennifer Miselis**, Brian Andrews | Inter-annual changes in eelgrass beds monitored with side scan sonar and digital aerial imagery. **Melanie Hayn**, Robert Howarth, Roxanne Marino, Eli Perrone, Christopher Sherwood | **10:45 AM** |
| Re-Building our Fishing Culture: Ca?inwa (Gooseneck Barnacle) Fishery off the West Coast of Vancouver Island. **Alex Gagne**, Daniel O'Farrell, Candace Picco, Joe David | Seasonal controls on the ecomorphodynamics of a macrotidal creek and salt marsh. **Danika van Proosdij**, Emma Poirier, Tim Milligan | Mentoring, cohort-building, and successful research in REU programs. **Rochelle Seitz** | Long-term and storm-driven changes to estuarine shorelines. **Kathryn Smith**, Nathaniel Plant | Practical application of a new unmanned survey vessel for aquatic habitat assessment and mapping. **Preston Martin**, Eric Munday | **11:00 AM** |
| Wy-Kan-Ush-Mi Wa-Kish-Wit "Spirit of the Salmon": How indigenous knowledge shaped fisheries management: Columbia River basin. **Zachary Penney** | Modeled and measured circulation in a complex tidal salt marsh. **James Kirby**, Ali Abdolali, Fengyan Shi, Guoxiang Wu | Can research experiences for early stage Hispanic undergraduates increase their success in marine science? **Fredrika Moser**, Ruby Montoya, Pedro Maldonado, Lora Harris, James Pierson, Juan Alvarez | Assessing Coastal Vulnerability to Extratropical Storms. **Soupy Dalyander**, Justin Birchler, Hilary Stockdon, Kara Doran | Applications of shallow water topo-bathymetric lidar in Maritime Canada. **Tim Webster**, Kevin McGuigan, Nathan Crowell | **11:15 AM** |
| Navigating Ecology, Culture, and Education in the Salish Sea Research Center. **Marco Hatch**, Skye Augustine | Linkages between sediment transport processes in the Mekong tidal river and adjacent mangrove environments. **Andrea Ogston**, Robin Banner, Aaron Fricke, Daniel Nowacki, Daniel Culling, Emily Eidam, Charles Nittrouer | Savannah State University's bridge to research model for summer research experience for undergraduates. **Christopher Hintz**, Tara Cox, Matthew Gilligan | Coastal morphology changes under very severe cyclonic storms off Paradip – East coast of India. **Jaya Kumar Seelam**, Murali R. Mani | Assessing seagrass change by integrating a high-spatial resolution image, historic aerial photography and field data **Mariana León-Pérez**, William Hernández, Roy Armstrong | **11:30 AM** |
| Our Columbia River watershed: Developing multi-faceted tribal/university partnerships for research, education and workforce development. **Vanessa Green**, Tana Atchley | Simulating hydrodynamics on tidal mudflats. **Salme Cook**, Thomas Lippmann | The collaborative NSF OEDG Program and undergraduate research engagement in the Savannah River estuary. **Mary Carla Curran**, Carol Pride, Tara Cox, Marc Frischer | Assessment of socio-economic vulnerability to sea-level rise and associated storm surge in Shanghai, China. **Liquan Zhang**, Zhenming Ge, Baiyang Yan | Hyperspectral imagery collection over Florida seagrass beds with UAVs and piloted aircraft. **Paul Carlson Jr.**, Laura Yarbro, Chuanmin Hu, Frank Muller-Karger, Kim Yates, David English, Minwei Zhang, John Merrill, Stan Herwitz | **11:45 AM** |
| **BREAK 12:00-1:30 PM** | | | | | |

# ORAL SESSIONS Monday 9 November | Early Afternoon 1:30PM–3:00 PM

| | Room A 105 | Room A 106 | Room A 107-109 | Room B 110-112 | Room B 113 |
|---|---|---|---|---|---|
| | **SCI-101C**<br>**Tropicalisation of Temperate Coastlines and Estuaries: Mechanisms and Consequences**<br>Adriana Verges | **SCI-102C**<br>**Mud, Macrofauna and Microbes: An Ode to Benthic Organism-abiotic Interactions at Varying Scales**<br>Leila Hamdan | **SCI-103C**<br>**Explaining Drivers of Change in Riverine and Estuarine Water Quality**<br>Jenni Keisman | **SCI-104C**<br>**Estuarine Acidification: Embracing and Synthesizing Complexity**<br>George Waldbusser | **SCI-112B**<br>**Coastal Habitat Connections to Offshore Fisheries Productivity**<br>Kristan Blackhart |
| **1:30 PM** | The impact of the 2014 severe drought on Microcystis blooms in the San Francisco Estuary. **Peggy Lehman**, Tomo Kurobe, Maxwell Mizel, Swee Teh, Sarah Lesmeister | Identification of thalassinidean shrimp food sources using fatty acid analysis and stable isotope ratios. **Katelyn Bosley**, Louise Copeman, Brett Dumbauld | Response of the Neuse and York River Estuaries to load reductions in a warmer climate. **Samuel Lake**, Mark Brush | Acidification increases sensitivity to hypoxia in important forage fishes. **Seth Miller**, Denise Breitburg, Rebecca Burrell, Andrew Keppel | Drivers and stressors of Atlantic herring (Clupea harengus) recruitment in inshore Baltic Sea spawning areas. **Patrick Polte**, Paul Kotterba, Dorothee Moll, Lena V. Nordheim |
| **1:45 PM** | Ocean currents consistent with contrasting patterns of East and West Florida red mangrove range expansion. **John Paul Kennedy**, Nathan Truelove, Lysel Garavelli, Donna Devlin, Stephen Box, Ilka Feller | Beyond 'sand': Defining habitat for marine macrofaunal assemblages. **Sarah Henkel**, Kristin Politano | Response of the San Francisco Bay to a climate shift. **Mélanie Raimonet**, David Senn, Raphael Kudela, Tara Schraga, Emily Novick, James Cloern | The severity of saturation state variability determines juvenile hard clam success: a matrix model assessment. **Cale Miller**, George Waldbusser, Mark Green | Estuarine stickleback predation on the eggs of inshore-spawning Atlantic herring in the Baltic Sea. **Paul Kotterba**, Dorothee Moll, Cornelius Hammer, Patrick Polte |
| **2:00 PM** | Habitat preference and survivorship of Penaeid shrimp in the presence of the Gray Snapper predator. **Whitney Scheffe**l, Kenneth Heck Jr., Just Cebrian, Lawrence Rozas | Denitrification, anammox, and DNRA co-occur in shallow Arctic shelf sediments. **Nathan McTigue**, Wayne Gardner, Kenneth Dunton, Amber Hardison | Opening the black box: evaluation of nutrient nonpoint source management for estuarine watersheds. **Lauri Green**, Caitlin White, Cheryl Brown | Ocean Acidification Stress Index for Shellfish (OASIS) – A case study on Pacific Oyster larvae. **Iria Gimenez**, George Waldbusser, Burke Hales | Estuarine nursery areas contribution to adult shrimp fishing grounds – a stable isotopes approach. **Daniela de Abreu**, Alvaro Vetina, Júlia Matsombe, Adriano Macia, Per-Olav Moksnes |
| **2:15 PM** | Pioneering mangrove trees create thermal refugia that directly and indirectly alter seedling dynamics. **John Parker**, Mike Lehmann, Susan Cook-Patton | Associating 16S rRNA benthic microbial community composition with nutrient fluxes in the San Francisco Estuary. **Tricia Lee**, Luisa Falcon, Neslihan Tas, Frances Wilkerson, Alexander Parker, Jeffrey Cornwell | Spatial and temporal patterns of nutrient inputs to the Choptank River sub-estuary of Chesapeake Bay. **Ken Staver** | The effects of co-varying diel cycling hypoxia and pH on gametogenesis in Crassostrea virginica. **Cecily Steppe**, Andrew Keppel, Rebecca Burrell, Denise Breitburg | Assessing habitat quality of native and invasive SAV for white shrimp in an oligohaline estuary. **Scott Alford**, Lawrence Rozas |
| **2:30 PM** | Using citizen science to assess bird community composition in a changing Texas marsh-mangrove ecotone. **Ashley Whitt**, Wesley Highfield, Steven Pennings, Anna Armitage | Total mercury in Ilyanassa obsoleta associated with invasive Gracilaria vermiculophylla. **Byron Toothman**, Lawrence Cahoon | Regional effects of agricultural conservation practices on nutrient transport in the Upper Mississippi River Basin. **Ana-Maria Garcia**, Richard Alexander | Investigating estuarine acidification in northern California and its impact on native oysters (Ostrea lurida). **Ann Russell**, Manon Picard, Brian Cheng, Jason Sadowski, Edwin Grosholz | Restoring diadromous forage fish habitat and trophic impacts on the Northwest Atlantic ecosystem. **Roger Rulifson**, Jillian Osborne, Tom Miller, J.P. Walsh, Wesley Patrick |
| **2:45 PM** | Replacement of marsh with mangrove communities in Coastal Texas and potential impact to Whooping Cranes. **John Schalles**, Elizabeth Smith, Felipe Chavez-Ramirez, Nicole Davis, Adam Atrichter, Alissa Hart-Kouri, Drew Seminara, Eryn Carpenter, Prem Vichienwanitchkul | Vertical and Horizontal distribution of hydroids in kelp forest (Macrocystis pyrifera) in Ensenada, Baja California. **Zyanya Mora**, Lydia Ladah, Luis Martell | Relation of best management practices to nutrient inputs and nutrient loads to Chesapeake Bay. **Jenni Keisman**, Doug Moyer, Joel Blomquist, Olivia Devereux, Brandon Fleming, W. Hively, Matt Johnston, Andrew Lamotte, Andrew Sekellick, Jeff Sweeney | Slow Shell Building: A Possible Trait for Resiliency in Developing Oyster Larvae. **George Waldbusser**, Matthew Gray, Burke Hales, Chris Langdon, Brian Haley, Iria Gimenez, Stephanie Smith, Elizabeth Brunner, Greg Hutchinson | Impact of human stressors on coastal wetland support of fisheries: a Great Lakes perspective. **Joel Hoffman**, Anett Trebitz |

# ORAL SESSIONS Monday 9 November | Early Afternoon 1:30PM–3:00 PM

| Room B 114 | Room B 115 | Room B 116 | Room B 117-119 | Room C 120-122 | |
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| **SCI-116**<br>**Modeling Louisiana's 2017 Coastal Master Plan**<br>Ehab Meselhe | **SCI-107C**<br>**Hydrodynamics and Sediment Dynamics in Estuaries and Coastal Seas**<br>Carl Friedrichs | **SCI-117**<br>**Successful Science Story-Telling for Coastal Resilience**<br>William Nuttle | **SCI-118**<br>**Climate Change and Estuarine Waters: Drivers, Impacts, and Implications**<br>David Hill | **SCI-110C**<br>**Seagrass Ecosystems: Challenges in Evaluating Function,Health, Abundance and Restoration (Mapping)**<br>David Young | |
| Using Science in Coastal Restoration Planning: 20 Years of Experience. **Jenneke Visser**, Mandy Green, Karim Belhadjali, Denise Reed | Ripple Sinuosity and Defect Density: Characterizing Spatial-Temporal Interactions in Natural and Anthropogenic Environments. **Carter DuVal**, Art Trembanis | Challenges of telling the climate change resilience story in Chesapeake Bay **Caroline E. Donovan**, Alexandra Fries, Heath Kelsey, William Dennison | Decadal to intra-seasonal variability superimposed on sea-level rise in the Chesapeake Bay region. **John Brubaker** | Changes in seagrass distribution and community composition using long-term monitoring along the Texas coast. **Victoria Congdon**, Sara Wilson, Kenneth Dunton | **1:30 PM** |
| Using modeling results to develop a Master Plan for coastal protection and restoration in Louisiana. **Denise Reed**, Karim Belhadjali, Angelina Freeman, Mandy Green, David Groves, Ann Hijuelos, David Lindquist, Eric White | Classifying California headlands for coastal flow, sediment transport, and littoral cell boundaries. **Douglas George**, John Largier, Curt Storlazzi, Patrick Barnard | Selling sea level rise to local governments on the St. Johns River, Florida. **Robert Virnstein** | Effects of Climate Variability and Humans on Shallow Marine Ecosystems in South Florida (U.S.A.). **Anna Wachnicka**, Lynn Wingard, Larry Peterson, Willian Louda, Andrzej Witkowski | Mapping 1970s imagery to gain historical perspective on seagrass distribution trends. **Kristen Kaufman** | **1:45 PM** |
| Coastal ecosystem integrated compartment model (ICM): modeling framework. **Ehab Meselhe**, Eric White, Stokka Brown, Brady Couvillion, Zhifei Dong, Mandy Green, Scott Duke-Sylvester, Alex McCorquodale, Mallory Rodrigue, Jenni Schindler, Gordon Thomson, Jenneke Visser, Jonathan Wang | Influences of wave climate and sea level on shoreline erosion in the Maryland Chesapeake Bay. **Lawrence Sanford**, Jia Gao | Transferring scientific knowledge to society using innovative teaching tools. **José Juanes**, Aina Gómez, Bárbara Ondiviela, Paloma Fernández, Felipe Fernández, Sergio Martínez, Araceli Puente | 3D modeling of potential sea level rise impacts on San Francisco Bay-Delta salinity. **Rosanne Martyr**, Lisa Lucas, Noah Knowles, Mick van der Wegen, John Helly | Long-term changes in seagrass distribution and abundance in Florida Bay. **Margaret Hall**, Michael Durako, Manuel Merello | **2:00 PM** |
| LAVegMod: Modeling Long-term Coastal Vegetation Change at the Landscape Scale. **Scott Duke-Sylvester**, Jenneke Visser, Eric White | Observations of wave-controlled wind stress alignment in Chesapeake Bay. **Alexander Fisher**, Malcolm Scully, Lawrence Sanford, Steven Suttles | Louisiana's Flood Risk and Resilience Data Viewer. **Melanie Saucier**, Andrea Galinski, Ashley Claro, Mandy Green | The impacts of climate-change on estuarine flooding: a Pacific Northwest case study. **Kai Parker**, Tiffany Cheng, David Hill, Jordan Beamer, Gabriel Garcia-Medina | Seagrass vegetation monitoring: Assessing seagrass recovery and shifts in species dominance after seagrass diebacks. **Kenneth Moore**, Erin Shields, David Parrish, Emily French | **2:15 PM** |
| Integrated Compartment Model (ICM) application: scenarios, uncertainties and project evaluations. **Eric White**, Ehab Meselhe, Stokka Brown, Brady Couvillion, Mandy Green, Emad Habib, Scott Duke-Sylvester, Alex McCorquodale, Denise Reed, Jenni Schindler, Gordon Thomson, Jenneke Visser | A field and numerical study of wave attenuation by submerged vegetation in Chincoteague Bay. **Daniel Nowacki**, Neil Ganju | Bringing coastal scientists and managers together in Georgia: the Georgia Coastal Research Council. **Merryl Alber** | Climate signals affect freshwater inflow, salinity and temperature in three Georgia, USA estuaries. **Joan Sheldon**, Merryl Alber | Intertidal eelgrass response to benthic macroalgal accumulation in a Pacific Northwest estuary. **David Young**, Patrick Clinton | **2:30 PM** |
| Modeling long-term effects of Louisiana restoration projects on fish and fisheries using an ecosystem model. **Kim de Mutsert**, Kristy Lewis, Joe Buszowski, Jeroen Steenbeek, Scott Milroy, David Lindquist | The influence of the Rhine river plume on sediment transport near the Dutch Coast. **Raúl Flores**, Sabine Rijnsburger, Alexander Horner-Devine, Julie Pietrzak, Alejandro Souza, Saulo Meirelles, Martijn Henriquez, Marcel Stive | Telling new stories about resiliences of Chesapeake Bay, Mississippi River and the Great Barrier Reef. **William Denniso**, Heath Kelsey | Hydrodynamic changes in a microtidal estuary due to barrier island loss. **Steven Meyers**, Marius Ulm, Mark Luther, Thomas Wahl, Arne Arns, Jurgen Jensen | Trends in seagrass cover at local and regional scales in greater Puget Sound. **Bart Christiaen**, Pete Dowty, Lisa Ferrier, Jeff Gaeckle, Helen Berry | **2:45 PM** |

# ORAL SESSIONS Tuesday 10 November | Early Morning 8:00 – 9:45 AM

| | Room A 105 | Room A 106 | Room A 107-109 | Room B 110-112 | Room B 113 |
|---|---|---|---|---|---|
| | **SCI-119A**<br>**Crossing the Divide: Bringing Science and Management Together to Address Impacts from Climate Change on Coastal Communities**<br>Sarah Kolesar | **SCI-102D**<br>**Mud, Macrofauna and Microbes: An Ode to Benthic Organism-abiotic Interactions at Varying Scales**<br>Leila Hamdan | **SCI-120**<br>**Numerical Investigation of Climate Impacts on Estuarine and Coastal Systems**<br>Pengfei Xue | **SCI-121**<br>**Biogeochemical Stressors in Vegetated Habitats: Exploring Climate Change Mitigation**<br>Kerry Nickols | **SCI-122**<br>**Salted or Unsalted? Linking Great Lakes and Coastal Ocean Studies**<br>Mary Evans |
| **8:00 AM** | Successful Transdisciplinarity: Framing and Tracking Successful Adaptation to Coastal Climate Change. **Susanne Moser** | The case of the disappearing benthos. **Paul Montagna**, Jennifer Pollack, Terry Palmer | Wave Climate and the Influence of Wave-current Interaction in Lake Erie Qianru. **Niu Niu**, Meng Xia | Biogeochemistry of seagrass beds in Northern California: Diurnal to seasonal variability in carbonate chemistry. **Tessa Hill**, Brian Gaylord, Eric Sanford, Kristy Kroeker, Terry Sawyer | The stoichiometry of freshwater rivermouths in the Great Lakes. **James Larson**, Paul Frost, Jon Vallazza, John Nelson, William Richardson |
| **8:15 AM** | | Effect of hard clam (Mercenaria mercenaria) density and bottom shear on sediment erodibility. **Elka Porter,** Barbara Johnson, Lawrence Sanford, Robert Mason | Modifying East Sand Island in the Columbia River to prevent nesting of double-crested cormorants. **Michael Connor**, Tate McAlpin, Hans Morit, Robert McAdory | Impact of Climate Warming and Ocean Carbonation on Eelgrass (Zostera marina L.). **Richard Zimmerman**, Victoria Hill, Billur Celebi, Malee Jinuntuya | Evaluating the potential impacts of bioturbation on ecosystem recovery in freshwater and marine estuaries. **Christy Tyler**, Brittany Burke, Samuel Burke, Natalie McClenaghan, Katherine Premo, Charles Yarrington |
| **8:30 AM** | Catalyzing climate adaptation through a regional approach to risk. **John Stevenson**, Joe Cone, Jeff Weber, Miriah Kelly, Kirsten Winters, Monty Johnson, Pat Corcoran, Colin Duncan | Clamming for bacteria: impacts of human disturbance on sediment microbial quality in two California bays. **Melissa Partyka**, Ronald Bond, Edward Atwill, Jennifer Chase | Modeling the loss of rice production under scenarios of relative sea-level rise. **Ana Genua-Olmedo**, Carles Alcaraz, Carles Ibáñez | Impacts of dissolved CO2 availability and sediment chemistry on eelgrass, Zostera marina. **L. Malee Jinuntuya**, Kathryn Keller-Miller, Richard Zimmerman, Victoria Hill | Harmful Algal Blooms (HABs) in river plume mixing zones. **Mary Evans** |
| **8:45 AM** | Operationalizing Climate-Informed Coastal and Marine Spatial Planning. **Rachel Gregg**, Jessi Kershner | An eco-friendly solution to coastal erosion; the bio-geomorphology of the Sand Motor. **Simeon Moons**, Tom Ysebaert, Jeroen Wijsman, Peter Herman | Coupling a Regional Atmospheric Model and a Hydrodynamic Model over the Great Lakes. **Xinyu Ye**, Chenfu Huang, Pengfei Xue | Seagrass as refuge: connecting local pH effects of Zostera marina with bivalve larvae behavior. **Micah Horwith**, Cinde Donoghue, Jennifer Ruesink, Alan Trimble | Mapping and Modeling Hypoxia in Freshwater and Marine Systems. **Daniel Obenour**, Yuntao Zhou, Donald Scavia, Anna Michalak |
| **9:00 AM** | Future of our coasts:Potential for natural and hybrid infrastructure to enhance ecosystem and community resilience. **Ariana Sutton-Grier**, Katya Wowk, Holly Bamford | Effects of crude oil and dispersant on microbially-mediated shipwreck corrosion in the Gulf of Mexico. **Jennifer Salerno**, Brenda Little, Jason Lee, Richard Ray, Leila Hamdan | | Elevated pCO2 physiological responses in Halimeda species from contrasting light environments on Little Cayman Island. **Katherine Peach**, Marguerite Koch, Carrie Manfrino | Ecosystem characterization for Schoenoplectus species (bulrush) along high-energy Great Lakes coastal shorelines. **Dennis Albert** |
| **9:15 AM** | Standardizing vulnerability assessments for infrastructure in national parks. **Robert Young**, Katie Peek, Blair Tormey, Shawn Norton, Beth Binns | Denitrification rates in oiled and unoiled Louisiana salt marsh sediments following the Deepwater Horizon spill. **Brian Roberts**, John Marton, Matthew Rich, Hillary Sullivan, Anne Bernhard, Jane Tucker, Anne Giblin | Influence of Johnstone Strait exchange pathway on the Salish Sea circulation and water quality. **Tarang Khangaonkar**, Wen Long, Laura Bianucci, Adi Nugraha | Biogeochemistry of a recently restored macrotidal salt marsh: Cheverie Creek Restoration Site, Nova Scotia, CA. **Christa Skinner**, Danika van Proosdij, David Burdick, Jeremy Lundholm, Tony Bowron | The Largely Unknown Role of Potadromous Fishes in the Great Lakes. **Jeffrey Schaeffer** |
| **9:30 AM** | Planning for sea level rise in San Francisco Bay: the Army Corps of Engineers perspective. **William Brostoff**, Thomas Kendall, John Dingler, Elizabeth Murray, Craig Conner | The impact of harmful algal bloom organic matter on sediment denitrification. **Robert Lauto**, Theresa Hattenrath-Lehmann, Christopher Gobler, Robinson Fulweiler | Wetland response to long-term saltwater intrusion on Coastal Carolina. **Enrique Reyes**, Robert Christian, Mark Brinson | Spatial variability and context dependency of CO2 chemistry in a central California kelp forest. **Kerry Nickols**, David Koweek, Steve Litvin, Paul Leary, Timothy Luthin, David Mucciarone, Robert Dunbar, Sarah Lummis | Anadromous fishes: data-rich iconic species. **Troy Tuckey** |
| **BREAK 9:45-10:15 AM** | | | | | |

# ORAL SESSIONS Tuesday 10 November | Early Morning 8:00 – 9:45 AM

| Room B 114 | Room B 115 | Room B 116 | Room B 117-119 | Room C 120-122 | |
|---|---|---|---|---|---|
| **SCI-123**<br>**Grand Challenges in Marine and Estuarine Spatial Planning Around the World: Common Issues and Different Approaches (joint ECSA-CERF session)**<br>Michael Elliot | **SCI-107D**<br>**Hydrodynamics and Sediment Dynamics in Estuaries and Coastal Seas**<br>Carl Friedrichs | **SCI-124**<br>**Place-Based Research, Stewardship, and Education with Application to Estuarine Management**<br>Kristin Wilson | **SCI-125A**<br>**Responses of Salt Marshes to Sea Level Rise**<br>Joanna Carey | **SCI-110D**<br>**Seagrass Ecosystems: Challenges in Evaluating Function,Health, Abundance and Restoration (Restoration)**<br>Jim Kaldy | |
| How to proceed with analysing, assessing and judging estuarine food webs? **Victor de Jonge**, Ulrike Schückel, Dan Baird | Seasonal Suspended Sediment Patterns of Shallow-Water Estuaries: Insights from Twelve Years of Satellite Data. **Anthony Reisinger**, Philippe Tissot, James Gibeaut | K-16 students collect reliable, scientifically defensible data in northeast Florida. **Kenneth Rainer** | Sea-Level Rise and the Demise of Tidal Marshes: Conceptual Origins. **Court Stevenson**, Michael Kearney | Epiphyte load and a tipping point of seagrass performance. **Jennifer Ruesink** | **8:00 AM** |
| Fish can swim: protecting the critical role of connectivity in sustaining ecosystem services. **Rod Connolly**, Andrew Olds, Tyson Martin, Sarah Engelhard, Thomas Schlacher | Tidal and seasonal controls on sediment transport in southwest Bangladesh. **Richard Hale**, Stephen Goodbred Jr., Rachel Bain, Carol Wilson, Christopher Tasich | Effects of pulsed freshwater inflows on nutrient, phytoplankton and zooplankton dynamics in the Mission-Aransas Estuary. **Edward Buskey**, Cammie Hyatt | Tidal Marsh Vegetation Response to Sea-level Rise in the Delaware Bay Estuary. **Lori Sutter**, Nathaniel Weston | Eelgrass response to temperature is genotype specific and varies with time. **Laura Reynolds**, Katherine DuBois, Jessica Abbott, John Stachowicz, Susan Williams | **8:15 AM** |
| Optimizing wave energy park site selection amidst a sea of competing resource uses. **Mark Plummer**, Blake Feist | The effects of fronts on suspended-sediment concentrations in the Connecticut River estuary. **Ellen Kristiansen**, Gail Kineke, Kendall Valentine, Timothy Milligan, Wayne Geyer, David Ralston | Norms and Trends in Delaware's Estuaries: A 20 Year Review. **Owen Doherty**, Lyndie Hice-Dunton | Investigating plant-soil responses to increased salinity and inundation in Everglades coastal peat marshes. **Tiffany Troxler**, Fred Sklar, Carlos Coronado-Molina, Stephen Davis, Evelyn Gaiser, Stephen Kelly, John Kominoski, Christopher Madden, Shelby Servais, David Rudnick, Shelby Servais, Joseph Stachelek, Benjamin Wilson | Comparison of photo-protective strategies in Thalassia testudinum and Halophila johnsonii to diurnal variations of light. **Nathan Gavin**, Michael Durako | **8:30 AM** |
| Spatial planning to strategically restore juvenile Chinook salmon (Oncorhynchus tshawytscha) habitat, Columbia River estuary, USA. **Charles Simenstad**, Mary Ramirez, Haley Wagoner, Allan Whiting, Phil Trask, David Teel, Daniel Bottom | Effects of bottom topography and internal tidal asymmetry on Columbia River Estuary ETM formation. **Austin Hudson**, Stefan Talke, David Jay | How 2015 became "the year of the oyster" at the Guana Tolomato Matanzas NERR. **Nikki Dix** | Marsh carbon cycling: Do high and low marsh respond similarly to sea level rise? **Inke Forbrich**, Anne Giblin | Zostera marina DIN uptake in a costal lagoon with oyster aquaculture and upwelling influence. Jose Sandoval-Gil, **Víctor Camacho-Ibar**, Maricarmen Avila-Lopez, Julieta Hernández-López, Jose Zertuche-Gonzalez, Alejandro Cabello-Pasini | **8:45 AM** |
| Manager perspectives on science priorities for Great Lakes coastal/nearshore ecosystems. **Victoria Pebbles**, Elizabeth Lillard, Paul Seelbach, Lisa Fogarty | Transverse distribution and transport of suspended sediment in tidal estuaries, a process analysis. **Wei Chen**, Huib de Swart | A decade of salt marsh research supports development of Living Shoreline policy in North Carolina. **Carolyn Currin**, John Fear, Brandon Puckett, Rachel Gittman, Whtney Jenkins | The Effect of Anthropogenic Stressors on Long Island Sound Salt Marshes. **Sarabeth Buckley**, Roger Kelly, Bradley Moran, Robinson Fulweiler | | **9:00 AM** |
| Methods for mapping and modeling human activities in Marine Spatial Planning: A comparison and critique. **Robert Thompson**, Tracey Dalton, Emily Patrolia | The role of flow-turbidity feedbacks in estuarine regime shifts. **Erik Ensing**, Huib de Swart, Henk Schuttelaars | Understanding Coastal Habitat Vulnerability to Sea Level Rise Impacts to Inform Resource Management Efforts. **Scott Lerberg**, William Reay | Salt marshes in a changing climate: greenhouse gas emissions, carbon cycling, and precipitation change. **Hollie Emery**, Robinson Fulweiler | | **9:15 AM** |
| Marine and estuarine spatial planning and management – conflicts between economic development and ecological functioning. **Michael Elliott**, Angel Borja | Sensitivity of equilibrium bed profiles to varying forcing and geometry in an idealized two-inlet embayment. **Paulo Salles**, Henk Schuttelaars, Corine Meerman | Synthesis of NERRS System-Wide Monitoring Program Data: Using Integrated Analysis Tools to Detect Trends. **Marie Bundy**, Marcus Beck, Todd O'Brien | 20 Years of sea-levels, accretion, and vegetation on two Long Island Sound salt marshes. **R. Scott Warren**, Cathleen Wigand | | **9:30 AM** |
| **BREAK 9:45-10:15 AM** | | | | | |

# ORAL SESSIONS Tuesday 10 November | Mid-Morning 10:15AM–12:00PM

| | Room A 105 | Room A 106 | Room A 107-109 | Room B 110-112 | Room B 113 |
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| | **SCI-119B**<br>**Crossing the Divide: Bringing Science and Management Together to Address Impacts from Climate Change on Coastal Communities**<br>Sarah Kolesar | **SCI-126**<br>**Lessons Learned from 25 Years of International Collaboration in LOICZ**<br>Chris D'Elia | **SCI-127**<br>**Numerical Modeling of Estuarine and Costal Systems**<br>Tate McAlpin | **SCI-128**<br>**Adaptation and Mitigation of Ocean Acidification and Hypoxia: Research and Management**<br>Veronica Berounsky | **SCI-129**<br>**Climate Change in the Chesapeake and Other Coastal Systems**<br>Lewis Linker |
| **10:15 AM** | Managing coastal hazards in a changing world: integrating climate change, hazards modeling, and socioeconomic exposure. **Patrick Barnard**, Nathane Wood, Li Erikson | The Coastal Stability of World Deltas — a 25 year LOICZ retrospective. **James (Jai) Syvitski** | Adaptive hydraulics model evaluation of changes in tidal circulation response to ecosystem restoration activities **Rod Moritz** | Responding and adapting to ocean acidification: NOAA's approach. **Libby Jewett** | Historic land-use and climate-change impacts on coastal waters of the northeastern United States. **Raymond Najjar**, Yang Feng, Marjorie Friedrichs, Eileen Hofmann, Kimberly Hyde, Antonio Mannino, Susan Pan, Sergio Signorini, Hanqin Tian, John Wilkin, Yuanzhi Yao |
| **10:30 AM** | The Santa Barbara area coastal ecosystem vulnerability assessment (SBA CEVA). **Monique Myers**, Henry Page, John Melack, Sam Iacobellis, Jennifer Dugan, Daniel Cayan, Patrick Barnard, Daniel Reed | "Our rivers are too large to have nutrient problems and dead zones." **Nancy Rabalais** | Response of the Lower Mississippi River and its Delta to Sediment Diversions. **Alex McCorquodale**, Ahmed Gaweesh, Ehab Meselhe, Joao Pereira, Mead Allison | Addressing Ocean Acidification in Washington State. **Jan Newton**, Terrie Klinger | Influence of 2050 Climate Change and Land Use in the Chesapeake Bay. **Peter Claggett**, Lewis Linker, Gopal Bhatt, Gary Shenk |
| **10:45 AM** | California Coastal Resilience Network: engagement, sea level rise modeling, decision support, and economics of adaptation. **Kelly Leo**, Lily Verdonne, Sarah Newkirk | Indices of deltaic sustainability. **John Day** | Upgrade of NOAA/NOS' Lake Erie Operational Forecast System (LEOFS). **Jiangtao Xu**, Aijun Zhang, John Kelley, Eric Anderson, Gregory Lang | What can we learn about coastal acidification from a naturally occurring high-nutrient hypoxic system? **Veronica Berounsky**, David Borkman, Rahat Sharif | Impacts of climate change and emissions reductions on atmospheric nitrogen loading to the Chesapeake Bay. **Jesse Bash**, Christopher Nolte, Tanya Spero, Ellen Cooter |
| **11:00 AM** | Coastal first foods and ocean change: considering the impacts on cultural and community wellbeing **Melissa Poe**, Jamie Donatuto | Land Ocean Interactions in the Coastal Zone – the first 10 years (and a bit). **Christopher Crossland** | High-resolution water quality model in the urban tidal freshwater Delaware River. **Josef Kardos**, Phil Duzinski, Kinman Leung, Ramona McCullough, John Hamrick, Rui Zou, Paula Kulis, Eileen Althouse, Will Bezts | Phytoplankton community response to carbon dioxide enrichment in winter incubation experiments. **Jason Grear**, Tatiana Rynearson, Amanda Montalbano, Breea Govenar, Susanne Menden-Deuer | Modeling the Impacts of Water Quality and Climate Change on SAV in Chesapeake Bay. **Victoria Hill**, Richard Zimmerman, Charles Gallegos |
| **11:15 AM** | Investigating How Recreational Uses of Coastal Lagoons Might be Affected by Climate Change. **Emily Patrolia**, Robert Thompson, Tracey Dalton | LOICZ past, present and future. **Martin Le Tissier** | Modeling hydrodynamics, water quality, and benthic sediment processes to predict ecological effects in Narragansett Bay. **Mohamed Abdelrhman** | Coastal ocean acidification: Contrasting diurnal, seasonal, and spatial patterns among temperate coastal habitats. **Ryan Wallace**, Christopher Gobler | Accessing Impact of 2050 Sea Level Rise and Temperature Increases on Chesapeake Bay Water Quality. **Ping Wang**, Lewis Linker, Gopal Bhatt, Guido Yactayo, Richard Tian |
| **11:30 AM** | Overcoming Uncertainty: Using Scenario Planning to Prepare for Climate Change in a Binational Watershed. **Danielle Boudreau**, Dr. Jeff Crooks, Dr. Julio Lorda, Kristen Goodrich | Nutrient accounting in coastal waters and watersheds: linkages and applications. **Dennis Swaney** | The influence of gravitational circulation on estuarine recruitment of negatively buoyant organisms. **Edward Gross**, Wim Kimmerer, Rusty Holleman | Acidifying intermediate water accelerates the acidification on East China Sea shelves. **Chen-Tung Chen**, Hon-Kit Lui, Jay Lee, Shu-Lun Wang, Gwo-Ching Gong, Yan Bai, Xianqiang He | Influence of 2050 Climate Change on Chesapeake Bay Water Quality Standards. **Lewis Linker**, Gopal Bhatt, Ping Wang, Carl Cerco, Gary Shenk, Richard Tian |
| **11:45 AM** | Envisioning Coastal Futures: Exploring alternative scenarios for Oregon's coastline. **Peter Ruggiero**, John Bolte, Patrick Corcoran, Alexis Milss, Eva Lipiec, Katherine Serafin, John Stevenson, Chad Zanocco, Lindsay Carroll, Sally Hacker | Are tropical seagrass ecosystems sources or sinks of greenhouse gases? **Kakolee Banerjee**, Purvaja Ramachandran, Paneer Selvam, Dipnarayan Ganguly, Gurmeet Singh, Ramesh Ramachandran | Three-dimensional physics based numerical modeling of Mobile Bay. **Tate McAlpin**, Gaurav Savant, Gary Brown, Robert McAdory | Getting rid of hypoxia in the Baltic Sea. **Daniel Conley**, Jacob Carstensen, Bo Gustafsson, Caroline Slomp | Climate Change, Marsh Erosion, and the Chesapeake Bay TMDL. **Carl Cerco** |
| **BREAK 12:00-1:30 PM** | | | | | |

# ORAL SESSIONS Tuesday 10 November | Mid-Morning 10:15AM–12:00PM

| Room B 114 | Room B 115 | Room B 116 | Room B 117-119 | Room C 120-122 | |
|---|---|---|---|---|---|
| **SCI-130**<br>**Understanding Gulf Coast Estuarine and Deltaic Benthic Ecology for Restoration**<br>Tim Carruthers | **SCI-107E**<br>**Hydrodynamics and Sediment Dynamics in Estuaries and Coastal Seas**<br>Carl Friedrichs | **SCI-131**<br>**Casting the Net Widely: Expanding the Reach of Broader Impacts**<br>Sarah Nuss | **SCI-125B**<br>**Responses of Salt Marshes to Sea Level Rise**<br>Joanna Carey | **SCI-132**<br>**Securing the Future of Seagrass Ecosystems Impacted by Coastal Development**<br>Robert Coles | |
| Effects of shoreline oiling on salt marsh macroinvertebrates 2012-2015. **Donald Deis**, Stefan Bourgoin, Irving Mendelssohn, Qianxin Lin, John Fleeger, Aixin Hou | Coupled river-estuary dynamics and implications for fluvio-deltaic and shelf morphology. **Anthony Poggioli**, Alex Horner-Devine | Engaging Early-Career Scientists with Classroom Teachers, Informal Educators, and Informal Science Education Facilities. **Terri Hathaway**, C. Thomas, Elizabeth Bell, A. Bliss, L. Spence | Loss for gain? The potential importance of marsh creekbank erosion for marsh platform survival. **Charles Hopkinson**, Peter Raymond, James Morris, Sergio Fagherazzi | Initial ecological impacts of New Jersey legislation regulating fertilizer nitrogen loads. **Benjamin Fertig**, Michael Kennish, Gregg Sakowicz | **10:15 AM** |
| Effects of an ENSO shift and hurricane surges on Rangia clam decline in Lake Pontchartrain. **Michael Poirrier**, Claire Caputo | Impact of tidal flow separation on a migrating inlet system. **Julia Hopkins**, Steve Elgar, Britt Raubenheimer | Understanding the estuarine science and data needs of K-12 teachers around the United States. **Bree Turner**, Landon Knapp | Destabilizing effects of nitrogen in created tidal marshes in upper Chesapeake Bay. **Lorie Staver**, J. Court Stevenson, Jeffrey Cornwell, Michael Owens, Philippe Hensel | Under pressure – how to succeed as a deepwater seagrass. **Katie Chartrand**, Michael Rasheed, Peter Ralph | **10:30 AM** |
| The value of coastal ecosystem services in the Gulf of Mexico. **Cristina Carollo**, David Yoskowitz, Alan Krupnick, Juha Siikamaki, Just Cebrian, Jennifer Beseres-Pollack | Oblique, internal hydraulic jumps at the Columbia River mouth. **David Honegger**, Merrick Haller, W. Geyer, Gordon Farquharson | Toward Elementary Advancement in Marine Science (TEAMS): Inspiring Young Scientists as Stewards of Climate Change. **Robert Condon**, Eleanor Fallaize | Competition between marsh erosion and forest retreat drives 150 years of Chesapeake Bay wetland change. **Matthew Kirwan**, Nathalie Schieder, David Walters | Protection of Great Barrier Reef seagrasses at high risk through innovative monitoring and research partnerships. **Michael Rasheed**, Skye McKenna, Katie Chartrand, Rob Coles | **10:45 AM** |
| Changing coastal salinities will affect submerged aquatic vegetation resources in the northern Gulf of Mexico. **Kristin DeMarco**, Eva Hillmann, Megan La Peyre | The influence of upstream morphology and wind forcing on cross-inlet circulation. **Anna Wargula**, Britt Raubenheimer, Steve Elgar | Can we create estuarine literate students while providing a rigorous, interactive field-based experience? **Kenneth Rainer** | Sea Level Rise Drives Marsh Expansion into Upland Areas. **David Walters**, Matt Kirwan | Effects of optical variability of particulate matter on water quality criteria for seagrass restoration. **Charles Gallegos**, Richard Zimmerman | **11:00 AM** |
| Assessing integrated ecosystem function with habitat suitability indices linked to emergent and submerged aquatic habitats. **Tim Carruthers**, Melissa Baustian, Camille Stagg, Carey Perry, Kelly Darnell, Ann Hijuelos | Impacts of large-scale morphology and bedforms on inlet dynamics: Mouth of the Columbia River, USA. **Guy Gelfenbaum**, Edwin Elias, Andrew Stevens, Jamie MacMahan | Climate education for a changing Bay: Integrating scientific data and climate literacy into high school. **Scott Lerberg**, Sarah Nuss | Wetland loss patterns and inundation-productivity relationships prognosticate widespread salt marsh loss for southern New England. **Elizabeth Watson**, Cathleen Wigand, Earl Davey, Holly Andrews, Joseph Bishop | Eelgrass conservation in southern California: successes and challenges along a highly developed coastline. **Bryant Chesney** | **11:15 AM** |
| Demise of the Corpus Christi Bay oyster fishery. **Gary Matlock** | Modelling Processes in a Hypertidal ROFI. **Alejandro Souza**, Daniel Eddon, Laurent Amoudry, Danielle Norman, Jennifer Brown | The PERFECT Interpretation: Graduate fellows using marine science to communicate STEM. **Carol Hopper Brill** | Modeling Elevation Capital to Map Restoration Priorities in Coastal Marshes of New Jersey. **LeeAnn Haaf**, Joshua Moody, Angela Padeletti, Martha Maxwell-Doyle, Danielle Kreeger | Assessing the impacts of salinity and nutrient stress to Ruppia maritima and Zostera marina. **Marguerite Pelletier**, Mary Nicole Gutierrez, Richard McKinney, Clint Slocum | **11:30 AM** |
| Functional equivalence of constructed and natural intertidal Eastern Oyster reefs in a NGOM estuary. **Kevin Dillon**, Mark Peterson, Chris May | Investigating the impacts of marine structures on a region of freshwater influence. **Daniel Eddon**, Laurent Amoudry, Alejandro Souza, Ian Walkington | The Bridge: Bringing Ocean Science Resources and Data to K-12 Classrooms via the Web. **Lisa Lawrence** | Salt marsh response to dike removal: implications for future sea level rise. **Martin Lafrenz**, Sarah Eppley, Inez Lawson, Andrew McCandless, Catherine de Rivera | Factors controlling Ruppia maritima in the highly managed southern Everglades-Florida Bay estuary: a population approach. **Theresa Strazisar**, Marguerite Koch, Christopher Madden | **11:45 AM** |
| **BREAK 12:00-1:30 PM** | | | | | |

# ORAL SESSIONS Tuesday 10 November | Early Afternoon 1:30 PM–3:00 PM

| | Room A 105 | Room A 106 | Room A 107-109 | Room B 110-112 | Room B 113 |
|---|---|---|---|---|---|
| | **SCI-133**<br>**Developing Long-Term Management Plans for Estuarine Waters: Where Science and Management Meet**<br>James Latimer | **SCI-134**<br>**Connectivity Between Arctic Lagoons and Adjacent Ecosystems: Nutrients to Nekton**<br>Kenneth Dunton | **SCI-135**<br>**Macroalgal Blooms on the Rise: Renew our Knowledge**<br>Dongyan Liu | **SCI-136**<br>**Coastal Ocean Acidification: Using Models to Integrate Multiple Stresses**<br>Elizabeth Turner | **SCI-137**<br>**Lagoons Without Borders: International Approaches to Challenges in Lagoon Science and Management**<br>Christina Toms |
| **1:30 PM** | Environmental and management goal setting for the Long Island Sound Comprehensive Conservation and Management Plan. **James Latimer**, Jason Krumholz, Mark Tedesco | SHELFZ – connections between nearshore and offshore fish habitats on the Chukchi Sea shelf. **Leandra Sousa**, Alexi Pinchuck, Elizabeth Logerwell, Seth Danielson, Sandra Parker-Setter, John Horne, Johanna Vollenweider, Ron Henitz | Seasonal nitrogen storage in Ulva spp.beds in Jamaica Bay, New York. **Annesia Lamb**, Brett Branco | Population Level Effects of Ocean Acidification on North Atlantic Bivalve Species Using Inverse Demographic Methods. **Cecilia O'Leary**, Janet Nye, Christopher Gobler, Jason Grear | Climate phase, climate change and estuary management in New South Wales and California. **Neil Saintilan**, Kerrylee Rogers, Eric Stein, Dave Jacobs |
| **1:45 PM** | Developing management level nutrient targets and thresholds for southwest Florida tidal creeks. **Michael Wessel**, Jay Leverone, Ed Sherwood, Judy Ott, Kellie Dixon, Anthony Janicki | Use of Elson Lagoon (Barrow, Alaska) by anadromous and marine fishes during open-water period. **Todd Sformo**, Larry Moulton, John George | Macrofaunal community response to extreme concentrations of green macroalgae in a naturally eutrophic estuary. **Alyssa Hopkins**, Theodore DeWitt, Lauri Green | Sponge erosion under acidification and warming scenarios: differential impacts on living and dead coral. **Amber Stubler**, Bradley Furman, Bradley Peterson | Defining, characterising and implementing the Estuarine Functional Zone in South African systems. **Nicolette Forbes**, Anthony Forbes |
| **2:00 PM** | Developing SW Florida water quality standards: Long-term management planning for the three National Estuary Programs. **Holly Greening**, Mark Alderson, Jay Leverone, Lisa Beever, Ed Sherwood, Judy Ott, Mike Wessel, Tony Janicki | Zooplankton assemblages in an Arctic estuarine lagoon: composition and distribution in relation to local hydrography. **Alexei Pinchuk**, Leandra Sousa, Johanna Vollenweider | Controls of benthic algae in a disturbed coral reef system, Spermonde Archipelago, Indonesia. **Mirta Teichberg**, Jeremiah Plass-Johnson, Sebastian Ferse, Christian Wild, Muhammad Lukman, Jamaluddin Jompa | Deciphering estuarine carbonate variability: a numerical approach. **Cameron Allen**, George Waldbusser, Burke Hales | A beach perspective on coastal lagoon functioning – comparing different inlet management strategies. **David Revell**, Dane Behrens, Bob Battalio |
| **2:15 PM** | It's worth how much?!? Incorporating valuation metrics into long-term goals in Tampa Bay, Florida, USA. **Holly Greening**, Marc Russell, Avera Wynn, Steve Emmett-Mattox | The influence of terrestrial carbon subsidies on microbial communities in the coastal Beaufort Sea. **Colleen Kellogg**, Tara Connelly, James McClelland, Kenneth Dunton, Byron Crump | A tale of two algal blooms: Differential negative effects of Ulva and Gracilariopsis on seagrass. **Sarah Bittick**, Martha Sutula, Peggy Fong | Ecosystem consequences from ocean acidification and fishing in the California Current: an Atlantis modeling approach. **Emma Hodgson**, Kristin Marshall, Isaac Kaplan, Timothy Essington | The importance of marine derived subsidies for steelhead rearing in a central California lagoon. **Alison Collins**, Morgan Bond, Jeff Harding, Arnold Ammann, Sean Hayes |
| **2:30 PM** | Developing Louisiana's Comprehensive Master Plan for a Sustainable Coast through collaborative decision making. **Mandy Green**, Karim Belhadjali, Melanie Saucier | Trophic structure and reliance on terrestrial carbon subsidies in Alaskan Beaufort Lagoons. **Carolynn Harris**, James McClelland, Byron Crump, Tara Connelly, Kenneth Dunton | Ocean acidification accelerates the growth of estuarine macroalgae. **Craig Young**, Christopher Gobler | Developing a model to study ocean acidification in Puget Sound with FVCOM-ICM. **Laura Bianucci**, Wen Long, Tarang Khangaonkar, Greg Pelletier, Mindy Roberts | New methodologies to assess bar-built estuaries and prioritize management on the san mateo county coastline. **Kevin O'Connor**, Ross Clark, Sarah Stoner-Duncan, Walter Heady, John Klochak, Sierra Ryan, Kamille Hammerstrom |
| **2:45 PM** | Indicators and ecosystem recovery targets for Puget Sound. **Nathalie Hame**l, Jim Bolger, Scott Redman | Arctic Coastal Ecosystem Survey (ACES): Productivity and Connectivity of Nearshore Arctic Habitats. **Johanna Vollenweider**, Ron Heintz, Mark Barton, John Moran, Kevin Boswell, Ann Robertson | The world's largest macroalgal bloom in the Yellow Sea, China: Formation and implications. **Dongyan Liu** | Developing scenarios of species response to ocean acidification for ecosystem projection modeling. **Shallin Busch**, Paul McElhany | Bioenergetic and other trade-offs of juvenile steelhead (Oncorhynchus mykiss) in an intermittent estuary, northern California. **William Matsubu**, Charles Simenstad, Gregg Horton, David Beauchamp, John Largier |

# ORAL SESSIONS Tuesday 10 November | Early Afternoon 1:30 PM–3:00 PM

| Room B 114 | Room B 115 | Room B 116 | Room B 117-119 | Room C 120-122 | |
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| **SCI-138**<br>**Data Driving Louisiana's River Diversion Projects, Planning Through Adaptive Management**<br>James Pahl | **SCI-107F**<br>**Hydrodynamics and Sediment Dynamics in Estuaries and Coastal Seas**<br>Carl Friedrichs | **SCI-139**<br>**Artistic Pathways to Scientific Understanding**<br>Karen Haberman | **SCI-125C**<br>**Responses of Salt Marshes to Sea Level Rises**<br>Joanna Carey | **SCI-140**<br>**What Influences Dissolved Oxygen Patterns in Estuarine Waters of the Pacific Northwest?**<br>Mindy Roberts | |
| Constructed and Proposed Diversions from the Atchafalaya and Mississippi Rivers. **Joseph LeBlanc**, James Pahl | The Estuarine Inflow. **Parker MacCready** | Artistic pathways to scientific understanding: opening conversation. **Karen Haberman**, Sarah Kolesar, Joseph Germano, Ayesha Gray | Does establishment of Kosteletzkya pentacarpos in abandoned agricultural fields facilitate upland transition to salt marsh? **Victoria Long**, Katie Spady, Linda Blum | Synthesizing oxygen impacts around Puget Sound and the Salish Sea – what do we know? **Mindy Roberts**, Anise Ahmed, Greg Pelletier, Teizeen Mohamedali, Tarang Khangaonkar, Wen Long, Laura Bianucci, Ben Cope, Jude Apple | **1:30 PM** |
| Design of the Mid-Barataria Sediment Diversion Project determined by data and predictive modeling. **Micaela Coner**, Kodi Collins, Neil McLellan, Robert Beduhn, James Pahl | Laboratory experiments at the estuary – river plume interface. **Alexander Horner-Devine**, Anthony Poggioli | Salmon Sonnets: How Writing Reveals our Estuaries. **Henry Hughes** | Long-term nitrogen fertilization reduces Spartina alterniflora genetic diversity altering ecosystem stability. **Thomas Mozdzer**, Melissa McCormick, Caitlin Bauer, Jennifer Bowen, Linda Deegan | Examining estuarine dissolved oxygen levels from the mid-20th century to present in Coos Bay, Oregon. **David Sutherland**, Daniel Gavin, Geoffrey Johnson, Nathan Mathabane, Joshua Roering | **1:45 PM** |
| Challenges of modeling environmental impacts of a coastal diversion project. **Betty Dehoney**, Elizabeth Davoli, Micaela Coner | Variability of estuarine circulation in a tidally energetic inlet with curvature **Kaveh Purkiani**, Johannes Becherer, Hans Burchard | A Pacific Northwest Clamtastrophe: Examining inducible defenses to novel predators. **Brian Turner**, Catherine de Rivera | Effects of sea level rise on decomposers in a restored coastal salt marsh. **Nathan McLain**, Christine Whitcraft, Jesse Dillon | Investigating an extreme high dissolved oxygen and cold water anomaly in a Washington fjord. **John Mickett**, Christopher Krembs, Wendi Ruef, Jan Newton, Allan Devol | **2:00 PM** |
| Feasibility and Design of the Lower Barataria Diversion Project Determined by Data and Predictive Modeling. **Kent Bollfrass**, Joseph LeBlanc, Ehab Meselhe, David Escude, James Pahl | Factors Influencing Stratification and Exchange Flow over Mattituck Sill: Eastern Long Island Sound. **Robert Wilson**, Claudia Hinrichs | Latticework and Slime: The Unseen Geometries of Mucus. **Keats Conley**, Kelly Sutherland | Examining effects of sea level rise and marsh crabs on Spartina patens using mesocosms. **Alana Hanson**, Katelyn Szura, Cathleen Wigand, John Gurak, Richard McKinney, Autumn Oczkowski, Earl Davey | Not so dead zones - lively and variable bottom water hypoxia in Bellingham Bay. **Jude Apple**, Robin Kodner, Sue Blake, Natasha Christman, Marco Hatch | **2:15 PM** |
| Predictive Modeling for a Proposed Network of Diversion Projects across the South Louisiana Landscape. **Ehab Meselhe**, Elizabeth Jarrell, Melissa Baustian, Hoon Jung, Mead Allison, Denise Reed, Jim Pahl, Scott Duke-Sylvester, Jenneke Visser, Johannes Smits, Michel Jueken, Bas vanMaren | Residual salt transport in well-mixed and partially mixed estuaries: the influence of bathymetry and geometry. **Xiaoyan Wei**, Mohit Kumar, Henk Schuttelaars | Ecological reflections: Salt marsh ecology through the eyes of artists and scientists. **Linda Blum**, Alice McEnerney-Cook, Art Schwarzschild | Melampus bidentatus as a model for the effects of climate change on salt marsh invertebrates. **Bethany Williams**, David Johnson | Oxygen and phytoplankton dynamics in Quartermaster Harbor, Washington. **Bob Kruger** | **2:30 PM** |
| Feasibility and Design for the Increase Atchafalaya Flow to Terrebonne Diversion Project. **Maarten Kluijver**, Austin Feldbaum | Salt Intrusion Characteristics of Seomjin River Estuary in Korea. **Jongkyu Kim** | Art as an Avenue for Marine Science Communication. **Lekelia Jenkins** | Expanding marsh habitat paradigms: ecosystem services of North Carolina Juncus-roemerianus-dominated marshes. **Christine Voss**, Lucielle Zipf, Charles Peterson | Coupling Sediment Diagenesis with the Unstructured Grid Water Quality Model FVCOM-ICM. **Wen Long**, Greg Pelletier, Tarang Khangaonkar, Laura Bianucci, Mindy Roberts | **2:45 PM** |
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# ORAL SESSIONS Wednesday 11 November | Early Morning 8:00 –9:45 AM

| | Room A 105 | Room A 106 | Room A 107-109 | Room B 110-112 | Room B 113 |
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| | **SCI-141**<br>**Incorporating Climate Change in Regulatory Frameworks and Conservation Planning**<br>Cheryl Brown | **SCI-142A**<br>**Coastal Blue Carbon Ecosystems: Current Science and Application to Management Efforts**<br>Beverly Johnson | **SCI-143A**<br>**The Harmful Algal Bloom and Hypoxia Research and Control Act: Accomplishments and Remaining Challenges**<br>Robert Magnien | **SCI-144**<br>**Ocean Acidification and Hypoxia: Mechanisms for Linking Science to Management and Policy**<br>Hayley Carter | **SCI-145A**<br>**Shellfish as a Multiple use Resource: Activities, Conflicts, and Planning for Resolution**<br>Julie Rose |
| **8:00 AM** | Predicting future species distribution under global warming in European coastal waters. **Araceli Puente Trueba**, Camino Fernández dela Hoz, Elvira Ramos, Fernando Méndez, Melisa Menéndez, José Juanes, Íñigo Losada | Coastal Blue Carbon: Five Years of Progress. **Stephen Emmett-Mattox**, Stephen Crooks | Advances in hypoxia research and management under HABHRCA. **Alan Lewitus**, Donald Boesch, David Kidwell, Robert Magnien, Donald Scavia, David Scheurer | Coalescing science for policy: perspectives from a west coast ocean acidification and hypoxia science panel. **Francis Chan**, *The West Coast Ocean Acidification and Hypoxia Science Panel* | Eutrophication and shellfish aquaculture: Shellfish can help coastal waters! **Suzanne Bricker**, Joao Ferreira, Julie Rose, Eve Galimany, Gary Wikfors, Robin Landeck Miller, James Wands, Katharine Wellman, Robert Rheault, Phil Trowbridge, Raymond Grizzle, Suzanne Ayvazian, Mark Tedesco |
| **8:15 AM** | The Icarus challenge - Predicting vulnerability to climate change using an algorithm-based species' trait approach. **Henry Lee II**, Marshall Hanshumaker, Deborah Reusser, Christina Folger, Katharine Marko, Rene Graham | Incorporating coastal blue carbon into the implementation of U.S. Federal policies. **Amber Moore**, Ariana Sutton-Grier | Evaluating nutrient management strategies for reducing coastal hypoxia: lessons from simple and complex models. **Dubravko Justic**, David Fertitta, Lixia Wang | Heterogeneity in pH and oxygen dynamics in coastal waters of the Santa Barbara Channel, California. **Gretchen Hofmann**, Lydia Kapsenberg, Umihiko Hoshijima | |
| **8:30 AM** | Incorporating climate change considerations into planning and policy at NOAA's National Estuarine Research Reserves. **Michael Migliori** | Marshes of the Anthropocene: a changing role for coastal marshes in global climate? **Rose Martin**, Serena Moseman-Valtierra | Modeling the effects of hypoxia on fish movement in the Gulf of Mexico hypoxic zone. **Elizabeth LaBone**, Dubravko Justic, Kenneth Rose, Lixia Wang, Haosheng Huang | Vulnerability and adaptation of US shellfisheries to ocean acidification. **Julia Ekstrom**, Lisa Suatoni, Linwood Pendleton, Sarah Cooley, Trina Wellman, George Waldbusser | Economic Value of Bioextraction: Nitrogen Removal, Fresh Local Seafood, and Employment. **Katharine Wellman**, Suzanne Bricker, Joao Ferreira |
| **8:45 AM** | A climate change risk assessment for water quality and salmon recovery SF Nooksack River, WA. **Steven Klein**, Jon Butcher, Hope Herron, Bruce Duncan, Laurie Mann, Teizeen Mohamedali, Steve Hood, Oliver Grah, Treva Coe, Ned Currence, Mike Maudlin, Tim Beechie | Climate feedbacks from coastal marshes? Impacts of sea level rise on greenhouse gas fluxes. **Serena Moseman-Valtierra**, Jianwu Tang, Kate Morkeski, Rose Martin, Isabella China, Elizabeth Brannon | Physiological and epigenetic impacts of hypoxia on Atlantic croaker in the northern Gulf of Mexico. **Peter Thomas**, Saydur Rahman | Managing fisheries in the changing physical and chemical oceanographic environment of the California Current Ecosystem. **W. Waldo Wakefield**, Christopher Harvey, Yvonne de Reynier, Phillip Levin | Can oysters (Crassotrea virginica) and quahogs (Mercenaria mercenaria) clean the Indian River Lagoon (FL)? **Eve Galimany**, Christopher Freeman, Jessica Lunt, Sherry Reed, Katrina Bayliss, Valerie Paul |
| **9:00 AM** | Planning in the Face of Uncertainty: Habitat Mapping that Supports Social-Ecological Networks and Resilient Estuaries. **Rebecca Flitcroft**, Patrick Clinton | Eutrophication is also a climate problem – nitrous oxide emissions from saltmarshes in agricultural watersheds. **Gail Chmura**, Brittney Roughan, Lisa Kellman, Erin Smith | Hypoxia Effects on Fisheries in the Northwestern Gulf of Mexico. **Kevin Craig**, Kevin Purcell, Brian Langseth, James Nance, Joseph Smith | Transforming the abstract into action: incorporating "changing ocean chemistry" into nearshore resource management. **Caren Braby**, David Fox, Steven Rumrill | Nutrient bioextraction via harvest, denitrification, and burial at an off-bottom oyster aquaculture farm. **Abby Lunstrum**, Karen McGlathery, Ashley Smythe |
| **9:15 AM** | Evaluating Trade-offs Between Dune Conservation and Coastal Protection Associated with Restoration Management in Oregon. **Lindsay Carroll**, Sally Hacker, Peter Ruggiero | Salt marsh greenhouse gas emissions in a warmer world. **Joanna Carey**, Kevin Kroeger, Kate Morkeski, Xuechu Chen, Jianwu Tang | Hypoxia in Green Bay, Lake Michigan. **Val Klump**, Hector Bravo, Kevin Fermanich, Sajad Hamidi, Shelby LaBuhn | A "toolbox" of state opportunities to act on ocean acidification. **Sarah Cooley**, Ryan Ono, Sage Melcer, Julia Roberson | The effects of oyster aquaculture on estuarine microbial community composition and Vibrio abundance. **Sarah Feinman**, Yuna Farah, Jennifer Bowen |
| **9:30 AM** | Storm Surge Return Levels for the U.S. Gulf Coast. **Hal Needham**, David Sathiaraj, Barry Keim, Amanda Lewis | Potential blue carbon benefits of small-scale tidal restoration in Casco Bay, Maine. **Curtis Bohlen**, Matthew Craig, Beverly Johnson, Andrea Verrill | Scientific perspectives on management challenges toward meeting oligotrophication goals for Chesapeake Bay. **Donald Boesch** | Science and policy collaboration on ocean acidification and hypoxia: A west coast-wide model. **Gabriela Goldfarb** | Comparison of potential ecosystem services and restoration promise of diverse freshwater and marine bivalve shellfish. **Danielle Kreeger**, Peter Bergstrom, Catherine Gatenby, Joshua Moody, Kurt Cheng, Angela Padeletti, Roger Thomas |
| **BREAK 9:45-10:15 AM** | | | | | |

# ORAL SESSIONS Wednesday 11 November | Early Morning 8:00–9:45 AM

| Room B 114 | Room B 115 | Room B 116 | Room B 117-119 | Room C 120-122 | |
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| **SCI-146**<br>**Chemical Biomarkers in Aquatic Ecosystems**<br>Elizabeth Canuel | **SCI-147**<br>**Monitoring**<br>Walt Nelson | **SCI-148**<br>**Defining Reference Conditions in Estuarine and Coastal Systems**<br>David Gillett | **SCI-149**<br>**Long-term Research in the California Current's Coastal Ocean**<br>Kristen Milligan | **SCI-110E**<br>**Seagrass Ecosystems: Challenges in Evaluating Function,Health, Abundance and Restoration (Restoration)**<br>Len McKenzie | |
| Carbon and nitrogen isotopic composition variability of Zostera marina and Ulva in a coastal lagoon. **Julieta Hernández-López**, Víctor Camacho-Ibar, Sharon Herzka, Jose Sandoval-Gil, Francisco Delgadillo-Hinojosa | Testing optimal search theory to improve resource allocation for designing coastal marine monitoring programs. **Kimberley Millers**, Michael McCarthy | Estimating reference conditions in support of biological assessments. **Charles Hawkins** | Loss of the keystone predator Pisaster ochraceus from wasting disease: community impact and potential recovery. **Bruce Menge**, Angela Johnson, Elizabeth Cerny-Chipman, Jenna Sullivan | Mooring impacts on Zostera marina meadows and associated epifauna in a New England bay. **Andrew McCandless**, Catherine de Rivera | **8:00 AM** |
| Benthic algae count! Evidence that benthic algae play an important role in coastal food webs. **Benoit Lebreton**, Jennifer Beseres Pollack, Matilda Haraldsson, Paul Montagna, Brittany Blomberg, Terry Palmer, Claudia Gräfe, Yujue Wang, Qingxi Han, Dongyan Liu, Gaël Guillou, Harald Asmus, Ragnhild Asmus | Inter-annual variability in the relationship between wave exposure and vertical variation in blue mussel populations **Julia Scheinin** | Evaluating the adequacy of a reference-site pool for ecological assessments in environmentally complex regions. **Peter Ode**, Andrew Rehn, Raphael Mazor, Kenneth Schiff, Charles Hawkins | Considering multiple life stages when evaluating marine protected areas in a changing climate. **Kirsten Grorud-Colvert**, Jennifer Caselle | Impacts of organic enrichment from finfish aquaculture on seagrass and infaunal communities in Atlantic Canada. **Nakia Cullain** | **8:15 AM** |
| Sediment processing of organic matter under increased nutrient loading: an isotope enrichment and biomarker experiment. **Philip Riekenberg**, Joanne Oakes, Brad Eyre | Modeling Participation in Citizen Science: Recreational Fishermen in Massachusetts. **Lena Weiss** | The Potential Benefits and Difficulties of Defining Reference Conditions in Coastal and Estuarine Systems. **David Gillett** | Occurrence of demersal fishes in relation to near-bottom oxygen levels within the California Current ecosystem. **Aimee Keller**, Lorenzo Ciannelli, W. Waldo Wakefield, Victor Simon, John Barth, Stephen Pierce | Relative consumption rates and spatial patterns of pinfish in seagrass of St. Joseph Bay FL. **Troy Mutchler**, Alex Lamle | **8:30 AM** |
| Coastal temperate rainforests as hotspots for biogeochemical linkages from land to sea. **Allison Oliver**, Suzanne Tank, William Floyd, Brian Hunt, Ian Giesbrecht | If you build it, they will come: marine habitat provided by a wastewater outfall. **Kimberle Stark**, Jeff Lundt, Wendy Eash-Loucks | Identifying Reference Conditions to Derive Numeric Nutrient Criteria in Estuarine and Coastal Waters. **Tiffany Crawford** | Detecting and Understanding Change Using Long-term Cross-Shelf Time Series from the Northern California Current. **John Barth**, Francis Chan, Anatoli Erofeev, Jane Lubchenco, Bruce Menge, Kristen Milligan, Stephen Pierce, Robert Rohrer, Robert Shearman | Trophic plasticity in a population of juvenile green turtles in an overgrazed seagrass system. **Claire Burgett**, Derek Burkholder, Judson Kenworthy, Sarah Manuel, Mark Outerbridge, Virginia Fourqurean, Kathryn Coates, James Fourqurean | **8:45 AM** |
| Bottom waters of the estuarine turbidity maximum trap vascular plant-derived particulate organic matter. **Anna Hermes**, Elisabeth Sikes | Characterizing functional genetic variation in an endangered endemic salt marsh mammal, Reithrodontomys raviventris. **Anastasia Ennis**, C. Sarah Cohen | Tidal creeks along a gradient of stressors: identifying appropriate reference systems. **Andrew Tweel**, Denise Sanger | Using long-term rocky intertidal monitoring data to assess change and inform policy. **Melissa Miner**, Peter Raimondi | Temperature induced changes in the distribution of two seagrasses in Chesapeake Bay. **John Richardson**, Robert Orth, Scott Marion, Frederick Holbert, David Wilcox, Jonathan Lefcheck | **9:00 AM** |
| Characterisation of carbon in mangrove porewaters along a climatic gradient. **Tegan Davies**, Neil Pettit, Catherine Lovelock, Pauline Grierson | Patterns in zooplankton community composition in the Padilla Bay National Estuarine Research Reserve. **Nicole Burnett**, Jude Apple | Fish assemblages near the mouth of the Savannah River, Georgia before a channel dredging. **Mary Carla Curran**, Jennifer Gut | Huge Northeast Pacific Ocean Dataset Available from the Ocean Observatories Initiative: Opportunities and Caveats. **Jonathan Fram**, Edward Dever, Craig Risien, Christopher Wingard, John Barth | Evaluating the status of seagrass adjacent to the highly urbanised island city-state of Singapore. **Len McKenzie**, Siti Maryam Yaakub, Rudi Yoshida | **9:15 AM** |
| Sources, Ages and Alteration of Organic Matter in Estuaries. **Elizabeth Canuel**, Amber Hardison | Seagrass epiphytes: useful indicator, potential biological criterion, or forlorn hope? **Walt Nelson** | Ecological function as a target for ecosystem-based management: Defining when change matters in decision making. **Richard Fulford**, Marc Russell, Darrin Dantin, Jim Harvey, Alex Almario | Simulating effects of changing upwelling conditions across trophic levels within the Northern California Current ecosystem. **James Ruzicka**, Kenneth Brink, Dian Gifford, Frank Bahr | Coastal and Marine Development Contribute to the Elimination of Nearshore Seagrass Habitats. **Ernesto Otero-Morales**, Stacey Williams, William Hernández, Yasmín Detrés-Cardona, Roy Armstrong, Mariana Careli, Lisamarie Carrubba-MacPherson | **9:30 AM** |
| **BREAK 9:45-10:15 AM** | | | | | |

# ORAL SESSIONS Wednesday 11 November | Mid-Morning 10:15AM–12:00PM

| | Room A 105 | Room A 106 | Room A 107-109 | Room B 110-112 | Room B 113 |
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| | **SCI-150**<br>**Restoration for a Changing Climate**<br>Catherine Corbett | **SCI-142B**<br>**Coastal Blue Carbon Ecosystems: Current Science and Application to Management Efforts**<br>Beverly Johnson | **SCI-143B**<br>**The Harmful Algal Bloom and Hypoxia Research and Control Act: Accomplishments and Remaining Challenges**<br>Robert Magnien | **SCI-151**<br>**From Data to Information: Harnessing Observing Data for Ecological Assessment and Forecasting in Coastal Bays and Estuaries**<br>Jan Newton | **SCI-145B**<br>**Shellfish as a Multiple use Resource: Activities, Conflicts, and Planning for Resolution**<br>Julie Rose |
| **10:15 AM** | Introduction to Restoration for a Changing Climate Session. **Catherine Corbett**, David Tomasko, Curtis Loeb, Steve Crooks, Chris Collins | Seagrass blue carbon resources of North America. **Frederick Short**, Dante Torio, Gail Chmura | HABHRCA: 17 years of effective HAB research and response. **Quay Dortch**, Marc Suddleson, Alan Lewitus, Rob Magnien, David Kidwell, John Wickham | Massachusetts TIDEGateway: A new web-based geospatial tool for planning, assessment and analysis of tide gates. **Robert Hartzel**, Lisa Engler, David Roman | How and when do boat wakes destroy intertidal oyster reefs? **Linda Walters**, Donna Campbell, Paul Sacks, Stephanie Garvis, Jacob Conley, Steven Jachec |
| **10:30 AM** | Restoration of cold water refugia in the Columbia River Estuary. **Christopher Collins**, Catherine Corbett, Keith Marcoe, Paul Kolp | Stability of estuarine carbon sinks: Is bioturbation decreasing the persistence of blue carbon? **Alexandra Thomson**, Thomas Valdemarsen, Cintia Quintana, Peter Macreadie, Peter Ralph, Erik Kristensen | Reviewing the advancements of the ORHAB monitoring program: using applied science to explore ecosystem interconnections. **Zachary Forster**, Dan Ayres | Developing User Tools for Integration of Coastal and Ocean Data. **Rob Bochenek** | GeoSpatial Variation of Ribbed Mussel (Geukensia demissa) Ecosystem Services Across the Salt marsh Landscape. **Joshua Moody**, Danielle Kreeger, Elizabeth Watson |
| **10:45 AM** | Rates of elevation change before and after levee removal in a restored estuarine marsh. **John Rybczyk**, Katrina Poppe, Roger Fuller | Gain and Loss of Seagrass Blue Organic Carbon Sequestration from Gulf of Mexico Estuaries. **Anitra Thorhaug**, Helen Poulos, Jorge Lopez-Portillo Guzman, Graeme Berlyn | Emergency response mapping of Alexandrium cysts in the surface sediments of Puget Sound WA. **Cheryl Greengrove**, Julie Masura, Stephanie Moore | Developing the next-generation forecast and decision support tools for Great Lakes harmful algal blooms. **Eric Anderson**, Mark Rowe, Timothy Davis, Tom Johengen, Steve Ruberg, Andrea Vander Woude | Sustainable Ecological Aquaculture Network (SEANET). **Carrie Byron**, Damian Brady, Paul Anderson, Barry Costa-Pierce |
| **11:00 AM** | Living shoreline stabilization: Protecting coastal historic sites from erosion and sea level rise. **Melinda Donnelly**, Paul Sacks, Linda Walters | Salt marsh carbon export contributes to 'blue carbon' accumulation in a restored seagrass meadow. **Matthew Oreska**, Karen McGlathery, Grace Wilkinson | Harmful algal blooms and climate change: approaches and challenges for forecasting and communicating risk. **Stephanie Moore** | Scientific Basis for Assessment of Nutrient Impacts on San Francisco Bay. **Martha Sutula**, Raphael Kudela, James Hagy, Mine Berg, Suzanne Bricker, James Cloern, Richard Dugdale, Lawrence Harding Jr., David Senn | Development of the Rhode Island state shellfish management plan. **Dale Leavitt**, Monique LaFrance Bartley, David Beutel, Azure Cygler, Jennifer McCann, Jeffrey Mercer |
| **11:15 AM** | Coastal Resilience California: Choosing Partners to Bring Coastal Adaptation to Scale. **Sarah Newkirk**, Walter Heady, Brian Cohen | Improving estimates of sediment carbon density across marsh types and spatial scales. **Kristin Wilson**, Erik Smith, Kristin Arend, Nikki Dix, Matt Ferner, Lyndie Hice-Dunton, Shon Schooler, Mark Woodrey | Effects of climate change on the growth and toxicity of the dinoflagellate,Cochlodinium polykrikoides. **Andrew Griffith**, Christopher Gobler | Improving estimates of ecosystem metabolism by reducing tidal advection effects on dissolved oxygen time series. **James Hagy**, Marcus Beck, Michael Murrell | Developing maps to examine user conflicts for the Rhode Island Shellfish Management Plan. **David Beutel**, Monique LaFrance Bartley, Azure Cygler, Jennifer McCann, Dale Leavitt, Jeff Mercer |
| **11:30 AM** | Critical coastal habitat assessment to detect climate change impacts to habitats in Tampa Bay, Florida. **Lindsay Cross**, Edward Sherwood, Douglas Robison, David Loy | Blue Carbon ecosystems from Brazil: the role on carbon sequestration and emissions. **Margareth Copertino**, Raymond Ward, Paulo Pagliosa, Tiago Ferreira, Joel Creed, Cesar Costa, Andre Rovai, Alessandra Fonseca, Gabriel Nóbrega, Angelo Bernardino, Gil Reuss | Modelling environmental factors influence on human respiratory irritation from natural exposure to Karenia brevis aerosols. **Gary Kirkpatrick**, Barbara Kirkpatrick, Gary Hitchcock | Innovative Virtual Reality Sea Level Rise Visualizations: Awakening Our Reptilian Brain to Spur Action. **Juliette Finzi Hart**, Phyllis Grifman, Alyssa Newton Mann | Merging modeling and mapping to reduce user conflict and maximize shellfish aquaculture production. **Julie Rose**, Suzanne Bricker, Tessa Getchis, Cary Chadwick, Cori Rose |
| **11:45 AM** | Challenges in forecasting the long-term biogeomorphologic development of intertidal wetlands: exemplified in the Scheldt estuary. **Christian Schwarz**, Stijn Temmerman, Tjeerd Bouma, Johan van de Koppel, Patrick Meire | Blue Carbon Blues: identifying carbon storage and loss potential in eroding salt marhses. **Nathan McTigue**, Jenny Davis, Carolyn Currin | Patterns of variability of two potentially HAB dinoflagellates in Bahía Fosforescente, PR: role of seasonality. **Brenda María Soler Figueroa**, Ernesto Otero | Developing a framework for tracking multiple estuarine goals in the Chesapeake Bay Region. **Tuana Phillips** | The application of an ecosystem model to address stakeholder concerns about aquaculture expansion. **P. Sean McDonald**, Bridget Ferriss, Christopher Harvey, Jonathan Reum, Dara Farrell, Glenn VanBlaricom |
| **BREAK 12:00-1:30 PM** | | | | | |

# ORAL SESSIONS Wednesday 11 November | Mid-Morning 10:15AM–12:00PM

| Room B 114 | Room B 115 | Room B 116 | Room B 117-119 | Room C 120-122 | |
|---|---|---|---|---|---|
| **SCI-152**<br>**Applications of Phytoplankton Pigment-Based Methods in Estuarine and Coastal Ecology**<br>James Pinckney | **SCI-153A**<br>**Estuaries Under Threat: Exploring the Ecology of Microbes in 21st Century Estuaries**<br>Jennifer Bowen | **SCI-154**<br>**Defining Tipping Points to Inform Management of Multiple Stressors in Marine Ecosystems**<br>Larry Crowder | **SCI-155A**<br>**Coastal, Estuarine, and Marsh Dedimentation During Times of Environmental Change**<br>Joseph Carlin | **SCI-156**<br>**How can Data Synthesis be used to Analyze Seagrass Resilience to Climate Change?**<br>Jessie Jarvis | |
| Lethal and sublethal effects of triclosan on estuarine phytoplankton communities. **James Pinckney**, Elise Van Meerssche | Phytoplankton and dissolved organic matter as drivers of bacterial diversity in an estuary. **David Kirchman**, Giacomo DiTullio, Helena Osterholz, Jutta Niggemann, Thorsten Dittmar | Embedding the science of tipping points into ocean management. **Rebecca Martone**, Carrie Kappel, Courtney Scarborough, Mary Hunsicker, Benjamin Halpern, Kimberly Selkoe, Phil Levin, Jameal Samhouri, Rod Fujita, Ashley Erickson, Ryan Kelly, Crow White, Larry Crowder | Geotechnical Characterization of a Louisiana Bay Bottom. **Angelina Freeman**, Harry Roberts | Modelling Zostera marina restoration potential in Barnegat Bay New Jersey. **Jessie Jarvis**, Peter Straub, Steven Evert | **10:15 AM** |
| Freshwater inflow availability in Galveston Bay: how droughts affect phytoplankton resource limitation. **Allyson Lucchese**, Tyra Booe, Rachel Windham, Jamie Steichen, Hannah Preischel, Antonietta Quigg | Bottom-up controls on a coastal bacterioplankton time-series: relative utility of in situ versus remotely-sensed measurements. **Emma Wear**, Craig Carlson, David Siegel, Nathalie Guillocheau | Identifying leading indicators of marine ecosystem shifts: uniting biological intuition and complex systems theory. **Mary Hunsicker**, Carrie Kappel, Rod Fujita, Kendra Karr, Nicole Sarto, Courtney Scarborough, Rebecca Martone | Modeling interactions between backbarrier marshes, inlets, ebb-deltas, and adjacent barriers exposed to rising sea levels. **Kevin Hanegan**, Ioannis Georgiou, Duncan FitzGerald | How do we use water quality data to assess seagrass system resilience? **Michael Durako**, Margaret Hall | **10:30 AM** |
| Phytoplankton community dynamics in the river-influenced margin of the northern Gulf of Mexico. **Sumit Chakraborty**, Steven Lohrenz | Spatial and temporal microbial pollution patterns in a Hawaiian estuary. **Tracy Wiegner**, Caree Weisz, Leilani Abaya, Kaile`a Carlson, Amber Lyon-Colbert, Stephanie Molloy | Variable primary producer responses to nutrient and temperature manipulations in mesocosms: temperature effects dominate. **James Kaldy**, Melanie Frazier, Keri Caudle, Cheryl Brown, Walt Nelson | Comparison of marsh sediment accumulation and accretion rates in two contrasting estuaries. **Brandon Boyd**, Christopher Sommerfield, Tracy Elsey-Quirk | Integrating long-term and large-scale data to understand SAV responses to multiple stressors. **Christopher Patrick**, Donald Weller, Meghan Williams | **10:45 AM** |
| Phytoplankton community composition in San Francisco Bay: using a pigment approach to find what's hidden. **Melissa Peacock**, Raphael Kudela, David Senn, Tara Schraga, James Cloern | Eco-physiology of Heterotrophic Microbes in Relation to Nutrient Availability in Galveston Bay, Texas. **Alicia Shepard**, Antonietta Quigg | Defining tipping points in the context of environmental variability and multiple stressors. **Steven Litvin**, James Barry, Giulio De Leo, Fiorenza Micheli, Stephen Monismith, C. Brock Woodson, Charles Boch, Emil Aalto, Jody Beers | Environmental influences of short-term wetland sediment accretion and deposition rates on Mustang Island, TX. **Melinda Martinez**, James Gibeaut, Boris Radosavljevic | Comparing genetic diversity, relatedness, and growth performance in Vallisneria americana collected from three rivers. **Brittany Marsden**, Katia Engelhardt, Maile Neel | **11:00 AM** |
| Phytoplankton community structure dynamics during Karenia brevis blooms on the Florida Gulf Coast. **Vincent Lovko**, Jennifer Vreeland | Characterization of physical and microbial processes affecting dissolved oxygen in a river-influenced marine bay. **Anne Baxter**, Linda Rhodes | "The value of information": Adaptive Monitoring and the Trade Off Between Monitoring Costs and Precision. **Adrian Stier**, Tim Essington, Jameal Samhouri, Ben Halpern, Philip Levin | Accretion of saltmarsh sediments from the Yucatán Peninsula and their relation with recent sea-level rise. **Vladislav Carnero-Bravo**, Joan-Albert Sanchez-Cabeza, Ana Ruiz-Fernández, Martin Merino-Ibarra, Libia Perez-Bernal | Modeling climate change effects on eelgrass productivity, resilience, and restoration potential. **Kate Buenau**, Ronald Thom | **11:15 AM** |
| Investigating the water quality of Lower Pearl River Estuary. **Padmanava Dash**, Saurav Silwal, Robert Moorhead, Jarrod Sackreiter, Clifford Ochs, James Pinckney | High rates of dormancy mask the effect of fertilization on microbial activity in salt marshes. **Patrick Kearns**, John Angell, Jennifer Bowen | Principles for management of ecosystems prone to tipping points. **Carrie Kappel**, Kimberly Selkoe | Sedimentary accretion rates, organic carbon accumulation and sea level rise in tropical saltmarshes. **Ana Carolina Ruiz-Fernández**, Joan Albert Sanchez-Cabeza, Libia Hascibe Pérez-Bernal, Sara Bojórquez-Sanchez, Vladislav Carnero-Bravo, Jorge Luis Serrato-de la Peña, Oscar Armando Amaya-Monterrosa, Misael Díaz-Asencio | Seagrass resilience and climate change: anomalous sea level variation, droughts, and warm water 'blobs'? **Ronald Thom**, Amy Borde, John Vavrinec, Kate Buenau, Susan Southard, Lara Aston, Jeff Gaeckle, Dana Woodruff | **11:30 AM** |
| Using CHEMTAX for long term monitoring of phytoplankton communities in a New England estuary, USA. **Jane Tucker**, Anne Giblin, Robert Garritt, Charles Hopkinson, David Borkman, James Pinckney | Invasive Phragmites australis genotypes have distinct microbial communities in the rhizosphere compared to native genotypes. **Jennifer Bowen**, Laura Meyerson, Patrick Kearns, Jennifer Yu, Melissa Burger | How Not to Fall Off a Cliff, or, Using Tipping Points to Improve Environmental Management. **Ashley Erickson**, Ryan Kelly, Lindley Mease | Mangrove saltmarshes as potential indicators of local sea level rise in Mexico. **Joan-Albert Sanchez-Cabeza**, Ana Carolina Ruiz-Fernández, Sara Bojórquez-Sánchez, Vladislav Carnero-Bravo, Misael Díaz-Asencio, Libia Hascibe Pérez-Bernal, Jordi Serrato de-la-Peña | Monitoring Seagrass Distribution and Disturbance with Combined Use of Landsat-8 and Multi-Frequency Sidescan Sonar Imagery. **Abdullah Rahman**, Maryam Rahnemoonfar | **11:45 AM** |
| **BREAK 12:00-1:30 PM** | | | | | |

# ORAL SESSIONS Wednesday 11 November | Early Afternoon 1:30PM–3:00 PM

| | Room A 105 | Room A 106 | Room A 107-109 | Room B 110-112 | Room B 113 |
|---|---|---|---|---|---|
| | **SCI-157**<br>**Data-Informed Adaptive Management of Coastal Protection and Restoration in Louisiana**<br>Richard Raynie | **SCI-142C**<br>**Coastal Blue Carbon Ecosystems: Current Science and Application to Management Efforts**<br>Beverly Johnson | **SCI-158A**<br>**Emerging and Legacy Contaminants in Coastal and Estuarine Systems**<br>Elise Granek | **SCI-159**<br>**Estuarine and Coastal Data-Centric Synthesis Studies: Case Studies and Pathways for Moving Forward**<br>Anne Thessen | **SCI-160A**<br>**Resilience of Shellfish to Current and Emerging Threats to Estuarine Condition**<br>Ted DeWitt |
| **1:30 PM** | Using a web framework to bring coastal Louisiana data alive. **Craig Conzelmann**, Marc Comeaux, Chad Fanguy, Ed Haywood, Christina Hunnicutt | Blue Carbon (mangrove and seagrasses) in Yucatan Peninsula, Mexico. **Jorge Herrera-Silveira**, Claudia Teutli-Hernández, Maria Adame, Maria Liceaga, Israel Medina | Effects of environmentally-relevant concentrations of antibiotics mixtures on intertidal trophic dynamics. **Jaclyn Teixeira**, Elise Granek | Ontological support of data discovery and synthesis in estuarine and coastal sciences. **Anne Thessen**, Benjamin Fertig, Pascal Hitzler, C. Richard Ziegler, Ramona Walls | Estimating the distribution of harvested estuarine bivalves with natural-history-based habitat suitability models. **Theodore DeWitt**, Nathaniel Lewis |
| **1:45 PM** | Overview of CPRA's adaptive management strategy to support coastal protection and restoration in Louisiana. **Richard Raynie** | Oregon salt marshes: How blue are they? **Cheryl Brown**, T. Chris Mochon-Collura, Theodore DeWitt, Christopher Janousek, Craig Cornu | Seasonal and Spatial Variability in Containment Concentrations of Olympia Oysters. **Elise Granek**, Kathy Conn, Elena Nilsen, Lori Pillsbury, Steve Rumrill, Angela Strecker, Bill Fish | Discovering and synthesizing quantitative predictive information on the spatiotemporal distribution of communities across habitat types. **Steven Ferraro** | Clam I am: predictive habitat modeling of fisheries targeted bay clams using a NPMR approach. **Elizabeth Perotti**, Anthony D'Andrea, Cinamon Moffett, Stacy Strickland |
| **2:00 PM** | Managing limited sediment resources adaptively for coastal restoration In Louisiana. **Syed Khalil**, Richard Raynie, Angelina Freeman | Habitat restoration initiatives to buffer potential impacts of climate change in the Tampa Bay estuary. **Edward Sherwood**, Holly Greening, Kim Yates, Ryan Moyer, Steve Emmett-Mattox, Steve Crooks, David Tomasko, Doug Robison | Groundwater transport of caffeine from a coastal state park OWTS into a nearby stream. **Dominic Galen**, Elise Granek, Bill Fish | Investigating the viability of Rangia cuneata as indicators of ecosystem health in Galveston Bay, Texas. **Rachel Windham**, Antonietta Quigg | Improved understanding of reproduction and larval ecology for native Olympia oysters in Coos Bay, Oregon. **Steven Rumrill**, Mark Oates, Cate Pritchard, Rose Rimler |
| **2:15 PM** | Implementation of the Coastwide Reference Monitoring System (CRMS) to evaluate wetlands and restoration project effectiveness. **Leigh Sharp** | What is the value of biomass remote sensing data for blue carbon inventories? **Kristin Byrd**, Stephen Crooks, Lisamarie Windham-Myers | "Prozac in the water: How does long term exposure affect mussel physiology? **Joseph Peters**, Elise Granek | Freshwater Inflow Bioindicators within Galveston Bay, Texas (USA). **Jamie Steichen**, Antonietta Quigg | Infaunal bivalves and their role in biodiversity and ecosystem function relationships at the landscape scale. **Simon Thrush**, Judi Hewitt, Conrad Pilditch, Teri O'Meara, Drew Lohrer, Casper Kraan |
| **2:30 PM** | Development of a long-term monitoring program to support adaptive management in coastal Louisiana **Ann Hijuelos**, Scott Hemmerling, Richard Raynie | Scaling mangrove aboveground biomass from site-level to continental-scale. **Andre Rovai**, Pablo Riul, Robert Twilley, Edward Castañeda-Moya, Victor Rivera-Monroy, Asher Williams, Marc Simard, Miguel Cifuentes-Jara, Roy Lewis, Paulo Horta, Mireya Pozo-Cajas, Paulo Pagliosa | Toxic organic contaminants in Pacific sand lance throughout Puget Sound, Washington. **Kathy Conn**, Collin Smith, Marty Liedtke, Renee Takesue, Rick Dinicola | Freshwater Inflow Bioindicators within Galveston Bay, Texas (USA): importance of phytoplankton. **Antonietta Quigg**, Jamie Steichen | Effects of multiple stressors on the New Zealand cockle and ecosystem function. **Judi Hewitt**, Giovanni Coco, Conrad Pilditch, Michael Townsend, Simon Thrush |
| **2:45 PM** | Plans for Louisiana's New Coastal Education & Research Facility. **Jacob Mitchell**, Jeffrey Carney | Moving from Blue to REDD: MRV and carbon accounting in mangroves. **David Lagomasino**, Temilola Fatoyinbo, SeungKuk Lee | Talking trash: abundance, distribution, and composition of microplastic debris in the northern Gulf of Mexico. **Caitlin Wessel**, David Battiste, Just Cebrian | Synthesis of predator diet data to inform forage fisheries management. **Amber Szoboszlai**, Julie Thayer, William Sydeman | |
| **BREAK 3:00-3:30 PM** | | | | | |

# ORAL SESSIONS Wednesday 11 November | Early Afternoon 1:30PM–3:00 PM

| Room B 114 | Room B 115 | Room B 116 | Room B 117-119 | Room C 120-122 | |
|---|---|---|---|---|---|
| **SCI-107G**<br>**Hydrodynamics and Sediment Dynamics in Estuaries and Coastal Seas**<br>Carl Friedrichs | **SCI-153B**<br>**Estuaries Under Threat: Exploring the Ecology of Microbes in 21st Century Estuaries**<br>Jennifer Bowen | **SCI-162**<br>**Thresholds and Feedback Processes in Coastal and Estuarine Systems**<br>Cassie Gurbisz | **SCI-155B**<br>**Coastal, Estuarine, and Marsh Dedimentation During Times of Environmental Change**<br>Joseph Carlin | **SCI-110F**<br>**Seagrass Ecosystems: Challenges in Evaluating Function, Health, Abundance and Restoration (Functions)**<br>Massa Nakaoka | |
| Estimating Surficial Sediment Properties Using Empirical Orthogonal Function of Acoustic Backscatter Waveforms. **Josh Humberston**, Thomas Lippmann | Controls on estuarine bioreactors: particulate organic matter predicts bacterial productivity in the Columbia River estuary. **Byron Crump**, Lindy Fine, Caroline Fortunato, Lydie Herfort, Joseph Needoba, J. Paul Rinehimer, Craig McNeil, Jesse Lopez | The role of ecological feedbacks in upper Chesapeake Bay submersed plant dynamics. **Cassie Gurbisz**, Michael Kemp, Jeff Cornwell, Larry Sanford, Mike Owens, Debbie Hinkle | Examining the record of geomorphological change in upper Chesapeake Bay. **Cindy Palinkas**, Emily Russ, Lawrence Sanford, Debbie Hinkle | Functional equivalency between seagrasses and other coastal habitats: lessons and implications for management. **Just Cebrian**, Andrea Anton, Bart Christiaen, Rachel Gamble, Jason Stutes | **1:30 PM** |
| What controls bed erodibility in muddy, partially-mixed estuaries? Insights from the York River, Virginia. **Carl Friedrichs**, Grace Cartwright, Robert Diaz, Patrick Dickhudt, Kelsey Fall, Lindsey Kraatz, Lawrence Sanford | Factors shaping the composition and metabolic activity of Columbia River estuarine turbidity maxima bacterial communities. **Lydie Herfort**, Byron Crump, Caroline Fortunato, Lee Ann McCue, Victoria Campbell, Holly Simon, Lindy Fine, António Baptista, Peter Zuber | Mutualistic feedback enhances the stability of tropical intertidal seagrass beds. **Tjisse van der Heide**, Jim de Fouw, Jim van Belzen, Johan van de Koppel, Laura Govers, Marjolijn Christianen, Karin van der Reijden, Matthijs van der Geest, Theunis Piersma, Fons Smolders, Han Olff, Leon Lamers, Jan van Gils | Paleoenvironmental reconstruction of West Galveston Bay, Texas: sea-level control on barrier lagoon evolution. **Timothy Dellapenna**, Paul Laverty, Peter van Hengstum, Joseph Carlin, Robert Reece | Metabolism and nitrogen fluxes in benthic communities composed of different aquatic plant species. **Camilla Gustafsson**, Alf Norkko | **1:45 PM** |
| Overview of critical stresses for erosion of cohesive and cohesionless particles. **Ashish Mehta**, Kyu-Nam Hwang | Comparative metagenomics of sediment microbial communities in diverse lateral bays of the Columbia River estuary. **Holly Simon**, Maria Smith, Lydie Herfort | Effects of internal and external processes on the behavior of coupled marsh tidal flat systems. **Joel Carr**, Giulio Mariotti, Karen McGlathery, Patricia Wiberg, Sergio Fagherazzi | Tidal to century-scale sediment dynamics in a coastal mangrove forest, Mekong Delta, Vietnam. **Aaron Fricke**, Charles Nittrouer, Andrea Ogston, Hong Phuoc Võ Luong, Daniel Nowacki, Daniel Culling | Direct and indirect effects of dissolved nutrients on water quality and aquatic vegetation. **Åsa Nilsson**, Joakim Hansen, Serena Donadi, Ulf Bergström, Britas Klemens Eriksson, Göran Sundblad, Johan Eklöf | **2:00 PM** |
| The influence of biogenic stabilisation on the behaviour of mixed sediments. **Julie Hope**, Jaco Baas, David Paterson | In silico prediction of metabolic potential in sediment microbial communities of Cape Fear River Estuary. **Bongkeun Song**, Jessica Lisa | Initial conditions drive threshold dynamics of oyster reefs. **Allison Colden**, Romuald Lipcius, Robert Latour | Historical Reconstruction of Anthropogenic Mercury Input from Sedimentary Records: Yeongsan Estuary, South Korea. **Joshua Williams**, Timothy Dellapenna, Patrick Louchouarn, Guan-hong Lee | Disturbance mediated shift in resource limitation in an oligotrophic seagrass ecosystem. **Jennifer Sweatman**, Craig Layman, James Fourqurean | **2:15 PM** |
| Sediment properties and surface erodibility following mangrove (Avicennia marina) removal. **Debra Stokes**, Rachel Harris | Relating ammonia oxidizer communities and gene expression to nitrification across diverse San Francisco Bay waters. **Julian Damashek**, Karen Casciotti, Christopher Francis | Nonlinear responses of coastal salt marshes to nutrient additions and sea level rise. **Cathleen Wigand**, Kenneth Raposa | Examining decadal response of estuarine marsh environments to sea-level and storm impacts. **Christopher Smith**, Lisa Osterman, Charles Adams | Eelgrass decomposition and ammonification: relationship to genotypic diversity and relatedness. **Susan Williams**, Jessica Abbott, John Stachowicz | **2:30 PM** |
| Increase in Deposition Rate of Cohesive Sediments Due to Turbulence. **Anurag Kale**, Ashish Mehta, Trimbak Parchure | Is methane flux response to salinity in coastal marshes mediated by interactions with nitrogen cycling? **Wyatt Hartman**, Nathaniel Weston, Marcello Ardon, Emily Bernhardt, Scott Neubauer, Susanna Theroux, Susannah Tringe | The harmonics of biogeochemical cycles in tidal marshes. **James Morris** | Has enhanced sedimentation within upper Galveston Bay resulted in a buried Mercury (Hg) time bomb? **Mohammad Almukaimi**, Timothy Dellapenna | Environmental influences on seagrass growth and morphology. **Savanna Barry**, Charles Jacoby, Thomas Frazer | **2:45 PM** |
| **BREAK 3:00-3:30 PM** | | | | | |

# ORAL SESSIONS Wednesday 11 November | Late Afternoon 3:30PM–5:00 PM

| | Room A 105 | Room A 106 | Room A 107-109 | Room B 110-112 | Room B 113 |
|---|---|---|---|---|---|
| | **SCI-163**<br>**Timing is Everything: Phenology in Coastal Marine Ecosystems**<br>Jeremy Testa | **SCI-164A**<br>**Evaluating Restoration Success: Ecology, Economy, and Society**<br>Jennifer Beseres Pollack | **SCI-158B**<br>**Emerging and Legacy Contaminants in Coastal and Estuarine Systems**<br>Elise Granek | **SCI-165**<br>**Advancing Coastal Science with Robots**<br>Nick Nidzieko | **SCI-160B**<br>**Resilience of Shellfish to Current and Emerging Threats to Estuarine Condition**<br>Ted DeWitt |
| **3:30 PM** | Tracking seasonal shifts in estuarine ecosystem dynamics: Challenges, Approaches, and Insights. **Jeremy Testa**, W. Michael Kemp, Damian Brady | Oyster restoration along Louisiana's coast: multi-year and site importance to sustainability and ecosystem services. **Megan La Peyre**, Lindsay Schwarting-Miller, Shea Miller | Resuspension of sedimented oil from the Deepwater Horizon: Impact on biogeochemistry at the sediment-water interface. **Lindsey Fields**, Samantha Joye | Taking advantage of AUV navigation precision for repeated side scan sonar measures. **Thomas Grothues**, Joseph Dobarro, Michael De Luca, Douglas Levin, Brendyn Meisinger, Grant Twilley, Charlotte Fuller, Rosemarie Petrecca | Effect of macroalgal blooms on survival, growth, and behavior of cockles in Pacific NW estuaries. **Nathaniel Lewis**, Theodore DeWitt |
| **3:45 PM** | A moving target: searching for phenology changes in the Tar-Pamlico estuary amidst rapid anthropogenic change. **David Kimmel**, Sarah Ludwig-Monty | Assesssing the Benefits of Oyster Reef Restoration in the Chesapeake Bay. **Howard Townsend**, David Bruce, Jay Lazar, Philip Klavon | Rate and trajectory of erosion along the Louisiana coast after the Deepwater Horizon oil spill. **Giovanna McClenachan**, RE Turner | Wave-Induced Bias in AUV-Based Measurements. **Andre Amador**, Geno Pawlak, Sergio Jaramillo | The perfect storm: Extreme weather and predators drive phase shift in dominant Chesapeake Bay bivalve. **Cassandra Glaspie**, Rochelle Seitz, Romuald Lipcius |
| **4:00 PM** | Variations in phenology of zooplankton and nekton with changing conditions in a Southeast U.S. estuary. **Dennis Allen**, Juliana Harding | Structural complexity and salinity as driving factors of community structure on restored oyster reefs. **Melissa Karp**, Rochelle Seitz | Individual and mixture toxicity of alternative photosystem-II herbicides to tropical seagrass, Halophila ovalis. **Adam Wilkinson**, Catherine Collier, Florita Flores, Andrew Negri | Estimating sea scallop incidental mortality from autonomous underwater vehicle based photogrammetric surveys. **Danielle Ferraro**, Art Trembanis, Doug Miller, Hunter Brown | Forecasting mortality from thermal and salinity stress in commercial shellfish beds. **David Wethey**, Sarah Woodin, Gonzalo Macho, Elsa Vazquez, Celia Olabarria, Phillip Key |
| **4:15 PM** | Identifying windows of opportunity for parasitic infection of diatoms. **Michelle Maier**, Tawnya Peterson | Fish utilization of Oyster Reef Restoration Sites in two Tributaries of the Chesapeake Bay, Maryland. **David Bruce**, Howard Townsend, John Lazar, Philip Klavon, Andrew McGowan | Uptake and incorporation of munitions derived nitrogen in estuarine biota. **Mark Ballentine**, Thivanka Ariyarathna, Richard Smith, Penny Vlahos, Thomas Groshens, Stephen Fallis, Craig Tobias | Roughness mapping using an Autonomous Underwater Vehicle. **Geno Pawlak**, Sergio Jaramillo, Brad Adams, Mark Merrifield | Estuarine resilience: Is the exotic macroalga Gracilaria vermiculophylla an alternative nursery habitat for blue crabs? **Megan Wood**, Romuald Lipcius |
| **4:30 PM** | Evaluating the effects of climate change on the reproductive phenology of Eelgrass (Zostera marina L.). **Jessica Foley**, Lora Harris | Millions Strong and Growing: Rebuilding Bay Scallop Populations and Fisheries Following Intensive Restoration. **John Carroll**, Stephen Tettelbach, Bradley Peterson, Bradley Furman, Christopher Smith | Sedimentary records of recurrent phosphate spills to a coastal estuary. **Ruth Carmichael**, Jacob Hall, Elizabeth Hieb, Pavel Dimens, Elizabeth Darrow, Kimberly Cressman | An in situ ocean pH and oxygen sensor package for mobile platforms: the WavepHOx. **Philip Bresnahan**, Taylor Wirth, Todd Martz, Andreas Andersson, Tyler Cyronak, Sydney D'Angelo, James Pennise, W. Kendall Melville, Luc Lenain, Nicholas Statom | Acoustic telemetry of Dungeness Crab in the Columbia River: Response to dredging impacts. **Curtis Roegner** |
| **4:45 PM** | Macrophyte response to exceptional drought conditions: Understanding salinity effects on the Carolina wolfberry (Lycium carolinianum). **Jeffrey Wozniak**, Elizabeth Smith | Management strategy evaluation for the Atlantic surfclam, Spisula solidissima, using a fisheries economics model. **Kelsey Kuykendall**, Eric Powell, John Klinck, Robert Leaf, Paula Moreno | Contaminants in Pacific lamprey (Entosphenus tridentatus) in the Columbia River Basin, USA. **Elena Nilsen**, Whitney Hapke, Brian McIlraith | Greening the UNOLS academic fleet. **Bruce Corliss** | Quantifying a tidally driven native oyster predation refuge to assess restoration and climate change scenarios. **Stephanie Kiriakopolos**, Chela Zabin, Lara Martin, Edwin Grosholz |

# ORAL SESSIONS Wednesday 11 November | Late Afternoon 3:30PM–5:00PM

| Room B 114 | Room B 115 | Room B 116 | Room B 117-119 | Room C 120-122 | |
|---|---|---|---|---|---|
| **SCI-166**<br>**Migratory Bird Management in Estuaries and Nearshore Environments: Opportunities and Challenges**<br>Joseph Sands | **SCI-167**<br>**Aquatic Microbes: Indicators of Environmental Changes**<br>Nathalie Valette-Silver | **SCI-168**<br>**Preserving Aquatic Ecosystem Integrity in a Changing Environment**<br>Christopher Madden | **SCI-169**<br>**Sea-Level Rise Effects on Salt Marsh Ecosystem Function**<br>Christopher Janousek | **SCI-110G**<br>**Seagrass Ecosystems: Challenges in Evaluating Function, Health, Abundance and Restoration (Functions)**<br>Massa Nakaoka | |
| The real Duck Dynasty: impacts of wintering Redhead ducks (Athya americana) on Shoalgrass (Halodule wrightii). **Maddie Kennedy**, Kenneth Heck, John Valantine, Thomas Michot | Controls on Nitrous Oxide Production in Soils and Sediments: The Role of Physicochemical Stress. **Nathaniel Weston**, Jennifer Bowen, Patrick Kearns, Cynthia Troy, William Porubsky, Christelle Hyacinthe, Christof Meile, Philippe Van Cappellen, Samantha Joye | Management of nitrogen retention and vegetation on a restored floodplain within the Delaware Bay watershed. **David Osgood**, Kaitlin Kimmel, Therese Adgie, Celina Daddario, Zachary Kiebler, Kohler Nicolette, Metz Riley | New York City tidal marsh assessment: condition, vulnerability and opportunities for restoration and advancement. **Nicole Maher**, Stephen Lloyd, Lauren Alleman, Christopher Haight, Marit Larson, Ellen Hartig, Ellen Hartig, Helen Forgione, Leah Beckett | The effect of structural complexity and biodiversity on seagrass ecosystem function. **Erin Voigt**, Kevin Hovel | **3:30 PM** |
| Using the Midwinter Waterfowl Survey for Conservation Planning in Estuaries. **Joseph Sands** | Denitrification and nitrous oxide production in permeable reactive barriers. **Kenly Hiller**, Kenneth Foreman, Jennifer Bowen | Effects of invasive reed canarygrass on juvenile Chinook salmon in the upper Columbia River estuary. **Rachael Klopfenstein**, Dan Bottom, Michael Harte, Charles Simenstad | Interactions between marsh type, sedimentation, herbivory, and hydrology on northeast US salt marsh hypsometry. **Megan Tyrrell**, Stephen Smith, Holly Bayley, Michael Tanis, Kelly Medeiros, Mark Adams, Matthew Penella, Adam Thime, Jeanette Allogio, Andre Dijkstra, Catalina Mejia, Sarah Janson | The bugs are back in town. **Robert Orth**, Jonathan Lefcheck, Scott Marion, Corey Holbert | **3:45 PM** |
| Where the wild things will be: predicting future seabird hotspots in the California Current System. **Dorothy Dick**, Jaime Jahncke, Nadav Nur, Julie Howar, Jeannette Zamon, David Ainley, Ken Morgan, Lisa Ballance, David Hyrenbach | Seasonal patterns of pelagic lower trophic levels and nutrients across Puget Sound. **Linda Rhodes**, Anne Baxter, Jason Hall, Zack Oyafuso, Sean Naman, Casimir Rice, Joshua Chamberlin, Correigh Greene | Movements of diadromous fish in Prime Hook National Wildlife Refuge prior to large-scale restoration efforts. **Lyndie Hice Dunton**, Steve Minkkinen, John Gill | A latitudinal approach to assess sea-level rise vulnerability for Pacific coast tidal wetlands. **Karen Thorne**, Glenn Guntenspergen, John Takekawa, Kevin Buffington, Bruce Dugger, Chris Janousek, Glen MacDonald, Rich Ambrose, Lauren Brown, James Holmquist | Regional variation in multiple ecosystem functions of seagrass beds along temperate coast of Japan. **Masahiro Nakaoka**, Venus Leopardas, Kyosuke Momota, Masakazu Hori, Jun Shoji | **4:00 PM** |
| Modeling long-term distributions of seabirds off the Pacific Coast of Washington to inform marine planning. **Jeffery Leirness**, Charles Menza, Timothy White, Arliss Winship, Brian Kinlan, Scott Pearson, Jeannette Zamon, Josh Adams, Karin Forney, Elizabeth Becker, Liam Antrim, David Pereksta, Lisa Ballance | Role of polyphosphate accumulating organisms in diel cycling of phosphorus in the Columbia River estuary. **Sheree Watson**, Joseph Needoba, Tawnya Peterson | Fine-tuning of Northern Estuaries salinity targets based on 10 years of learning in Everglades restoration. **Gretchen Ehlinger**, Peter Doering, Patricia Gorman | Drivers of organic matter decomposition in Pacific coast tidal marshes: Inundation, species composition and latitude. **Christopher Janousek**, Kevin Buffington, Karen Thorne, Glenn Guntenspergen, John Takekawa, Bruce Dugger | The role of biotic interactions vs. abiotic forcing for individual coastal ecosystem services and multifunctionality. **Johan Eklöf**, Serena Donadi, Ulf Bergström, Britas Klemens Eriksson, Joakim Hansen, Åsa Nilsson, Göran Sundblad | **4:15 PM** |
| Are niche habitat improvements edging us towards bird condos in South San Francisco Bay, California? **Renee Spenst**, Austin Payne, John Krause | Defining relationships between physical forcing and microbial population dynamics in the Columbia River estuary. **Mariya Smith**, Lydie Herfort, Byron Crump, Lindy Fine, Holly Simon | Coastline perspectives of Everglades restoration: an overview of progress and challenges. **David Rudnick**, Christopher Madden, Fred Sklar, Christopher Kelble, Erik Stabenau, Carlos Coronado-Molina, Tiffany Troxler, Stephen Davis, Jerry Lorenz | Positive interactions increase the persistence and recovery of salt marshes. **Marlous Derksen-Hooijberg**, Leon Lamers, Annieke Borst, Fons Smolders, Jasper Hoogveld, Eva van den Elzen, Laura Govers, Sarah Faye Harpenslager, Hélène de Paoli, Brian Silliman, Tjisse van der Heide, Christine Angelini | Spatial variation in ecosystem functioning and ecosystem services of eelgrass beds derived from oyster culture. **Masakazu Hori**, Jun Shoji, Masahiro Nakaoka | **4:30 PM** |
| Avian response to mixed-species habitat management in an urban Pacific flyway estuary. **Susan De La Cruz**, Lacy Smith, Stacy Moskal, John Krause, John Takekawa | Correlations between indicators and pathogens in sediments, water and oysters in Puerto Rico. **Graciela Ramírez Toro**, Jay Levine, Karina Ballester, H. Minnigh | Managing the Everglades and Florida Bay for ecosystem integrity. **Christopher Madden**, Marguerite Koch, Tiffany Troxler, Margaret Hall, Jerry Lorenz, René Price, Fred Sklar, David Rudnick, Joe Stachelek, Steve Kelly | Seasonal biogeochemical dynamics in shallow saltwater ponds in a temperate salt marsh. **Amanda Spivak**, Kelsey Gosselin | Role of biodiversity and complexity on seagrass functioning across the Northern Hemisphere. **Pamela Reynolds**, Emmett Duffy, John Stachowicz, Kevin Hovel, (*ZEN*) *Zostera Experimental Network* | **4:45 PM** |

# ORAL SESSIONS Thursday 12 November | Early Morning 8:00 –9:45 AM

| | Room A 105 | Room A 106 | Room A 107-109 | Room B 110-112 | Room B 113 |
|---|---|---|---|---|---|
| | **SCI-170**<br>**Urban Infrastructure Impacts on Estuarine Physical and Sedimentary Processes**<br>Christopher Sommerfield | **SCI-164B**<br>**Evaluating Restoration Success: Ecology, Economy, and Society**<br>Jennifer Beseres Pollack | **SCI-171A**<br>**Controlling Eutrophication Along the Human and Climatically-Impacted Freshwater-Marine Continuum: Shifting Problems and Paradigms**<br>Hans Paerl | **SCI-172A**<br>**Foodweb Shifts in Coastal Systems: Evidence and Potential Causes**<br>Correigh Greene | **SCI-173**<br>**Invasives**<br>Adam Obaza |
| **8:00 AM** | Tidal exchanges at a highly impacted estuary: the Santos estuarine complex, Brazil. **Eduardo Siegle**, Carlos Schettini, Rubens Figueira | Evaluating oyster reef restoration success: linking monitoring metrics to desired endpoints. **Jennifer Beseres Pollack**, Brittany Blomberg, Kevin De Santiago, Lindsey George, Patrick Graham, Benoit Lebreton, Terence Palmer, Ryan Rezek | The influence of coastal oceans and seas on nutrient limitation in estuaries. **Robert Howarth**, Roxanne Marino, Melanie Hayn, Phillipe Souchu, Val Smith | Foodweb shifts in coastal systems: synthesizing from multiple approaches in different systems. **Correigh Greene**, Correigh Greene, Casey Rice, Chris Harvey | Seasonal filtration rates and population demographics of Corbicula fluminea in the Delaware River Basin. **Kurt Cheng**, Danielle Kreeger |
| **8:15 AM** | Effects of dredging and shoreline modification on water level and salinity in the Hudson estuary. **David Ralston**, Conor McDowell, Christopher Sommerfield, Rocky Geyer | Biogeographic patterns of oyster reef sediment modification have implications for restoration success. **Michael Piehler**, Suzanne Thompson, James Byers, Luke Dodd, Jonathan Grabowski, Randall Hughes, David Kimbro, Heidi Weiskel | Controlling eutrophication along the freshwater-marine continuum: Why the need for dual nutrient input constraints? **Hans Paerl**, Iris Anderson, Wayne Gardner, Mark McCarthy, Nathan Hall, Benjamin Peierls, Karen Rossignol | How freshwater flow and introduced species have contributed to long-term declines in estuarine fishes. **Wim Kimmerer** | GIS Based Assessment of Ballast Water Management Compliance in California: 2004-2014. **Christopher Brown** |
| **8:30 AM** | A conceptual model for predicting the ecological effects of coastal armoring in soft-sediment environments. **Jennifer Dugan**, Merryl Alber, Clark Alexander, Jeb Byers, Kyle Emery, Alyssa Gehman, Natalie Mclenaghan, Sarah Sojka | Quantifying and evaluating denitrification associated with restored oyster reefs: Economic and ecosystem challenges. **Andrew Keeler**, Michael Piehler, Philine zu Ermgassen, Robert Brumbaugh, Jeffrery Cornwell, Jonathan Grabowski, Lisa Kellogg, Mark Luckenbach, Ashley Smyth, Mark Spalding | Linking land-use and nitrogen loading to changes in seven estuarine seagrass habitats in Atlantic Canada. **Reba McIver**, Inka Milewski, Allison Schmidt, Nakia Cullain, Heike Lotze | Evaluating the food web dynamics in San Francisco Bay using coupled physical and biological models. **Eric Danner**, Eli Ateljevich, Fei Chai, Richard Dugdale, Yi Chao, Richard Dugdale | How the Great Recession increased the risk of shipping-mediated introductions of nonindigenous species into California. **Chris Scianni** |
| **8:45 AM** | Morphological changes due to land reclamation activities along the coast of China. **Hua Zhang** | Recovery of denitrification rates in restored NC oyster reefs and salt marshes. **Kathleen Onorevole**, Suzanne Thompson, Michael Piehler | Nutrient controls upon phyto-plankton growth in a eutrophying, brown tide-dominated South Texas estuary (Baffin Bay). **Emily Cira**, Kenneth Hayes, Michael Wetz | Structural properties of benthic food webs altered by point-source organic enrichment. **Marie Nordström**, Erik Bonsdorff | Spatial and temporal dynamics of the non-native fouling community in southern California. **Adam Obaza**, Jonathan Williams, William Chesney |
| **9:00 AM** | Transport processes in a highly impacted urban estuary: Capibaribe Estuary, Recife, Brazil. **Carlos Schettini**, Rubens Figueira, Eliane Truccolo, Eduardo Siegle, Roberto Barcellos, Elvis França, Eliete Zanardi | Integrated assessment of ecosystem services provided by tributary-scale oyster reef resto-ration in Chesapeake Bay. **M. Lisa Kellogg**, Jeffrey Cornwell, Michael Owens, Paige Ross, Jennifer Dreyer, Kennedy Paynter, Mark Luckenbach | A Shallow Subtropical Lake Modulates Nutrient Loading to a Eutrophic Estuary. **Ashley Smyth**, Michael Piehler, Wayne Gardner, Mark McCarthy, John Hendrickson | Effect of ocean acidification on the nutritional quality of phytoplankton for copepod reproduction. **Morgan Meyers**, Edward Carpenter, Wim Kimmerer | Shipworms (Bivalvia: Teredinidae) in woody debris from the 2011 Japanese tsunami. **Nancy Treneman**, James Carlton, Luisa Borges, J. Reuben Shipway, Michael Raupach |
| **9:15 AM** | Waste water and urban runoff - significant anthropogenic sources of silica to coastal systems. **Timothy Maguire**, Robinson Fulweiler | Importance of sediment organic matter in oyster diets: restoration and ecosystem service valuation implications. **Brittany Blomberg**, Benoit Lebreton, Jennifer Beseres Pollack, Paul Montagna, Gaël Guillou, Terry Palmer | Sediment nitrogen cycling in an urbanized region of the Delaware River. **Michael Owens**, Jeffrey Cornwell, Josef Kardos, David Velinsky, David Walsh | Role of invasive mud crab (Rhithropanopeus harrisii) in coastal food web of Northern Baltic Sea. **Riikka Puntila**, Tiia Forsström, Outi Vesakoski, Katariina Riipinen, Amy Fowler, Maiju Lehtiniemi | Predator vs. facilitator: indirect effects of the European shore crab, Carcinus maenas, on mussel-bed invertebrates. **Daniel Bateman**, Thomas Cloatre, Melanie Bishop |
| **9:30 AM** | Long-term current meter observations in the urban tidal freshwater Delaware Estuary. **Leonid Ivanov**, David Walsh, Phil Duzinski | Legacy Effects Delay Disassembly of Benthic Communities Following the Eradication of an Invasive Ecosystem Engineer. **Edwin Grosholz**, Pamela Reynolds, Sylvia Yang, Jessica Glanz, Courtney Hann, Jessica Couture | Nitrogen cycling in the salt marsh rhizosphere: site of N removal or N conservation? **Anne Giblin**, Jane Tucker, Suzanne Thomas, Francois Thomas, Stefan Sievert, Zoe Cardon | Variation in isotopic niche and fish diversity in mangroves with different levels of habitat modification. **Francisco López-Rasgado**, Sharon Herzka, Eduardo Balart, Salvador Lluch-Cota | Eurasian watermilfoil (Myriophyllum spicatum) invasion success and community impacts in New England. **LaTina Steele**, Michele Guidone |
| **BREAK 9:45-10:15 AM** | | | | | |

# ORAL SESSIONS Thursday 12 November | Early Morning 8:00–9:45 AM

| Room B 114 | Room B 115 | Room B 116 | Room B 117-119 | Room C 120-122 | |
|---|---|---|---|---|---|
| **SCI-174**<br>**Our Virtual Global Estuary**<br>António Baptista | **SCI-175**<br>**Geospatial and Geomorphic Advances for Assessing Marsh Vulnerability to Storms and Sea Level Rise** | **SCI-176**<br>**Quantifying Fluxes in Estuaries: What is the State of the Art?**<br>Jim Lerczak | **SCI-177A**<br>**Regime Changes of Estuarine and Coastal System**<br>Qing He | **SCI-178A**<br>**Ecosystems and Habitats: Marsh**<br>Hillary Neckles | |
| Our Global Estuary. **António Baptista**, Edward Buskey, Megan Davis, Margaret Leinen, Vembu Subramanian, Yvette Spitz | Where do coastal wetlands form? Understanding the broadscale drivers of coastal wetland extent. **Anna Braswell**, James Heffernan | The role of oyster restoration and aquaculture in nitrogen removal within a Rhode Island estuary. **Austin Humphries**, Suzanne Ayvazian, Robinson Fulweiler | The trends of coastal reclamation in China over the past three decades. **Wenting Wu**, Bo Tian, Yunxuan Zhou, Minyan Shu, Xianyun Qi, Wei Xu | Spatio-temporal changes in mangrove and saltmarsh at the north-eastern coast of Florida, USA. **Wilfrid Rodriguez**, Ilka Feller, Kyle Cavanaugh | **8:00 AM** |
| Physical dimensions of interdisciplinary, estuarine classification. **W. Rockwell Geyer**, Tao Wang, David Ralston, Parker MacCready, Jia-Lin Chen | Correction of tidal marsh digital elevation models and modeling marsh resilience. **Christine Hladik**, Ellen Herbert, Christopher Craft | Phosphorus Dynamics in the Barnegat Bay. **Bhanu Paudel**, David Velinsky, Nathaniel Weston, George Keighton | Palaeoecological and biogeochemical analyses of sediments indicates long term changes associated with pearl oyster aquaculture. **John Keesing**, Dongyan Liu, Yajun Peng | Vegetation Change in Salt Marshes of Cape Cod NationalSeashore (Massachusetts, USA) Between 1984 and 2013. **Stephen Smith** | **8:15 AM** |
| Modeling the formation, retention and ecological impact of Mesodinium blooms in the Columbia River estuary. **Brandy Cervantes**, Yvette Spitz, Antonio Baptista | Correcting the vegetation bias in tidal marsh lidar elevation models with multispectral imagery. **Kevin Buffington**, Karen Thorne, Bruce Dugger, John Takekawa | Groundwater-borne nutrient fluxes to the Delaware Inland Bays. **Joanna York**, T. Brooks, Kevin Kroeger, Daniel Torre | Numerical Simulation of Cohesive Mud Suspension in High-Concentrated Tidal Channel of the Changjiang Estuary. **Jianzhong Ge**, Pingxing Ding, Wenyun Guo | Spatial and genetic structure of Spartina alterniflora at four spatial scales in Virginia salt marshes. **Janet Walker**, Alexandra Bijak, Linda Blum | **8:30 AM** |
| Water renewal time scales in the Columbia River estuary. **Tuomas Kärnä**, António Baptista | Ground-truthing LIDAR-derived tidal channel geometry using field measurements in Oregon tidal wetlands. **Michael Ewald**, Laura Brophy, Laura Brown | Drivers of seagrass metabolism determined by aquatic eddy covariance. **Marie Lise Delgard**, Pierre Polsenaere, Peter Berg, Karen McGlathery | SWARM: a system for predicting impacts of development and climate change on stormwater runoff. **Anne Blair**, Denise Sanger, Susan Lovelace, Andrew Tweel | Wrack disturbance in salt marsh communities. **Merryl Alber**, Karrie Bulski, Zane Cress | **8:45 AM** |
| Monitoring and modeling the net ecosystem metabolism of the Columbia River estuary. **Clara Llebot**, Yvette Spitz, António Baptista | Data fusion approaches for estimating Spartina alterniflora emergent properties within salt marshes. **Jessica O'Connell**, Merryl Alber, Deepak Mishra | Resuspension and Biogeochemistry: A Coupled Model for Seabed-Water Column Fluxes in Coastal Environments. **Julia Moriarty**, Courtney Harris, Marjorie Friedrichs | Why the Mississippi River delta will not be restored in your lifetime. **R. Eugene Turner** | Maine belowground marsh destruction from the European green crab documented by computer-aided tomography. **Earl Davey**, Kristin Wilson | **9:00 AM** |
| Quantifying contribution of salinity stratification to spatial variability of phytoplankton in estuaries. **Bo Liu**, Huib de Swart | Predicting dike breach number, orientation, and spacing, and tidal channel size for marsh restoration. **Gregory Hood** | Sediment trapping efficiency in the San Francisco Bay-Delta system using 2D process-based model. **Fernanda Achete**, Mick van der Wegen, Dano Roelvink, Bruce Jaffe | Responses of Estuarine Hydrodynamics to the Loss of Tidal Flats – A Modeling Study. **Taiping Wang**, Zhaoqing Yang | Vegetation cover and groundwater monitoring of a tidally restricted salt marsh in Greenbackville, Virginia, USA. **Matthew Mattesini**, Cynthia Venn, Jennifer Whisner | **9:15 AM** |
| Changes in Residence Time due to Large-Scale Infrastructure in a Coastal Plain Estuary. **Steven Meyers**, Amanda Linville, Mark Luther | Mapping Salt Marshes in the South Atlantic Landscape using Landsat 8 and Object-Oriented Image Analysis. **Tom Allen** | Acoustic particle properties and impact on estuarine sediment flux measured by ADCPs. **Marius Becker**, Christian Winter, Steffen Grünler, Christian Maushake | Regime shifts in zooplankton community organization across the Northeast U.S. Continental Shelf Large Marine Ecosystem. **Ryan Morse**, Kevin Friedland, Desiree Tommasi, Charles Stock, Janet Nye, Joe Kane | Salt Marsh Porewater Residence Time as Traced by Short-Lived Radium Isotopes. **Camilo Salazar**, J. Kirk Cochran, Christina Heilbrun | **9:30 AM** |
| **BREAK 9:45-10:15 AM** | | | | | |

# ORAL SESSIONS Thursday 12 November | Mid-Morning 10:15AM–12:00PM

| | Room A 105 | Room A 106 | Room A 107-109 | Room B 110-112 | Room B 113 |
|---|---|---|---|---|---|
| | **SCI-179A**<br>**Evolution of Estuaries through Extreme Events, Development, and Climate Change**<br>Stefan Talke | **SCI-164C**<br>**Evaluating Restoration Success: Ecology, Economy, and Society**<br>Jennifer Beseres Pollack | **SCI-171B**<br>**Controlling Eutrophication Along the Human and Climatically-Impacted Freshwater-Marine Continuum: Shifting Problems and Paradigms**<br>Hans Paerl | **SCI-172B**<br>**Foodweb Shifts in Coastal Systems: Evidence and Potential Causes**<br>Correigh Greene | **SCI-180**<br>**Assessing Activities of Actors Influencing Marine Environments**<br>Lena Gipperth |
| **10:15 AM** | Recent morphology evolution of a macrotidal convergent turbid estuary (the Gironde, France). **Aldo Sottolichio**, Joselyn Arriagada, Isabel Jalon Rojas, Vincent Hanquiez, Sabine Schmidt | Changes in habitat availability for outmigrating juvenile salmon (Oncorhychus spp.) following estuary restoration. **Melanie Davis**, Christopher Ellings, Eric Grossman, Isa Woo, Sayre Hodgson, Kelley Turner, Glynnis Nakai, John Takekawa | A shallow photic estuary in North Carolina: A source or sink of carbon dioxide? **Jennifer Stanhope**, Iris Anderson, Joseph Crosswell, Bryce Van Dam, Hans Paerl, Hunter Walker | Did the east-pacific temperature anomaly change conditions in the urban fjord, Puget Sound. **Christopher Krembs**, Laura Hermanson, Skip Albertson, Mya Keyzers, Julia Bos, Carol Maloy | Management of marine eutrophication in changing societies. **Anders Grimvall**, Eva-Lotta Sundblad, Lena Gipperth |
| **10:30 AM** | The effects of retention basins on tidal and sediment dynamics in tidal estuaries. **Henk Schuttelaars**, Mohit Kumar, Pieter Roos | Columbia River Estuary Restoration: Sauvie Island North Unit project. **Allan Whiting**, Tom Josephson, Curtis Loeb | Estuarine CO2 flux: A comparison of two North Carolina estuaries. **Bryce Van Dam**, Jennifer Stanhope, Iris Anderson, Hans Paerl | Relationships Among Lower to Middle Trophic Levels and Environmental Variables in Puget Sound Surface Waters. **Casimir Rice**, Correigh Greene, Anne Baxter, Jason Hall, Joshua Chamberlin, Linda Rhodes | Actor-oriented societal indicators of eutrophication of marine environments. **Eva-Lotta Sundblad**, Anders Grimvall, Lena Gipperth |
| **10:45 AM** | Bed elevation change on seasonal and storm-event timescales in a back-barrier estuary. **Neil Ganju**, Steven Suttles | Large Scale Dam Removal and Nearshore Ecosystem Restoration in the Northeast Pacific: The Elwha Nearshore. **Anne Shaffer**, Cayla Naumann, Tara McBride, Dave Parks, Beth Connelly, Jenna Moore, Chris Byrnes, Francis Juanes, Shane Greenwalt, Tom Quinn, Jamie Michel, Pat Crain, Andy Ritchie | Bio-physical controls of CO2 fluxes along a river - estuary continuum. **Iris Anderson**, Jennifer Stanhope, Bryce Van Dam, Nathan Hall, Joseph Crosswell, Hans Paerl, Mark Brush | Evidence for community shifts in Puget Sound zooplankton, 1975-1994. **Iris Kemp**, Julie Keister | Legacy of a crowded ocean: indicators, status, and trends of anthropogenic pressures in California Current. **Kelly Andrews**, Gregory Williams, Jameal Samhouri, Kristin Marshall, Vladlena Gertseva, Phillip Levin |
| **11:00 AM** | Long-term changes in wetland inundation patterns in the Columbia River Estuary **David Jay**, Lumas Helaire, Stefan Talke, Amy Borde, Heida Diefenderfer, Alan Hamlet, Drew Mahedy | Sampling uncharted waters: Examining Longfin Smelt rearing habitat in marshes of the San Francisco Estuary. **Lenny Grimaldo**, Fredrick Feyrer, Jillian Burns, Donna Maniscalco | Impact of discharge, loading, and climate on eutrophication and carbon budgets in a shallow estuary. **Mark Brush** | Temporal and Spatial Patterns in Salish Sea Benthic Invertebrate Functional Feeding Guilds. **Valerie Partridge**, Sandra Weakland, Margaret Dutch, Kathy Welch | Under pressure: bridging the gap between social, economic and fishery indicators to support the EAFM. **Antonios Stamoulis**, Els Torreele, Adriaan Rijnsdorp |
| **11:15 AM** | Synthesizing the past, present, and future: the Temporal Investigations of Marsh Ecosystems (TIME) Project. **Kristen Goodrich** | Juvenile salmonid off-channel habitat use in the tidal freshwater section of the lower Columbia River. **Amanda Hanson**, Lyndal Johnson, Sean Sol, Dan Lomax, Matthew Schwartz, Catherine Corbett | Should phytoplankton blooms be expected from reduced freshwater inflow to the Caloosahatchee River Estuary? **Christopher Buzzelli**, Peter Doering, Yongshan Wan, Teresa Coley | Trends and drivers of eelgrass over 40 years in Puget Sound, WA. **Andrew Shelton**, Tessa Francis, Williams Gregory, Blake Feist | Mapping of migrant fishers' activities in an artisanal fishery. **Innocent Wanyonyi**, Stephen Mangi, Dennis Macharia, David Obura |
| **11:30 AM** | Increased suspended-sediment concentration in South San Francisco Bay and a hypothetical role of drought. **David Schoellhamer**, Gregory Shellenbarger, Maureen Downing-Kunz | Hydrodynamic modeling of the Stillaguamish estuary: restoration assessment at Leque Island and zis a ba. **Jonathan Whiting**, Tarang Khangaonker, Steve Liske, Loren Brokaw | Urea cycling as related to cyanobacterial (Microcystis) blooms in Lake Taihu, Yangtze River Delta, China. **Kaijun Lu**, Mark McCarthy, Zhanfei Liu, Silvia Newell, Guangwei Zhu, Hai Xu, Hans Paerl, Wayne Gardner | Effects of shoreline armoring on nearshore food webs in Puget Sound, WA. **Sarah Heerhartz**, Megan Dethier, Jason Toft, Jeffery Cordell | Gulf Watch Alaska: monitoring the pulse of the Gulf of Alaska's changing ecosystems. **Tammy Hoem Neher**, Kris Holderied, Molly McCammon, Katrina Hoffman, Tom Weingartner, Russel Hopcroft, Mandy Lindeberg, Brenda Ballachey |
| **11:45 AM** | Community structure of eelgrass-associated invertebrates along the urban gradient of Puget Sound. **Gregory Williams**, Shannon Hennessey, Jameal Samhouri, Andrew Shelton, Blake Feist, Adrian Stier, Phil Levin | Challenges and Successes of an Action Effectiveness Monitoring Program in the Lower Columbia River. **Matthew Schwartz**, Gary Johnson, Cynthia Studebaker, Amanda Hanson, Catherine Corbett | Microcystis blooms in the San Francisco Estuary: the role of nitrogen and phosphorus. **Alexander Parker**, Sarah Blaser, Jamie Lee, Frances Wilkerson, Hans Paerl, Raphael Kudela | Do historic food web shifts confound fishery management goals in Puget Sound? **Chris Harvey**, Jill Brandenberger, Correigh Greene, Christopher Krembs, Casimir Rice | Mitigating financial drivers of tourism development with ecological risk assessment models for a tropical island. **Kathleen Sealey** |
| **BREAK 12:00-1:30 PM** | | | | | |

# ORAL SESSIONS Thursday 12 November | Mid-Morning 10:15 AM – 12:00 PM

| Room B 114 | Room B 115 | Room B 116 | Room B 117-119 | Room C 120-122 | |
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| **SCI-181A**<br>**Models and Multiple Modeling Approaches for Management**<br>Gary Shenk | **SCI-182**<br>**Continuous, High-Frequency, Automated Biogeochemical Monitoring: What has been Learned?**<br>William Ullman | **SCI-183A**<br>**Delta Dynamics in the Anthropocene**<br>Leanna Heffner | **SCI-177B**<br>**Regime Changes of Estuarine and Coastal System**<br>Qing He | **SCI-178B**<br>**Ecosystems and Habitats: Marsh**<br>Hillary Neckles | |
| Comparison of shallow-water models for use in supporting Chesapeake Bay management decision-making. **Marjorie Friedrichs**, Aaron Bever, Raleigh Hood, Kevin Sellner | In situ response of bay productivity to nutrient loading from a small tributary. **Yoana Voynova**, Karine Lebaron, Rebecca Barnes, William Ullman | Human–landscape 'coupling strength' and the dynamics of Anthropocene deltas. **Eli Lazarus** | Application of Terrestrial Laser Scanner to Quantify Geomorphic Changes on Salt Marshes and Tidal Flats. **Weiming Xie**, Qing He, Keqi Zhang, Xianye Wang | Unraveling sources of food web support in the Sacramento-San Joaquin Delta's marsh ecosystems. **Emily Howe**, Matthew Young, Charles Simenstad, Peter Moyle | **10:15 AM** |
| Challenges associated with simulating low-oxygen waters in Chesapeake Bay: results from a multiple modeling effort. **Isaac (Ike) Irby**, Marjorie Friedrichs, Carl Friedrichs, Aaron Bever, *COMT-Chesapeake Modeling Team* | Using continuous sensor data to infer nitrification rates of wastewater-derived ammonium. **Brian Bergamaschi**, Tamara Kraus, Katy O'Donnell, Bryan Downing | Implications of Altering the Mass Balance of Deltas during the Anthropocene. **James (Jai) Syvitski** | Submarine groundwater discharge (SGD) with input of nutrients into Bohai Sea China. **Jianan Liu**, Jinzhou Du, Xilong Wang, Xiaogang Chen | Fish habitat redundancy of salt marshes and seagrass beds in the northern Gulf of Mexico. **Laura West**, Ryan Moody, Rachel Gamble, Ken Heck, Dottie Byron, Just Cebrian | **10:30 AM** |
| Using a Mixed Statistical-Deterministic Approach for Modeling HABs in the James River Estuary, VA. **James Fitzpatrick**, Nataliya Kogan, Jian Shen, Paul Bukaveckas, Margaret Mulholland, Hans Paerl, Todd Egerton, David Jasinski, Rico Wang, Harry Wang, Arthur Butt | Phytoplankton Dynamics in Central Puget Sound: An Application of FlowCAM Technology. **Gabriela Hannach**, Lyndsey Swanson Sandwick, Kimberle Stark | A Delta Transformed; Landscape change in the Sacramento-San Joaquin Delta. **April Robinson**, Julie Beagle, Sam Safran, Robin Grossinger, Letitia Grenier | Algae effects on flocculation and their temporal and spatial variations in the Yangtze Estuary, China. **Zhirui Deng**, Qing He, Chao Guo, Leicheng Guo | What a difference 30 years makes: Decadal-scale fish assemblage changes in the North Inlet estuary. **Matthew Kimball**, Dennis Allen, Paul Kenny | **10:45 AM** |
| Models, Reference Points, and Restoration: the challenge of oyster (and other marine) diseases. **Eric Powell**, Gorka Bidegain, Daphne Munroe, John Klinck, Eileen Hofmann | Contrasting patterns among seagrass and sand-bottom habitats: relative roles of plankton and benthic metabolism. **Michael Murrell**, James Hagy, Jane Caffrey, Dragoslav Marcovich, Diane Yates | Deltaic Evolution in the West Bay Mississippi River Diversion over Seasonal to Centennial Time Scales. **Alexander Kolker**, Alexander Ameen, Mead Allison, Michael Miner, Cyndhia Ramatchandirane, Dallon Weathers, Brendan Yuill | Response of sediment concentration to the vertical sediment fluxes in the bottom boundary layer. **Jianliang Lin**, Qing He, Leicheng Guo, Chao Guo | Coastal eutrophication and the case of the orange zombies. **David Johnson** | **11:00 AM** |
| Estuarine and Watershed Modeling to Support Water Resource Decisions: Snow Caps to White Caps. **Andrea Copping**, Zhaoqing Yang, Nathalie Voisin, Jonathan Whiting | Short-term biogeochemical variability (pulses) revealed through continuous, high-frequency, automated observations in Florida's Indian River Lagoon. **M. Dennis Hanisak**, Kristen Davis, Bryan Botson | Deltaic island edge morphological dynamics at Wax Lake Delta; implications for deltaic floodplain wetland development. **Azure Bevington**, Robert Twilley, Charles Sasser | | Salt marsh parasite communities indicate degree of urbanization at local and regional scales. **James Alfieri**, Tavis Anderson | **11:15 AM** |
| Predicting Responses in Old Tampa Bay to Large-scale Management Actions. **Anthony Janicki**, Raymond Pribble, Steven Peene, Brett Cunningham, James Fitzpatrick, Kellie Dixon, Michael Wessel, Ed Sherwood, Lizanne Garcia, James Martin, Michael Kemp | Panel Discussion: Continuous, high-frequency, automated biogeochemical monitoring: what next? **William Ullman**, Dennis Hanisak, Joseph Needoba | Using continuous flow-through systems to measure nitrogen dynamics in a newly emergent coastal deltaic floodplain. **Leanna Heffner**, Edward Castañeda-Moya, Alexandra Christensen, Robert Twilley | | A multimetric index for integrated assessment of salt marsh ecosystem condition. **Hillary Neckles**, Glenn Guntenspergen, Jessica Nagel, Erika Nikosia, Dennis Skidds, Donald Schoolmaster Jr., Sara Stevens, James Grace | **11:30 AM** |
| Improving the use of models in marine ecosystem-based management: the Ocean Modeling Forum. **Tessa Francis**, André Punt, Francisco Chavez, Enrique Curchitser, Tim Essington, Kirstin Holsman, Felipe Hurtado, Kelli Johnson, Isaac Kaplan, Laura Koehn, Phil Levin, Alec MacCall, William Sydeman | | Ecogeomorphology: vegetation and sediment in a delta-splay mouth bar. **Alex Ameen**, Alexander Kolker, Caz Taylor | | | **11:45 AM** |
| **BREAK 12:00-1:30 PM** | | | | | |

# ORAL SESSIONS Thursday 12 November | Early Afternoon 1:30PM–3:00PM

| | Room A 105 | Room A 106 | Room A 107-109 | Room B 110-112 | Room B 113 |
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| | **SCI-179B**<br>**Evolution of Estuaries through Extreme Events, Development, and Climate Change**<br>Stefan Talke | **SCI-164D**<br>**Evaluating Restoration Success: Ecology, Economy, and Society**<br>Jennifer Beseres Pollack | **SCI-184A**<br>**Hypoxia and Temperature as Interactive Multi-Stressors in Coastal Ecosystems**<br>Stephen Brandt | **SCI-185A**<br>**Assessing the Status of Estuary Habitats for Juvenile Fish Across California, Oregon, and Washington**<br>Lisa DeBruyckere | **SCI-186A**<br>**Triaging the Coastal Ocean**<br>Robinson Fulweiler |
| **1:30 PM** | Centuries of evolving morphology and flood hazards for an urban estuary. **Philip Orton**, Reza Marsooli, Eric Sanderson, Mario Giampieri, Nickitas Georgas, Alan Blumberg, David Jay, Stefan Talke, Ziyi Wu | Ecological, economic, and socio-cultural considerations regarding oyster reef. restoration **Jonathan Grabowski**, Andrew Keeler, Michael Piehler, Joel Fodrie, Steven Scyphers | Winners and losers in hypoxic coastal habitats: Is temperature the key? **Stephen Brandt**, Cynthia Sellinger, Michael Roman, Edward Houde | Lessons learned in the application of CMECS to Oregon estuary habitats. **Andy Lanier**, Tanya Haddad, Patty Snow, Laura Brophy | Patterns, processes and rates of change in estuarine-coastal ecosystems. **James Cloern** |
| **1:45 PM** | Controls on estuarine tidal flat evolution at decadal and seasonal time scales. **Bruce Jaffe**, Mick Van der Wegen, Amy Foxgrover, Dano Roelvink | The search for habitat specific coefficients for the spatial assessment of ecosystem services. **Marc Russell**, Richard Fulford, Janet Nestlerode, Darrin Dantin, John Rogers, Jim Harvey | Hypoxia and temperature impacts on fish growth in shallow estuarine nurseries: laboratory and field assessment. **Timothy Targett** | An inventory and classification of U.S. West Coast estuaries: A foundation for research, restoration, conservation. **Walter Heady**, Kevin O'Connor, Jennifer Kassakian, Kate Doiron, Charles Endris, Daniel Hudgens, Ross Clark, Jena Carter, Mary Gleason | Changing nutrient budgets for an urban estuary. **Lora Harris**, Walter Boynton, Jeff Cornwell, Michael Pennino, Casey Hodgkins, Cindy Palinkas, Melissa Day, Mike Owens, Jeremy Testa |
| **2:00 PM** | Physical and biological effects of dam removal on the Elwha River estuary ecosystem. **Melissa Foley**, Matthew Beirne, Rebecca Paradis, Jeffrey Duda | An expert process to evaluate restoration actions in the lower Columbia River and estuary. **Kirk Krueger**, Daniel Bottom, W. Gregory Hood, Gary Johnson, Kim Jones, Ronald Thom | Climate-driven oxygen and temperature conditions: Predictor of habitat quality for oceanic Chinook salmon? **Cynthia Sellinger**, Stephen Brandt | Nursery functions of U.S. West Coast estuaries: An overview of the State of Knowledge. **Jennifer Brown**, Brent Hughes, Matthew Levey, Monique Fountain, Aaron Carlisle, Steven Litvin, Correigh Greene, Walter Heady, Mary Gleason | A nitrogen budget for the San José Lagoon, San Juan Bay Estuary, Puerto Rico. **Hamlet Pérez-Villalona**, Jeffrey Cornwell, Jorge Ortiz-Zayas, William McDowell, Elvira Cuevas |
| **2:15 PM** | Seasonality of sea level and tides in Southeast Asian waters. **Adam Devlin**, David Jay, Stefan Talke, Ed Zaron | Evaluating large scale restoration in the context of multiple interests: the Mississippi River Report Card. **Rense Kelsey**, Harald Jordahl, William Dennison, Jane Thomas, William Nuttle, Charles Somerville | Patterns of dissolved oxygen dynamics in a Pacific Northwest slough and tide channel. **James Power**, David Beugli, T. Chris Mochon-Collura | Climate mediates hypoxic stress on fish diversity and nursery function at the land-sea interface. **Brent Hughes**, Matthew Levey, Monique Fountain, Aaron Carlisle, Francisco Chavez, Mary Gleason | Subsurface nitrate reduction in restored seagrass meadows. **Lillian Aoki**, Karen McGlathery |
| **2:30 PM** | How human activities changed the sediment loads to San Francisco Bay over the last 160years? **Hamed Moftakhari**, David Jay, Stefan Talke | Community variation in macrobenthic fauna between restored and unrestored intertidal habitats. **Shannon Dunnigan**, Nadja Capps, Kelly Smith | The physiological response of blue rockfish (Sebastes mystinus) to hypoxia – life stage considerations. **Jody Beers**, Steven Litvin, C. Brock Woodson, Fiorenza Micheli, George Somero | A nested spatial framework for informing fish habitat protection and restoration across west coast estuaries. **Van Hare**, Brett Holycross, Kiira Siitari, Hiroo Imaki, Laura Brophy, Walter Heady, Matthew Levey | Large-scale seagrass restoration returns ecosystem services. **Karen McGlathery**, Lillian Aoki, Peter Berg, Marie Lise Delgard, Matthew Oreska |
| **2:45 PM** | Trends in Columbia River Flow, Water Temperature and Sea Level since 1850. **Stefan Talke**, David Jay, Lumas Helaire | Coastal protection and restoration along sandy beaches and dunes: context-dependent tradeoffs in ecosystem services. **Reuben Biel**, Sally Hacker, Peter Ruggiero, Eric Seabloom | Causes and consequences of hypoxia and warming in Pescadero Lagoon and other intermittently closed estuaries. **John Largier** | Mapping the extent of West Coast tidal wetlands using extreme water level data and LIDAR. **Laura Brophy**, Hiroo Imaki | Diel-cycling hypoxia and acidification: Adaptation and natural rhythms. **Denise Breitburg**, Seth Miller, Andrew Keppel, Rebecca Burrell |
| **BREAK 3:00-3:30 PM** | | | | | |

# ORAL SESSIONS Thursday 12 November | Early Afternoon 1:30PM–3:00 PM

| Room B 114 | Room B 115 | Room B 116 | Room B 117-119 | Room C 120-122 | |
|---|---|---|---|---|---|
| **SCI-181B**<br>**Models and Multiple Modeling Approaches for Management**<br>Gary Shenk | **SCI-187**<br>**Patterns and Processes of Contemporary Change in Tidal Wetlands**<br>Kevan Moffett | **SCI-183B**<br>**Delta Dynamics in the Anthropocene**<br>Leanna Heffner | **SCI-188A**<br>**Coastal Inundation and its Impacts in a Changing Climate**<br>Zhaoqing Yang | **SCI-189A**<br>**Movement Ecology of Seagrasses**<br>Kathryn McMahon | |
| Down-scaling watershed model predictions and characterizing structural uncertainty to support decision-making and develop monitoring priorities. **Kathleen Boomer**, James Peterson | Water and dissolved nutrient exchange between a polyhaline marsh and the Murderkill Estuary (Delaware, USA). **William Ullman**, Anthony Aufdenkampe, Rebecca Hays, Stephanie Dix | Connectivity in river deltas: A first order mechanism for delta functioning. **Paola Passalacqua**, Matthew Hiatt, Alicia Sendrowski, Man Liang | Storm Surge Risk Modeling in a Changing Climate. **Kirk Bosma** | Movement ecology of seagrasses. **Kathryn McMahon**, Kor-jent van Dijk, Leonardo Ruiz-Montoya, Gary Kendrick, Siegfried Krauss, Michelle Waycott, Jennifer Verduin, Ryan Lowe, John Statton, Eloise Brown, Carlos Duarte | **1:30 PM** |
| Integrating multiple models, monitoring, and management to improve restoration decision making in Chesapeake Bay watersheds. **James Peterson**, Kathleen Boomer | Tidal wetland response to changes in inundation patterns in the lower Columbia River and estuary. **Amy Borde**, Heida Diefenderfer, David Jay, Shon Zimmerman, Ronald Thom, Amanda Hanson, Catherine Corbett | Anthropogenic changes drive tidal channel dynamics in southwest Bangladesh. **Carol Wilson**, Steven Goodbred, Richard Hale, Kazi Rifat Ahmed, Christopher Small, Sarah Sams | A probabilistic framework for estimating flood risk under combined effect of flood drivers. **Amir AghaKouchak**, Hamed Moftakhari, Brett Sanders, Adam Luke, Richard Matthew | Movement ecology of floating seeds: genetic connectivity among seagrass meadows is related to contemporary dispersal. **Gary Kendrick**, Leonardo Ruiz-Montoya, Ryan Lowe, Elizabeth Sinclair, Siegy Krauss, Luke Thomas | **1:45 PM** |
| Modeling Tools for Understanding Climate Impacts on the Phenology of Chesapeake Bay's Linked Agriculture-Water System. **William Ball**, Damian Brady, Ariel Ortiz-Bobea, Lisa Wainger | Quantifying the effects of crab bioturbation on salt marsh sediment erodibility. **Sarah Farron**, Zoe Hughes, Duncan FitzGerald, Kyle Strom | Utilization of geophysical and sediment analysis to characterize deltaic sediments as pathways for groundwater discharge. **Alexander Breaux**, Katherine Telfeyan, Alexander Kolker, Karen Johannesson, Jihyuk Kim, Jaye Cable | Fully probabilistic relative sea level and extreme coastal flood projections to support community adaptation. **Ian Miller**, Alexander "Sascha" Petersen, Matthew Fougerat, Robert Kopp, Jake Bell, Cindy Jayne, Kate Dean | Submarine dispersion of seagrass pollen as a function of canopy and particle characteristics. **Elizabeth Follett**, Heidi Nepf | **2:00 PM** |
| Chesapeake Bay – The application of multiple modeling approaches in the 2017 Midpoint Assessment. **Lee Currey**, Dave Montali, Gary Shenk, Lewis Linker | Surface tension moves salt marsh sediment- you don't need Einstein's equations to build a marsh. **Scott Ensign**, Carolyn Currin | Strategies for managing climate change in deltas around the world. **Natalie Peyronnin**, Estelle Robichaux | Feasibility study of storm surge modeling driven by a dynamical downscaling climate model. **Zhaoqing Yang**, Taiping Wang, Sourav Taraphdar, Ruby Leung | Seagrass dispersal by Dugong dugon & Chelonia mydas in the Great Barrier Reef lagoon, Australia. **Samantha Tol**, Robert Coles, Jessie Jarvis, Paul York, Brad Congdon | **2:15 PM** |
| Unraveling measurement and process-related uncertainties in watershed models using hierarchical Bayesian approaches. **Richard Alexander**, Gregory Schwarz, Ana Garcia, Elizabeth Boyer | Two decades of coupled change in topography, vegetation, and hydrology in a young delta wetland. **Kevan Moffett**, Brittany Smith, Michael O'Connor, David Mohrig | Particle export from a small Northwest river undergoing environmental change. **Emily Eidam**, Andrea Ogston, Charles Nittrouer, Jonathan Warrick | Future Power Plant Infrastructure Paradigm Incorporating Sea Level Rise and Storm Surge Influence. **Chris Vernon**, Jennie Rice, Zhaoqing Yang, Nino Zuljevic | Genetic diversity and population connectivity in a tropical seagrass, Syringodium filiforme, in the Florida Keys. **Alexandra Bijak**, Kor-jent van Dijk, Michelle Waycott | **2:30 PM** |
| USGS on-line tools for estimating nutrient delivery to continental U.S. estuaries. **Daniel Wise** | The influence of floating and submerged aquatic vegetation habitat complexity on nekton abundance and diversity. **Kelly Darnell**, Tim Carruthers | Parameter Sensitivity and Uncertainty Analysis of the Delta Morphodynamics. **Kazi Sadid**, Ehab Meselhe, Ashok Khadka | It's wrong, but what is the risk that it's right. **Keil Schmid** | Dispelling seagrass myths: longevity, recruitment through vegetative fragments and long distance dispersal. **Michelle Waycott** | **2:45 PM** |
| **BREAK 3:00-3:30 PM** | | | | | |

# ORAL SESSIONS Thursday 12 November | Late Afternoon 3:30PM–5:00 PM

| | Room A 105 | Room A 106 | Room A 107-109 | Room B 110-112 | Room B 113 |
|---|---|---|---|---|---|
| | **SCI-190**<br>**A Functioning, Resilient San Francisco Estuary for the Next Century**<br>Letitia Grenier | **SCI-164E**<br>**Evaluating Restoration Success: Ecology, Economy, and Society**<br>Jennifer Beseres Pollack | **SCI-184B**<br>**Hypoxia and Temperature as Interactive Multi-Stressors in Coastal Ecosystems**<br>Stephen Brandt | **SCI-185B**<br>**Assessing the Status of Estuary Habitats for Juvenile Fish Across California, Oregon, and Washington**<br>Lisa DeBruyckere | **SCI-186B**<br>**Triaging the Coastal Ocean**<br>Robinson Fulweiler |
| **3:30 PM** | Recommendations to achieve a functioning, resilient San Francisco Estuary for the next Century. **Letitia Grenier** | Maximizing wetland restoration success: the influences of construction techniques and the surrounding landscape. **Anna Armitage**, Kathleen Bowers, Rebekkah Bergren, Antonietta Quigg | Overheated and out of breath: temperature regulation of respiration and oxygen supply in coastal zooplankton. **Michael Roman**, David Elliott, James Pierson | Assessment of the nursery functions for juvenile fish in West Coast estuaries. **Jason Toft**, Jeffery Cordell | Evaluation of chemical weathering following the Deepwater Horizon oil spill in Louisiana salt marshes. **Meredith Evans**, Brad Rosenheim, Jiqing Liu, Zhanfei Liu |
| **3:45 PM** | Landscape Conceptual Model and Projected Evolution of Estuarine Habitats through 2110. **Jeremy Lowe** | Response of macrobenthic organisms to salt marsh restoration in Jamaica Bay, New York. **Jolene Willis**, Brett Branco | Hypoxia, Predation, And Natural Disaster As Multiple Stressors Of Copepods In The Chesapeake Bay. **Wencheng Slater**, Mary Beth Decker, James Pierson, Edward Houde, David Elliott, Michael Roman | Setting priorities across coastal landscapes: a review of prioritization methods for estuary restoration and protection. **John Bragg**, Kiira Siitari | Addressing the land-loss fish production paradox. **Kristy Lewis**, Kim de Mutsert, James Cowan Jr. |
| **4:00 PM** | The estuarine-terrestrial transition zone: valuable now, critical in the future. **Donna Ball**, Josh Collins | The effects of sea-level rise and planting density on nitrogen removal in restored marshes. **Eric Sparks**, Just Cebrian, Julia Cherry, George Ramseur | Winter algal blooms and hypoxia in coastal embayments of the St. Louis River Freshwater Estuary. **Ralph Garono**, Shon Schooler | Toward an Estuary Restoration Prioritization Scheme in a Rapidly Changing World. **Eric Grossman**, Laura Brophy, John Bragg, Randy Carman, Lisa DeBruyckere, Correigh Greene, Van Hare, Mike Mertens, Fran Recht, Korie Schaeffer, Dan Shively | Is our triage process broken? A review of fisheries literature. **Jason Krumholz**, Seth Macinko |
| **4:15 PM** | Maximizing the Resilience of Estuarine Wildlife Populations in the Face of Change. **Nadav Nur**, Bruce Herbold | Mangrove Rehabilitation in karstic settings: Discerning the relative effect of engineering structures and climate variability. **Victor Rivera-Monroy**, David Alonzo Parra, Jorge Cerón Gómez, David Canul Rosado, Eduar Ciau Cardozo, Edward Castañeda-Moya, Asher Williams | Combined effects of dissolved oxygen and temperature on the ecophysiology of the polychaete, Capitella teleta. **Chet Rakocinski**, Kelsey Gillam, Alyssa Bennett | Determining the effect of Watershed Stressors on Habitat Quality in Gulf Estuaries using Hierarchical Modeling. **Jonathan Miller**, Daniel Obenour, Peter Esselman, Ibrahim Alameddine | Delta Restoration: Can river reoccupations allow short-term sustainability of coastal deltaic floodplains? **Robert Twilley**, Samuel Bentley, Qin Chen, Douglas Edmonds, Scott Hagen, Nina Lam, Clint Willson, Kehui Xu, DeWitt Braud, Hampton Peele, Ernesto Pineda |
| **4:30 PM** | How Can We Better Manage Carbon and Greenhouse Gases in Estuarine Wetlands? **Stephen Crooks**, John Callaway, Lisamarie Windham-Myers, Judith Drexler, Lisa Schile | "Living shoreline" propagule trapping: examining the rate of natural red mangrove recruitment within stabilized shorelines. **Michelle Shaffer**, Kristin Kramer, Melinda Donnelly, Linda Walters | Respiratory response of Streblospio gynobranchiata to multiple combined levels of dissolved oxygen and temperature. **Alyssa Bennett**, Kelsey Gillam, Chet Rakocinski | Effects of nursery habitat selection on English sole energy storage with respect to seasonal hypoxia. **Michelle Stowell**, Louise Copeman, Lorenzo Ciannelli, Morgan Bancroft, Fredrick Prahl | Stakeholder engagement and interagency recommendations on HABs and hypoxia: An update on HABHRCA. **Caitlin Gould** |
| **4:45 PM** | How Resource Management and Regulation Agencies will Use the Goals Update Recommendations. **Matt Gerhart** | | Building towards ecologically-based goals for Gulf of Mexico hypoxia. **David Kidwell**, Alan Lewitus, Robert Magnien, David Scheurer | Concluding synthesis: The status of estuary habitats for juvenile fish across California, Oregon, and Washington. **Lisa DeBruyckere** | |

# ORAL SESSIONS Thursday 12 November | Late Afternoon 3:30PM–5:00PM

| Room B 114 | Room B 115 | Room B 116 | Room B 117-119 | Room C 120-122 | |
|---|---|---|---|---|---|
| **SCI-191**<br>**Ecological Thresholds in Louisiana Coastal Wetlands and Implications for Restoration**<br>Gregory Steyer | **SCI-192**<br>**Best Practices and Tools for Managing Environmental Sensor Data**<br>Wade Shelton | **SCI-183C**<br>**Delta Dynamics in the Anthropocene**<br>Leanna Heffner | **SCI-188B**<br>**Coastal Inundation and its Impacts in a Changing Climate**<br>Zhaoqing Yang | **SCI-189B**<br>**Movement Ecology of Seagrasses**<br>Kathryn McMahon | |
| Successful wetland restoration in coastal Louisiana: Constraints imposed by ecological thresholds. **Irving Mendelssohn**, Camille Stagg, Sean Graham, Joseph Baustian | A best practices guide for planning, implementing and managing sensor networks and data. **Donald Henshaw**, Corinna Gries | Biophysical trajectory in the Ganges-Brahmaputra-Meghna delta. **Munsur Rahman**, Anisul Haque, Judith Wolf, Robert Nicholls, Craig Hutton, Stephen Darby, Mashfiqus Salehin, Manuel Barange, Attila Lazar, Derek Clarke, Shahjahan Mondal, Paul Whitehead | Beyond bathtub assessments: On the coastal dynamics of global climate change. **Scott Hagen**, Karim Alizad, Matthew Bilskie, Paige Hovenga, Davina Passeri, Denise DeLorme, Wenrui Huang, Stephen Medeiros, James Morris, Dingbao Wang, John Weishampel | Genetic connectivity and clonality indicates recruitment limitation of seagrasses in the Great Barrier Reef. **Kor-jent Van Dijk**, Michelle Waycott, Catherine Collier, Len McKenzie | **3:30 PM** |
| Inundation and salinity impacts to marsh vegetation productivity in coastal Louisiana assessed with marsh organs. **Gregg Snedden**, Brett Patton | Quantifying radiation shield effectiveness on temperature sensors: the PHRSC experiment. **Fox Peterson**, Donald Henshaw | Surface water hydrology and nitrate dynamics in delta islands of prograding Wax Lake Delta, Louisiana. **Edward Castañeda-Moya**, Robert Twilley, Gregg Snedden | Quantifying the value of ecosystem services in Delaware's tidal wetlands to inform management. **Amanda Santoni** | Genetic diversity, structure and migration in Halodule wrightii; a report from the Gulf of Mexico. **Patrick Larkin**, Tabitha Maloney, Sebastian Rubiano-Rincon, Michael Barrett | **3:45 PM** |
| Identifying controls on organic matter production in coastal wetlands along a landscape salinity gradient. **Camille Stagg**, Sarai Piazza, Melissa Baustian, Carey Perry, Tim Carruthers, Donald Schoolmaster, Gregg Snedden | Putting sensor data to work. **John Porter**, Chau-Chin Lin | Integrating Ecology and Geology to Predict Effects of Restoration and Storms on Deltaic Wetlands. **John Nyman** | Ecosystem services and natural habitats: coastal protection, storm surge and mangrove areal extent. **Susan Bell** | Regional and Populational genetic differentiation of the seagrass Zostera marina L. in the North Pacific. **Sandra Talbot**, Kevin Sage, Jolene Rearick, Megan Fowler, David Ward, Rachel Muniz-Salazar, Alejandro Cabello-Pasini, Bethany Baibak, Sandy Wyllie-Echeverria | **4:00 PM** |
| Current and historic carbon storage in four marsh habitats in coastal Louisiana. **Melissa Baustian**, Leland Moss, Camille Stagg, Carey Perry, Caitlin Pinsonat, Tim Carruthers | Automating Sensor Data Management using the GCE Data Toolbox for MATLAB. **Wade Sheldon** | Wetland vegetation community type change in coastal Louisiana from 1973-2013. **Brady Couvillion**, Stephen Hartley, Jenneke Visser, Holly Beck, Audrey Maass | Economic Analysis of Climate Change Adaptation in Ventura County, California. **Gretchen Greene**, Greg Reub, Felix Kristanovich, Bob Battalio, David Revell, Elena Vandebroek, Sarah Newkirk, Lily Verdonne | So near, yet so far: Genetic connectivity of the seagrass Thalassia hemprichii in tropical Australia. **Udhi Hernawan**, Kathryn McMahon, Gary Kendrick, van Dijk Korjent, Paul Lavery | **4:15 PM** |
| Impact of Macondo Oil on Aquatic Primary Productivity in Breton Sound Estuary. **Robert Lane**, Christopher Lundberg, John Day | IOOS National Sensor Network Scalability Experiment. **Rob Bochenek**, Derrick Snowden | Nearshore vegetation response to sediment input from dam removal. **Helen Berry**, Steve Rubin | Critical Infrastructure Impacts in Coastal Environments from Changing Climate. **David Judi** | Recovery of seagrass in Indian River Lagoon, following major loss in 2011. **Robert Virnstein** | **4:30 PM** |
| Mangroves vs. salt marshes in Louisiana: resistance, resilience, and the implications for climate-induced range expansion. **Michael Osland**, Richard Day, Courtney Lee, Marisa Brumfield, Jason Dugas, William Jones | | The Colorado River Delta in the Anthropocene: First efforts at repairing the damage. **Steven Nelson**, Karl Flessa, The Delta Science Team | Risk assessment of sea level rise on coastal and estuarine ecosystems at the European scale. **Juanes José**, Elvira Ramos, Camino Fernández, Araceli Puente, Melisa Menéndez, Fernando Méndez, Íñigo Losada | The ability of Thalassia testudinum to resuspend and settle particles in southwest Florida. **Katrina Kaack**, David Fugate | **4:45 PM** |

# MONDAY POSTER SESSIONS

## SCI-102 MUD, MACROFAUNA AND MICROBES: AN ODE TO BENTHIC ORGANISM-ABIOTIC INTERACTIONS AT VARYING SCALES

**Malkin, Sairah;** Roa, Alexandra; Seitaj, Dorina; Burdorf, Laurine; Hidalgo-Martinez, Silvia; Tramper, Anton; Meysman, Filip. Electrogenic sulphide oxidation by cable bacteria in bivalve reef sediments. (A-1)

**Hale, Stephen;** Eutrophication and hypoxia degrade ecosystem functions and services of Narragansett Bay benthic communities. (A-2)

**Eash-Loucks, Wendy;** Benthic community changes within a disturbed habitat in Puget Sound, WA (A-3)

**Kiskaddon, Erin;** Bell, Susan. Bioturbation and burrow characteristics of semi-terrestrial crabs in a mangrove/forest ecotone. (A-4)

**Duball, Chelsea;** Stolt, Mark; Amador, Jose. Effects of oyster aquaculture on benthic infauna and the soils they inhabit in coastal lagoons. (A-6)

**Morales-Núñez, Andrés;** Chigbu, Paulinus. Range extension of the invasive isopod Ianiropsis serricaudis Gurjanova, 1936 in Maryland Coastal Bays, USA. (A-7)

**Rugila, Allison;** Paul, Robert. Mud Crab (Xanthidae: Eurypanopeus and Rhithropanopeus spp.) parasitism by the invasive sacculinid barnacle (Loxothylacus panopaei). (A-8)

**Wessel, Barret;** Rabenhorst, Martin. Bathymetric landform stability and sediment/soil mapping of the Rhode River estuary. (A-9)

**Lawson, Inez;** de Rivera, Catherine; Lafrenz, Martin. Saltmarsh invertebrate response to dike removal: implications for sea level rise. (A-10)

**Blackwell, Kate;** Salerno, Jennifer; Hamdan, Leila. A comparison of community composition and metabolic diversity of aqueous, sediment, and Lopheila pertusa microbiomes. (A-11)

**Martin, Christopher;** Blais, Catherine; Lauria, Mary. Distribution and Species Composition of Biofilm in the Fraser River Estuary, Vancouver, British Columbia. (A-12)

## SCI-103 EXPLAINING DRIVERS OF CHANGE IN RIVERINE AND ESTUARINE WATER QUALITY

**White, Caitlin;** Brown, Cheryl; Mochon Collura, T Chris. Cross-system comparison of factors influencing chlorophyll-a concentration in Oregon estuaries. (A-13)

**Pruell, Richard;** Taplin, Bryan. Temporal trends in nitrogen isotope ratios of winter flounder collected from Rhode Island coastal systems. (A-14)

**Li, Yishen;** Sullivan-Sealey, Kathleen; Estevanez, Maria; Brand, Larry. Linking coastal eutrophication to land-based anthropogenic nitrogen footprint: a case study in Great Exuma, Bahamas. (A-15)

**Chintala, Marnita;** Ayvazian, Suzanne; Boothman, Warren; Cicchetti, Giancarlo; Coiro, Laura; Hale, Stephen; Kuhn, Anne; Nye, Janet; Pelletier, Marguerite; Rashleigh, Brenda; Robinson, Sandra; Robinson, Kenneth. Trend analysis of stressors and ecological responses, particularly nutrients, in the Narragansett Bay Watershed. (A-16)

**Ehrich, Melinda;** Murphy, Rebecca; Tain, Richard; Keisman, Jeni; Tango, Peter. Water quality criteria attainment: What changes are occurring in Chesapeake Bay? (A-17)

**Hodgkins, Casey;** Harris, Lora; Boynton, Walter; Testa, Jeremy; Day, Melissa. A small estuarine system "on the edge": watershed development vs water quality conditions. (A-18)

**Tausz, Claudia;** Maier, Michelle; Hapke, Whitney; Needoba, Joseph; Peterson, Tawnya. High summer abundances of potentially toxic cyanobacteria in shallow water habitats of the Columbia River. (A-19)

**Jones, Sean;** Jones, Jess; Shuey, Mary-Elizabeth. The Effect of Roadway Altered Tidal Flux on a Mangrove Ecosystem. (A-20)

**Brauko, Kalina;** Dauer, Daniel. Consistency of responses of macrofaunal trophic guilds to sewage discharges at nested scales of variation. (A-21)

**Johnson, Geoffrey;** Gavin, Daniel; Sutherland, Dave; Roering, Josh; Mathabane, Nathan. Post-Euro-American settlement environmental history of dissolved oxygen, Coos Bay, OR. (A-22)

**Genzer, Jennifer;** Preischel, Hannah; Windham, Rachel; Lucchese, Allyson; Shepard, Alicia; Steichen, Jamie; Quigg, Antonietta. Complexities of phytoplankton responses in a dynamic estuary influenced by two rivers and an ocean. (A-23)

**Novick, Emily;** Senn, David; Downing-Kunz, Maureen; Shellenbarger, Greg; Bresnahan, Phil; Bergamaschi, Brian; Downing, Bryan. Exploring potential mechanisms for low dissolved oxygen in the sloughs of San Francisco Bay. (A-24)

**Hong, Bongghi;** Swaney, Dennis; Howarth, Robert. A toolbox for estimating regional nitrogen and phosphorus inputs to US watersheds. (A-25)

## SCI-104 ESTUARINE ACIDIFICATION: EMBRACING AND SYNTHESIZING COMPLEXITY

**Keppel, Andrew;** Burrell, Rebecca; Breitburg, Denise. Diel-cycling hypoxia and pH modify growth in eastern oyster spat. (A-26)

**Sherer, Evan;** The influence of environmental pH on the shell strength of the eastern oyster, Crassostrea virginica. (A-27)

**Pacella, Stephen;** Brown, Cheryl; Mochon-Collura, T. Chris; Waldbusser, George. Contrasting controls of pH climatology in an open coast versus urban fjord estuary. (A-28)

**Zayas, Carmen;** Zimmerman, Richard; Hill, Victoria; Gaeckle, Jeffrey; Short, Fred. Differential response of Z. marina (Eelgrass) populations to CO2 and temperature (A-29)

# MONDAY POSTER SESSIONS

**Burrell, Rebecca;** Miller, Seth; Breitburg, Denise; Keppel, Andrew. Effects of co-cycling hypoxia and acidification on egg development of Menidia menidia (Atlantic silverside). (A-30)

**Brodeur, Jean;** Huang, Wei-Jen; Cai, Wei-Jun. Carbon flux and hypoxia in the Chesapeake Bay. (A-31)

**Clements, Jeff;** Woodard, Krystal; Hunt, Heather. Clams On Acid: Experimental Effects Of Sediment Acidification On Juvenile Soft-Shell Clam Burrowing And Dispersal. (A-32)

## SCI-105 FISH AS INTEGRATORS OF ECOSYSTEM HEALTH IN COASTAL WATERSHEDS

**Goecke, Stacia;** Carstenn, Susan. Non-native Rhizophora mangle correlations to fish communities and nursery habitat in stream mouth estuaries. (A-33)

**Woodley, Christa;** Wagner, Katie; Johnston, Ian; Johnson, Gary; Ebberts, Blaine; Studebaker, Cindy; Diefenderfer, Heida. Prioritization of Habitat Restoration Using Fish Whole Body and Muscle Growth Indices. (A-34)

**Sills, Amanda;** de Mutsert, Kim. Trends in ichthyoplankton assemblage structures in a recovering freshwater tidal embayment. (A-35)

**Seeley, Matthew;** Walther, Benjamin. Habitat use and trophic structure in Atlantic tarpon (Megalops atlanticus) using geochemical proxies in scales. (A-36)

**Leech, Francine;** Bauer, Caitlin; Brougham, Lyntana; Chernow, Robin; Geoghegan, Emily; Hurley, Joh; Klinges, J. Grace; McCabe, Tempest; Mejia, Ana; Sumner-Moore, Meg; Record, Sydne; Record, R. Scott; Mozdzer, Thomas. Mangrove habitat modification results in persistent long-term changes in nursery fish density and diversity. (A-37)

**Vilas, Cesar;** González-Ortegón, Enrique; Rubio, Elena; Walton, Mark; Muñoz, Rubén; Gutierrez, Manuel; Baldó, Francisco; vanBergeijk, Steff; Drake, Pilar; Cañavate, Pedro. Food web structure of a nursery estuary and the key role of mysids. (A-38)

**Reichmuth, Jessica;** Neff, Erik; Joiner, J. Blake; Saul, Bruce. The Noyes Cut "Shuttle:" A possible redistribution of fish assemblages within the Satilla River Estuary. (A-39)

**Johnson, Elizabeth;** Earley, Ryan. The reproductive and behavioral effects of environmentally relevant doses of endocrine disruptors in mangrove rivulus. (A-40)

**Akau, James;** Miller, Jessica; MacKenzie, Richard. A twenty-year comparison of post-larval goby abundance on Hawaii Island. (A-41)

## SCI-107 HYDRODYNAMICS AND SEDIMENT DYNAMICS IN ESTUARIES AND COASTAL SEAS

**Reidenbach, Matthew;** Thomas, Emily; Timmerman, Ross; Hansen, Jennifer. Wave attenuation and wave-current interactions within a seagrass bed. (A-42)

**Kluesner, David;** Fugate, David. Seasonal erodibility of cohesive sediments and bioturbation in the Caloosahatchee River estuary of southwestern Florida. (A-43)

**Perales, Hector;** Sanay, Rosario; Marín, Mark; Valle-Levinson, Arnoldo. Wind influence on water exchange in a salt wedge estuary of the SW-Gulf of Mexico. (A-44)

**Sanay-Gonzalez, Rosario;** Perales-Valdivia, Héctor; Marín-Hernández, Mark; Valle-Levinson, Arnoldo. Seasonal variability of hydrography over the SW Gulf of Mexico inner shelf. (A-45)

**Branyon, Jackie;** Valle-Levinson, Arnoldo; Parra, Sabrina; Marino-Tapia, Ismael. Predicting submarine groundwater discharge and turbulence dissipation using Bernoulli dynamics. (A-46)

**Styles, Richard;** Measuring suspended sediment concentrations from boat wake. (A-47)

**McSweeney, Jacqueline McSweeney;** Wilkin, John; Chant, Robert. Modeling Lateral Sediment Transport Processes in Delaware Estuary. (A-48)

**Graña, Rocío;** Villacieros-Robineau, Nicolás; Piedracoba, Silvia; Torres, Ricardo; Largier, John; Barton, Eric; Gilcoto, Miguel. Seasonal cycle of stratification and mixing in the Ría de Vigo. (A-9)

**Ross, Lauren;** Sottolichio, Aldo. Subtidal water level variability in a macrotidal, convergent estuary. (A-50)

**Nascimento, Fernanda;** Valle-Levinson, Arnoldo; Sottolichio, Aldo; Senechal, Nadia. Wind-induced subtidal flow in a mixed-energy tidal inlet. (A-51)

**Harris, Courtney;** Birchler, Justin; Kniskern, Tara; Corbett, D. Reide. Modeling sediment transport and geochronology with application offshore of the Mississippi River delta. (A-52)

**Valentine, Kendall;** Kineke, Gail; Ralston, David; Kristiansen, Ellen; Geyer, Wayne. Bedload transport and bed morphology in the Connecticut River Estuary. (A-53)

**Harvey, Madeleine;** Giddings, Sarah; Pawlak, Geno. Hydrodynamics and morphodynamics in a low-inflow estuarine inlet. (A-54)

**Al-Bahadily, Aqeel;** Talke, Stefan; Hudson, Austin. Use of satellite imagery to turbidity patterns in the Columbia River Estuary. (A-55)

**McDowell, Conor;** Sommerfield, Christopher. Historical Changes in the Geomorphology of a Mid-Atlantic Salt Marsh. (A-56)

**Wadman, Heidi;** Establishment of a baseline monitoring system in a coastal lagoon, Outer Banks, NC. (A-57)

**Jones, Allan;** Moffett, Kevan; Hardison, Amber; Hodges, Ben; McClelland, James. River residence time variations improve understanding of the river-estuary continuum. (A-58)

**Hughes, Zoe;** Georgiou, Ioannis; Howes, Nick; FitzGerald, Duncan. Flow and sedimentation in tidal channels: observations of changing patterns along a tidal-fluvial gradient. (A-59)

## SCI-108 INTEGRATING UNDERGRADUATE RESEARCH EXPERIENCES IN COASTAL AND ESTUARINE RESEARCH

**Peffer, Colby;** Bolster, Clara; Bolt, Channing; Fisch, Matthew; Halim, Kerollos; Jones, Nathaniel; Mefford, Anne; Nilsen, Clara; Reddoch, Tynan; Seng, James; Seward, James; Seward, Natalianne; Ward, Connor. Humboldt State University Undergraduates Investigate the Nitrogen Inventory of Humboldt Bay (A-60)

**Smith, Kelly;** Assessing coastal restoration for science and education: meeting both objectives. (A-61)

**Lake, Samuel;** Goydan, Claire. Recruiting young scientists: using W&M EcoAmbassador blogs to educate and advertise research opportunities. (A-62)

**Fuss, Karen;** Gayes, Paul; Viso, Richard; Libes, Susan. Integrating undergraduate and graduate student research via the School of Coastal and Marine Systems Science. (A-63)

**McDonald, P. Sean;** Grason, Emily; Adams, Jeff; Litle, Kate. Students, citizen science, and the search for European green crab in Washington state. (A-64)

**Masura, Julie;** Greengrove, Cheryl. Plastics, Oceans, and Ships: Field-based Learning Influencing Education. (A-65)

## SCI-109 USING SURFACE ELEVATION DYNAMICS TO MANAGE AND MITIGATE THE RISKS OF CLIMATE CHANGE ON COASTAL WETLANDS

**Renken, Katherine;** Namikas, Steven. Flow and sediment deposition around different vegetation types, implications for dune evolution. (C-29)

**Lynch, James;** Cahoon, Donald; Hensel, Philippe. Development of the Surface Elevation Table (SET) protocol document. (C-30)

**Hensel, Philippe;** Cain, Molly; Howard, Jay; Blum, Linda. Millimeters in the mud: an analysis of Surface Elevation Table (SET) error. (C-32)

## SCI-110 SEAGRASS ECOSYSTEMS: CHALLENGES IN EVALUATING FUNCTION, HEALTH, ABUNDANCE AND RESTORATION

**Villegas-Manriquez, Karen;** Ibarra-Obando, Silvia; Montaño-Moctezuma, Gabriela. Spatio-temporal changes in 15N of eelgrass leaves: its effects on mesograzers biomass. (A-69)

**Graham, Olivia;** Hargenrader, Kate; Eisenlord, Morgan; Groner, Maya. The severity and prevalence of eelgrass wasting disease in the San Juan Islands. (A-70)

**Pruitt, Casey;** Donoghue, Cinde. Intertidal ghost shrimp in Puget Sound: enough for gray whales and a sustainable commercial harvest? (A-71)

**Markos, Peter;** Ryan, Andrew; Donoghue, Cinde. Monitoring eelgrass bed dynamics and lower edge movement: applications for resource management in Washington State. (A-72)

**Briley, Sara;** Ware, Rick; Whitcraft, Christine; Zacherl, Danielle. Response of eelgrass to an adjacent Olympia oyster restoration project in southern California. (A-73)

**Gabriel, Anthony;** Donoghue, Cinde; Bodensteiner, Leo; Adolphson, Scott; Cordner, David; Stilwater, Luke. PAR and light extinction above eelgrass, at bed surface, and beneath decks in Washington. (A-74)

**Gross, Collin;** Donoghue, Cinde. Community structure and predation rates within, on edges, and outside eelgrass beds in Washington estuaries. (A-75)

**Cordner, David;** Gabriel, Anthony; Donoghue, Cinde; Markos, Peter; Ryan, Andrew. Dynamics of seagrass (Zoster spp.) edges and landscape characteristics in Washington State. (A-76)

**Olesen, Birgit;** Jørgensen, Martin. Germination timing in Danish Zostera marina populations: effects of seed source and sediment type. (A-77)

**Dantin, Darrin;** Harvey, James; Fulford, Richard; Marc, Russell; Alex, Almario; Krauss, Ian; Kate, Murphy. Benthic incubation chambers for estimating nitrogen flux at the sediment water interface. (A-78)

**Gaeckle, Jeffrey;** Thom, Ronald; Buenau, Kate; Vavrinec, John; Borde, Amy; Aston, Lara. Eelgrass (Zostera marina) recovery in Puget Sound, Washington, USA: restoration tools, successes and challenges. (A-79)

**Hitchcock, Jesse;** Courtenay, Simon; van den Heuvel, Michael. Eelgrass declines in Atlantic Canada: are health and distribution related to estuarine nutrient loading? (A-80)

**Patten, Kim;** Norelius, Scott. Biotic and abiotic comparisons of tideflats in Willapa Bay, WA with and without Zostera japonica. (A-81)

**Bohlmann, Heath;** Gaeckle, Jeffrey. Multi-year changes in eelgrass growth reveal positive response to environmental forcing in Padilla Bay, WA. (A-82)

**Ha, Grace;** Williams, Susan. Color-matching in an eelgrass mesograzer community: dietary influence and predator response. (A-83)

**Choi, Sun Kyeong;** Lee, Hyuk Je; Lee, Kun Seop; Kang, Chang-Keun; Park, Sang Rul. Abundance, genetic diversity and distribution of seagrass in Jeju Island, Korea: Management, conservation and restoration. (A-84)

**Ito, Katsutoshi;** Onduka, Toshimitsu; Hamaoka, Hideki; Nakaoka, Masahiro; Hori, Masakazu. Searching natural repellents for manipulating the density of the organisms inhabiting seagrass beds. (A-85)

**Sur, Christine;** Grosholz, Edwin. Mesograzer responses to climate stressors and consequences for grazer-epiphyte interactions in eelgrass beds. (A-86)

**Song, Hwi-june;** Kim, Seung Hyeon; Greene, Austin; Kang, Chang-Keun; Lee, Kun-Seop. Predation intensity of epifaunal mesograzers in Zostera marina meadows on the coast of Korea. (A-87)

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**Digiantonio, Gina;** van Dijk, Kor-jent; Waycott, Michelle. New genetic markers for the seagrass Amphibolis antarctica reveal genetic diversity. (A-88)

**Weaver, Crystal;** Boyer, Katharyn; de la Torre, José. The effects of sediments and their associated microbial communities in eelgrass (Zostera marina) restoration. (A-89)

**Ward, David;** Hogrefe, Kyle. Eelgrass Ecosystem Assessments in Southwest Alaska. (A-90)

**Marino, Roxanne;** Hayn, Melanie; Howarth, Robert; McGlathery, Karen; Gibbs, Mary. An exploration of using stable isotopes to better understand the response of seagrasses to eutrophication. (A-91)

**DuBois, Katherine;** Abbott, Jessica; Williams, Susan; Stachowicz, John. Seasonal variation in the relationship between primary productivity and photosynthetic efficiency in eelgrass (Zostera marina) (A-92)

**Zimmerman, Shon;** Borde, Amy; Gaeckle, Jeff; Buenau, Kate; Thom, Ron. Mapping eelgrass (Zostera marina) restoration potential in Puget Sound, Washington, USA. (A-93)

**Sund, Daniel;** Dumbauld, Brett. Evaluating the effects of Z. japonica removal on fish and crab community composition and utilization. (A-94)

**Ferrier, Lisa;** Christiaen, Bart. Seagrass response to increased sediment deposition from dam removal on the Elwha River. (A-95)

**Jordan, Linda;** Rahman, Abdullah; Kline, Richard; Rahnemoonfar, Maryam. Mapping anthropogenically-disturbed seagrass beds with sidescan sonar. (A-96)

**Sebilian, Serina;** Boyer, Katharyn. The impacts of increased salinity and temperature on Stuckenia pectinata and its associated invertebrate community. (A-97)

**McCain, J. Scott;** McIver, Reba; Schmidt, Allison; Lotze, Heike. Eelgrass (Zostera marina) habitat complexity and mobile community structure. (A-98)

**Yeager, Mallarie;** Hovel, Kevin. Interactive effects of eelgrass structural complexity and fish body size on seagrass nursery habitat function. (A-99)

**Hannam, Michael;** Dowty, Peter; Gaeckle, Jeff; Berry, Helen; Christiaen, Bart; Ferrier, Lisa. Zostera marina Depth Distribution in the Salish Sea, WA, USA. (A-100)

## SCI-112 COASTAL HABITAT CONNECTIONS TO OFFSHORE FISHERIES PRODUCTIVITY

**Eddy, Taylor;** Litvin, Steve; Finney, Bruce. Developing indicators of physiological condition for juvenile rockfish (Sebastes spp.). (B-1)

**Fields, Stephanie;** Henkel, Sarah; Roegner, G. Curtis. An eye on the seafloor: Monitoring Dungeness crab with video at dredged material disposal sites. (B-2)

**Rederer, Hali;** Becker, Ben; Coleman, Ronald; Allen, Sarah; Bartling, Ryan. Is There a Relationship Between Tomales Bay Pacific herring Spawning years and Eelgrass growth years? (B-4)

**Mace III, Marvin;** Rozas, Lawrence. Population dynamics and production of juvenile white shrimp Litopenaeus setiferus along an estuarine salinity gradient. (B-5)

**Baldó, Francisco;** González-Ortegón, Enrique; Sobrino, Ignacio; Drake, Pilar; Vilas, Cesar. The nursery role of the Guadalquivir estuary for marine fish. A long-term ecological research. (B-6)

**Levell, Samantha;** Greene, Correigh. Habitat selection, human influence and social and environmental cues in forage fish from Puget Sound. (B-7)

**Olson, Angeleen;** Juanes, F; Hessing-Lewis, Margot; Salomon, A. Seagrass and kelp forest connectivity effects on the recruitment, diversity, and diet of temperate fish. (B-8)

## SCI-114 SUCCESSFUL UNDERGRADUATE RESEARCH EXPERIENCES

**Steiner, Jacob;** Hendrix, Rose; Safreno, Alec; Holden, Michael. A student-run autonomous oceanographic research vessel (B-9)

**Kolesar, Sarah;** Students and host organizations alike benefit from Oregon Sea Grant's Summer Undergraduate Scholars program. (B-10)

**Walters, Linda;** Antony, Amanda. Integrating research into university-level marine biology courses with large enrollment using research coaches. (B-11)

**Gearty, Austin;** Foster, Hannah; McPherson, Meredith; Muller, Richard; Parker, Alexander. Estuarine water quality and ballast water management: undergraduate research at the California Maritime Academy. (B-12)

## SCI-115 INTEGRATED STUDIES ON STORM-INDUCED COASTAL CHANGE

**Rusch, Hannah;** Miller, Douglas; Trembanis, Arthur. Investigating Storm-Mediated Shifts in Subtidal Benthic Invertebrate Communities at Assateague Island National Seashore. (B-13)

**Mani, Murali R.;** Seelam, Jayakumar. Coastal geomorphologic responses due to tropical cyclones at parts of Odisha, East coast of India. (B-14)

**Bernier, Julie;** Smith, Christopher; Zaremba, Nicholas. Integrating imagery, sediment, and geophysical datasets to characterize overwash deposition, Assateague Island, Maryland and Virginia. (B-15)

**Kennedy, Elise;** Trembanis, Art; Miller, Doug. Storm-related change in benthic morphology and sedimentation at Assateague Island. (B-16)

**Beudin, Alexis;** Ganju, Neil. Estimation of bed shear stress in Chincoteague Bay during Hurricane Sandy. (B-17)

**Sambrotto, Raymond.** Estuarine and coastal response to winter storms in the Mid-Atlantic Region of the U.S. (B-18)

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### SCI-116 MODELING LOUISIANA'S 2017 COASTAL MASTER PLAN

**Grace, Alaina;** Freeman, Angelina; Green, Mandy; Lindquist, David; Meselhe, Ehab; Reed, Denise. Louisiana's 2017 Coastal Master Plan: Model Improvement Plan. (B-19)

### SCI-117 SUCCESSFUL SCIENCE STORY-TELLING FOR COASTAL RESILIENCE

**Green, Mandy;** Saucier, Melanie; Belhadjali, Karim; Speyrer, Nick. Outreach and engagement for Louisiana's Comprehensive Master Plan for a Sustainable Coast (B-20)

**Tzortziou, Maria;** Mannino, Antonio. Satellite Observations of Coastal Processes from a Geostationary Orbit. (B-21)

### SCI-118 CLIMATE CHANGE AND ESTUARINE WATERS: DRIVERS, IMPACTS, AND IMPLICATIONS

**Crosswell, Joseph;** Carlin, Geoff; Steven, Andy. Biogeochemical impact of a coastal tropical storm on Moreton Bay, Australia. (B-22)

**Martin, Charles;** Nejad, Erica; Tyree, Mary; Cloern, Jim; Schraga, Tara. Record high water temperatures in San Francisco Bay, 2014–15. (B-23)

**Shen, Jian;** Du, Jiabi; Hershner, Carlton; Bilkovic, Donna; Sisson, Mac. The influences of a storm-surge barrier on hydrodynamics and transport processes in Chesapeake Bay. (B-24)

**Aretxabaleta, Alfredo;** Ganju, Neil; Butman, Bradford. Water Level Response to Offshore Fluctuations in the Bays of Southern Long Island. (B-25)

**Arriola, Jill;** Allen, Tom; Cable, Jaye; Henley, Olivia. Rising Seas: How will North Carolina coastal systems adapt to sea-level rise? (B-26)

**Tzortziou, Maria;** Neale, Patrick; Megonigal, Patrick; Loughner, Christopher. Biogeochemical fluxes in highly vulnerable to climate change estuarine wetlands. (B-27)

**Anderson, Gordon;** Lagomasino, David; Price, René; Wdowinski, Shimon; Smith III, Thomas. Variability of water levels in the Florida Coastal Everglades using two time-series analyses. (B-28)

**Pahl, James;** Green, Mandy; Meselhe, Ehab; Reed, Denise. Accounting for Eustatic Sea Level Rise in the State of Louisiana's 2017 Coastal Master Plan. (B-29)

### SCI-119 CROSSING THE DIVIDE: BRINGING SCIENCE AND MANAGEMENT TOGETHER TO ADDRESS IMPACTS FROM CLIMATE CHANGE ON COASTAL COMMUNITIES

**Saucier, Melanie;** Green, Mandy; Belhadjali, Karim. Flood Risk and Resilience Program: Reducing flood risk and increasing community resilience. (B-30)

**Cheng, Helen;** Bowman, Sarah; Brown, Joshua. Bridging the gap between research and extension: Sea Grant's role in climate on coastal communities. (B-31)

**DiDonato, Eva;** Fradkin, Steven. Ocean Acidification: How is the National Park Service responding? (B-32)

**Bowman, Sarah;** Cheng, Helen; Brown, Joshua. Toning down the gray: National Sea Grant Network's role in natural infrastructure. (B-33)

**North, Elizabeth;** Blair, Jeffery; Cornwell, Jeffery; Freitag, Amy; Gawde, Rasika; Hartley, Troy; Hood, Raleigh; Jones, Robert; Miller, Thomas; Thomas, Jane; Wainger, Lisa; Wainger, Michael. Oyster Futures: integrating stakeholder objectives with natural system models to promote sustainable natural resource policy. (B-34)

### SCI-120 NUMERICAL INVESTIGATION OF CLIMATE IMPACTS ON ESTUARINE AND COASTAL SYSTEMS

**Xia, Meng;** Kang, Xinyi. Inlet Dynamics at Maryland Coastal Bays and its response to climate change. (B-35)

**Jiang, Long;** Xia, Meng. Response of the Chesapeake Bay outflow plume to potential climate change. (B-36)

**Gilroy, Angelica;** Giddings, Sarah; Kumar, Nirnimesh. Assessing the impact of wave forcing on small river plumes. (B-37)

### SCI-121 BIOGEOCHEMICAL STRESSORS IN VEGETATED HABITATS: EXPLORING CLIMATE CHANGE MITIGATION

**Balaguru, Karthik;** Bianucci, Laura; Khangaonkar, Tarang. Impacts of climate change on marine ecosystems of Puget Sound (B-38)

**Lowe, Alexander;** Donoghue, Cinde; Horwith, Micah; Trimble, Alan; Ruesink, Jennifer. Physical and biological drivers of pH variation in shallow nearshore habitats of Washington State. (B-39)

**Rasmusson, Lina;** Gullström, Martin; Björk, Mats. Multiple factors influence oxygen consumption in the temperate seagrass Zostera marina. (B-40)

**Albright, Rebecca Albright;** Caldeira, Ken; Silverman, Schneider, Maclaren, OTI Research Team;. Alkalinity Enrichment Enhances Calcification of a Coral Reef Flat. (B-41)

### SCI-122 SALTED OR UNSALTED? LINKING GREAT LAKES AND COASTAL OCEAN STUDIES

**Del Giudice-Tuttle, Elena;** Albert, Dennis; Lemein, Todd. Assessing variation of vegetative morphology and habitat of Schoenoplectus pungens in Pacific Coast estuaries. (B-42)

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## SCI-123 GRAND CHALLENGES IN MARINE AND ESTUARINE SPATIAL PLANNING AROUND THE WORLD: COMMON ISSUES AND DIFFERENT APPROACHES (JOINT ECSA-CERF SESSION)

**Ouellette, Marc;** Niles, Monique; Guyondet, Thomas. Assessing the effects of cultured bivalves on eelgrass productivity in temperate estuaries of Atlantic Canada. (B-44)

**Rubin, Lea;** Tango, Peter; Phillips, Scott; Dennison, William; Bennett, Mark. Building Environmental Intelligence: Leading the future of water quality monitoring. (B-45)

## SCI-124 PLACE-BASED RESEARCH, STEWARDSHIP, AND EDUCATION WITH APPLICATION TO ESTUARINE MANAGEMENT

**Delgado, Patricia;** Hensel, Philippe. Understanding vulnerability to climate change in a tidal freshwater marsh. (B-46)

**Robichaux, Estelle;** Henkel, Theryn; Renfro, Alisha. Recommendations for a management-focused, long-term, large-scale research and monitoring program: Gulf of Mexico case study. (B-47)

**Harwell, Matthew;** Fulford, Richard; DeWitt, Theodore; Russell, Marc; Yee, Susan; Hoffman, Joel; McKane, Robert; Canfield, Timothy. Comparative community case studies as research tools: A national effort to support local sustainability planning. (B-48)

**Pohl, Kari;** Allen, Jenny; Coles, Victoria; Hood, Raleigh; Reay, Willy; Raulin, Jennifer; Land, Sasha; Wood, Robert. Extreme climate variability and change in Chesapeake Bay: A marriage of science and translation. (B-49)

**Darrow, Elizabeth;** Carmichael, Ruth; Calci, Kevin; Burkhardt, William. Finding your estuary's roots: Investigating effects of land-use change with little historical context. (B-50)

**Cohen, Risa;** Gleason, Daniel. Drifting for knowledge: Drifter workshops complement water quality research at Gray's Reef National Marine Sanctuary. (B-51)

**Lovelace, Susan;** Turner, April; Fly, Elizabeth; Davis, Julie; Slattery, Michael; DeVoe, Rick. New Models for Achieving Actionable Science in SC. (B-52)

**Dailey Pierce, Brianna;** Simenstad, Charles. Linking the estuarine landscape, salmon, and the fish community in the Anchor River Estuary, Alaska. (B-53)

**Siok, Drexel;** Hice Dunton, Lyndie; Pletta, Maggie; Valencik, Kelly. Managing horseshoe crabs through citizen science: Volunteers prove critical in success. (B-54)

## SCI-125 RESPONSES OF SALT MARSHES TO SEA LEVEL RISE

**Isdell, Robert;** Bilkovic, Donna; Hershner, Carl. Barriers to Inland Migration: Salt Marshes and Sea Level Rise. (B-55)

**Bauer, Caitlin;** Leech, Francine; Johnson, Elena; Aziz, Tasnim; Deegan, Linda; Warren, R. Scott; Caplan, Joshua; Mozdzer, Thomas. Effects of nitrogen enrichment on plant functional traits and phenology in smooth cordgrass, Spartina alterniflora. (B-56)

**Cable, Jaye;** Smith, Rebekah; Kasparek, Lauren; Whittaker, Christopher; Ingram, Joseph. Carbon storage under threat: sea level rise and carbon burial in coastal Louisiana. (B-57)

**Coronado-Molina, Carlos;** Servais, Shelby; Kominoski, John; Sklar, Fred; Troxler, Tiffany; Gaiser, Evelyn; Kelly, Stephen; Madden, Christopher; Stachelek, Joseph; Davis, Stephen; Rudnick, David; Rudnick. Effects of Saltwater Intrusion on Soil Carbon Dynamics in Wetlands at the Everglades Freshwater-Saltwater Ecotone. (B-59)

## SCI-126 LESSONS LEARNED FROM 25 YEARS OF INTERNATIONAL COLLABORATION IN LOICZ

**Wiegman, Adrian;** Day, John; Kemp, Paul; Bentley, Sam; Guo, Bei Bei; D'Elia, Chris. The influence of 21st century megatrends of energy and climate on Mississippi Delta restoration. (B-60)

**Ganguly, Dipnarayan;** Ramachandran, Purvaja; G, Hariharan; Sanyal, Prasun; Ramachandran, Ramesh. Influence of suspended particulate matter on Net Ecosystem Metabolism in a highly turbid Estuary. (B-62)

## SCI-127 NUMERICAL MODELING OF ESTUARINE AND COASTAL SYSTEMS

**Ye, Fei;** Zhang, Yinglong; Irby, Isaac; Wang, Zhengui. A 3D baroclinic model of the upper Chesapeake Bay and its tributaries. (B-63)

**Bratt, Abby;** Greene, Correigh. Individual-based modeling: a tool for understanding the benefits of restoration for a nursery species. (B-64)

**Helaire, Lumas;** Talke, Stefan; Jay, David. Long-term changes in tidal dynamics in the Lower Columbia River. (B-65)

**Dugdale, Richard;** Wilkerson, Frances; Parker, Alexander. Clam grazing effects on phytoplankton blooms in the San Francisco Estuary: a modeling approach. (B-66)

**McCullough, Ramona;** Kulis, Paula; Hamrick, John; Zou, Rui; Duzinski, Philip. Development and validation of a high-resolution hydrodynamic model in the upper tidal Delaware River. (B-67)

**Gray, Matthew;** Zu Ermgassen, Philine; Gair, Jonathan; Lemagie, Emily; Lerczak, Jim; Langdon, Chris. Improved resolution of native and non-native oyster filtration services from physiological and oceanographic studies. (B-68)

**Fernandes, Elisa;** Eadi Stringari, Caio; Valente, Roberto; Dias, Pablo; Oliveira, Heline; Victor Lisboa, Paulo. Understanding the Patos Lagoon suspended sediment contribution to the mud banks in the Southern Brazil. (B-69)

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## SCI-128 ADAPTATION AND MITIGATION OF OCEAN ACIDIFICATION AND HYPOXIA: RESEARCH AND MANAGEMENT

**McLean, Erin;** Shaw, C. Tracy; Seibel, Brad. The response of molting juvenile American lobster (Homarus americanus) to ocean acidification projections. (B-70)

**Weis, Judith;** Advising the State of New Jersey on ocean acidification. (B-71)

**Wetz, Michael;** Fisher, Kelsey; Hayes, Kenneth. Wastewater influence on oxygen and pH dynamics in a subtropical estuary (Oso-Corpus Christi Bay, Texas). (B-72)

**McLaughlin, Karen;** Nezlin, Nikolay; Weisberg, Stephen. An evaluation of potentiometric pH sensors in coastal monitoring applications. (B-73)

**Coupland, Catherine;** Oviatt, Candace. Estimating daily metabolism in Narragansett Bay using an in situ carbon method. (B-74)

## SCI-129 CLIMATE CHANGE IN THE CHESAPEAKE AND OTHER COASTAL SYSTEMS

**Lee, Younjoo;** Lee, Dong; Boynton, Walter. Winter-Spring Chlorophyll-a Concentration and Phytoplankton Community Composition in Chesapeake Bay. (B-75)

**Du, Jiabi;** Shen, Jian. Response of long-term physical transport processes to climate oscillations in Chesapeake Bay. (B-76)

**Knee, Karen;** Balerna, Jessica; Melone, Jacob. Variation in hydrology and water quality along an urban-rural gradient in northern Virginia streams. (B-77)

**Yactayo, Guido;** Bhatt, Gopal. Chesapeake Bay Watershed Model Sensitivity to Observed Climate Change. (B-78)

**Raper, Kirk;** Elsey-Quirk, Tracy; Velinsky, David; Kreeger, Danielle; Padeletti, Angela; Maxwell-Doyle, Martha; Watson, Elizabeth. Intensive Long-term Monitoring in Tidal Wetlands of Delaware and Barnegat Bays. (B-79)

**Fries, Alexandra;** Donovan, E. Caroline; Kelsey, R. Heath; Dennison, William. Chesapeake Bay coastal marsh resiliency to climate change. (B-80)

**Schulte, Justin;** Najjar, Raymond; Lee, Sukyoung. Salinity Variability in Estuaries of the U.S. Mid-Atlantic Region: Relationship to Large-Scale AtmosphericCirculation Patterns. (B-81)

**Bhatt, Gopal;** Yactayo, Guido; Hinson, Kyle; Claggett, Peter; Shenk, Gary; Linker, Lewis. Towards an integrated climate change analysis of the Chesapeake Bay watershed. (B-82)

## SCI-131 CASTING THE NET WIDELY: EXPANDING THE REACH OF BROADER IMPACTS

**Kowalski, Joseph;** DeYoe, Hudson. Assessment of a small high school outreach program: From the field to poster session. (B-83)

**Reid-Griffin, Angelia;** "Staying connected: K-12 teacher educators and scientists in the classroom". (B-84)

**Fallaize, Eleanor;** Darrow, Elizabeth; Treible, Laura; Hardison, Shiela; Giever, Tammy; McFee, Gary; Condon, Robert. Integrating marine science and climate curriculum into the elementary classroom. (B-85)

**Sur, Christine;** Abbott, Jessica; Ambo-Rappe, Rohani; Asriani, Nenni; Hita, Steven; Lestari, Hasriani Ayu; Syahid, Sulham; Trockel, Dale; Umar, Widyastuti; Williams, Susan. Adapting a U.S. K-12 citizen science program for marine debris outreach in Indonesia. (B-86)

**Wilson, Kristin;** Smith, Tin; Feurt, Christine; Auermuller, Lisa; Mahoney, Michael; Cox, Annie; Bickford, Sue; Grant, Kristen. Peer-to-peer exchange: New Jersey residents use lessons from Superstorm Sandy to help southern Maine communities. (B-87)

**Crews, Tracy;** McDonald, Ruth; Steinman, Melissa; Bedell, Sean; Horning, Markus. Researchers, resource management, and real learning: engaging K-12 in broader impacts. (B-88)

**Green, Chris;** LeBlanc, Brian; Olivier, Heidi; Wagner, Bran. Stumbling from lab to outreach: helping non-scientists ponder how oilspills and consumer products affect wetlands. (B-89)

**Holden, Michael;** Parker, Alexander. Improving ocean observing product access for the public: enlisting social media for data distribution. (B-90)

**Ober, Gordon.** Oceanbites: making oceanographic literature digestible for a broad audience. (B-91)

**McIver, Reba;** Schmidt, Allison; Lloyd, Michelle; Adler, David. Seacology by Kayak: increasing ocean literacy and stewardship through experiential learning. (B-92)

**Loh, Ai Ning;** Engaging K-12 students in research through science fair projects. (B-93)

## SCI-132 SECURING THE FUTURE OF SEAGRASS ECOSYSTEMS IMPACTED BY COASTAL DEVELOPMENT

**Lanuru, Mahatma;** Ambo-Rappe, Rohani; Khairul, Amri; Williams, Susan. Ecosystem Function of Seagrass System in Different Hydrodynamic Regimes: Implication for Seagrass Restoration. (B-94)

**Ruiz-Montoya, Leonardo;** Statton, John; Orth, Robert; Duarte, Carlos; Merritt, David; Dixon, Kingsley; Kendrick, Gary. Determining environmental bottlenecks limiting seedling establishment in degraded seagrass ecosystems. (B-95)

**Lilley, Richard.** A place-based perspective on coastal seascape management: the case of Lipsi Island, Greece. (B-96)

**Henderson, Christopher;** Stevens, Tim; Gilby, Ben; Maxwell, Paul; Olds, Andrew; Lee, Joe. Top-down control is highly important in structuring sub-tropical seagrass fish communities. (B-97)

**Landry, J. Brooke;** Karrh, Lee; Golden, Rebecca; Lewandowski, Mark. The effects of shoreline type and watershed land use on submerged aquatic vegetation. (B-98)

# MONDAY POSTER SESSIONS

**Samper-Villarreal, Jimena;** Lovelock, Catherine; Saunders, Megan; Roelfsema, Chris; Mumby, Peter. Seagrass carbon storage varies among seascapes yet is seasonally robust overall. (B-99)

**Patten, Melissa;** Boyer, Katharyn. Morphological plasticity of a native SAV species in the San Francisco Estuary. (B-100)

## SCI-133 DEVELOPING LONG-TERM MANAGEMENT PLANS FOR ESTUARINE WATERS: WHERE SCIENCE AND MANAGEMENT MEET

**Salehi, Mehrdad.** Does Climate Change Impact Estuaries? (B-103)

**Kidd, Sarah;** Yeakley, Alan. Ecosystem Recovery in Oligohaline Tidal Wetlands of the Columbia River Estuary. (B-104)

**Perry, Rachel;** Vaudrey, Jamie. Fate of nitrogen entering a small, shallow embayment. (B-105)

**Shumchenia, Emily;** Cicchetti, Giancarlo; Pryor, Margherita; Jackson, Susan. Using a benthic biotope mosaic approach to assess and track overall estuarine condition. (B-106)

## SCI-134 CONNECTIVITY BETWEEN ARCTIC LAGOONS AND ADJACENT ECOSYSTEMS: NUTRIENTS TO NEKTON

**Robertson, Ann;** Divoky, George; Heintz, Ron; Vollenweider, Johanna; Moran, John; Boswell, Kevin; Barton, Mark. Energetic value of prey utilized by Black Guillemots (Cepphus grylle) on an Arctic barrier island. (B-107)

**Li, Chunyan;** Boswell, Kevin. Air to Sea: Water Exchange with Arctic Lagoon Controlled by Arctic Atmospheric Pressure Systems. (B-108)

**Bonsell, Christina;** Dunton, Kenneth. Continuous environmental monitoring to establish ecosystem baselines in an Alaskan Arctic kelp bed. (B-109)

**Lorenson, Thomas;** Swarzenski, Peter; Johnson, Cordell; Gibbs, Ann; Erikson, Li; Richmond, Bruce; Waldrop, Mark. Methane emission and multichannel electrical resistivity surveys of coastal bluffs, North Slope Alaska. (B-110)

## SCI-135 MACROALGAL BLOOMS ON THE RISE: RENEW OUR KNOWLEDGE

**Quillien, Nolwenn;** Nordström, Marie; Schaal, Gauthier; Gauthier, Olivier; Paulet, Yves-Marie; Bonsdorff, Erik; Grall, Jacques. Effects of macroalgal blooms on the trophic structure and functioning of highly dynamic systems. (C-1)

**Lacey, Elizabeth.** Drift algae blooms–seagrass–epiphyte interactions in two temperate seagrass meadows in Barnegat Bay, New Jersey. (C-2)

**Lanari, Marianna;** Copertino, Margareth. The effects of climate, hydrology and wind on the abundance and distribuition of drift macroalgae. (C-3)

## SCI-136 COASTAL OCEAN ACIDIFICATION: USING MODELS TO INTEGRATE MULTIPLE STRESSES

**Rheuban, Jennie;** Cooley, Sarah; Hart, Deborah; Luu, Victoria; Glover, David; Hare, Jonathan; Doney, Scott. Developing a model for the US sea scallop fishery that incorporates ocean acidification and warming. (C-4)

**Jiang, Mingshun;** Lapointe, Brian. Modeling the freshwater plume and its impacts on water quality over St. Lucie coral reefs. (C-5)

## SCI-137 LAGOONS WITHOUT BORDERS: INTERNATIONAL APPROACHES TO CHALLENGES IN LAGOON SCIENCE AND MANAGEMENT

**Oliveira, Heline;** Fernandes, Elisa; Moller, Osmar. Understanding the Dynamics of a Pristine Coastal Lagoon Between Brazil and Uruguay – Mirim Lagoon. (C-6)

**Soto, Inia;** Odebrecht, Clarisse; Moller, Osmar; Rodrigues, Jeane; Garcia, Virginia; Souza, Marcio; Serra, Fabiane; Mendes, Carlos; Pereira, Ella; Jung, Barbara; Garcia, Carlos. Sediment load, phytoplankton community and estuarine circulation dynamics in Patos Lagoon, Brazil. (C-7)

**Rodrigues, Jeane;** Soto, Inia; Moller, Osmar; Garcia, Carlos; Costa, Maycira. Remote-sensing reflectance (Rrs) variability in relationship to water circulation in the Patos Lagoon estuary. (C-8)

## SCI-138 DATA DRIVING LOUISIANA'S RIVER DIVERSION PROJECTS, PLANNING THROUGH ADAPTIVE MANAGEMENT

**Ramatchandirane, Cyndhia;** Yuill, Brendan; Allison, Mead; Baustian, Melissa; Meselhe, Ehab. Observational network studies of receiving basin dynamics along lower Mississippi River in coastal Louisiana. (C-10)

## SCI-139 ARTISTIC PATHWAYS TO SCIENTIFIC UNDERSTANDING

**Sheldon, Joan;** The Globally Warm Scarf: Data-driven knitting/crocheting and a soft introduction to a prickly topic. (C-11)

**Burrell, Rebecca;** Adorned, encrusted, and engaging: art jewelry perpetuating science communication. (C-12)

**Kolesar, Sarah;** Haberman, Karen; Germano, Joseph; Gray, Ayesha. Artistic pathways to scientific understanding: Collaborative mosaic. (C-13)

**Donnelly, Melinda;** Walters, Linda. Inspiring the next generation of coastal conservationists with rhymes, paintings, and hands-on field experiences. (C-14)

**Breitburg, Denise;** McDonough, Patrick. Wonders of Our Waters/Beachfront Potential: Integrating science and art. (C-15)

**Leavitt, Dale;** Fultineer, Scheri; Gomez-Chiarri, Marta; Govenar, Breea; Vogler, Emily. A framework for coastal ecology: sculptural forms as infrastructure of coastal resilience and education. (C-16)

# MONDAY POSTER SESSIONS

## SCI-140 WHAT INFLUENCES DISSOLVED OXYGEN PATTERNS IN ESTUARINE WATERS OF THE PACIFIC NORTHWEST?

**Sutton, Evan;** Ferrier, Lisa; Christiaen, Bart. Do Environmental Drivers Explain Recent Floating Kelp Declines on the Olympic Peninsula, WA, USA? (B-111)

**Christman, Natasha;** Apple, Jude; Newton, Jan. Physical and microbial drivers of hypoxia in Bellingham Bay. (B-112)

## SCI-148 DEFINING REFERENCE CONDITIONS IN ESTUARINE AND COASTAL SYSTEMS

**Matthews, Toby;** Peyton, Kiimberly; Carstenn, Susan. Intermittent actions with permanent consequences: Understanding the effects of artificial breaching on O'ahu's stream-mouth estuaries. (C-17)

**Stilwater, Luke;** Gabriel, Anthony; Donoghue, Cinde. Bull kelp (Nereocystis luetkeana) distribution in the Northern Puget Sound, 1870-2000. (C-18)

**Mejias-Rivera, Carla;** Exploratory evaluation of Retranslocation and Bioconcentration of heavy metals at Las Cucharillas marsh, Puerto Rico. (C-19)

**Vaudrey, Jamie;** Barrett, Juliana; Basso, Georgia; Dennison, William; Donovan, E. Caroline; Fries, Alexandra; Krumholz, Jason; Tedesco, Mark. Assessing habitat status and restoration goals in an urban estuary: Long Island Sound. (C-20)

**Gawde, Rasika;** Auer, Martin; Dijkstra, Marcel; Auer, Nancy. Big heat, big chill: impact of climate change on the thermal regime of Lake Superior. (C-21)

**Day, Melissa;** Moore, Amanda; Kames, Jacob; Long, Eric; Harris, Lora; Hodgkins, Casey. SMILE on Parkers Creek: Seasonal box model of low-impacted western shore Chesapeake Bay sub-estuary. (C-22)

**Peyton, Kimberly;** Sakihara, Troy; Lapp, Eko. Between waterfalls and coral reefs: how many estuaries are in the Hawaiian Islands? (C-23)

**Masura, Julie;** Bullock, Axton; Chang, Ren-Chieh; Folwer, Ashley; Greengrove, Cheryl. Monitoring Marine Plastic Debris in Marine Sediments in Puget Sound: Preliminary Study. (C-24)

**Levin, Douglas;** Groethues, Thomas; Petrecca, Rosemarie; Dobarro, Joseph; DeLuca, Michael; Fuller, Charlotte; Taghon, Gary; Psuty, Norbert; Spahn, Andrea; Twilley, Grant; Meisinger, Brendyn. Indirect & direct sampling to evaluate post Sandy benthic habitat in Sandy Hook Bay, NJ (C-25)

## SCI-152 APPLICATIONS OF PHYTOPLANKTON PIGMENT-BASED METHODS IN ESTUARINE AND COASTAL ECOLOGY

**Van Meerssche, Elise;** Pinckney, James. The CHEMTAX enigma. (C-26)

**Neeley, Aimee;** Harris, Lora. Evaluation of two bio-optical models for discriminating phytoplankton functional types in the Chukchi Sea. (C-27)

**Silwal, Saurav;** Dash, Padmanava; Moorhead, Robert; Sackreiter, Jarrod; Ochs, Clifford; Pinckney, James. Phytoplankton community structure in Lower Pearl River Estuary. (C-28)

## SCI-154 DEFINING TIPPING POINTS TO INFORM MANAGEMENT OF MULTIPLE STRESSORS IN MARINE ECOSYSTEMS

**Shaffer, Garry;** Day, John; Hunter, Rachael; Lane, Robert. Nutria herbivory and vegetation recovery of a wetland receiving secondarily-treated effluent in coastal Louisiana. (A-66)

**Gonzalez, Julie;** Chang, Andrew; McCann, Linda; Marraffini, Michelle; Pollard, Erica; de Rivera, Catherine; Ruiz, Gregory; Grosholz, Edwin. Demonstrating overcompensation in response to intensive removal of an invasive marine crab. (A-67)

**Gilby, Ben;** Tibbetts, Ian; Maxwell, Paul; Olds, Andrew; Stevens, Tim. Different ecosystem components are driven by different factors; lessons for marine management and conservation. (A-68)

## SCI-158 EMERGING AND LEGACY CONTAMINANTS IN COASTAL AND ESTUARINE ECOSYSTEMS

**Parrish, Chelsea;** Hoskins, Dionne. Mercury concentrations in surface sediments from the mouth of the Savannah River, Georgia. (C-33)

**Maldonado-Román, Marixa;** DeLaRosa-Acosta, Melanie; Jiménez-Collazo, Johannys; Malavé-Llamas, Karlo; Musa-Wasil, Juan. Heavy Metal and bacterial assessment in a tropical mangrove ecosystem, Cataño, Puerto Rico. (C-35)

**Outhwaite, Alyssa;** Gill, Katlyn; Reichmuth, Jessica. Fiddlin' with Roundup: Fiddler crab behavioral response to the active ingredient in a common herbicide. (C-36)

**Riter, J. C. Alexis;** Mo, Yu. Impact of the 2010 Macondo Oil Spill on Southeastern Louisiana Coastal Marshes Based on Landsat. (C-37)

**Shor, Audrey;** Lyzenga-Trippiedi, Katie. Metal inducible type 2 metallothionein expression and activity in wild-type and albino mangroves Rhizophora mangle. (C-39)

**Dayrit, Dylan;** Granek, Elise; Peters, Joey. Analysis of fluoxetine bio-concentration in marine mussels. (C-40)

## SCI-162 THRESHOLDS AND FEEDBACK PROCESSES IN COASTAL AND ESTUARINE SYSTEMS

**Weishar, Lee;** Is coastal resiliency a new buzzword for estuary and coastal restoration established best management practices? (C-41)

**Jones, Nathaniel;** Bolster, Clara; Bolt, Channing; Fisch, Matthew; Halim, Kerollos; Mefford, Anne; Nilsen, Clara; Peffer, Colby; Reddoch, Tynan; Seng, James; Seward, James; Seward, Natalianne; Ward, Connor. Comparison of nitrogen inventories in the northern and southern sub-basins of Humboldt Bay, Northern California. (C-42)

## MONDAY POSTER SESSIONS

**Barnett, Linda;** Meyers, Michelle; Steyer, Gregory; Godsey, Elizabeth; McDonald, Justin; Rees, Susan. Monitoring and adaptive management program development for the Mississippi Coastal Improvements Program, Barrier Island Restoration. (C-43)

**Brown, Laura;** Brophy, Laura; Ewald, Michael. Responses of groundwater dynamics to elimination and re-introduction of tidal exchange in Oregon tidal wetlands. (C-44)

**Meyers, Michelle;** Steyer, Gregory; Mattsson, Brady; Dalyander, Soupy; Godsey, Elizabeth; McDonald, Justin. Structured decision making to facilitate sustainable barrier island restoration practices in Mississippi, USA. (C-45)

**Cornwell, Jeffrey;** Owens, Michael; Kellogg, M. Lisa. Feedback processes in Chesapeake Bay: did oysters matter in the past, do they matter now? (C-46)

**Unruh, Amber;** Howes, Brian. Quantifying Nitrogen Attenuation in Cape Cod, MA Freshwater Ponds. (C-47)

**Elmer, Wade;** Bazzano, Magali. The relation of Si to the health of Spartina alterniflora in areas affected by dieback. (C-48)

**Blais, Catherine;** Martin, Christopher; Lauria, Mary. Natural Regeneration of Estuarine Biofilm in the Fraser River Estuary, Vancouver, British Co0lumbia. (C-49)

### SCI-163A TIMING IS EVERYTHING: PHENOLOGY IN COASTAL MARINE ECOSYSTEMS

**Powelson, Katherine;** Thorne, Karen; Block, Giselle; Gilligan, Kirk; Schallmann, Bob; Buck, Slader; Yuen, Andy; Touchstone, Victoria; Freeman, Chase; Buffington, Kevin. A hybrid collaborative approach to climate change adaptation: A case study from southern California. (B-101)

**Freeman, Chase;** Thorne, Karen; Powelson, Kat; Elliott-Fisk, Deborah; Bui, Vivian; Janousek, Chris; Buffington, Kevin; Spragens, Kyle; Spragens, Kyle. Variation in climate change adaptation planning readiness along the Pacific coast. (B-102)

## WEDNESDAY POSTER SESSIONS

### SCI-141 INCORPORATING CLIMATE CHANGE IN REGULATORY FRAMEWORKS AND CONSERVATION PLANNING

**Duguay, Linda;** Hart, Juliette; Grifman, Phyllis. Expecting the Unexpected: Using Adaptive Management in Planning for Coastal Impacts. (A-3)

### SCI-142 COASTAL BLUE CARBON ECOSYSTEMS: CURRENT SCIENCE AND APPLICATION TO MANAGEMENT EFFORTS

**Cook, Sarah;** Schoch, Carl. Mapping blue carbon in South Slough National Estuarine Research Reserve using ShoreZone. (A-4)

**Johnson, Beverly;** Duvall, Mathieu. Determining the amount of carbon stored in salt marshes: how many cores are "enough"? (A-5)

**Petrell, Royann;** Horgen, Paul. Evidence of buried organic matter under beached seagrass. (A-6)

**Owers, Christopher;** Rogers, Kerrylee; Woodroffe, Colin. Identifying spatial complexity in coastal wetland vegetation for evaluating carbon storage. (A-7)

**Howard, Jason;** Perez, Alex; Lopes, Christian; Fourqurean, James. Disconnection between seagrass communities and blue carbon stores: results from a 30-year field experiment. (A-8)

**Daneshgar, Pedram;** Natural mangrove tidal creek salinity gradients: a tool for assessing the impacts of climate change. (A-9)

**Duckett, Lisa;** Simpson, Loraé; Lovelock, Catherine; Feller, Ilka. Variations in soil respiration of mangrove and salt marsh ecosystems along a latitudinal gradient. (A-10)

**Velinsky, David;** Sommerfield, Christopher; Elsey-Quirk, Tracy. Carbon, nitrogen and phosphorus sequestration in Delaware River tidal wetlands. (A-11)

**Tucker, Kaitlin;** Sommerfield, Christopher; Velinsky, David. Time dependence of carbon accumulation in Delaware tidal marshes. (A-12)

**Lane, Robert;** Mack, Sarah; Day, John; Moerschbaecher, Matthew. Greenhouse gas emissions during wetland loss. (A-13)

**Blum, Linda;** Blum, Linda; Davey, Earl. Improvement in estimates of Spartina alterniflora root and rhizome volumes by computer-aided tomography (CT). (A-14)

**Shepherd, Alison;** Rahman, Abdullah; Alexander, Heather. Carbon and Nitrogen Dynamics in Anthropogenically Disturbed Seagrass Ecosystems. (A-15)

**Hodgson, Christine;** Blue Carbon: Monetizing the benefits of eelgrass habitat restoration in coastal British Columbia. (A-16)

**Poppe, Katrina;** Rybczyk, John. Carbon sequestration in a Puget Sound eelgrass meadow. (A-17)

**Van Ardenne, Lee;** Chmura, Gail. Variability in carbon stocks of northern salt marshes. (A-18)

# WEDNESDAY POSTER SESSIONS

**Moyer, Ryan;** Smoak, Joseph; Engelhart, Simon; Smith III, Thomas; Kemp, Andrew; Breithaupt, Joshua; Gerlach, Matthew; Burford, Megan; Chappel, Amanda; Brendis, Lindsay; Sanders, Christian; Sanders. Response of Organic Carbon Burial to Sea-Level Change in Coastal Wetlands along Florida's Gulf Coast. (A-19)

**Kelso, Megan;** Grosholz, Edwin. The effects of non-native plant invasion on blue carbon storage in coastal salt marshes. (A-20)

**Simpson, Juliet;** Colarusso, Phil. Estimating carbon storage in eelgrass meadows in the Gulf of Maine. (A-21)

**Fradkin, Steven;** Trends in Intertidal pH on the open coast of Washington State: Implications for OceanAcidification. (A-22)

**Spooner, Angela;** Blue carbon sequestration potential in Zostera marina eelgrass beds of the Kómoks Estuary, BC, Canada. (A-23)

**Diefenderfer, Heida;** Kuo, Li-Jung; Borde, Amy; Thom, Ronald; Skidmore, Chloe. Pilot Study of Continuous Greenhouse-Gas Flux Sampling Technologies in a North Olympic Peninsula Salt Marsh. (A-24)

**Jessen, Brita;** Oviatt, Candace; Gold, Arthur; Oczkowski, Autumn; Johnson, David. Organic matter production and turnover in a fertilized fringe mangrove system. (A-25)

## SCI-143 THE HARMFUL ALGAL BLOOM AND HYPOXIA RESEARCH AND CONTROL ACT: ACCOMPLISHMENTS AND REMAINING CHALLENGES

**Buchanan, Claire;** Robertson, Tish; Schlegel, Anne. Chlorophyll criteria, water clarity, and "balanced, desirable" phytoplankton populations. (A-26)

**Wang, Yujue;** Liu, Dongyan. Nitrogen assimilation comparison between Enteromorpha and Ulva species. (A-27)

**Hayes, Kenneth;** Cira, Emily; Hu, Xinping; Wang, Hongjie; Wetz, Michael. Spatial/ temporal distribution of organic carbon and nitrogen in a eutrophic estuary (Baffin Bay, TX). (A-28)

**Seegers, Bridget;** Teel, Elizabeth; Ragan, Matthew; Scholin, Chris; Jones, Burton. Pseudo-Nitzschia blooms in the Southern California Bight an analysis of glider, satellite, and mooring data. (A-29)

**Huang, I-Shuo;** Zimba, Paul. The co-occurrence of anabaenopeptides and other cyanobacterial toxins. (A-30)

**Adams, Nicolaus;** Garlant, James; Trainer, Vera. Detection of Azadinium spp. in Washington State waters using quantitative real-time polymerase chain reaction analysis. (A-31)

**Hoagland, Porter;** Kirkpatrick, Barbara; Jin, Di; Reich, Andrew; Fleming, Lora; Hitchcock, Gary; Ullmann, Steven; Kirkpatrick, Gary; Kohler, Katherine; Li, Catherine; Lovko, Vincent; Lovko, Katrin. The Characteristics of Cost-Effective Policy Responses for Harmful Algal Blooms. (A-32)

## SCI-144 OCEAN ACIDIFICATION AND HYPOXIA: MECHANISMS FOR LINKING SCIENCE TO MANAGEMENT AND POLICY

**McClain, Anna;** Cornwell, Jeffrey; Owens, Michael; Kellogg, Lisa. Carbonate Chemistry in Experiment Incubations of Restored Chesapeake Bay Oyster Communities. (A-33)

**Davis, Catherine;** Hill, Tessa; Sanford, Eric; Gaylord, Brian; Largier, John; Jahncke, Jaime. Observations of ocean acidification in coastal Central California and implications for resource management. (A-34)

**Hettinger, Annaliese;** Waldbusser, George; Bednarsek, Nina; Danilchik, Nikolai. Improving juvenile oyster survival through screening of ocean acidification impacts. (A-35)

**Carter, Hayley;** O'Donnell, Michael; Knight, Emily; Whiteman, Liz; McAfee, Skyli. West Coast Ocean Acidification and Hypoxia Science Panel: from science to decision-making. (A-36)

**Morrison, John;** Capson, Todd; Cote, Mel; Gledhill, Dwight; Liebman, Matt; Mlsna, Ivy; Mook, Bill; Salisbury, Joe; Stancioff, Esperanza; Stymiest, Cassie; Thomas, Helmuth; Thomas, Elizabeth. Linking science to managers and policymakers in the northeast us and Canadian Maritimes. (A-37)

**Bednarsek, Nina;** Klinger, Terrie; Feely, Richard; Newton, Jan. From natural science to management: Pteropods as indicators for OA assessments in the coastal waters. (A-38)

**Phillips, Jenn C.;** Carter, Hayley. Pacific Coast Collaborative: Implementing Recommendations of the West Coast Ocean Acidification and Hypoxia Science Panel (A-39)

## SCI-145 SHELLFISH AS A MULTIPLE USE RESOURCE: ACTIVITIES, CONFLICTS, AND PLANNING FOR RESOLUTION

**Goodwin, Jacob;** North, Elizabeth; Handschy, Anne; Paynter, Kennedy. Investigating physiological and ecological effects of reef balls on oyster Crassostrea virginica populations. (B-110)

**O'Reilly, Carrie;** Tanner, Christopher. Are ribbed mussels (Geukensia demissa) effective bioindicators of oil pollution? (B-111)

**Anderson, Lacie;** Anderson, Sammy; Barker, Virginia; Sacks, Paul; Walters, Linda. Assessing the growth and survival of reintroduced eastern oysters in Brevard County, Florida. (B-112)

## SCI-146 CHEMICAL BIOMARKERS IN AQUATIC ECOSYSTEMS

**Stalker, Jeremy;** Dietz, Kaitlyn; Swart, Peter. Determining Foraging Regions of Sea Turtles using δ13C and δ15N in Eggshells on Florida beaches. (A-41)

**Takesue, Renee;** Campbell, Pamela; Carney, Colin. Changing organic matter sources to seagrass beds following dike removal: insights from biomarkers and isotopes. (A-42)

**Schraga, Tara;** Galloway, Aaron; Winder, Monika; Cloern, James. Copepods, fish and clams need omega-3 fatty acids too! (A-43)

**Knobloch, Amanda;** Canuel, Elizabeth. Carbon Dynamics at the Marsh Estuarine. (A-44)

# WEDNESDAY POSTER SESSIONS

**Loh, Ai Ning;** Garabedian, Alyssa; Detweiler, Derek; Feeney, Megan; Ketover, Rheannon. Spectrofluorometric characterization of chromophoric dissolved organic matter from wetland and aquatic plants. (A-45)

## SCI-147 GENERAL – MONITORING AND OBSERVATIONS

**Habicht, Kelly;** Hatch, Walter. Effect of Ocean Acidification on the Growth of the Soft Coral, Anthelia sp. (A-46)

**Cryan, Daniel;** Scott, Daniel; White, Timothy; Beers, Jody; Micheli, Fiorenza; Fringer, Oliver; Litvin, Steven. Variability in fish community structure within a nearshore seagrass system: a novel acoustic imaging approach. (A-47)

**Reilly, Erin;** Paddle for the Edge: Using citizen science to monitor marsh shorelines. (A-48)

**Cheatham Rhodes, Carolyn;** Spatial-temporal change analyses of mangrove forests (Tampa, FL) using high resolution IKONOS and Worldview-2 imagery. (A-49)

**Sutton, Hope;** Davis, Marie; Finn, Sarah. Developing crowd sourced monitoring of an inconspicuous turtle, the diamondback terrapin (Malaclemys terrapin). (A-50)

**Burge, Erin;** Trevey, Kristen. Ecology and life cycle of a "forgotten" trematode parasite in the coquina clam Donax variabilis. (A-51)

**Ellis, William;** Miller, Christopher. Assessment of the condition of mangroves on the western shoreline of Tampa Bay (Florida). (A-53)

## SCI-149 LONG-TERM RESEARCH IN THE CALIFORNIA CURRENT'S COASTAL OCEAN

**Barceló, Caren;** Coleman, Cheyenne; Wright, Bryan; Brown, Robin; Adams, Josh; Ballance, Lisa; Brodeur, Richard; Torres, Leigh. Integrating habitat, prey and predators over space and time to assess responses to environmental variability. (A-54)

**Melroy, Laura;** Cohen, Sarah. Delineating species boundaries in space and time for the Leptasterias genus. (A-55)

**Hemery, Lenaig;** Romsos, Chris; Kurapov, Alexander; Marion, Scott; Henkel, Sarah. Ecological niche and species distribution modeling of sea stars along the Pacific Northwest continental shelf. (A-56)

**Elliott, Meredith;** Roletto, Jan; Lipski, Danielle; Jahncke, Jaime. Applied California Current Ecosystem Studies (ACCESS). (A-57)

**Miller, Jessica;** Peterson, William; Copeman, Louise; Morgan, Cheryl; Litz, Marisa. Biochemical linkages across trophic levels: variation in fish growth and biochemistry of the copepod community. (A-58)

**Spaulding, Joseph;** Miller-Sims, Vanessa; Cohen, Sarah. Temporal and spatial sampling of recently detected populations of Botryllus schlosseri in Southeast Alaska. (A-59)

**Marion, Scott;** Miller, Bill; Merems, Arlene. Habitat Utilization of Oregon's Coastal Rocky Reefs by Demersal Fish: Assessment by ROV Visual Survey. (A-60)

## SCI-150 RESTORATION FOR A CHANGING CLIMATE

**Lemon, Mary Grace;** Allen, Scott; Edwards, Brandon; King, Sammy; Keim, Richard. Identifying spatial patterns of vulnerability in riparian forests experiencing changing hydrologic patterns. (A-61)

**Miller, Jennifer;** Pinnell, Cassie; Boyer, Katharyn. San Francisco Bay Living Shorelines Project: Lessons on restoring Zostera marina. (A-62)

**Graham, Jennie;** van Proosdij, Danika; Perrott, Barbara; Neatt, Nancy; Bowron, Tony; Wrahall, Carly. Maximizing Adaptive Capacity and Ecosystem Services: A GIS-based Approach to Managed Realignment. (A-63)

## SCI-151 FROM DATA TO INFORMATION: HARNESSING OBSERVING DATA FOR ECOLOGICAL ASSESSMENT AND FORECASTING IN COASTAL BAYS AND ESTUARIES

**Hermanson, Laura;** Krembs, Christopher; Bos, Julia; Maloy, Carol; Pool, Suzan; Albertson, Skip; Keyzers, Mya. Eyes Over Puget Sound: communicating environmental conditions from multi-scale observations. (A-64)

**Honig, Aaron;** Hannigan, Robyn. Determination of larval dispersal in Mytilus edulis using trace element fingerprinting. (A-65)

**Blachman, Sara;** Brush, Mark. A multi-group phytoplankton model to predict shifts in community composition in a changing environment. (A-66)

**Henkel, Theryn;** Connor, Paul; Lopez, John; Preau, Aimee; Baker, Andrew; Hillmann, Eva; Baker, David. Bi-Weekly Estuary Monitoring using Hydrocoast Maps as a Visualization Tool in Southeast Louisiana. (A-67)

**Gootman, Kaylyn;** Cable, Jaye; Arriola, Jill; Kim, Jihyuk; Esch, Margaret. Using stable isotopes to understand coastal groundwater–sea water interactions in coastal systems. (A-68)

**Holderied, Kristine;** Hondolero, Dominic; Kibler, Steve; Litaker, Wayne; Doroff, Angela. A web-based, paralytic shellfish poisoning risk assessment tool for Kachemak Bay Alaska. (A-69)

## SCI-153 ESTUARIES UNDER THREAT: EXPLORING THE ECOLOGY OF MICROBES IN 21ST CENTURY ESTUARIES

**Zuber, Peter;** Vorhees, Ian; Maxey, Katie; Herfort, Lydie; Simon, Holly; Ribalet, Francois; Grobler, Kolette; Peterson, Tawnya. Evidence that Mesodinium major and its specific Teleaulax prey can generate red-water Mesodinium blooms. (A-70)

## SCI-155 COASTAL, ESTUARINE, AND MARSH SEDIMENTATION DURING TIMES OF ENVIRONMENTAL CHANGE

**Borgnis, Evyan;** Gilligan, Kirk; Touchstone, Victoria; Yuen, Andy; Whitcraft, Christine; Ambrose, Richard; Thorne, Karen; McDonald, Glenn; Keller, Jason; Winter, Mayda. Testing a Novel Adaptation Strategy in a California Salt Marsh. (A-72)

# WEDNESDAY POSTER SESSIONS

**Lee, Jun-Ho;** Jeong, Kap-Sik; Woo, Han Jun; Kang, Jeongwon. Relevance of methane flux on the intertidal flat sediments in Taean, west coast of Korea. (A-73)

**Woo, Han Jun;** Kang, Jeongwon; Lee, Jun-Ho; Cho, Jin Hyung. Seasonal sedimentary processes on macrotidal flats in Garolim Bay, west coast of Korea. (A-74)

**Carlin, Joseph;** Dellapenna, Timothy. Shoreface Sedimentation on a Transgressive Barrier Island in Response to Hurricanes and Sea Level Rise. (A-75)

**Mochon Collura, T Chris;** Brown, Cheryl; DeWitt, Theodore; Janousek, Chris; Cornu, Craig. Can Oregon marshes keep up with the rising tide? A study of marsh accretion. (A-76)

**Kang, Jeongwon;** Kim, Dongseon; Kim, Kyung Hee. Seasonal phosphorus cycling and availability in intertidal sediments of Keunso Bay, South Korea. (A-77)

**Peck, Erin;** Wheatcroft, Robert; Brophy, Laura; Ewald, Michael; Brown, Laura. Quantifying sediment and carbon accumulation in Oregon tidal wetlands. (A-79)

**Bost, Molly;** McKee, Brent. Carbon sequestration in an estuarine system in response to storm events. (A-80)

## SCI-156 HOW CAN DATA SYNTHESIS BE USED TO ANALYZE SEAGRASS RESILIENCE TO CLIMATE CHANGE?

**Fogarty, Michelle;** Fewings, Melanie; Dierssen, Heidi; Vaudrey, Jamie; Edson, James. Does eelgrass cool its surroundings by increasing the water column albedo? (A-81)

**Cole, Amanda;** Durako, Michael. Relationships between water quality variables and benthic macrophyte communities in Florida Bay. (A-82)

**Wilcox, David;** Orth, Robert; Richardson, John; Marion, Scott. The Future of Eelgrass in Chesapeake Bay: Resilience in the face of multiple stressors. (A-83)

**Motley, Jennifer;** Tomas Nash, Fiona; Hacker, Sally. Investigating patterns of consumer-resource interactions within upwelling-influenced eelgrass communities in Oregon, USA. (A-84)

## SCI-159 ESTUARINE AND COASTAL DATA-CENTRIC SYNTHESIS STUDIES: CASE STUDIES AND PATHWAYS FOR MOVING FORWARD

**Alvarez, Juan;** Harris, Lora; Pierson, James. Leveraging available data to decipher the drivers of bioluminescent lagoons in Puerto Rico. (A-85)

**Rybicki, Nancy;** Kollar, Stanley; Orth, Robert. Native macrophytes respond positively to improvements in water quality conditions in the upper Chesapeake Bay. (A-86)

**Blake, Rachael;** Couture, Jessica; Ward, Colette. Synthetic ecology across scales: a Gulf of Alaska case study. (A-87)

**Fox, Sophia;** Ralston, David; Colman, John; Medeiros, Kelly; Lee, Krista; Keafer, Bruce; Bayley, Holly; Anderson, Donald; Brosnahan, Michael. Understanding spatial and temporal nutrient dynamics in an eutrophic, temperate estuary. (A-88)

**Knapp, Landon;** Lovelace, Susan; Loerzel, Jarrod. Assessing the link: social value correlates in estuarine ecology. (A-89)

## SCI-160 RESILIENCE OF SHELLFISH TO CURRENT AND EMERGING THREATS TO ESTUARINE CONDITION

**Bromilow, Amanda;** Fabrizio, Mary; Lipcius, Romuald. Resilience to biotic disturbance: extraordinary predation of blue crab by red drum in Chesapeake Bay. (B-1)

**Moffett, Cinamon;** D'Andrea, Anthony; Perotti, Elizabeth; Ainsworth, Justin; Goldstrohm, Natalie; Strickland, Stacy. Spatial comparisons of bay clam morphometrics and age structure in three Oregon estuaries. (B-2)

**Cole, Kelly;** Brady, Damian. Tracking pathogenic bacteria in the Webhannet River estuary, Wells National Estuarine Research Reserve. (B-3)

**Nicholson, Haley;** Carmichael, Ruth; Park, Kyeong; Han, Myeonghee. Oyster settlement patterns in the freshwater dominated estuaries of Mobile Bay and Eastern Mississippi Sound. (A-90)

**Jacobs, Fred;** Seewagen, Chad; Krebs, Justin. Suitability of oyster shell vs. Reef Ball substrates for oyster restoration in the Hudson River. (A-91)

**Makris, Panayiota;** Walters, Linda; Quintana-Ascencio, Pedro. Effects of brown tide (Aureoumbra lagunensis) on eastern oyster (Crassostrea virginica) settlement and recruitment. (A-92)

**Hesterberg, Stephen;** Duke, Charles; Al-Qattan, Nasser; Pluckhahn, Thomas; Delgado, Alexander; Herbert, Gregory. Reconstructing Central West Florida's "natural" oyster demographics using stable isotope (δ18O) sclerochronology of midden shells. (A-93)

**Strickland, Stacy;** D'Andrea, Anthony; Perotti, Elizabeth; Moffett, Cinamon. How sediment grain size and temperature, eelgrass and clams relate in Netarts Bay, OR USA. (A-94)

**Thomas, Roger;** Kreeger, Danielle. Variability in oyster (Crassostrea virginica) population size structure and recruitment in San Antonio Bay, Texas. (A-95)

**Thompson, Janet;** Parchaso, Francis; Crauder, Jeff; Anduaga, Rosa; Pearson, Sarah. Determining when the exotic bivalve, Potamocorbula amurensis, is a threat to the shellfish foodweb. (A-96)

**Watts, Jessica;** Gius, Jennifer; Carroll, John; Munroe, Daphne; Finelli, Christopher. Not a fun threesome: the prevalence and impacts of two oyster pests on their host. (A-97)

**Graham, Erin;** Dumbauld, Brett; McCoy, Lee. Changes in seagrass distribution with sea level rise, and implications for bivalve aquaculture. (A-98)

# WEDNESDAY POSTER SESSIONS

**Eaton, Gary;** The Economic Impact of Ocean Acidification on Pacific Oysters. (A-99)

**Dumbauld, Brett;** Bosley, Katelyn; Chapman, John; D'Andrea, Anthony; DeWitt, Theodore. Recruitment dynamics of two ecosystem engineers could drive shellfish populations in U.S. West coast estuaries. (A-100)

## SCI-163B TIMING IS EVERYTHING: PHENOLOGY IN COASTAL MARINE ECOSYSTEMS

**Bos, Julia;** Krembs, Christopher; Pool, Suzan; Sackmann, Brandon; Albertson, Storrs (Skip); Maloy, Caro. Identifying annual geo-referenced ecosystem thresholds using continuous surface measurements collected via high-speed ferry transects. (A-1)

**Breckenridge, Joanne;** Pakhomov, Evgeny. Predicting the response of estuarine copepods to changes in the seasonal delivery of freshwater. (A-2)

## SCI-164 EVALUATING RESTORATION SUCCESS: ECOLOGY, ECONOMY, AND SOCIETY

**Dunnigan, Shannon;** Capps, Nadja; Smith, Kelly. Community variation in macrobenthic fauna between restored and unrestored intertidal habitats. (B-4)

**Maki, Hideaki;** Application of benthic microbial fuel cell to amendment of sediment in Tokyo bay. (B-5)

**Mikula, Toni;** Adamowicz, Susan; Forslind, Brittany. Salt marsh integrity: assessing baseline conditions on a regional scale. (B-6)

**Scerno, Deborah;** Federal Participation in Urban Ecosystem Restoration – Challenges. (B-7)

**Tango, Peter;** Tian, Richard; Mallonee, Michael. The Value of Citizen Science Monitoring in Supporting Chesapeake Bay Dissolved Oxygen Criteria Attainment Assessments. (B-8)

**Mallin, Michael;** Turner, Mary; McIver, Matthew; Toothman, Byron; Freeman, Hunter. Effective stormwater pollution reduction by coastal BMPs in Wrightsville Beach, N.C. (B-9)

**Conley, Jacob;** Walters, Linda; Park, Hyung; Anderson, Sammy; Baker, Virginia. Estuarine Knowledge: Social Science Analysis of Participating Residents in Oyster Gardening Program in Florida. (B-10)

**Mancuso, Paul;** Tidal Marsh Restoration: Pre vs. Post Restoration Comparison and Accelerated Recovery. (B-11)

**Labrie, Micheline;** Howes, Brian; Sundermeyer, Miles; Schlezinger, David. Quantifying Impacts of Suspended Oyster Aquaculture on Nitrogen Cycling in Southeastern Massachusetts Coastal Embayments. (B-12)

**Groth, Scott;** Rumrill, Steve; Worsley, Julie; Wexler, Randi. Shoreline mitigation as an opportunity for restoration of Olympia oysters in Coos Bay, OR. (B-13)

**Pfirrmann, Bruce;** Seitz, Rochelle. Quantifying finfish and blue crab use of created oyster reefs in the lower Chesapeake Bay. (B-14)

**Zimba, Paul;** Use of seawater electrolysis to form benthic substrate suitable for bottom hardening and animal cultivation. (B-15)

**Reilly, Francis Carrizo;** Cane control techniques: native plant revegetation to mitigate water scarcity due to invasive plants. (B-16)

**Garvis, Stephanie;** Weishampel, John. Predicting current and future restoration suitability of Crassostrea virginica in Apalachicola Bay, Florida. (B-17)

**Johnson, Keith;** Ford, Blake; Shrestha, Rojesh. Fish usage of an artificial reef compared to a natural reef in the Chesapeake Bay. (B-18)

**Ford, Blake;** Shrestha, Rojesh; Johnson, Keith. Predicting Oyster Reef Restoration Success From Juvenile Oyster Growth in the Chesapeake Bay. (B-19)

**Wigginton, Rachel;** Thornton, Whitney; Grosholz, Edwin. Does restoration approach alter short-term recovery for estuarine invertebrates after eradication of an invasive plant? (B-20)

**Hanacek, Daniella;** Ritter, Megan; Silver, Adrienne; Tanner, Christopher. Evaluating ecosystem services of constructed 3-dimensional oyster reefs in a tributary of the Chesapeake. (B-21)

## SCI-165 ADVANCING COASTAL SCIENCE WITH ROBOTS

**Nidzieko, Nicholas;** Scully, Malcolm; Chant, Robert. Adaptive Observations of Turbulent Mixing in an Upwelling Buoyant Coastal Plume. (C-49)

**Walter, Bettina;** Floeter, Jens; Eckhardt, André; Gloe, Dominik; Dudeck, Tim; Hufnagl, Marc; Möller, Klas; van Beusekom, Justus. Small scale resolution of light availability, phytoplankton abundance and physiology in the North Sea. (C-50)

**Luczkovich, Joseph;** Rulifson, Roger; Sprague, Mark; Walsh, John. "Blackbeard": a new robot that studies the coast and hears fishes, whales and ocean soundscapes. (C-51)

## SCI-167 AQUATIC MICROBES: INDICATORS OF ENVIRONMENTAL CHANGES

**Seitz, Kiley;** Lazar, Cassandre; Hinrichs, Kai-Uwe; Teske, Andreas; Baker, Brett. Genomic reconstruction of novel, widespread sediment Archaea with pathways for acetogenesis and sulfur reduction. (B-24)

**Oh, Gene;** Villareal, Tracy. Variations in diatom sinking rates with exposure to crude oil and dispersant. (B-25)

**Bates, Chris;** Kambouris, Adrienne; Tran, Christina; Reichmuth, Jessica. Mud and microbes: Genetic determination of soil microbial populations in the Satilla River Estuary. (B-26)

## SCI-168 PRESERVING AQUATIC ECOSYSTEM INTEGRITY IN A CHANGING ENVIRONMENT

**Hayes, Matthew;** Jesse, Amber; Lovelock, Catherine; Lockington, David. Mangroves are groundwater dependent ecosystems. (B-27)

# WEDNESDAY POSTER SESSIONS

## SCI-169 SEA-LEVEL RISE EFFECTS ON SALT MARSH ECOSYSTEM FUNCTION

**Radabaugh, Kara;** Powell, Christina; Moyer, Ryan. Status, trends, and recommendations for Florida's coastal wetlands: Future management for climate and sea level. (B-28)

**Danielson, Tess;** Rivera-Monroy, Victor; Briceño, Henry; Castañeda-Moya, Edward; Travieso, Rafael; Gaiser, Evelyn; Williams, Asher; Coronado-Molina, Carlos. Mangrove productivity response to natural disturbance regimes in the Florida Everglades. (B-29)

**Wilson, Alicia;** Hughes, Andrea; Evans, Tyler. Sea level rise affects salt marsh hydrogeology: Implications for ecological zonation and nutrient cycling. (B-30)

**Lee, Dong Yoon;** De Meo, Olivia; Brown, Bonnie; Franklin, Rima; Neubauer, Scott. Impacts of saltwater on microbial carbon dynamics in tidal freshwater wetlands. (B-31)

**Neubauer, Scott;** Lee, Dong; De Meo, Olivia; Tillett, Allison; Brown, Bonnie; Franklin, Rima. Ecosystem carbon cycling and vegetation in a tidal freshwater marsh: Responses to persistent saltwater intrusion. (B-32)

**Gosselin, Kelsey;** Spivak, Amanda; Gonneea, Meagan. Sediment properties and burial rates in shallow saltwater ponds within a temperate salt marsh. (B-33)

**Erickson, Amy;** Lee, Woody. Trends in habitat use by the mangrove tree crab Aratus pisonii. (B-34)

## SCI-170 URBAN INFRASTRUCTURE IMPACTS ON ESTUARINE PHYSICAL AND SEDIMENTARY PROCESSES

**Pijanowski, Katherine;** Sommerfield, Christopher. Historical Shoreline Change in the Delaware Estuary. (B-35)

**Yozzo, David;** Howe, Charles; Laska, Mark. Coastal Habitat Restoration in New York City: Integrating Ecology with Landscape Architecture and Urban Design. (B-36)

**Santamaria-Ferrada, M. Consuelo;** Vu, Le; Johnstone, Ron. Identification and quantification of nutrient loads of two residential canal estates in South-East Queensland. (B-37)

**Matheson, Graeme;** van Proosdij, Danika; Perrott, Barbara. Historic morphodynamics of the Cobequid Bay– Salmon River Estuary, Nova Scotia, Canada. (B-38)

**Batista, Rafael;** Filho, José; Schettini, Carlos. The Salt Intrusion and Estuarine Turbidity Maxima in the Highly Impacted Capibaribe Estuary, Brazil. (B-39)

**Chant, Robert;** Pareja, Luis; Geyer, Wayne; Ralston, David; Sommerfield, Chris; Quirk, Tracey. The wave climate in a highly engineered estuarine basin. (B-40)

**Parsons, George;** Carr, Edward; Shirazi, Yosef; Heber Dunning, Kelly; Beet, Andrew; Hoagland, Porter. Potential Effects on Ecosystem Services Due to Channel Deepening in the Delaware and Hudson Estuaries. (B-41)

## SCI-171 CONTROLLING EUTROPHICATION ALONG THE HUMAN AND CLIMATICALLY-IMPACTED FRESHWATER-MARINE CONTINUUM: SHIFTING PROBLEMS AND PARADIGMS

**Nelson, James;** Johnson, David; Deegan, Linda. Eutrophication induced habitat change overrides bottom-up stimulation of nekton secondary productivity. (B-42)

**Potts, Jaimie;** Ferguson, Angus; Scanes, Peter; Maher, William. Increasing benthic community respiration rates inevitably leads to net heterotrophy in photic estuarine sediments. (B-43)

**Tassone, Spencer;** Bukaveckas, Paul; Lesutiene, Jurate; Gasiunaite, Zita; Lozys, Linas; Pilkaityte, Renata; Putys, Zilvinas. Autochthony, allochthony and the presence of algal toxins in food webs. (B-44)

**Smith, Erik;** Cohn, Colleen; Buck, Tracy; Denham, Susan. Nutrient dynamics in coastal stormwater detention ponds in South Carolina, USA: implications for coastal eutrophication. (B-45)

**Hollis, Lauris;** Turner, Eugene. The root tensile strength of common emergent macrophytes in Louisiana coastal wetlands. (B-46)

**Foster, Sarah;** Fulweiler, Robinson. Evidence of phosphorus limitation on sediment nitrous oxide uptake in a shallow, temperate estuary. (B-47)

**Wang, Hongjie;** Hayes, Kenneth; Wetz, Michael; Hu, Xinping. A stable isotope study on organic matter driving oxygen consumption in two south Texas estuaries. (B-48)

**Sipler, Rachel;** Bott, Charles; Sanderson, Marta; Bronk, Deborah. Uptake rate of effluent dissolved organic nitrogen to natural microbial communities along a salinity gradient. (B-48)

**Lamers, Leon;** Herbert, Ellen; Van Diggelen, José; Van Dijk, Gijs; Loeb, Roos; Govers, Laura; Van der Heide, Tjisse; Roelofs, Jan; Smolders, Alfons. Sulfur Biogeochemistry overlooked in Salinization Impact on Coastal Freshwater Wetlands. (B-49)

**Preischel, Hannah;** Sosik, Heidi; Steichen, Jamie; Genzer, Jennifer; Quigg, Antonietta. Fine Scale Phytoplankton Diversity of Galveston Bay: Imaging FlowCytobot grants insight into microbial community dynamics. (B-50)

**Reed, Daniel;** Harrison, John. Anthropogenic changes in oxygen in the global coastal ocean: a modelling analysis. (B-51)

**Torre, Dan;** York, Joanna; Coyne, Kathy; Kroeger, Kevin. Phytoplankton community composition response to groundwater-borne nutrients in the Delaware Inland Bays. (B-52)

## SCI-172 FOODWEB SHIFTS IN COASTAL SYSTEMS: EVIDENCE AND POTENTIAL CAUSES

**Borin, Joshua;** Hansen, Adam; Ruesink, Jennifer. A bioenergetics approach to estimating green sturgeon consumption requirements in Willapa Bay, WA. (B-53)

**Oczkowski, Autumn;** Wigand, Cathleen; Hanson, Alana; Huertas, Evelyn. How a clogged canal affects ecological and human health in a tropical urban wetland ecosystem. (B-54)

# WEDNESDAY POSTER SESSIONS

**Coffin, Michael;** Pater, Christina; Courtenay, Simon; van den Heuvel, Michael. Severe eutrophication and anoxia in Atlantic Canada estuaries: How do epibenthic invertebrates survive? (B-55)

**Cordell, Jeffery;** Ballast introduced copepods may cause food web perturbations in northeast Pacific estuaries. (B-56)

**Freeman, Christopher;** Janiak, Dean; Osman, Richard; Galimany, Eve; Reed, Sherry; Paul, Valerie. Epifaunal trophic structure within the Indian River Lagoon of central Florida. (B-58)

**Holmes, Ann;** Ignoffo, Toni; Kimmerer, Wim. Using next-generation sequencing to identify copepod diets in delta smelt habitat. (B-59)

**Moderan, Julien;** Boyer, Katharyn; Miller, Jennifer; Zabin, Chela; Grosholz, Edwin. Invertebrates isotopic niche widths and trophic relationships in a San Francisco Bay living shorelines project. (B-60)

**Howson, Ursula;** Nickels, James. Zooplankton community dynamics in a mid-Atlantic estuary. (B-61)

## SCI-173 GENERAL - INVASIVE SPECIES

**Dunn, Natalie;** Coles, Steve; Unabia, Catherine; Carstenn, Susan. Macroinvertebrate infauna as an indicator of habitat quality in O'ahu's estuaries impacted by Rhizophora mangle. (B-62)

**Raabe, Jennifer;** Gilg, Matthew. Vertical larval distribution and settlement patterns of bivalves in a northeastern Florida estuary. (B-63)

**Woodruff, Sarah;** Rothenberger, Megan. An interdisciplinary approach to bioinvasion in an urban estuary. (B-64)

**Kincaid, Erin;** de Rivera, Catherine. Do characteristics of non-native tunicates induce predator avoidance on suspended structures but not benthic substrata? (B-65)

**Vanden Hooff, Rian;** Aquatic invasive species prevention and new ballast water management strategies affecting west coast estuaries. (B-66)

**McClees, Whitney;** de Rivera, Catherine. The threat of artificial structures: can non-native fouling organisms escape from marinas to natural habitat? (B-67)

**Sadowski, Jason;** Grosholz, Edwin. The interactive effect of species invasion and climate change on trait-mediated trophic cascades. (B-68)

**Sakihara, Troy;** Shimoda, Troy; Nishiura, Lance; Shindo, Timothy; Fukunaga, Atsuko; Peyton, Kimberly. Resilience to invading para grass (Brachiaria mutica) in a tropical estuary differs between mullet species. (B-69)

**Shimoda, Troy;** Peyton, Peyton; Sakihara, Troy; Hau, Skippy. What species are using Hawaiian Estuaries as Juvenile Fish Habitat? (B-70)

**Moran, Patrick;** Goolsby, John; Racelis, Alexis; Escamilla, Jose; Gowda, Prasanna; Martinez-Jimenez, Maricela; Lacewell, Ronald. Biological control of the invasive riparian grass arundo (Arundo donax) for protection of freshwater resources. (B-71)

## SCI-174 OUR VIRTUAL GLOBAL ESTUARY

**Seaton, Charles;** Turner, Paul; Jesus, Gonçalo; Fortunato, André; Oliveira, Anabela; Baptista, Antonio. Operational estuarine modeling: lessons learned from selected US and Portuguese estuaries. (B-72)

**Morrice, Katherine;** Baptista, Antonio; Kärnä, Tuomas; Lopez, Jesse; Spitz, Yvette; MacCready, Parker. Sensitivity of shelf and estuary circulation simulations to atmospheric forcing and ocean boundary conditions. (B-73)

**Rostaminia, Mojgan;** Baptista, António; Lopez, Jesse; Turner, Paul; Roegner, G. Curtis; Teel, David. Salmon habitat response to sea level rise and seismic subsidence in the Columbia River estuary. (B-74)

## SCI-175 GEOSPATIAL AND GEOMORPHIC ADVANCES FOR ASSESSING MARSH VULNERABILITY TO STORMS AND SEA LEVEL RISE

**Venherm, Claudia;** Alexander, Clark; DeLeo, LeeAnn; Robinson, Mike. Shoreline Characterization in Coastal Georgia Using a Geospatial Video Mapping System. (B-75)

**Robinson, Michael;** Alexander, Clark; Venherm, Claudia; DeLeo, LeeAnn. Integrated survey methods document estuarine bathymetry and benthic habitats for research and management: Coastal Georgia. (B-76)

**White, Scott;** Kimball, Matthew; Allen, Dennis; Houser, Kyle. Change from Above: Low-altitude aerial imaging for ecosystem and landscape monitoring, North Inlet, South Carolina. (B-77)

**Walsh, John;** Corbett, David; Strand, Jesse; Allen, Tom; Garmire, Keith. Salt Marsh Cannibalization: A System Response and Resilience Mechanism to Storms and Sea-level Rise? (B-78)

## SCI-176 QUANTIFYING FLUXES IN ESTUARIES: WHAT IS THE STATE OF THE ART?

**Lowell, Nicholas;** Ralston, David; Walsh, David. Demonstration of tilt current meters in the investigation of a seiche in Buzzards Bay, Massachusetts. (B-79)

**Stecher, Hilmar;** DeWitt, Theodore; Clinton, Pat. Water level and oxygen delivery/utilization in porous salt marsh sediments. (B-80)

**Goni, Miguel;** Lerczak, James; Smith, Lauren; Welch, Kylie; Lemagie, Emily; Alleau, Yvan. Hydrological controls on particulate organic matter transport across a small, mountainous river estuary. (B-81)

**Wang, Tao;** Geyer, W. Rockwell. Description of salt exchange process in a partially stratified estuary with isohaline coordinates. (B-82)

**Friedrichs, Marjorie;** Kaufman, Daniel; Najjar, Raymond; Tian, Hanqin. Modeling changes in Chesapeake Bay nitrogen fluxes over the past century. (B-83)

**Camacho Rico, Andrea;** Herrera-Silveira, Jorge; Giacoman-Vallejos, German; Mariño-Tapia, Ismael. Carbon fluxes in mangroves within a Karstic Region. (B-84)

**Lerczak, James;** Goni, Miguel; Lemagie, Emily; Winters, Dylan; Alleau, Yvan. The timing of suspended sediment flux at the riverine and ocean boundaries of an estuary. (B-85)

**Mannino, Antonio;** Signorini, Sergio; Novak, Michael; Wilkin, John; Friedrichs, Marjorie; Najjar, Raymond. DOC Fluxes in the Middle Atlantic Bight: an integrated approach from satellite and model products. (B-86)

**Esch, Margaret;** Cable, Jaye; Seim, Harvey; Meile, Christof. Salt marsh inundation and implications for DOC export along the Florida Gulf coast. (B-87)

**Plant, Josh;** Johnson, Kenneth; Sakamoto, Carole; Jannasch, Hans; Elrod, Virginia; Coletti, Luke; Needoba, Joseph. Controls on ecosystem metabolism in Elkhorn Slough, California. (B-88)

**Szuts, Zoltan;** Ganse, Andrew; Sanford, Thomas. Continuous monitoring of salinity profiles in estuaries from a seafloor instrument. (B-89)

**Downing, Bryan;** Bergamaschi, Brian; Pellerin, Brian; Nagel, Scott; O'Donnell, Katy. Insights from high-frequency continuous monitoring of nutrient dynamics in the Sacramento-San Joaquin Delta. (B-90)

**Pfeiffer-Herbert, Anna;** Lerczak, James; Prahl, Fredrick. Quantifying temporal variability of lateral biogeochemical fluxes in a rapidly flushed estuary. (B-91)

**Herrmann, Maria;** Najjar, Raymond; Kemp, W. Michael; Alexander, Richard; Kroeger, Kevin. Organic carbon budgets in estuaries along the U.S. east coast and Gulf of Mexico. (B-92)

## SCI-178 GENERAL – ECOSYSTEMS AND HABITATS: MARSHES

**Weilhoefer, Christine;** Jakstis, Kristen; Fischer, Cody. Effects of nutrient additions on multiple trophic levels in a Pacific Northwest estuarine tidal wetland. (B-93)

**Maher, Benjamin;** Mackinnon, Jan. Quantifying salt marsh edge habitat in coastal GA using a drop-ring sampling technique. (B-94)

**Fuller, Roger;** Poppe, Katrina; Rybczyk, John. Marsh dieback in Puget Sound: hungry insects, the 2015 drought and implications for the future. (B-95)

**DeLeo, Lee;** Alexander, Clark; Robinson, Mike; Bulski, Karrie; Venherm, Claudia. Geospatial analysis of the distribution and variability of Spartina wrack in Georgia marshes. (B-96)

**Tiegs, Lindsey;** Wozniak, Jeffrey. An event-based approach to assessing coastal habitat quality: linking hydrological drivers to wading bird behavior. (B-97)

**Gregory, Shannon;** Reichmuth, Jessica. Fiddler crabs and climate change: Will they regenerate limbs as the ocean acidifies? (B-98)

**Chambers, Randolph;** Russell, Timothy; Corso, Andrew. Marsh madness: keeping diamondback terrapins out of the blue crab fishery. (B-99)

**Thompson, Coral;** Ebanks, Sue. Effect of location on physical attributes of the daggerblade grass shrimp Palaemonetes pugio in Georgia. (B-100)

**Small, Doris;** Smith, Padraic. Union River Estuary Restoration Project: Observations of physical and biological changes two years after breach. (B-101)

**Russell, Timothy;** Chambers, Randolph. A Principal Components Analysis of Two Drainage Basins in the Everglades. (B-102)

**Howard, Rebecca;** Day, Richard; From, Andrew. Vegetation change in a subtropical marsh affected by a hydrologic restoration project. (B-103)

## SCI-179 EVOLUTION OF ESTUARIES THROUGH EXTREME EVENTS, DEVELOPMENT, AND CLIMATE CHANGE

**Kinsman, Nicole;** Gould, Alexander. Geomorphic evolution of arctic, fetch-limited lagoons: Kivalina, Alaska. (B-104)

**Familkhalili, Ramin;** Talke, Stefan. Increased tides and storm surge in the Cape Fear River Estuary over the past century. (B-105)

**Michael, Bruce;** Nutrients from the Susquehanna River upstream of Conowingo are causing Chesapeake Bay water quality impairments. (B-106)

**Mahedy, Drew;** Helaire, Lumas; Talke, Stefan; Jay, David. Modeling Sum Exceedance Values in the historic Lower Columbia River Estuary using Delft3D. (B-107)

**Dzwonkowski, Brian;** Park, Kyeong; Collini, Renee. Characterizing the structure and evolution of the Mobile Bay discharge plume during a flood event. (B-108)

**Kowalczyk, Michael;** Talke, Stefan; Hudson, Austin. Mapping water temperature and salinity variation in the Columbia River Estuary using remote sensing. (B-109)

## SCI-180 ASSESSING ACTIVITIES OF ACTORS INFLUENCING MARINE ENVIRONMENTS

**Vu, Le;** Santamaria-Ferrada, M. Consuelo; Tran, Ha; Johnstone, Ron. Assessing the feedback connections of anthropogenic influences on ecosystem performance in an estuarine lagoon system. (C-1)

**Egardt, Jenny;** Nilsson, Per; Gamfeldt, Lars. Conflicts between leisure boats and conservation goals in a marine national park. (C-2)

**Salter, John;** Duberstein, Jamie; Vegetation Monitoring Associated with the Savannah Harbor Expansion Project. (C-3)

**Kang, Chang-Keun;** Kang, Chang-Keun; Yun, Sung-Gyu; Lee, Young-Jae; Park, Hyun-Je; Han, Eunah; Kang, Heeyoon. Temperature-dependent physiological energetics of the sea squirt Styela clava in a temperate bay of Korea. (C-4)

# WEDNESDAY POSTER SESSIONS

## SCI-181 MODELS AND MULTIPLE MODELING APPROACHES FOR MANAGEMENT

**Tian, Richard;** Yactayo, Guido; Shenk, Gary; Bhatt, Gopal; Keeling, Bill. Nitrogen and phosphorus export rates across different sources and landuses on the Chesapeake Watershed. (C-5)

**Estes Jr, Maurice;** Chen, Xiongwen; Carmichael, Ruth. Developing a sustainability model for the American Horseshoe Crab in the north-central Gulf of Mexico. (C-6)

**Hinson, Kyle;** Shenk, Gary; Linker, Lewis; Bhatt, Gopal; Yactayo, Guido; Wang, Ping; Tian, Richard. Multiple Model Elements in Chesapeake TMDL Modeling. (C-7)

**Zimmerman, Julie;** Blanco, Cesar; Ratcliff, Donald; Brown, Matt; Threloff, Doug; Meier, Dan; Wittler, Rod; Mooney, David. The A.R.M. of the Central Valley Project Improvement Act: Putting Science into Action. (C-8)

**McCool, Jacqueline;** Cowan, James. How does Lake Pontchartrain support a recreational fishery for spotted seatrout, Cynoscion nebulosas. (C-9)

## SCI-182 CONTINUOUS, HIGH-FREQUENCY, AUTOMATED BIOGEOCHEMICAL MONITORING: WHAT HAS BEEN LEARNED?

**Pool, Suzan;** Krembs, Christopher; Bos, Julia; Sackmann, Brandon. Physical, Chemical, and Biological Conditions during Noctiluca Blooms in an Urban Fjord, Puget Sound. (C-10)

**Sakamoto, Carole;** Johnson, Kenneth; Coletti, Luke; Plant, Josh; Needoba, Joseph; Jannasch, Hans; Elrod, Virginia. Insights from high resolution and long term biogeochemical measurements on a coastal and estuarine mooring. (C-11)

## SCI-183 DELTA DYNAMICS IN THE ANTHROPOCENE

**Keogh, Molly;** Kolker, Alexander; Renfro, Alisha. Impacts of a Mississippi River diversion on accretion rates within an emergent marsh, southern Louisiana. (C-12)

**McCall, Annabeth;** Simard, Marc; Rodriguez, Ernesto; Michailovsky, Claire. Above and belowground biomass growth models across nutrient and chronosequence gradients of emerging deltaic floodplains. (C-13)

**Day, Richard;** Kroes, Daniel. Atchafalaya Basin flow patterns and deposition rates affect the sediment budget of coastal Louisiana. (C-14)

**Yocum, Tara;** Georgiou, Ioannis. Do Mississippi River Delta constructed crevasses obey delta laws? (C-15)

**Aarons, Anika;** McCall, Annabeth; Bevington, Azure; Christensen, Alexandra; Castaneda-Moya, Edward; Twilley, Robert. Patterns of soil nutrient stoichiometry across age and elevation gradients in a coastal deltaic floodplain. (C-16)

**Olliver, Elizabeth A.;** Edmonds, Douglas A. The ecogeomorphic development and resiliency of the coastal deltaic system of Wax Lake Delta. (C-17).

**Renfro, Alisha;** Pathway toward large-scale restoration: understanding and overcoming barriers using lessons learned from freshwater diversions. (C-18)

**Christensen, Alexandra;** Twilley, Robert; Willson, Clinton; Meselhe, Ehab; Castañeda-Moya, Edward; Heffner, Leanna. Testing the capability of Delft3D-Water Quality to model nitrogen processes in a deltaic floodplain. (C-19)

## SCI-184 HYPOXIA AND TEMPERATURE AS INTERACTIVE MULTI-STRESSORS IN COASTAL ECOSYSTEMS

**Rakocinski, Chet;** Gillam, Kelsey. Modeling responses of Capitella teleta to combined levels of dissolved oxygen and temperature. (C-20)

**Verga-Lagier, Annette;** Beers, Jody; Litvin, Steven; Somero, George. Physiological responses of juvenile rockfishes to hypoxic conditions. (C-22)

**Carilli, Patrick;** Beers, Jody; Litvin, Steven; Somero, George. Metabolic responses and thresholds of juvenile rockfishes to hypoxia. (C-23)

## SCI-185 ASSESSING THE STATUS OF ESTUARY HABITATS FOR JUVENILE FISH ACROSS CALIFORNIA, OREGON, AND WASHINGTON

**Sather, Nichole;** Johnson, Gary; Teel, David; Storch, Adam. Considering variability to understand diverse life history characteristics of juvenile salmonids in tidal freshwater habitats. (C-24)

**Rose, Gordon;** Bottom, Daniel; Miller, Jessica. Connecting tidal-fluvial estuary life-history patterns to survival of McKenzie River spring Chinook salmon. (C-25)

**Munsch, Stuart;** Cordell, Jeffery; Toft, Jason. Effects of seawall armoring on juvenile Pacific salmon diets in an urban estuarine embayment. (C-26)

**McNatt, Regan;** Hinton, Susan; Teel, David; Bottom, Daniel. Use of the Columbia River estuary by interior salmon and steelhead stocks. (C-27)

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