2013 PICES Summer School on “Ocean Observing Systems and Ecosystem Monitoring”

Dates: August 19–23, 2013

Location: Hatfield Marine Science Center, Newport, Oregon, USA

Principal Organizer: Jack Barth (Oregon State University – OSU)

Steering/Selection Committee: Jack Barth (MONITOR, USA), Steven Bograd (POC, USA), Lucas Brotz (BIO, Canada), Kyung-Il Chang (POC, Korea), Liqi Chen (BIO, China), Shin-ichi Ito (POC, Japan), Sei-ichi Saitoh (MONITOR, Japan), and Toru Suzuki (TCODE, Japan)

Proposed Instructors: Jack Barth (OSU), Francis Chan (OSU), Burke Hales (OSU), R. Kipp Shearman (OSU), Waldo Wakefield (NOAA), Steven Rumrill (ODFW), Alicia Helms (South Slough National Estuarine Research Reserve), Cheryl Brown (U.S. Environmental Protection Agency)

[Instructors from Asia will be decided in January 2013]

Synopsis: A 5-day summer school on “Ocean observing systems and ecosystem monitoring” will consist of classroom lectures, laboratory demonstrations of inter-disciplinary ocean sensors, an introduction to ocean observing platforms and fieldwork on a research vessel to deploy ocean observing equipment at sea. The school will cover a range of sensors and sampling equipment used to measure physical, biological and chemical properties of the ocean. The utility of time-series datasets generated by moored monitoring stations to estimate net ecosystem metabolism for estuarine and coastal habitats will be demonstrated.

Topics to be covered include: ocean observing system design, platforms (moorings, coastal stations, sea-floor landers, autonomous underwater vehicles), sensors, power, communications (instrument-to-data logger, platform-to-shore, underwater, satellite), sampling strategy, data quality control, and data processing of time-series data.

The lectures and demonstrations will make use of ocean observing systems currently in place in Oregon coastal waters. Students will gain a conceptual understanding of the ecological processes that contribute to marine ecosystem metabolism, and receive practical experience with the programming, calibration, deployment, recovery, data file formats, QA/QC protocols, metadata development, and database management for the time-series data. The workshop will include case-history calculations of marine ecosystem metabolism for several local near-shore and estuarine environments.

Proposed Modules (~1 day each, mixture of lecture, lab and field work)

Introduction to Ocean Observing (Jack Barth, OSU)
  Design, platforms, sensors, sampling strategy, data flow

Ocean Observing Platforms and Physical Oceanography (Jack Barth and Kipp Shearman, OSU)
  Moorings, coastal stations, sea-floor landers, autonomous underwater vehicle gliders

Ocean Chemistry (Burke Hales, OSU)
  Carbon dynamics, ocean acidification, hypoxia, sensors, calibration

Fisheries Observing (Waldo Wakefield, NOAA)
  Acoustic techniques, sampling design, environmental sampling during fisheries monitoring

Ecosystem Monitoring and Metabolism (Francis Chan, OSU; Steven Rumrill, ODFW; Alicia Helms, South Slough NERR; Cheryl Brown (US EPA)
  Ecological processes, marine ecosystem metabolism, biological oceanography sampling, estimating net ecosystem metabolism
Application and Selection Guidelines

- The number of participants is limited to 40 people.
- Participants will be selected according to criteria established by the SSC. These criteria include relevance of an applicant’s research interests to the school topics and the potential to benefit from learning about ocean observing techniques, the national diversity and gender balance of participants.
- The school is open to applicants from all countries, but preference will be given to those from PICES member countries (Canada, Japan, People’s Republic of China, Republic of Korea, Russia and the United States).
- There is no explicit age limit for applicants, but the school is intended to attract individuals with research experience, including from advanced stages of a Ph.D. program, postdoctoral researchers, and early career scientists, with priority given to those with no more than 5 years since obtaining a Ph.D.
- Applications will include a brief CV, statement of interest, a letter of reference (e.g., from an advisor or supervisor), and a financial support application form (only if funding to travel is needed).

Logistics and Costs

- Participants should plan to arrive on Sunday, August 18 and leave by Saturday, August 24.
- Lectures and practical seminars will be held at the Oregon State University’s (OSU) Hatfield Marine Science Center (http://hmsc.oregonstate.edu/). Working language will be English.
- Lodging for participants will be either on the Hatfield Marine Science Center campus or in local hotels.
- There is no registration fee for the Summer School.
- On-site costs (accommodation, meals, lab and vessel use), estimated to be $1,200 US per person, will be provided to participants at no expense.
- Students should be prepared to pay for the cost of travel to/from Newport. Applications for financial assistance for travel can be found on the Summer School website and should be submitted along with their registration. Travel funds are very limited, so priority will be given to applicants who are prepared to pay at least some portion of the cost of their travel.

Deadlines

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<tr>
<th>Date</th>
<th>Event</th>
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<tr>
<td>January 15, 2013</td>
<td>School website open (<a href="http://www.pices.int/summerschool/2013">http://www.pices.int/summerschool/2013</a>)</td>
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<tr>
<td>March 1, 2013</td>
<td>Applications due</td>
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<tr>
<td>April 1, 2013</td>
<td>Selection decisions made by SSC and notifications sent by the PICES Secretariat</td>
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<td>April 15, 2013</td>
<td>Confirmations due</td>
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