

# W5 MONITOR/BIO Workshop

## Measuring and monitoring primary productivity in the North Pacific

Co-Convenors: Paul J. Harrison (Canada/Hong-Kong) and Sei-ichi Saitoh (Japan)

Marine net primary productivity is a key metric of ecosystem health and carbon cycling and is commonly a function of plant biomass, incident solar flux, and a scaling parameter that accounts for variations in algal physiology. Net primary productivity is defined as the amount of photosynthetically fixed carbon available to the first heterotrophic level, and is the relevant metric for addressing environmental questions ranging from trophic energy transfer to the influence of biological processes of carbon cycling. Long-term monitoring of primary productivity is a high priority for PICES nations because it is one of the essential parameters for the understanding of marine ecosystems and biogeochemistry. Recently, measurement technology of primary production has become extremely advanced through the application of fast repetition rate fluorometers, satellites, buoys, *etc.* However, inconsistencies between *in situ* measurements and satellites still exist, and there are some differences between the values obtained with C<sup>13</sup> and C<sup>14</sup> isotopic methodology. This workshop will discuss the state-of-the-art primary productivity measurement technology and its application to understanding primary productivity in the North Pacific. Presentations at this workshop should: address techniques for measuring primary productivity, compare *in situ* and satellite measurements of primary productivity, demonstrate the utility of long time series measurements in understanding ecosystem variability, and describe the application of primary productivity studies to marine ecosystems and biogeochemistry.

Saturday, October 27, 2007 09:00 – 12:30

- 09:00 *Introduction by convenors*
- 09:10 **Michael Behrenfeld (Invited)**  
A satellite view of North Pacific primary production (W5-4467)
- 09:50 **Toshiro Saino (Invited)**  
Satellite monitoring and *in situ* validation of ocean primary productivity (W5-4433)
- 10:30 *Coffee / tea break*
- 10:50 **Sinjae Yoo and Jisoo Park**  
Primary productivity of the Yellow Sea (W5-4314)
- 11:10 **Eko Siswanto, Joji Ishizaka, Mitsuhiro Toratani, Toru Hirawake and Sei-Ichi Saitoh**  
The effect of tropical cyclones on primary production enhancement – Some results from the W-PASS (Western Pacific Air-Sea interaction Study) project (W5-4500)
- 11:30 **Akihiro Shiomoto**  
Comparison of daily primary production between east and west in the subarctic North Pacific: A review from a new angle (W5-4469)
- 11:50 **Paul J. Harrison, Michael Lipsen and Adrian Marchetti**  
Phytoplankton biomass and primary productivity at Stn P and along Line P: Long-term variability over decades and during episodic events (W5-4479)
- 12:10 *Discussion*

**W5 Posters**

- W5-4332 **Jeong-Min Shim, Suk-Hyun Yun, Jae-Dong Hwang, Hyun-Gook Jin, Yong-Hwa Lee, Young-Suk Kim and Un-Gi Hwang**  
Seasonal variability of picoplankton in the middle part of East/Japan Sea