

# **Report on the NOWPAP- PICES Joint Training Course on Remote Sensing Data Analysis**

**21-25 October 2013 at Qingdao, China**

## **Introduction**

The NOWPAP- PICES joint training course on remote sensing data analysis was organized by the NOWPAP Special Monitoring & Coastal Environmental Assessment Regional Activity Centre (CEARAC) and the North Pacific Marine Science Organization (PICES) at Academic Exchange Center in Ocean University of China, Qingdao, China on 21-25 October 2013. The course was also co-sponsored by the International Ocean Colour Coordinating Group (IOCCG). The training course was conducted for 23 selected trainees ([Appendix 1](#)), including postgraduate students, professional researchers and local government officers working in the field of marine sciences, from China, Korea, Canada, Cameroon, and Oman. 7 lecturers from the NOWPAP countries (China, Japan, Korea and Russia) and Germany and USA delivered lectures on remote sensing applications for monitoring and assessment of the marine and coastal environment in the Northwest Pacific Region ([Appendix 2](#)).

## **Objectives**

Objective of this activity is to provide opportunities for students, young researchers and coastal managers to help obtain useful skills and knowledge to utilize remote sensing data in monitoring and assessment of the marine environment.

## **Date and Venue**

The date and venue of this training course were as follows

- Date; October 21 to 25, 2013
- Venue; Academic Exchange Center in Ocean University of China, Qingdao, China

## **Organization Structures**

The training course was operated under the following organization structures:

- Organizer:  
Special Monitoring & Coastal Environment Assessment Regional Activity Centre (CEARAC)  
North Pacific Marine Science Organization (PICES)
- Co-organizer and local host institution:  
Ocean Remote Sensing Institute, Ocean University of China  
Chinese National Environmental Monitoring Center (CNEMC), Ministry of Environmental Protection

23 trainees were selected out of 73 applicants by screening by the Organizing Committee consisting of experts in CEARAC, PICES, IOCCG and CNEMC, based on the contents of submitted application.

### Course Fee

Training course was provided for free of charge.

### Course Program

Program of the NOWPAP-PICES Joint Training Course on Remote Sensing Data Analysis

Day	Time	Program	Lecturers	Training texts
Oct 21	9:00-9:20	Welcome address		
	9:20-10:50	Introduction to Satellite Oceanography (L) and recent progress in ocean color remote sensing part I: Uncertainties in ocean colour remote sensing (L)	Dr. Roland Doerffer	<a href="#">Download</a> <a href="#">Download</a>
	11:00-12:30	Introduction and recent progress in ocean color remote sensing part II : Correction of the influence of the atmosphere in Ocean colour remote sensing (L)	Dr. Roland Doerffer	<a href="#">Download</a>
	13:30-15:00	Ocean color remote sensing for Case 2 waters(L)	Dr. Zhihua Mao	<a href="#">Download</a>
	15:15-17:00	Satellite Ocean Color: Challenges & the Software (L) + (H)	Dr. Mati Kahru	
Introduction into MERIS data and BEAM software part I (H)		Dr. Roland Doerffer		
Oct 22	9:00-10:30	Bio-optical properties in northeastern asian marginal seas derived from a decade of ocean color data (L)	Dr. Young-Je Park	<a href="#">Download</a> <a href="#">Download</a>
	10:45-12:15	Introduction of GOCI and its applications (L)	Dr. Young-Je Park	<a href="#">Download</a>
	13:30-17:00	Time series analysis of satellite data (H)	Dr. Mati Kahru	
Oct 23	9:00-10:30	Primary Production (L)	Dr. Joji Ishizaka	<a href="#">Download</a>

	10:45-12:15	Eutrophication (L) Satellite based monitoring of marine and coastal environment of the Northwest Pacific (L)	Dr. Joji Ishizaka	<a href="#">Download</a> <a href="#">Download</a>
	13:30-17:00	Validation of satellite data (H)	Dr. Mati Kahru	
Oct 24	9:00-10:30	Utilization of the Landsat image (L)	Dr. Leonid MITNIK	<a href="#">Download</a>
	10:30-12:15	Sentinel Missions of ESA/EUMETSAT (L)	Dr. Roland Doerffer	<a href="#">Download</a>
	13:30-17:00	Introduction into MERIS data and BEAM software part II (H)	Dr. Roland Doerffer	
Oct 25	9:00-10:30	Oil spill monitoring by remote sensing (L)	Dr. Leonid MITNIK	<a href="#">Download</a>
	10:50-12:15	Oil spill detection by SAR and Lidar system (L)	Dr. Chaofang ZHAO	<a href="#">Download</a>
	13:00-15:30	Uncertainties in ocean colour remote sensing (H)	Dr. Roland Doerffer	
	15:30-17:30	Assignment for all trainees (H)		
	17:00-17:30	Closing		

(L) Lecture

(H) Hands-on computer exercise

### Training texts

The training texts distributed during the course can be downloaded from the table above.

## Comments from participants

- [Dr. Peng LIU](#)
- [Mr. Anthony Banyoukou NDAH](#)
- [Mr. Stephen PHILLIPS](#)
- [Dr. Choong-Ki KIM](#)
- [Mr. Yudai ABE](#)
- [Ms. Hana FUJII](#)
- [Ms. Yu-Heng LU](#)
- [Ms. Eimi NISHIKAWA](#)



Group photo taken at the opening



Snapshot during the hands on practice