



Topic: Report on the Training Programme

Training Course Name: REGIONAL MARINE OBSERVATION AND QUALITY CONTROL

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Major: Physical Oceanography

Degree Program: Masters

Report on the Training Programme

Dated: 25 to 28 March 2019

TITLE: REGIONAL MARINE OBSERVATION AND QUALITY CONTROL

Overview

This training was organized by OceanTeacher Global Academy (OTGA) with the collaboration of the International Oceanographic Data and Information Exchange (IODE), United Nations Educational Scientific and Cultural Organization (UNESCO) and intergovernmental oceanographic commission

The OceanTeacher Global Academy Project aims to develop a global training centre network and utilize this network to increase national capacity in coastal and marine knowledge and management. It will do so by;

- I. Promoting the establishment of Regional Training Centres as well as their close collaboration through advanced information technology.
- II. Further developing the OceanTeacher Learning System.

This training course was aimed at young researchers and professionals level for provides a comprehensive introduction to a variety of marine datasets and formats and the use of software for synthesis and analysis of marine data. The importance of good research data management practices and the role of researchers .

This comprehensive training course also aimed at building the capacities of the communities, local and key authorities to participate in ocean observation management throughout the world. It was specifically directed towards community members and representatives of relevant authorities, which will actively participate in the ocean management observation and in the implementation of the ocean monitoring framework in the future. In total, 29 persons joined the course from different countries.

Main goal was to provide a deeper understanding of marine observation techniques, principles and methods of monitoring ocean data, health and data safety precautions were also included the Training Course.

The training course was held from 25 to 28 March 2017 in the **Tianjin Victoria International Hotel, Tianjin, China**. This training course was consisted of 14 lectures which were all given in English by most professional senior scientists, Engineers and technical officials.

Training course Hosted

The training course was jointly hosted by National Centre of Marine Standards and Metrology (NCOSM) and National Marine Data and Information Service (NMDIS) subordinate to ministry of natural resources, China.

Aims and Objectives

- Provide an brief history introduction to the use of conductivity, temperature and depth (CTD) instruments.
- Software for synthesis and analysis of marine data.
- The application and QC of CTD data.
- Development and new technology of CTD.
- Ocean observation best practices and CTD Calibration

- Introduction to the FAIR Guiding Principles for scientific data management and stewardship.
- Understand best practice for management and analysis of marine data.

Name List of trainers

- 1. YU Weidong (Research Scientist)**
National marine Environment Forecasting Centre
- 2. JIANG Long (Technical Coordinator)**
World Meteorological Organization (WMO)
- 3. XIONG Xuejun (Research Scientist, Ph.D. supervisor)**
First Institute of Oceanography, Ministry of Natural Resources
- 4. YANG Guangbing (Assistant Professor)**
First Institute of Oceanography, Ministry of Natural Resources
- 5. Greg Reed (IOC consultant)**
UNESCO/IOC Project office for IODE
- 6. JI Fengying (Researcher)**
National Marine Data and Information Service
- 7. Li Hongzhi (Senior Engineer)**
National Ocean Technology Centre
- 8. Lance zhoa (Senior Technical Engineer)**
Laurel Technologies Company Limited
- 9. Wang Qi (Sales and Marketing Associate)**
RBR Ltd
- 10. Alexandre ACELDY (Sales and Marketing Associate)**
NKE Marine Electronics
- 11. YUAN Lingling (Senior engineer)**
National Centre of Ocean standards and Metrology
- 12. PANG Yongchao (Research Scientist)**
National Centre of Ocean standards and Metrology

Training Agenda

Day 1: Monday 25 March

Opening day remarks, overview of global ocean observing system

TIME	SUBJECT	LEAD
09:00-09:30	Opening Ceremony	MIAO(MNR) Greg Reed (IODE) XIANG Wenxi(NMDIS) YAO Yong(NCOSM)
09:30-10:00	Group photo and break	
10:00-12:00	Global ocean observing system/ Second international Indian ocean expedition (IIOE-2)	YU Weidong
12:00-13:30	Lunch	
13:30-15:30	Global ocean observing system/ Second international Indian ocean expedition (IIOE-2)	YU Weidong
15:30-16:00	Coffee break	
16:00-17:00	Buoy Observation networks WIGOS and (Remote)	JIANG Long

Day 2: Tuesday 26 March
The application and QC of CTD data.

TIME	SUBJECT	LEAD
09:00-09:30	conductivity, temperature-depth and observation	XIONG Xuejun YANG Guangbing
09:30-10:00	break	
10:00-12:00	conductivity, temperature-depth and observation	XIONG Xuejun YANG Guangbing
12:00-13:30	Lunch	
13:30-15:30	Managing and visualizing CTD Data	Greg Reed
15:30-16:00	Coffee break	
16:00-17:00	Data processing and quality control of CTD observations	JI Fengying

Day 3: Wednesday 27 March



Development and new technology of CTD

TIME	SUBJECT	LEAD
09:00-09:30	The history and development of CTD	Li Hongzhi
09:30-10:00	break	
10:00-12:00	Sea-bird sensor characteristics, calibrations data corrections	Lance zhao
12:00-13:30	Lunch	
13:30-15:30	A technical description of the RBR sensor technology, calibration and data processing	Wang Qi
15:30-16:00	Coffee break	
16:00-17:00	NOSS: towards direct in situ measurement using optical technology CTD observations in the Mediterranean sea	Alexandre ACELDY

Day 4: Thursday 28 March
Ocean observation best practices and CTD calibration

TIME	SUBJECT	LEAD
09:00-10:00	Best practices and standards CTD	YUAN Lingling
10:30-10:30	break	
10:30-11:30	CTD calibration in and NCOSM & Chinese standard seawater	PANG Yongchao
11:30-12:00	training course wrap-up certificate reward	Greg Reed YAO Yong
12:00-14:00	Lunch	
14:00-16:00	Field trip visit laboratory off and NCOSM	YU jianqing

Lectures were presented with aid of multimedia presentations (Microsoft PowerPoint). During a one hour field trip visit the laboratory of NCOSM in the afternoon of March 28, where we visited the CTD operation and calibration instruments.

Certificate distribution and Visit of laboratory Photos





Learning Outcomes

The learning outcomes of this course include:

- Knowledge and understanding of the importance of CTD calibration management for accurate ocean data collection.
- Experience in use of CTD data analysis and visualization tools.
- Recognize the importance of good research data management practice.
- Awareness of modern technologies based on marine research.

At the end of the course, all participants filled out a course evaluation sheet, the analysis of which affirmed the success of the course in having given the basis for the understanding of marine research and a broad overview of survey and monitoring methods.

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