Progress Report of Ocean Forecast System for Southeast Asia Areas (OFS)

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12 May, 2015, Phuket, Thailand
Contents

1. Background
2. Review of Phase I (Jun 2010-May 2012)
3. Progress of Phase II (Jun 2012-May 2015)
4. Capacity building
5. Future Plan
1. Background

- One of SEAGOOS Pilot Projects
- Approved by the Sub-Commission at its 8th Intergovernmental Session in Bali, Indonesia, 10-13 May 2010
- Extended into its second phase (June 2012 to May 2015) with approval by the Sub-Commission at its 9th Intergovermental Session in Busan, Republic of Korea, May 9-12, 2012

Goals
1. To develop an ocean forecasting demonstration system for the target region;
2. To enhance the understanding of oceanographic processes in the region;
3. To provide a platform for ocean modelers, especially young scientists from this region, to network and share.

Participations
- **Phase I**: Malaysia, Thailand, China.
- **Phase II**: Indonesia, Burma, Viet Nam, and Cambodia joined.
Why Ocean Forecasting System?

- No operational ocean forecasting system in Southeast Asia;
- Lack of oceanographic processes understanding;
- Lack of expertise in ocean modeling;
- Lack of regional collaboration on ocean modeling.
2. Review of Phase I

Prof. Tangang’s visit to FIO in 2009 – transforming friendship into a regional project

FIO’s visit to UKM in 2009 and signing of UKM-FIO Letter of Intent – institutional supports

Meeting on Malaysia-China MOA, 2010 – country support

OFDS Establishment
8th IOC-WESTPAC in Bali

Operational OFDS Website

Launching of OFDS Web portal

Thailand – China MoU – country support

Indonesia joined OFS Project

2009
2009
2009
5/2010
1/2012
5/2012
7/2012
Introduction of OFS

Data flow charts for Ocean Forecasting System
Introduction of OFS

Sea level

Current & temperature

Wind

Wave height
Official Launching of the IOC-WESTPAC/SEAGOOS OFS Website at the 9th Intergovernmental Session of IOC-WESTPAC, 10 May 2012, Busan Korea by Dr Wendy Watson-Wright, Assistant Director General of UNESCO and Executive Secretary of IOC
Installation of OFS in MMD

The photo for celebrating successful installation and operation of OFS in the sub-office of marine metrological and hydrological bureau of MMD in Labuan in November, 2012
3. Progress of Phase Ⅱ

Target Area

(20S-20N, 80E-145E)
Global model results

Simulated Sea Surface Current
High resolution regional model
Wave verification with Radar

MAE: 0.31m
RMSE: 0.46m
R: 0.94
Valid record: 6564

Comparison of SWH between model simulation and observed from the WOR at point 114.941E 20.245N in 2011.
Temperature profile comparison at station 2 and 3 of the UKM participated Cruise in 2007
Black line: Model forecast  Red line with dot: Observation
Joint cruises to collect validation data

Malaysia-China Joint cruise in 2011

Thailand-China Joint cruise in 2012

Thailand-China Joint cruise in 2013
4. Capacity Building: Workshops and training courses
Workshops

Sep 30-Oct 1, 2010 in Phuket, Thailand.

Dec 14-15 2011 in Qingdao, China

July 23, 2012 in Qingdao

March 5-6, 2013, Jakarta
• Young scholars from Malaysia and Thailand took part in the training course of UNESCO/IOC-ODC held by FIO during June 10-16, 2011 in Qingdao, China
• Young scholars from Malaysia and Thailand took part in the training course of UNESCO/IOC-ODC held by FIO during July 16-22, 2012 in Qingdao, China
Two FIO scientists working at UKM
Training Workshops

the training course
In 2011.
5. Future plan of OFS

- Enhance the validation of OFS to improve forecasting skill.
- Real time data assimilation.
- Support boundary and forcing data by FTP server from high-resolution model.
- Install OFS in Thailand (June) and Indonesia (Aug) in 2015, and renew OFS of MMD, Malaysia in late 2015.
Requested Actions

The operational center is urgently needed to operationally run the system, and to distribute the products to participating members.

Thanks