Data and information exchange efforts in IOC/WESTPAC and GEO/AOGEO

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Relation of WESTPAC to IOC (and IODE):
WESTPAC is the one of regional sub-commissions (intergovernmental) of IOC since 1989, focusing on the region of eastern Indian ocean to western Pacific ocean. Now, WESTPAC has 22 member states, had 11 intergovernmental sessions, and 9 scientific symposiums.
Areas of Activities

Research Priorities

- Ocean processes and climate
- Marine biodiversity and seafood safety, security
- Ocean ecosystem health
- Enhanced ocean knowledge on emerging concerns (i.e., ocean acidification, microplastics)

Major actions

- Strengthen science-policy interface for ocean governance
- Develop sustained ocean observations and services for maritime safety
- Safeguarding marine biodiversity and ecosystem health for green development
- Bolster institutional capacity for the Future We Want (including ocean literacy)
Ocean Observations: Regional GOOS activities

NEAR-GOOS North Eastern Asia Region

• 19th Session of Coordinating Committee held in Nov 2018, Thai.
• The smooth operation of NEAR-GOOS data exchange network and database
• Pilot project on cross basin climate monitoring section,
• The development of the NEAR-GOOS Ocean Forecasting Systems.

South Eastern Asia Region

i. Ocean Forecasting System (OFS);
ii. Monsoon Onset Monitoring and its Social and Ecosystem Impacts (MOMSEI); and
iii. Monitoring of Ecological Impacts of Ocean Acidification on Coral Reef Ecosystems.
10th International Scientific Conference of WESTPAC in April, 2017

"Advancing Ocean Knowledge, Fostering Sustainable Development: from the Indo-Pacific to the Globe"

17-20 April 2017, Qingdao, China
http://www.iocwestpac10.com

More than 800 experts of ocean in the region came together
Expectations to IODE from regional perspectives

1) NEAR-GOOS and SEA-GOOS are doing better in terms of in-situ data exchanges
2) Coastal data exchanges are quite difficult due to national securities and natural resources issues
3) Many WESTPAC projects are conducted in coastal areas, and feel difficulties in exchanging data.
4) But several WESTPAC MSs have operated data system at an institutional level, but there is few NODCs and ADUs.
5) In-situ data (or inventory) exchange system in IODE at the regional level will be needed.
6) ODINWESTPAC of IODE is a key
GEO & AOGEO (Asia-Oceania GEO) at a glance

The Group on Earth Observations (GEO) is an intergovernmental partnership that **improves the availability, access and use of Earth observations (data and information) for a sustainable planet.**

GEO **promotes open, coordinated and sustained data sharing and infrastructure** for better research, policy making, decisions and action across many disciplines. The GEO community focuses on three global priority engagement areas: the United Nations 2030 Agenda for Sustainable Development, the Paris Agreement, and the Sendai Framework for Disaster Risk Reduction.

- **Biodiversity and Ecosystem Sustainability**
- **Disaster Resilience**
- **Energy and Mineral Resource Management**
- **Food Security and Sustainable Agriculture**
- **Public Health Surveillance**
- **Infrastructure and Transport Management**
- **Sustainable Urban Development**
- **Water Resources Management**

**Improve access to information of various kinds of earth observation data** (not only “ocean”)

**Promote infrastructures** to handle various kind of data by **IT**.

Provide possible solutions to many agendas related to SDGs, Paris Agreement, and Sendai Framework for DRR, through EO data.
Recently similar to IOC, GEO developed the regional partnerships: AOGEO

Now we have a joint task: Ocean, Coast, and Islands
Three aims in the last working session (October 2018, Kyoto) of Ocean, Coasts, and Islands Task of AOGEO

We aim to:
1) promote development and expand the data inventory system of AP-ONS (Asia-Pacific Ocean data Networking System);
2) articulate user needs from island and coastal regions and possible societal benefits of EO data, and
3) seek linkages with AP-Marine-BON (M-BON) community for further development of data inventory and data system.

http://www.jamstec.go.jp/geossap/
Current system of access to observation databases

Much improvement in each database, and we feel necessity to update the data networking system for better provision of data access via “inventory data system”.

Users

JAMSTEC

Database-J1

Database-J2

AP Ocean data Networking System AP-ONS

A Institute

Database-A1

Database-A2

Users

B Univ.

Database-B1

Users
Current situation of In-situ data site of Asia Pacific countries

Australia
China
India
Indonesia
Japan
Korea
Malaysia
Thailand
Vietnam

As a member of NEAR-GOOS

http://www.jamstec.go.jp/geossap/
Proposed new system to access to in-situ observation database by using metadata (inventory) search

By using IT, we try to exchange metadata among several institutes, and provide better access of inventory information to users.
Regional co-working with IODE is crucial

1) Coastal data exchanges are quite difficult due to national securities and natural resources issues.

2) Many institutes in WESTPAC MSs are conducted in coastal areas, and feel difficulties in exchanging data.

3) But several institutes in the region have operated data systems at an institutional level (*very good*), but there is no network except for WESTPAC projects and NODCs/ADUs.

4) Co-working will be possible to better in-situ data (or inventory) exchange in IODE at the regional level. ODIS seems to be a similar challenge at IOC Global level?

5) Also, AOGEO and GEO will provide further beneficial linkages with other earth observations (data) to IOC/IODE, in particular to “transparent and accessible Ocean” in “UN Decade of Ocean”).