

The Technical Committee on Data Exchange

The meeting of the Technical Committee on *Data Exchange* (hereafter TCODE) was held from 18:00 to 19:30 h on October 14 and from 14:00 to 18:00 h on October 17, 2012, in Hiroshima, Japan. Four members were replaced since the last TCODE meeting in 2011 with Mr. Graham E. Gillespie from Canada, Mr. Jinkun Yang from China and Dr. Joon-Soo Lee from Korea, (*TCODE Endnote 1*). Mr. Robin Brown, the first chairman of TCODE, noted that Dr. Tom Royer (USA), a founding member of TCODE, had resigned in April 2012, and took special notice of his service to TCODE. Ms. Lynn deWitt (USA) replaces him. Dr. Tony Koslow was appointed rapporteur by TCODE Chairman, Dr. Toru Suzuki. Several changes were made to the draft agenda. The revised agenda was adopted (*TCODE Endnote 2*).

AGENDA ITEM 3

Status of Topic Session “*Changing ocean biogeochemistry and its ecosystem impacts*” (S14)

Dr. Suzuki explained the background of the TCODE co-sponsored Topic Session (S14) and Dr. Koslow, Co-convenor of S14, discussed its status. He was also designated as the primary correspondent Co-convenor to prepare a session summary report and to summarize the scores of TCODE Best Oral/Poster Presentation provided by the other Co-convenors.

AGENDA ITEM 4

Review of procedure for Best Oral Presentation and Best Poster Presentation

Dr. Suzuki explained that TCODE could choose a Best Oral Presentation between two early career scientists and a Best Poster Presentation among 4 of 6 posters (one was cancelled and one declined) in S14. Dr. Suzuki also recommended using a score sheet to facilitate evaluation for the awards.

AGENDA ITEM 5

Status of proposed topic sessions/workshops of PICES-2013

Dr. Suzuki noted that 13 topic sessions and 7 workshops were submitted through a new on-line procedure of sessions/workshops proposals. TCODE members discussed a workshop proposed by Ms. Lynn deWitt, one of new members of TCODE. Mr. Robin Brown pointed out that the workshop was too narrowly scoped, and suggested a new and broader title and the addition of co-convenors from western Pacific. TCODE decided to support the workshop if Ms. deWitt and co-proposers would accept those suggestions and Dr. Suzuki promised to contact Ms. deWitt by email. TCODE also decided to recommend three topic sessions based on the ranks assigned by TCODE members to each proposal.

AGENDA ITEM 6

Status of upcoming inter-sessional workshops/symposia

Dr. Suzuki announced that a FUTURE inter-sessional workshop will be held on May 22–24, 2013, in western Russia and a FUTURE Open Science Meeting will take place in April 2014 in Honolulu or Kona, HI, USA.

AGENDA ITEM 7

Report of POMA 2012

Dr. Suzuki reported on the selection of POMA 2012 at the inter-sessional Science Board meeting in May 2012, Busan, Korea. He encouraged the members to submit new nomination(s) for POMA because just two nominations remain, rolled over to the present.

TCODE-2012

AGENDA ITEM 8

Status of FUTURE

Mr. Brown, Chairman of FUTURE's AP-SOFE, discussed the status of FUTURE and a draft FUTURE roadmap which was presented at the FUTURE joint Advisory Panel meeting, October 14. Members identified two TCODE outreach activities in 2012–2014: the update of FUTURE Wikipedia and a climate index portal. Dr. Igor Shevchenko agreed to update FUTURE Wikipedia continuously. Dr. Phil Mundy, Vice-Chairman of MONITOR, was welcomed to the meeting and he explained that a climate index portal is required for North Pacific Ecosystem Status Report III and is related to the achievements of Working Group on *North Pacific Climate Variability and Change* (WG 27). TCODE agreed to support the establishment of the portal. TCODE also agreed to support the establishment of an interactive website which was requested by the Section on *Climate Change Effects on Marine Ecosystems*, using Google sites. Mr. Brown will retire as Chairman of AP-SOFE but intends to remain a member. Drs. Shevchenko and Suzuki also confirmed to remain as members of AP-AICE and AP-COVE, respectively.

AGENDA ITEM 9

Review progress of TCODE workplan for 2011/2012

For a further breakdown of activities, see *TCODE Endnote 3*.

1. Continue to support, coordinate, and identify of PICES data and information products.

On behalf of AP-COVE, Dr. Suzuki reported that the Section on Carbon and Climate (S-CC) has almost completed PACIFICA (Pacific Ocean Interior Carbon) data synthesis project but several updates were required. S-CC maintains relations with international programmes/projects such as SOCAT, SOLAS/IMBER, IOCCP, GLODAPv2, CLIVAR/GO-SHIP and IPCC. For AP-SOFE, Mr. Brown noted that expert groups were making good progress.

2. Cooperation with other data management groups and activities.

Dr. Georgiy Moiseenko reported that ICES WGDIM (Working Group on Data and Information Management) was renamed to DIG (Data and Information Group). Dr. Suzuki announced that the IODE GE-BICH workshop was postponed to October 22–24 and he will attend the workshop in Oostende, Belgium, just after the PICES Annual Meeting, and that IODE SG-ODP II was changed to a Technical Workshop of ODP (Ocean Data Portal) and will also be held in Oostende, February 27–29, 2012, where he will discuss the status and future plans of ODP.

3. PICES Metadata Federation Project

Dr. Schevchenko proposed to renew to the cloud server which was the same cost as the present rented server. He also expressed his willingness to continue to administer server and noted that he has a poster presentation about the TCODE GeoSpatial Portal at PICES-2012. Dr. Suzuki remarked that any new record not yet registered to GeoSpatial Portal could still be registered next year. Dr. Schevchenko expressed his willingness to continue to update the Technical Report of the GeoSpatial Portal to promote the use of the Portal.

4. Maintain TCODE web page.

Dr. Schevchenko expressed his willingness to maintain the TCODE web page continuously.

5. PICES-2012 Topic Session and Best Oral/Poster Presentation.

Dr. Koslow reported that the TCODE co-sponsored Topic Session S14 finished successfully. He also informed members that the Co-conveners' decision for Best Oral/Poster Presentation will be decided at the end of the poster session on Thursday evening, October 18.

6. Topic session and/or workshop proposals to PICES-2013 in Nanaimo, Canada.

As discussed in Agenda Item 5, Dr. Suzuki reported that Ms. deWitt accepted TCODE's suggestion to nominate three potential invited speakers; Dr. Suzuki also expressed his willingness to act as co-convenor representing of western side of the Pacific.

7. POMA 2012 nomination.

As discussed at Agenda Item 7, Dr. Suzuki already reported the results of POMA 2012 and TCODE members were encouraged to submit new nominations for POMA 2013 because the pool of two nominations, carried over from past year(s), was very small.

8. Prepare to register metadata of WG 21 database.

Dr. Deborah Reusser, a member of Working Group on Non-indigenous Aquatic Species (WG 21), participated in the meeting and informed TCODE that metadata for WG 21's database is ready. Dr. Shevchenko reported that he is still preparing registration of those metadata and will continue this activity into the next year.

9. Prepare to produce the North Pacific Ecosystem Status Report – third edition.

As discussed at Agenda Item 8, TCODE members confirmed their responsibility to prepare a climate index portal.

AGENDA ITEM 10

Review of TCODE Action Plan 2012–2015

Dr. Suzuki showed a draft TCODE Action Plan 2012–2015 which had been already circulated in TCODE members by email. It was pointed out that Actions 3.1 and 10.1 should be replaced with preparing North Pacific Ecosystem Status Report. Dr. Suzuki will present the Action Plan at the Science Board meeting after several minor changes have been made (*TCODE Endnote 4*).

AGENDA ITEM 11

Discussion and adoption of TCODE workplan for 2012/2013

Dr. Suzuki explained a draft TCODE workplan for 2012/2013 (*TCODE Endnote 3*) was reconstructed according to the TCODE Action Plan. In addition, Mr. Jinkun Yang expressed his willingness to support and report on activities of ODINWESTPAC and Dr. Joon-Soo Lee expressed Korea's support to establish an IODE ODP node in Korea.

AGENDA ITEM 12

Relation with specific international programs/organizations

TCODE members reviewed the list of proposed theme sessions of interest to TCODE for PICES co-sponsorship at the ICES 2013 ASC. A number of members recommended a session titled "*Observation and monitoring needs to support Ecosystem Based Management – preparing to serve the current of data coming upon us*" which Dr. Suzuki will recommend to Science Board.

Prior to introducing Dr. Ward Appeltans, project manager of OBIS (Ocean Biogeographic Information System) and IODE ODP, Dr. Suzuki related that representatives of ICES, IOC and SCOR had also made presentations about cooperation with PICES at the Science Board meeting on October 14. Dr. Appeltans participated through WebEx (www.webex.com) at the IOC project office for IODE, Oostende, Belgium, and presented a summary of OBIS and ODP activities and encouraged TCODE to work with IODE and contribute to OBIS from PICES member countries.

AGENDA ITEM 13

National Reports

Country reports from China, Korea and the U.S. can be found in *TCODE Endnotes 5, 6 and 7*, respectively.

TCODE-2012

AGENDA ITEM 14

Other business

Dr. Suzuki presented a proposal from Study Group on *Marine Pollutants* for a workshop at PICES-2013. TCODE members pointed out that the scope of the workshop was too narrow and target area was also limited. He will submit TCODE's comments at the Science Board meeting.

AGENDA ITEM 15

Closing

The meeting was closed at 18:00 h.

TCODE Endnote 1

TCODE participation list

Members

Robin Brown (Canada)
Graham Gillespie (Canada)
Tony Koslow (USA)
Joon-Soo Lee (Korea)
Georgiy Moiseenko (Russia)
Igor Shevchenko (Russia)
Toru Suzuki (Japan, Chairman)
Tomowo Watanabe (Japan)
Jinkun Yang (China)

Observers

Ward Appeltans (Belgium)
Phillip Mundy (USA)
Deborah Reusser (USA)
Natalia Rudykh (Russia)

TCODE Endnote 2

TCODE meeting agenda

Day 1: 18:00–19:30 Sunday, October 14 (JST)

1. Welcome and introduction of members
2. Adoption of agenda
3. Status of Topic Session “*Changing ocean biogeochemistry and its ecosystem impacts*” (S14) on October 16 (Koslow)
4. Review of procedure for Best Oral Presentation and Best Poster Presentation (Suzuki)
5. Status of proposed topic sessions/workshops of PICES-2013, Nanaimo (Suzuki)
6. Status of upcoming inter-sessional workshops/symposia (Suzuki)
7. Report of POMA 2012 (Suzuki)

Day 2: 14:00–18:00 Wednesday, October 17 (JST)

8. Status of FUTURE (Suzuki, Brown, Shevchenko)
9. Review progress of TCODE workplan for 2011/2012 (All)
10. Review of TCODE Action Plan 2012–2015 (Suzuki)
11. Discussion and adoption on TCODE workplan for 2012/2013 (All)
12. Relation with specific international programs/organizations
 - i. Review of ICES 2013 TS
 - ii. SCOR
 - iii. IOC and WESTPAC
 - iv. IODE OBIS/ODP (Dr Ward Appeltans through WebEx)

13. Country reports (representative of member countries)
14. Other business
 - i. Proposals from SG-MP
15. Closing

TCODE Endnote 3

TCODE workplan 2011/2012

1. Continue to support, coordinate, and identify of PICES data and information products
 - a) MONITOR – T. Royer
 - b) AP-AICE- (S-HAB, WGs 21 (–2012), 24) – I. Shevchenko and R. Brown (S-HAB)?
 - c) AP-COVE (S-CC, WGs 23 (–2011), 26, 27, 28) – T. Suzuki
 - d) AP-SOFE (WG-FCCIFS, SG-HD (–2011)) – R. Brown
 - e) AP-CREAMS/CRP/MBM (–2011) – T. Suzuki
2. Cooperation with other data management groups and activities
 - a) ICES WG on Data and Information Management (WGDIM) – G. Moiseenko
 - b) IODE GE-BICH workshop in March 2012 – H. Garcia and T. Suzuki
 - c) IODE SG-ODP-II in February 2012 – T. Suzuki
 - d) OBIS and invitation of *ex-officio* member – T. Suzuki
3. PICES Metadata Federation Project
 - a) Renew remote server contract – I. Shevchenko
 - b) Continue to administer AdHost server – I. Shevchenko
 - c) Prepare proposal to renew rented server for another year – I. Shevchenko
 - d) Develop strategy to award and encourage metadata submission – All
 - e) Run the AdHost server performance experiment on accessing metadata from different locations and multiple users – I. Shevchenko and all
 - f) Japan and Korea move their metadata records to the AdHost server – T. Suzuki (Japan)?, (Korea), I. Shevchenko
 - g) Promote the GeoNetwork Portal
 - i. Update the Technical Report to reflect GeoNetwork – I. Shevchenko, H. Garcia, R. Brown
4. Maintain TCODE web pages – I. Shevchenko
5. PICES-2012 Topic Session and Best Oral/Poster Presentation – T. Koslow (co-convenors)
6. Topic session and/or workshop proposals to PICES-2013 in Nanaimo, Canada – All
7. POMA 2012 nomination

Remaining two nominations below will be rolled over to the next year (and beyond) for consideration at the next inter-sessional Science Board meeting.

Consider a recommendation of new nomination before February 2012. Rank nominations for POMA 2012 before April 2012
8. Prepare to register metadata of WG 21 database. – I. Shevchenko
9. Prepare to produce the North Pacific Ecosystem Status Report – third edition. – T. Royer and R. Brown

TCODE Endnote 4

Technical Committee on Data Exchange Action Plan in 2012–2015

Mission

The missions of the PICES Technical Committee on Data Exchange (TCODE) are as follows:

- Identify the data management requirements of PICES;
- Development strategic plans to meet these requirements;
- Recommended establishment of ad hoc task groups to deal with specific functions of TCODE;
- Review the progress of task groups and provide Annual Reports to Science Board on the work of TCODE; and
- Advise the PICES Secretariat on its data exchange activities.

Strategy

To implement the mission, TCODE will develop three-year Action Plan each of goals of five central themes of PICES strategy: (A) Advance scientific knowledge; (B) Apply scientific knowledge; (C) Foster partnerships; (D) Develop capacity; (E) Ensure a progressive organization. Specific actions and tasks are identified within each of these themes as explained below.

Theme A. *Advance scientific knowledge*

Goal 1. *Understand the functioning, resilience, and vulnerability of marine ecosystems*

Action 1.1 Propose and support topic session and workshop

Task 1.1.1 Propose and support topic session and workshop at upcoming PICES annual meeting.

Goal 2. *Understand and quantify how marine ecosystems respond to human activities and natural forcing*

Action 2.1 Propose and support topic session and workshop

Task 2.1.1 Co-convene topic session at PICES 2012 annual meeting on “Changing ocean biogeochemistry and its ecosystem impacts”.

Task 2.1.2 Propose and support topic session and workshop at upcoming PICES annual meeting.

Theme B. *Apply scientific knowledge*

Goal 3. *Provide scientific advice pertinent to North Pacific ecosystems*

Action 3.1 Preparing the North Pacific Ecosystem Status Report.

Goal 4. *Ensure that PICES products are relevant, timely, and broadly accessible*

Action 4.1 Support and promote to use of shared information technologies.

Task 4.1.1 Maintain and promote to use of the PICES TCODE GeoSpatial Portal and their resource.

Theme C. Foster partnerships**Goal 5. Collaborate with organizations and scientific programs relevant to PICES**

Action 5.1 Establish dialogue with the various bodies of the international, national, state and local organizations, commissions and programs involved into Marine Data Management issues.

- Task 5.1.1 Maintain a dialogue with the ICES Data and Information Group (DIC).
- Task 5.1.2 Maintain a dialogue with the IODE of the IOC of UNESCO and its programme such as IODE Groups of Experts, OBIS (Ocean Biogeographic Information System), ODP (Ocean Data Portal) and ODINWESTPAC (Ocean Data and Information Networks in Western Pacific region).
- Task 5.1.3 Support S-HAB work with the ICES-IOC Harmful Algal Event Database (HAEDAT) database and required metadata.
- Task 5.1.4 Support S-CC work with the IOCCP and international scientific projects

Goal 6. Strengthen communication and engagement with users of PICES scientific products

Action 6.1 Support and promote to use of shared information technologies.

- Task 6.1.1 Maintain and promote to use of the PICES TCODE GeoSpatial Portal and their resources.
- Task 6.1.2 Support to register metadata of database of WG 21 on *Non-indigenous Aquatic Species* into PICES TCODE GeoSpatial Portal.
- Task 6.1.3 Support to register metadata of products of WG-23 “Comparative ecology of Krill in coastal and oceanic waters around the Pacific Rim” into PICES TCODE GeoSpatial Portal.
- Task 6.1.4 Support to register scientific products of PICES Scientific and Technical Committees and expert groups into GeoNetwork.
- Task 6.1.5 Prepare to product of the North Pacific Ecosystem Status Report Third Edition.
- Task 6.1.6 Promote to use of shared information tools such as Google Docs, Google Sites, *etc.*
- Task 6.1.7 Promote PACIFICA database of S-CC

Theme D. Develop capacity**Goal 7. Advance methods and tools to improve and enhance scientific activities**

Action 7.1 Provide support to use of shared information technologies.

- Task 7.1.1 Update and disseminate the Technical report of PICES TCODE GeoSpatial Portal.

Action 7.2 Plan and convene topic session and workshop

- Task 7.2.1 Plan topic session and workshop at upcoming PICES annual meeting for marine data quality control/assurance and information exchange.

Goal 8. Foster collaboration among scientists within PICES

Action 8.1 Promote and support to use of PICES TCODE GeoSpatial Portal.

- Task 8.1.1 Plan workshop or training course of registration data and information into PICES TCODE GeoSpatial Portal.

Goal 9. Create education and training opportunities

Action 9.1 Promote and support training and education activities of local, regional and international organizations.

Task 9.1.1 Promote and support training course and education of IOC, IODE, SOLAS, IMBER, IOCCP, ODINWESTPAC and other regional and international organizations and programme.

Theme E. *Ensure a progressive organization*

Goal 10. *Provide an effective infrastructure to support PICES activities*

Action 10.1 Preparing the North Pacific Ecosystem Status Report.

*TCODE Endnote 5***2012 Country report of China**

submitted by

Jinkun Yang, NMDIS/SOA

1. Working progress related to TCODE's "PICES Metadata Federation Project"

- i) The Chinese PICES-NMDIS node was registered on NSDI clearinghouse website through AdHost server. Considering the Agenda 6 of the 2011 TCODE meeting on the PICES Metadata Federation Project, "remove NPEM, KODC, MIRC servers from the NSDI clearinghouse site", China has decided to remove PICES-NMDIS node from NSDI clearinghouse site.
- ii) China agrees to move the metadata records of former PICES-NMDIS node to the AdHost server, to become one metadata source of the GeoNetwork portal. All the metadata records (see the table below for details) have already been submitted to the directory distributed for former PICES-NMDIS note (E:\Isite2\data\pices-nmdis-adhost) on the AdHost server.
- iii) China agrees to take part in the action of "Run the AdHost server performance experiment on accessing metadata from different locations and multiple users" and related work in the TCODE workplan for 2011/2012, to promote the development of PICES Metadata Federation Project.

Metadata	Station	Time period	No. of Records
Temperature and salinity data from Chinese coastal stations	Laohutan, Tanggu, Qinhuangd, Yantai, Haikou, Dongfang, Beihai, Lianyungang	1959–1976 1988–2001	8
Ocean tide forecasting product	32 major coastal ports in Southeast Asian coastal areas	Monthly	32
	10 major ports along Chinese coastal line, such as Dalian, Qingdao, Wusong, Zhenhai, Xiamen, Guangzhou, Beihai, Haikou, and Gaoxiong.	Monthly	10
Monthly mean sea level from Chinese oceanographic stations	Dalian, Kanmen, Lvsi, Zhapo, Nasha and Xisha.	2009–2010	6
Hourly sea level data from Chinese coastal stations	Lianyungang and Dalian	2008 and 2010	2
Meteorological, wave, temperature and salinity data from 13 Chinese coastal stations	Dalian, Xiaochangshan, Yantai, Xiaomaidao, Lianyungang, Lvsi, Shengshan, Zhenhai, Dachen, Nanji, Beishuang, Dongshan, and Zhelang	2010	13

2. Data exchange and cooperation with other related international or regional programs*2.1 Ocean Data and Information Network for the Western Pacific Region (ODINWESTPAC)*

Through the collection, exchange, and share the platform of marine data and information (ODINWESTPAC, hosted by NMDIS, website: <http://www.odinwestpac.org.cn/>), maintain and operationally update publicly released marine data and information of China and those collected from international programs/projects, to promote data and information exchange and collaboration between WESTPAC Member States, and with other international and regional data projects;

2.2 China NEAR-GOOS Delayed Mode Database

Maintain and update the China NEAR-GOOS Delayed Mode Database and its website (<http://near-goos.coi.gov.cn/>); timely release the real-time and delayed mode observation data from Russia, Japan, Korea, and China in Northeast Asia Region; provide basic data service for NEAR-GOOS and GOOS.

2.3 JCOMM CMOC China node on the trial basis

The proposal for the establishment of WMO-IOC Centres for Marine Meteorological and Oceanographic Climate Data (CMOCs) was made at the Third Session of JCOMM ETMC (ETMC-III, Melbourne, Australia, February 8–12, 2010), and was approved at the Fourth Session of JCOMM (JCOMM-IV, Yeosu, Korea, May 23–31, 2012). CMOCs will endeavor to achieve the integrating collection, rescue, quality control, formatting, archiving, exchange, and access—for marine-meteorological and oceanographic real-time and delayed-mode data and associated metadata of known quality, and products that satisfy the needs of WMO and IOC applications. The National Marine Data and Information Service (NMDIS) of China has already submitted statements of capability and commitment to host CMOCs in Tianjin in February 2012. The Commission decided that China could begin filling the role of CMOCs on a trial basis immediately. Currently, the establishment work is actively on-going. The function of the former JCOMM ODAS Metadata Service will be incorporated in CMOC China.

2.4 IODE ODP China node

Maintain and update the metadata on the IODE ODP China node.

2.5 China GTSP Data Center

The China GTSP Data Center, established in 2007, is responsible for collecting, processing, managing and distributing the GTSP data. It maintains the operation of download, quality control, product R&D, and website release of Global GTSP data.

TCODE Endnote 7

2012 Country Report of Korea

submitted by

Joon-Soo Lee, NFRDI

1. The Korea Oceanographic Data Center (KODC), which is operated by the National Fisheries Research and Development Institute (NFRDI), acts as a focal point for the assembly of oceanographic data and metadata in Korea.
2. The NFRDI/KODC produced and released the first version of a set of temperature and salinity climatological mean fields for the Oceanographic Atlas of the East Asian Seas (OAEAS) in cooperation with the NOAA/NODC (National Oceanic and Atmospheric Administration / National Oceanographic Data Center), USA. The user can view the temperature and salinity atlas with a horizontal resolution of 1°, 0.25°, 0.1° longitude/latitude grid or download the data from both NFRDI/KODC and NOAA/NODC web pages.
3. KODC has actively cooperated with the IOC/IODE (Intergovernmental Oceanographic Commission / International Oceanographic Data and Information Exchange) and supports the international exchange of oceanographic data and information. KODC is currently preparing to set up a national node of the IOC/IODE Ocean Data Portal.
4. Collected metadata in KODC are mainly reported in Korean, so it takes time to translate into English. KODC will continue to set up a metadata database and service.
5. To support TCODE activities, KODC will start to register the metadata to the PICES TCODE GeoSpatial Portal next year.

TCODE Endnote 8**Country report of USA**

submitted by

Hernan Garcia, NOAA-NODC and Tony Koslow, Scripps Institution of Oceanography, UCSD

There is an ongoing and growing concern about how to enhance participation of PICES member states in unrestricted oceanographic and model data exchange and archiving. It is suggested that TCODE reach out to the PICES Science Board to help establish some formal mechanisms to enhance data exchange. Other options include *ad hoc* collaboration with international agencies such as the International Oceanographic Data and Information Exchange (IODE) of the Intergovernmental Oceanographic Commission (IOC) of UNESCO that runs the IODE Ocean Data Portal (IODE/ODP), for example.

Dr. Garcia and Dr. Suzuki will participate in the upcoming Second IODE Workshop on Quality Control of Chemical and Biological Oceanographic Data Collections (October 22–24, 2012, Oostende, Belgium)

Dr. Garcia communicated with PICES Executive Secretary, Dr. Alexander Bychkov, and Mr. Peter Pissierssens (Head of IOC Project Office for IODE) about having an *ex officio* representative of IODE during TCODE meetings to explore collaboration. Mr. Pissierssens advised that he could not attend at this time. Mr. Pissierssens suggested that Dr. Garcia and Dr. Suzuki represent IODE in this instance. He also suggested that Mr. Ward Appeltans (Project Manager, Ocean Biogeographic Information System (OBIS) and IODE Ocean Data Portal (IODE/ODP)) could present a short talk via webex.