

REPORT OF TECHNICAL COMMITTEE ON DATA EXCHANGE

The meeting of the Technical Committee on Data Exchange (hereafter TCODE) was held in Jeju, Korea from 14:00–18:00 h on October 28, 2009. The Chairman, Bernard A. Megrey and Co-Chairman Kyu-Kui Jung, called the meeting to order, welcomed the participants, and introductions were made. The meeting was attended by 10 TCODE members representing all PICES member countries (*TCODE Endnote 1*). Dr. Hernan Garcia served as the rapporteur. The Committee reviewed the provisional agenda. A suggestion to add a discussion on the North Pacific Ecosystem Status Report was accepted and placed under “New business”, and the new agenda was adopted (*TCODE Endnote 2*).

Before the formal TCODE meeting started, Dr. John Stein (Science Board Chairman) presented a summary of the first meeting of the three FUTURE Advisory Panels (AICE, COVE, SOFE). He announced the appointment of the initial Chairs for each Advisory Panel, reviewed goals and objectives, and initiated discussion. As a group, the Panels discussed priorities and how to move forward within PICES. Each Panel will operate individually to advise Science Board, thus they will be a part of the decision-making process. Once permanent Chairs are selected, each Panel will formulate a workplan. The Science Board will review and adopt these terms of reference at the next Science Board meeting.

AGENDA ITEM 3

Review progress on items in the 2008/2009 work plan

a) Support HAB-S activities

Mr. Robin Brown reported that HAB-S continues to add metadata to the ICES/PICES/IOC HAE-DAT database. The process is moving forward steadily. The contents are not open for public access yet. A software application side of the database is under development. Possible connections to the PICES metadata federation were discussed. (Dr. Megrey placed this as an agenda item for next year’s TCODE meeting.)

b) Cooperate with other data management groups outside PICES

ICES

Dr. Igor Shevchenko circulated the ICES metadata reports via email to TCODE members. A report from ICES WG on *Data and Information Management* (WGDIM) in 2009 was given by Dr. Georgiy Moiseenko. WGDIM terms of reference and data user needs were discussed. Activities for next year include focus on QC flags of ICES data. Dr. Moiseenko will attend the next WGDIM meeting at ICES headquarters, May 2010 and present a report at PICES-2010 in Portland. This item was added to next year’s TCODE work plan.

Dr. Megrey met with Neil Holdsworth (ICES) and others in Helsinki, Finland, to discuss areas of cooperation. They wrote a proposal for future collaborative work to hold a joint session on “*Data for the Masses: Recent advances in the application of Marine Data and Information Management*” at the 2010 ICES Annual Science Conference (ASC) in Nantes, France, to be convened by Bernard A. Megrey (PICES TCODE, USA), Neil Holdsworth (ICES Data Center, Denmark), and Edward Vanden Berghe (OBIS, USA). The ICES decision was made at the 2009 ICES ASC meeting in Berlin. After the TCODE meeting it was announced that the proposal was not accepted for the Nantes meeting. Dr. Megrey will work with the ICES convenors at the 2010 ASC to resubmit the proposal for reconsideration at the 2011 ICES ASC in Gdansk, Poland. This item was added to next year’s TCODE work plan.

TCODE-2009

IODE-XX

Dr. Toru Suzuki presented a report of the IODE-XX meeting, including the IODE ocean data portal implementation, capacity building and education, and Ocean Biogeographic Information System (OBIS) as an IODE/IOC program. Dr. Megrey will post a copy of the report on the TCODE web site.

PICES will participate in IODE-XXI via their Japanese representative T. Suzuki, who is already an active member connecting IODE to TCODE. Dr. Suzuki will attend the IODE-XXI in March 2011 and present a report at PICES-2011 in Russia. This item was added to next year's TCODE work plan.

Group of Experts on Biological and Chemical Data Management and Exchange Practices

The IODE GE-BICH overlaps with TCODE with respect to terms of reference. No formal connection exists between PICES and GE-BICH. Dr. Hernan Garcia stressed the importance of international cooperation in GE-BICH and nominated Dr. Suzuki for membership as a short-term member of GE-BICH. It was agreed that TCODE should pursue further cooperation with IODE GE-BICH on behalf of PICES. This item was added to next year's TCODE work plan.

NOWPAP

It was reported that it is difficult to harvest metadata from the NOWPAP server automatically since it offers limited machine to machine communication and searches. No common communication protocols exist. A possible potential connection to the IODE data portal was also discussed and will be explored.

c) PICES Metadata Federation Project

For the past 2 years, PICES has paid AdHost to rent a server on a monthly basis but if PICES enters into an annual contract, costs will be reduced by about 12%. TCODE agrees that using an annual contract seems a more practical alternative and it will be formally proposed to Science Board. This is an ongoing activity and it has been added to next year's TCODE work plan.

Drs. Shevchenko and Megrey administer the server. TCODE will continue this format. This item was added to next year's TCODE work plan.

TCODE planned to run an AdHost server performance experiment on accessing metadata from different locations and multiple users. This is intended to be part of formal performance test of multiple searches on the metadata server. No progress was made this year so this item was added to next year's TCODE work plan. Dr. Megrey will coordinate with national representatives.

One of the justifications for renting the AdHost server was to provide a platform for distributing the large collection of digital items in the PICES Digital library. There has been lack of progress in transferring large pdfs of presentations given at PICES Annual Meetings to the server because the Secretariat is understaffed and too busy to transfer the pdfs. Mr. Brown suggested that TCODE present this as an issue to the Science Board but Dr. Shevchenko suggested that TCODE solve this problem internally by requesting that the next PICES intern (Ms. Tatiana Semenova) be assigned this task early in her internship. Dr. Megrey will follow up with Dr. Shevchenko. This item was added to next year's PICES work plan.

Mr. Brown reported that no progress has been made on collecting Canadian metadata records to add to AdHost. Bernard Megrey reported that Japan and Korea's metadata records are also not on the rented server but that metadata from Russia, USA, and China are. It was suggested that Japan and Korea move their metadata to the rented server. This item was added to next year's TCODE work plan.

Dr. Shevchenko reported on the behalf of Dr. Olga Vasik (TINRO-Centre, Russia), who was not able to attend the meeting, that she has prepared scripts to monitor MDB use. Current usage statistics reveal relatively low

use of metadata records. When discussing the status of the PICES TCODE GeoNetwork Portal, Dr. Megrey suggested that the PICES community is not generally aware of this resource. The PICES web page does not prominently advertise the availability of the metadata federation server. The Committee suggested that a viable option would be to add a link to the metadata federation server (e.g., a visible access point) to the side bar on the PICES web page. The NPEM and KODC servers need to be removed from the NSDI clearinghouse site. Dr. Megrey will undertake this. This item was added to next year's TCODE work plan.

No progress has been made in adding FGDC-compliant Canadian metadata records as part of the metadata federation. This item was added to next year's TCODE work plan.

Promote the GeoNetwork Portal

Dr. Megrey proposed adding short sessions at future PICES summer schools to alert or make students aware of TCODE efforts. Unfortunately this was not possible in 2009. Thus it is proposed to do this task before summer 2010. Dr. Megrey will propose that at every summer session, participants at the schools should be made aware of TCODE activities. To accomplish this task, Dr. Megrey will prepare a short electronic presentation which could be given at various PICES venues. This item was added to next year's TCODE work plan.

Dr. Megrey will speak to Science Board to make sure the PICES GeoNetwork resource will be advertised at the Opening Sessions of PICES Annual Meetings. This item was added to next year's TCODE work plan.

TCODE plans to make a short presentation on the GeoNetwork resource at MONITOR Committee meeting (and other committee meetings). The start of the TCODE meeting will be delayed accordingly. Robin Brown suggested that TCODE prepare a short presentation about the GeoNetwork resource and what TCODE does. This item was added to next year's TCODE work plan.

Mr. Allan Macklin reported that updating the project page on the PICES home page was successfully completed.

Dr. Shevchenko reported that backups are done by Dr. Vasik. Exploring GeoNetwork Portal backup options was added to next year's TCODE work plan.

No progress was made this year on updating PICES Technical Report No. 1 (Metadata Federation of PICES Member Countries) to reflect GeoNetwork. This item was added to next year's TCODE work plan.

AGENDA ITEM 4 TCODE web pages

TCODE recognizes Dr. Shevchenko's efforts to maintain and update the TCODE page. This is an ongoing activity so this item was added to next year's TCODE work plan.

AGENDA ITEM 5 Update of WG 22 iron database and proposed collaboration with IODE/IOC

Mr. Brown reported that there has not been a major update of the Working Group on *Iron Supply and its Impact on Biogeochemistry and Ecosystems in the North Pacific Ocean* (WG 22) iron database for the North Pacific. Mr. Brown was not able to attend the last WG 22 business meeting but he hopes to attend the upcoming meeting at PICES-2010. This item was added to next year's TCODE work plan.

TCODE-2009

AGENDA ITEM 6

Participation in FUTURE and FISP activities

Mr. Brown and Dr. Megrey reported successful completion of this item. TCODE has members on all new FUTURE Advisory Panels. Creation of a standardized presentation on TCODE activities was suggested as a way to alert the new FUTURE Advisory Panels of the existence of the TCODE metadata GeoNetwork Portal (See Agenda Item 3c). This item was added to next year's TCODE work plan.

AGENDA ITEM 7

Update TCODE Action Plan

Dr. Megrey presented a list of pending actions for next year's TCODE Action Plan. New items to include were: adding *ex-officio* members as needed (Megrey) and adding visibility to the metadata federation (Garcia). TCODE discussed the feasibility of recognizing metadata contributions via a small prize (*e.g.*, t-shirt) or some sort of PICES recognition.

Mr. Brown proposed adding to the Action Plan an activity that would report on the performance by means of the metadata records in the North Pacific Ecosystem Status Report (NPSR) in order to identify availability (cataloguing) of metadata, identify metadata gaps, access needs, and most importantly, presence or absence of these metadata in the metadata federation. For instance, data time series by country (data available online, data products, *etc.*?). The report results would then be communicated to Science via an advisory panel. Time commitment and level of effort required to accomplish this task is difficult to assess. Dr. Megrey suggested that perhaps a scaled down approach at a regional level should be pursued. Dr. Megrey and Mr. Brown will talk to Dr. Skip McKinnell, Deputy Executive Secretary, about the matter. This item was added to next year's TCODE work plan.

AGENDA ITEM 8

Coordination with the Section on *Carbon and Climate*

Dr. Suzuki reported on a meeting of a subset of CC-S members that took place in Tokyo in March. Dr. Garcia is also a member of CC-S. An ocean carbon data set is being developed for the North Pacific. This is an ongoing activity and this item was added to next year's TCODE work plan.

AGENDA ITEM 9

Coordination of activities with MONITOR

Dr. Thomas Royer was not present at the meeting and did not send a report to TCODE. This is an ongoing activity and this item was added to next year's TCODE work plan.

AGENDA ITEM 10

Annual country reports

Dr. Megrey suggested that, in the interest of time, all country reports be sent to him by email so that they could be posted at the TCODE web page.

AGENDA ITEM 11**Topic Session proposals for PICES-2010**

The floor was open for suggestions for session proposals for the next PICES Annual Meeting in Portland, U.S.A. Mr. Brown suggested an electronic poster session on “ocean observing systems for coastal and continental shelf ecosystems”. Possible convenors (minimum two) included one from Russia (Oleg Kopelerich, Institute of Oceanology, Russian Academy of Sciences – to be confirmed) and one from the U.S.A. (temporarily, Bernard Megrey). Other possible U.S. convenors may include Jonathan Phinney (PACOOS) or Molly McCammon (AOOS). After the TCODE meeting, it was discovered that the suggested Russian convenor would not be able to attend the meeting. Dr. Megrey will follow up with Phinney and McCammon. This item was added to next year’s TCODE work plan.

AGENDA ITEM 12**Relations with other international programs/organizations**

In order to expand cooperation, PICES is allowing experts from non-PICES country members or international organizations to participate in PICES committees as “*ex-officio* members” pending approval by Science Board. This opens opportunities for TCODE to interact with other groups. TCODE members will send their suggestions to Dr. Megrey although Dr. Edward Vanden Berghe (OBIS, U.S.A.) was identified as a potential *ex-officio* member to TCODE. This item has been added to next year’s TCODE work plan.

Action: Dr. Megrey to make this recommendation to Science Board.

AGENDA ITEM 13**PICES Ocean Monitoring Service Award nominations for 2010**

TCODE has two pending nominations (one remaining from last year and a new nomination). The new nomination will be circulated to TCODE members for comment. Robin Brown suggested that in 2010, new POMA nominations should consider an Asian candidate. This item has been added to next year’s TCODE work plan.

AGENDA ITEM 14**Summary of items with financial implications**

There were no proposals for inter-sessional meetings for 2010 and beyond and no requests were made for travel support. TCODE recommends continuing the AdHost server for another year. This item has been added to next year’s TCODE work plan.

Awarding prizes for metadata submissions was discussed. TCODE members will work on ideas to encourage metadata submissions and this item has been added to next year’s TCODE work plan. To encourage documentation of PICES research, there was discussion about whether or not to recommend to Science Board that metadata submission be required with PICES Annual Meeting abstracts.

AGENDA ITEM 15**TCODE work plan for 2009/2010**

Dr. Megrey will condense the 2010/2011 work plan (*TCODE Endnote 3*) and circulate it for comment to TCODE members before adopting it via email.

TCODE-2009

AGENDA ITEM 16

New business

The NPESR was discussed earlier (Agenda Item 7) at the suggestion of Mr. Brown.

TCODE also discussed the merits of using a Wiki page to collect and distribute TCODE documents such as Google Sites, which was suggested by Dr. Garcia. Further consideration of this idea was added to next year's TCODE work plan.

TCODE Endnote 1

TCODE participation list

Members

Robin Brown (Canada)
Sang-Hwa Choi (Korea)
Hernan Garcia (U.S.A.)
Kyu-Kui Jung (Korea, Vice-Chairman)
Bernard A. Megrey (U.S.A., Chairman)

Georgiy Moiseenko (Russia)
Igor Shevchenko (Russia)
Toru Suzuki (Japan)
Tomowo Watanabe (Japan)
Nignsheng Yang (CAFS, China, for Ling Tong)

TCODE Endnote 2

TCODE meeting agenda

1. Welcome and introduction of members
2. Adoption of agenda
3. Review progress on the items from the 2008/2009 work plan
 - a) Continue to support HAB-S work (R. Brown)
 - b) Cooperate with other data management groups outside PICES
 - i) ICES WG on Data and Information Management ICES 2008 WGDIM Report, ICES 2009 WGDIM Report (B. Megrey, G. Moiseenko)
2010 ICES Session Proposal: Data for the Masses: Recent advances in the application of Marine Data and Information Management (B. Megrey)
Report on ICES and WGDIM meetings (G. Moiseenko)
 - ii) IODE-XX (B. Megrey, T. Suzuki)
 - iii) IODE GE-BICH (Group of Experts on Biological and Chemical Data Management and Exchange Practices) (B. Megrey, H. Garcia)
 - iv) Develop plan to harvest metadata from the NOWPAP server (I. Shevchenko to organize with national representatives)
 - c) PICES Metadata Federation Project
Promote the GeoNetwork Portal.
 4. Maintain TCODE web pages (I. Shevchenko)
 5. Update of WG 22 iron database and proposed collaboration with IODE/IOC (R. Brown)
 6. Participate in FUTUE and FISP activities (R. Brown and B. Megrey)
 7. Update TCODE Action Plan Megrey, K.K. Jung)
 8. Coordination with Section on *Carbon and Climate* (T. Suzuki and R. Brown)
 9. Coordination of Activities with MONITOR (T. Royer)
 10. Annual country reports
 11. Topic Session proposals for PICES-2010
 12. Relations with other international programs/organizations
 13. PICES Ocean Monitoring Service Award nominations for 2010

14. Summary of items with financial implications:
15. Discussion and adoption of the TCODE Work Plan for 2009/2010 (B. Megrey, K.K. Jung)
16. New business (additional items added at the meeting)

TCODE Endnote 3**TCODE Work Plan for 2010/2011**

1. Continue to support HAB-S work (R. Brown)
 - a. Harmful Algal Blooms Section-evaluate how PICES can contribute to this effort and which national repository claims the ownership.
2. Cooperate with other data management groups outside PICES
 - a. Megrey to follow up on the unsuccessful ICES proposal at the next WGDIM meeting in Nantes, France (B. Megrey)
 - b. ICES WG on Data and Information Management
Moiseenko to attend the next WGDIM meeting at ICES HQ, May 2010. He will present a report at the 2010 PICES meeting in Portland (B. Megrey, G. Moiseenko)
 - c. IODE-XXI
PICES will participate in IODE-XXI via their Japanese representative T. Suzuki, who is already an active member connecting IODE to TCODE. Suzuki will attend the IODE-XXI in March 2011 and present a report at the 2011 PICES meeting in Russia (T. Suzuki)
 - d. IODE GE-BICH (Group of Experts on Biological and Chemical Data Management and Exchange Practices)
Identify representatives from PICES to participate in a network of experts on biological and chemical data (H. Garcia and T. Suzuki)
3. PICES Metadata Federation Project
 - a. Renew Remote server contract (B. Megrey and Shevchenko to organize with national representatives)
 - b. Continue to administer AdHost server (B. Megrey and I. Shevchenko)
 - c. Run the AdHost server performance experiment on accessing metadata from different locations and multiple users (B. Megrey to organize with national representatives)
 - d. Brown and Holmes will gather some Canadian metadata records to establish a Canadian presence on the PICES Metadata server. Report on progress at next years TCODE meeting (R. Brown/J. Holmes)
 - e. Request SB suggest to GC that next PICES intern (Tatiana Semenova) assist with the transfer of the PICES Digital Library to the rented server. Report on status of PICES Digital Library migration and Ecosystem Status Report web pages (B. Megrey and I. Shevchenko)
 - f. Japan, Korea and Canada move their metadata records to the AdHost server (T. Suzuki, K-K. Jung, R. Brown/J. Holmes, I. Shevchenko)
 - g. Remove NPEM and KODC servers from the NSDI clearinghouse site (B. Megrey)
 - h. Update AdHost server to monitor MDB use (Olga Vasik)
 - i. Promote the GeoNetwork Portal.
 - i. Prepare short PowerPoint presentation on GeoNetwork portal (B. Megrey)
 - ii. Request GeoNetwork resource be advertised at PICES Summer in Seoul (June 2010) and Winter school in Vladivostok (Feb. 2010). (B. Megrey, I. Shevchenko)
 - iii. Request GeoNetwork resource be reported at next years opening session as part of PICES activities (B. Megrey)
 - iv. Plan to have a short presentation on the GeoNetwork resource be given at the MONITOR meetings other committee's? (request at front of the agenda and delay start of TCODE). Prepare a presentation for SOFE, COVE and AICE. (B. Megrey, I. Shevchenko, R. Brown)
 - v. Add the MDB server link on the sidebar of the PICES web page (B. Megrey)
 - j. Explore GeoNetwork Portal backup options (I. Shevchenko)
 - k. Update the Technical report to reflect GeoNetwork (I. Shevchenko and B. Megrey)
4. Maintain TCODE web pages (I. Shevchenko)

TCODE-2009

5. Participate in FUTUE and FISP activities. Work to facilitate preparation of the NPESR. Approach McKinnell to see what data was used to support the report, what data are accessible, what data are accompanied by metadata, what are the data characteristics and is the data discoverable and searchable. A simple analysis should be revealing. Focus on about 50-100 records as a place to start. Present report to SB and SOFE. (R. Brown, B. Megrey)
6. Update of WG22 iron database and proposed collaboration with IODE/IOC (R. Brown)
7. Update TCODE Action Plan (B. Megrey, K.-K. Jung)
 - a. Use preparation of NPESR to examine participation of metadata reporting. Megrey and Brown will talk to McKinnell to discuss the possibility of carrying out this exercise. (B. Megrey, R. Brown)
8. Coordination with Section on Carbon and Climate (T. Suzuki, R. Brown)
9. Coordination of Activities with MONITOR
Monitor TC Action Plan (T. Royer)
10. 2010 and 2011 Topic Session proposals (All)
11. Relationships with other international organizations
TCODE will request the Science Board instruct the PICES Secretariat to invite Edward Vanden Berghe (OBIS, USA) to join TCODE as an *ex-officio* member. (B. Megrey)
12. POMA nomination
13. Prepare proposal to renew rented server for another year (B. Megrey)
14. Develop strategy to award and encourage metadata submission (All)
15. Add TCODE web site to collect and distribute TCODE documents (H. Garcia)