

Report of the Technical Committee on Data Exchange

The meeting of the Technical Committee on Data Exchange (hereafter TCODE) was held from 18:00 to 20:00 h on October 18 and 14:00 to 18:15 on October 20, 2015. All member countries were represented, and all members were present except for one member from Canada and two members from USA; six observers were present (*TCODE Endnote 1*). Dr. Toru Suzuki, Chair of TCODE, announced that Mr. Robin Brown (Canada) stepped down in order to take up the position of PICES Executive Secretary. Dr. Suzuki deeply expressed his thanks to Mr. Brown, as the last original member and the first Chair of TCODE, and his contributions to the Committee. Dr. Suzuki introduced Dr. Daisuke Ambe (Japan) and Mr. Peter Chandler (Canada) as new members. Mr. Jinkun Yang (China) reported that Mr. Lu Wenhai will be appointed as a new member, representing of China. Several changes were made to the draft agenda and the revised agenda was adopted (*TCODE Endnote 2*). Mr. Chandler was appointed rapporteur by Dr. Suzuki.

AGENDA ITEM 3

Report of POMA 2015

TCODE did not rank the 2015 PICES Ocean Monitoring Service Award (hereafter POMA) because only one nomination had been submitted to the Secretariat by the deadline of March 31, 2015. Dr. Suzuki informed TCODE members that in future, if only one nomination was submitted, Science Board would require TCODE and MONITOR provide a vote of confidence on the merit of the proposal.

AGENDA ITEM 4

Review of procedure for Best Presentation awards

TCODE was not required to present any Best Presentation awards at PICES-2015.

AGENDA ITEM 5

Review of SCOR new Working Group proposals

Dr. Suzuki showed the interim rankings by some TCODE members for 10 SCOR new working group proposals for potential PICES affiliate status. Dr. Suzuki pooled these with rankings by TCODE members who were at the meeting but had not yet voted. TCODE gave highest ranking to SCOR proposal No. 9 “International Quality Controlled Ocean Database: Subsurface temperature profiles (IQuOD)”; proposals No. 4 “Changing Ocean Biological Systems (COBS)” and No. 1. “Towards a Global Comparison of Zooplankton Production: Measurement, Methodologies and Applications (ZooProd)” were tied as second choice.

AGENDA ITEM 6

Review of theme session proposals of ICES ASC 2016

TCODE members selected four theme sessions for potential PICES co-sponsorship:

- Proposal 10, “*Seasonal-to-decadal prediction of marine systems: Opportunities, approaches and applications*”;
- Proposal 19, “*‘When is enough–enough’ Method for optimizing, evaluating and prioritizing of marine data collection*”;
- Proposal 7, “*Integrated Ecosystem Assessment, how does it work, what is it good for, who is it for, and where is it going?*”;
- Proposal 18, “*Long-term phytoplankton trends in the ICES area: regional distribution, bloom dynamics and response to environmental drivers*”.

TCODE-2015

AGENDA ITEM 7

Summary of Workshops and Advisory Panel meeting and status of Topic Session at PICES-2015

Dr. Tomowo Watanabe, in association with WG 30, presented a summary of the Workshop (W5) on “*Monitoring and assessment of environmental radioactivity in the North Pacific*”. Dr. Tony Koslow, as one of the co-convenors of the AP-NPCOOS workshop (W6) on “*Best practices for and scientific progress from North Pacific Coastal Ocean Observing Systems*” gave a summary. Nine talks, including three invited, were presented at the workshop. Three talks, by Drs. Daji Huang and Song Sun (both invited) and Dr. Jiajia Liu, examined the extensive development of coastal observations in China in recent years; Drs. Jack Barth and David Checkley discussed the U.S. coastal observation systems in the northern and southern California Current, respectively; Dr. Matthew Baker reported on the recent development of baseline understanding in the U.S. Arctic. Dr. Koslow described dramatic changes observed among midwater and cool-water affinity fish communities in the southern California Current, obtained through analysis of the CalCOFI ichthyoplankton time series. He also discussed the potential for a network of such observations along the west coast of North America and around the rim of the North Pacific. Dr. Kim Juniper described the implementation of best practices for the Ocean Networks Canada ocean observatory system and Dr. Sung Yong Kim talked about the potential for an integrated ocean observing system around Korea. Although there were no talks from Japan and Russia, Dr. Koslow felt that the workshop provided a good overview of the development of coastal observing systems around the North Pacific. The emphasis of the talks, with the exception of those on CalCOFI by Drs. Checkley and Koslow, was on the development of physical and chemical oceanographic monitoring. The development of biogeochemical and species-resolved ecological monitoring was still undeveloped in most North Pacific coastal observing systems.

Drs. Jack Barth and Sung Yong Kim, Co-Chairs of AP-NPCOOS, presented a summary of the AP-NPCOOS meeting held on October 17, the same day as W6.

Dr. Suzuki reported on talks, including invited, and posters for TCODE-sponsored Topic Sessions on “*The 2014/15 El Niño and anomalous warming of the North Pacific: What happened?*” (S2) and “*Ocean Acidification Observation Network for the North Pacific and adjacent areas of the Arctic Ocean*” (S6). Although no awards for Best Presentation or Poster would be presented by TCODE this year, Dr. Suzuki encouraged TCODE members to attend both sessions.

AGENDA ITEM 8

Status of NPESR3

Mr. Peter Chandler, member of SG-NPESR, presented on behalf of Dr. Koslow, the status of the next version of the North Pacific Ecosystem Status Report (hereafter NPESR3). Several questions were raised by TCODE members about the NPESR3 Implementation Plan. TCODE members agreed to support the new expert group on NPESR after SG-NPESR ends.

The meeting adjourned at 20:00.

Day 2: Tuesday, October 20

AGENDA ITEM 9

Status of FUTURE

Dr. Hiroaki Saito, Co-Chair of FUTURE SSC and liaison to TCODE, discussed the new framework and Implementation Plan of FUTURE. Dr. Suzuki acknowledged his help to act as liaison between FUTURE SSC and TCODE. TCODE members addressed several questions to Dr. Saito regarding the Implementation Plan, agreed to support FUTURE activities.

AGENDA ITEM 10

Relations with specific international organizations/programs

Prof. Yutaka Michida, Co-Chair of IOC/IODE, discussed the possibility of PICES collaboration with IODE and IOC-WESTPAC. He also presented highlights of the 23rd Session of IOC IODE held in Brugge, Belgium, in March 2016, which Dr. Suzuki and Dr. Joon-Soo Lee also attended, and encouraged PICES to join IODE network as an associate data unit (ADU). Dr. Suzuki explained that TCODE was developing a PICES data exchange policy in order to apply as ADU to IODE. Prof. Michida informed members that an oral presentation would be given in the POC Paper Session (“*Procedures for correcting in situ CTD data and results obtained during the NEAR-GOOS Cross-Basin Climate Monitoring Section project*” by Dmitry Kaplunenko *et al.*) and a poster presentation related with NEAR-GOOS in this annual meeting. The 16th Session of the Coordination Committee of NEAR-GOOS will be held on December 8–9, 2015 in Tokyo, Japan. Drs. Suzuki and Lee expressed their interest to attend. An IODE ODINWESTPAC Advisory Meeting will also take place on January 27–28, 2016 in Tianjin, China.

Ms. Fangfang Wang, on behalf of Mr. Yang, reported on progress related to ODINWESTPAC: the national focal points were updated, and a number of products from NMDIS (oceanic institutions of the region, Chinese ocean experts, Chinese coastal station data) were linked and/or operationally updated on the ODINWESTPAC website. A side meeting was convened on May 14, 2015 during the 10th Intergovernmental Session of the IOC Sub-Commission for the Western Pacific (WESTPAC-X). Representatives and five ODINWESTPAC member countries, Prof. Michida as IOC Vice-Chair and Dr. Somkiat Khokiattiwong as IOC-WESTPAC Chair, attended the side meeting, and reviewed progress on a work plan which was developed at the First Planning Workshop for ODINWESTPAC in 2014. Dr. Suixiang Shi, the Deputy Director-General of NMDIS, was appointed new project coordinator of ODINWESTPAC replacing with Prof. Shaohua Lin who retired in 2014.

Mr. Xiaodong Zhong, Deputy Coordinator of NOWPAP, introduced NOWPAP activities and reported on collaboration and future plans with PICES.

AGENDA ITEM 11

Review of proposed topic sessions and workshops for PICES-2016

TCODE reviewed proposed topic sessions and workshops for potential TCODE support for PICES-2016, to take place in San Diego, USA. TCODE gave highest ranking to the following 8 topic session proposals:

- Proposal #3, *Early life history stages as indicators and predictors of climate variability and ecosystem change*;
- Proposal #7, *Recent progress in deep-sea research and conservation: Lessons from various parts of the globe*;
- Proposal #14, *New stage of ocean acidification studies: responses of oceanic ecosystem including fisheries resources*;
- Proposal #15, *The effect of marine debris caused by the Great Tsunami of 2011*;
- Proposal #16, *Resilience, transitions and adaptation in marine ecosystems under a changing climate*;
- Proposal #17, *The response of marine ecosystems to natural and anthropogenic forcing: past, present, and future*;
- Proposal #20, *Causes and consequences of 25 years of variability in ocean conditions on the ecosystems of the eastern North Pacific*;
- Proposal #999, *Understanding the changing coastal ocean: advances and challenges in multi-parameter observations*.

TCODE gave highest ranking for the following workshops:

- Proposal #1, *Acidification of the North Pacific Ocean: A basin-wide assessment*;
- Proposal #7, *Delivering quality multi-parameter data from the coastal ocean*;
- Proposal #10, *Distribution and risk analysis of radionuclides in the North Pacific*.

TCODE-2015

TCODE gave high priority for an inter-sessional SG-NPESR workshop to take place in summer 2016 (location TBD).

AGENDA ITEM 12

Review of progress of TCODE work plan 2014/2015

TCODE work plan (WP) activities for 2014/2015 (*TCODE Endnote 3*) were reported by members tasked for the items in the following:

WP 1-1 – reported in Agenda Item 7;

WP 1-2 – TCODE did not propose a topic session or workshop for PICES-2016, but TCODE supported AP-NPCOOS' topic session proposal #999 and workshop proposal #7 as TCODE high priorities;

WP 1-3 – no action;

WP 1-4 – no action;

WP 2 – no new information on ICES DIG and ocean surface nutrients monitoring between Japan and Canada; IODE and ODINWESTPAC discussed in Agenda Item 10; SCOR new working group proposals were discussed at Agenda Item 5;

WP 3 – Dr. Igor Shevchenko reported progress of HAEDAT/S-HAB, WG 21 and 29, and Dr. Suzuki reported that S-CC will start update for PACIFICA following GLODAPv2;

WP 4, 5, 7 – Dr. Shevchenko is continuing to work on WP 4, 5 and 7. Mr. Yang expressed that China can assist with these items;

WP 6 – reported in Agenda Item 8;

WP 8 – reported in Agenda Item 3;

WP 9 – Dr. Shevchenko placed a draft of the PICES data policy on Google Docs but Chinese members were unable to access it. Dr. Suzuki will email the latest version of data policy document to all TCODE members and requested comments prior inter-sessional Science Board meeting in May 2016;

WP 10 – reported in Agenda Item 7 by Dr. Koslow.

AGENDA ITEM 13

TCODE Action Plan 2015–2018

TCODE members had no comments on the current PICES Strategic Plan that is being reviewed and updated by the Study Group on *Revising the Strategic Plan* (established in January 2015). The members agreed with Dr. Suzuki's plan to revise the TCODE Action Plan once the Strategic Plan has been revised.

AGENDA ITEM 14

TCODE work plan 2015/2016

TCODE members discussed and adopted the work plan for 2015/2016 (*TCODE Endnote 4*). Although many items were rolled over from last year's work plan, Dr. Suzuki noted they could be subject to change once the PICES Strategic Plan was finalized and TCODE Action Plan was in place.

AGENDA ITEM 15

Presentations of country reports

Canada

No report available.

China

See *TCODE Endnote 5a*.

Japan

A time series of radioactivity in the marine waters off Japan was presented. For more details, see the report of Workshop 5 on “*Monitoring and assessment of environmental radioactivity in the North Pacific*” in the [Sessions Summaries](#) of the 2015 Annual Report.

Korea

No information.

Russia

See *TCODE Endnote 5b*.

USA

See *TCODE Endnote 5c*.

AGENDA ITEM 16

Other business

TCODE had no requests for funding or event sponsorship, and had no proposals for a new expert group.

Dr. Suzuki closed the meeting at 18:15.

TCODE Endnote 1

TCODE participation list

Members

Observers and guests

Daisuke Ambe (Japan)
 Peter Chandler (Canada)
 Sang-Hwa Choi (Korea)
 Tony Koslow (USA)
 Joon-Soo Lee (Korea)
 Georgiy Moiseenko (Russia)
 Igor Shevchenko (Russia)
 Toru Suzuki (Japan, Chairman)
 Tomowo Watanabe (Japan)
 Jinkun Yang (China)

Jack Barth (USA, MONITOR, AP-NPCOOS, Day 1)
 Sung Yong Kim (MONITOR, AP-NPCOOS, Day 1)
 Xiao Li (China)
 Carmel Lowe (Canada, Day 2)
 Wenhai Lu (China)
 Yutaka Michida (IOC, Day 1)
 Hiroaki Saito (FUTURE SSC, Day 2)
 Fangfang Wang (China)
 Xiaodong Zhong (NOWPAP, Day 2)

TCODE Endnote 2

TCODE meeting agenda

Day 1: Sunday, October 18

1. Welcome and introduction of members and observers (All)
2. Change and adoption of agenda and nomination rapporteur (All)
3. Report of POMA 2015 (Suzuki; WP8)
4. Review of procedure for Best Presentation Awards (Suzuki)
5. Review of SCOR new Working Group proposals (All; WP2)
6. Review of theme session proposals of ICES ASC 2016

TCODE-2015

7. Report of summary of Workshops and Advisory Panel meeting and status of Topic Session at PICES-2015 (WP1-1)
 - W5: Monitoring and Assessment of Environmental Radioactivity in the North Pacific (Watanabe)
 - W6: Best practices for and scientific progress from North Pacific Coastal Ocean Observing Systems (Koslow)AP-NPCOOS (Co-Chairs of AP-NPCOOS; WP10)
 - S2: The 2014/15 El Nino and anomalous warming of the North Pacific: What happened? (Koslow)
 - S6: Ocean Acidification Observation Network for the North Pacific and adjacent areas of the Arctic Ocean (Suzuki)
8. Status of NPESR3 (Koslow; WP6)

Day 2: Wednesday, October 20

9. Status of FUTURE (Saito, liaison for FUTURE SSC; WP5)
10. Relations with specific international organizations/programs (WP2)
 - NOWPAP DINRAC (Mr. Xiaodong Zhong, NOWPAP Deputy Coordinator)
 - IOC/WESTPAC and IODE (Prof. Michida, IODE Co-Chair)
 - IODE ODINWESTPAC (Yang, Lee, Suzuki)
11. Review of proposed topic sessions and workshops for PICES-2016, San Diego, USA (All; WP1-2)
12. Review of progress of TCODE work plan 2014/2015 (All)
13. Discussion TCODE Action Plan 2015–2018 (All)
14. Discussion TCODE work plan 2015/2016 (All)
15. Presentations of country reports
16. Other business
17. Closing

TCODE Endnote 3

TCODE work plan 2014/2015

1. Support meetings, workshops, symposia and training course/education activities (AP Goals 1, 2, 6, 7, 8 and 9)
 - 1-1. Support co-sponsored topic sessions/workshops of PICES 2015 Annual Meeting in Qingdao, China
Responsibility - Koslow, Brown, Watanabe and Suzuki
 - 1-2. Propose topic sessions/workshops at PICES 2016 Annual Meeting
Responsibility - All
 - 1-3. Propose metadata unit for inclusion in PICES sponsored training courses/summer school
Responsibility - All
 - 1-4. Support training course/education activities of international programme/organizations: WESTPAC, ODINWESTPAC, IMBER, IOCCP (training course on biogeochemical sensors) etc.
Responsibility - All
2. Maintain a dialogue and collaborate with international organizations and scientific programs (AP Goal 4)
Responsibility - Suzuki for ICES DIG
 - Garcia and Suzuki for IODE
 - Yang, Lee, and Suzuki for ODINWESTPAC/ODP/GeoNetwork
 - All for new proposed SCOR WGs
 - Brown and Suzuki for ocean surface nutrients monitoring
3. Strengthen communication and engagement with users of PICES scientific products (AP Goals 4 and 5)
Responsibility - Brown for HAEDAT/S-HAB
 - Suzuki for PACIFICA/S-CC
 - Shevchenko for WGs 21 and 29
4. Maintain and promote PICES TCODE GeoNetwork (GeoSpatial Portal) (AP Goals 4, 6, 7 and 8)
 - 4-1 Update technical report
 - 4-2 Support to register metadata of database of WG 21 on *Non-indigenous Aquatic Species*

- 4-3 Support to register metadata of products of WG 23 on Comparative Ecology of Krill in Coastal and Oceanic Waters around the Pacific Rim”
- 4-3 Support to register scientific products of PICES scientific and technical committees and expert groups
- 4-4 Renew remote server contract
- 4-5 Continue to administer AdHost server
Responsibility - Shevchenko
- 5. Promote to use of shared information tools (AP Goals 4, 6, 10)
 - 5-1 Update FUTURE Website
Responsibility Shevchenko
 - 5-2 Advice using cloud/online storages
Responsibility - Shevchenko
- 6. Support to development of next North Pacific Ecosystem Status Report (AP Goals 3, 5 and 10)
Responsibility - Brown and Koslow
- 7. Maintain TCODE website
Responsibility - All
- 8. POMA 2015 nomination and rank
 - 8-1 Propose new nomination by March 2015
 - 8-2 Rank nominations in April 2015
Responsibility - All
- 9. Develop PICES data exchange policy
Responsibility - Shevchenko and Brown
- 10. Support AP-NPCOOS
Responsibility - Koslow

TCODE Endnote 4

TCODE workplan 2015/2016
(adopted on Oct. 20, 2015)

- 1. Support meetings, workshops, symposia and training course/education activities (AP Goals 1, 2, 6, 7, 8 and 9)
 - 1-5. Support co-sponsored topic sessions/workshops of PICES 2016 Annual Meeting in San Diego, USA
Responsibility TS/WS by AP-NPCOOS Chandler
 TS/WS by S-CC/OA Suzuki
 WS by WG-30 Watanabe
 IWS by SG-NPESR Koslow and Chandler
 - 1-6. Propose topic sessions/workshops at PICES 2017 Annual Meeting
Responsibility All
 - 1-7. Propose metadata unit for inclusion in PICES sponsored training courses/summer school
Responsibility Shevchenko
 - 1-8. Support training course/education activities of international programme/organizations
Responsibility Koslow for AP-NPCOOS in 2017
- 2. Maintain a dialogue and collaborate with international organizations and scientific programs (AP Goal 4)
Responsibility Suzuki for ICES DIG
 Lee and Suzuki for IODE
 Yang for ODINWESTPAC
 Lee for NOWPAP/DINRAC
 All for new proposed SCOR WGs
 Suzuki for ocean surface nutrients monitoring
- 3. Strengthen communication and engagement with users of PICES scientific products (AP Goals 4 and 5)
Responsibility Shevchenko for HAEDAT/S-HAB, WG-21 and 29
 Suzuki for PACIFICA/S-CC

TCODE-2015

4. Maintain and promote PICES TCODE GeoNetwork(GeoSpatial Portal) (AP Goals 4, 6, 7 and 8)
 - 4-1. Update technical report
 - 4-2. Support to register metadata of database of WG 21 on *Non-indigenous Aquatic Species*
 - 4-3. Support to register metadata of products of WG 23 on *Comparative Ecology of Krill in Coastal and Oceanic Waters around the Pacific Rim*
 - 4-3. Support to register scientific products of PICES scientific and technical committees and expert groups
 - 4-4. Renew remote server contract
 - 4-5. Continue to administer AdHost server
 - 4-6. Metadata publishing in China
Responsibility Yang
Responsibility Shevchenko in collaboration with Yang
5. Promote to use of shared information tools (AP Goals 4, 6, 10)
 - 5-1. Update FUTURE website (pending)
Responsibility Shevchenko
 - 5-2. Advice using cloud/online storages
Responsibility Shevchenko
6. Support to development of next North Pacific Ecosystem Status Report (AP Goals 3, 5 and 10)
Responsibility Koslow and Chandler
7. Maintain TCODE website
Responsibility Shevchenko
8. POMA 2016 nomination and rank
 - 8-1. Propose new nomination by March 2016
 - 8-2. Rank/evaluate nomination(s) in April 2016Responsibility All
9. Revise PICES data policy
Responsibility Shevchenko and all
10. Support AP-NPCOOS
Responsibility Koslow
11. Support SG-NPESR, Intersessional WS (and new expert group)
Responsibility Koslow and Candler

TCODE Endnote 5a

Country report of China
by Jinkun Yang, NMDIS/SOA, China

1. Progress related to TCODE “PICES Metadata Federation Project”

All the updated metadata records from the former PICES-NMDIS node are ready to be submitted to the AdHost server, to become one metadata source of the GeoNetwork portal. There are 21 metadata records, including 6 monthly sea level metadata records for Chinese oceanographic stations, 2 hourly sea level metadata records, and 13 metadata records for marine meteorology wave, temperature and salinity. (see the table below). Meanwhile, China hopes to get more technical information and instruction on GeoNetwork.

Metadata	Station	Time period	No. of Records
Metadata of monthly mean sea level from Chinese oceanographic stations	Dalian, Kanmen, Lvsi, Zhapo, Nasha, Xisha.	2009.01–2014.07	6
Hourly sea level metadata from Chinese coastal stations	Lianyungang, Dalian	2008 2009.01–2014.07	2
Metadata of meteorological data, wave, temperature and salinity data from 13 Chinese coastal stations	Dalian, Xiaochangshan, Yantai, Xiaomaidao, Lianyungang, Lvsi, Shengshan, Zhenhai, Dachen, Nanji, Beishuang, Dongshan, Zhelang	2010.01–2014.08	13

2. Data Exchange and Cooperation with Other Related International or Regional Programs

The National Marine Data and Information Service (NMDIS) is the responsible body of the State Oceanic Administration (SOA), China, for international marine data and information exchange and cooperation. NMDIS has participated in the activities of many international and regional programs, such as Argo, GTSP, NEAR-GOOS, ODINWESTPAC, ODP, *etc.* It plays an active role in the international community of marine data and information exchange and cooperation. The ODINWESTPAC, ODP, and the CMOC China node on the trial basis, are reported in the following sub-sections.

2.1 Ocean Data and Information Network for the Western Pacific Region (ODINWESTPAC)

The first planning workshop for the Ocean Data and Information Network for the WESTPAC region (ODINWESTPAC) was held in Tianjin, China, between March 4 and 6, 2014. Co-sponsored by the Government of China (NMDIS) and the IOC, the meeting was attended by 22 participants from 9 WESTPAC Member States. Mr. Peter Pissierssens, IOC secretary, and Mr. Somkiat Khokiattiwongand, Chair of IOC Sub-commission for the WESTPAC region, attended the meeting and reported on behalf of the IOC and IOC Sub-commission for the WESTPAC region, respectively. Nine Member States presented their national reports (altogether 15 reports) on ocean-related economy, marine development and management, marine data and information management and service. Discussions at the meeting included the current status of data and information exchange and cooperation in the region, where currently only 5 of the 9 participating Member States have established an IODE NODC. A work plan for 2014–2016 that focused on the establishment of a regional metadatabase, e-repository, quality management systems, as well as related training was discussed and adopted. The meeting facilitated the exchange and cooperation between WESTPAC Member States and improved the marine data and information sharing in the region.

2.2 IODE ODP China node

TCODE-2015

NMDIS acts as the IODE NODC of China. It participated in the IODE Ocean Data Portal program on behalf of the SOA. In October 2010, with the instruction from two experts from Russia, Dr. Sergey Belov and Dr. Sergey Sukhonosov, the installation of ODP software, configuration and metadata extraction were completed at NMDIS. The ODP China Node was operated at NMDIS.

During April 21–25, 2014, three experts of the Partnership Centre for the IODE Ocean Data Portal (PC ODP), acting on the basis of RIHMI–WDC, Dr. Sergey Belov, head of PC ODP, Dr. Sergey Sukhonosov, lead developer, and Mr. Aleksandr Kolesnikov, system engineer (network and telecommunications), visited the NMDIS to provide technical training for the establishment of an ODP regional node at NMIDS. During the training course, an ODP regional node and WESTPAC regional node were deployed. As a result, the ODP regional node was installed on a brand new enterprise server and participants were able to provide access to seven real data sets via the NMDIS data provider. The established node is intended to coordinate and expand a distributed information network under the auspices of ODINWESTPAC. The regional node portal is available at <http://portal-odp.nmdis.gov.cn>.

2.3 JCOMM CMOC China node on a trial basis

At the Fourth Session of JCOMM (JCOMM-IV, Yeosu, Korea, May 23–31, 2012) it was decided that the NMDIS could begin filling the role of CMOCs on a trial basis immediately. Since then, the NMDIS has taken the following actions: strengthening and streamlining the former JCOMM/ODASMS in the management of CMOC China; standardization processing and high level quality control of the data from JCOMM observation programs and projects; a study on metadata management and standards; research and development of marine meteorological and climatic data and data products and provision of data and data product service.

After two years, CMOC China has gained experience on collection, processing, product research of global oceanographic and marine meteorological data. on The trial basis website for CMOC China is available at www.cmoc-china.cn, where data from Chinese coastal stations, China Argo data and products, *etc.* are offered. Three experts on behalf of JCOMM and IODE will visit the NMDIS on November 3–5, 2014 to assess the CMOC China.

TCODE Endnote 5b

Country report of Russia

by Georgiy Moiseenko and Igor Shevchenko

During 2015 Russian scientists took part in TCODE activities:
See Key Institutions/Key Persons information (Appendix 1)

- Provided support for the PICES GeoNetwork portal home page:
(<http://67.212.128.197/geonetwork/srv/en/main.home>)
- Administered the AdHost server
- Updated FUTURE website
- Provided advice using cloud/online storages
- Maintained TCODE web pages
- Prepared a draft proposal for PICES data policy (Appendix 2)

Appendix 1

Key Institutions/Key Persons

PICES TCODE

<http://tcode.tinro.ru/>

Igor Shevchenko

Fisheries Institutes

- Pacific Fisheries Research Center (TINRO-Center)
<http://www.tinro-center.ru>
Igor Shevchenko
- Russian Federal Research Institute of Fisheries & Oceanography (VNIRO)
<http://www.vniro.ru>
Georgiy Moiseenko
- Khabarovsk Branch of Pacific Fisheries Research Center (KhOTINRO)
<http://www.tinro.khv.ru/>
Vladimir Shemyakin
- Magadan Institute of Fisheries and Oceanography (MagadanNIRO)
<http://www.magadanniرو.ru>
Igor Izergin
- Chukotka Institute of Fisheries and Oceanography (ChukotNIRO)
Sergey Palma
- Sakhalin Institute of Fisheries and Oceanography (SakhNIRO)
<http://www.sakhniرو.ru>
Peter Vasilets
- Kamchatka Research Institute of Fisheries & Oceanography (KamchatNIRO)
<http://www.kamniرو.ru/kniرو32/index.php>
Oleg Lapshin
- Russian Federal Fisheries Agency
<http://fish.gov.ru>
- Atlantic Research Institute of Marine Fisheries and Oceanography (AtlantNIRO)
<http://www.atlantniرو.ru/index.php/home/atlantniرو>
- Caspian Institute of Fisheries (KaspNIRKH)
<http://www.kaspniرو.ru/en/>
- Polar Marine Fisheries Institute (PINRO)
http://www.pinro.ru/index_e.htm
- Centre for Fishery Monitoring and Communications (CFMC)
<http://www.cfmc.ru>
- Kamchatka Regional Center for Monitoring (KRCM)
<http://www.krcm.ru>
- National Fishery Resources
<http://www.nfr.ru>

Hydrometeorological Institutes

- All-Russian Research Institute of Hydrometeorological Information – World Data Center (RIHMI-WDC)
<http://www.meteo.ru/english/>
Nickolay Mikhailov
- State Oceanographic Institute (SOI)
<http://www.oceanography.ru>
Igor Zemlyanov
- Arctic and Antarctic Research Institute (AARI)
http://www.aari.ru/default_en.asp

TCODE-2015

- Far Eastern Regional Hydrometeorological Research Institute (FERHRI)
<http://www.ferhri.ru>
 Nikolay Rykov

Academy of Science

- Pacific Oceanological Institute (POI)
<http://www.pacificinfo.ru/en/>
 Igor Rostov
- Institute of Marine Biology (IMB)
<http://www.imb.dvo.ru>
- Space Research Institute (IKI)
<http://www.iki.rssi.ru/eng/>
 Evgeny Loupian
- P.P. Shirshov Institute of Oceanology of the Russian Academy of Sciences
<http://www.ocean.ru/eng/>

Existing Data and Metadata Sets

Agency	Division	Data/Metadata description	URL
Russian Federal Fishery Agency	TINRO	Cruise metadata base	http://metadata.tinro.ru/index.cgi?lang=en
	TINRO	Russian annual fishery statistics for Far East seas	http://vsurf.tinro.ru/index.jsp
	FCCM	Near real time fishery statistics	http://www.cfmc.ru
Federal Service for Hydrometeorology and Environmental Monitoring	Hydrometeorological Centre of Russia	Climate temperature and precipitation data Weather forecasts	http://wmc.meteoinfo.ru
	AARI	Ice charts and forecasts	http://www.aari.ru/default_en.asp
	AARI	Interdisciplinary Arctic seas data bases	http://www.aari.nw.ru/projects/ECIMOT/index.htm
	SOI	Hydrographic, meteorology and pollution data for Russian seas	http://www.oceanography.ru/
	FERHRI	Hydrographic station data; temperature, salinity; interdisciplinary data	http://www.ferhri.ru
Russian Academy of Science	IKI	Satellite data (NOAA, GOMS, RESURS)	http://www.iki.rssi.ru/eng/ http://smiswww.iki.rssi.ru/
	POI	Hydrographic observations (national and foreign) in the Northern Pacific	http://www.pacificinfo.ru/en/

The Russian Federal Program ESIMO portal <http://www.esimo.ru> is an entry point to sites maintaining governmental information funds of data on the state of the World Ocean and coastal areas.

Appendix 2

PICES Data Policy (draft, 2015)

Just for consideration by the PICES TCODE members

Based on (direct citation and rewording)

[1] ICES SGMID Report 2005 ICES ADVISORY COMMITTEE ON ECOSYSTEMS ACE:03 Report of the Study Group on Management of Integrated Data (SGMID) 11-13 April 2005 Lisbon, Portugal

<http://www.ices.dk/sites/pub/CM%20Documents/2005/ACE/ACE0305.pdf>

[2] ICES Data Policy (updated 2012)

http://www.ices.dk/marine-data/Documents/ICES_Data_Policy_2012.pdf

[3] <http://pices.int/>

The international community of scientists working within PICES gathers and submits a diverse range of information on the marine ecosystems of the North Pacific ocean, with traditional strengths in marine biology, fisheries, oceanography and the marine environment. The main purpose of these data is to support various activities of PICES members and expert groups. The datasets collected by PICES members and expert groups are often unique, temporally and spatially, and irreplaceable. The purpose of this Data Policy is to set out a framework for the access and use of sharing data/metadata. PICES will promote the adoption and implementation of this open data policy by all of its members, and will support expert groups and the member states' national laboratories in making their data/metadata publicly available.

Scope

One of the purpose of PICES is to promote the collection and exchange of information and data related to marine scientific research in the area of the temperate and sub-Arctic region of the North Pacific Ocean and its adjacent seas, especially northward from 30 degrees North. One of the general goals of PICES is to provide best practices and data services for its expert groups and the wider marine and maritime communities. This policy states the conditions for data submission, access and use in order to facilitate the production of scientific and technical reports, science based advice and status reports, and serve the scientific community. This policy applies to data/metadata managed by PICES, and to PICES activities for providing access to data/metadata managed elsewhere.

Definitions

Data: data, data products and model outputs related to PICES activities.

Metadata: data about data.

Data/metadata user: entity (*e.g.*, person, organization, group, including PICES expert groups) using data/metadata.

Data/metadata provider: entity providing data/metadata.

Data/metadata source: PICES, or data/metadata provider(s).

Publicly available: open access (online or on request).

Use of Data

Data users can obtain publicly available data as soon as is feasible.

Results, conclusions, and/or recommendations derived from the data do not imply endorsement from PICES.

Data/metadata sources must be acknowledged, preferably using a formal citation.

Contribution of Data

All data provided to PICES are considered to be publicly available unless otherwise explicitly specified and agreed.

Data/metadata contributions should be made by PICES expert groups as soon as possible after the data collection event.

TCODE-2015

All data including metadata should be provided using standard codes, formats, and protocols to the extent possible. The quality assurance of data is the responsibility of the data provider. Data providers are requested to inform PICES of any national policies that may place special conditions on the redistribution of data.

Redistribution of data and metadata

Data may only be redistributed, i.e., made available in other data collections or data portals, with the prior written consent of PICES.

Redistribution of metadata is always allowed.

Data Quality

The data provider always retains complete responsibility for data quality.

When PICES is informed of potentially erroneous data/metadata, PICES will ensure that data/metadata providers are informed of quality issues.

PICES will never change the original data/metadata record from a data/metadata provider, but may undertake conversions or transformations of that data/metadata to allow its inclusion in PICES data/metadata bases.

Data users are responsible for proper use of the data/metadata, including regard to data/metadata quality.

Citations

“The very first PICES Database (VFPD), Extraction 24 AUGUST 2015 of several records. PICES Secretariat, Sidney, British Columbia, Canada”.

A Data Citation may also include a URL to the database, and/or a URL to the metadata record for the PICES dataset in the PICES TCODE Metadata Inventory (<http://67.212.128.196/geonetwork/>).

TCODE Endnote 5c

Country report of USA

by Tony Koslow, Scripps Institution of Oceanography, University of California, La Jolla, CA, USA

NOAA promulgated its data-sharing policy this year, clearly mandating “full and open data access” as its basic tenet:

A basic tenet of environmental data management at NOAA is full and open data access. As the nation's Archive for ocean data and information, the National Centers for Environmental Information (NCEI) is committed to full and open data access in support of its community of Data Producers and Data Consumers. We will ensure that archived data are fully and openly available, to the extent permitted by law and subject to valid privacy, confidentiality, security, or other restrictions (<https://www.nodc.noaa.gov/about/datapolicy.html>).

This policy is intended to optimize data access and use by scientists, managers and the public of data obtained at public expense. The policy may serve as a model for the international community. It will facilitate key PICES activities, such as the 3rd North Pacific Ecosystem Status Report (NPESR3).