REPORT OF THE TECHNICAL COMMITTEE ON DATA EXCHANGE

The committee met on October 18 and October 23, 1997, in Pusan, Korea, in conjunction with the 1997 PICES Annual Meeting. (See Endnote 1 for attendance.)

1. Introduction of members

The Chairman opened the meeting by requesting attendees to introduce themselves (agenda item 1.1). He then summarized the objectives of this TCODE meeting which were to complete the agenda during the initial, one-day session and to review and amend the TCODE annual report at the second session to be held on Thursday, October 23. Dr. William Karp volunteered to act as rapporteur.

TCODE members were asked to attend various PICES committee and working group meetings during the week, and report back on issues of interest to TCODE at the Thursday meeting (Agenda item 1.2). The draft meeting agenda was reviewed and the chairman requested changes, corrections, and additions (1.3). The agenda was amended with several items under "New Business" (agenda item 1.8).

2. Review of progress on issues from last year

2.1 Inventory of Long Time Series

The inventory is available through the PICES home page and is organized by subject area. Printed copies are also available directly from the PICES office. An article written by the TCODE chair and published in PICES press describes the inventory in some detail. Entries from Korea are lacking, but Dr. Sangbok D. Hahn agreed to provide some material as soon as possible. The Chairman requested that members review entries for accuracy and continue to provide updates and additions. Members were encouraged to work with all relevant agencies in their home countries to identify suitable data sets and prepare entries for the inventory. As the inventory grows, it may become necessary to identify new subject areas for organizing the entries.

Dr. Thomas C. Royer suggested that potential users of data sets identified in the inventory might need guidance in appropriate use of the data. Members agreed that such guidance might often be appropriate but that it may be difficult to obtain suitable commentary from owners of data sets. It may be advisable to request comments on this issue from other PICES committees. The committee agreed that inventory entries should provide references for publications which provide guidance on data use, particularly for data sets which consist of model output.

In response to concerns that scientists in some member countries are not aware of the inventory, the Chairman encouraged TCODE members to help develop awareness.

2.2 Other Internet resources

The Chairman has assembled an extensive list of Internet resources of interest to the PICES community and provided links to these resources through the PICES home page. He requested input from committee members regarding additional entries in this list. Members agreed to review the list and provide corrections, additions and recommendations for new categories. Links on El Niño topics, and satellite image information from the NASA SeaWIFS project were discussed.

2.3 Communications Study Group

A PICES Communications Study Group was established in 1997 and was tasked with reviewing all aspects of communi-cations with the organization and providing

recommendations. The TCODE Chairman served on this committee, together with the chair of the science board and Dr. Alexander Bychkov of the PICES Secretariat. Mr. Robin Brown summarized the study group's report to the committee. In reviewing the report, TCODE noted that the existing mail/fax/ e-mail/Internet system works well, given the complexity of PICES communications responsibilities and the limited availability of advanced communications technologies in some member countries. It was noted that e-mail is now almost universally available to PICES scientists and that, consequently, e-mail communication within the organization has expanded rapidly during the last year.

TCODE recommended that innovative communications technologies be adopted by PICES only after careful consideration, and that Internet bulletin boards be established only in response to specific requests from Committees or Working Groups.

2.4 Bering Sea Metadatabase (Megrey/ Macklin - U.S.A.)

Dr. Bernard Megrey of the U.S. National Marine Fisheries Service gave a presentation on a project to assemble this database which is managed by Mr. Allen Macklin and himself. The project is funded by the National Oceanographic and Atmospheric Administration's Envi-ronmental Services Data Information Management (ESDIM) office for a three-year period at a total funding level of US$275,000.

The goal of the project is to advance understanding of the structure and function of the Bering Sea ecosystem through the development of a collaborative research tool for fisheries oceanography and ecosystem investi-gations. The intent is to provide an inventory of relevant data with metadata descriptions which describe the content, quality, condition, and spatial and temporal characteristics of the data. The metadatabase will be accessed through the world wide web and will incorporate a sophisticated search capability.

Dr. Megrey indicated that project personnel have been actively seeking entries for the metadatabase. A form has been designed to ensure that individuals submitting entries provide all the necessary information. A large number of scientists have been contacted by mail and e-mail. TCODE members were requested to provide assistance in identifying institutions and individuals in Korea, Japan, China, and Russia who may have databases suitable for inclusion in this project.

TCODE indicated its continued support for this project, encouraged committee members to provide assistance in identifying institutions and individuals who may have databases suitable for inclusion in the project, and agreed to investigate possibilities for integration of this metadatabase with the PICES inventory of long term time series data sets during the next year.

3. MIRC *Marine Information Research Center - Japan*

Information was provided on this organization which has recently been established by the Japan Hydrographic Association under the leadership of Prof. Yutaka Nagata**.** MIRC will complement the data collection and storage activities of the Japan Oceanographic Data Commission (JODC) by providing high quality data products for researchers and promotion of a wide range of data services.

4. Data management for CCCC Program

The TCODE Chairman attended a workshop sponsored by the IGBP Data and Information Systems group in April 1997. Data collected during IGBP projects (which include GLOBEC projects) were discussed. Subsequently, Mr. Brown attended a meeting of the GLOBEC Scientific Steering Committee in England and reported on the workshop and GLOBEC data management issues. Upon returning from the meeting in England, the TCODE Chairman prepared a report for members of his committee

and solicited recommendations regarding the role of PICES in the management of data collected during the CCCC project.

After lengthy discussion, TCODE recommended that national committees and offices should be responsible for assembling inventories of data and data products collected by the CCCC projects and that PICES should coordinate this activity by encouraging national offices to assemble and provide such inventories. Access to inventories and data sets should be provided through the CCCC home page.

5. New business

5.1 Comments on the Terms of Reference for proposed Working Group on CO_2

TCODE supports the terms of reference for this proposed Working Group.

5.2 North Pacific Meteorological Buoy panel

Mr. Brown explained that the Canadian meteorological agency (Environment Canada – Atmospheric Environment Service) was seeking the names of agencies to contact regarding this possible activity. It is not envisaged that PICES will have a role in the data coordinating committee if it is established. TCODE members provided Mr. Brown with agency names (and contact points or individuals) for their respective countries.

5.3 Proposed rule changes for Technical Committees

The committee was informed of a proposal to amemd PICES rules of procedure to limit the term of technical committee chairmen to three years, and restrict a single individual from serving two consecutive terms as chair. The committee recommends that the Science Board consider this proposal carefully, and pay particular attention to costs which may be associated with frequent changes in the chair of technical committees. TCODE's ability to function effectively is directly linked to the commitment of the chair to the work of the committee, the resources provided by the chair's home institution, and the chair's ability to maintain committee activities over relatively long time periods. Any procedure for selecting TCODE chairs should take into account the extensive commitment of time and institutional resources required.

5.4 Links to other organizations, activities and projects

At the request of the Science Board Chairman, TCODE assembled the following list describing the participation of TCODE members:

Project/Activity	Participant
IGOSS (Integrated Global Ocean Sensing System)	Hahn/KODC; Nagai /JODC
IODE (International Oceanographic Data Exchange)	Hahn/KODC; Nagai /JODC
GOOS (Global Ocean Observing System)	(none)
GOOS-LMR (Living Marine Resources)	(none)
NEAR-GOOS (North East Asia Regional GOOS)	Hahn/KODC; Nagai /JODC
GLOBEC (Data Management)	Brown
JGOFS (esp. Data Management Task Team)	Brown (small amount of interaction)
ICES - FAST (Fisheries Acoustics Science and Technology)	Karp (inactive member)
ICES - FTFB (Fishing Technology and Fish Behavior)	Karp (inactive member)

5.5 Advance notification of research vessel cruises

PICES scientists continue to express concern that advance notification of research cruises is not always readily available. Consequently, researchers may miss opportunities to request participation or collection of samples or data.

It was noted that JODC has a web-searchable database for planned research cruises of the Japanese National Oceanographic Program but that the listings are not comprehensive. In addition, the University of Delaware maintains a web-based inventory of planned cruises which includes UNOLS and some NOAA plans. The Chairman agreed to provide the University of Delaware with the names of contacts in PICES countries who may be able to provide additional cruise schedules. Committee members agreed to seek contacts in their respective countries. The Committee agreed to work with REX (Dr. Anne Hollowed) to assist in the assembly of a database of PICES-GLOBEC (and GLOBEC-like) projects and activities for distribution on the PICES Web Server. This database will include some details on ship scheduling for these programs.

5.6 Proposed MONITOR Task Team (CCCC)

The committee reviewed the Terms of Reference for the proposed task group and supports the formation of this group.

5.7 New digital bathymetry databases

Dr. Royer discussed POC's keen interest in bathymetric data. NASA now has an interpolated global bathymetry available but the database is to big for it to be useful to many scientists. Dr. Royer pointed out that in order to be really useful for PICES scientists, it would be necessary to create subsets of these data to cover regions of interest to PICES. There was some discussion of the possibility for TCODE to prepare and distribute such subsets from the PICES Webserver. Dr. Nagata (MIRC-Japan) indicated that MIRC might be able to respond to special requests to perform tasks of this type. Dr. Royer will identify individuals responsible for managing these data sets at the agencies concerned and communicate with Dr. Nagata.

5.8 International Year of the Ocean

Dr. Hahn suggested that TCODE recommend that PICES take action to formally recognize the United Nations declaration establishing 1998 as the International Year of the Ocean. The committee endorsed his suggestion.

6. Work Plan for 1997/1998

The TCODE work plan for 1997/1998 includes the following elements:

- Updates and additions to the Long-Term Time Series Data Set Inventory
- Improvement and extension of the list of Internet resources of interest to PICES scientists
- Exploration of the possibilities for merging the PICES Long Term Time Series Data Set Inventory with the Bering Sea Ecosystem Biophysical Metadatabase
- Provision of assistance in assembly of the Bering Sea Ecosystem Biophysical Metadatabase through establishment of appropriate contacts in PICES member nations.
- assemble descriptions of 1997/1998 El Nino monitoring plans and distribute this information via the PICES web server.

Endnote 1

Participants and Observers

Canada
Robin Brown (Chairman)

China
Ling Tong

Japan
Ichiro Hara
Toshio Nagai (October 18 only)

Korea
Sangbok D. Hahn
Kee Soo Nam (October 23 only)

Russia
Lev N. Bocharov
Vyacheslav Lobanov (or Igor Rostov)
Igor Shevchenko

U.S.A.
William A. Karp
Thomas Royer

Observers
Alexander Bychov (Asst. Exec. Secretary, PICES)
Loh-Lee Low (U.S.A.)
Allen Macklin (U.S.A.)
Bernard Megrey (U.S.A.)
Yutaka Nagata (Japan) (for T.Nagai on October 23)