

TCODE Action Plan

(Draft)

03/25/2005

Theme A. Advancing scientific knowledge

Goals 1 and 2 address our need to understand the Pacific Ocean system, a need that can only be addressed by multi-national scientific cooperation. Effective resource management by each member country requires comprehensive scientific understanding, including for example, the role of the ocean in climate. Furthermore, human populations residing in coastal regions are growing, and the sustainable use of marine resources is a priority. The potential for disrupting the marine ecosystems is increasing, but mitigation and effective use is possible with sufficient information on the impacts of human activities.

Goal 1. Understand the physical, chemical, and biological functioning of marine ecosystems

The PICES scientific program is dedicated to understanding and quantifying the physical, chemical and biological processes of the North Pacific Ocean, including the oceanographic and ecological responses to climate variability. Understanding biological diversity, life histories and trophic relationships depend on development of modern technologies for sampling the marine environment.

Action

- *Maximize the usage of existing data throughout the PICES community through improved access, including searchable metadata inventories.*
- *Address the substantial need for improved data on all components of the marine ecosystem in the North Pacific including meteorological and oceanographic conditions, nutrient productivity and toxic blooms, the conditions of intensively exploited fish stocks, the condition of seabirds and marine mammals, etc.*
- *Promote the development of contemporary technologies, standards, protocols, data analysis methods and software tools for studies of all components of the ecosystem.*
- *Hold a session at PICES Annual meeting in 20XX on “Data holdings and observing systems to support the North Pacific ecosystem monitoring and modeling.”*

Goal 2. Understand and quantify the impacts of human activities and climate on marine ecosystems

PICES recognizes that humans are part of the ecosystem of the North Pacific Ocean. They are affected by climate scale variability, and in turn conduct activities that impact marine ecosystems. This goal addresses the ecosystem effects of fishing, mariculture, contamination and eutrophication on the marine ecosystem, and also includes physical habitat changes and accidental introduction of non-native species.

Action

- *Identify data sets/holdings that can be used to address climate change and human impacts on the North Pacific.*
- *In particular, improved access to data on the state of other coastal ecosystems will allow PICES nations to compare and contrast the states (and trajectories) of coastal ecosystems. This “compare and contrast” approach is a powerful tool for figuring out what is going on in ecosystems, where we are denied the primary tool of the scientist – the controlled experiment!*
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Goal 3. *Provide advice on methods and tools to guide scientific activities*

The quality of our science benefits from comparable methods and techniques. PICES provides workshops on, and opportunities for, inter-calibration of methodology and sampling equipment, as well as collaborative opportunities to develop new, creative methodologies.

Action

- Promote the development and use of shared information technologies in quantifying the biological and physical components of the ecosystem.
- Hold a session at PICES Annual meeting in 20XX on “National educational standards in data management and communication methodologies for oceanographers and marine biologists”.
- Hold a session at PICES Annual meeting in 20XX on “Data management and software tools for oceanographic and biological surveys.”

Theme B. *Applying scientific knowledge*

Scientific knowledge can be applied to address societal needs. This activity follows logically from the previous theme, in that it demonstrates how scientific understanding can assist with societal problems related to the North Pacific Ocean.

Goal 4. *Provide scientific advice towards wise use of the North Pacific Ocean*

PICES provides periodic reports dealing with critical issues, including a comprehensive assessment of the Status of the North Pacific Ecosystem. Information needed in support of sound utilization and sustainable development of the marine environment is a PICES priority.

Action

- *A data inventory for all the data used in the compilation of the Ecosystem Status report.*
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Theme C. *Fostering partnerships*

Collaboration and communication lies at the heart of creating scientific knowledge and using it effectively. PICES creates a forum that enhances international collaboration in the North Pacific region, as well as with similar organizations throughout the world.

Goal 5. Promote collaboration with organizations, scientific programs, and stakeholders that are relevant to the PICES goals

PICES develops close relationships with scientific organizations and commissions that have shared goals it also exchanges observers and carries out joint activities. Close collaboration with regional and international programs is critical to PICES success. PICES activities provide an opportunity for capacity building through internships and expediting the involvement of young scientists in PICES activities.

Action

- Assist and participate in the implementation of international programs (like GOOS, GLODEC) and their regional components.
- Provide support to the Harmful Algal Bloom initiatives.

- Contribute expertise and know-how for the development of modern marine data management systems.
- Hold a session at PICES Annual meeting in 20XX on “Marine Data Exchange Systems”.
- Hold a session at PICES Annual meeting in 20XX on “Marine Data Quality Assurance.”
- Initiate the incorporation of Traditional Ecological Knowledge (TEK) into the data archives.

Goal 6. Promote collaboration among scientists within PICES

PICES must continue to widen the appeal of the PICES Annual Meeting, broaden the scope and readership of publications, and continually develop new partnerships to address emerging issues. PICES must be open to non-governmental scientists, and must ensure the participation of underrepresented groups.

Action

- Implement and adopt a structure for national annual reports (key institutes and agencies, key persons/contacts, data and metadata sets, ocean observing systems, data and metadata formats and standards, information technologies for collecting, measuring and enumerating marine organisms, DM programs that underpin marine science programs, existing intra- and international data policies; software applicable in marine ecosystems studies and modeling, publications on marine DM issues, education materials, etc.).
- Implement corresponding inventories for all items included into the annual report structure.
- Organize an international (virtual, communicating via e-mail) TCODE community.

Theme D. Ensuring a modern organization in support of PICES activities

The activities in support of the primary mission of PICES require effective support and implementation, as well as broad participation from the scientific communities of the Contracting Parties.

Goal 7. Provide an effective infrastructure to support PICES programs

Action

- *Advising the Secretariat on techniques/approaches and/or tools for improved electronic information exchange.*
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An effective Secretariat that supports the mission and goals of the organization is essential to its success.

Theme E. Distributing PICES scientific information

PICES has an important role in making information resulting from the Organization's activities available.

Goal 8. Make the scientific products of PICES accessible

PICES needs to communicate the results of its scientific activities broadly, through high quality publications, the PICES web page, and production and dissemination of educational materials. Maximize the use of electronic media as a vehicle, to allow update as new information is produced.

technologies for sampling the marine environment.

Action

- **Inform the PICES community about marine data management activities through the updatable TCODE web pages.**
- **Inform the PICES community about new links to marine data in the North Pacific.**
- ***Inform PICES community about marine data management activities through periodic articles in PICES Newsletters and related publications.***
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