

**The PICES strategy for capacity building**  
**(Final report from the Study Group on *PICES Capacity Building* approved in November 2003)**

Background

To support its goals of promoting and coordinating marine scientific research, PICES must recognize the importance of capacity building, a process intended to make it possible for all PICES member countries and their scientists and institutions to participate fully in, and benefit fully from, the cooperative programs developed by PICES.

Cooperative marine research depends on the combined efforts and continuing involvement of all member countries. This requires the sharing of basic and specialized skills as well as of experience and infrastructure. A central element of capacity building is education and training, for example in methods and skills in data management, modeling, and environmental monitoring. Other elements include the building of appropriate national and regional institutional support structures, the strengthening of infrastructure elements, and the development of communication networks for exchange of data and information.

Of course, each of the member countries of PICES has modern marine scientific institutions and its own educational programs in the field. In addition, the scientific activities of PICES, including its scientific sessions and the work of its scientific committees and other subsidiary bodies, are important contributions to capacity building. PICES has focused in particular on the development of young scientists, helping to increase their exposure to the exchange of scientific information at international scientific meetings and involving them in other activities of the organization. This may now be an appropriate time to consider other possibilities and to develop a more explicit PICES strategy for capacity building.

That strategy should include the elements listed below. Their success, as will then be discussed, will depend on provision of adequate funds, and on coordination of efforts at the national level.

Training and education

Training courses on selected topics could be specified and developed by the Science Board and its committees. These could involve scientists from member and other countries and might take place in different places as requested and supported by countries. In addition, PICES could develop a current web-based compendium of training and education opportunities including graduate student assistantships, post-doctoral fellowships, and visiting scientist positions.

Sharing of methodologies, information, and data

The common use of agreed observational methods is essential for the pooling of data resulting from cooperative programs. The inter-comparability of methods and training in their use can be improved through the development of methodological workshops. Exchange of scientists on research cruises can also contribute to this goal.

PICES meetings and publications and the PICES web page are important means for sharing information. Sharing of data among PICES countries is being organized by TCODE. That Committee should explore the proposal to create, through a communication network, a common working environment, including data, techniques, methods, software tools, mathematical models, and computing power for sharing among all scientists involved.

### Enhanced participation in PICES activities

A goal for PICES should be the full involvement of junior and senior scientists from its member countries in its meetings, workshops, committees, and other subsidiary bodies. Participation in annual meetings of scientific program officers from national funding agencies should also be encouraged. In most cases, this participation should be at national expense and thus its extent will depend primarily on actions at the national level (see below). Full participation could also be promoted by PICES in its practices for establishing membership of these bodies, for example by requiring rotation. An expanded intern program could include scientific as well as administrative assignments.

### Bases for a program of capacity building

The PICES budget is stringent, with national contributions, less than half a million US dollars per year, sufficient only to maintain a small secretariat and a limited meeting and publication schedule. Any significant increase in activities that contribute to capacity building will require increased priority at the national level and increased financial support for the organization. Such additional resources could include extra-budgetary contributions from member states and in special cases, grants from international organizations and private foundations.

Full participation of national scientists must include not only increased national priority for such activities, but also the involvement of all relevant national institutions (government, academic, private) and coordination at the national level of their PICES-related activities, so that support for PICES and the accompanying investment of national resources can be optimized.