

## Capacity-Building Activities of the Scientific Committee on Oceanic Research

The Scientific Committee on Oceanic Research (SCOR) is the part of the International Council for Science (ICSU) that is focused on ocean science. SCOR is well known internationally for its capacity-building activities, which began in the early 1960s as SCOR involved scientists from the Indian Ocean region in the International Indian Ocean Expedition. Twenty-six percent of countries that participate in SCOR are in the developing world, including Brazil, Chile, China (Beijing), Ecuador, India, Mexico, Pakistan, Peru, South Africa, and Turkey.

According to an ICSU review of its environmental activities in 2003

“Well known is the reputation of SCOR for its extensive outreach to scientists, laboratories, and research organizations in the developing world. Over the last 45 years, many developed country oceanographers made their first contacts with developing country scientists through SCOR meetings and reports. Prior to its first major programmatic accomplishment - the Indian Ocean Expedition in the early 1960s - major oceanographic expeditions were largely the works of individual nations or individual laboratories. SCOR, more than any other organization, is responsible for the widespread international cooperation that is characteristic of modern ocean science.”<sup>1</sup>

SCOR’s current activities in capacity building include participation of developing country scientists on SCOR working groups, panels, and committees; travel grants for developing country scientists to attend ocean science meetings; cooperation with the Partnership on Observation of the Global Oceans (POGO) on a program of fellowships for ocean observations; provision of a Web portal of capacity-building activities; and provision of copies of reports to 43 libraries in 33 developing countries and countries with economies in transition.<sup>2</sup> SCOR has recently approved a program of SCOR Visiting Scholars, and is working on the idea of Regional Graduate Schools of Oceanography.

### Participation in SCOR Groups

**The most important way in which SCOR has accomplished capacity building is to involve individuals from developing countries and countries with economies in transition in all SCOR activities.** Such involvement gives the opportunity for scientists from different countries to work together toward a common goal over an extended period. Approximately 20% of the membership of SCOR groups are from Argentina, Brazil, Chile, China-Beijing, India, Mexico, Morocco, and South Africa (developing countries) and Russia (a country with an economy in transition). We have had relatively low participation by scientists from Southeast Asia and

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<sup>1</sup> CSPR Assessment Panel on Environment and its Relation to Sustainable Development/International Council for Science. Report of the CSPR Assessment Panel on Environment and its Relation to Sustainable Development (Robert Watson (Chairman), Anne Buttimer, Angela Cropper, Istvan Lang, Gordon McBean, James McCarthy, Uri Shamir, Crispin Tickell, and Shem Wandiga). December 2003. Excerpt from pages 24-25.

<sup>2</sup> Because scientists from many countries with economies in transition (Russia, other countries that were part of the Soviet Union, and Eastern Europe) have as much trouble finding travel support as do scientists from developing countries, SCOR considers scientists from both types of countries to be appropriate recipients of SCOR capacity-building efforts.

Africa in our groups, due to trouble in identifying appropriate participants and low SCOR membership in these regions. We hope that ICSU's regional structure will help us with this challenge.

#### SCOR Committee on Capacity Building

SCOR established this group in 2006 to integrate and expand SCOR's capacity-building activities. Current members include Venu Ittekkot (*Chair*, Germany), Alfonse Dubi (Tanzania), John Farrington (USA), Vivian Lutz (Chile), Shubha Sathyendranath (POGO), Jilan Su (China-Beijing), Tatsuki Toda (Japan), and Jing Zhang (IMBER). The committee met for the first time in Woods Hole (USA) in October 2008 and it is anticipated that it will meet biennially. The following capacities of SCOR are overseen by the committee.

#### Travel Grants

SCOR has received support from the U.S. National Science Foundation (NSF) since 1984 to provide funding for travel grants to ocean scientists from developing countries to enable them to attend international scientific meetings. More recently, travel assistance has also been given to scientists from the former Soviet Union, Eastern Europe, and other countries with economies in transition. These grants are another approach used by SCOR to help developing country scientists expose their work in international meetings and become acquainted with scientists from other developing countries and also from developed countries.

The amount of the award from NSF is now \$75,000 per year. Recipients of SCOR travel awards are chosen in consultation with the organizers of meetings that SCOR has agreed to cosponsor; direct applications from individuals are not accepted by the SCOR Secretariat. Priority is given to applicants who are presenting a paper or poster at the meeting or to those who have some special expertise or regional knowledge to bring to a workshop or working group. Preference is also given to younger scientists. Care is taken to ensure that the recipients of SCOR/NSF funds are active scientists, and that they have not received similar support from SCOR in the previous two years.

During a typical three-year grant, approximately 250 individual scientists from 45 countries receive full or partial travel support that enabled them to attend 45 different scientific meetings or training programs. About 30% are from countries that do not participate in SCOR by paying dues and naming national Nominated Members to international SCOR, so this program provides opportunities for SCOR to reach out to new countries. A new three-year grant was approved in 2008, running until 30 June 2011. Information about how this program operates is available at <http://www.scor-int.org/TravelGrants.PDF>.

#### POGO/SCOR Visiting Fellowships for Oceanographic Observations

SCOR has committed funds for this fellowship program in partnership with POGO since 2001, as part of its travel grant from NSF. POGO is the major sponsor of the program and handles the administration of it. This program is designed to promote training and capacity building leading toward a global observation scheme for the ocean. The program is open to scientists, technicians, Ph.D.-level graduate students, and post-doctoral fellows from centers in developing countries involved in oceanographic work. It offers the opportunity for such individuals to visit other oceanographic centers for a short period (1-3 months) for training on any aspect of

oceanographic observations, analyses, and interpretation, with a focus on Argo floats, fixed-point time-series observations, large-scale operational biological observations (including biodiversity), emerging technologies for ocean observations, data management, coastal observations/coastal zone management, and ocean and coastal modeling. More information about this program can be found on the POGO Web site at [http://www.ocean-partners.org/index.php?option=com\\_content&view=article&id=309&Itemid=42](http://www.ocean-partners.org/index.php?option=com_content&view=article&id=309&Itemid=42).

Sending and hosting institutions have commented that the fellowships

- are very important for the fellow's future career
- are very useful and enriching for young scientists
- help exchange information and expertise among different institutions
- build future research collaboration between the sending and host institutions
- help the fellows develop international contacts
- help create opportunities for the fellow for graduate studies at the host institution
- can give the fellow opportunities to develop scientific publications

#### Modest Dues for Membership in SCOR

SCOR membership provides significant benefits for countries that participate (see <http://www.jhu.edu/scor/Benefits%20of%20Membership%20-%20English.PDF>), particularly in terms of giving developing country scientists opportunities to guide the direction of SCOR, propose and participate in working groups, be informed about the progress of large-scale international ocean research projects, and request support for their scientists to attend SCOR-supported meetings. SCOR dues fall into 5 categories, with the lowest (Category I) being US\$1,975 per year in 2009. SCOR believes that all countries should pay some level of dues to support the organization and its work, but that the dues levels should be scaled to be affordable. Most developing country members of SCOR fall into Category I; exceptions include India (Category II), and China-Beijing and South Africa (Category III). We have also created an Observer membership category, with no dues required, but also reduced benefits.

#### Continuing Professional Development and Capacity Building Resources in National and International Marine Agencies and Programs

Following the 2006 SCOR Project Summit, Murray Brown set up a Web portal to the capacity-building activities of international projects and organizations. This portal can be found at [http://www.scor-int.org/Capacity\\_Building/index.htm](http://www.scor-int.org/Capacity_Building/index.htm).

#### Library Support

SCOR sends the reports of its working groups and other publications to 43 libraries in 33 nations: Argentina, Bangladesh, Brazil, Bulgaria, Chile, China-Beijing, Croatia, Cote d'Ivoire, Cuba, Egypt, Estonia, Fiji, Ghana, India, Indonesia, Kenya, Korea, Lithuania, Malaysia, Mexico, Morocco, Pakistan, Peru, Poland, Philippines, Romania, Russia, South Africa, Thailand, Tunisia, Turkey, Ukraine, and Vietnam. Most of these countries are not members of SCOR. This activity costs SCOR about US\$6,000 per year. We have not assessed the impact of such donations, but we hope that providing these books and other publications will help scientists in the recipient institutions become more aware of recent developments in ocean sciences and the information necessary to become involved in large-scale ocean research projects.

### Regional Graduate Schools of Oceanography

SCOR helped develop the proposal for a Rockefeller Foundation Bellagio Team Residency in 1998 that created the idea of Regional Graduate Schools of Oceanography and Marine Environmental Sciences (RGSOs). An RGSO would be a network in a developing country region that brings together, from within and outside the region, a critical mass of resources for regional ocean science education. The RGSO would build on existing institutions in the region, not substitute for them, and would feature short-term classes, and laboratory and field activities, that would contribute toward a student's degree at their home institution.

SCOR plans to hold regional meetings within each of the focus regions to bring representatives from interested countries and institutions in the region together as equals to discuss how a regional program could be set up that would be seen as fair by all participants. We have heard in several regions that a program that is based in a single nation is not of interest to other nations in the region because they do not want to build up institutions in other countries to the detriment of their own. They would prefer a program in which classes and other activities rotate among nations. Principles for design of RGSOs can be found at [http://www.scor-int.org/RGSO\\_Design\\_Principles.pdf](http://www.scor-int.org/RGSO_Design_Principles.pdf).

### SCOR Visiting Scholars

In March 2009, SCOR requested expressions of interest for the first SCOR Visiting Scholars. This program will provide airfare and other modest support to make it possible for scientists from developed and developing countries to travel to developing countries to spend time teaching, mentoring, and building networks. In the long term, this program will contribute to the RGSO program. More information about the SCOR Visiting Scholars Program can be found at [http://www.scor-int.org/Capacity\\_Building/SCOR\\_Visiting\\_Scholars.pdf](http://www.scor-int.org/Capacity_Building/SCOR_Visiting_Scholars.pdf).