

with vertical spreading strongly suppressed due to the stable stratification.

Following the initial survey reported here, additional cruises have been carried out during BaTRE; data are currently being analyzed and compared with data from local hydrographic and turbulence measurements. Research cruises are planned at least until spring 2009 so that scientists may estimate the long-term evolution of the tracer distribution.

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FORUM

Global Environmental Solutions Require Global Funding

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As members of the next generation of environmental scientists, we are committed to conducting solutions-oriented research on global environmental problems. In addition to the highly visible problem of climate change, we face global environmental threats such as biodiversity loss, worsening air quality, and limited food security and water availability. These threats do not stop at national borders. Research in these areas requires global coordination and collaboration, and it would be best served by an equally global funding infrastructure.

The United Nations Framework Convention on Climate Change Conference of the Parties will convene in 2009 in Copenhagen, Denmark, to negotiate post-Kyoto Protocol climate policy. One criterion for the success of these negotiations is their basis in the best available scientific understanding of the climate system at local, regional, and global scales. While the organizational infrastructure for global research coordination exists, funding is managed by national and regional agencies individually, with increasing emphasis on local concerns.

Susan Solomon, a lead author of the 2007 Intergovernmental Panel on Climate Change report, concluded in a 14 March 2008 editorial in *Science* that “the planning and coordination of international research are best

carried out by organizations such as the World Climate Research Programme, the International Geosphere-Biosphere Programme, and the International Human Dimensions Programme.” We advocate a financial support structure organized along similar lines. The International Group of Funding Agencies (IGFA), which exists to coordinate global research efforts, serves as a forum in which national agencies that fund global change research can identify areas of mutual interest, though it does not administer a common fund. IGFA’s organizational infrastructure could be used as a framework for development of coordinated funding.

We suggest the scientific funding agencies around the world create and contribute to a common fund to support global environmental change research. This common fund would allow the most efficient use of resources available. Currently, our success at improving understanding of the global environment is not limited so much by the total amount of funding as by the lack of a global funding structure. One problem that can result from the lack of such a global structure is that large-scale international research programs requiring many partners can be jeopardized if a few of the participating scientists are not supported by their national agencies. A side benefit of such global financial coordination could be to streamline the transition of research results into international policy-relevant informa-

tion, by including in the selection criteria for proposals a requirement that projects focus on truly global aspects of environmental change. Access to the funding would proceed via peer-reviewed competitive research proposals similar to those currently used at the national level in a number of countries, with an international review panel and clear evaluation criteria.

Such interagency collaboration to support science has precedents, at least on the national and regional scales. In the United States, for example, several U.S. federal agencies with different mandates contribute to a common fund under the Climate Change Science Program, which supports national and international research. International examples include the Framework Programme of the European Commission, the Asia-Pacific Network for Global Change Research, and the Inter-American Institute for Global Change Research. We believe that our efforts to produce science in support of climate solutions would benefit from the application of similar international collaboration on worldwide research funding.

We look forward to serving society in the search for solutions to global environmental problems, supported by a truly global funding infrastructure.

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