Review of the US Antarctic Program:
Future Science Opportunities in the Antarctic and Southern Ocean

Statement of Task

Under the auspices of the National Research Council (NRC), the Antarctic and Southern Ocean Science Review Committee will identify and summarize the changes to important science conducted on Antarctica and the surrounding Southern Ocean that will demand attention over the next two decades. The committee will assess the anticipated types and scope of future U.S. scientific endeavors and international scientific collaborations over a ~20-year period in Antarctica and the Southern Ocean. Membership should include leading polar scientists that span a wide range of expertise who actively participated in Antarctic research in recent years, and scientists with broad experience in global and international research. The committee should identify and summarize likely future science requirements of the U.S. research community, including the needs of the federal mission agencies that depend on U.S. Antarctic Program (USAP) infrastructure and logistics, including NASA, NOAA, USGS, DOE, EPA, the Smithsonian Institution and the Department of State, which relies on infrastructure support from the Program for official inspections of foreign facilities. The committee should:

- build upon the work of other organizations (e.g., ICSU, SCAR, etc.), draw upon recent scientific achievements in Antarctica and the Southern Ocean including those completed during the 2007-2009 IPY, and utilize previous workshops and reports (e.g., those from the NSF and NRC that pertain to future research directions in Antarctica);
- identify changes to anticipated types and scope of scientific programs for the U.S. in Antarctica and the Southern Ocean over the next two decades;
- examine appropriate opportunities for international Antarctic scientific collaborations based on recent U.S. experiences from the International Polar Year and other anticipated activities;
- report any new emerging technologies should they be found while reviewing the scientific achievements that enhance the U.S. ability to meet these priorities or the application of new technologies that enable the collection of scientific data in more effective or efficient ways; and
- comment on the broad logistical capabilities and technologies that, from a science delivery perspective, would need to be improved or require major changes to enable the anticipated types and scope of future U.S. scientific programs, with the intent of informing the concurrent FACA Blue Ribbon Panel that will examine and have a central focus on logistical operations in Antarctica.

In carrying out its work, the committee is expected to draw on existing reports, results of national and international workshops, strategic plans of involved federal agencies, recommendations of professional scientific societies and other organizations, and any other sources it might find useful. The committee is not expected to set priorities among scientific research areas, nor is the committee to discuss budgetary issues. The primary

goal is to identify important future research directions in Antarctic as an aid to the companion review looking at logistical planning and operations. Together these two studies are intended to help ensure that logistical operations are capable of supporting the types of science deemed most important over the coming decades.