# Climate Project to Produce Research Guide

Questions concerning the effects which might be brought about by a climate change caused by a buildup of carbon dioxide in the atmosphere form the basis for the work being done by the AAAS Climate Project.

The Climate Project has received a grant from the U.S. Department of Energy's Carbon Dioxide and Climate Research Program (David Slade, manager) to involve the scientific and technical community in the preparation of detailed background material that will be used as a guide in research planning.

Roger Revelle of the Program in Science, Technology, and Public Affairs, University of California, San Diego, and former AAAS Board chairman, serves as project leader.

The project is divided into five topical areas, each of which calls upon experts in their field to assess a different facet of the $CO_2$ problem.

"Effects on the Cryosphere, Oceans, and Oceanic Biota" is being managed by Revelle. It includes descriptions of the issues involved and recommendations for future research concerning the effects of a climate change on marine life, the west Antarctic ice sheet, Arctic sea ice, permafrost, and ocean dynamics.

"Effects on the Less-Managed Biosphere," is led by Charles Cooper of San Diego State University. Areas covered include effects of a $CO_2$ climate change on grazing lands, wildlife, and animal husbandry; forest and freshwater ecosystems; human and animal health; and ecosystem response to $CO_2$ enrichment.

Sylvan Wittwer of Michigan State University coordinates the section on "Effects on Agriculture and the Managed Biosphere." Among the topics studied are effects on photosynthesis and agricultural productivity, water use efficiency, plant protection from pests, food crops in the lesser developed countries, and animal agriculture and livestock production.

"Social and Institutional Responses" is managed by Elise Boulding of Dartmouth College and Stephen H. Schneider of the National Center for Atmospheric Research. Included in this section are analyses of the effects on international law and institutions, factors that affect the vulnerability of societies to environmental change, political and institutional decision-making in response to climate change, and the historical dimensions of the effects of climate on human societies.

Lester B. Lave of the Brookings Institution leads the unit on "Economic and Geopolitical Consequences." It looks at economic policy evaluations of $CO_2$ abatement, mitigating losses from disruptions caused by climate change, and planning for climate change.

Following extensive consultation and peer review, Revelle and the managers of the five subject areas will produce a comprehensive one-volume summary. One goal of the project is that this report will be used as a guide for planning future research in the area.

Increasing attention is being paid to the problem of $CO_2$ buildup in the atmosphere. Last year the National Academy of Sciences issued a report indicating that a warming trend "will eventually occur" with continued use of fossil fuels, but that the consequences of the trend are unknown. In early April 1980 the U.S. Senate Committee on Energy and Natural Resources convened a panel to discuss the effects of a $CO_2$ buildup. David M. Burns, staff director of the AAAS Climate Project, described to the Committee the ongoing work of the Association, including the research guide.

Members of the AAAS Committee on Climate, which directs the Association's activities in the area, are Roger Revelle, chairman; George E. Brown, Jr. (D–Calif.), U.S. House of Representatives; David Gates, University of Michigan; Robert Kates, Clark University; Nathan Keyfitz, Harvard University; J. Murray Mitchell, National Oceanic and Atmospheric Administration; William Nordhaus, Cowles Foundation for Research in Economics; Harry Perry, Resources for the Future; Dean F. Peterson, Agency for International Development; David Pimentel, Cornell University; Walter Orr Roberts, Aspen Institute for Humanistic Studies; and Robert M. White, National Research Council.

The first major AAAS activity in this area was a workshop on "Environmental and Societal Consequences of a Possible $CO_2$-Induced Climate Change," held 2–6 April 1979 in Annapolis, Maryland (see *Science*, 3 August 1979, p. 481). The report of this workshop is available on request from the Climate Project office at the AAAS address.

# Nuclear Arms Control Group Named

Following up on a resolution passed by the AAAS Council on 7 January 1980, a steering committee on nuclear arms control has been designated by the Board of Directors. The Council resolution pointed out the importance of science in human welfare and the dangers implicit in nuclear armament. It called upon the AAAS to support U.S. efforts to obtain effective bilateral nuclear arms limitations and completion of the Comprehensive Test Ban Treaty; to oppose the development of new weapons systems (by any country) which make verification more difficult or pose a first-strike threat; and to support, along with arms control, plans for a step-by-step conversion of all facilities for nuclear weapons production, research, and testing, into science and technology facilities for peaceful uses. The resolution further called for one major theme of the 1981 AAAS Annual Meeting to be "Directing Science Toward Peace" and for the establishment of a working group to help organize and mobilize resources toward nuclear arms control.

Committee members are George Rathjens, chairman, Massachusetts Institute of Technology; Ann Cahn, Arms Control and Disarmament Agency; Brewster Denny, University of Washington; Paul Doty, Harvard University; Lloyd J. Dumas, University of Texas at Dallas; Bernard Feld, Massachusetts Institute of Technology; Roger Fisher, Harvard Law School; George Ignatieff, Trinity College; Everett Mendelsohn, Harvard University; Charles Osgood, University of