

The Radiation Biology Laboratory carries on studies of biological responses to solar radiation as it can be measured by flowering behavior, pigment synthesis, seed germination, stem elongation, and heat expansion. The biologists in this bureau are also concerned with quality of light in various environmental situations and the influence of latitude on light quality. Also, they are concerned to discover whether or not there is any correlation between the quality of sunlight and the growth and development of plants; projects are presently underway or planned for Poland, Israel and India, using excess foreign currencies.

Research at the Smithsonian Tropical Research Institute is concerned with the ecological and behavioral characteristics of tropical animals especially those on Barro Colorado Island and the adjacent mainland of Panama. The program there also includes studies of fish genetics and distributions and the possible consequences to biological populations of the construction of a trans-isthmus canal.

In the Office of Ecology the following projects are underway or planned:

Development of an ecological research program in Korea in cooperation with the Korean National IBP Committee. The long-range program includes both training of Korean scientists and research and it provides the basis for the Korean National IBP Program. It is aimed at both biological inventory and in utilizing unique opportunities provided by the Demilitarized Zone for determination of basic ecological principles, with special reference to the productivity and wise use of the Korean countryside.

Surveys of ecological needs and opportunities in selected countries of Europe, Africa, the Middle East, and southern Asia. These IBP connected surveys are to provide information on the status of ecological knowledge and the available scientific personnel and facilities, which will provide the foundation for developing comprehensive ecological research programs in each country in cooperation with that country's IBP program and personnel (already initiated).

Establishment of comprehensive ecological research programs, usually involving development of ecological research and training institutes, in representative major ecosystems in various parts of the world. Where possible the base facilities or field research stations will be located adjacent to research reserves, such as that at Guama, Belem, Brazil, and at Ujung Kulon, Indonesia. These programs are cooperative with the local scientists, and carried out within the local IBP programs (in the planning stage).

Ecological research centering on large vertebrates and vegetation succession in southeast Asian lowland rain forests, based on the Ujung Kulon IBP Reserve, Indonesia, in cooperation with the Indonesian National IBP (continuing).

Ecological research into savanna vegetation succession and influences, and into ecology of the populations of wild and domestic mammals, in IBP research areas in East Africa (continuing), and the Congo (planning stage).

Assisting with the initiation, organization, research planning, and staffing of a system of IBP research reserves in tropical southeast Asia (continuing).

Participation in the development of a worldwide inventory of major ecosystems and a system of research reserves to protect for science adequate examples of them; and in development and execution of appropriate researches on them both in the form of biological inventories and studies on the ecological processes.

Assistance with the development of national IBP programs in conservation in developing and developed countries throughout the world, especially in Latin America, Asia, and Africa (continuing).

Ecological research on tropical ungulates, bearing on their conservation (in the case of threatened species such as the Kouprey and Tamarau of Asia) and on their potential use to human populations as sources of animal products (continuing).

Participation in planning, coordination, and execution of research of the U.S. National IBP program in the Conservation of Ecosystems (continuing).

Participation in organization and planning of IBP conferences and other meetings as appropriate. Scientific meetings include ones in Thailand and India (concluded), Latin America (planning stage) and Mediterranean Region (organizing now).

Preparation of "atlases" of environmental information for selected tropical IBP research reserves, to provide the base information needed for IBP ecological researches into basic processes, conservation, marine, terrestrial and freshwater productivity (initiated).

Preparation of a comprehensive IBP handbook and guide to the study of large mammals (continuing).