ECOLOGY

Studying Grasslands

THE International Biological Programme has just celebrated its first year of active work in the United States with the announcement of the first major grants to support the research projects. The National Science Foundation has awarded a two-year grant of $224,300 for the management of the Analysis of Ecosystems programme, and the Atomic Energy Commission has granted $50,000 to supplement an earlier $350,000 grant from the NSF to support research on the first study site, the grasslands in Colorado. A critical evaluation of the programme issued by the House of Representatives Committee on Science, Research and Development last March after a year of study came out strongly in favour of Federal Government support for the IBP. While these new grants are certainly not indicative of all-out government support, in this period of stringent budget cuts it seems that for the moment the IBP has decided that beggars can't be choosers.

The IBP, a cooperative effort involving over 50 nations, is an attempt to understand the interrelation of the environmental systems which support life on Earth. The objectives of the IBP as set out in the original report were to conduct a worldwide study of organic production on the land, in fresh water and in the seas, so that adequate estimates could be made of the potential yield of new as well as existing natural resources, and, equally, to study human adaptability to the changing conditions.

After three preliminary years of organization and project design, during which the United States effort was coordinated by an Inter-agency Coordinating Committee formed by the National Science Foundation to bring together the relevant work of all the Federal agencies, the active five years of the programme was supposed to start last July. But in the United States preliminary studies were still in progress and the coordinating committee was in the midst of Congressional Hearings about the funding of the IBP. Last December the committee issued a report outlining a number of integrated research projects, none costing less than $2 million and the total coming to $77 million (*Nature*, **216**, 842; 1967). The proposals were impressive, but the work to date is far less so; the recent grants have enabled work to begin on only two of the six proposed studies, though the National Research Council has stated that "support for some of the other programmes looked favourable, though at lower levels than requested".

The Analysis of Ecosystems programme forms the core of IBP research on the ecology of the environment. The grasslands study is only one of six ecological systems that the IBP plans to study during the coming years, the others being tundra, deciduous forests, desert, coniferous forests and tropical rain forests. The research involves four components: the abiotic factors such as soil, climate and water, the plants or producers of food, the animals that eat the plants and each other, and the bacteria and fungi that regenerate the soil. Eleven research projects involving 26 research workers are planned for the first year to look at all aspects of the ecology—climate, hydrology, meteorology, photosynthesis, herbage dynamics, large consumers, small animal diets, grassland birds, insects, bacteria, and soil and the nitrogen cycle. The effect of human intervention will be studied and attempts will be made to decide whether native species such as bison and antelope are more efficient and better adapted than imported species such as cattle and sheep. A comparative study of land under varying conditions will be made to determine whether or not more water or nutrients favourably alter productivity without wearing out the soil over the long run. A Canadian study of grasslands has already started, a Mexican programme is still being developed and 20 other nations have proposed grassland studies, though none are yet very far under way.

The site for grasslands study is Pawnee in the Great Plains, near Nunn, Colorado. It lies on the 15,000-acre Central Plains Experimental Range of the US Agricultural Research Service, and some support work will take place on another region of prairie run by the US Forest Service. The principal vegetation is the blue grama grass—"the queen of the prairie" as it is called, because it is so widespread and hardy. Comprehensive productivity studies covering the use made of the characteristic soil and weather regime by plants and the animals that depend on them will be the backbone of the study.

Growth and Future Plans for World Data Centre A: Upper Atmosphere Geophysics

by
C. D. ELLYETT*
J. V. LINCOLN
H. P. SMITH
ESSA Research Laboratories,
Boulder, Colorado

Proposals for the future operation of the World Data Centre at Boulder, Colorado, include the provision of quality ratings by organizations submitting data, a method of holding on request or disposing of obsolete data, the employment of consultants, and the cataloguing of data not held by the centre.

WORLD Data Centres conduct international exchange of geophysical observations in accordance with the principles laid down by the International Council of Scientific Unions. They were established as part of the fundamental international planning for the International Geophysical Year programme: World Data Centre A (WDC-A) in the United States, WDC-B in the USSR, and WDC-C in

* On leave from Newcastle University, NSW, Australia.