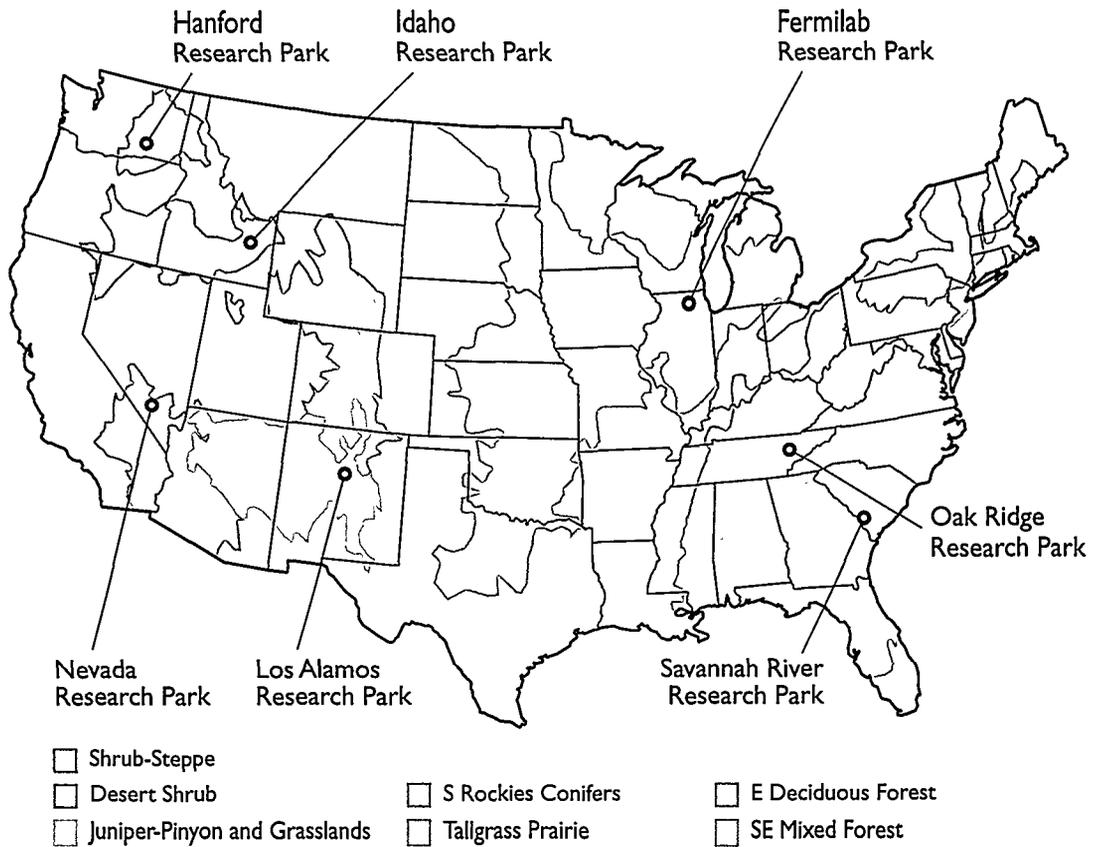


1985 Pacific Northwest published in book form the first energy-use model of CO₂ emissions; it would subsequently be adopted internationally to predict global emissions as a function of future energy and economic development.

1988 OHER initiated the first theoretical ecology research program devoted entirely to developing a theoretical basis for understanding and predicting the behavior of complex ecological systems.

1990 Oak Ridge's Carbon Dioxide Information Analysis Center produced a report entitled "Trends: A Compendium of Data on Global Change." It would become the global change data most often requested by government, academic, and private customers.

1991 Successful remediation of contaminated sediments began at Savannah River, based on stimulating the activity of native subsurface microorganisms capable of degrading the contaminants.



NATIONAL PARKS Seven DOE National Environmental Research Parks represent major ecoregions covering more than half of the lower 48 states. The parks are open to researchers for ecological studies and to the general public for environmental education.

Environmental impact statements prepared by AEC scientists in response to the requirements of the National Environmental Policy Act. As a result, in the early seventies, the AEC expanded its aquatic ecology efforts to include programs at Oak Ridge, Hanford, Argonne, and Savannah River. The products would include data that underlie today's national water quality standards for the protection of fisheries and aquatic ecosystems from heated discharges.

But perhaps the most visible symbol of an early commitment to ecological research is a system of seven National Environmental Research Parks, each representative of an important ecoregion in the U.S. The AEC established the concept of these parks in 1972, underscoring its leadership among federal agencies in environmental research. This farsighted step led eventually to more extensive ecological research and assessment programs in other agencies, especially the National Science Foundation and the

Environmental Protection Agency. Today the parks continue to serve as outdoor laboratories, where resident scientists and visiting researchers study ecosystem responses to a whole gamut of environmental changes.

Taken together, ecology programs within the energy agencies have had a profound effect. AEC biologists pioneered and, for years, dominated ecosystem studies, touching every facet of ecological research, from the cellular to the global. Collectively, they created the new field of radioecology and in so doing were largely responsible for changing ecology from a mainly descriptive discipline to a fully analytical and quantitative science. AEC biologists were among the first using tracers to track the pathways of chemicals through animals and food chains, to follow the movements of animals, and to study the natural cycling of materials. They also pioneered the use of a systems analysis approach to model the fate and effects of