

Human Contributions and Responses in Agroecosystems

Research on human contributions and responses in agroecosystems focus on: 1) how natural and human-induced environmental changes interact to affect the structure and function of ecosystems (and the goods and services they provide) at a range of spatial and temporal scales, including those ecosystem processes that influence regional and global environmental changes; and 2) how society can enhance and sustain desirable ecosystem goods and services, in the context of still uncertain regional and global environmental changes. Current foci include:

- the potential effects of climate variability and change on human health and welfare;
- human influences on the climate system, land use, and other global environmental changes;
- analyses of societal vulnerability and resilience to global environmental change;
- decision making under conditions of significant complexity and uncertainty; and
- integrated assessment methods, including the development of models to evaluate the consequences of human perturbations on essential nutrient cycles in soils, sediments, water, and other ecosystems. Such models assess the major pools for global carbon and nitrogen storage, human and natural transport of elements, and elemental interactions that affect ecosystem productivity.