

The large-scale and spatial distribution in the Greater Yellowstone Area raises a multitude of questions about fire's impact and what the long-term response of the ecosystem will be. Questions such as how will the spatial distribution of the fires change or alter long-term forest successional patterns or community composition and distribution; how will the pattern of the burns influence the rate of nutrient cycling or energy flow through the ecosystem; how will the patchy distribution of vegetation, resulting from heterogeneous burn patterns, influence the population dynamics and habitat use of large ungulates, will be considered in a research project funded jointly by NPS and USFS and administered by the U/WY NPS Research Center. This project, to begin in May 1990, will explore the importance of scale in the landscape ecology of the Greater Yellowstone Ecosystem. This study will use a combination of mathematical modeling and field studies to examine short-term ecosystem changes arising from the fires and to also predict long-term ecosystem patterns that may result. The resulting models will provide park managers a mechanism for evaluating potential effects of future fire management plans.