

"Forecasting Nature: Ecological Experiments In A Time Of Planetary Change"

Summary

A major research activity in ecology is forecasting how plant and animal communities will respond to changes in global temperature and nutrient enrichment. Although much of this research involves sophisticated statistical modeling, a more direct approach is to experimentally manipulate environmental drivers in the field or laboratory. Here I describe two studies that highlight the experimental approach: the dynamics of forest ant communities in response to experimental warming, and the collapse and recovery of aquatic ecosystems in response to nutrient enrichment. Both studies highlight surprising responses that would not be anticipated from traditional monitoring studies. The presentation concludes with a brief discussion of what motivates ecologists to do their work, and the distinction between basic ecology and applied environmental science.