ANDREW IRWIN, Mount Allison University

Statistical models of phytoplankton niches in a changing ocean

Anthropogenic changes in the Earth's climate system are expected to have dramatic consequences for the oceans, altering the flows in biogeochemical cycles and the dynamics of microscopic primary producers. We combine phytoplankton occurrence and abundance data with environmental variables to obtain ecological response functions for individual species. These response functions can be reduced to a simple description of phytoplankton realized niches. Differences in species niches suggest that it may be possible to incorporate the diversity of phytoplankton in predictions of changes over the next century.