

Global Change: Cryosphere and Sea-Level Impacts

Global climate change is the most significant environmental issue of our time. Of its many consequences, the deterioration of continental ice sheets and sea ice, and the consequent rise of sea level and inundation of coastal regions will potentially have tremendous impacts on near-marine inhabitants and infrastructure. Yet, the rate and magnitude of ice-sheet melting and sea-level rise, and the ensuing impacts on coastal regions are only poorly constrained. The Global Change initiative, partnered by the Departments of Geological Sciences and Atmospheric, Ocean, and Space Sciences, will bring together a team of scientists to investigate (1) the physics of ice sheets and shelves, (2) the influence of ice-sheet ablation and calving on polar and global ocean circulation and climate, (3) the impact of sea-level rise and climate change on near-coastal climate and weather, and (4) on coastal processes, including seawater inundation, erosion, and aquifer salinization, that will impinge upon coastal communities.