

Category

CR Cryosphere & GG Geology, Geophysics, Solid Earth & OS Ocean, Sea Ice

Session Number

CR-5

Session Title

Interactions between ice mass balance, the solid Earth, and sea-level changes

Session Description

This session explores improvements in our understanding and quantification of past, present and future ice sheet and sea-level changes, by focusing on ice sheet evolution and glacial isostatic adjustment. We invite contributions that relate to observations of global and regional sea-level changes, ice sheet mass changes and/or deformation of the solid Earth, as well as modeling of ice sheet dynamics, surface mass balance, basal hydrology, and glacial isostatic adjustment (GIA), in both the Arctic and Antarctic. Potential themes to be explored include: advances in ice sheet mass change observations; advances in long-term continental-scale modeling of ice sheets and in modeling the contribution of ice sheets to sea-level rise; new processes included in ice sheet models, such as cliff failure, hydro-fracturing, basal hydrology and other subglacial processes; advances in GIA modeling, including three-dimensional Earth models, and ranging from the Pleistocene to recent; and advances in sea-level change observations, including land-based and satellite methods. The goal of this session is to gain a perspective on glacier and ice sheet mass balance changes on a variety of time scales, and to review recent advances in the understanding of interactions of glaciers and ice sheets with oceans and the solid Earth.

Keywords: Ice mass balance, Glacial Isostatic Adjustment, Sea-level change

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