

PREFACE

The theme of issue 62 of the *Annals of Glaciology* is Seasonal Snow and Ice, which covers wide zones around the globe, mostly in sub-polar latitudes. The main forms are seasonal snow, sea ice, lake and river ice and frozen ground. The extent of the seasonal ice zone is highly sensitive to climate, as small climatic variations have a large impact on the location of the snow and ice margin. This brings major consequences to the environment as well as to human living conditions in the vicinity of the margin. Ice–climate feedback mechanisms are often first identified and sensed in the seasonal ice zone.

Historical information on the seasonal cryosphere is quite extensive, since this region is highly populated; and also people have had to find ways of living in the cold environment. New technologies have broadened our ability to examine the seasonal snow and ice zone, although uncertainty about its current state remains. Satellite remote sensing research is further improving the methodology for operational mapping and long-term monitoring purposes. While numerical modelling is making progress, thin snow and ice covers close to the margin remain difficult to model because of their high sensitivity to forcing. Ecological impact studies in the seasonal ice zone have increased over the past ten years and serve to further highlight the important role seasonal snow and ice has on the physical, chemical and biological systems of the sub-polar latitudes.

The goal of this issue is to create greater understanding of how seasonal snow and ice are responding to changes in the environment and climate, and what changes can be expected in the future. The papers represent diverse communities engaged in research on seasonal snow and ice.

The scientific editors of this issue – Lauri Arvola, Hiroyuki Enomoto, Nikolai Filatov, Sebastian Gerland, Ethan Greene, Peter Jansson, Yuji Kodama, Matti Leppäranta (chair), Zhijun Li, Lasse Makkonen and Martin Schneebeli – represent the different elements of the seasonal cryosphere well and have made every effort to maintain rigorous scientific standards throughout the review process. The IGS production staff has worked diligently to prepare this issue for publication. Finally, we thank the authors who contributed papers to this issue of the *Annals of Glaciology* and the referees for their careful and most valuable reviews of the manuscripts.

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