Timescales, Processes and Glacier Dynamics

Call for Papers

The International Glaciological Society (IGS) will publish a special issue of the *Annals of Glaciology* with the theme 'Timescales, Processes and Glacier Dynamics'. The issue will be part of Annals Volume 60 and will be issue number 78.

We have two joint Associate Chief Editors for this issue, Jesse Johnson (University of Montana) and Cornelis van der Veen (University of Kansas). Scientific Editors are Robert Anderson (University of Colorado), Mark Fahnestock (University of Alaska Fairbanks), Gwen Flowers (Simon Fraser University), Joel T. Harper (University of Montana) and Toby Meierbachtol (University of Montana), Christian Schoof (University of British Columbia), Leigh Stearns (University of Kansas) and Andreas Vieli (University of Zurich). Further editors will be appointed if needed

This is a thematic issue so we must insist on strict adherence to deadlines.

- 19 April 2018 – deadline for submitting a manuscript for this Annals.
    - https://mc.manuscriptcentral.com/AOG
- 22 July 2018 – deadline for supply of final accepted paper.
- Accepted papers will be published online as soon as authors have returned their proofs and all corrections have been made.
- The hard copy is scheduled for publication early 2019

Topics

The physical processes controlling glacier dynamics form the basis of modern glaciology. In spite of the rapid growth in observational data, the ultimate scientific challenge continues to be relating processes to observations. Time-series data are essential to understanding processes; however, their analysis often reveals processes operating on timescales ranging from diurnal to millennial. Individual processes may underpin long-term glacier stability, promote instability or drive natural variability in the glacier state.

For example, gravitationally driven flow is among the most fundamental processes in glaciology and controlled by ice-surface slope and thickness. The evolution of the ice surface, in turn, reveals processes related to the mechanical controls on ice flow, firn compaction, development of supraglacial meltwater flow networks, basal melt, isostasy and surface mass balance. Each of these processes alters the surface elevation and is characterized by a different timescale. Assessment of the processes producing changes over a particular time interval poses a major challenge. Hence, even routinely acquired data are difficult to reason about. Interpretation of other data, such as surface velocity, climatological data, radar stratigraphy, glacier history, ice core records, paleoclimate proxies and in situ observations, are also confounded by relations between processes and timescales.

Topics of interest are:

1. Identification of processes that exert significant control on glacier dynamics
2. Differentiation of processes that are manifestations of natural variability from those that are critical to glacier stability
3. Identification of the physical processes responsible for observed changes
4. Analyses of data that reveal processes operating on a characteristic timescale
5. Models of processes that help identify the timescales they operate on
6. Characterization of processes and timescales associated with glaciological hazards, from ice avalanches to outburst floods to sea-level rise
7. Linking paleoclimate research on timescales of 100–10 000 years to contemporary observations or models of glaciers.

Other relevant topic suggestions are welcome. If you have such a suggestion, or if you have any questions about the suitability of your paper for this Annals issue, please contact the Associate Chief Editors at

Jesse Johnson <jesse.johnson@mso.umt.edu> or Cornelis van der Veen <cjvdv@ku.edu>

The *Annals of Glaciology* is listed on the 'Web of Science'. Current impact factor is 2.349.

Please note the usual high standards of IGS publications apply and authors are expected to contribute towards the publication of the issue through page charges. For further details on page charges please view the 'Annals instruction' on the website

https://www.cambridge.org/core/journals/annals-of-glaciology/information/open-access-article-processing-charges