## Instructions to authors

#### Detailed instructions to authors are available online here: cambridge.org/core/journals/journal-of-glaciology/information

# The *Journal of Glaciology* publishes three types of paper:

- Articles concerning new findings and theories, or new instruments and methods, in glaciology; or review articles that offer an up-to-date, coherent account of a glaciological subject that is developming rapidly or has been neglected
- Letters identical in form and general content to Articles, but of reduced length, and carrying substantially reduced processing charges
- Communications short pieces without abstracts that could be, e.g., comments on published articles/letters, book reviews, or short correspondence on topics of interest to the community

#### Papers submitted should be:

- of high scientific quality
- complete and clear
- substantially different from previously published work.

#### Length

Papers should be concise. Lines and pages should be numbered. Letters are limited to five *Journal* pages and Correspondences to two (one *Journal* page = about 1000 words).

#### **Original submission**

Submit your paper via the *Journal of Glaciology* online submission system at https://mc.manuscriptcentral.com/jog

#### **Review process**

Your paper will be peer reviewed by at least two reviewers. The Scientific Editor will discuss any alterations required to the paper. The Associate Chief Editor will inform you if and when your paper is accepted for publication. Papers written in poor English, not appropriate for the journal, or of inferior quality will be rejected without review.

You will be sent a proof of your text and illustrations to check and correct in advance of online publication.

#### **Final submission**

The final accepted version of the paper should be in electronic format.

- Acceptable formats are
  - Text (including tables and figure captions) Word, rtf or LaTeX (the IGS class file should be used; downloadable from the website). Please also supply a final PDF
  - Figures ideally in tif or eps format (or otherwise in the format in which they were created)
- Responsibility for the accuracy of all data (including references) rests with the authors

#### Supplementary material

The *Journal of Glaciology* accepts and makes available online appropriate supplementary material. It should be clearly named and labelled and provided in standard file formats.

#### **General points**

- Title should be concise
- Abstract should be less than 200 words

- Papers should be divided into numbered sections with short section headings
- Use SI units
- Use internationally recognized systems of abbreviation
- Illustrations should
  - be one or two column widths: up to 85 mm or up to 178 mm
  - not be in boxes
  - use strong black lines (avoid tinting if possible)
  - use SI units in labels
  - use Optima, Arial or a similar sans serif font in labels
- TeX authors: please provide a pdf of the whole paper (text, tables, figures and captions) as well as the individual LaTeX and graphics files
- Equations should

   be set in MathType or advanced equation editor
  - NOT be embedded as graphics in the text
- Tables should
  - be numbered in Arabic
  - be referred to in text (as Table 1 etc.)
  - NOT be submitted as illustrations
- All citations in text should include the author name(s) and the year of publication (e.g. Smith, 2010; Smith and Jones, 2012; Smith and others, 2014) and must have an entry in the reference list
- Reference lists should
  - be concise
  - be complete and accurate, including doi numbers
  - be provided in precise *Journal* format, including punctuation and emphasis (see past papers for style)
  - be arranged in alphabetical order by first author's surname
  - include works accepted but not published as 'in press'
  - not include personal communications, unpublished data or manuscripts in preparation or submitted for publication (these should be included in the text)

#### **Open Access and page charges**

As a gold open access journal, the *Journal of Glaciology* is published without restriction and receives no subscription revenue. The costs of publication are instead covered by an article publishing charge (APC) levied upon the corresponding author, or their funding body or institution.

The APC for non-IGS members is £1,360 for a regular article (of 6 published pages or more), £680 for a letter (of 5 published pages or fewer) and £310 for a communication (of 2 published pages or fewer). IGS members receive a 10% discount on these charges.

Figures quoted here are correct for 2023.

Upon acceptance for publication the corresponding author will be contacted by Rightslink on behalf of Cambridge University Press, who will administer the collection of the article publishing charge. At that stage the corresponding author can pay by credit card or arrange for an invoice to be issued to his/her funding body or institution. Selected authors may be granted an APC waiver by the IGS. In such cases, a waiver code shall be provided, which should be issued to Rightslink upon receipt of the payment.

# Journal of **GLACIOLOGY**

#### **CONTENTS Vol 69 No 277** 2023

1097–1108 The vertical atmospheric structure of the partially glacierised Mittivakkat valley, southeast Greenland Iris Hansche, Sonika Shahi, Jakob Abermann and Wolfgang Schöner

1109–1124 Assessing controls on ice dynamics at Crane Glacier, Antarctic Peninsula, using a numerical ice flow model Rainey Aberle, Ellyn M. Enderlin, Hans-Peter Marshall, Michal Kopera and Tate G. Meehan

1125–1137 **Crevasse density, orientation and temporal variability at Narsap Sermia, Greenland** Maximillian Van Wyk de Vries, James M. Lea and David W. Ashmore

1138–1148 Observing tidal effects on the dynamics of the Ekström Lee Shelf with focus on quarterdiurnal and terdiurnal periods Tanja Fromm, Vera Schlindwein, Veit Helm and Vera Fofonova

1149–1166 Glaciological and climatological drivers of heterogeneous glacier mass loss in the Tanggula Shan (Central-Eastern Tibetan Plateau), since the 1960s Owen King, Sajid Ghuffar, Atanu Bhattacharya, Ruzhen Yao, Tandong Yao and Tobias Bolch

1167–1186 Variational inference of ice shelf rheology with physics-informed machine learning Bryan Riel and Brent Minchew

1187–1202 Increasing rate of 21st century volume loss of the Patagonian Icefields measured from proglacial river discharge Maximillian Van Wyk de Vries, Matias Romero, Shanti B. Penprase, G.-H. Crystal Ng and Andrew D. Wickert

1203–1213 Range of 21st century ice mass changes in the Filchner-Ronne region of Antarctica Andrew Johnson, Andy Aschwanden, Torsten Albrecht and

**Regine Hock** 

1214–1224 Detection of crevassed areas with minimum geometric information: Vernagtferner case study Theresa Dobler, Wilfried Hagg and Christoph Mayer

1225–1240 Long time series (1984–2020) of albedo variations on the Greenland ice sheet from harmonized Landsat and Sentinel 2 imagery

Shunan Feng, Joseph Mitchell Cook, Alexandre Magno Anesio, Liane G. Benning and Martyn Tranter

1241-1259 Model insights into bed control on retreat of

Thwaites Glacier, West Antarctica Emily Schwans, Byron R. Parizek, Richard B. Alley, Sridhar Anandakrishnan and Mathieu M. Morlighem

1260–1274 Patterns and drivers of glacier debris-cover development in the Afghanistan Hindu Kush Himalaya Jamal A. N. Shokory and Stuart N. Lane

1275–1291 Ice aprons on steep high-alpine slopes: insights from

the Mont-Blanc massif, Western Alps Ludovic Ravanel, Grégoire Guillet, Suvrat Kaushik, Susanne Preunkert, Emmanuel Malet, Florence Magnin, Emmanuel Trouvé, Maurine Montagnat, Yajing Yan and Philip Deline

1292–1304 Snow and avalanche climates in the French Alps using avalanche problem frequencies Benjamin Reuter, Pascal Hagenmuller and Nicolas Eckert

1305–1316 Glacier area changes in Novaya Zemlya from 1986–89 to 2019–21 using object-based image analysis in

Google Earth Engine Asim Ali, Paul Dunlop, Sonya Coleman, Dermot Kerr, Robert W. McNabb and Riko Noormets

1317–1332 Exploring the impact of a frontal ablation parameterization on projected 21st-century mass change for Northern Hemisphere glaciers Jan-Hendrik Malles, Fabien Maussion, Lizz Ultee, William Kochtitzky, Luke Copland and Ben Marzeion

1333–1350 Dynamics throughout a complete surge of Iceberg Glacier on western Axel Heiberg Island, Canadian High Arctic Benoît Lauzon, Luke Copland, Wesley Van Wychen, William Kochtitzky, Robert McNabb and Dorthe Dahl-Jensen

1351–1364 Physical and morphological properties of first-year Antarctic sea ice in the spring marginal ice zone of the Atlantic-Indian sector

Siobhan Johnson, Riesna R. Audh, Wayne de Jager, Boitumelo Matlakala, Marcello Vichi, Ashleigh Womack and Tokoloho Rampai

1365–1378 Automated prediction of wet-snow avalanche Activity in the Swiss Alps Martin Hendrick, Frank Techel, Michele Volpi, Tasko Olevski,

Cristina Pérez-Guillén, Alec van Herwijnen and Jürg Schweizer 1379–1392 Firn aquifer water discharges into crevasses across

Southeast Greenland Eric Cicero, Kristin Poinar, Renette Jones-Ivey, Alek A. Petty, Jeanette M. Sperhac, Abani Patra and Jason P. Briner

1393–1402 Robust reconstruction of glacier beds using

transient 2D assimilation with Stokes Samuel Cook, Fabien Gillet-Chaulet and Johannes Fürst

1403–1418 A method to estimate surface mass-balance in glacier accumulation areas based on digital elevation models

glader accumulation areas based on anglia circumstered and submergence velocities Bruno Jourdain, Christian Vincent, Marion Réveillet, Antoine Rabatel, Fanny Brun, Delphine Six, Olivier Laarman, Luc Piard, Patrick Ginot, Olivier Sanchez and Etienne Berthier 1419–1433 Characterising ice slabs in firn using seismic full

waveform inversion, a sensitivity study Emma Pearce, Adam D. Booth, Sebastian Rost, Paul Sava, Tuğrul Konuk, Alex Brisbourne, Bryn Hubbard and Ian Jones

1434–1448 Strong impact of sub-shelf melt parameterisation on ice-sheet retreat in idealised and realistic Antarctic topography Constantijn J. Berends, Lennert B. Stap and Roderik S. W. van de Wal

1449–1465 Post-Little Ice Age glacial lake evolution in Svalbard: inventory of lake changes and lake types Iwo Wieczorek, Mateusz C. Strzelecki, Łukasz Stachnik,

Jacob C. Yde and Jakub Małecki

1466–1482 Influence of seasonally varying sea-ice concentration and subsurface ocean heat on sea-ice thickness and sea-ice seasonality for a 'warm-shelf' region in Antarctica Benjamin T. Saenz, Darren C. McKee, Scott C. Doney, Douglas G. Martinson and Sharon E. Stammerjohn

1483-1499 'Stable' and 'unstable' are not useful descriptions of marine ice sheets in the Earth's climate system Olga Sergienko and Marianne Haseloff

1500–1514 **Changes in glacier albedo and the driving factors in the Western Nyaingentanglha Mountains from 2001 to 2020** Shaoting Ren, Li Jia, Massimo Menenti and Jing Zhang

1515–1523 **Global clustering of recent glacier surges from radar backscatter data, 2017–2022** Andreas Kääb, Varvara Bazilova, Paul Willem Leclercq,

Erik Schytt Mannerfelt and Tazio Strozzi

1524–1528 Geothermal heat flow from borehole measurements at the margin of Princess Elizabeth Land (East Antarctic Ice

**Sheet)** Pavel G. Talalay, Da Gong, Xiaopeng Fan, Yazhou Li, German Leitchenkov, Bing Li, Nan Zhang, Rusheng Wang, Yang Yang and Jialin Hong

> Front cover Aerial view of a proglacial lake of the Mittivakkat glacier (Greenland) taken with an unoccupied aerial vehicle (UAV) in July 2019 Credit: Jakob Abermann & Iris Hansche. Related to doi: 10.1017/jog.2022.120

## Published for the International Glaciological Society, Cambridge, UK

Cambridge Core For further information about this journal please go to the journal website at: cambridge.org/jog



