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Glacial Erosion and Sedimentation

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PREFACE

This thematic issue of the *Annals of Glaciology* on glacial erosion and sedimentation is the result of a solicitation to the glaciological community in 2019. Also, on May 12-17 of that year, the International Glaciological Society (IGS) held a symposium on that theme in Madison, Wisconsin. This meeting was the third IGS international symposium on glacial erosion and sedimentation, with the previous symposium held in Reykjavik in 1995. Since that time, methods applied to how glaciers erode rock, move, modify and deposit sediment, and shape landscapes have improved greatly, and efforts to link these processes to glacier dynamics have intensified.

This volume highlights these improved methods and heightened attention to glacier dynamics. Refined geophysical techniques probe subglacial conditions and landforms in sufficient detail to relate subglacial sediment transport to the dynamics of modern ice streams. LiDAR and satellite-based remote sensing techniques image glacial landscapes with extraordinary resolution, revealing previously unrecognized landforms and allowing modern changes to landscapes to be quantitatively assessed. Cosmogenic nuclides of proglacial bedrock provide long-term estimates of erosion rates. Numerical models allow re-evaluation of the theoretical foundations for glacier sliding and bedrock erosion. New experimental and theoretical approaches provide improved assessments of friction between the bed and debris in ice that impedes glacier sliding, and innovative analytical techniques illuminate the origin of the silt and clay that are ubiquitous in tills and help control their mechanical properties.

The *Annals of Glaciology* is a peer-reviewed, thematic journal published by Cambridge University Press on behalf of the International Glaciological Society. We thank the six Scientific Editors, listed above, who applied their broad range of expertise to assessing the articles of this volume and IGS Chief Editor, Hester Jiskoot, for handling some of the articles as Associate Chief Editor. We are also grateful to the reviewers of these articles who worked to evaluate and improve manuscripts with constructive criticism. The symposium was sponsored by the Department of Geoscience and the Wisconsin Geological and Natural History Survey of the University of Wisconsin-Madison. Special thanks are due to David Mickelson and Elmo Rawling for leading the organization and execution of the symposium's mid-week field trip to the classic glacial landscapes of southeastern Wisconsin. The field trip guide can be downloaded at <https://wgnhs.wisc.edu/pubs/wofr201902/>.

Neal R. Iverson
Lucas K. Zoet

CONTENTS

R. B. Alley, K. M. Cuffey, L. K. Zoet	Glacial erosion: status and outlook	1
Dustin M. Schroeder, Emma J. Mackie, Timothy T. Creyts, John B. Anderson	A subglacial hydrologic drainage hypothesis for silt sorting and deposition during retreat in Pine Island Bay	14
Douglas R. MacAyeal	Revisiting Weertman's tombstone bed	21
Neal R. Iverson, Christian Helanow, Lucas K. Zoet	Debris-bed friction during glacier sliding with ice–bed separation	30
Dougal D. Hansen, Lucas K. Zoet	Experimental constraints on subglacial rock friction	37
Jeff W. Crompton, Gwenn E. Flowers, Brendan Dyck	Characterization of glacial silt and clay using automated mineralogy	49
J. B. Woodard, L. K. Zoet, N. R. Iverson, C. Helanow	Linking bedrock discontinuities to glacial quarrying	66
Cari Rand, Brent M. Goehring	The distribution and magnitude of subglacial erosion on millennial timescales at Engabreen, Norway	73
Atsuhiko Muto, Richard B. Alley, Byron R. Parizek, Sridhar Anandkrishnan	Bed-type variability and till (dis)continuity beneath Thwaites Glacier, West Antarctica	82
Kiya L. Riverman, Sridhar Anandkrishnan, Richard B. Alley, Nicholas Holschuh, Christine F. Dow, Atsuhiko Muto, Byron R. Parizek, Knut Christianson, Leo E. Peters	Wet subglacial bedforms of the NE Greenland Ice Stream shear margins	91
Jasper Knight	Coeval brittle and ductile deformation beneath the late Wisconsinan Puget Lobe, Washington State, USA	100
Antti E. K. Ojala, Gustaf Peterson, Joni Mäkinen, Mark D. Johnson, Kari Kajutti, Jukka-Pekka Palmu, Elina Ahokangas, Christian Öhrling	Ice-sheet scale distribution and morphometry of triangular-shaped hummocks (murtoos): a subglacial landform produced during rapid retreat of the Scandinavian Ice Sheet	115
D. Harrison, N. Ross, A. J. Russell, S. A. Dunning	Post-jökulhlaup geomorphic evolution of the Gígjökull Basin, Iceland	127

Neil Ross, Peter Brabham, Charles Harris	The glacial origins of relict 'pingos', Wales, UK	138
Haley B. Williams, Michele N. Koppes	A comparison of glacial and paraglacial denudation responses to rapid glacial retreat	151