GLACIAL LANDSYSTEMS OF SOUTHEAST ICELAND - QUATERNARY APPLICATIONS

Field Guide

Edited by
David J. A. Evans
Cover photograph: The partially debris-covered snout of Kviárjökull in 2013 and the supraglacial debris and kame terraces recording recent ice recession from the adjacent foreland (D.J.A. Evans)

Produced to accompany the 19th GLWG and QRA Field Meeting based at Reynivellir in SE Iceland, 1st - 7th September 2018

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Preface

In 1968 the Quaternary Field Studies Group (QFSG), later renamed the Quaternary Research Association (QRA), was three years old and delivered its first overseas field meeting, at Breiðamerkurjökull in southeast Iceland, led by Robert J. Price of the University of Glasgow with the aid of his PhD student Phil Howarth. It was uncharted territory for the QFSG, illustrated by the fact that it needed to actually write a constitution in order for the organizers to open a bank account for the trip! The trip was bold also in that it took a substantial group of 20 to a field location that entailed difficult logistics. Iceland’s Highway 1 in the area was but a gravel track and lacked a river crossing point of the Jökulsa in the centre of the glacier foreland, the bridge only being constructed in 1971. Accommodation also proved difficult, with the Breiða Hut located on the western foreland being the only possible shelter (Figure 1).


So 50 years later the QRA finally returns to SE Iceland to run a joint field meeting with the Glacial Landsystems Working Group (GLWG). It is a significant anniversary for GLWG too, being 20 years since its formation in 1998 and this trip being numbered GLWG 19. The field area, and Breiðamerkurjökull in particular, is also highly significant, being the location of: 1) the first systematic study of a modern analogue glacial process-form model, published in 1969 by R.J. Price (Figure 2); 2) the production of one the earliest time series sets of glacier foreland maps by the University of Glasgow, which together with historical documentation constitutes the longest series of charted glacier snout recession (Figure 3); and 3) the benchmark subglacial deforming layer monitoring accessed via a tunnel in the west snout by Geoffrey Boulton and co-workers in the late 1970s.
Since the 1968 field meeting the area has thus become the ideal outdoor laboratory for the study of glacial process and landsystem evolution, with continued glacier snout recession delivering observable and quantifiable spatial and temporal change in a range of landsystem exemplars. This richness and diversity in earth surface processes is a major component of the repertoire of the Vatnajökull National Park and is central to its recent submission to UNESCO for World Heritage status. For GLWG the time is right for a visit to the full range of modern landsystems on offer in the area, including active temperate, debris-charged, jökulhlaup, overdeepening / outwash head and surging, in addition to observing the operation and impacts of supercooling and subglacial till deformation.

David J A Evans
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Figure 3: The Breiðamerkurjökull map series produced by the University of Glasgow for 1945 and 1965 (Howarth & Welch 1969a & b) and 1998 (Evans & Twigg 2000, 2002).
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