

# LATEGLACIAL RAISED BEACHES AND GLACIER RECESSSION IN THE ÞISTILFJÖRÐUR–BAKKAFLÓI AREA, NORTHEAST ICELAND

Hreggviður Norðdahl

*Science Institute, University of Iceland,  
Dunhaga 3, IS-107 Reykjavík, Iceland*

Christian Hjort

*Department of Quaternary Geology, Lund University,  
Sölvegatan 13, S-223 62 Lund, Sweden*

## ABSTRACT

*A survey of Lateglacial raised beaches in the Þistilfjörður-Bakkaflói area in northeast Iceland has revealed three marine levels at different altitudes above present sea-level. The earliest and highest one, situated at about 65 m, was only found at the Viðarvík cove in the Þistilfjörður area. A lower and younger level at 50-45 m was found at the Viðarvík cove and at the Bakkaflói bay in the Bakkaflói area. These high marine levels are both associated with ice-marginal deposits at the present coast. A still lower and younger, but very distinct marine level at about 30 m some 1-2 km inside the present coastline in the Þistilfjörður-Bakkaflói area, is of more regional marine-limit character. It was imprinted onto an already deglaciated landscape, either as low abrasional cliffs or as very distinct, up to 5 m high and 30 m wide beach ridges. At the time of the formation of the 30 m level the glacier margins stood some 5 km inland from the present coast, in some cases associated with well developed sandurs reaching the contemporaneous coastline. No relevant datable material has yet been found in the Þistilfjörður and Bakkaflói areas and an apparent age for the studied marine levels is, therefore, inferred from <sup>14</sup>C-dated sequences in adjacent areas. Comparison with data from the Melrakkaslétta peninsula immediately north*

*of the Þistilfjörður area suggests that the higher marine levels (65 m, 50-45 m) are younger than 12,700 BP, with the 50-40 m level most likely of Younger Dryas age. A glacier readvance and the formation of the 30 m level is compared with a late Younger Dryas or an early Preboreal marine level on the western Melrakkaslétta peninsula and in the Vopnafjörður area. The 30 m marine limit is postdated by the early Holocene rhyolitic Miðfjörður Tephra, a tentative chronostratigraphical marker in north and northeast Iceland.*

## INTRODUCTION

This paper describes raised shorelines and fluvioglacial deposits of late Weichselian and early Holocene age in northeast Iceland. They are compared with similar features on the western Melrakkaslétta peninsula and in the Vopnafjörður area, west and south of the investigated area.

The studied area is the terrain south-west of Þistilfjörður and Bakkaflói bounded by the Melrakkaslétta, Langanes, and Digranes peninsulas (Figure 1). The oldest part of the area are glacially eroded bedrock formations made of more than 3 Ma old lava flows with intercalated sediments, situated south-west of Þistilfjörður and Bakkaflói and on the Digranes peninsula. The bedrock of the Langanes peninsula and of the