An Atlas of Submarine Glacial Landforms: Modern, Quaternary and Ancient

In the past two decades there have been several advances that make the production of an atlas of submarine glacial landforms timely. First is the development of high-resolution imaging technologies: multibeam echo-sounding or swath bathymetry that allows the detection mapping of features in water depths of less than thousands of metres across continental shelves and continental rise areas. Secondly, the availability of glaciological and sedimentological data from ice shelves and ice stream termini, floors of fjords and coastal margins, and submersed ice caps and ice streams have led to the recognition of a wide range of glacial landforms. Thirdly, palaeo-environmental studies are advancing our understanding of the glacial records in the Atlantic and Southern Oceans. This atlas aims to present a summary of the glacial landforms that can be recognized by different imaging techniques on the continental shelves of the Arctic and Antarctic to deploy the multibeam systems. A fourth component is that of relevance — through both the recognition that the polar regions are sensitive to climate change, and increasing awareness of the impact of human activities on the global environment, and therefore, of increasing importance to both academics and industry. We are adding an Atlas of Submarine Glacial Landforms that presents a series of individual contributions that describe, explain and illustrate features on the high-latitude, glacially-influenced continental shelves and continental rise areas. The atlas serves as a resource for a wide range of users in research and industry who need to map and understand the glacial geology of northern and southern polar regions. It provides an important overview of the modern and ancient glacial landforms and is a useful reference to all users of multibeam data. The Atlas will be published in 2015 in the Memoir Series of the Geological Society of London.

Editors


University of Cambridge, UK
Department of Earth Sciences, University of Cambridge, UK
The Glacial Geology of the Norwegian Continental Shelf

Accepted papers (25 November 2014)

Overview maps showing the geographic distribution of some contributions to the Atlas of the Submarine Glacial Landforms

Additional contributions are welcome. Deadline is January 31, 2015. Please contact Julian Dowdeswell, jhd@cantab.net.uk

Examples of 2-page contributions describing glacial landforms

Example of a 4-page contribution describing an assemblage of glacial landforms

Schematic diagrams and illustrations of specific type of landforms

Figure 3. The three principal components of the landform-assemblage...