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Data Article

Multiyear data on benthic foraminifera in a glaciated fjord of Svalbard

Elena Golikova^{a,b,*}, Olga Kniazeva^{a,b}, Sergei Korsun^{a,b}

^a P.P. Shirshov Institute of Oceanology of Russian Academy of Sciences, Russia

^b Saint-Petersburg State University, Russia

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ABSTRACT

Glaciers in the fjords of Svalbard have been receding over last decades. Tempelfjorden, a typical glaciated fjord in West Spitsbergen (78°24'06" N, 17°02'30" E), has been sampled in summer 1995 and 2001–2007 for modern benthic foraminifera. We have normalized the abundances and unified the taxonomy of all these published and unpublished data sets and then compiled the record of foraminiferal assemblages changing over years into a comprehensive database. The record includes data on living and dead abundances of benthic foraminiferal species in the surface sediments (0–2 cm) and downcore abundances of living foraminifera (only for 2004). This database portrays benthic foraminifera, this key group of microfossils, in a gradually changing Arctic environment.

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Specifications Table

Subject area	<i>Earth and Planetary Sciences</i>
More specific subject area	<i>Benthic Foraminifera</i>

* Corresponding author at: P.P. Shirshov Institute of Oceanology of Russian Academy of Sciences, Russia.
E-mail address: e.golikowa@spbu.ru (E. Golikova).

Type of data	<i>Tables, figure</i>
How data was acquired	<i>Sampled in summer 1995 and 2001–2007 using box or interface corers; samples stained with Rose Bengal; live and dead benthic foraminifera identified to the species level and counted.</i>
Data format	<i>Tables with densities of live and dead foraminifera; one table listing the dates, locations and water depths of sampling stations.</i>
Experimental factors	–
Experimental features	–
Data source location	<i>Tempelfjorden, the Svalbard archipelago</i>
Data accessibility	<i>The data are available with this article</i>

Value of the data

- The data make it possible to link the multiyear dynamics of benthic foraminiferal assemblages and glacier retreat.
 - The data allow assessing the response of foraminiferal assemblages to surge events of the glacier in the fjord head.
 - The data on vertical distribution of live benthic foraminifera in 10 cm cores can be used to reveal species-specific microhabitat preferences in a glaciated environment.
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1. Data

Fjords are natural archives of sediments that can provide high-resolution records of late- and postglacial palaeoceanographic changes. Today, subpolar fjords are often affected by glacial sedimentation [1] with glaciers delivering substantial amount of mineral matter. Turbid meltwater is the main sources of environmental stress for the benthic organisms. This stress affects the structure of modern benthic assemblages [2–5]. Studies of present-day processes in subpolar glaciated fjords are essential for accurate interpretation of past environmental records [6].

Two glaciers terminate in the head of Tempelfjorden, the tidewater Tunabreen merged with the land-based Von Postbreen (see [4] and [8] for the detail). Both glaciers have experienced several surges over the last two centuries [7]. Previous surveys recorded substantial changes in benthic foraminiferal assemblages along the Tempelfjorden in 1995 and 2006 [4,8]. The data presented here cover the modern surface and downcore distribution of living and dead benthic foraminifera in Tempelfjorden in years 1995 and 2001–2007. The species list is taxonomically verified, and all abundances are normalized to 10 cm³.

The dataset consists of:

1. A station list showing sampling dates, locations and water depths (Table 1),
2. Abundances of living and dead foraminifera (size fraction > 0.125 mm) from surface samples along the Tempelfjorden obtained in summer 1995 and 2001–2007 including numbers of counted

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