# Dataset of 3D foraminifera to unravel environmental changes in the Baltic Sea entrance over the last 200 years

**SND-ID**: 2023-40-1. **Version**: 1. **DOI**: https://doi.org/10.5878/285v-pt74

### Download data

DV1_2013.zip *(1.62 GB)*
DV10_1986.zip *(711.62 MB)*
DV12_1978.zip *(956.44 MB)*
DV16_1960.zip *(1.08 GB)*
DV2_2010.zip *(1.52 GB)*
DV20_1939.zip *(1.26 GB)*
DV22_1923.zip *(850.14 MB)*
DV24_1906.zip *(1023.59 MB)*
DV26_1890.zip *(3.33 GB)*
DV28_1873.zip *(883.53 MB)*
DV30_1857.zip *(902.74 MB)*
DV32_1840.zip *(961.48 MB)*
DV36_1807.zip *(910.18 MB)*
DV4_2005.zip *(1.78 GB)*
DV5_2002.zip *(1.97 GB)*
DV8_1993.zip *(695.14 MB)*
readme.txt *(4.22 KB)*

### Download all files

2023-40-1-1.zip *(~20.28 GB)*

### Citation

Choquel, C. (2023) Dataset of 3D foraminifera to unravel environmental changes in the Baltic Sea entrance over the last 200 years (Version 1) [Data set]. Lund University. Available at: https://doi.org/10.5878/285v-pt74

### Creator/Principal investigator(s)

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### Research principal

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### Description

Dataset of 3D reconstructions of the foraminifer Elphidium clavatum (marine protist with a calcite shell) acquired at the Beamline BL 47XU, SPring-8 synchrotron facility (Japan). A voxel size of 0.5 µm was used. In total, 124 specimens of Elphidium clavatum were scanned. For each specimen are

available: a collection of raw images ("cropped" folder), a collection of binary images ("mask" folder), a 3D reconstruction (STL file), and two snapshot images of the 3D reconstruction. Sediment cores were collected in 2013 during a cruise with R/V Skagerak at Öresund station DV, north of the Island of Ven (55°55.59′ N, 12°42.66′ E). From the sediment core, 16 sediment layers were selected, representing the last 200 years (i.e., roughly the years ~2013, ~2010, ~2005, ~2002, ~1993, ~1986, ~1978, ~1960, ~1939, ~1923, ~1906, ~1890, ~1873, ~1857, ~1840, and ~1807). Between five to ten Elphidium clavatum specimens were selected from each layer. The dataset is part of the study exploring 3D time series of microfossils recording environmental conditions in the Baltic Sea entrance from the period early industrial (the 1800s) to present-day (the 2010s). The size of the dataset is 57 GB. Please contact the main author for further details.

124 specimens of Elphidium clavatum from 16 sediment layers were scanned. For each specimen, the following files are available: a collection of raw images in TIF format ("cropped" folder), a collection of binary images in TIF format ("mask" folder), a 3D reconstruction in STL format, and two snapshot images of the 3D reconstruction in TIF or PNG format. A voxel size of 0.5 µm was used. The data for each specimen is stored in a folder named as follows: DV(sediment depth in cm)-sp(specimen number)-(estimated year), e.g., “DV1-sp2-2013” (sediment depth: 1 cm, specimen 2, estimated year 2013). Examples of suitable software for handling the files include ImageJ and MeshLab.

Total number of files: 69,652 (plus a readme file with documentation)
Total number of folders: 390
Dataset size: 57,1 GB

**Data contains personal data**

No

**Language**

English

**Time period(s) investigated**

1807 – 2013

**Data format / data structure**

Still image

3D

**Species and taxons**

Foraminifera
Elphidium clavatum

**Geographic spread**

Geographic location: Sweden, Skåne County, Öresund

Geographic description: Sediment cores were collected in 2013 during a cruise with R/V Skagerak at Öresund station DV, north of the Island of Ven (55°55.59′ N, 12°42.66′ E).

**Responsible department/unit**

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- Funding agency: Formas
- Funding agency's reference number: 2012-2140

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### Funding 3

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### Research area

Earth and related environmental sciences (Standard för svensk indelning av forskningsämnen 2011)

Natural sciences (Standard för svensk indelning av forskningsämnen 2011)

Geology (Standard för svensk indelning av forskningsämnen 2011)


### Keywords

Benthic foraminifera, 3d reconstructions


### Point (Lon/Lat)

12.673004, 55.936606

### Accessibility level

Access to data through SND
Data are freely accessible

### Use of data

Things to consider when using data shared through SND



### Versions

Version 1. 2023-03-16

**Contacts for questions about the data**

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**Download metadata**

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