

# SEAD - The Strategic Environmental Archaeology Database

**SND-ID:** ext0021-1.

## Creator/Principal investigator(s)

Philip Buckland - Umeå University, Environmental Archaeology Laboratory, Department of historical, philosophical and religious studies

Erik J Eriksson - Umeå University, Environmental Archaeology Laboratory, Department of historical, philosophical and religious studies

Karin Viklund - Umeå University, Environmental Archaeology Laboratory, Department of historical, philosophical and religious studies

Johan Linderholm - Umeå University, Environmental Archaeology Laboratory, Department of historical, philosophical and religious studies

Patrik Svensson - Umeå University, HUMLab

## Research principal

[Umeå University](#) - Department of historical, philosophical and religious Studies

## Description

SEAD is an open access multiproxy environmental archaeology and palaeoecology database and software development project. The database contains the raw data from the scientific analysis of archaeological, Quaternary geological and related investigations, mainly from Sweden and Europe, but also to a lesser extent from outside of the EU. The raw data include counts of plant macrofossils, fossil insects and pollen along with geoarchaeological measurements and ceramic analyses. Dating methods stored range from calendar or coinage records, through radiocarbon (14C) and dendrochronology, to broad period definitions. SEAD is built around a flexible modular architecture and can be expanded to cope with any related material. Online/offline interfaces for data entry and extraction are available, including the advanced low level aggregation of data from multiple sites. The project is part of an international network of palaeoecology databases, and includes a large amount of modern reference, calibration and ecological data to aid interpretation.

Purpose:

The primary purposes of SEAD is the dissemination of scientific data from archaeological and palaeoenvironmental investigations. This includes the online publication of grey literature and its associated data (especially from the National Environmental Archaeology Lab in Umeå, Ceramics and Dendrochronology Labs in Lund) as well as databases previously not available online. SEAD also aims to provide powerful interrogation and analysis tools which allow users to identify trends and relationships through a multiple and broad range of datasets for looking at multi-scale environmental and climate change and human impact. SEAD also integrates modern ecology with the fossil data and provides a comprehensive bibliography, methods reference and site metadata.

## Data contains personal data

No

## Unit of analysis

[Object](#)

[Other](#)

## **Population**

Extensive: Subfossil plant, insect and other species; geochemical and physical properties; dating; archaeological and Quaternary geological samples; taxa

## **Sampling procedure**

The selection method used to import to the SEAD database is based on a peer-review system. Collected materials and data is uploaded to a screening platform where uploaded materials are reviewed and quality assured. At acceptance the material is merged with the public and official database.

## **Geographic spread**

Geographic description: Primarily Europe, some data coverage globally.

## **Responsible department/unit**

Department of historical, philosophical and religious Studies

## **Research area**

[History](#) (CESSDA Topic Classification)

[Geology](#) (Standard för svensk indelning av forskningsämnen 2011)

[Geochemistry](#) (Standard för svensk indelning av forskningsämnen 2011)

[Other earth and related environmental sciences](#) (Standard för svensk indelning av forskningsämnen 2011)

[Ecology](#) (Standard för svensk indelning av forskningsämnen 2011)

[History and archaeology](#) (Standard för svensk indelning av forskningsämnen 2011)

[Archaeology](#) (Standard för svensk indelning av forskningsämnen 2011)

## **Keywords**

[Environmental changes](#), [Climate change](#), [Insects](#), [Quaternary geology](#), [Subfossils](#), [Plant macrofossils](#), [Pollen](#), [Dating](#), [Dendrochronology](#), [Ceramics](#), [Geoarchaeology](#), [Proxy data](#), [Palaeoecology](#), [Environmental archaeology](#)

## **Publications**

Buckland, P.I. 2010. Environmental Archaeology, Climate Change and E-Science. Skytteanska Samfundets årsbok, Thule.

[Swepub | Institutional Repository](#)

Buckland, P.I., Eriksson, E.J. & Palm, F. 2014. SEAD - The Strategic Environmental Archaeology Database, Progress Report Spring 2014. MAL reports nr. 2014-13. Environmental Archaeology Lab. Umeå University. 46 pp.

[Libris](#)

Buckland, P. I., Olofsson, J. & Engelmark, R. 2006. Planning Report: SEAD. Strategic Environmental Archaeology Database. MAL rapports nr. 2006-031. Environmental Archaeology Lab. Department of Archaeology & Sámi Studies

[Read full text](#)

Buckland, P.I. 2010. SEAD - The Strategic Environmental Archaeology Database. An international research cyber-infrastructure for studying past changes in climate, environment and human activities. Journal of Northern Studies. No.1 2010.

[Read full text](#)

Buckland, P.I. 2011. Freeing information to the people. International Innovation, EuroFocus, 2011 Issue 4: Nordic Spotlight, pp. 51-53.

[Swepub | Institutional Repository](#)

Buckland, P. I. 2014. SEAD - The Strategic Environmental Archaeology Database. Inter-linking multiproxy environmental data with archaeological investigations and ecology. In: Graeme Earl, Tim Sly, Angeliki Chrysanthi, Patricia Murrieta-Flores, Constantinos Papadopoulos, Iza Romanowska & David Wheatley (Ed.), CAA2012, Proceedings of the 40th Annual Conference of Computer Applications and Quantitative Methods in Archaeology (CAA), Southampton, England. Amsterdam.

[Read full text](#)

Buckland, P.I. & Eriksson, E.J. 2014. Strategic Environmental Archaeology Database (SEAD). In Smith, C., Lanteri, C., Reid, J., Smith, J. & Krauss, T.M. (2014). The Encyclopedia of Global Archaeology. Springer.

[Swepub | Institutional Repository](#)

**DOI:** [https://doi.org/10.1007/978-1-4419-0465-2\\_833](https://doi.org/10.1007/978-1-4419-0465-2_833)

Buckland, P.I., Eriksson, E.J., Linderholm, J., Viklund, K., Engelmark, R., Palm, F., Svensson, P., Buckland, P.C., Panagiotakopulu, E. & Olofsson, J. 2010. Integrating Human Dimensions of Arctic Palaeoenvironmental Science: SEAD - The Strategic Environmental Archaeology Database. Journal of Archaeological Science, 38 (2), pp. 345-351.

[Swepub | Institutional Repository](#)

**DOI:** <https://doi.org/10.1016/j.jas.2010.09.011>

Meissner, K., Buckland, P.I., Linderson, H. & Hammarlund, D. 2012. Pilotprojekt "Dendro-databas" i SEAD April 2012-juni 2012. MAL rapporter nr. 2012-23. Umeå universitet & Lunds universitet. (In Swedish).

[Read full text](#)

Palm, F. 2009. Abstracting query building for multi-entity faceted browsing. Lecture Notes in Computer Science, 2009, Volume 5822/2009, 53-63.

**DOI:** [https://doi.org/10.1007/978-3-642-04957-6\\_5](https://doi.org/10.1007/978-3-642-04957-6_5)

Buckland, P.I. 2014. The Bugs Coleopteran Ecology Package (BugsCEP) database: 1000 sites and half a million fossils later. Quaternary International Special Issue: Russell Cope Honorary volume.

**DOI:** <https://doi.org/10.1016/j.quaint.2014.01.030>

Buckland, P.I. & Buckland, P.C. 2014. BugsCEP, an entomological database twenty-five years on. Antenna (Journal of the Royal Entomological Society) 38(1), 21-28.

[Researchgate | Academia | Diva](#)

Buckland, P.I. & Buckland, P.C. 2012. Species found as fossils in Quaternary sediments. In Duff, A.G., Checklist of Beetles of the British Isles, 2nd Edition. A.G. Duff, Wells, Somerset, United Kingdom. pp. 127-130.

[Swepub | Coleopterist | Institutional Repository](#)

Buckland, P.I., Buckland, P.C. & Olsson, F. 2014. Paleoentomology: Insects and other Arthropods in

Environmental Archaeology. In Smith, C., Lanteri, C., Reid, J., Smith, J. & Krauss, T.M. (in press). The Encyclopedia of Global Archaeology. Springer.

[Researchgate](#) | [Diva](#)

**DOI:** [https://doi.org/10.1007/978-1-4419-0465-2\\_2333](https://doi.org/10.1007/978-1-4419-0465-2_2333)

Grabowski, R. 2011. Changes in cereal cultivation during the Iron Age in southern Sweden: a compilation and interpretation of the archaeobotanical material. *Vegetation History and Archaeobotany*, 20(5), 479-494.

[Swepub](#) | [Institutional Repository](#)

**DOI:** <https://doi.org/10.1007/s00334-011-0283-5>

Eriksson, T. & Lindahl, A. 2013. The Handicrafts of Iron Age Pottery in Scandinavia: Regionalities and Traditions. *Lund Archaeological Review* 18 (2012), pp. 45-60

[Swepub](#) | [Institutional Repository](#)

If you have published anything based on these data, [please notify us](#) with a reference to your publication(s). If you are responsible for the catalogue entry, you can update the metadata/data description in DORIS.

## Accessibility level

Access to data through an external actor

Access to data is restricted

## Homepage

<http://sead.se/>

## Contact for questions about the data

Philip Buckland

[phil.buckland@arke.umu.se](mailto:phil.buckland@arke.umu.se)

## Download metadata

[DataCite](#)

[DDI 2.5](#)

[DDI 3.3](#)

[DCAT-AP-SE 2.0](#)

[JSON-LD](#)

[PDF](#)

[Citation \(CLS\)](#)