

Data Archiving Questions & Answers

British Ecological Society data archiving policy statement

Data are important products of the scientific enterprise, and they should be preserved and usable for decades in the future. The British Ecological Society thus requires, as a condition for publication, that all data (or, for theoretical papers, mathematical and computer models) supporting the results in papers published in its journals will be archived in an appropriate public archive, such as Dryad, Treebase, NERC data centre, GenBank or figshare, or another archive of the author's choice that provides comparable access and guarantee of preservation. Authors may elect to have the data made publicly available at time of publication or, if the technology of the archive allows, may opt to embargo access to the data for a period of up to a year after publication.

Exceptions, including longer embargoes or an exemption from the requirement, may be granted at the discretion of the editor, especially for sensitive information such as confidential social data or the location of endangered species.

Why does data associated with papers published in BES journals have to be archived?

At present most ecological data are lost to science as they are stored unreliably or discarded by scientists when they look at new research areas, change careers, retire or die. To promote the preservation and fuller use of ecological data the British Ecological Society requires the archiving of data associated with papers published within its journal portfolio. Data reported in papers are invaluable to science even after the paper has been published for uses in meta-analyses, new research or quality control. By requiring the archiving of data referred to in the peer-reviewed literature each journal can play a role in helping researchers meet the requirements of funding bodies and support the long-term research that advances the science of ecology.

Where can data be stored?

Data supporting the results in a paper should be archived in an appropriate public archive such as Dryad (<http://datadryad.org>), TreeBASE (<http://treebase.org>), NERC data centre (<http://www.nerc.ac.uk/research/sites/data>), GenBank (<http://www.ncbi.nlm.nih.gov/genbank>), figshare (<http://figshare.com>) or another archive of the author's choice that provides comparable access and guarantee of preservation. Authors should pick the repository that is best suited to their type of data and is most useful to the ecological community likely to access their data. A list of commonly used archives for ecological data is available at the end of this document. Personal websites and institutional archives are not considered adequate archives because they do not guarantee public access and/or permanence.

How much data must be stored?

Sufficient details should be archived so that a third party can reasonably interpret those data correctly, to allow each result in the published paper to be recreated and the

analyses reported in the paper to be replicated to support the conclusions made. Authors are welcome to archive more than this, but not less.

The data associated with this paper have already been archived. Do they need to be archived again?

If data have been previously archived then they should not be archived again. The original archive DOI or reference should be used as the source of the data.

When, how and where should the data be referenced in the paper?

Details of where the data are to be archived should be included at revision. Accession numbers and DOIs do not need to be added until acceptance of the paper for publication. The data must be archived before the paper is sent to the publisher for typesetting in order that all necessary details are included in the final version of the manuscript. The location of archived data should be included in the references of the paper. The basic format for citing electronic sources is: author's last name, first initial, title of the data package (e.g. Data from "Article name"), data repository name, data identifier (DOI), address/URL.

In addition, details of the location of your data should also be included in the paper below the 'Acknowledgements' in a section headed 'Data Accessibility'.

Some of the data associated with this paper are not owned by the authors, but, for example, held in a restricted national/international database or owned and held by a private organisation. How is this referenced?

It is the author's responsibility to seek permission to archive the relevant data with other data used in the paper so that the data are publicly available. Where permissions are not granted for archiving data held in restricted databases or owned by private organisations the location of the data should be included in the 'Materials and methods' section of the paper including contact details for the organisation where the data is held. These details should also be included in the 'Data Accessibility' section below the 'Acknowledgements'.

What format does the data need to be in?

Any electronic format is acceptable for data archiving, though archives generally have preferred formats (see the guidelines to contributors for your chosen archive). Non-proprietary files, such as ASCII text files and comma delimited text, as opposed to Microsoft® Word and Excel files, would be most appropriate. Word, Excel or editable PDF formats may be adequate for smaller datasets or files containing mostly text. It is important to provide the necessary metadata and any methodological details that are not provided in the paper, including definitions for all terms, variables, names, row and column headings and precise locations. In addition, sampling design not included in the published paper should be described. This is best provided in an accompanying file archived with the data. Data in their most raw form, such as videotapes, field notebooks or sequencing trace files are not required to be archived.

The data associated with this paper are sensitive, do they still have to be archived?

Authors may request that their data be embargoed for up to 12 months at the time of depositing. Longer embargo periods can be granted at the editors' discretion. These embargoes will provide protection of data which, if placed in the public domain, may jeopardise further publications. Embargoed data should still be archived at the time of publication but can be restricted from public view for the duration of the agreed embargo. For sensitive data relating to endangered species or protected locations, authors can transform locality details. In rare situations where authors have limited rights to use of data (e.g. proprietary data), or when data access is politically or culturally-sensitive or when datasets include sensitive social data/information, editors can waive the archiving requirement.

Authors should provide a short explanation in the Data Accessibility section when the archiving requirement has been waived.

Once archived, who will own the data?

Although data will be publicly accessible, they will remain the intellectual property of the original collectors of the data. Any re-use of archived data should be referenced appropriately. Please see the terms and conditions provided by your chosen archive for details on their policies for data reuse and citation.

How should the 'Data Accessibility' section be formatted?

To enable readers to locate archived data from papers, we require that authors include a 'Data Accessibility' section after the 'Acknowledgements' section in their paper before acceptance. This should list the database/s and the respective accession numbers or DOIs for all data from the manuscript that will be publicly available at the time of publication. For example:

Data Accessibility

- Species descriptions: uploaded as online supporting information
- Phylogenetic data: TreeBASE Study accession no. Sxxxx
- R scripts: uploaded as online supporting information
- Sample locations, IMA2 input files and microsatellite data: DRYAD entry
doi: xx.xxxx/dryad.xxxx
- Species location data: figshare doi: xx.xxxx/xx.figshare.xxxxxx

Accession numbers or DOIs should be added before the manuscript is accepted for publication and sent to press.

If you have any questions about the formatting of this section please contact the journal's Assistant Editor.

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