

Editor's requirement for the archive

A frozen version of the code and data as developed in the paper must be archived. Usually, a third-party archive is preferable. In some cases, such as when the code is a fragment from a larger model, authors may include the code in the supplement to the paper. Third-party archives must have the following:

1. institutional support providing reasonable confidence that the material will remain available for many years/decades

NIRD RDA retention time is reported in the ***NIRD RDA Preservation Plan*** and in the ***Depositor Agreement***.

<https://www.sigma2.no/nird-research-data-archive-preservation-plan>

<https://www.sigma2.no/research-data-archive-depositor-agreement>

As stated in the Preservation Plan, "The mission of the NIRD Research Data Archive (NIRD RDA) is to ensure research data produced by Norwegian researchers remains widely discoverable, accessible and reusable at least 10 years after the data has been deposited".

As stated in the Depositor Agreement, "The Research Data Archive will ensure all published datasets are accessible for at least 10 years from the date of publication in the archive. Beyond that period, only in the case of compelling technical reasons might datasets be deleted."

2. mechanisms preventing the depositor of the material from unilaterally removing it from the archive

As stated in the Preservation Plan, "Deposited datasets are never deleted before the end of the retention time specified in the Depositor contract (at least 10 years). Only

in the case of extraordinary circumstances may the data be deleted before the end of the retention time. After the retention time datasets might be deleted only in case of compelling technical reasons.”

Furthermore in the Preservation Plan, “The archive possesses the ability to delete datasets if they contravene copyright or if there is a valid reason for deletion. In the latter case, depending on the reason, the data are made inaccessible and marked as eligible for deletion but not actually deleted.”

As stated in the Depositor Agreement, “In case of deletion of the dataset after the retention time, the impending deletion will first be announced on the Research Data Archive front page and the Dataset’s landing page. This announcement will be visible for a period of one year. During this grace period, anyone who has an interest in maintaining access to the dataset can renew the retention period by contacting the Archive Manager archive.manager@nr.no. If a dataset is deleted the DOI will resolve to a tombstone record containing all the public metadata for the dataset.”

As specified in the Depositor Agreement, we consider “Stakeholders” of a digital asset “ persons or organisations that have a controlling interest in the data. This includes the data manager, rights holder, depositor. In addition, there may be other groups such as those that took part in the production of the data.”

3. mechanisms for identifying the precise version of the material referred to in a persistent way. This will usually be a DOI.

NIRD RDA makes use of DOI from DataCite. Versioning of data assets is available.

Where code and data change during the revision process of the manuscript, the updated versions must also be archived. Authors must take care that the results in revised manuscripts are correctly associated with the corresponding archived data (with different DOIs referenced in the submitted and final manuscripts in cases where data have changed).

Many GMD authors find Zenodo⁵ a suitable archival location. Zenodo's GitHub integration⁶ makes archiving particularly easy for the large proportion of authors who manage their code using Git. Authors who need to archive a single documentation file, such as a technical report, may find the arXiv suitable⁷. Authors whose data are too large to be archived at Zenodo will need to identify a suitable alternative. Appropriate choices may depend on the topic of the paper, the funder of the research, and the country where the research was conducted. One of the repositories listed by Springer Nature⁸, PLOS⁹ or ESSD¹⁰ may be suitable. In any case, the requirements above must be satisfied.

Project or institution websites and online revision control sites such as GitHub¹¹, GitLab¹² or Bitbucket¹³ are made for code development but not suitable for archiving frozen code versions. Authors are encouraged to provide links to a website or revision control system as a preferred download location, so long as this is in addition to, and not instead of, the citation of an archive.

Final comments:

NIRD RDA is registered in Re2Data:

re3data.org entry: <https://www.re3data.org/repository/r3d100011678>

We thank the editor for suggesting we register our Preservation Plan in FAIRsharing.org. We will evaluate this possibility in the near future. Our preservation plan is however openly available from the service webpage.