

Fair Data Use Statement for the GEOTRACES 2025 Intermediate Data Product (IDP2025)

The GEOTRACES 2025 Intermediate Data Product (IDP2025) is the result of immense effort by field and laboratory scientists, data providers and data managers. It is important that users of the IDP2025 fairly acknowledge this effort. In doing so, the effort made by everyone involved in the project will be acknowledged publicly and help to promote widespread use and sharing of data. The potential benefits for IDP users from engaging with the GEOTRACES data generators is highlighted.

We recommend that users of the IDP2025 will:

- 1) Generously acknowledge the contributions of GEOTRACES investigators and data providers in the form of (i) invitation to co-authorship, (ii) reference to relevant scientific articles and/or data DOIs from data providers, or (iii) by naming data providers in the acknowledgements. Some specific examples are provided below.
- 2) Cite the GEOTRACES Intermediate Data Product (IDP2025) using the DOI if the data sets are used in a presentation or publication. This should be of the form:
GEOTRACES Intermediate Data Product Group (2025). The GEOTRACES Intermediate Data Product 2025 (IDP2025). NERC EDS British Oceanographic Data Centre NOC. doi: 10.5285/42c92148-8d03-8be6-e063-7086abc09f0c.
- 3) Include in the acknowledgements:
“The GEOTRACES 2025 Intermediate Data Product (IDP2025) represents an international collaboration and is endorsed by the Scientific Committee on Oceanic Research (SCOR). The many researchers and funding agencies responsible for the collection of data and quality control are thanked for their contributions to the IDP2025.”
- 4) Report problems with the IDP2025 to ipo@geotraces.org
- 5) Report publications in which GEOTRACES data are used to ipo@geotraces.org or, if registered, use the GEOTRACES Data for Oceanic Research (DOoR) portal to report publications from their own IDP data: <https://geotraces-portal.sedoo.fr/pi>

Hypothetical examples of the application of this Fair Data Use Statement

Example (i): A Modelling Study of the cycling of a given trace element or isotope uses data compiled in the IDP2025 as a reference database for either model evaluation or optimisation. The researchers contact the relevant data providers and ask if they are interested in a collaboration which may eventually lead to co-authorship.

Outcome: The researchers only use the IDP2025 data to calibrate their model in a global sense. It is appropriate here that they cite the IDP2025 DOI and acknowledge any help they received. It may be appropriate to include the recommended general acknowledgement text in (3) above.

Example (ii): A Modelling Study of the cycling of a given trace element or isotope uses data compiled in the IDP2025 and the researchers focus on a particular dataset or group of datasets to examine how their model is functioning in specific regions of the ocean. The researchers contact the relevant data providers and explain how they are using the data. The researchers invite the data providers to provide feedback or additional knowledge relative to their datasets towards a collaboration that may eventually lead to co-authorship.

Outcome 1) The data providers like the idea and contribute their expert knowledge to the research and become co-author(s) on a joint publication. The research team also cites the IDP2025 DOI in their publication. It may be appropriate to include the recommended general acknowledgement text in (3) above.

Outcome 2) The data providers do not contribute to the research in any way and do not become co-authors on the publication. The research team cites relevant publications by the data providers and the IDP2025 DOI in their publication. It may be appropriate to include the recommended general acknowledgement text in (3) above.

Example (iii): A Field Project involves measuring one or more of the GEOTRACES TEIs and uses data compiled in the IDP2025 from the same region to validate the new data, to put the new data into a broader context, and to help with the interpretation of the new data. The researchers contact the relevant data providers and ask if they are interested in a collaboration which may eventually lead to co-authorship on a publication.

Outcome 1) The data providers like the idea, contribute their expert knowledge on the relevant TEIs, and become co-authors on a joint publication. The research team cites the IDP2025 DOI and any relevant publications by the data providers and adds the recommended general acknowledgement text in (3) above.

Outcome 2) The data providers do not contribute to the research in any way and do not become co-authors on the publication. The research team cites the IDP2025 DOI and any relevant publications by the data providers. It may be appropriate to include the recommended general acknowledgement text in (3) above.

Example (iv): A Review Paper on the marine biogeochemistry of one or more of the TEIs in

IDP2025 is being written. The authors contact the relevant data providers and ask if they are interested in a collaboration which may eventually lead to co-authorship on the review paper.

Outcome 1) The data providers like the idea, contribute their expert knowledge on the relevant TEIs, and become co-authors on a joint publication. The research team cites the IDP2025 DOI and any relevant publications by the data providers. It may be appropriate to include the recommended general acknowledgement text in (3) above.

Outcome 2) The data providers do not contribute to the review in any way and do not become co-authors on the publication. The research team cites the IDP2025 DOI and any relevant publications by the data providers. It may be appropriate to include the recommended general acknowledgement text in (3) above.

Example (v): It is proposed to “ingest” and/or display some or all of the data in IDP2025 in another online database.

We encourage you to contact the GEOTRACES Data Management Committee via the IPO (ipo@geotraces.org) to discuss the proposal. Such use should:

- Inform the GEOTRACES IPO about the use of the data (to receive any updates from the IPO);
- Briefly introduce the GEOTRACES programme;
- Describe the data product;
- Add a link to the Fair Data Use Statement;
- Include a link to the original data;
- Keep the GEOTRACES parameter names;
- Link to the metadata information from GDAC and the cruise report for each cruise;
- If visualisations are done, include citations for the data generators;
- Include this information: “Visualizations of the GEOTRACES data can be found at this site: <https://eGEOTRACES.org>”
- Add a link to the GEOTRACES IDP publication database <https://www.geotraces.org/geotraces-publications-database/>;
- Put a time stamp to the data (in the event that later versions are released).