

GEOTRACES Intermediate Data Product 2021

GEOTRACES is releasing the third version of its intermediate data product (IDP2021) gathering hydrographic and marine geochemical data acquired on 77 cruises and expanding considerably the collection of results released in 2017.



The IDP2021 contains trace elements that serve as micronutrients, tracers of continental sources to the ocean (e.g., aerosols and boundary exchange), contaminants (e.g., Pb and Hg), radioactive and stable isotopes used in paleoceanography and a broad suite of hydrographic parameters used to trace water masses, as well as, it provides biological data.

By releasing the IDP2021, GEOTRACES aims to intensify collaboration within the broader ocean research community but also seeking feedback from the community to help us improve us improve future data products (ipo@geotraces.org).

The Product

The IDP2021 consists of two parts:

- (1) the **digital data**
- (2) the **eGEOTRACES Electronic Atlas**

In addition, the [webODV tool](#) allows analysis, exploration and visualisation of these data.

The **digital data** (available at www.bodc.ac.uk/geotraces/data/dp for bulk download AND <https://geotraces.webodv.awi.de/> to download subsets of data) contains hydrographic and biogeochemical data from 77 cruises. The data covers the global ocean.

The **eGEOTRACES Electronic Atlas** (available at www.egeotraces.org) is based on the digital data package and provides section plots and animated 3D scenes for many of the parameters, allowing quick overviews of the occurrence of geochemically relevant tracers. The 3D scenes provide geographical context crucial for correctly assessing extent and origin of tracer plumes as well as for inferring processes acting on the tracers and shaping their distribution. The numerous links to other tracers, sections and basins found on section plots and 3D animations allow quick switching between parameters and domains and facilitate comparative studies. In addition, eGEOTRACES can help in teaching and outreach activities and can also facilitate conveying societally relevant scientific results to interested laymen or decision makers.

A special effort has been made to link information about data originator, original publications and analytical methods with every data value. Proper linkage to and prominent display of originator information is used throughout the IDP2021 and considered important to provide credit to data producers.

GEOTRACES is an international programme, which aims to understand biogeochemical cycles and large-scale distribution of trace elements and their isotopes in all major ocean basins.

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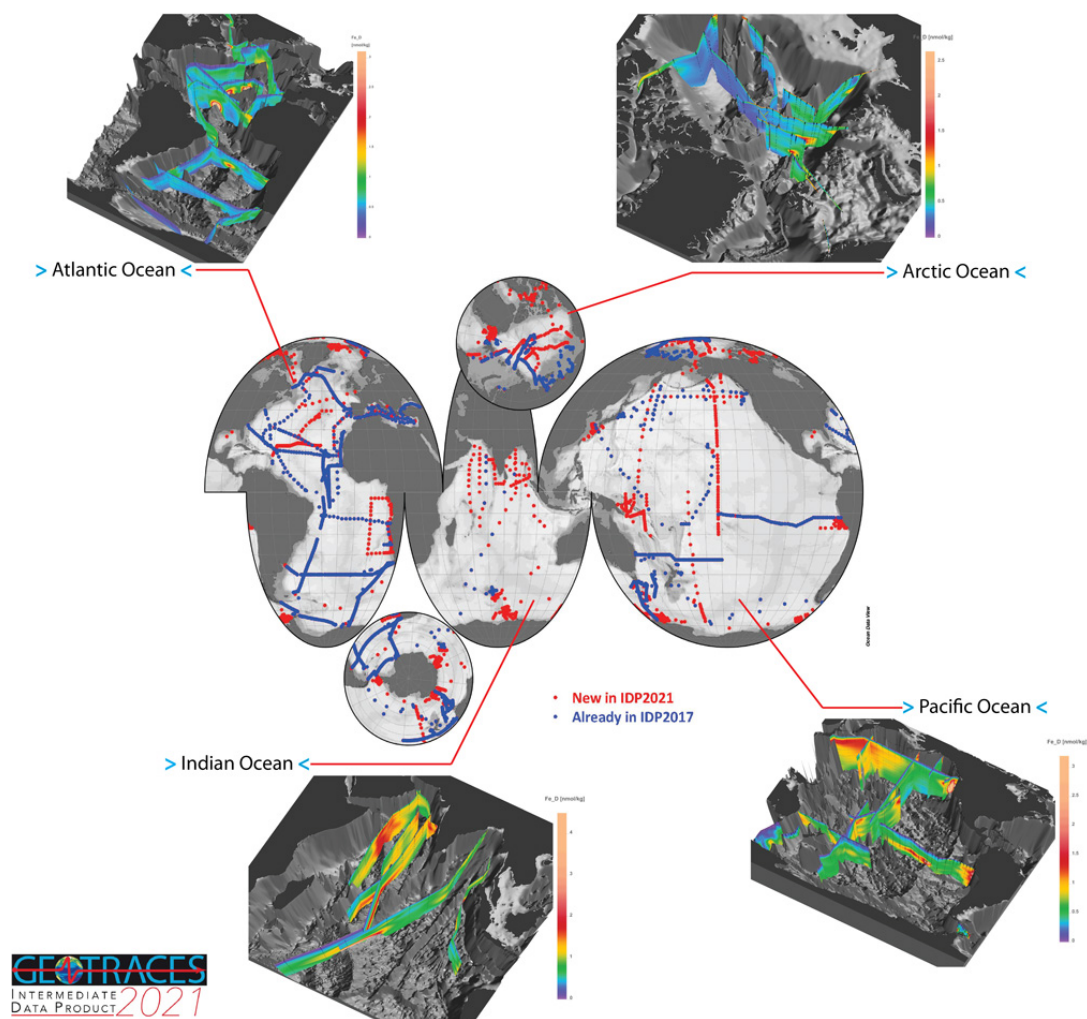
Massive increase of data available...

The GEOTRACES IDP2021 represents a significant expansion in data available compared to the previous version released in 2017. The product contains now data from 77 cruises and 3191 stations (highlighted in red in the central map of the figure below) compared to 23 cruises and 1866 stations in 2017 (highlighted in blue on the map below).

An example: the case of iron

The figure below also presents 3D scenes showing the distribution of dissolved iron (DFe) in the Atlantic, Arctic, Indian and Pacific Oceans. The new product adds new data in the Pacific and Atlantic Ocean basins. More spectacular is the considerable amount of new data displayed in the Indian and Arctic Ocean 3D scenes. All together, these data allow a global ocean view of hydrothermal iron inputs along oceanic ridges as well of the release of DFe from sediments along the coasts (along the African, South American, Asian and Peruvian coasts).

**Note: all 3D scenes figures in this page follow the same colour code: warm colours (red, orange, etc.) indicate high concentrations*



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