

Subject: Release of TOPEX/Poseidon GDR-F Reprocessed data

Date: November 7, 2023

We are pleased to announce the release of a fully reprocessed version of the TOPEX/POSEIDON Geophysical Data Record. After an exhaustive examination of all archived information from the TOPEX/POSEIDON mission by NASA and CNES teams, this product has been generated by reprocessing data from the on-board instruments and applying the current GDR-F geophysical models.

This TOPEX/POSEIDON GDR-F product benefits from:

- Ground reprocessing of the TOPEX altimeter data based on a numerical retracking of the echoes, with MLE-4 and MLE-3 solutions for Ku band and an MLE-3 solution for C band. This approach has been developed to apply modern ground retracking to the altimeter data and to mitigate the impact of degradation in the altimeter instrument, especially for the TOPEX Side A altimeter, on the science data.
- Ground reprocessing of the POSEIDON altimeter data based on retracking of the echoes, with MLE-4 and MLE-3 solutions for Ku band starting June 12, 1996 (cycle 137).
- Two new computations of the satellite orbit ephemeris based on recent processing standards from NASA's Goddard Space Flight Center (GSFC) and CNES, and in the 2014 International Terrestrial Reference Frame (ITRF).
- Reprocessing of the TOPEX Microwave Radiometer (TMR) data using the best available end-of-mission calibration.
- Non-parametric Sea State Bias models for the TOPEX altimeter that are self-consistent with the reprocessed data products. These include a 2-D model from the University of Colorado, Boulder, and a 3-D model from the University of New Hampshire.
- BM4 Sea State Bias models for the POSEIDON altimeter that are self-consistent with the reprocessed data products.
- Updated models for the geophysical and environmental corrections consistent with the GDR-F standards of other altimeter missions.

Accuracy and measurement stability for sea surface height, wind speed and wave height are significantly improved over all previously released versions of TOPEX/POSEIDON data. Nevertheless, discontinuities in the absolute measurement of sea surface height may be expected between the transition from the TOPEX Side A to TOPEX Side B radar on February 10, 1999 (cycle 236). In addition, behavior of the TOPEX Side A altimeter changed significantly on April 1, 1996 (approximately cycle 130, pass 185) and a different absolute bias before and after this date should be considered. A bias in sea surface height between the TOPEX and POSEIDON altimeters should also be considered.

Additional documentation on the data, including detailed information on the processing used to generate this product are provided in the user handbook. Access to the TOPEX/POSEIDON GDR-F User Handbook is available at NASA PO.DAAC and CNES AVISO at links provided below.

## **Data Access**

### **NASA PO.DAAC**

The TOPEX/POSEIDON Geophysical Data Record Version F products are available through the PODAAC website: <https://doi.org/10.5067/TPXPS-GDRF1>

Browse and order products for bulk download via Earthdata Search:

<https://search.earthdata.nasa.gov/search/granules?p=C2599212091-POCLOUD>

Access products directly from s3 when working in AWS (in us-west-2 region):

s3://podaac-ops-cumulus-protected/TOPEX\_POSEIDON\_GDR\_F/

Access the TOPEX/POSEIDON GDR-F User Handbook:

[https://archive.podaac.earthdata.nasa.gov/podaac-ops-cumulus-docs/topex/open/L2/docs/D-73899\\_tpx-grdf-hdbk-20230626\\_w-sigs.pdf](https://archive.podaac.earthdata.nasa.gov/podaac-ops-cumulus-docs/topex/open/L2/docs/D-73899_tpx-grdf-hdbk-20230626_w-sigs.pdf)

### **CNES AVISO**

The TOPEX/POSEIDON Geophysical Data Record products can be accessed at AVISO via FTP/SFTP and the THREDDS Data Server (TDS) catalog using the following information data access:

- CNES AVISO FTP/SFTP access
  - FTP access: <ftp://ftp-access.aviso.altimetry.fr:21/>
  - SFTP access: sftp://ftp-access.aviso.altimetry.fr:2221/
- FTP/SFTP server directory tree  
/data/geophysical-data-record /topex-poseidon/gdr\_f/
- TDS directory: <https://tds.aviso.altimetry.fr/thredds/L2/L2-TOPEX-POSEIDON.html>
- Access to TOPEX/POSEIDON GDR-F User Handbook:  
[https://www.aviso.altimetry.fr/fileadmin/documents/data/tools/hdbk\\_tpx\\_grdf.pdf](https://www.aviso.altimetry.fr/fileadmin/documents/data/tools/hdbk_tpx_grdf.pdf)