

# Showcasing Fundamental Data Records for Altimetry

## What

ESA has developed a comprehensive suite of Earth system data records as part of the **Fundamental Data Records for Altimetry (FDR4ALT)** project. Fundamental Data Records (FDRs) are **long-term records containing uncertainty-quantified, calibrated and geo-located multi-instrument/multi-platform satellite sensor data**

## Why

FDRs serve as a foundation for generating higher-level thematic data products and essential climate variables. They consolidate data from different missions in one collection of data products

## Mission and instrument

These FDR4ALT products exploit measurements acquired by the **altimeter and radiometer instruments onboard ESA's legacy Heritage Space remote sensing satellites** - the ERS-1, ERS-2 and Envisat missions

## Coverage

<b>Temporal</b>	3 August 1991 - 8 April 2012
<b>Spatial</b>	90 N, -90 S, -180 W, 180 E

**FDR4ALT data** that were acquired by the altimeter and radiometer instruments onboard ESA's Heritage Space remote sensing satellites

## Products

The FDR4ALT initiative has developed altimeter and radiometer Level-1 **Fundamental Data Records** and **Thematic Data Products** (Level-2P geophysical parameters), available in NetCDF format. Highlights include:

- Improved calibration and instrument characterisation
- Supplementary instrumental parameters describing the altimeter operating status and configuration
- Advanced algorithms to ensure data quality
- Long-term consistency
- Wide range of thematic data products
- Uncertainty-quantified observations

## Applications

- Inland waters**
- Sea ice**
- Ocean and coastal topography**
- Greenland and Antarctica land ice**
- Ocean waves**
- Atmospheric studies**

## Data access

The datasets are openly available for download to anyone with an ESA EO Sign In account, via the ESA Online dissemination service. For further details on the specific datasets, accessibility, and user registration, please visit the [ESA FDR4ALT dataset description pages](#)