This Digital Terrain Model (DTM) for Continental Europe was derived using Ensemble Machine Learning (EML) with publicly available Digital Surface Models. EML was trained using GEDI level 2B points (Level 2A; "elev_lowestmode") and ICESat-2 (ATL08; "h_te_mean"). About 9 million points were overlaid vs MERITDEM, AW3D30, GLO-30, EU DEM, GLAD canopy height, tree cover and surface water cover maps. An ensemble prediction model (mlr package in R) was fitted using random forest, Cubist and GLM, and used to predict the most probable terrain height (bare earth).

The predicted elevations are based on the GEDI data hence the reference water surface (WGS84 ellipsoid) is about 43 m higher than the sea water surface for a specific EU country. Before modeling, reference elevations were corrected to the Earth Gravitational Model 2008 (EGM2008) by using the 5-arcdegree resolution correction surface (Pavlis et al, 2012).

Details on the work to create this dataset can be found here:

- *Hengl, Tomislav, Leal Parente, Leandro, Krizan, Josip, and Bonannella, Carmelo. 2020. Continental Europe Digital Terrain Model at 30 M Resolution Based on GEDI, Icesat-2, AW3D, GLO-30, EUDEM, MERIT DEM and Background Layers. Zenodo. https://doi.org/10.5281/zenodo.4724549.*
- European Digital Terrain Models (EU DTM)

NOTE: This dataset has been converted from its original units of decimeters to meters to aid comparisons with other datasets in the OpenTopography catalog.

Dataset parameters:

- Type: Raster Digital Terrain Model
- Raster Type: float32
- Units: meters
- Horizontal Coordinate System: ETRS89-extended / LAEA Europe [EPSG: 3035]
- Vertical Coordinate System: EGM2008 [EPSG: 3855]