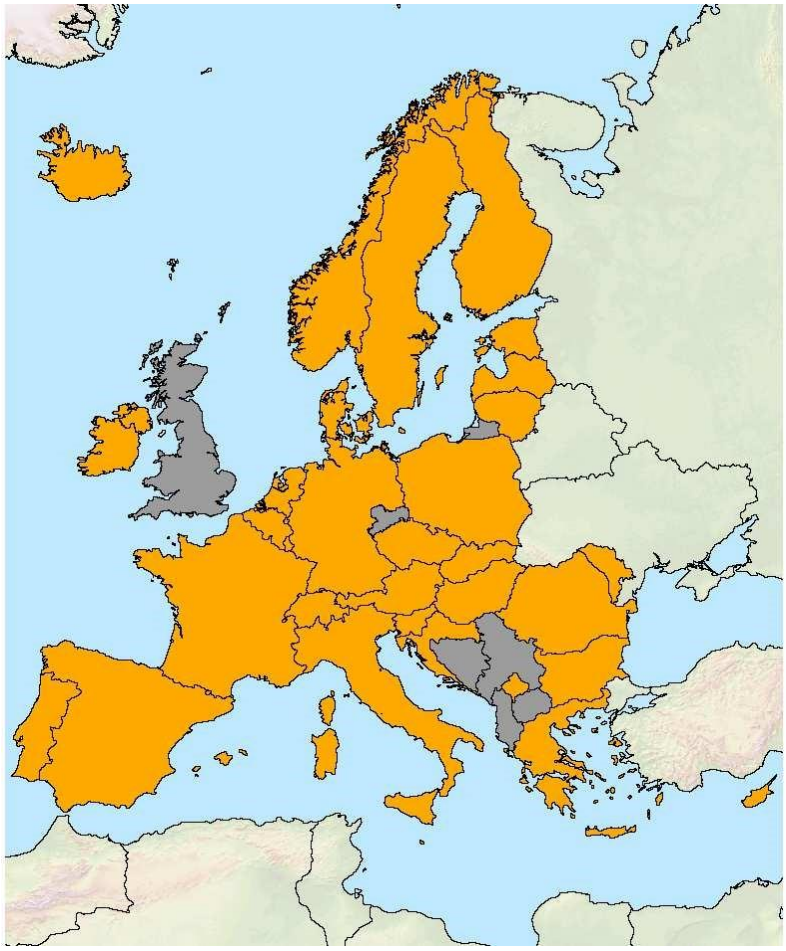
EuroDEM

Product Description

Refers to EuroDEM 1.0, released in April 2008



File name	EuroDem User Guide v1.0		
Version	**Author**	**Date**	**Comments**
1.0a	Michael Hovenbitzer	2. April 2008	
1.0b	Dave Lovell, Lise Just	18. April 2008	comments
1.0c	Michael Hovenbitzer	16. May 2008	comments
V1.0	Lise Just	21. May 2008	Final
V1.1	Angela Baker	10th August 2020	Update to branding

Contents

Overview of the product

EuroDEM v1.0 is a pan-European height dataset in a scale of approximately 1:100 000. This digital dataset describes the terrain relief (bare earth) of Europe, consisting of regularly distributed terrain points. EuroDEM covers the EU countries and the 4 EFTA countries as well as Albania, Bosnia-Herzegovina, Croatia, Kosovo, North Macedonia, Moldova, Montenegro, Serbia and the Kaliningrad area (see the map on the first page of this document and the list below).

EuroDEM is ideal for a wide range of uses, including ortho-rectification of imagery, watershed analysis, flight simulations, cartographic publishing and so on, or in combination with other datasets for rendering three-dimensional visualisations, for instance.

Using the official national databases EuroDEM was produced in cooperation by the National Mapping and Cadastral Agencies of Europe. It is seamless and harmonised at the borders of the countries.

The production process consists of the following stages :

- Collecting the national datasets.
- Transforming the elevation data into a uniform projection and height system.
- Eliminating differences resulting, for example, from different dates and methods of data acquisition, in overlaps at national boundaries.
- Resampling of the elevation data to a uniform grid width and subdividing into tiles.
- Controlling data quality of the end product using check points of levelling networks.
- Changing format and tiles with respect to the EuroGeographics' licensing requirements.

This is the first version of EuroDEM. Presently, there is no fixed date for an update.

Data Product Identification

Abstract : Pan-European height dataset in a scale of approximately 1:100 000 harmonised from national elevation datasets of European countries.

Category : Elevation data (‘bare Earth’ heights), Raster

Geographic description : European elevation dataset covering Albania, Andorra, Austria, Belgium, Bosnia-Herzegovina, Bulgaria, Croatia, Czech Republic, Cyprus, Denmark, Estonia, Finland, France, Germany, Gibraltar, Greece, Great Britain, Hungary, Iceland, Ireland, Italy, Kosovo, Latvia, Liechtenstein, Lithuania, Luxembourg, North Macedonia, Malta, Monaco, Moldova, Montenegro, Northern Ireland, Norway, Poland, Portugal, Romania, San Marino, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, The Netherlands, Vatican and the Kaliningrad area.

Quality : The quality of the product depends on the original dataset that were delivered by the country.

If the country could not deliver a DEM the area of this country was filled up with SRTM data. This data (Lower quality : +/- 15 m) are applied for Albania, Bosnia-Herzegovina, Great Britain, Macedonia, Montenegro, Saxony in Germany, Serbia (except Kosovo) and the Kaliningrad area.

SRTM data is used with the kind permission of CIAT: http://www.ciat.cgiar.org

Purpose : EuroDEM is suitable for a wide range of uses, including ortho-rectification of imagery, watershed analysis, flight simulations, cartographic publishing and so on, or in combination with other datasets for rendering three-dimensional visualisations, for instance.

Type of spatial representation: Raster (or Points in case of XYZ-Files)

Scale: approximately 1:100 000

Vertical accuracy : 8 – 10 meters

Grid width: 2 arc seconds (approximately 60 m in meridian direction, E/W dimensions vary according to the latitude)

Data Content and Structure

EuroDEM 1.0 has a seamless coverage of Europe. However, the product has adopted a tile partition, which is delimited by degree graduation of longitude and latitude. The tiles have a spatial extent of 1 x 1 degree (3600 x 3600 arc seconds).

These tiles can be delivered as raster data or point data.

The only saved value is the elevation at this coordinate, no more attribute is attached.

Reference Systems

Geodetic Datum : ETRS89
Vertical Datum : EVRS
Coordinate System : Lat/Lon in arc seconds

ESRI specification of the reference system :
Geographic Coordinate System: ETRS89
Datum: D_ETRS_1989
Spheroid: GRS_180
Semi major Axis: 6378137
Semi minor Axis: 6356752.3141403561
Note: In practice it is considered WGS84 = ETRF89 = ETRS89 = GRS80.

Data Product Delivery

The Full Europe and the European regions can be provided as follows :

Raster data ○ ESRI Grid (ArcGIS Version 9.2) ○ ESRI Grid

Ascii (ArcGIS Version 9.2) GeoTIFF

The data is stored in these proprietary formats with integer values of the heights (which means height resolution in meters).

Point data ○ XYZ-
File (Ascii) Dataset
format :
<longitude [arc seconds]> <latitude [arc seconds]> <height [meters]>
one height point per line

Example :
21601 179999 387
21603 179999 388
21605 179999 389

Distribution media: DVD, FTP on request