

Soil bulk density assessment in Europe

(Data Documentation – Metadata)

1. Description

Spatial prediction of bulk density for Europe in 3 topsoil layers generated with advanced Cubist rule-based regression model. Packing density estimation based on bulk density and clay content.

2. Raster datasets

mean_BD0_10.BD10_20_GEE_cubist_laea.tif

Dataset: Bulk density map (100 m resolution) in the EU and UK (0–20 cm depth)

Extent: 2635900,1386000 : 6527100,5307200

Coordinate Reference System (CRS): EPSG:3035 - ETRS89-extended / LAEA Europe

Coordinates Units: meters

Data type: Float32

Pixel Size: 100

packing_density.tif

Dataset: Packing density based on equation of Jones et al. (2003) and aggregated statistics

Extent: 2635900,1386000 : 6527100,5307200

Coordinate Reference System (CRS): EPSG:3035 - ETRS89-extended / LAEA Europe

Coordinates Units: meters

Data type: Float32

Pixel Size: 100

BD0_10_GEE_cubist_laea_masked.tif

Dataset: Bulk density for the depth 0-10cm

Extent: 2635900,1386000 : 6527100,5307200

Coordinate Reference System (CRS): EPSG:3035 - ETRS89-extended / LAEA Europe

Coordinates Units: meters

Data type: Float32

Pixel Size: 100

BD10_20_GEE_cubist_laea_masked.tif

Dataset: Bulk density for the depth 10-20cm

Extent: 2635900,1386000 : 6527100,5307200

Coordinate Reference System (CRS): EPSG:3035 - ETRS89-extended / LAEA Europe

Coordinates Units: meters

Data type: Float32

Pixel Size: 100

3. Vector datasets and tabular data

bulk_density.shp

Dataset: Bulk density in 0-10cm, 10-20cm and 0-20cm soil depth for LUCAS points.

Storage: ESRI Shapefile

Encoding: ISO-8859-1

Geometry: Point

Extent: -9.74,34.69 : 34.03,69.38

Feature count: 5,659

Coordinate Reference System: EPSG:4326 - WGS 84

Columns:

Column name	Description	Type
POINT_ID	LUCAS POINT ID	Decimal
BD 0-10	Bulk Density in 0–10 cm soil depth	Decimal
BD 10-20	Bulk Density in 10–20 cm soil depth	Decimal
BD 0-20	Bulk Density in 0–20 cm soil depth	Decimal
lon	Longitude in decimal degrees (WGS84)	Decimal
lat	Latitude in decimal degrees (WGS84)	Decimal

bulk_density.csv

Dataset: Bulk density in 0-10cm, 10-20cm and 0-20cm soil depth for LUCAS points.

Storage: Comma-separated values

Row count: 5,659

Columns:

Column name	Description	Type
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POINT_ID	LUCAS POINT ID	Decimal
BD_0_10	Bulk Density in 0–10 cm soil depth	Decimal
BD_10_20	Bulk Density in 10–20 cm soil depth	Decimal
BD_0_20	Bulk Density in 0–20 cm soil depth	Decimal
lon	Longitude in decimal degrees (WGS84)	Decimal
lat	Latitude in decimal degrees (WGS84)	Decimal

4. Cite

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