

Primary Dataset

Soil property: P Total

Coordinate System of the shapefile: ETRS_LAEA

Measurement unit: mg per Kg.

Analysis Method: aqua regia extraction

Files: PTotal2009.csv

Number of records: 21,681

File format:

The data are embedded in a shapefile; or as a CSV file (with pipe character (|) as delimiter). This contains the columns:

Point_ID (integer): the 'official' LUCAS point as primary key/unique identifier,

Ptotal (double) : Total Phosphorus (in mg/kg),

Country (string): Country name of the sample location,

LONG (double): longitude of LUCAS 2009 GPS coordinates, in WGS 84, (EPSG:4326),

LAT (double): latitude of LUCAS 2009 GPS coordinates, in WGS 84, (EPSG:4326),

geom_X (double) : longitude of LUCAS 2009 GPS coordinates, projected in ETRS89-extended/LAEA Europe SRS, (EPSG:3035),

geom_Y (double): latitude of LUCAS 2009 GPS coordinates, projected in ETRS89-extended/LAEA Europe SRS (EPSG:3035)

***Note**: the column *Point_ID* of the CSV file could be used as primary key to join the CSV file with the corresponding LUCAS 2009 shapefile.

Details

As part of analysis performed at a later state, Total Phosphorus (P Total) was analysed in a laboratory in 2013-14. The results of the analysis are for 21,681 samples that have been taken in the EU25 in 2009 and Bulgaria/Romania in 2012. The points in the shape file and the coordinates columns are those corresponding to the GPS-coordinates of the samples.

Based on this, we have developed a Total Phosphorus concentration map of EU, documented in a peer-reviewed paper:

<https://esdac.jrc.ec.europa.eu/content/phosphorus-budget-and-p-stocks>

Panagos, P., Köninger, J., Ballabio, C., Liakos, L., Muntwyler, A., Borrelli, P. and Lugato, E., 2022.

[Improving the phosphorus budget of European agricultural soils](#). Science of The Total Environment, 853: 158706. DOI: 10.1016/j.scitotenv.2022.158706

Secondary Dataset

Content – Data properties: All physical and chemical analysed properties accompanied with Land cover information of LUCAS.

Coordinate System of the shapefile: ETRS_LAEA

Files: *LUCAS_Points.shp*, *NoSensitive.csv*

Number of record: 21,681

The primary dataset is accompanied by detailed properties of the samples.

It contains a shapefile (*LUCAS_Points.shp*), of 21,681 points identical to primary dataset points. This shapefile contains only an integer column unique identifier: *POINT_ID*.

A Comma Separated Values plain text file (*NoSensitive.csv*) that stores identical columns with primary dataset file *Ptotal2009.csv* plus detailed attributes for samples. Data entries are delimited with the pipe character (|). This file also contains a *POINT_ID* column as unique identifier.

Join shapefile with CSV

It is possible to join the attributes of *NoSensitive.csv* with *LUCAS_Points.shp* based on *POINT_ID* column.