

Data sources and data preparation

- The soil class is based on the classification used for the Austrian soil mapping (BFW). The soil class was derived from the soil type.

Code_SC	Soil class	Associated soil types
ll	very light	sand, silty sand (S, zS)
l	light	loamy sand, sandy silt, silt (lS, sZ, Z)
m	medium	clayey sand, sandy loam, loamy silt (tS, sL, lZ)
s	heavy	sandy clay, loam, silty loam (sT, L, zL)
ss	very heavy	loamy clay, clay (lT, T)

- The feature soil type was derived from the results of the investigation of the particle size distribution (normalised values) on the collected samples. The classification is based on the soil type classification used for the Austrian soil mapping (BFW).

Code_ST	Soil type	Sand	Silt	Clay
		%	%	%
S	sand	65 - 100	0 - 30	0 - 10
zS	silty sand	40 - 70	30 - 55	0 - 5
lS	loamy sand	30 - 80	10 - 55	5 - 15
sZ	sandy silt	10 - 45	55 - 75	0 - 15
Z	silt	0 - 25	75 - 100	0 - 25
tS	clayey sand	65 - 90	0 - 10	10 - 25
sL	sandy loam	20 - 75	10 - 55	15 - 25
lZ	loamy silt	0 - 30	55 - 75	15 - 25
sT	sandy clay	50 - 75	0 - 10	25 - 40
L	loam	5 - 65	10 - 55	25 - 40
zL	silty loam	0 - 20	55 - 75	25 - 45
lT	loamy clay	0 - 60	0 - 55	40 - 50
T	clay	0 - 50	0 - 50	50 - 100

Explanation of the downloadable graphic files (*.png, *.pdf)

- The maps of the soil classes represent the distribution of the soil classes in the project survey area based on the particle size distribution determined for the sample sites. The presentation is separate for the Ap and Gr samples (“Soil_classes_Ap” and “Soil_classes_Gr”).
- The scale of the full size maps is 1:25 000 000.
- The suffixes “_150_dpi” and “_600_dpi” indicate the native resolution of the graphics.

Explanation of the ESRI-Shapefiles

- The shapefiles of both maps are combined in one ZIP file.
- The attribute tables of the shapefiles include the following fields:

Field name	Format	Content
ID	Double	Each sample of the GEMAS project is uniquely identifiable via its ID. It was assigned at randomisation of the samples (see chapter 6.3.1 in Demetriades et al., 2014). The Ap samples have IDs between 3001 and 5585, the Gr samples between 1 and 2464.
Country	String	Country code of the country where the sample was collected ¹
Country_ID	Double	Sequential number of the sample within the country specified in the Field “Country”. The numbers were assigned separately for the Ap and Gr samples and are not randomised.
Code_SC	String	Code of soil class ²
SoilClass	String	Soil class in plain text ²

¹ AUS - Austria, BEL - Belgium, BOS - Bosnia and Herzegovina, BUL - Bulgaria, CRO - Croatia, CYP - Cyprus, CZR - Czech Republic, DEN - Denmark, EST - Estonia, FIN - Finland, FRA - France, FOM - F.Y.R.O.M., now North Macedonia, GER - Germany, HEL - Greece (Hellas), HUN - Hungary, IRL - Ireland, ITA - Italy, LAV - Latvia, LIT - Lithuania, LUX - Luxembourg, MON - Montenegro, NEL - Netherlands, The, NOR - Norway, POL - Poland, PTG - Portugal, SRB - Serbia, SKA - Slovakia, SLO - Slovenia, SPA - Spain, SWE - Sweden, SIL - Switzerland, UKR - Ukraine, UNK - United Kingdom;

² sea tables under data sources and data preparation.

- *The coordinate reference system of the shapefiles is EPSG:3035 (ESRI: ETRS_1989_LAEA). Further information can be found at <https://epsg.io/3035>.*

References

BFW (Bundesforschungs- und Ausbildungszentrum für Wald, Naturgefahren und Landschaft): Einführung in die bodenkundlichen Grundlagen. https://geo.bfw.ac.at/boden/downloads/Einfuehrung_Bodenkartierung.pdf. (last accessed 2021-04-06).

Demetriades, A., Reimann, C. & Filzmoser, P. (2014): Evaluation of GEMAS Project Quality Control Results. In: Reimann, C., Birke, M., Demetriades, A., Filzmoser, P. & O'Connor, P. (eds.): Chemistry of Europe's Agricultural Soils, Part A: Methodology and Interpretation of the GEMAS Data Set. (Geologisches Jahrbuch). B102: 47-60; Stuttgart (Schweizerbart Science Publishers).