Table 8 Summary of points by MS and LC in the LUCAS 2018 survey.

NUTS 0	Points	Artificial land	Bareland	Cropland	Grassland	Shrubland	Water	Wetlands	Woodland
AT	449	6	2	90	135	5	0	1	210
BE	130	0	7	81	14	0	0	2	26
BG	574	2	3	274	122	17	0	0	156
CY	69	0	3	30	15	14	0	0	7
CZ	445	1	2	232	104	2	0	1	103
DE	779	5	13	332	213	3	0	1	212
DK	171	1	3	125	24	3	0	0	15
EE	201	2	3	55	37	4	0	0	100
EL	598	1	29	228	127	52	2	0	159
ES	3867	12	338	1870	599	339	0	0	709
FI	1143	2	3	134	50	24	0	1	929
FR	2735	9	84	1383	709	51	2	2	495
HR	106	1	8	9	27	6	0	0	55
HU	354	3	24	198	67	2	0	1	59
IE	143	0	0	17	107	6	0	5	8
IT	1242	1	4	628	297	34	0	0	278
LT	386	0	3	196	98	0	0	0	89
LU	35	1	1	12	12	0	0	0	9
LV	331	0	5	91	88	5	0	0	142
MT	2	0	0	2	0	0	0	0	0
NL	99	2	2	47	33	1	0	1	13
PL	1376	3	18	686	344	6	1	2	316
PT	429	2	6	111	89	50	0	0	171
RO	603	5	23	257	227	19	0	0	72
SE	1906	5	21	120	121	51	0	18	1570
SI	112	1	0	11	27	1	0	0	72
SK	186	3	0	71	49	3	0	1	59
UK	513	3	33	139	254	22	0	4	58
EU+UK	**18984**	**71**	**638**	**7429**	**3989**	**720**	**5**	**40**	**6092**
EU-27	**18471**	**68**	**605**	**7290**	**3735**	**698**	**5**	**36**	**6034**

Table 9a Soil fields in the file of basic soil properties 2018 LUCAS Soil Module.

Field	Description
Depth	Based on sample collected (e.g. 0-20cm, 0-10cm, 20-30cm)
POINTID	LUCAS Point Identifier – link to Eurostat LUCAS Microdata
pH_CaCl2	pH – measured in calcium chloride
pH_H2O	pH – measured in water
EC	Electrical conductivity (milliSiemens per meter – mS m^{-1})
OC	Organic carbon content (g kg^{-1})
CaCO3	Calcium carbonate content (g kg^{-1})
P	Total phosphorus (g kg^{-1})
N	Total nitrogen (g kg^{-1})
K	Extractable potassium (g kg^{-1})
OC (20-30 cm)	Organic carbon content (g kg^{-1}) from different depth
CaCO3 (20-30 cm)	Calcium carbonate content (g kg^{-1}) from different depth
Ox_Al	Oxalate extractable Al (mg kg^{-1})
Ox_Fe	Oxalate extractable Fe (mg kg^{-1})

Field	Description
POINTID	LUCAS Point Identifier – link to Eurostat LUCAS Microdata
BD 0-10	Measured Bulk Density for the depth 0-10 cm (g cm^{-3})
BD 10-20	Measured Bulk Density for the depth 10-20 cm (g cm^{-3})
BD 20-30	Measured Bulk Density for the depth 20-30 cm (g cm^{-3}) – only Portugal
BD 0-20	Bulk Density for the depth 0-20 cm (g cm^{-3}) – arithmetic mean based on the values for 0-10 cm and 10-20 cm

Table 9b. Non-soil fields in the file of basic soil properties in the 2018 LUCAS Soil Module.

Field	Description
NUTS_0	NUTS 0 Code
NUTS_1	NUTS 1 Code
NUTS_2	NUTS 2 Code
NUTS_3	NUTS 3 Code
TH_LAT	LUCAS POINT Theoretical Latitude
TH_LONG	LUCAS POINT Theoretical Longitude
SURVEY_DATE	Date of Survey
Elev	Elevation in meters from surveyor GPS
LC	Primary land cover
LU	Primary land use
LC0_Desc	Description of primary land cover
LC1_Desc	Description of secondary land cover
LU1_Desc	Description of primary land use

Table 10 Fields in the file of soil erosion in the 2018 LUCAS Soil Module

Field	Description
POINTID	LUCAS Point Identifier – link to Eurostat LUCAS Microdata
SURVEY_EROSION_SIGNS	Signs of erosion (1=Yes,2=20)
SURVEY_EROSION_SHEET	Sheet Erosion visible
SURVEY_EROSION_SHEET_P	Sheet erosion in the LUCAS point (Within 500 m if visible)
SURVEY_EROSION_SHEET_N	Sheet erosion in N direction (Within 500 m if visible)
SURVEY_EROSION_SHEET_E	Sheet erosion in E direction (Within 500 m if visible)
SURVEY_EROSION_SHEET_S	Sheet erosion in S direction (Within 500 m if visible)
SURVEY_EROSION_SHEET_W	Sheet erosion in W direction (Within 500 m if visible)
SURVEY_EROSION_SHEET_NR	Always empty/not present in the Manual
SURVEY_EROSION_SHEET_N_DIST_M	Distance from Point Direction N
SURVEY_EROSION_SHEET_E_DIST_M	Distance from Point Direction E
SURVEY_EROSION_SHEET_S_DIST_M	Distance from Point Direction S
SURVEY_EROSION_SHEET_W_DIST_M	Distance from Point Direction W
SURVEY_EROSION_RILL	Presence of Rill erosion
SURVEY_EROSION_RILL_P	Presence of Rill erosion in LUCAS point
SURVEY_EROSION_RILL_N	Rill erosion in N direction (Within 500 m if visible)
SURVEY_EROSION_RILL_E	Rill erosion in E direction (Within 500 m if visible)
SURVEY_EROSION_RILL_W	Rill erosion in S direction (Within 500 m if visible)
SURVEY_EROSION_RILL_S	Rill erosion in W direction (Within 500 m if visible)
SURVEY_EROSION_RILL_NR	Always empty/not present in the Manual
SURVEY_EROSION_RILL_N_DIST_M	Distance from Point Direction N
SURVEY_EROSION_RILL_E_DIST_M	Distance from Point Direction E
SURVEY_EROSION_RILL_S_DIST_M	Distance from Point Direction S

SURVEY_EROSION_RILL_W_DIST_M	Distance from Point Direction W
SURVEY_EROSION_GULLY	Presence of Gully erosion
SURVEY_EROSION_GULLY_P	Presence of Gully erosion in LUCAS point
SURVEY_EROSION_GULLY_N	Gully erosion in N direction (Within 500 m if visible)
SURVEY_EROSION_GULLY_E	Gully erosion in E direction (Within 500 m if visible)
SURVEY_EROSION_GULLY_S	Gully erosion in S direction (Within 500 m if visible)
SURVEY_EROSION_GULLY_W	Gully erosion in W direction (Within 500 m if visible)
SURVEY_EROSION_GULLY_NR	Always empty/not present in the Manual
SURVEY_EROSION_GULLY_N_DIST_M	Distance from Point Direction N
SURVEY_EROSION_GULLY_E_DIST_M	Distance from Point Direction E
SURVEY_EROSION_GULLY_S_DIST_M	Distance from Point Direction S
SURVEY_EROSION_GULLY_W_DIST_M	Distance from Point Direction W
SURVEY_EROSION_MASS	Presence of Mass Movement erosion
SURVEY_EROSION_MASS_P	Presence of Mass Movement erosion in LUCAS point
SURVEY_EROSION_MASS_N	Mass Movement erosion in N direction (Within 500 m if visible)
SURVEY_EROSION_MASS_E	Mass Movement erosion in E direction (Within 500 m if visible)
SURVEY_EROSION_MASS_S	Mass Movement erosion in S direction (Within 500 m if visible)
SURVEY_EROSION_MASS_W	Mass Movement erosion in W direction (Within 500 m if visible)
SURVEY_EROSION_MASS_NR	Always empty/not present in the Manual
SURVEY_EROSION_MASS_N_DIST_M	Distance from Point Direction N
SURVEY_EROSION_MASS_E_DIST_M	Distance from Point Direction E
SURVEY_EROSION_MASS_S_DIST_M	Distance from Point Direction S
SURVEY_EROSION_MASS_W_DIST_M	Distance from Point Direction W
SURVEY_EROSION_DEP	Presence of Re-deposition soil
SURVEY_EROSION_DEP_P	Presence of Re-deposition soil in LUCAS point

SURVEY_EROSION_DEP_N	Re-deposition soil in N direction (Within 500 m if visible)
SURVEY_EROSION_DEP_E	Re-deposition soil in E direction (Within 500 m if visible)
SURVEY_EROSION_DEP_S	Re-deposition soil in S direction (Within 500 m if visible)
SURVEY_EROSION_DEP_W	Re-deposition soil in W direction (Within 500 m if visible)
SURVEY_EROSION_DEP_NR	Always empty/not present in the Manual
SURVEY_EROSION_DEP_N_DIST_M	Distance from Point Direction N
SURVEY_EROSION_DEP_E_DIST_M	Distance from Point Direction E
SURVEY_EROSION_DEP_S_DIST_M	Distance from Point Direction S
SURVEY_EROSION_DEP_W_DIST_M	Distance from Point Direction W
SURVEY_EROSION_WIND	Presence of Wind erosion
SURVEY_EROSION_WIND_P	Presence of Wind erosion in LUCAS point
SURVEY_EROSION_WIND_N	Wind erosion in N direction (Within 500 m if visible)
SURVEY_EROSION_WIND_E	Wind erosion in E direction (Within 500 m if visible)
SURVEY_EROSION_WIND_S	Wind erosion in S direction (Within 500 m if visible)
SURVEY_EROSION_WIND_W	Wind erosion in W direction (Within 500 m if visible)
SURVEY_EROSION_WIND_NR	Always empty/not present in the Manual
SURVEY_EROSION_WIND_N_DIST_M	Distance from Point Direction N
SURVEY_EROSION_WIND_E_DIST_M	Distance from Point Direction E
SURVEY_EROSION_WIND_S_DIST_M	Distance from Point Direction S
SURVEY_EROSION_WIND_W_DIST_M	Distance from Point Direction W
SURVEY_EROSION_RILLGULLY_N	Number of rills or gullies 1-2-3 = <5,5-10,>10)
SURVEY_EROSION_CANDO	Erosion survey can be done? (1=Yes, 2=No)

Table 11 Fields in the file of organic soils in the 2018 LUCAS Soil Module.

Field	Description
POINTID	LUCAS Point Identifier – link to Eurostat LUCAS Microdata
SURVEY_SOIL_ORG_CULTIVATED	Is soil cultivated? (1=Yes,0=N0)
SURVEY_SOIL_ORG_DEPTH_P_CM	Depth of organic horizon at the point (in cm up to 40 cm)
SURVEY_SOIL_ORG_DEPTH_N_CM	Depth of organic horizon at the N hole (in cm up to 40 cm)
SURVEY_SOIL_ORG_DEPTH_E_CM	Depth of organic horizon at the E hole (in cm up to 40 cm)
SURVEY_SOIL_ORG_DEPTH_S_CM	Depth of organic horizon at the S hole (in cm up to 40 cm)
SURVEY_SOIL_ORG_DEPTH_W_CM	Depth of organic horizon at the W hole (in cm up to 40 cm)
SURVEY_SOIL_ORG_DEPTH_P_40_CM	Depth of organic horizon at the point (>40 cm)
SURVEY_SOIL_ORG_DEPTH_N_40_CM	Depth of organic horizon at the N hole (>40 cm)
SURVEY_SOIL_ORG_DEPTH_E_40_CM	Depth of organic horizon at the E hole (>40 cm)
SURVEY_SOIL_ORG_DEPTH_S_40_CM	Depth of organic horizon at the S hole (>40 cm)
SURVEY_SOIL_ORG_DEPTH_W_40_CM	Depth of organic horizon at the W hole (>40 cm)
SURVEY_SOIL_ORG_TAKEN	Soil Organic taken? (1=Yes,0=No)
SURVEY_SOIL_ORG_DEPTH_CANDO	Can you assess the organic layer depth? (1=Yes,0=No)

Table 12 Environmental descriptors at LUCAS sampling points

Field Name	***Description***	***Unit***
Point_ID	Unique ID to be linked to other LUCAS datasets (on ESDAC or EUROSTAT)	-
Clima_COD	Climatic Code based on Köppen-Geiger classification	-
Elevation	Height extracted from EuDEM v1.0	m
Slope	Slope gradient	degree
Aspect	Orientation of slope	Compass degree
BioGeo	Biogeographic Region	-
Natura2000_sitecode 1	Code of Natura2000 site in which the point is located	-
Natura2000_sitecode 2	Code of second Natura2000 site in which the point is located	-
Soil_Group	Estimation of dominant reference soil group	-
Soil_Code	WRB Code of the first dominant soil group	-
BIO1	Annual Mean Temperature	°C
BIO2	Mean Diurnal Range	°C
BIO3	Isothermality (BIO2/BIO7) (×100)	°C
BIO4	Temperature Seasonality (standard deviation ×100)	°C
BIO5	Max Temperature of Warmest Month	°C
BIO6	Min Temperature of Coldest Month	°C
BIO7	Temperature Annual Range (BIO5-BIO6)	°C
BIO8	Mean Temperature of Wettest Quarter	°C
BIO9	Mean Temperature of Driest Quarter	°C
BIO10	Mean Temperature of Warmest Quarter	°C
BIO11	Mean Temperature of Coldest Quarter	°C
BIO12	Annual Precipitation	mm
BIO13	Precipitation of Wettest Month	mm
BIO14	Precipitation of Driest Month	mm
BIO15	Precipitation Seasonality (Coefficient of Variation)	mm