

Table S1. Prevailing soil type list

ID	Description	Name in the FAO system, 1988
38	Sod-podzolics, mainly shallow and non-deep podzolics	Eutric Podzoluvisols
39	Sod-podzolics, mainly rather shallow podzolics	Eutric Podzoluvisols
42	Sod-podzolics (without subdivision)	Eutric Podzoluvisols
44	Sod-podzolics with the second humic horizon	Eutric Podzoluvisols
50	Sod-podzolics illuvial-ferruginous	Eutric Podzoluvisols
62	Podzols gleyic peaty and peat	Gleyic Podzols
83	Sod-calcareouses	Rendzic Leptosols
102	Light-grey forest	Eutric Podzoluvisols
103	Grey forest	Haplic Greyzems
104	Dark-grey forest	Haplic Greyzems
107	Grey forest residual-calcareous	Haplic Greyzems
113	Grey forest shallow	Eutric Leptosols
115	Pine forest sands	Cambic Arenosols
116	Chernozems podzolized	Luvic Phaeozems
117	Chernozems leached	Haplic Chernozems
118	Chernozems typical	Haplic Chernozems
119	Chernozems ordinary	Calcic Chernozems
120	Chernozems southern	Haplic Chernozems
130	Chernozems residual-calcareous	Haplic Chernozems
132	Chernozems solonetzic	Luvic Chernozems
134	Chernozems without subdivision, mainly shallow	Mollic Leptosols
136	Meadow-chernozemics	Haplic Chernozems
143	Dark chestnuts	Haplic Kastanozems
144	Chestnuts	Haplic Kastanozems
150	Dark-chestnuts residual-calcareous and calcarious	Calcic Kastanozems
151	Dark chestnuts solonetzic and solonchakous	Luvic Kastanozems
152	Chestnuts solonetzic and solonchakous	Luvic Kastanozems
153	Light chestnuts solonetzic and solonchakous	Haplic Kastanozems
154	Chestnuts shallow	Mollic Leptosols
166	Peats low moor	Fibric Histosols
188	Alluvials saturated	Eutric Fluvisols
261	Chernozems solonetz and solonzemes (automorphic)	
267	Light chestnut solonetz and solonchak, meadow-solonetz (semihydromorphic) and meadow-chestnut	
279	Meadow (semi-hydromorphic), light chestnut solonchaks and meadow-chestnut solonetz	
288	Meadow-grass (semi-hydromorphic) and meadow-chestnut solonetz.	
290	Meadow-chernozem and meadow-soddy solonetz (semihydromorphic)	
293	Chestnut solonetz and solonetz (automorphic)	
307	Water areas	

Table S2. Prevailing type of soil-forming rocks list

ID	Description
1	Clayey and heavy loamy
4	Middle-loamy
7	Light loamy
10	Sandy
13	Gravelly sandy
16	Clay and loamy, underlain by sandy and sandy loam rocks
	Frequent change of rocks of different mechanical composition with predominance of loams and
20	clays
25	Shales
28	Sandstones
29	Opoks
30	Limestones and other carbonate rocks