
Article

Morphology and physicochemical properties of alluvial soils in riparian forests after river regulation

Dorota Kawalko*, Paweł Jezierski and Cezary Kabala

Supplementary materials

Table S-1. Intensity of stagnic and gleyic properties.

Stagnic properties	Surface mottling (sum of reducti- and oximorphic colours) [%]
very weak	<10
weak	10-25
clear	25-50
strong	50-80
very strong	80-95
total	>95

Table S-2a. Soil morphology and texture in Transect I.

Soil profile	Soil horizon	Depth [cm]	Texture class	Structure	Matrix colour	Redox colour	Intensity of stagnic/gleyic properties
1	A	0-38	SL	gr	10YR 3/1	-	-
	AB	38-65	LS	sb	10YR 4/4	-	-
	2C1	65-80	S	sg	10YR 6/3	-	-
	2C2	80-104	S	sg	10YR 6/2	-	-
	3Cg1	104-120	SL	ab	10YR 5/3	-	weak
	3Cg2	120-150	SL	ab	10YR 6/2	-	weak
	3Cl	150-158	SL	ab	10YR 5/3	10YR 7/1	strong
	4Cl	158+	gS	sg	10YR 5/1	10YR 7/1	strong
2	A	0-18	SiL	gr	10YR 2/2	-	-
	ABg	18-25	SiL	sb	10YR 4/1	10YR 6/5	clear
	BCg	25-50	SiL	sb	10YR 6/6	10YR 7/1	clear
	2C	50-110	S	sg	10YR 7/2	10YR 6/3	weak
	2Cl	110+	S	sg	10YR 7/1	10YR 5/5	weak
3	A	0-18	SL	gr	10YR 2/1	-	-
	2Bwg	18-40	L	sb	10YR 5/4	10YR 7/1	weak
	3C1	40-58	S	sg	10YR 6/3	-	-
	3C2	58+	S	sg	10YR 7/4	-	-
4	A	0-15	L	gr	10YR 3/3	-	-
	Bw	15-60	SL	sb	10YR 5/5	-	-
	Cg	60-90	L	ab	10YR 5/4	10YR 6/1	clear
	2Cg	90+	CL	ab	10YR 5/4	10YR 6/1	clear
5	A	0-15	SL	gr	10YR 3/2	-	-
	Bwg	15-40	L	ab	10YR 5/3	10YR 5/1	weak
	Cg1	40-100	SL	ab	10YR 5/4	10YR 6/1	clear
	Cg2	100+	SL	ab	10YR 5/6	10YR 6/2	clear

Texture class according to USDA classification (FAO, 2006): S - sand; gS - gravelly sand; LS - loamy sand; SL – sandy loam; L - loam; SiCL - silty clay loam; SiL – silt loam; SC - sandy clay.

Structure: gr – granular, sb – subangular blocky, ab – angular blocky, pr – prismatic, pl – platy, m – massive, sg – single grain.

Table S-2b. Soil morphology and texture in Transect II. Abbreviations as in Table S-2a.

Soil profile	Soil horizon	Depth [cm]	Texture class	Structure	Matrix colour	Redox colour	Intensity of stagnic/gleytic properties
6	A	0-25	SL	gr	10YR 2/1	-	-
	2Bwg	25-43	SiL	sb	10YR 4/2,5	10YR 6/1	weak
	3BCg	43-65	SL	sb	10YR 4/2	10YR 5/5	clear
	3Cg1	65-88	S	sb	10YR 5/4	10YR 7/1	clear
	3Cg2	88+	LS	sb	10YR 5/5	10YR 7/1	clear
7	A	0-10	SL	gr	10YR 3/2	-	-
	Bw	10-37	SL	sb	10YR 4/4	-	-
	2BCg	37-56	S	sg	10YR 5/3	10YR 6/1	weak
	2Cg1	56-80	S	sg	10YR 6/2	10YR 5/4	weak
	2Cg2	80+	S	sg	10YR 5/2	10YR 4/6	weak
8	A	0-10	LS	gr	10YR 3/2	-	-
	Bw	10-30	SL	sb	10YR 4/5	-	-
	2BCg	30-42	S	sb	10YR 5/4	10YR 4/4	weak
	2Cg1	42-60	S	sg	10YR 6/2	10YR 5/4	weak
	2Cg2	60+	S	sg	10YR 7/2	10YR 5/4	weak
9	A	0-10	SL	gr	10YR 3/3	-	-
	Bw	10-40	L	sb	10YR 5/3	-	-
	2Cg	40-85	S	sg	10YR 6/3	10YR 7/1	weak
	3Cg	85-96	L	sb	10YR 6/6	10YR 7/2	clear
	4Cg	96+	S	sg	10YR 6/4	2,5YR 6/1	clear

Table S-2c. Soil morphology and texture in Transect II. Abbreviations as in Table S-2a.

Soil profile	Soil horizon	Depth [cm]	Texture class	Structure	Matrix colour	Redox colour	Intensity of stagnic/gleytic properties
10	A	0-18	SiL	gr	10YR 3/2	-	-
	ABw	18-35	SiL	sb	10YR 4/3	-	-
	Bwg	35-58	SiL	sb	10YR 5/4	10YR 5/1	clear
	BCg	58-73	SiL	ab	10YR 4/4	10YR 5/1	clear
	2Cg	73-86	S	sg	10YR 5/3	10YR 4/6	clear
	3Cg	86-117	SiL	sb	10YR 4/6	10YR 6/1	strong
	4Cl	117+	S	sg	10YR 7/1	10YR 5/4	strong
11	A	0-17	SiL	gr	10YR 3/4	-	-
	Bwg	17-49	L	sb	10YR 4/4	10YR 6/1	weak
	BCg	49-68	SiL	ab	10YR 5/6	10YR 6/1	clear
	2Cg	68-80	S	sg	10YR 5/6	10YR 7/2	clear
	3Cg	80-110	SC	m	10YR 5/6	10YR 7/1	clear
	4Cl	110+	LS	sb	10YR 7/2	10YR 5/3	strong
12	A	0-20	SL	gr	10YR 4/3	-	-
	2Bwg	20-55	L	sb	10YR 5/4	10YR 5/1	weak
	3BCg	55-66	SL	ab	10YR 5/4	10YR 7/1	clear
	4Cg	66-90	S	sb	10YR 4/4	10YR 7/1	clear
	5Cl1	90-108	SiL	m	10YR 6/2	10YR 5/2	strong
	5Cl2	108+	SiCL	sb	10YR 7/1	10YR 4/4	strong
13	A	0-16	L	gr	10YR 3/3	-	-
	Bw	16-50	L	sb	10YR 5/3	-	-
	BCg	50-67	SiL	ab	10YR 6/3	10YR 6/1	clear
	Cg1	67-87	SiL	ab	10YR 6/6	10YR 5/1	clear
	Cg2	87-117	L	ab	10YR 4/4	10YR 6/1	clear
	Cl	117+	L	ab	10YR 7/1	10YR 4/1	strong

Table S-2d. Soil morphology and texture in Transect II. Abbreviations as in Table S-2a.

Soil profile	Soil horizon	Depth [cm]	Texture class	Structure	Matrix colour	Redox colour	Intensity of stagnic/gleytic properties
14	A	0-19	SiL	gr	10YR 4/2	-	-
	Bw	19-50	SiL	sb	10YR 5/4	-	-
	BCg	50-76	SiL	ab	10YR 6/6	10YR 7/1	weak
	Cg1	76-87	L	ab	10YR 6/4	10YR 7/1	weak
	Cg2	87-104	SiL	ab	10YR 5/4	10YR 7/1	clear
	Cg3	104+	SiCL	ab	7,5YR 5/6	10YR 7/1	clear
15	A	0-18	SiL	gr	10YR 5/2	-	-
	Bw	18-47	L	sb	10YR 4/4	-	-
	BCg	47-67	L	sb	10YR 4/6	10YR 7/1	clear
	Cg1	67-84	SiL	ab	10YR 5/6	10YR 7/1	clear
	Cg2	84-102	L	ab	10YR 4/4	10YR 7/1	clear
	Cg3	102+	SiL	ab	10YR 4/4	10YR 7/2	clear
16	A	0-25	SiL	gr	10YR 4/3	-	-
	Bwg	25-46	SiL	sb	10YR 5/4	10YR 5/1	weak
	BCg	46-73	SiCL	pr	10YR 5/3	10YR 4/4	clear
	2Cg	73-88	L	ab	10YR 5/4	10YR 6/1	clear
	3Cg	88-95	SL	sb	7,5YR 6/1	7,5YR 5/6	clear
	4Cg	95+	S	sg	7,5YR 7/1	7,5YR 5/6	weak
17	A	0-23	SiL	gr	10YR 4/1	-	-
	Bw	23-60	SiL	sb	10YR 5/3	-	-
	BCg	60-84	SiCL	ab	10YR 5/4	10YR 5/1	weak
	2Cg	84-94	SL	ab	10YR 4/4	10YR 6/2	weak
	3C	94+	S	sg	10YR 6/4	-	-

Table S-2e. Soil morphology and texture in Transect II. Abbreviations as in Table S-2a.

Soil profile	Soil horizon	Depth [cm]	Texture class	Structure	Matrix colour	Redox colour	Intensity of stagnic/gleytic properties
18	A	0-20	SiL	gr	10YR 3/2	-	-
	ABwg	20-36	SiL	sb	10YR 3/3	10YR 6/6	weak
	2Agb	36-59	L	ab	10YR 2/2	10YR 4/6	weak
	2Cg	59-74	L	ab	10YR 5/6	10YR 7/1	clear
	3Cg	74+	S	sg	7,5YR 5/6	10YR 7/2	clear
19	A1	0-16	L	gr	10YR 3/3	-	-
	A2	16-41	SiL	sb	10YR 3/3	-	-
	Agb	41-60	L	ab	10YR 2/2	10YR 4/4	weak
	A/Cg	60-80	L	ab	10YR 6/6	10YR 7/1	clear
	2Cg	80+	S	sg	10YR 6/6	10YR 7/1	clear
20	A	0-21	SL	gr	10YR 4/2	-	-
	Bwg	21-50	SL	sb	10YR 5/2	10YR 6/4	clear
	Agb	50-70	SL	ab	10YR 2/2	10YR 4/4	clear
	Cg	70-80	L	ab	7,5YR 6/6	10YR 7/1	clear
	2Cg1	80-90	S	sg	7,5YR 5/8	10YR 7/1	clear
	2Cg2	90+	S	sg	10YR 6/8	10YR 8/1	clear
21	A	0-25	SL	gr	10YR 3/2	-	-
	Ab	25-45	SL	ab	7,5YR 2/1	-	-
	2Cg1	45-54	S	sg	10YR 7/2	10YR 6/4	weak
	2Cg2	54-100	LS	pl+ sg	10YR 5/6	10YR 7/1	strong
	2Cg3	100+	S	sg	10YR 6/4	10YR 7/1	clear