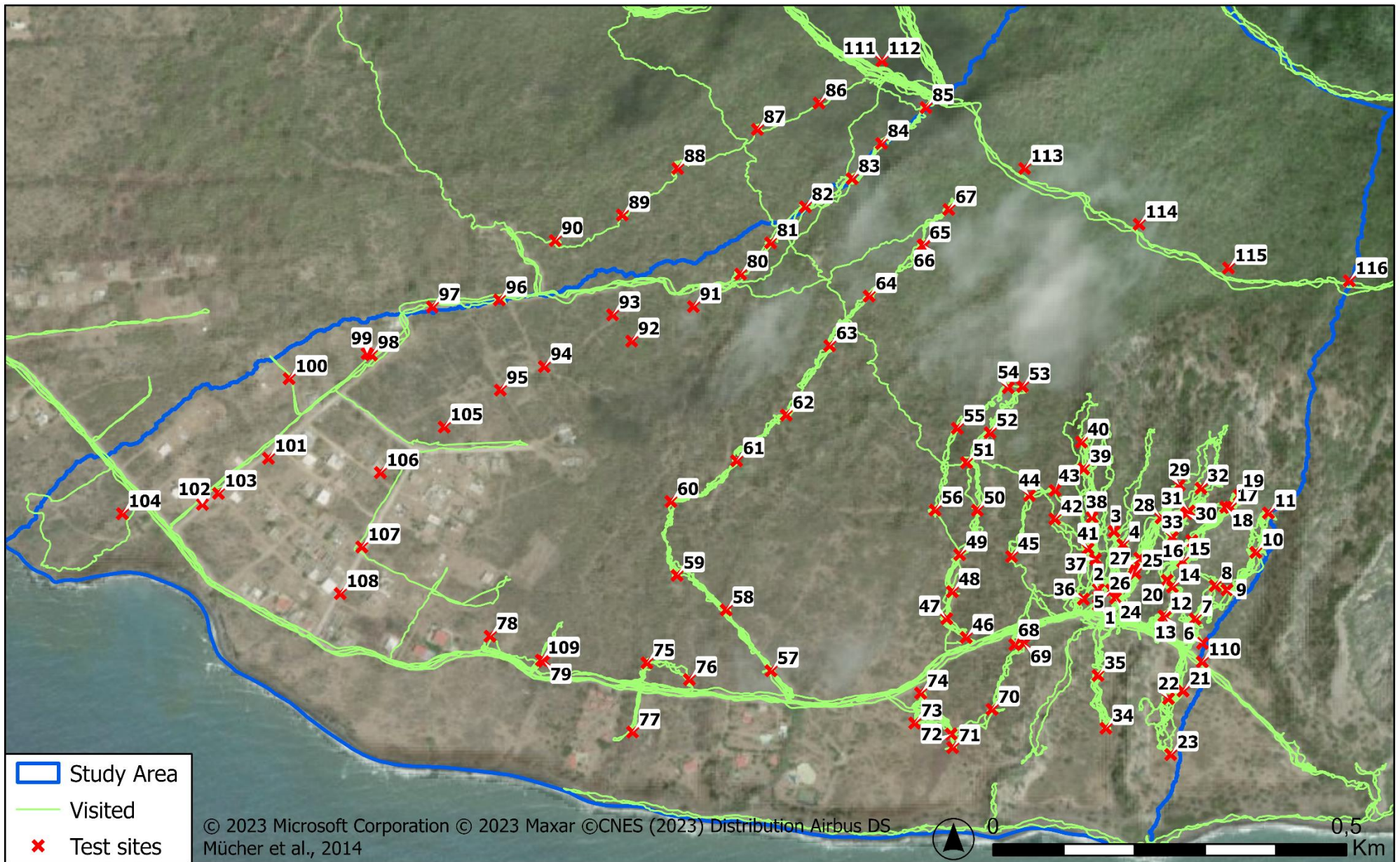


# APPENDIX 1

## Field measurements and photo impression

Map with locations of field measurements.....	1
Field observations and measurements.....	2
Map with minimum infiltration rates .....	5
Map with observed preferential flow indicators.....	6
Map with observed soil classes .....	7
Map with photo locations.....	8
Photo 1 – Remote view of the study area.....	9
Photo 2 – Soil profile at a recently excavated construction site.....	10
Photo 3 – Tall grass field .....	11
Photo 4 – Unpaved road damaged by repeated rill erosion.....	12
Photo 5 – Weg naar White Wall × Ground Dove Road intersection.....	13
Photo 6 – Weg naar White Wall covered with sediment after a moderate rainfall event.....	14
Photo 7 – Coastal cliffs exposing the Quill’s youngest ash and scoria deposits .....	15
Photo 8 – Typical unpaved road in the subdivision .....	16
Photo 9 – Steep unpaved road with an infiltration pit to the side.....	17
Photo 10 – Dense shrub vegetation north of the subdivision .....	18
Photo 11 –Gully control dam from the colonial era.....	19
Photo 12 – Inactive gully with rounded side walls and deep litter layer .....	20
Photo 13 – Dense forest .....	21
Photo 14 – Section of Weg naar White Wall prone to flooding due to lack of drainage paths .....	22
Photo 15 – Soil, rocks and plant litter on Weg naar White Wall after a major rainfall event .....	23
Photo 16 – Weg naar White Wall × Active gully intersections.....	24
Photo 17 – Weg naar White Wall × Active gully intersections after major flooding.....	25
Photo 18 – Gully 1 × Weg naar White Wall culvert .....	26
Photo 19 – Open forest.....	27
Photo 20 – Presumed outcrop of White Wall – Sugar Loaf succession in a gully sidewall.....	28
Photo 21 – Tree damaged by a recent debris flow .....	29
Photo 22 – Gully incision in volcanic conglomerates and sandstones of the White Wall – Sugar Loaf succession.....	30
Photo 24 – Active gully with steep and active side walls .....	31
Photo 25 – Reactivated gully after a debris flow .....	32
Photo 26 – Debris flow end lobe.....	33
Photo 27 – Sparse vegetation and plant litter cover .....	34
Photo 28 – Limestone outcrop of White Wall – Sugar Loaf succession .....	35
Photo 29 – White Wall and Sugar Loaf formations .....	36
Photo 30 – Sediment-laden discharge from active gullies into the Caribbean Sea .....	37

### Map with locations of field measurements





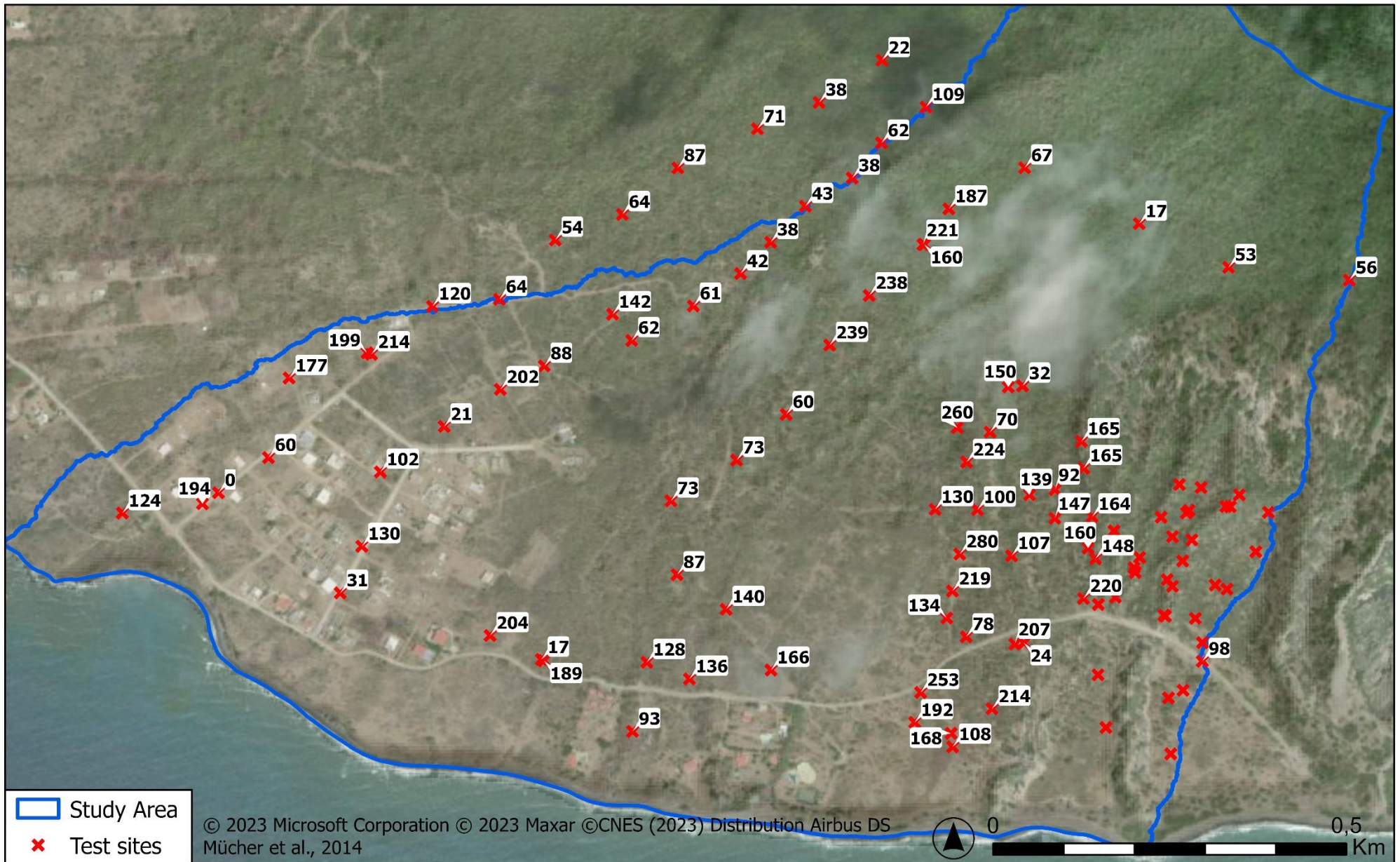


### Field observations and measurements

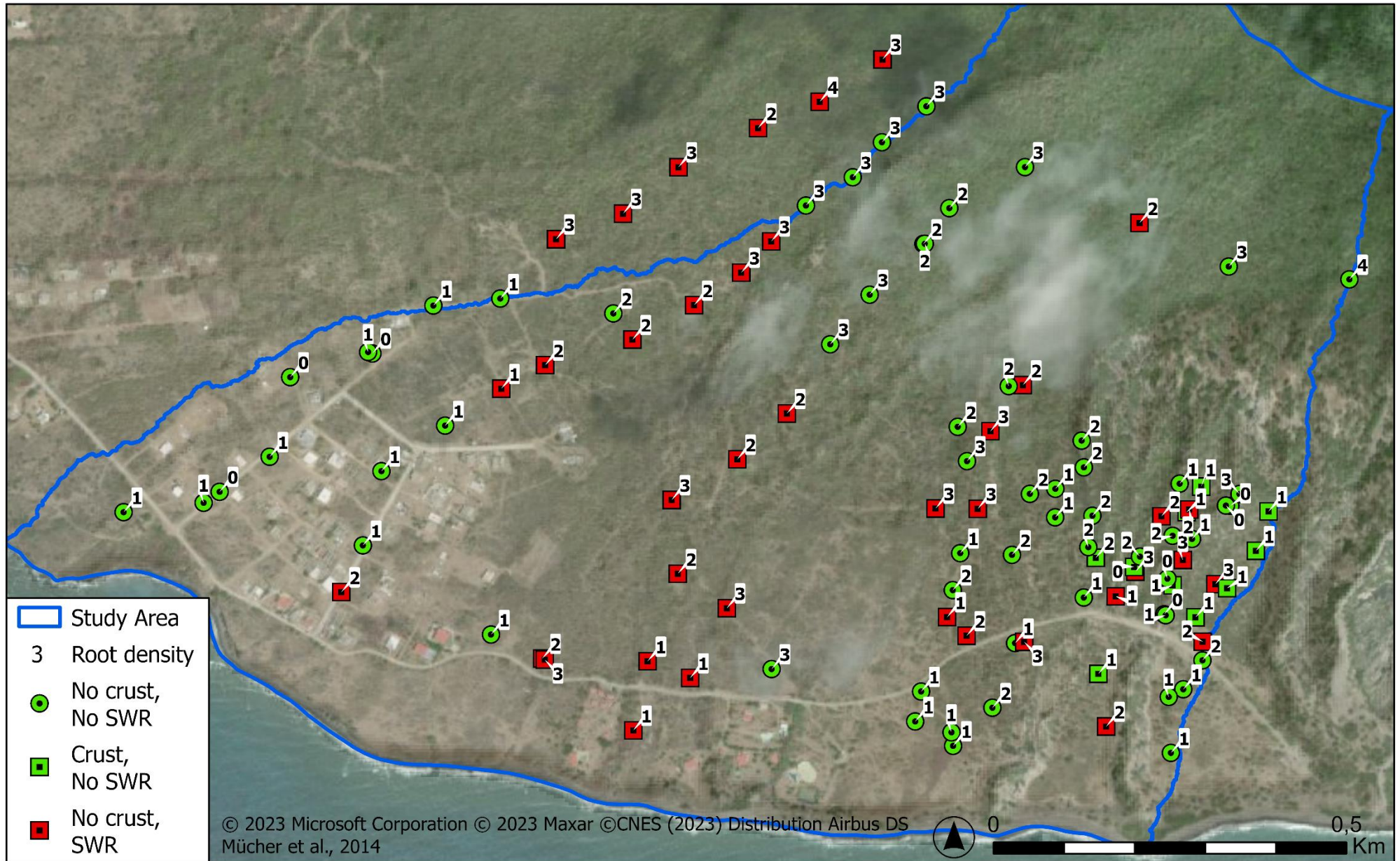
Part 3/3

Site	Date	Preferential flow indicators			Soil class [NEN 5104]		Timing [m:ss]			Input [mL/min]									Runoff [mL/min]										Infiltration [mm/hr]				
		Roots	Crust	SWR	Texture	Humus	$\Delta t$	$t_p$	$t_r$	W1	W2	W3	W4	W5	W6	W7	W8	W9	$\Sigma W$	q1	q2	q3	q4	q5	q6	q7	q8	q9	q <sub>end</sub>	$\Sigma q$	$\Sigma f$	$f_{ave}$	$f_{min}$
91	13-3-2023	2	0	1	LZ3	2	3	0:10	0:30	375	375	375						1125	112	284	280							82	758	367	82	61	
92	13-3-2023	2	0	1	LZ3	2	3	0:10	0:30	375	375	375						1125	105	250	282							70	707	418	93	62	
93	13-3-2023	2	0	0	LZ3	1	3	6:30	6:50	325	425	400						1150	14	125	170						2	311	839	186	142		
94	13-3-2023	2	0	1	LZ3	1	3	0:10	0:30	400	400	400						1200	80	230	268						62	640	560	124	88		
95	13-3-2023	1	0	1	LZ3	1	3	0:15	1:30	375	400	400						1175	0	25	88						20	133	1042	232	202		
96	14-3-2023	1	0	0	LZ3	1	3	0:10	0:55	375	350	375						1100	5	168	270						26	469	631	140	64		
97	14-3-2023	1	0	0	LZ3	1	3	0:30	0:55	375	375	375						1125	3	102	195						38	338	787	175	120		
98	14-3-2023	0	0	0	ZS4	0	5	1:50	3:20	375	400	400	400	400				1975	0	0	0	38	70				8	116	1859	248	214		
99	14-3-2023	1	0	0	LZ3	1	5	2:10	2:40	400	400	400	400	400				2000	0	0	7	101	84				58	250	1750	233	199		
100	14-3-2023	0	0	0	LZ3	1	5	1:20	2:05	375	375	375	400	375				1900	0	0	48	110	35				14	207	1693	226	177		
101	14-3-2023	1	0	0	LZ3	1	3	0:30	0:50	375	375	400						1150	21	236	294						67	618	532	118	60		
102	14-3-2023	1	0	0	LZ3	0	5	1:45	2:40	375	400	400	400	400				1975	0	0	13	66	101				11	191	1784	238	194		
103	14-3-2023	0	0	0	LZ3	0	1	0:15	0:40	375								375										#N/A	#N/A	#N/A	#N/A		
104	14-3-2023	1	0	0	LZ3	1	5	2:40	3:15	375	375	375	375	375				1875	0	0	0	41	96				11	148	1727	230	124		
105	15-3-2023	1	0	0	LZ3	1	3	0:15	0:25	375	350	375						1100	146	285	320						105	856	244	54	21		
106	15-3-2023	1	0	0	LZ3	1	3	1:15	1:40	400	400	400						1200	0	50	170						21	241	959	213	102		
107	15-3-2023	1	0	0	LZ3	1	4	0:50	1:55	375	400	375	425					1150	0	0	23	91					23	137	1013	169	130		
108	15-3-2023	2	0	1	LZ3	1	3	0:10	0:25	400	400	400						1200	150	325	330						75	880	320	71	31		
109	15-3-2023	2	0	1	LZ3	1	8	0:20	0:30	250	200	250	250	200	250	250	225	200	2075	78	180	184	196	190	188	190	190	192	55	1643	432	36	17
110	15-3-2023	2	0	0	LZ3	1	4	0:30	1:10	400	375	375	400					1150	0	55	146	163					0	364	786	131	98		
111	17-3-2023	3	0	1	LZ3	2	3	0:05	0:15	400	350	375						1125	162	270	310						124	866	259	58	29		
112	17-3-2023	3	0	1	LZ3	2	3	#N/A	0:20	325	350	375						1050	150	273	300						70	793	257	57	22		
113	17-3-2023	3	0	0	LZ3	2	3	0:10	0:25	350	350	350						1050	115	190	200						56	561	489	109	67		
114	17-3-2023	2	0	1	LZ3	2	3	#N/A	#N/A	375	350	350						1075	120	242	320						70	752	323	72	17		
115	17-3-2023	3	0	0	LZ3	2	3	0:30	0:40	375	350	350						1075	50	214	238						91	593	482	107	53		
116	17-3-2023	4	0	0	LZ3	2	3	0:45	0:50	350	350	350						1050	21	176	225						49	471	579	129	56		

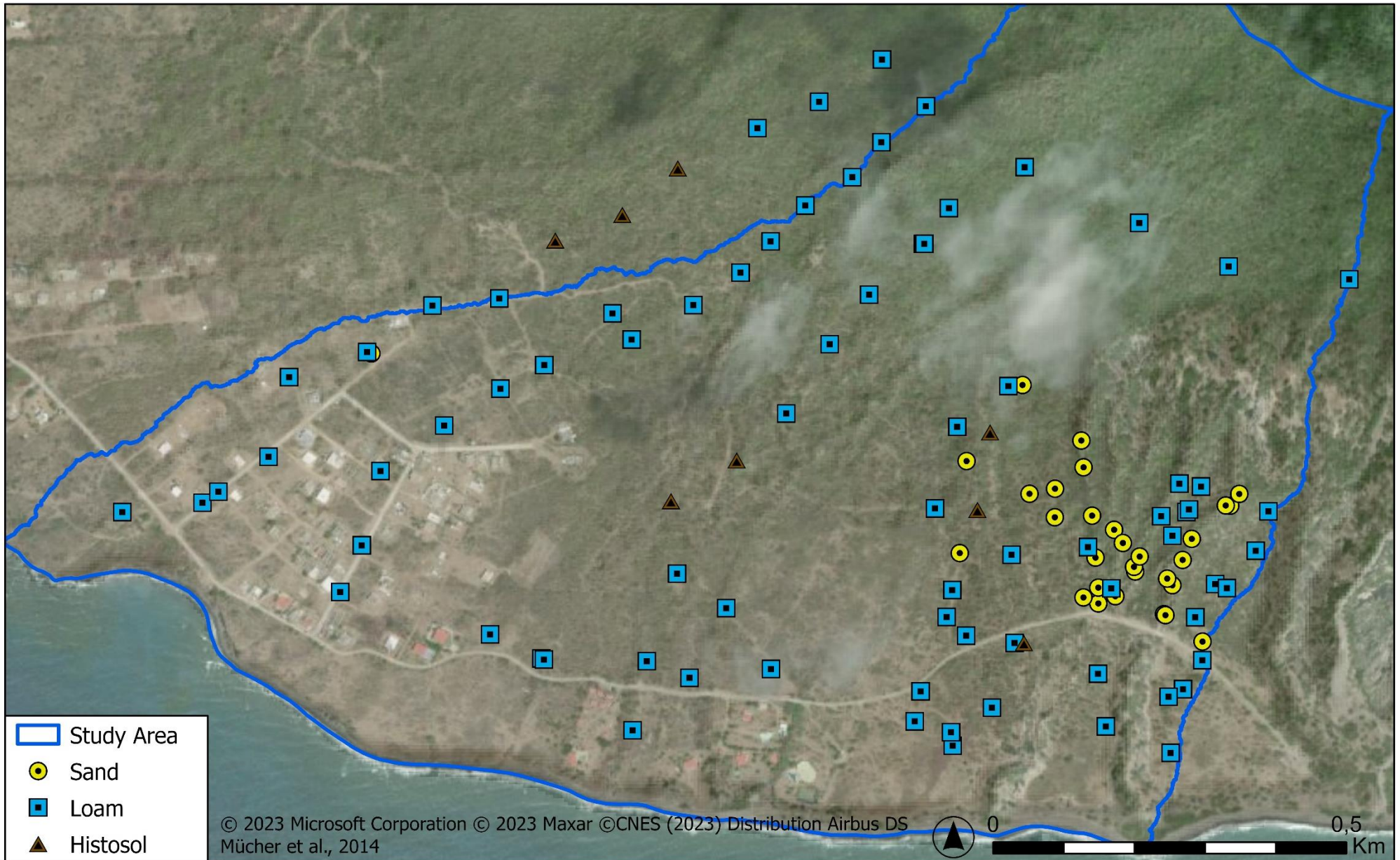
## Map with minimum infiltration rates *in mm/h*



### Map with observed preferential flow indicators

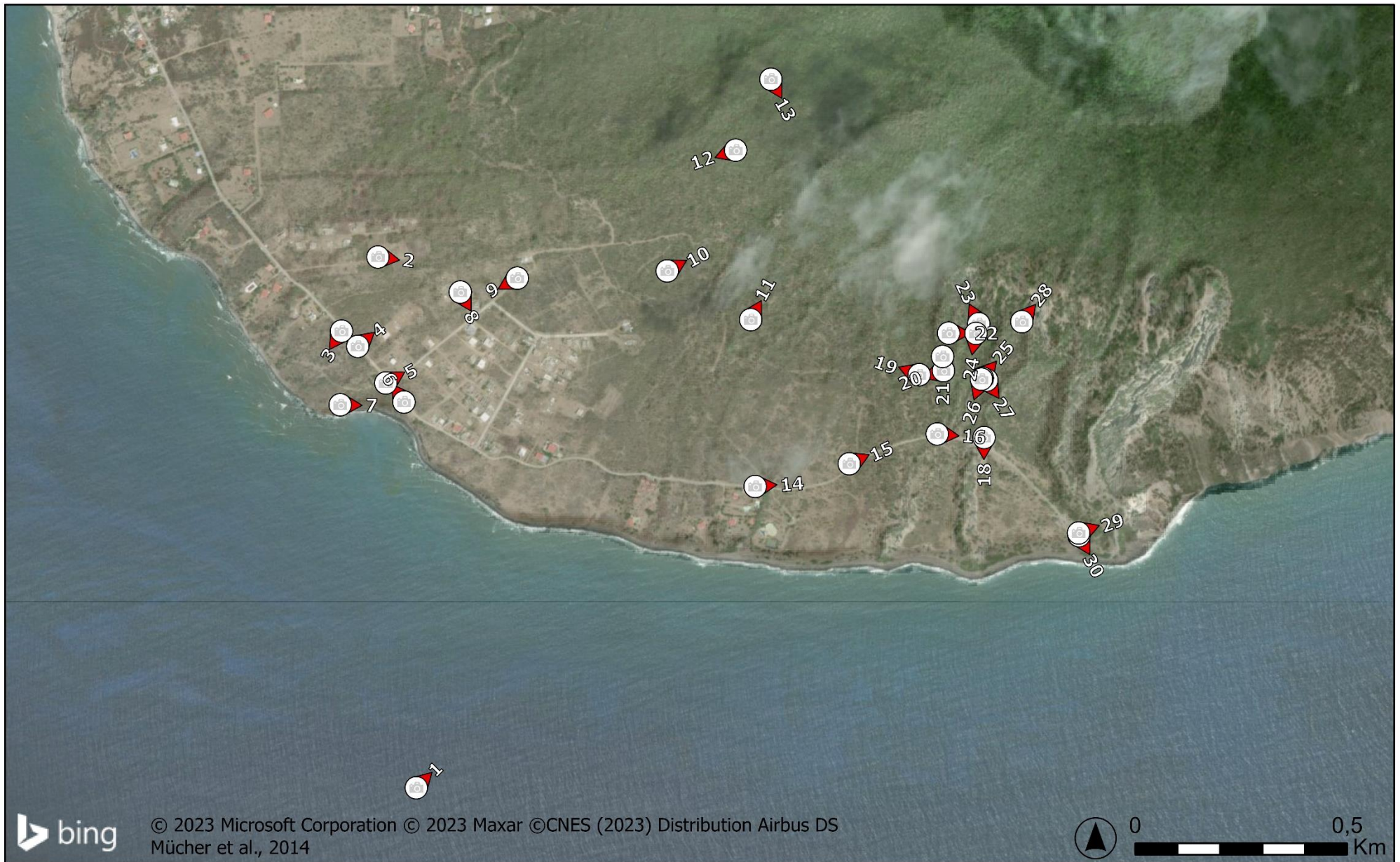


### Map with observed soil classes *NEN 5104*





### Map with photo locations



**Photo 1 – Remote view of the study area**

*8-3-2023*



**Photo 2 – Soil profile at a recently excavated construction site**

*3-1-2023*



**Photo 3 – Tall grass field**

*3-1-2023*



**Photo 4 – Unpaved road damaged by repeated rill erosion**

*23-2-2023*



**Photo 5 – Weg naar White Wall × Ground Dove Road intersection**

*14-3-2023*



**Photo 6 – Weg naar White Wall covered with sediment after a moderate rainfall event**

*18-3-2023*



**Photo 7 – Coastal cliffs exposing the Quill’s youngest ash and scoria deposits**

*26-12-2022*





**Photo 8 – Typical unpaved road in the subdivision**

*14-3-2023*



**Photo 9 – Steep unpaved road with an infiltration pit to the side**

*14-3-2023*



**Photo 10 – Dense shrub vegetation north of the subdivision**

*13-3-2023*



**Photo 11 –Gully control dam from the colonial era**

*7-3-2023*



**Photo 12 – Inactive gully with rounded side walls and deep litter layer**

*4-2-2023*



**Photo 13 – Dense forest**

*15-1-2023*



**Photo 14 – Section of Weg naar White Wall prone to flooding due to lack of drainage paths**

*26-12-2023*



**Photo 15 – Soil, rocks and plant litter on Weg naar White Wall after a major rainfall event**  
*18-1-2023*





**Photo 16 – Weg naar White Wall × Active gully intersections**

*26-12-2023*



**Photo 17 – Weg naar White Wall × Active gully intersections after major flooding**  
*7-1-2023*



**Photo 18 – Gully 1 × Weg naar White Wall culvert**

*26-1-2023*



**Photo 19 – Open forest**

*4-2-2023*



**Photo 20 – Presumed outcrop of White Wall – Sugar Loaf succession in a gully sidewall**

3-3-2023



**Photo 21 – Tree damaged by a recent debris flow**

*3-3-2023*



**Photo 22 – Gully incision in volcanic conglomerates and sandstones of the White Wall – Sugar Loaf succession**

*4-1-2023*



**Photo 24 – Active gully with steep and active side walls**

*4-1-2023*





**Photo 25 – Reactivated gully after a debris flow**

*2-3-2023*



**Photo 26 – Debris flow end lobe**

*2-3-2023*



**Photo 27 – Sparse vegetation and plant litter cover**

*4-1-2023*



**Photo 28 – Limestone outcrop of White Wall – Sugar Loaf succession**

*4-1-2023*



**Photo 29 – White Wall and Sugar Loaf formations**

*26-1-2023*



**Photo 30 – Sediment-laden discharge from active gullies into the Caribbean Sea**  
*7-1-2023*

