



Document title	Summary of reported sediment types in MORS environmental database
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Agenda Item	Agenda item 4 – Data collection, databases and ongoing monitoring programme
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Submitted by	Secretariat
Reference	Outcome of HELCOM MORS 8-2018, para 4.10

Background

MORS EG 8-2018 meeting discussed the practices used in reporting sediment types (Outcome, para 4.10) and that the MORS guidelines have to be clarified on how sediment types should be reported and especially how combination sediments are stored and how the dominant fraction is indicated. In order to achieve that, the meeting agreed that following actions were required:

- For the MORS EG 9-2019, Secretariat produces summary of sediment types reported to MORS Database
- National data providers check their national procedures on storing and reporting sediment types, especially related to combination sediments and description of the dominant fraction.
- MORS EG 9-2019 modifies sediment type reporting instructions in the MORS Guidelines based on the information made available to the meeting.

This document contains a summary of reported sediment types in MORS environmental database.

Action

The Meeting is invited to consider the summary of reported sediment types and national data providers are requested to check their national procedures on storing and reporting sediment types.

Summary of reported sediment types in MORS environmental database

This document contains outputs from HELCOM MORS Environmental database to present summary of reported sediment types. Sediment Type data is grouped by Country, HELCOM Subbasin.

For tables 2-3, all data from database table SED01 has been included where multiple samples (sediment slices, (12 019 records) have been reported per station.

Document contains following tables and figures for summary:

Table 1. List of sediment types in MORS Database

Table 2. Reported sediment samples per Country.

Table 3. Reported sediment samples per HELCOM Subbasin.

Figure 1. Map of sediment sample types.

Table 1. List of sediment types in MORS Database

SEDIMENT_TYPE	
SEDI	SEDIMENT TYPE
-99	NO DATA
0	GRAVEL
1	SAND
2	FINE SAND
3	SILT
4	CLAY
5	MUD
6	GLACIAL
7	SOFT
8	SULPHIDIC
9	Fe-Mg CONCRETIONS
10	SAND AND GRAVEL
11	PURE SAND
12	SAND AND FINE SAND
13	SAND AND SILT
14	SAND AND CLAY
15	SAND AND MUD
20	FINE SAND AND GRAVEL
21	FINE SAND AND SAND
22	PURE FINE SAND
23	FINE SAND AND SILT
24	FINE SAND AND CLAY
25	FINE SAND AND MUD
31	SILT AND SAND
32	SILT AND FINE SAND
33	PURE SILT
34	SILT AND CLAY
35	SILT AND MUD
40	CLAY AND GRAVEL
41	CLAY AND SAND
42	CLAY AND FINE SAND
43	CLAY AND SILT
44	PURE CLAY
45	CLAY AND MUD
46	CLACIAL CLAY
47	SOFT CLAY
48	SULPHIDIC CLAY
49	CLAY AND Fe-Mg CONCRETIONS
50	MUD AND GARVEL
51	MUD AND SAND
52	MUD AND FINE SAND
54	MUD AND CLAY
55	PURE MUD
57	SOFT MUD
58	SULPHIDIC MUD
59	MUD AND Fe-Mg CONCRETIONS

Table 2. Reported sediment types by Country.

SEDIMENT TYPE	DENMARK	ESTONIA	FINLAND	GERMANY	LATVIA	LITHUANIA	POLAND	RUSSIA	SWEDEN	Total
CLACIAL CLAY			201							201
CLAY			5							5
CLAY AND Fe-Mg CONCRETIONS				1						1
CLAY AND FINE SAND				76						76
CLAY AND GRAVEL				10						10
CLAY AND MUD			28	13		11				52
CLAY AND SAND			4	7						11
CLAY AND SILT			3	4						7
Fe-Mg CONCRETIONS				3						3
FINE SAND						49				49
FINE SAND AND CLAY				15						15
FINE SAND AND GRAVEL				83						83
FINE SAND AND MUD				179		9				188
FINE SAND AND SAND						1				1
FINE SAND AND SILT			3							3
GRAVEL			376			17	205	789	654	2041
MUD	201			10	116	21				348
MUD AND CLAY			58	83						141
MUD AND Fe-Mg CONCRETIONS				1						1
MUD AND FINE SAND				270						270
MUD AND GARVEL				108						108
MUD AND SAND				25		4				29
NO DATA	183		316	3		30	1200	474	36	2242
PURE CLAY			82	89						171
PURE FINE SAND				212						212
PURE MUD	106		62	2363	327					2858
PURE SAND				119						119
PURE SILT				11						11
SAND				3	1	2				6
SAND AND CLAY				6		10				16
SAND AND FINE SAND				1						1
SAND AND GRAVEL				8		30				38
SAND AND MUD				55		24				79
SAND AND SILT				5						5
SILT AND CLAY							605			605
SILT AND FINE SAND							121			121
SILT AND MUD			4							4
SOFT				3						3
SOFT CLAY			228							228
SOFT MUD			98	190						288
SULPHIDIC CLAY			748							748
SULPHIDIC MUD			619	2						621
Grand Total	289	201	2835	3958	444	208	2131	1263	690	12019

Table 3. Reported sediment types by HELCOM Subbasin.

	A l a n d S e a	A r k o n a B a s i n	B a y o f M e c k l e n b u r g	B o r n h o l m B a s i n	B o t h n i a n B a y	B o t h n i a n S e a	E a s t e r n G o t l a n d B a s i n	G d a n s k B a s i n	G r e a t B e l t	G u l f o f F i n l a n d	G u l f o f R i g a	K a t t e g a t	K i e l B a y	L a k e L a d o g a	N o r t h e r n B a l t i c P r o p e r	T h e S o u n d	W e s t e r n G o t l a n d B a s i n
CLACIAL CLAY					61	43	10			56					31		
CLAY					5												
CLAY AND Fe-Mg CONCRETIONS										1							
CLAY AND FINE SAND		10	10	10		1							33				12
CLAY AND GRAVEL		1		3									4				2
CLAY AND MUD	2	1			2	5	30			4			8				
CLAY AND SAND					4	4							2				1
CLAY AND SILT					3	4											
Fe-Mg CONCRETIONS						1				1			1				
FINE SAND							49										
FINE SAND AND CLAY		7					1						7				
FINE SAND AND GRAVEL		27		40									16				
FINE SAND AND MUD		39	17	21	1	1	9					6	94				
FINE SAND AND SAND							1										
FINE SAND AND SILT					3												
GRAVEL				72	330	355	190	97		775		25		19	118	29	31
MUD			3				37			141	100		7		60		
MUD AND CLAY	4		16		16	24	14			39			19		5		4
MUD AND Fe-Mg CONCRETIONS					1												
MUD AND FINE SAND		26	29	14			8					1	192				
MUD AND GARVEL		12	38	8									50				
MUD AND SAND			13				4			2			10				
NO DATA		57	1	385	78	78	403	610	49	370		61			107	34	9
PURE CLAY	2		19	2	18	45	28			1		7	9		21		19
PURE FINE SAND		88	13	14								13	84				
PURE MUD	5	459	862	44	4	57	78	20	42	65	306	43	791		32	19	31
PURE SAND		20	13	29								2	54				1
PURE SILT	7																4
SAND							3						2				1
SAND AND CLAY							10						5				1
SAND AND FINE SAND													1				
SAND AND GRAVEL				4			30						4				
SAND AND MUD		9					24						45				1
SAND AND SILT		5															
SILT AND CLAY				121			121	363									
SILT AND FINE SAND				121													
SILT AND MUD					4												
SOFT													3				
SOFT CLAY					93	86	20			29							
SOFT MUD	4	9	62	2	21	19	10	6	6	48			85		6		10
SULPHIDIC CLAY					58	138	84			312	27				129		
SULPHIDIC MUD					5	213				242					159		
Grand Total	24	770	1096	890	702	866	1377	1096	97	2086	433	158	1526	19	668	82	129

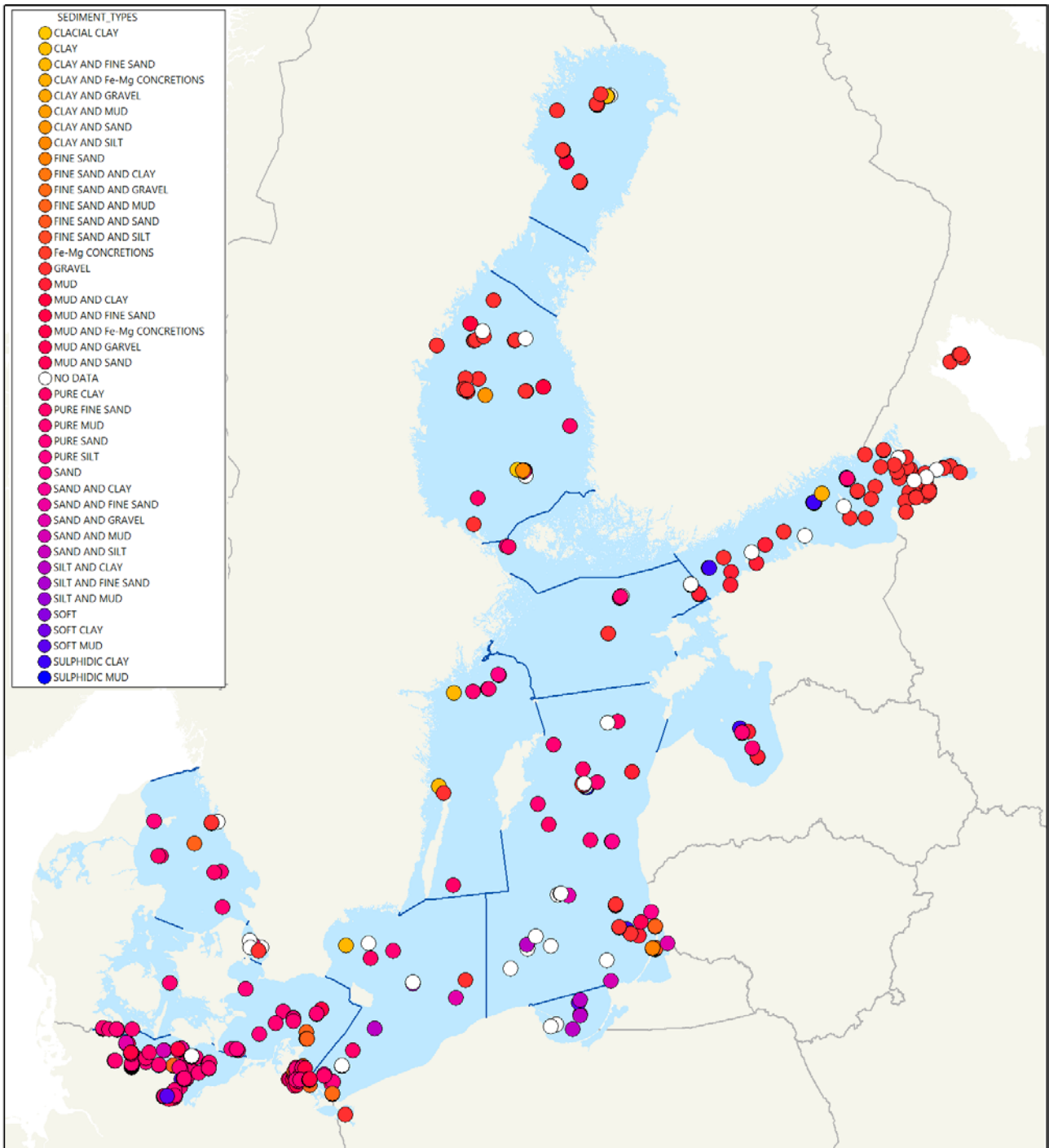


Figure 1. Map of sediment sample types.