Leibniz Institute for Baltic Sea Research Warnemünde

BONUS BASMATI
Baltic Sea Maritime Spatial Planning for Sustainable Ecosystem Services

Data harmonisation to facilitate planning across borders and scales

Kerstin Schiele and Lotta Maack
IOW – Leibniz Institue for Baltic Sea Research Warnemuende

BONUS BASMATI Final Webinar – 9th Sept 2020

BONUS
Science for a better future of the Baltic Sea region

The role of data in MSP...

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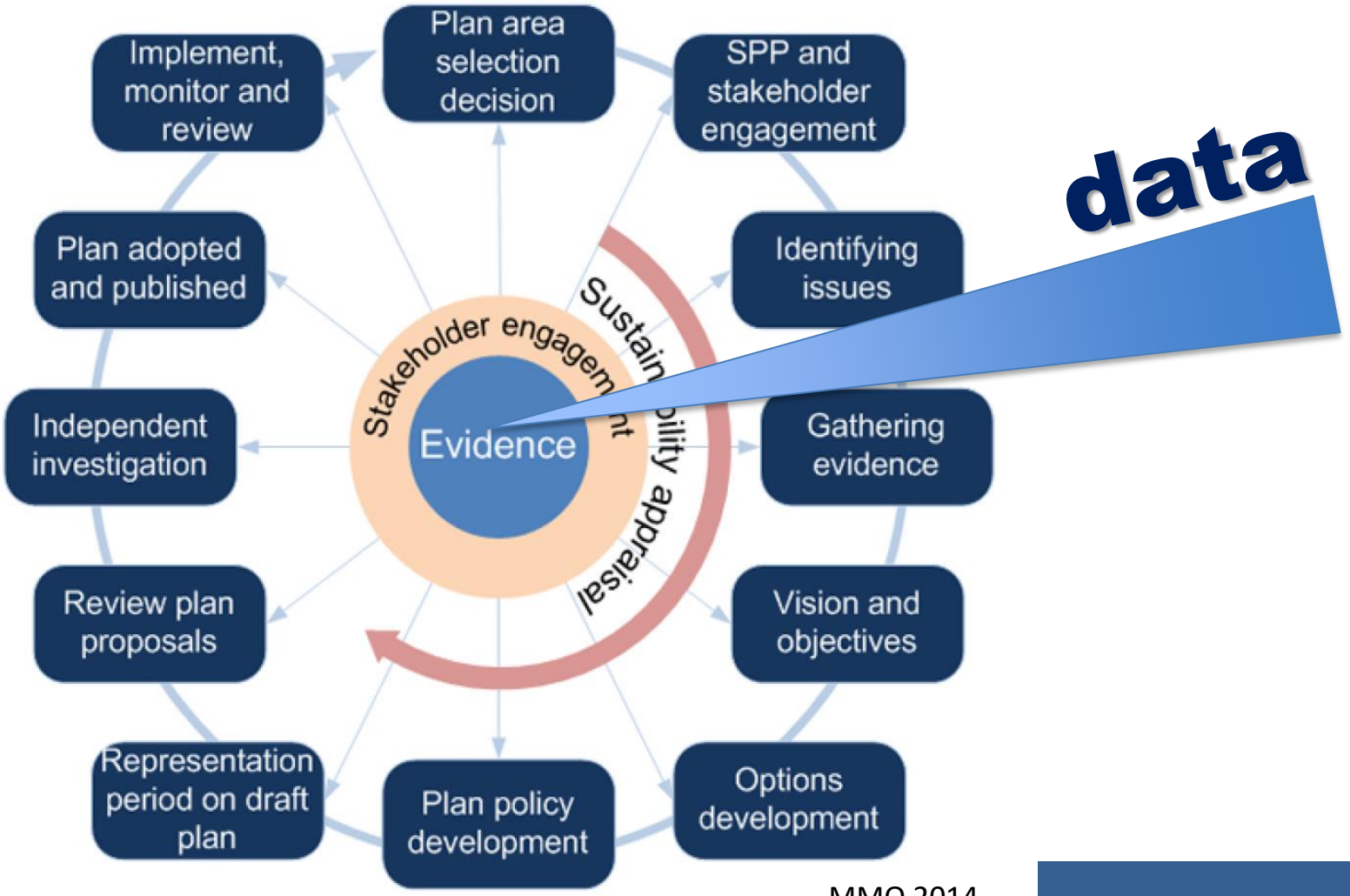

MMO 2014

Data is the core...

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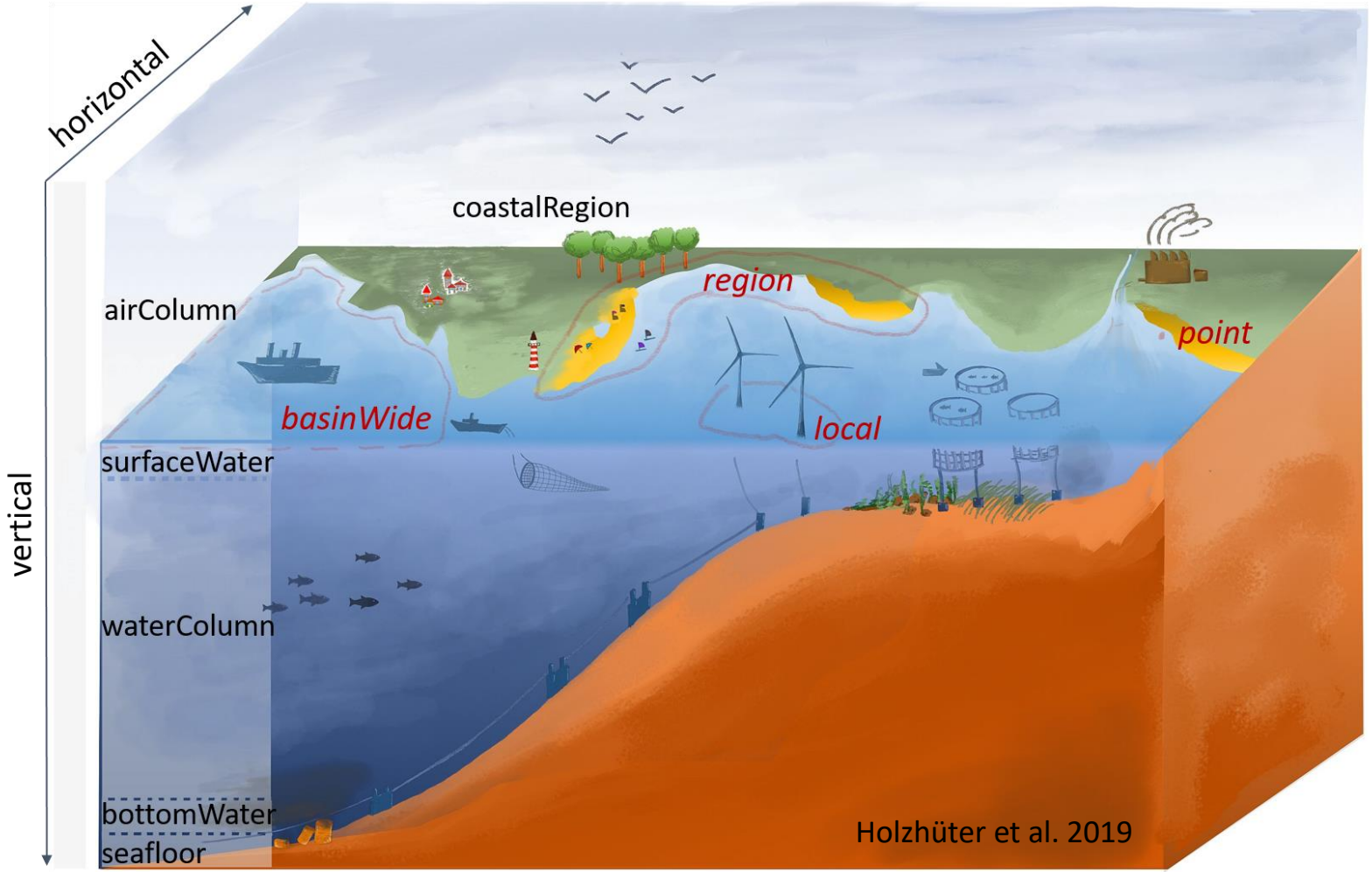

Holzhüter et al. 2019

Data harmonisation framework

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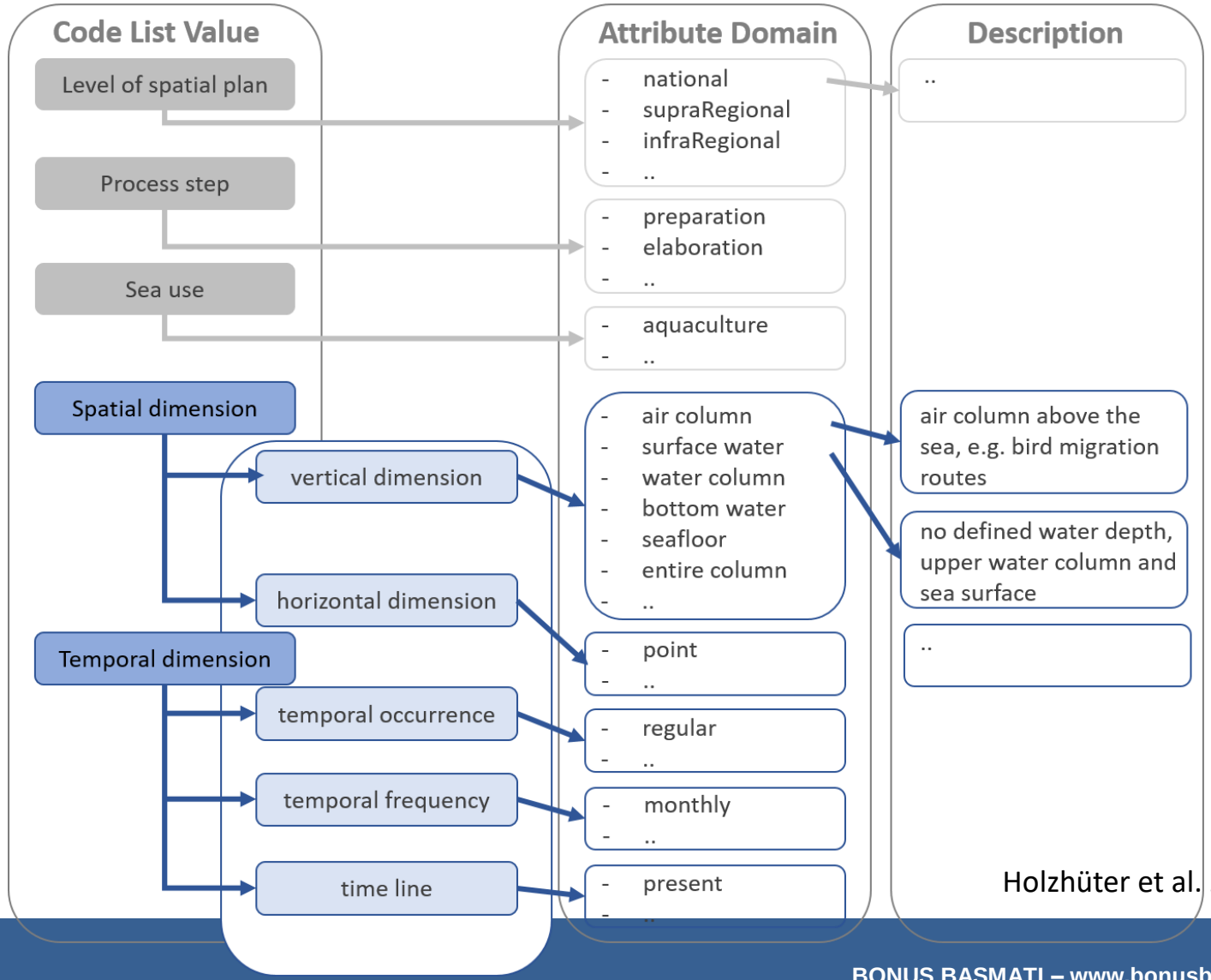

Holzhüter et al. 2019

Data harmonisation framework

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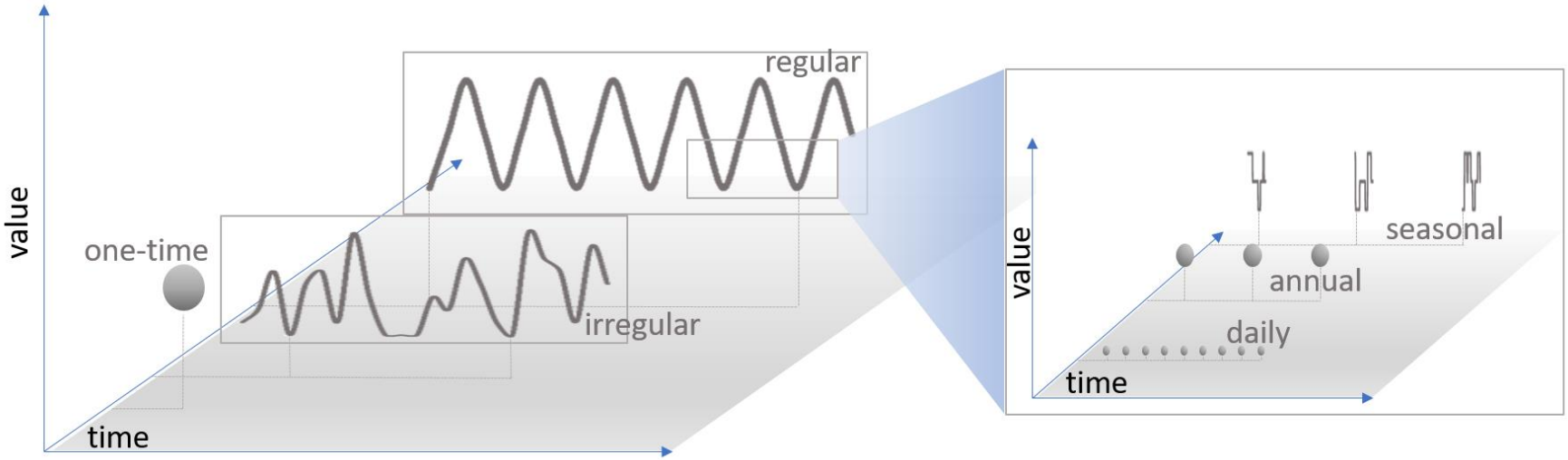
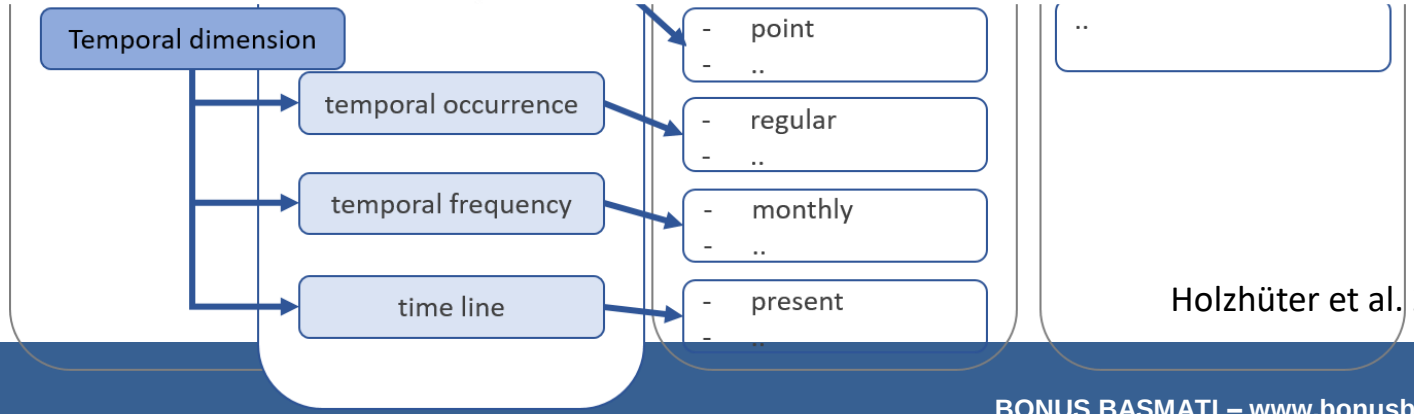
temporal occurrence

temporal frequency





Holzhüter et al. 2019

Data harmonisation framework I

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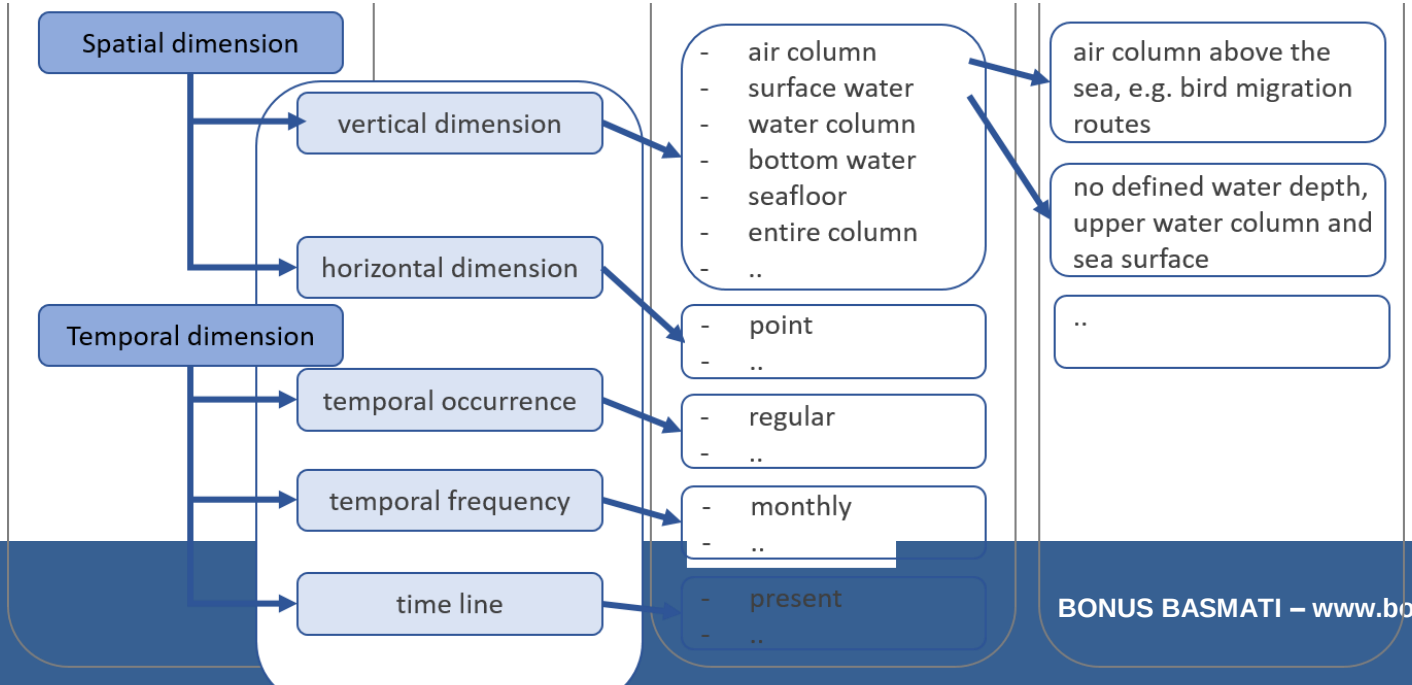
1) key information: **space & time**!

→ may be implemented in the **attribute table** or in the **metadata**

- **predefined attribute domains** with descriptions
- **spatial dimensions**: vertical, horizontal
- **temporal dimensions**: occurrence, frequency, time line



Data harmonisation framework I

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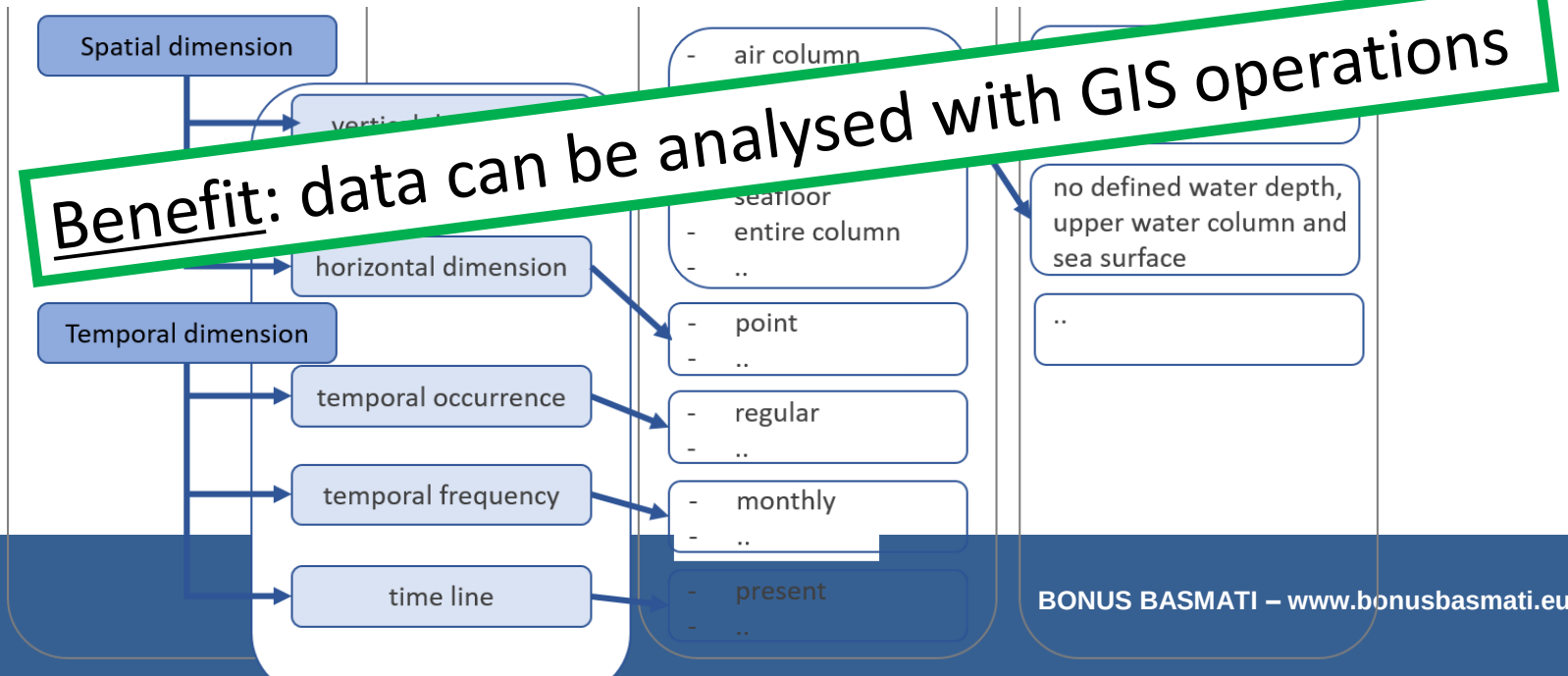

Data harmonisation framework II

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2) **non spatial evidence** is often neglected!

→ **help-files to include data in GIS**

- Include further information in the metadata

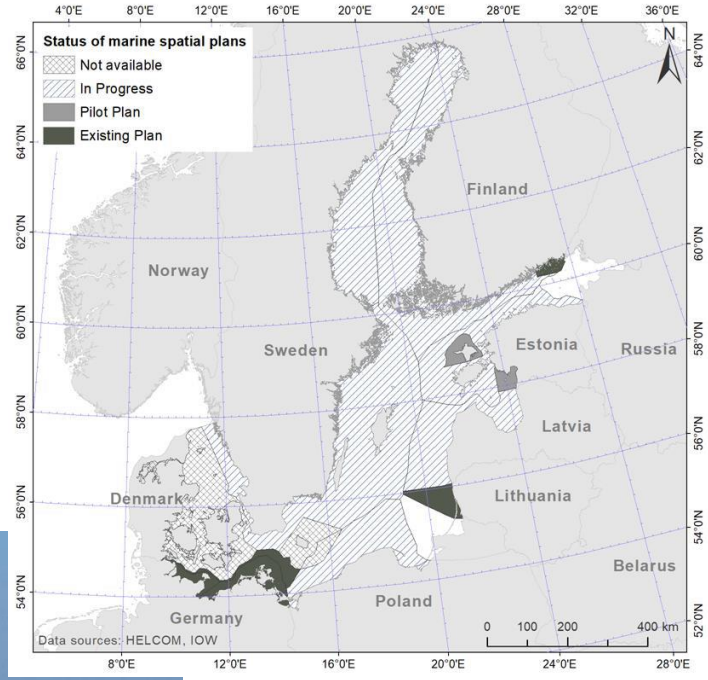

Photo: Harri Tolvanen

Data harmonisation framework II

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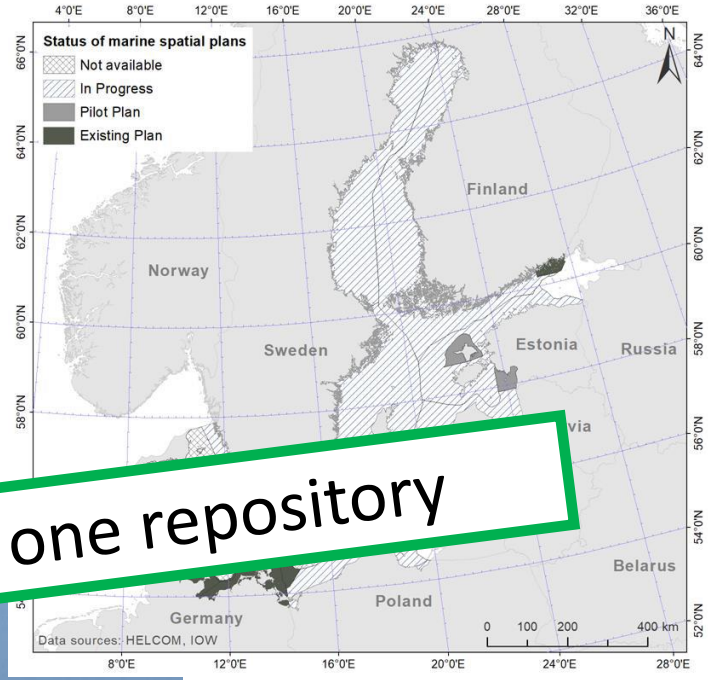

Benefit: all data can be stored in one repository

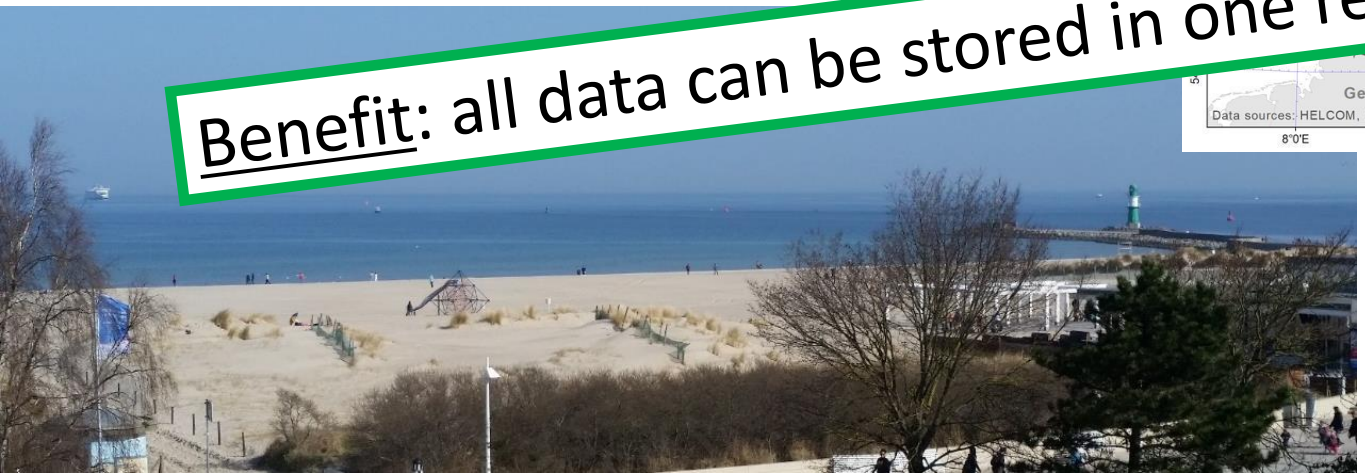

Photo: Harri Tolvanen

Baltic Sea Atlas – data example

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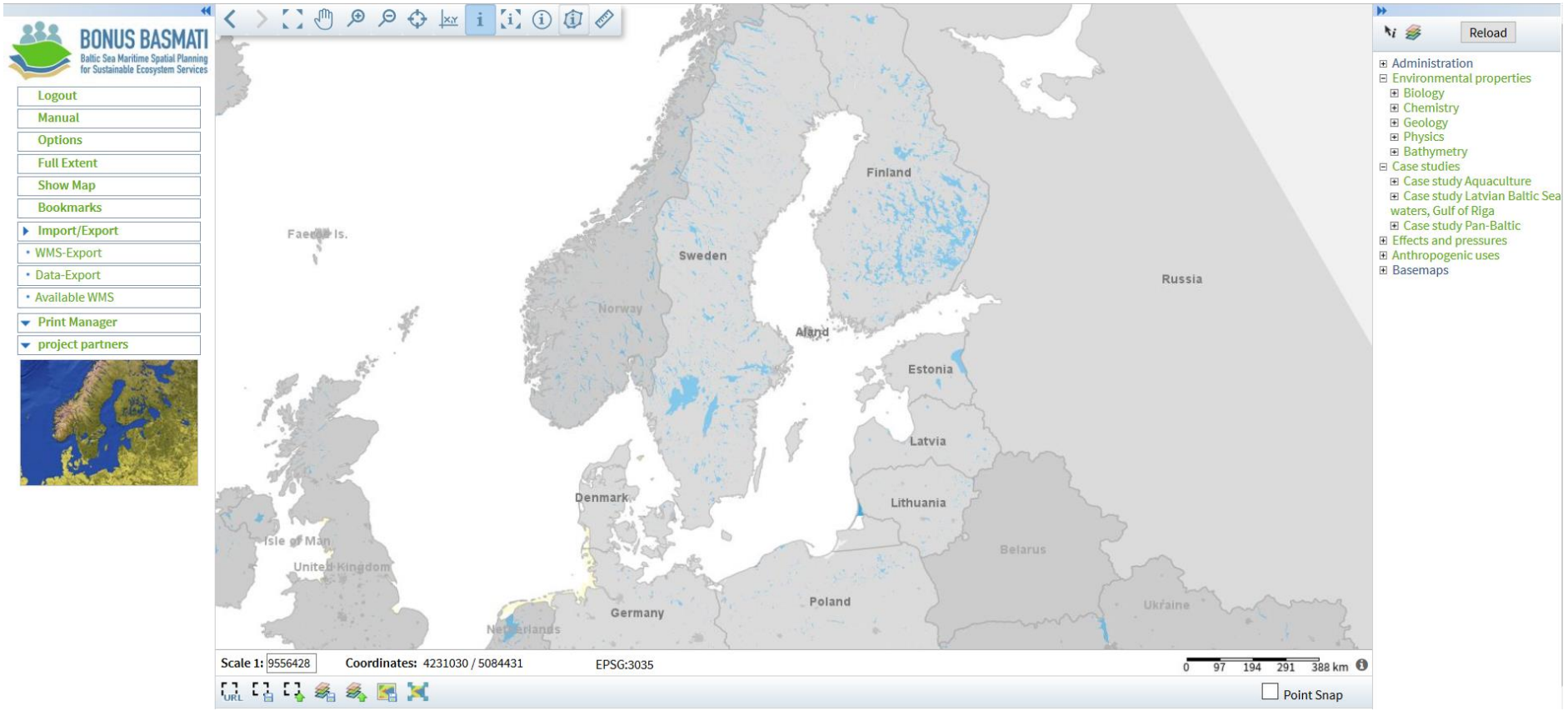

Baltic Sea Atlas – data example

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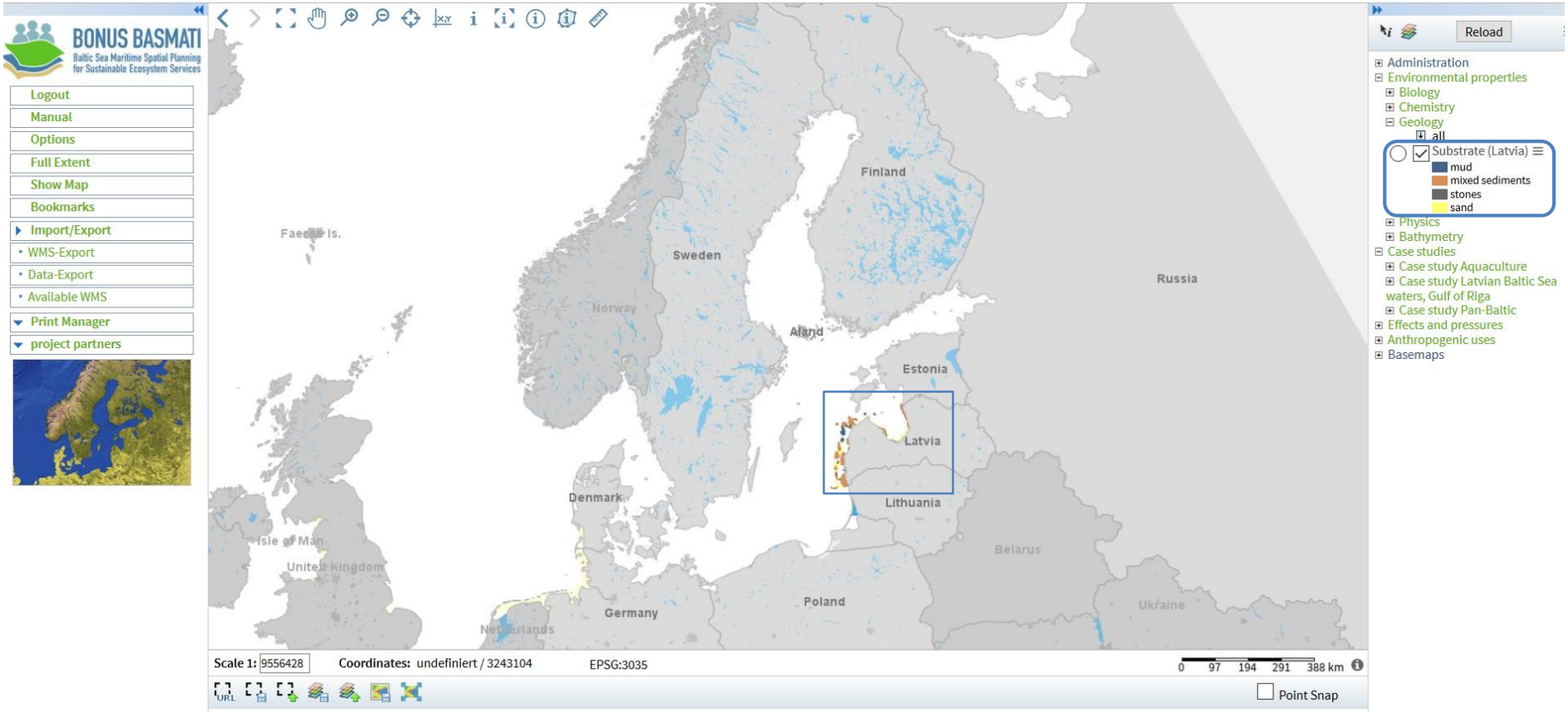

Baltic Sea Atlas – data example

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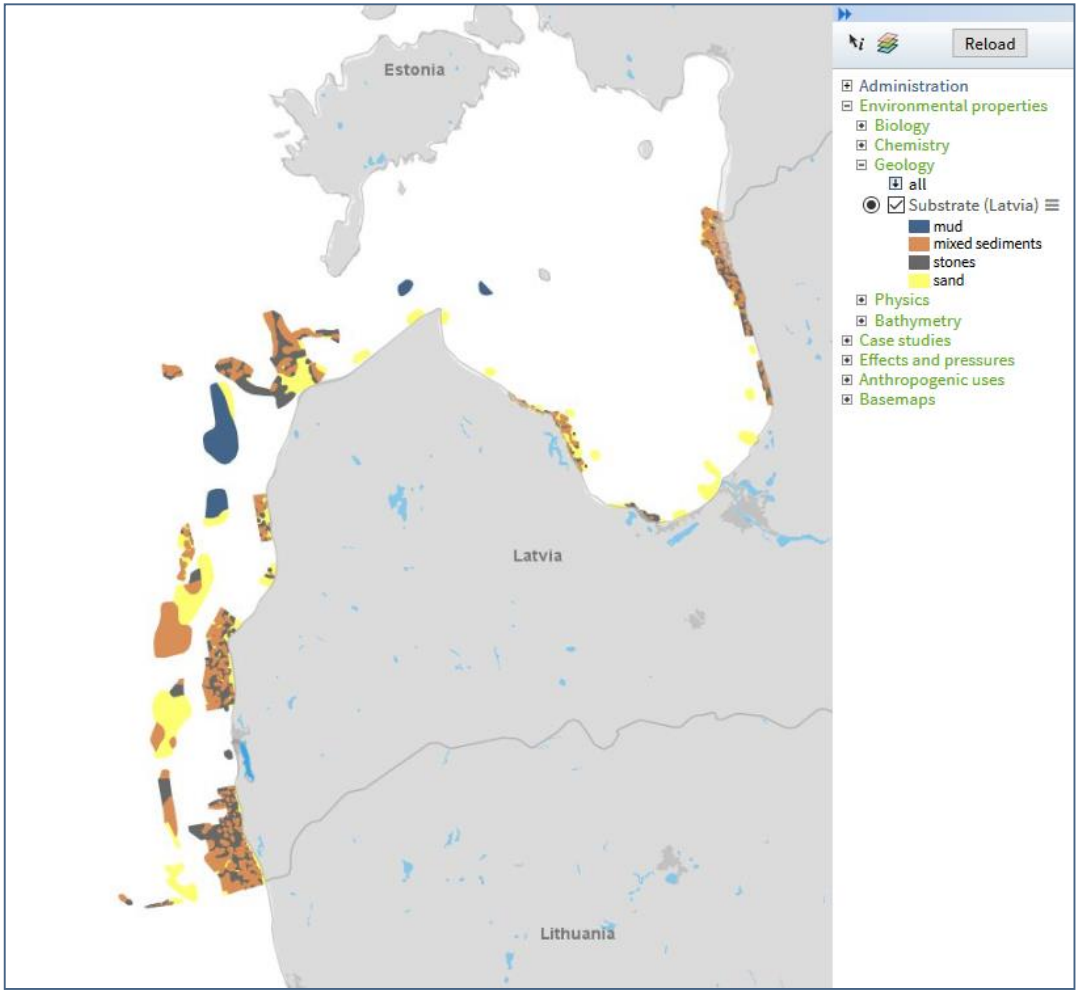

Baltic Sea Atlas – data example

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2

Substrate (Latvia)

select record

oid	3
objectid	3
veids	jaukts
substr_typ	mixed sediments
spat_dim_v	seafloor
spat_dim_h	national
time_f_frq	decadal
time_f_tem	irregular
time_f_tim	recent
shape_leng	1565260.3161
shape_area	873845528.15

4

Substrate (Latvia): select all

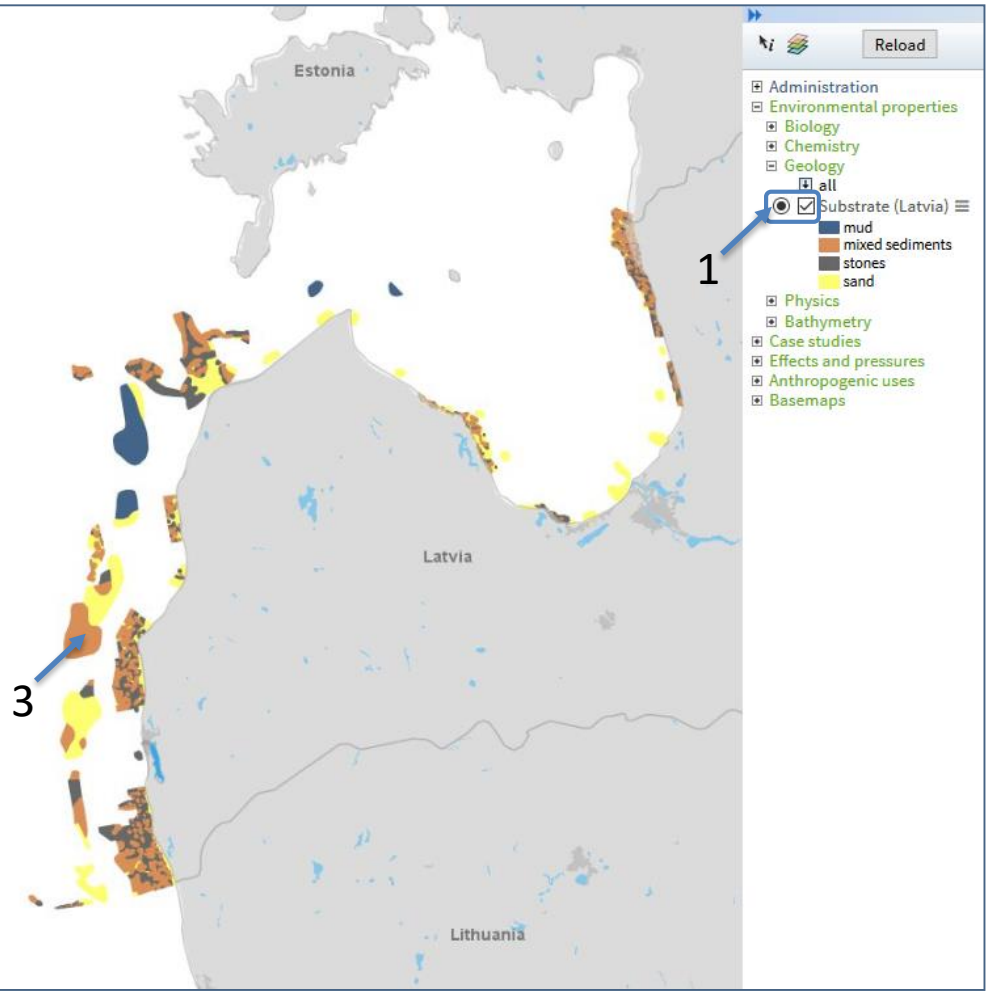
selected records:

classified by:

Limit Resultcount: 10

Printversion

back to map



Baltic Sea Atlas – non-spatial data

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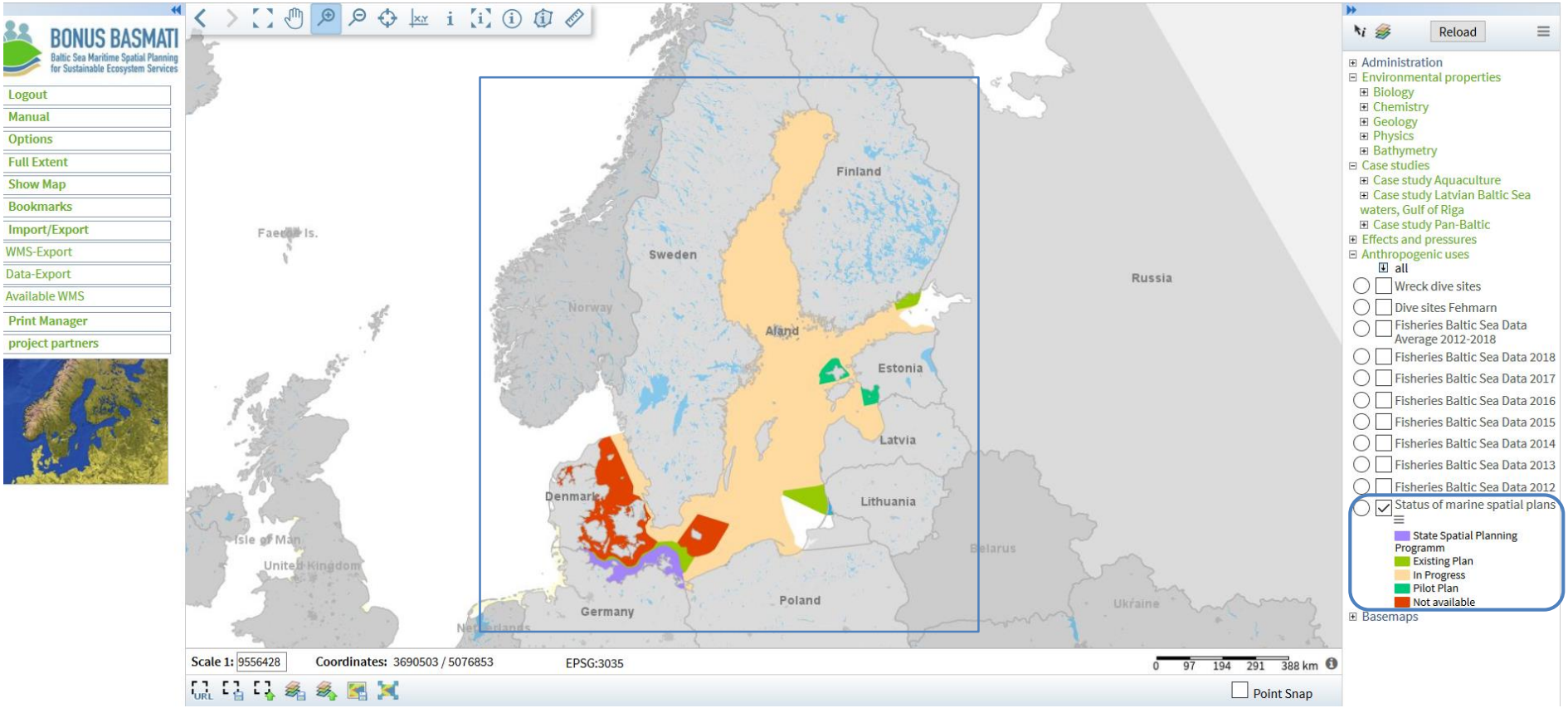

Baltic Sea Atlas – non-spatial data

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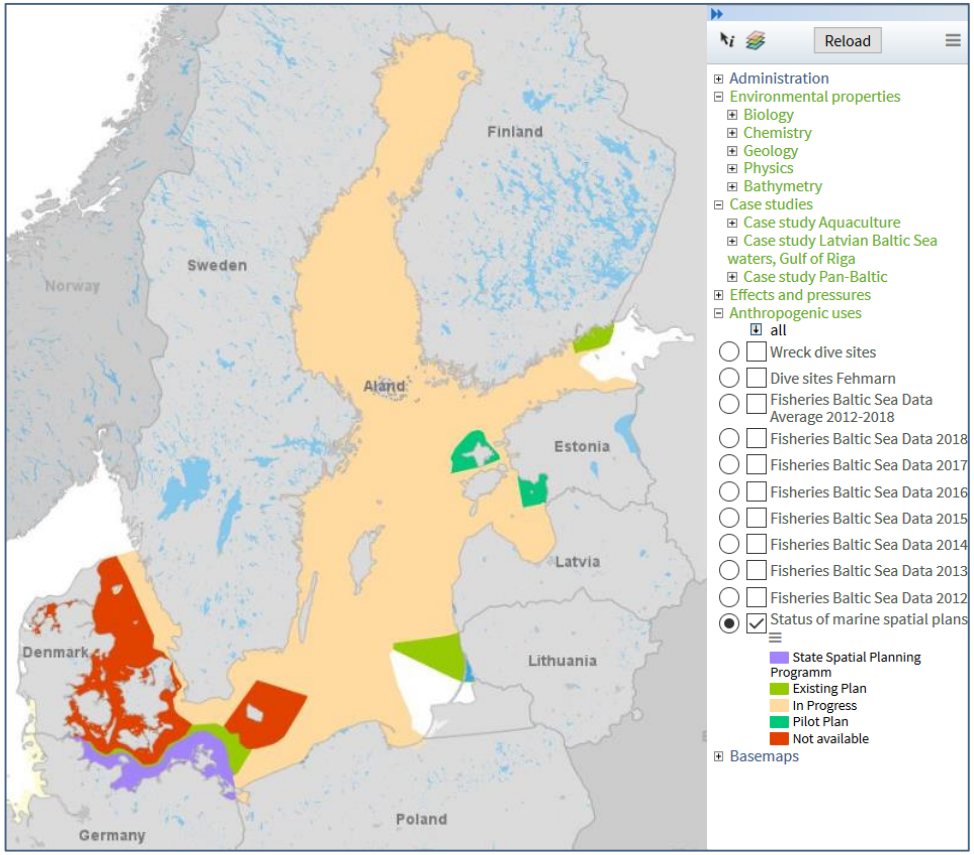

Baltic Sea Atlas – non-spatial data

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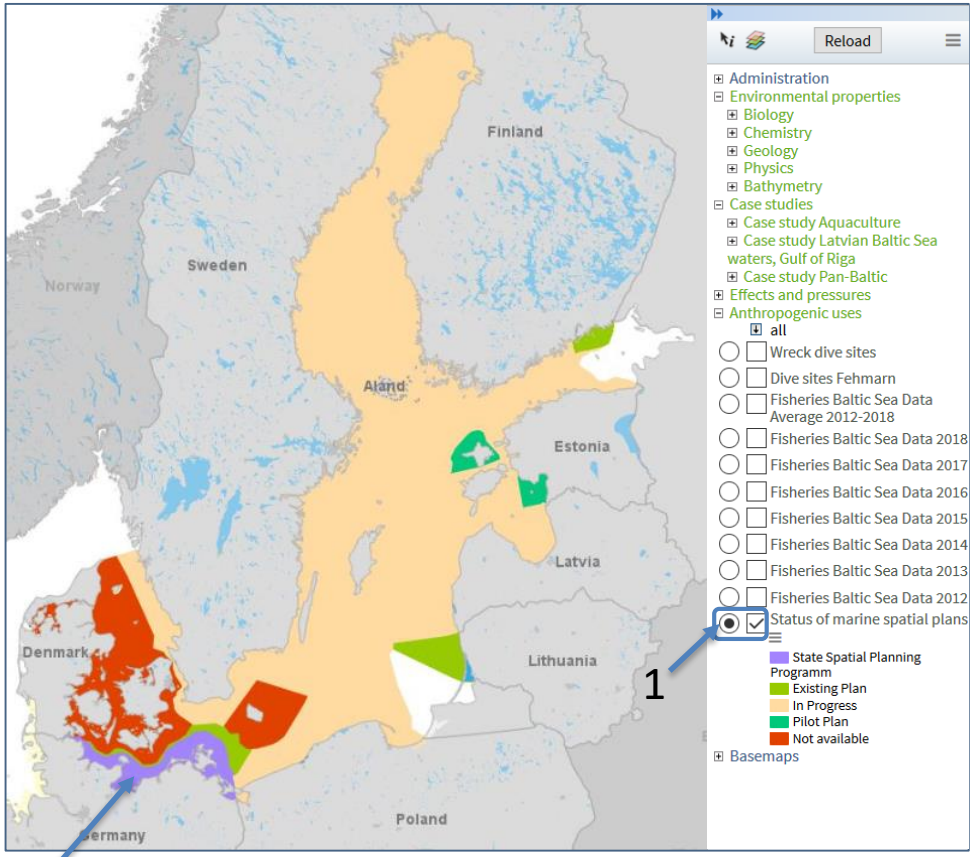
2

Status of marine spatial plans

select record	
oid	9
name	Germany MV
shape_leng	1990778.74499
shape_area	7827676158.21
status1812	State Spatial Planning Programm
link	https://www.msp-platform.eu/countries/germany
temp_occur	static
temp_freq	not applicable
time_line	present
vertical	entire column
horizontal	national

4

select record	
oid	10
name	Germany SH
shape_leng	862924.448607
shape_area	3009959332.47
status1812	State Spatial Planning Programm
link	https://www.msp-platform.eu/countries/germany
temp_occur	static
temp_freq	not applicable
time_line	present
vertical	entire column
horizontal	national



1

3

Baltic Sea Atlas – metadata ArcCatalog

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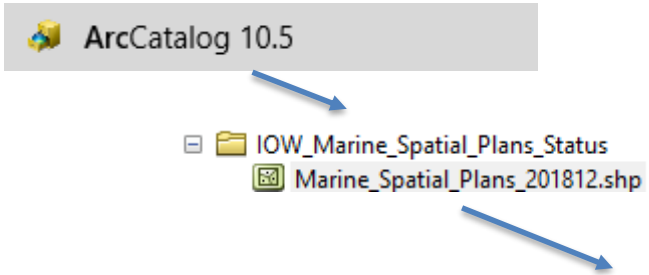
Status of marine spatial plans



Contents | Preview | Description

FID	Shape *	Name	Shape_Leng	Shape_Area	status1812	link	temp_occur	temp_freq	time_line	vertical	horizontal
0	Polygon	Denmark	6692537,47196	42259781462,800003	Not available	https://www.msp-platform.eu/countries/denmark	static	not applicable	present	entire column	national
1	Polygon	Denmark/Poland unresolved	302241,278038	3073878631,89	Not available	https://www.msp-platform.eu/countries/denmark	static	not applicable	present	entire column	national
2	Polygon	Estonia Hiiu Island	592142,56505	3621666902,62	Pilot Plan	https://www.msp-platform.eu/countries/estonia	static	not applicable	present	entire column	national
3	Polygon	Estonia Pärnu Bay area	370947,056132	2486188076,86	Pilot Plan	https://www.msp-platform.eu/countries/estonia	static	not applicable	present	entire column	national
4	Polygon	Estonia	3531941,13169	30918381432,799999	In Progress	https://www.msp-platform.eu/countries/estonia	static	not applicable	present	entire column	national
5	Polygon	Finland	31477732,8207	78653544843,399994	In Progress	https://www.msp-platform.eu/countries/finland	static	not applicable	present	entire column	national
6	Polygon	Finland Kymenlaakso Region	1834279,13788	2058135711,03	Existing Plan	https://www.msp-platform.eu/countries/finland	static	not applicable	present	entire column	national
7	Polygon	Germany EEZ	832987,736245	4532971896,06	Existing Plan	https://www.msp-platform.eu/countries/germany	static	not applicable	present	entire column	national
8	Polygon	Germany MV	1990778,74499	7827676158,21	State Spatial Planning Programm	https://www.msp-platform.eu/countries/germany	static	not applicable	present	entire column	national
9	Polygon	Germany SH	862924,448607	3009959332,47	State Spatial Planning Programm	https://www.msp-platform.eu/countries/germany	static	not applicable	present	entire column	national
10	Polygon	Latvia	1235318,251	28833485531,700001	In Progress	https://www.msp-platform.eu/countries/latvia	static	not applicable	present	entire column	national
11	Polygon	Lithuania	551811,288292	6537689109,35	Existing Plan	https://www.msp-platform.eu/countries/lithuania	static	not applicable	present	entire column	national
12	Polygon	Poland	1657607,60289	29526883513,799999	In Progress	https://www.msp-platform.eu/countries/poland	static	not applicable	present	entire column	national
13	Polygon	Russia	3027666,45863	23803159520,299999			static	not applicable	present	entire column	national
14	Polygon	Sweden Baltic Sea Plan	15770320,4326	89037317275,300003	In Progress	https://www.msp-platform.eu/countries/sweden	static	not applicable	present	entire column	national
15	Polygon	Sweden Gulf of Bothnia	9912417,76583	51421869546,5	In Progress	https://www.msp-platform.eu/countries/sweden	static	not applicable	present	entire column	national
16	Polygon	Sweden Skagerrag Kattegat	1497038,44714	7031807841,020001	In Progress	https://www.msp-platform.eu/countries/sweden	static	not applicable	present	entire column	national

Preview: Table

Baltic Sea Atlas – metadata ArcCatalog

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Status of marine spatial plans

Contents | Preview | Description

Print | Edit | Validate | Export | Import

Status of marine spatial plans

Shapefile

Tags
MSP, BASMATI, Baltic Sea

Summary
The dataset shows information on the status of marine spatial plans in the Baltic Sea.

Description
The dataset showsinformation on the status of marine spatial plans in the Baltic Sea. Border are based on HELCOM - shapefiles "HELCOM marine area" and "Exclusive Economic Zone". Information on the status of spatial plans in the Baltic Sea are based on the European MSP Platform.Temporal occurence: static.Temporal frequency: not applicable. Time line: present. Vertical spatial dimension: entire column. Horizontal spatial dimension: national. Origin of data: HELCOM datasets and official documentsof the European MSP Platform

Baltic Sea Atlas

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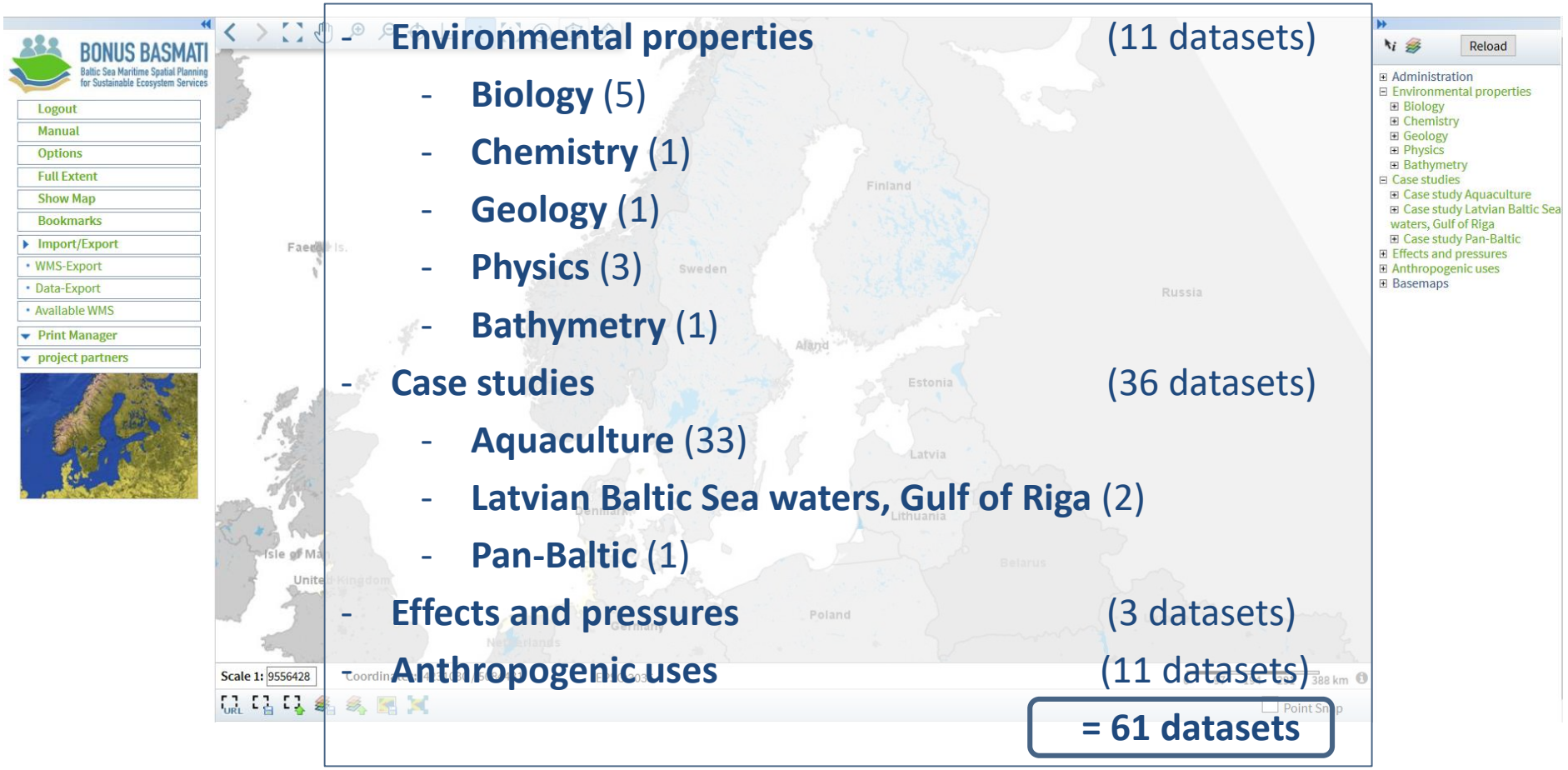
http://bio-50.io-warnemuende.de/iowbsa/index.php



- **Environmental properties** (11 datasets)
  - **Biology** (5)
  - **Chemistry** (1)
  - **Geology** (1)
  - **Physics** (3)
  - **Bathymetry** (1)
- **Case studies** (36 datasets)
  - **Aquaculture** (33)
  - **Latvian Baltic Sea waters, Gulf of Riga** (2)
  - **Pan-Baltic** (1)
- **Effects and pressures** (3 datasets)
- **Anthropogenic uses** (11 datasets)

= 61 datasets

Data is the core…key points

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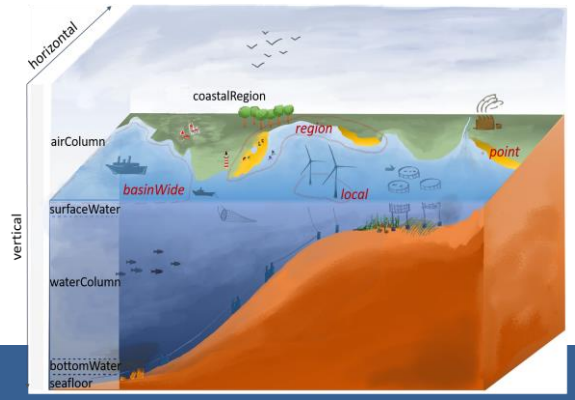
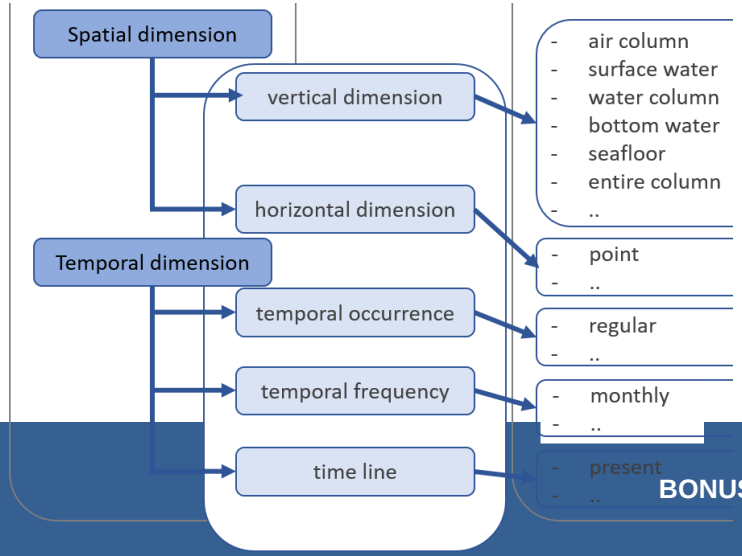
- Data harmonisation makes it easier for planners
- Uniform quality standards support cross-border planning
- Vertical & temporal dimensions enhance the usability of datasets
- Flexible solutions for metadata serve different user needs
- Spatial data and ‘non-spatial’ data can be hosted in the same repository





Further resources

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Baltic Sea Maritime Spatial Planning for Sustainable Ecosystem Services

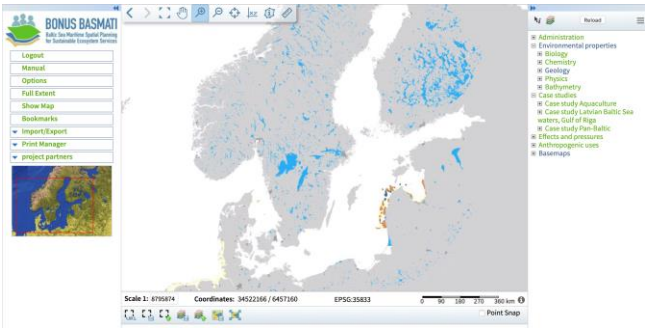
Holzhüter W, Luhtala H, Hansen HS, Schiele KS, 2019. Lost in space and time? A conceptual framework to harmonise data for marine spatial planning. *International Journal of Spatial Data Infrastructures Research* 14, 108–132.
https://ijsdir.sadl.kuleuven.be/index.php/ijsdir/article/view/494

- **BONUS BASMATI video**

https://bonusbasmati.eu/results-material/videos/

- **Baltic Sea Atlas**

http://bio-50.io-warnemuende.de/iowbsa/index.php



Thank you

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DENMARK

AARHUS UNIVERSITY

NLS FINNISH GEOSPATIAL RESEARCH INSTITUTE FGI

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LEIBNIZ INSTITUTE FOR BALTIC SEA RESEARCH WARNEMÜNDE
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University of Turku