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European Marine Observation and Data Network

Your gateway to marine data in Europe

REPORTING ON DATA ADEQUACY

how different are
EMODnet Sea-Basin Checkpoints' approaches?

EMODnet Checkpoint Methods Workshop
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EMODnet Secretariat

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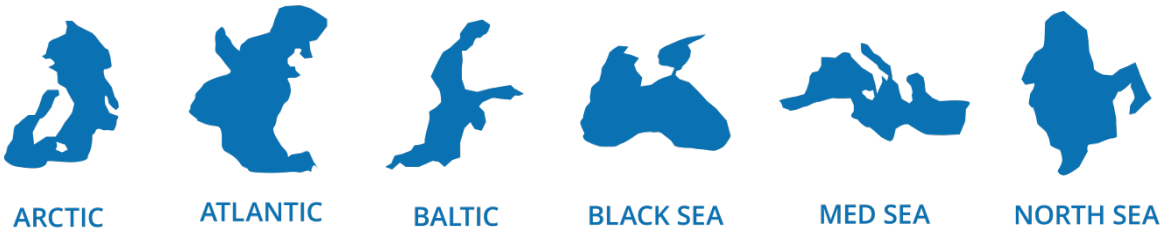
EMODnet Sea-basin Checkpoints



- **Innovative** approach: change of perspective
- Built around **challenges**
- Literature survey + Challenges (products) + **Data Adequacy report**

EMODnet Sea-basin Checkpoints
Data Adequacy Reports

Are they comparable?

1. MedSea 2013
2. North Sea 2013
3. Arctic 2015
4. Atlantic 2015
5. Baltic 2015
6. Black Sea 2015

EMODnet Sea-basin Checkpoints
Data Adequacy Reports

Can we suggest a common way forward?

a 2013
ea 2013
ctic 2015
4. Atlantic 2015
5. Baltic 2015
6. Black Sea 2015

Where are the differences between approaches?

- Method (concept)

- Workflow (process)

- Presentation (results)

METHOD
what does «data adequacy» mean?

- MedSea, Atlantic, Black Sea approach

Data adequacy = assessed through as a sum of **data availability** and **data appropriateness (**composed of indicators, 8 for availability and 8 for appropriateness**): SCORING**

The table below summarizes the relationships between the different concepts and terms.

Call for tender		ISO		Medsea / Black Sea / Atlantic	
Call term	**Call synonym**	**ISO term**	**ISO synonym**	**Checkpoint terms**	**Checkpoint synonym**
Data Adequacy	Fitness for purpose	Data quality (user's standpoint)	Usability (user's standpoint)	Appropriatness + Availibility	Fitness for use

METHOD (*concept*): what does «data adequacy» mean?

- North Sea

Data adequacy = «value assesment criteria» TRUE/FALSE

Table 1.1: Criteria for user evaluation of datasets

Criteria	Description
Contribution	Were the parameters offered by the dataset useful for solving the challenge?
Location	Were the temporal and spatial locations relevant?
Commercial	Do the prices and licences enable solving the challenge?
Attributes	Is the accuracy, precision and resolution sufficient?
Delivery	Can the data be supplied in time?
Usability	Is the format usable and the supporting metadata sufficient?

METHOD (*concept*): what does «data adequacy» mean?

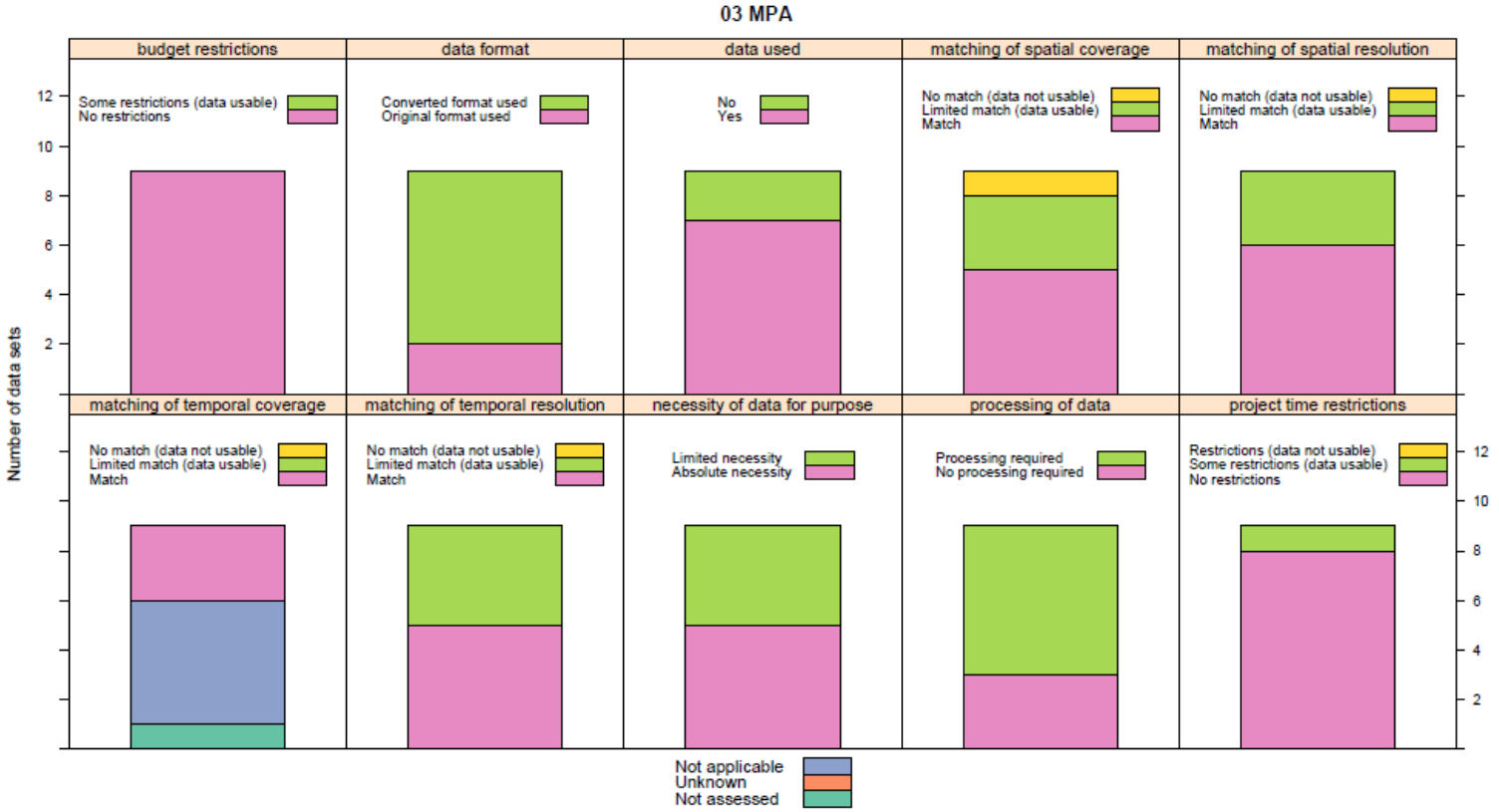


Figure 28. *Adequacy indicators for the datasets used and considered for use in the 'marine protected areas' challenge. Colour-codes of specific categories are presented above each indicator. Generic categories (i.e. relevant to all indicators) are presented at the bottom of this figure*

METHOD (*concept*): what does «data adequacy» mean?

- Baltic Sea

Data adequacy = Fitness for use (FFU, binary) =assessed comparing the data requirements with the data availability

Table 4.2 Data requirements f

Variable	Data type	
MPA boundaries	Legal boundaries	O
IUCN categories	Derived	
MSFD Programs of measures	Legal document	
Bottom sediment	Model	

Table 4.3 Data availability for "Marine Protecte

Variable	Data type	Accessibility	
		Delivery type/time	Sp
MPA boundaries	Legal boundaries	Open, online	Ent Balt
IUCN categories	Derived		
MSFD Programs of measures	Legal document		All me stat
Substrate	Model	Open, online, ready for	Ent Balt

Table 4.4. Data adequacy for "Marine Protected Areas"

Variable	Data type	Accessibility	Completeness / coverage	Resolution	Precision	Data provider
		Delivery type/time	Spatial Temporal	Hor./Ver./Temp.		
MPA boundaries	Legal boundaries	Downloadable	Adequate	N/A	FFU*	HELCOM MPA-DB
		Downloadable	Adequate	N/A	FFU	Natura 2000 database
IUCN categories	Derived	Downloadable	Update needed	N/A	FFU	HELCOM MPA-DB
MSFD Programs of measures	Legal document	Downloadable, English summaries available (except for LV)	Adequate	N/A	Not adequate	Websites of MS MoE
Substrate	Model	Downloadable		Not adequate for analysis within	FFU	HELCOM DMS

Where are the differences between approaches?

- Assessment framework

- **Attempt the challenge *(workflow)***

- Presentation of results

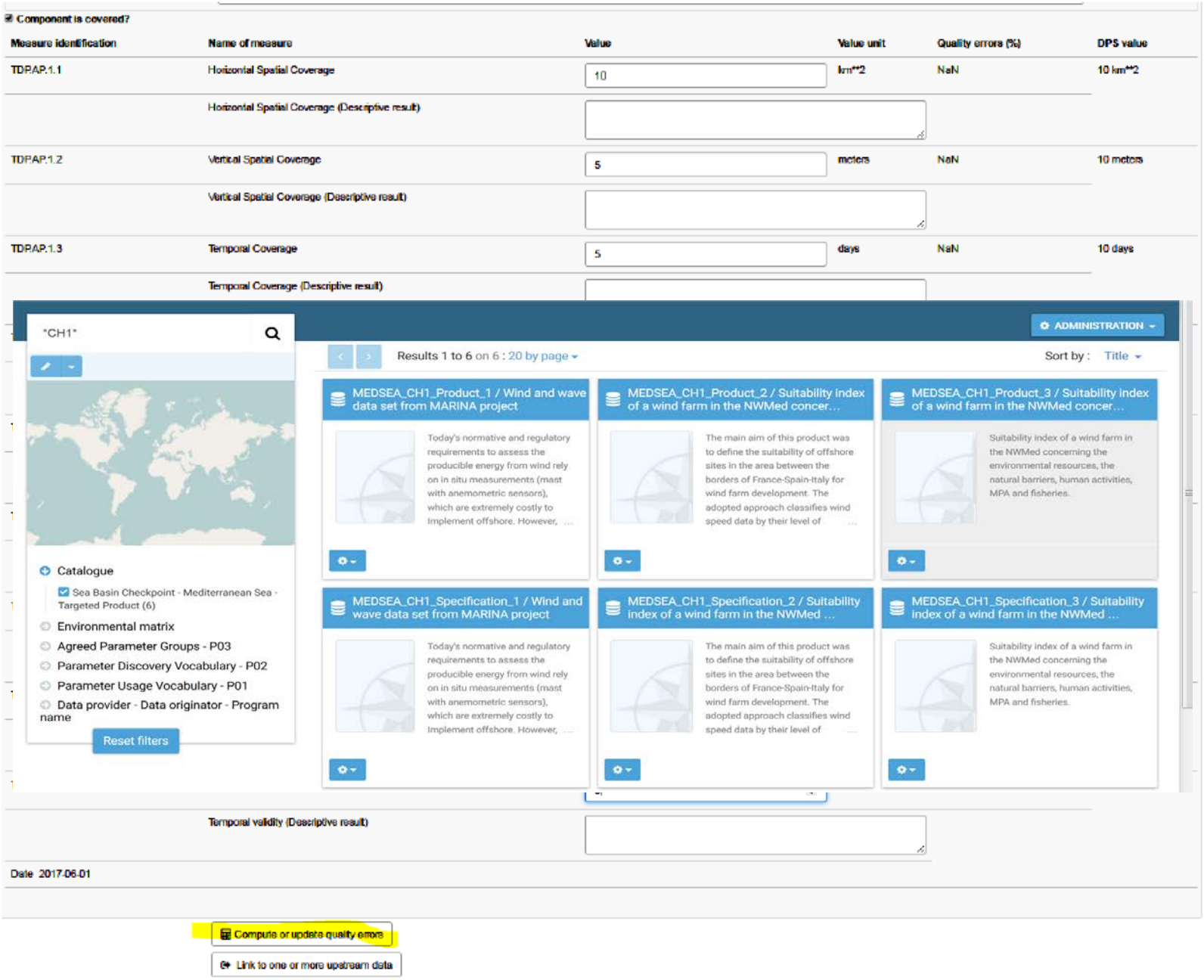
WORKFLOW (*process*): how do teams work?

- MedSea, Atlantic, Black Sea approach: metadata

The process for contributors (challenges)

PROJECT TIMELINE	• DG MARE needs / terms of references • Other contract requirments (conosrtium proposal)
RECORD	• Specify methodology • Specify product (characteristics, intended use, data selection specifications)
RECORD	• Identify input data to meet challenge requirements • Inventory input datasets
RECORD	• Collect input datasets for challenge use • Release feedback on availability status
RECORD	• Generate products • Release feedback on appropriateness status of input data
REPORT	• Contribute to assessment reports (LS, DAR 1, DAR 2) • Correct after expert panel review

- Give the values of the measures



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WORKFLOW (*process*): how do teams work?

Table 1.1: Criteria for user evaluation of datasets

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North Sea approach: TR

Valuation of the data to solving a challenge (a sheet per challenge)

NSC-001-Wind

Data Set	Consideration	ValueCriteria	VCFlag	ValueCrireriaReason
DT.Wind.NS001-ENTSO-E electroni	Used	Contribution	True	Map showing the locations of interconnected electrical network in Europe, including all sub-stations around the North sea
NSC-001-Wind		Location	True	All of Europe
		Commercial	True	Freely available - needed to be requested via an online form
		Attributes	True	Data was provided as a static map including a legend, showing plants, stations, existing high-voltage overhead lines and those under construction
		Delivery	True	Data was downloaded online via a link sent by email
		Usability	True	The map had to be georeferenced and the features of interest digitised. A shapefile or spreadsheet with co-ordinates would have been better.
DT.Wind.NS003-EMODNET Bathym	Considered	Contribution	True	Gridded bathymetry data need for windfarm siting
NSC-001-Wind		Location	True	Data set covers north sea region
		Commercial	True	Open government licence - no fee
		Attributes	True	Spatial resolution sufficient for windfarm citing
		Delivery	True	Data ca nbe downloaded from website
		Usability	True	XYZ files - bulky to use but ok
DT.Wind.NS004-National Grid Sub-s	Suitable	Contribution	True	Shapefiles containing data on electrical grid for the UK.
NSC-001-Wind		Location	False	Uk only. Better coverage was found via the information on the ENTSO-E website.
		Commercial	True	Freely available
		Attributes	True	Data included sub-stations, cables, gas sites, gas pipes, overhead lines and towers
		Delivery	True	Downloadable online
		Usability	True	Easy to use though when compared with the Entso-E data for the UK seemed incomplete
DT-NS007-23 Years of Wind Speed	NotConsidered	Contribution	True	Wind speed data available via the 4C Offshore website
NSChloe-001-Windfarm Siting		Location	True	global range unsure how many for the North Sea

WORKFLOW (*process*): how do teams work?

- Arctic approach: «matching»

Scoring «**Quality**» and «**Adequacy**» of data sets used to face the challenges. There are 10 indicators for each aspect and this is evaluated for each challenge

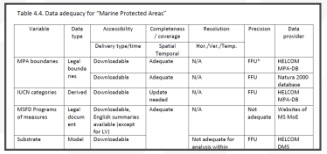
Figure 28. *Adequacy indicators for the datasets used and considered for use in the 'marine protected areas' challenge. Colour-codes of specific categories are presented above each*

Where are the differences between approaches?

- Method *(concept)*

- Workflow *(process)*

- **Presentation** of results



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PRESENTATION
how to communicate results?
.....In the DAR

MedSea Atlantic Black S

Table 5.4: Scores for the AV-AC-2 'Delivery me
function of Challenges for all input data

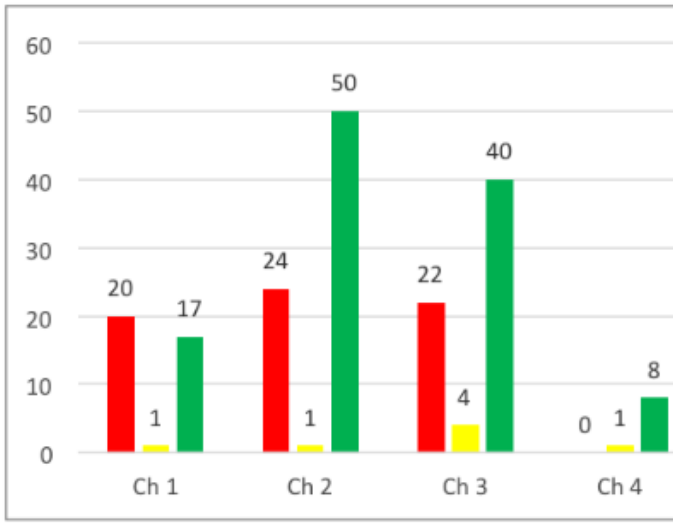
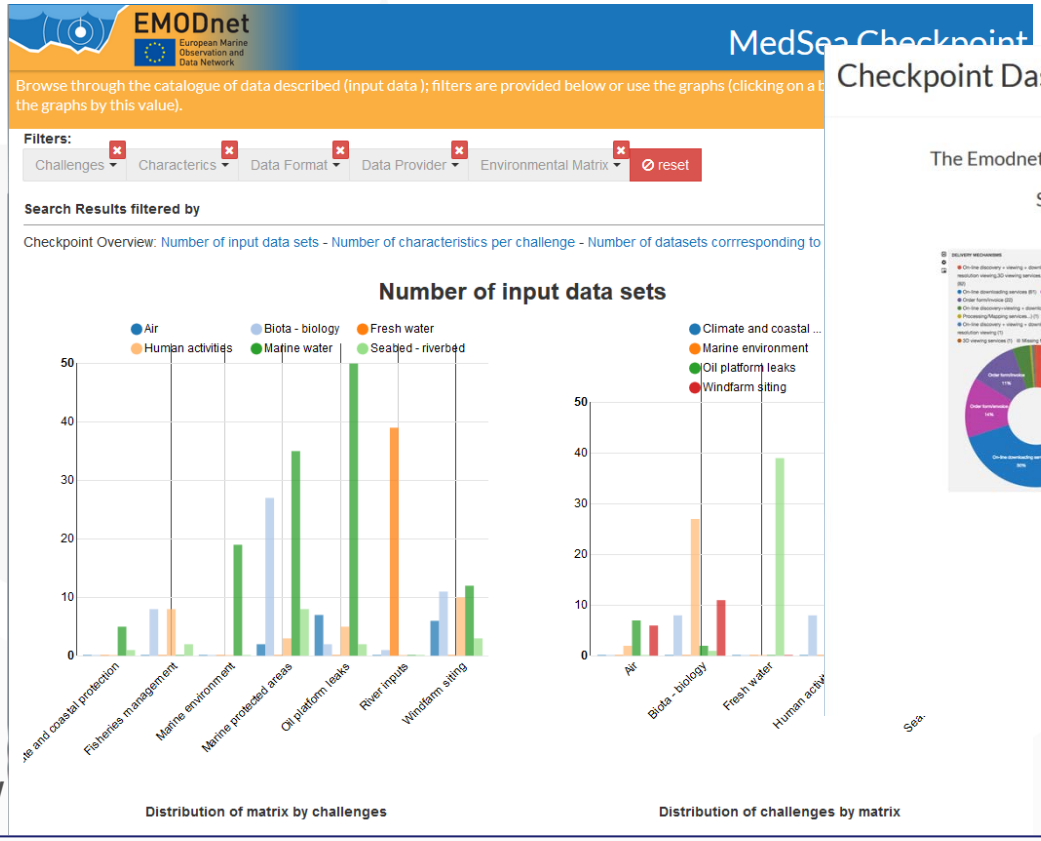


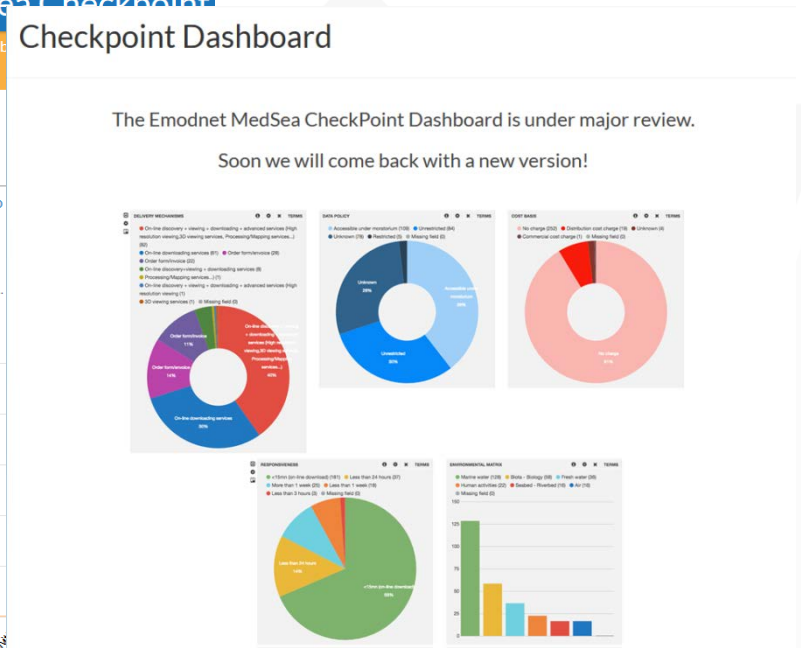
Figure 5.4: AV-AC-2 'Delivery mechanism

P02 characteristics category	# of data sets	Easily found	INSPIRE catalog service	Visibility of Data policy	Data delivery	Data policy	Pricing	Readiness	Responsiveness
1. Sedimentary structure	1								
2. Spectral wave data parameters	1								
3. Wave direction	8								
4. Wave height and period statistics	19								
5. Pollution events	1								
6. Bird reproduction	1								
7. Fauna abundance per unit area of the bed	4								
8. Fish abundance in water bodies	3								
9. Fish behaviour	1								
10. Fish reproduction	1								
11. Habitat extent	17								
12. Fish and shellfish catch statistics	6								
13. Fishing by-catch	1								
14. Horizontal platform movement	8								
15. Marine archaeology	1								
16. Marine environment leisure usage	2								
17. Air pressure	1								
18. Air temperature	1								

PRESENTATION
how to communicate results?
… On the Web (browser, dashboard)

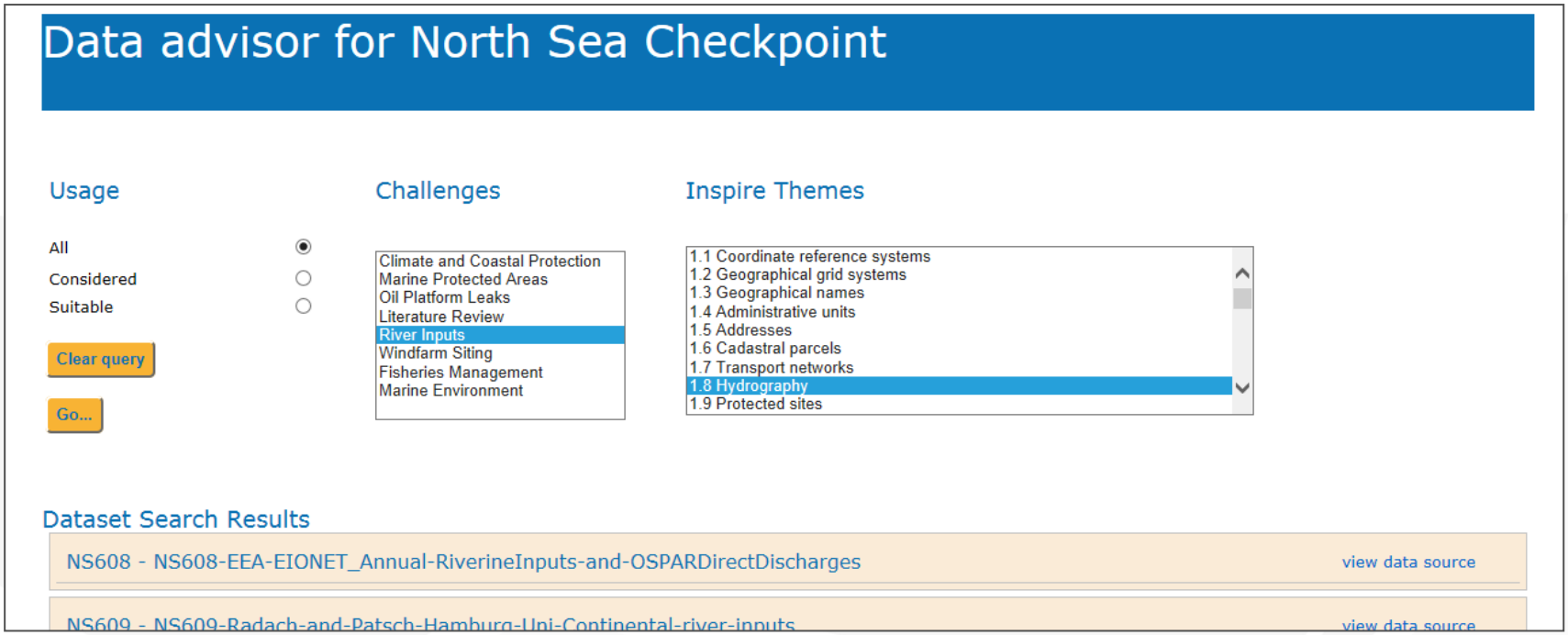
- MedSea, Atlantic, Black Sea approach





Harmonising Methods

'Data Advisor' Prototype



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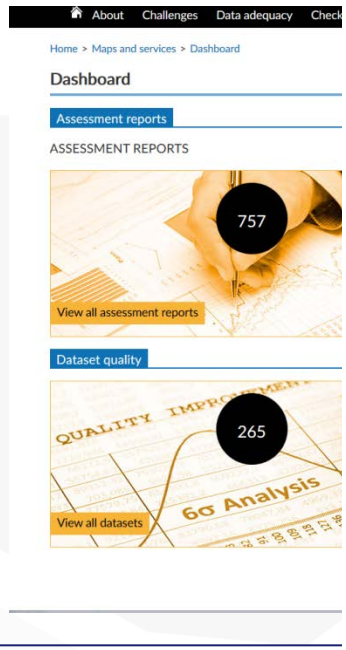
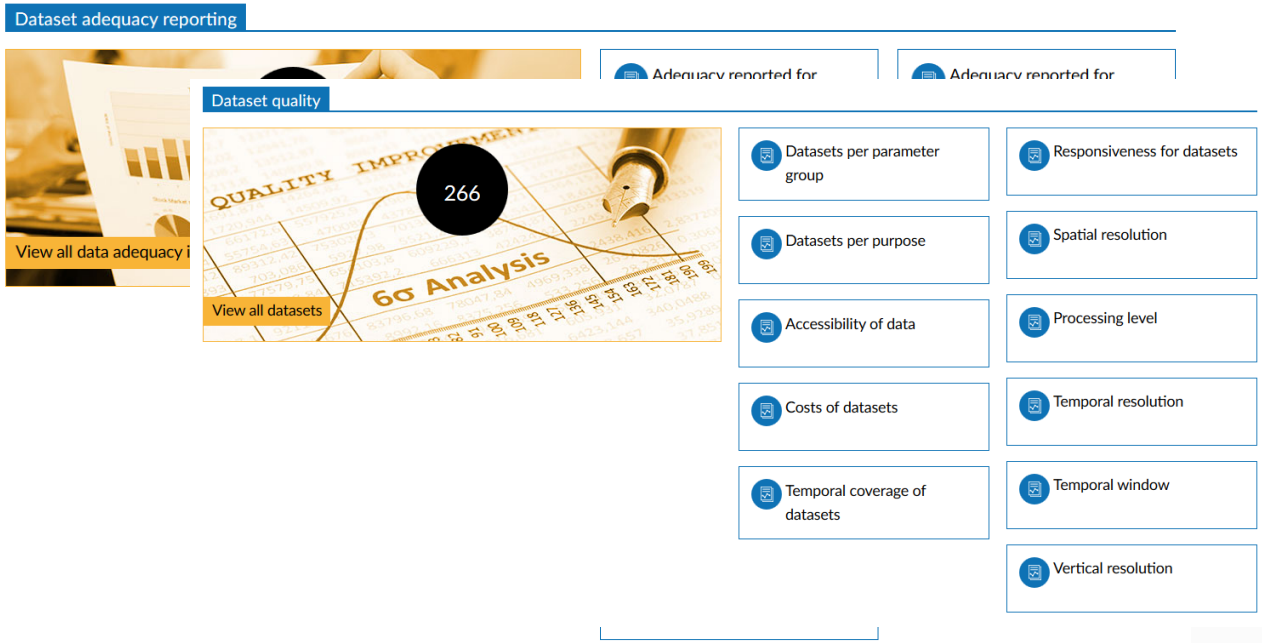
PRESENTATION
how to communicate results?
.....On the web: dashboard

- Arctic approach





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PRESENTATION
how to communicate results?
.....In the DARs

- Baltic approach: TABLES

Table 11.2. Data requirem

Variable	Data type	Ac
		Del Del
River tempera-ture	Obs.	Ope dow
	Model	
Discharge	Obs.	
	Model	
Nutrients	Obs.	
	Model	

Table 11.3. Data availability for Riverine inputs

Variable	Data type	Accessibility	Completeness/	Resolution	Precision	Data
River tempera-ture	Obs.					
	Mode					
Dis-charge	Obs.					
	Obs.					
	Mode					
Nutrient	Obs.	Data-base	Free to down-load			gated to seasonal/ annual means		N EEA
	Model	Excel		1981-2014	N/A	N/A	monthly		SMHI

Table 11.4 Data adequacy for Riverine inputs

Variable	Data type	Accessibility	Completeness/ coverage	Resolution	Precision	Data provider
		Delivery type/time	Spatial/ Temporal	Hor./Ver./Temp.		
River tem-perature	Obs.	FFU*	More observations needed	More data needed	FFU	UNEP GEMS Water
	Model	FFU	FFU	FFU	To be improved	SMHI
Discharge	Obs.	FFU	More observations needed	More data needed	FFU	GRDC, EVA Baltex BHDC
	Model	FFU	FFU	FFU	Fit for use	SMHI
Nutrients	Obs.	FFU	More observations needed	More data needed	Quality needs to be improved	HELCOM, EEA
	Model	FFU	FFU	FFU	Data usable but quality to be improved	SMHI

*FFU: Fit-for-the-use

Where are the differences between approaches?

- Method *(concept)*

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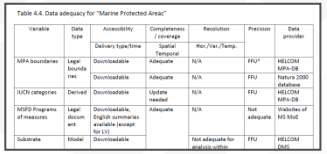

SUGGESTIONS FOR STREAMLINING – METHODS

- Using the same indicators: can we agree on a list? How impenetrable is ISO? Answering Questions + Detailed List of Indicators
- Vocabulary can be misleading (adequacy, availability…): some harmonisations is possible and desirable

Secretariat???

SUGGESTIONS FOR STREAMLINING – WORKFLOW

- Better definition of the products :
  - Include more challenges
  - **Be more specific about the product requirements (templates)**
  - **Time dimension**
  - Get to a sub-basin level
- Training is essential and must be included

New call for tenders DG MARE???

SUGGESTIONS FOR STREAMLINING – PRESENTATION

- Recording/giving acces to intermediate and final results (database, catalogue, viewer, dashboard)
- Showing results by challenge helps understanding the results
- Reportable by EMODnet themes/characteristics/parameters (P02, P03)
- Key messages/anecdotes + Gaps are not highlighted enough
- “Virtuous circle”: reach the data providers and the project managers How??? --Papers/Newsletters/-questionnaire…

Checkpoints?

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Fleeze Competition