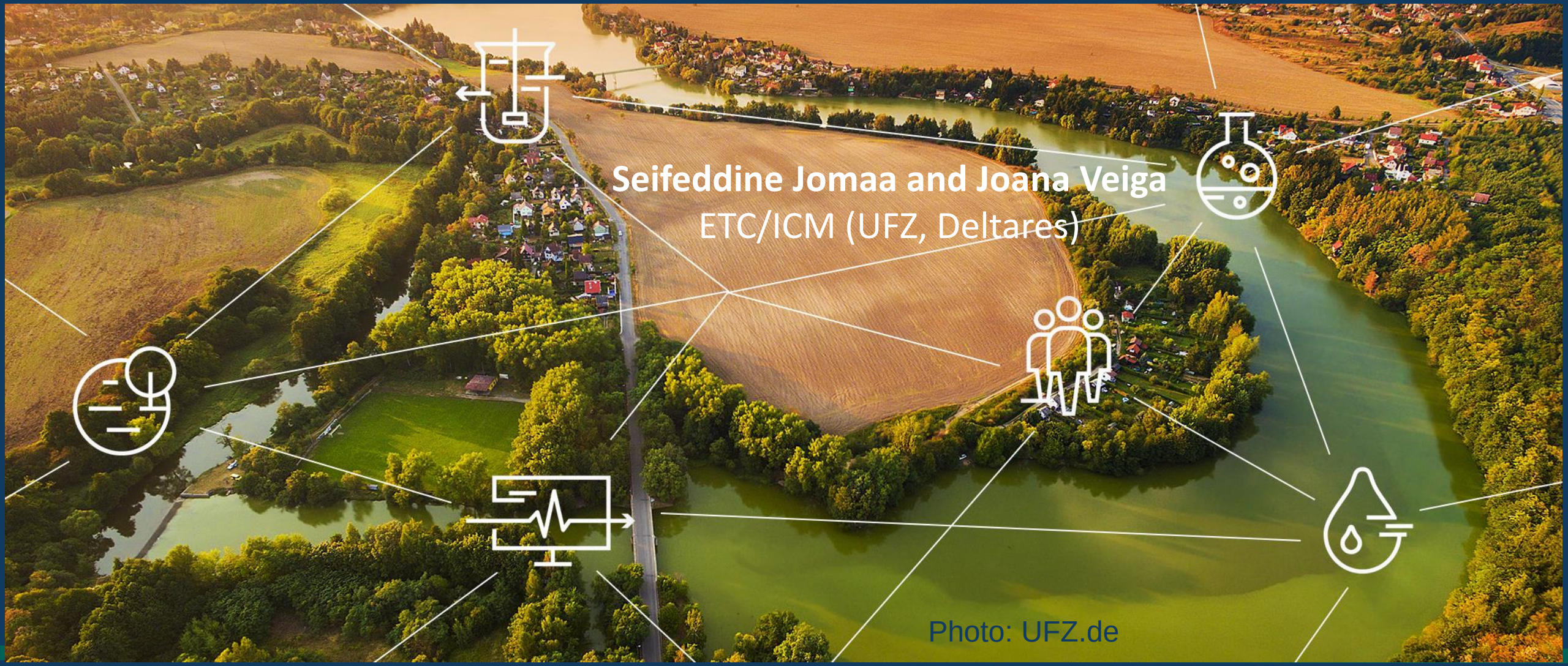
12-16 November 2018 Beirut, Lebanon

SEIS II Water Data Dictionaries



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European Topic Centre on Inland, Coastal and Marine Waters

This project is funded by the European Union

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Overview

- Data Dictionaries: steps of preparation,
- Explain shortly their development and their relevance to H2020 Indicators,
- Introduce the Data Dictionaries,
- Snapshot on long-term expectation of SEIS Initiative.

Data Dictionaries (DD): definition and consideration

From Wikipedia

Data Dictionary or metadata repository, is defined, as a "centralized repository of information about data such as meaning, relationships to other data, origin, usage, and format“

The DD was developed considering:

- The final list of indicators calculation and their specification sheets,
- The former SEIS I phase,
- Close consultation with UNEP-MAP, EEA and Info-RAC, which are in continuous contact with the countries and aware of other initiatives,
- Water Information System for Europe (WISE).

Data Dictionaries (DD): structure

Indicator group	Indicator group short name	Indicators
IND3	Access to sanitation	3.1 Share of total, urban and rural population with access to an Improved Sanitation System (ISS) 3.2 Proportion of population using Safely Managed Sanitation Services (SMSS)
IND4	Municipal Wastewater Management	4.1 Municipal wastewater collected and wastewater treated 4.2 Direct use of treated municipal wastewater 4.3 Release of nutrients from municipal wastewater
IND5	Coastal and Marine Water Quality	5.1 Nutrient concentrations in transitional, coastal and marine waters 5.2 Bathing water quality

1. Final list of water indicators

	Policy theme	Indicator	Indicator Definition	Geographic coverage	Indicator parameters	Indicator units	Indicator Datasets (2003 – 2016)
IND3	Access to Sanitation	**3.1: Share of total, urban and rural population with access to an improved (ISS) sanitation system**	ISS are those that hygienically separate human excreta from human contac. Include: flush toilet; connection to piped sewer system; connection to septic system; flush/pour-flush to pit latrine; pit latrine with slab; ventilated improved pit latrine; composting toilet	**National**	- Share of **total** population using ISS - Share of **urban** population using ISS - Share of **rural** population using ISS	% of population	**Country-level** - Total pop - Urban pop - Rural pop - Total pop with access - Urban pop with access - Rural pop with access
				Coastal hydrological basin	- Share of population at the coastal hydrologic basin using ISS	% of population	**Coastal hydrological basin level** - Total pop - Urban pop - Rural pop
		3.2: Proportion of population using safely managed sanitation services (SMSS), including a hand-washing facility with water and soap.	SMSS are those sanitation facilities which are not shared with other households and where excreta is safely disposed in situ or treated off-site.	**National**	- Share of **total** population using SMSS - Share of **urban** population using SMSS - Share of **rural** population using SMSS	Estimated proportion of total (%)	**Country-level** - Total pop - Urban pop - Rural pop - Total pop with access - Urban pop with access - Rural pop with access

Data Dictionaries (DD): structure

2. Description of the Indicator

IND3. Dataset: Access to sanitation
Dataset definition

Policy theme	Access to sanitation
Short name	Improved Sanitation
Indicators	3.1 and 3.2
Key words	Improved Sanitation System (ISS) and Safely Managed Sanitation Services (SMSS)
Spatial coverage	National and catchment/ hydrological basin at the coastal area
Dataset relevance	This dataset is relevant for populating H2020 Water Indicators 3.1 and 3.2 (see Annex 1) and for reporting to SDG Indicator 6.2.1
Parameters	Total population, Urban population, Rural population, Total population with access to an ISS, Urban population with access to an ISS, Rural population with access to an ISS.
Methodology for obtaining data	Delivered by country
Planned update frequency	Every 1 year

Structure of DD

3. Overview of data tables

Data table	Name	Definition	Short description
3.1.	**Share of total, urban and rural population with access to an improved (ISS) sanitation system**	Percentage of the population (%) having access to improved sanitation systems. "Share of population with access to improved sanitation" refers to the percentage of the population with access to facilities which hygienically separate human excreta from human, animal and insect contact.	This indicator was developed by the Joint Monitoring Programme for Water Supply and Sanitation of the United Nations Children's Fund and the World Health Organization (WHO) to help monitor progress towards one of the Millennium Development Goals.
3.2.	**Proportion of population using safely managed sanitation services (SMSS).**	Percentage of population (%) with access to safely managed sanitation systems, which are defined as an improved sanitation facility that is both: a) Not shared with other households, b) and where excreta is safely disposed of in situ or treated off site.	This indicator is based on the new definition of the Sustainable Development Goal (SDG) Indicator 6.2.1, which builds upon the MDG Indicator above. It addresses public health beyond the household level, including containment and treatment of the faecal waste, which is not included in the MDG definition.

4. Example **Data table 1:** Share of national population with access to an improved sanitation system (ISS)

	Column name	Column definition	Methodology	Data specifications	Equivalent in WISE if exist
1.	Country_Code	Country codes as defined in the codelist.	ISO 3166-alpha-2, Codes elements as defined in codelist: i	Type of element: common Datatype: String Size: 3	
2.	Year_H2020	Year for which data is available	Use the format YYYY	Type of element: common Datatype: date Min. size: 4 Max. size: 4 Min. value: 2003 Max. value: Current year	
3.	Total_Population	Total population	See Table D		
4.	Urban_Population	Urban population	See Table D		
5.	Rural_Population	Rural population	See Table D		
6.	Total_Population_ISS	Total national population with access to Improved Sanitation Systems (ISS)	Total population with access to improved sanitation system refers to the population with access to facilities which hygienically separate human excreta from human, animal and insect contact.	Type of element: non-common Datatype: integer Unit: inhabitants Min. size: 1 Max. size: 10 Min. value: 1 Max. value: 1000 000 000	
7.	Urban_Population_ISS	National population living in urban areas with access to Improved Sanitation Systems (ISS)	Urban population with access to improved sanitation system refers to the population with access to facilities which hygienically separate human excreta from human, animal and insect contact.	Type of element: non-common Datatype: integer Unit: inhabitants Min. size: 1 Max. size: 10 Min. value: 1 Max. value: 1000 000 000	
8.	Rural_Population_ISS	National population living in rural areas with access to Improved Sanitation Systems (ISS)	Rural population with access to improved sanitation refers to the population with access to facilities which hygienically separate human excreta from human, animal and insect contact.	Type of element: non-common Datatype: integer Unit: inhabitants Min. size: 1 Max. size: 10 Min. value: 1 Max. value: 1000 000 000	
9.	Data_Collection_Method	Method of data collection.	Codes elements as defined in codelist vi.	Type of element: common Datatype: string Size: 1	
10.	Remarks	Remarks, comments or explanatory notes (free text).		Type of element: common Datatype: string Min. size: 0 Max. size: 4096	

Cod

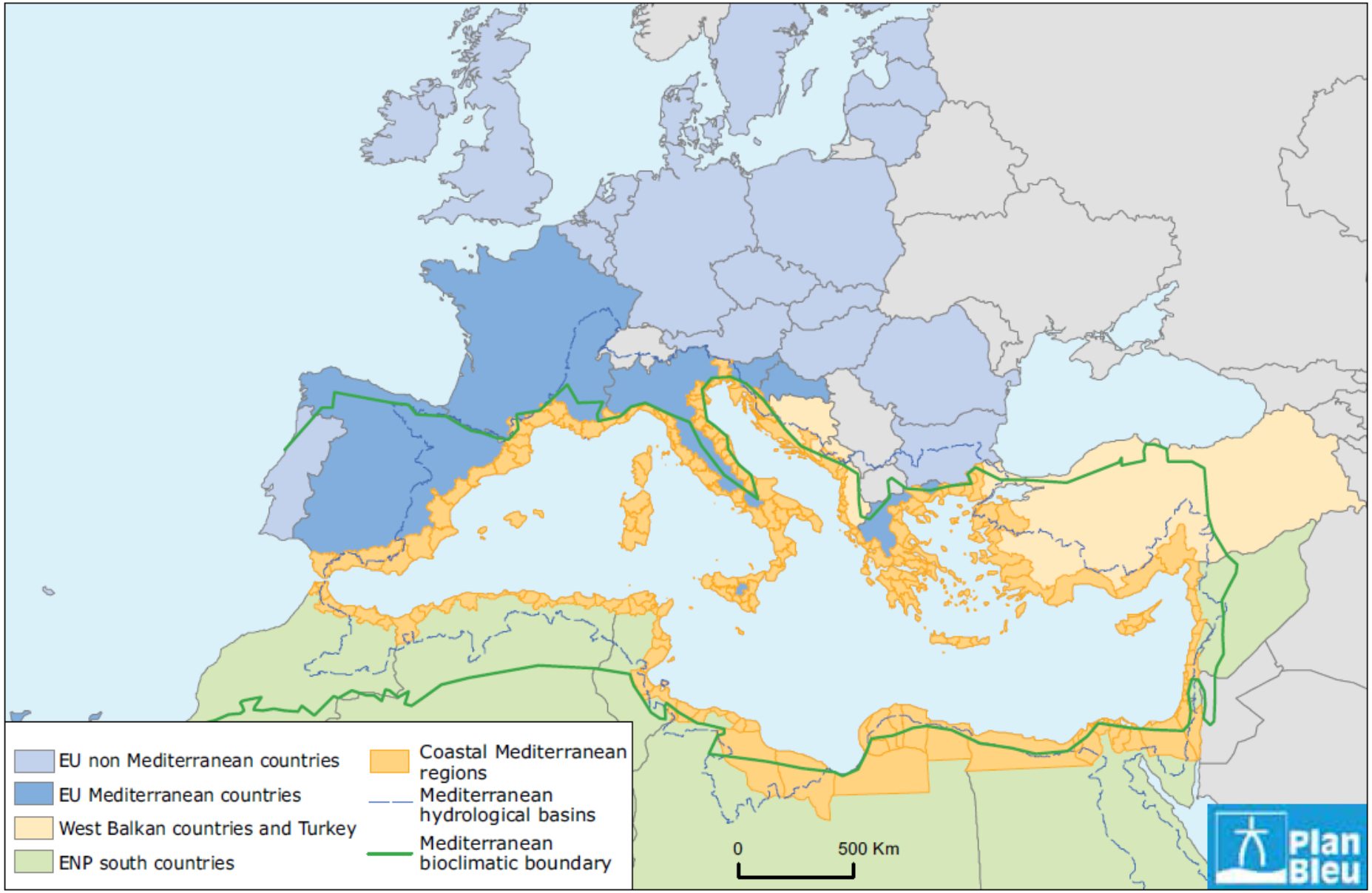
Codelist i: List o

(ISO 3166-1-alph

Value	D
DZ	A
EG	E
IL	I
JO	J
LB	L
LY	L
MA	M
PS	P
TN	T

Codelist iii. Hydrol

Catchment/ hydrological basin at the coastal area

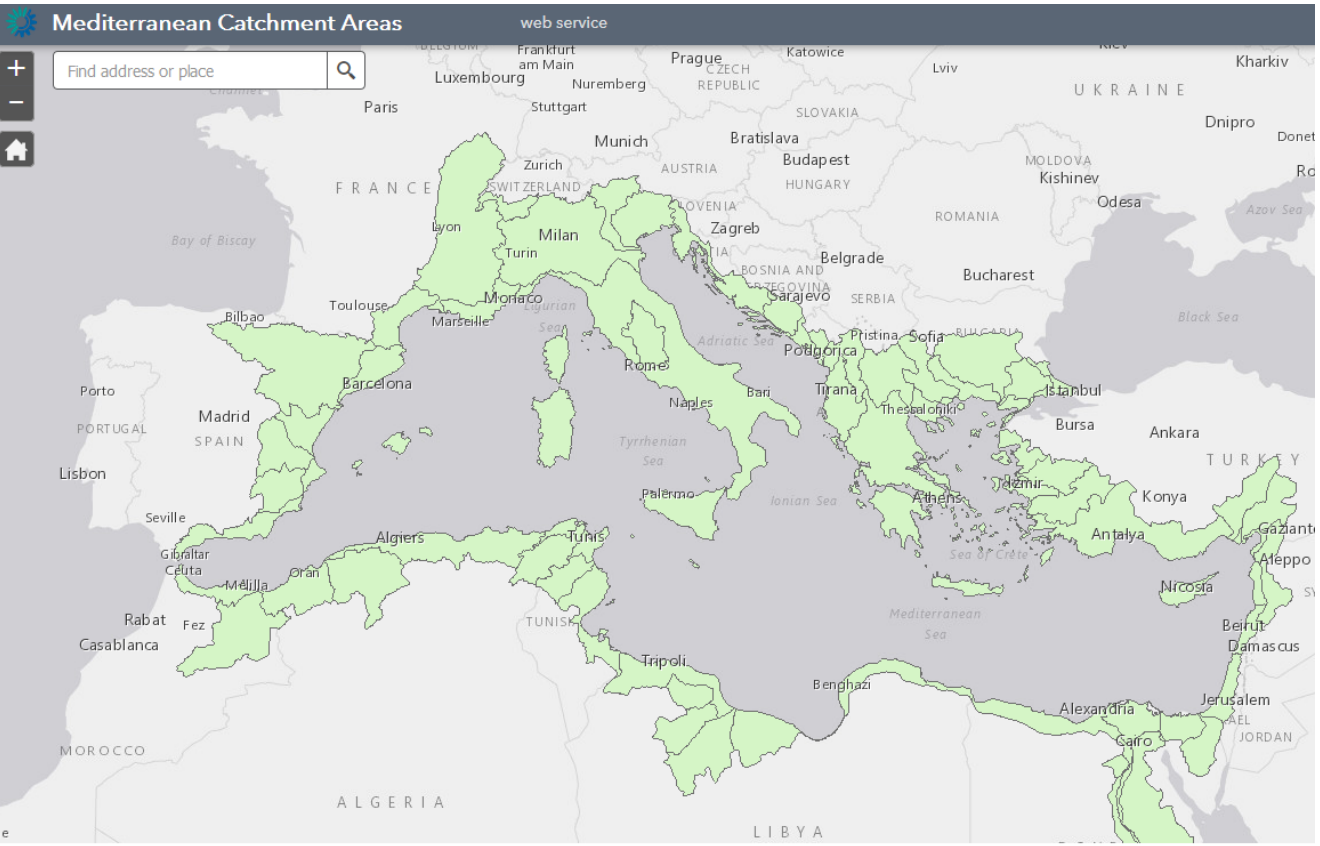


Source: Plan Bleu, 2014.

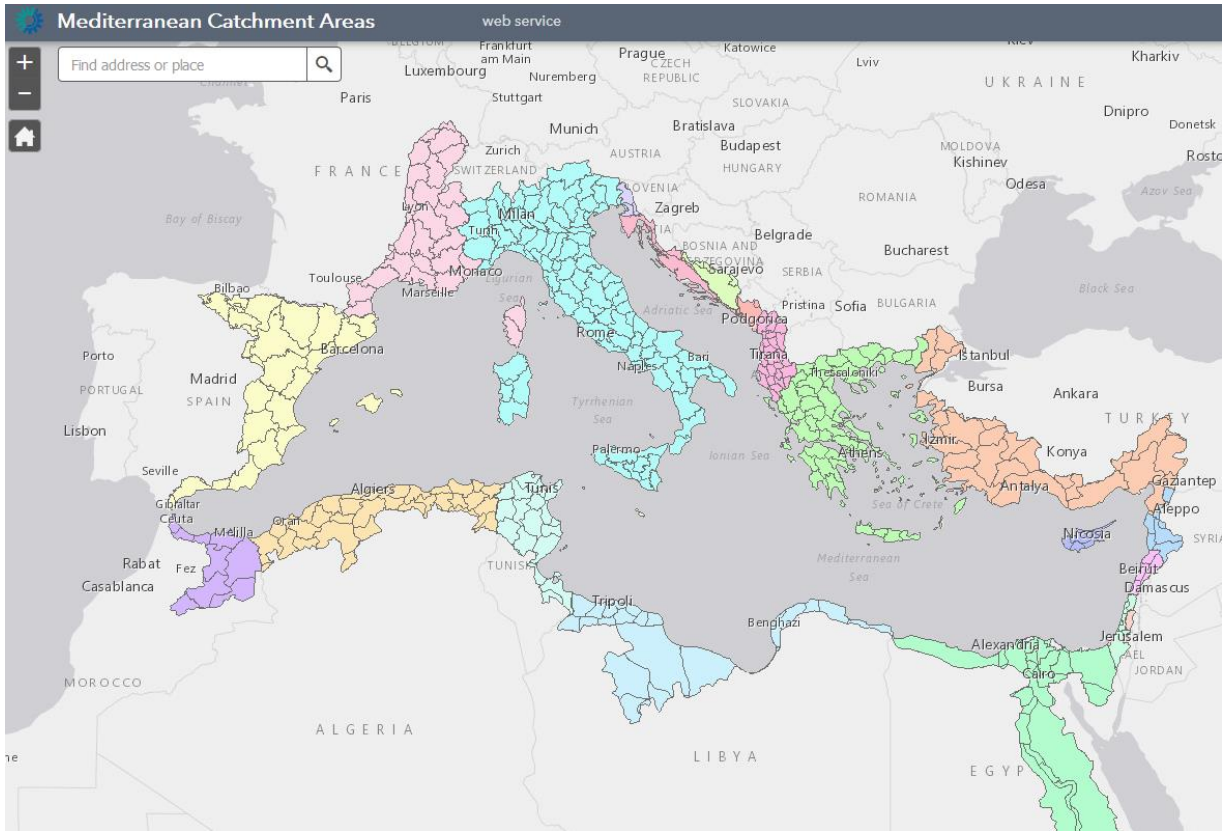
Figure 1 Coastal hydrological basins draining into the Mediterranean Sea

Geographical codelists

MED Hydrological basins



Coastal MED Region



WISE: River Basin District

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Codelists

Codelist iv: Unit of measurement codelist and abbreviations

Value	Definition
Mm^3/yr	Volume in million m^3 per year of collected municipal wastewater
Mm^3/yr	Volume in million m^3 per year of municipal wastewater treated
% v/v	volume of municipal wastewater treated by primary, secondary or tertiary treatment divided by treated municipal wastewater
p. e.	Population Equivalent
MWW	Municipal Waste Water
cfu	Colony-forming Unit

Codelist v: List_parameters_Chemical-Physics

Value	Description
Temperature (water)	Water temperature expressed in degree Celsius (Cel)
Salinity	Practical Salinity Unit (psu)
Electrical conductivity	Electrical conductivity in Siemens per meter (S/m)
Dissolved oxygen	Dissolved oxygen (µmol O2/l)
Oxygen saturation	Oxygen saturation expressed in percentage of saturation (%)
pH	pH
Chlorophyll a	Chlorophyll a (µg/l)
Secchi depth	Secchi depth (m)
Nitrate	Milligram of Nitrate per litre (mg{NO3}/L)
Nitrite	Expressed in mass of Nitrite per volume (mg{NO2}/L). Conversion factor: 1 mg{N}/L = 3.2845 mg{NO2}/L
Ammonium	Expressed in mass of Ammonium per volume (mg{NH4}/L). Conversion factor: 1 mg{N}/L = 1.2888 mg{NH4}/L
Total phosphorus	Total phosphorus Expressed in mass of Phosphorus per volume (mg{P}/L).
Orthophosphates	Expressed in mass of Phosphate per volume mg{PO4}/L. Conversion factor: 1 mg{P}/L = 3.0662 mg{PO4}/L
Total nitrogen	Expressed in mass of Nitrogen per volume (mg{N}/L).
Silicate	Silicate expressed in mass of Silicate per volume mg{SiO3}/L. Conversion factor: 1 mg{Si}/L (Silicon) = 2.7090 mg{SiO3}/L

Codelists

Codelist vi: Method of data collection codelist

Value	Definition	Short description
C	Calculated	
E	Estimated	
M	Measured	

Table D

Methodology	Data specifications	Equivalent in WISE if exist
The population as of the reference year (Year_H2020)	Type of element: non-common Datatype: integer Unit: inhabitants Min. size: 1 Max. size: 10 Min. value: 1 Max. value: 1000 000 000	

Codelist vii: Volume of direct reuse of municipal wastewater per type of activity codelist

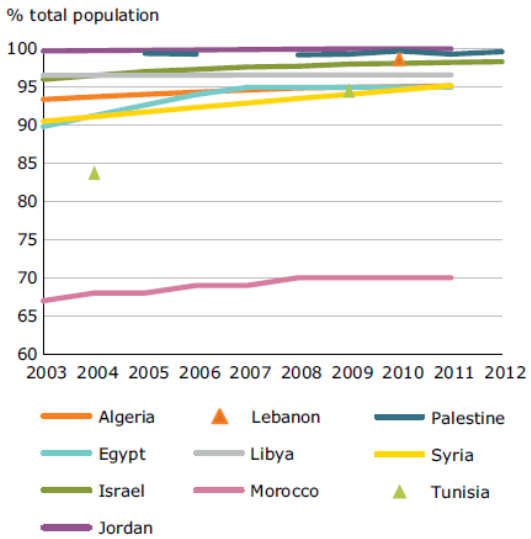
Value	Definition	Short description
Agri	Agriculture irrigation (e.g. food crops)	
Aqua	Aquaculture and fish ponds	
Dual	Dual water supply systems for urban non-potable use (toilet flushing, garden use)	
Indu	Industrial processes, water for manufacturing and construction industry (cooling and process water)	
Recr	Recreation (e.g. recreational water bodies, irrigation of areas for sports, etc.)	
Rech	Aquifer recharge (e.g. through injection wells for saline intrusion control)	
Rest	Water restoration and recreation of existing or creating new aquatic ecosystems	
Urba	Irrigation of public gardens and landscape, firefighting, street washing, dust suppression, etc.	
Other	Other purposes	

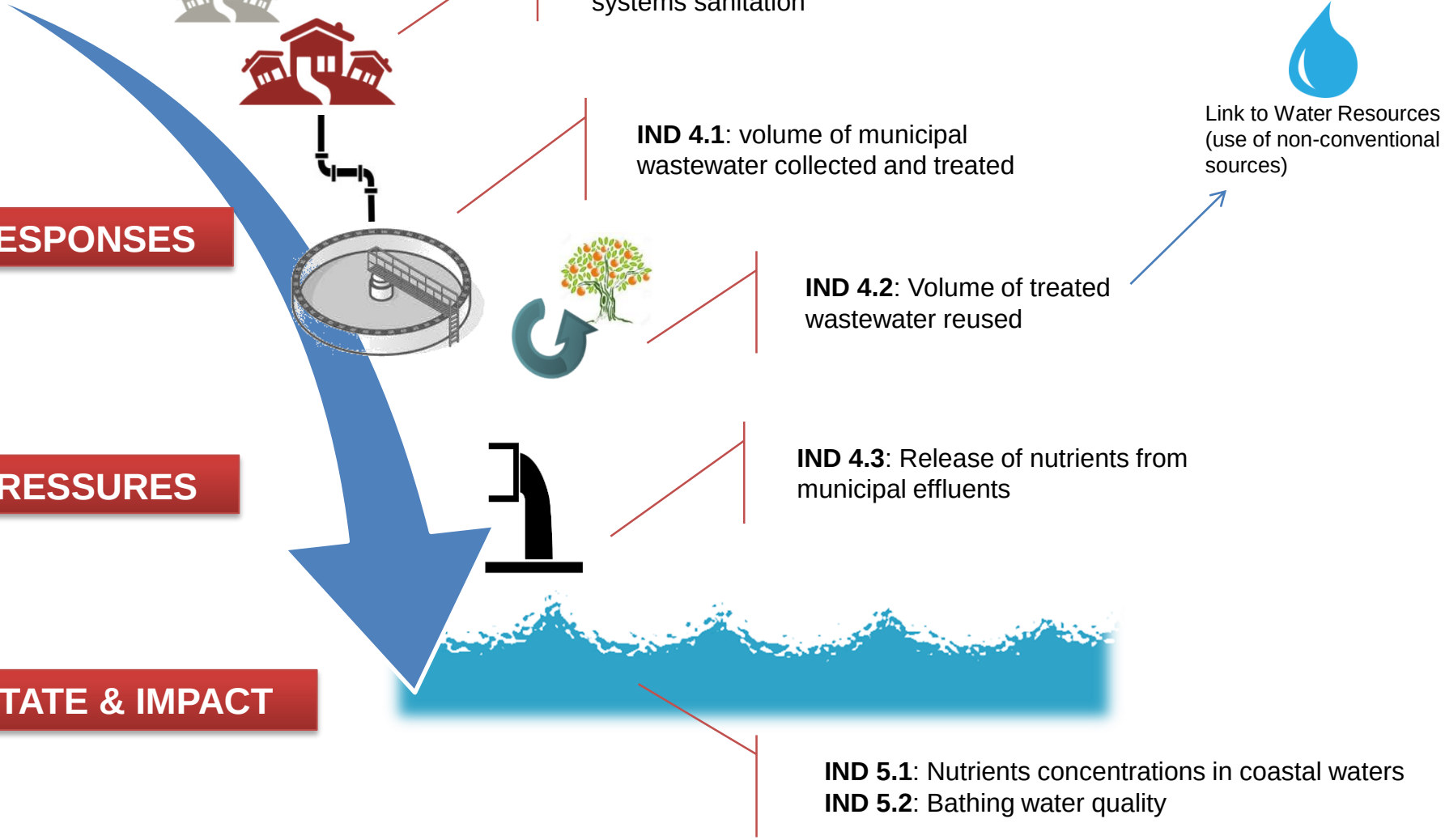
Present the full document of the DD

Water_DD

From Indicators to Assessment…

Access to improved sanitation (2003-2011) (SEIS Phase I)





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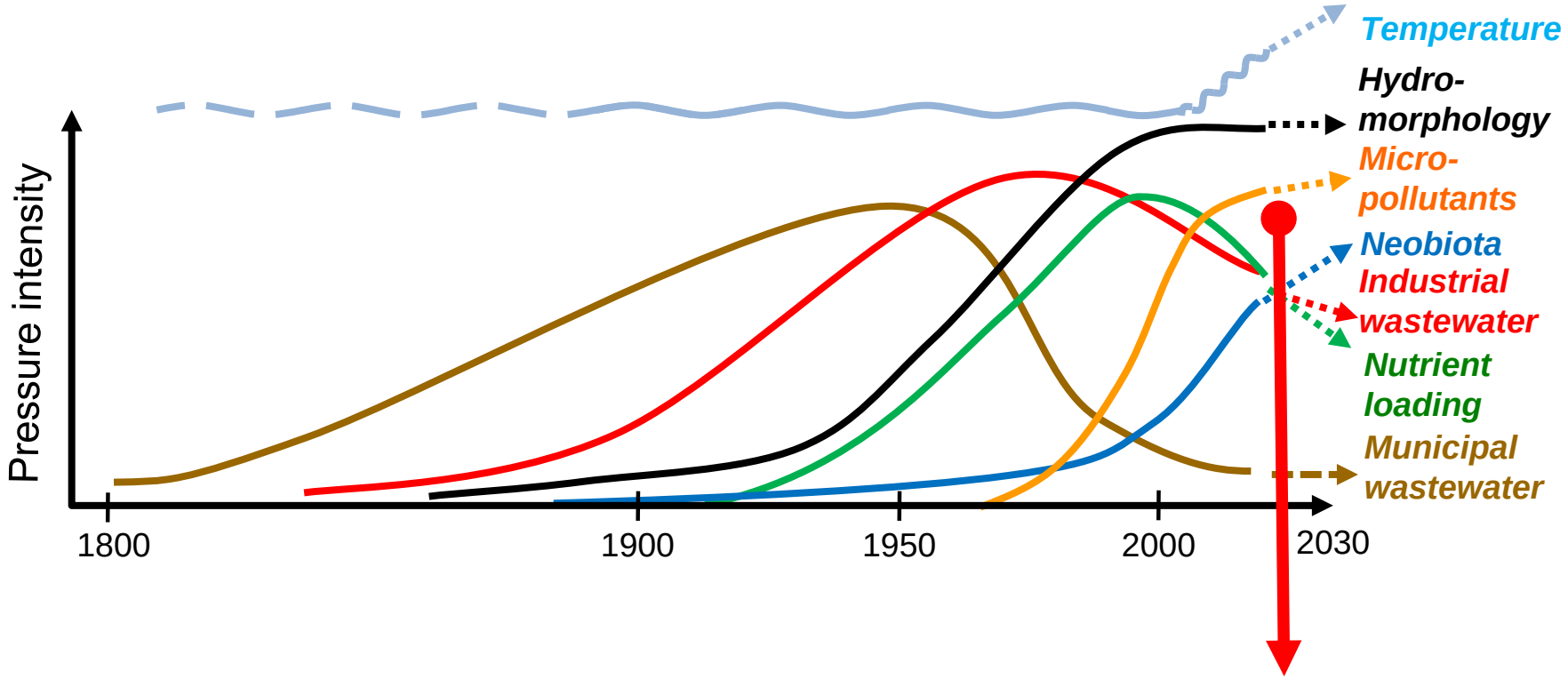
The status and future of our water and environment (General objective)



Today

India (Ganga)

different pressure profiles

Europe (Rhine)

Source: UFZ.de

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The MED compared to the coastal Seas

Above average | Average | Below average | No assessment

System	Warming of surface water	Increased nutrient load	Oxygen depletion in bottom waters	Shipping intensity	Proportion of non-indigeneous species	Organo-chlorines in organisms	Status of marine fish stocks
Baltic Sea							
North Sea							
Mediterranean							
Black Sea							
Gulf of Mexico							
East China Sea							
Barents Sea							

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Science Advances
AAAS

The Baltic Sea as a time machine for the future coastal ocean.
Reusch, et al. 2018. ***Science Advances***.

The MED compared to the coastal Seas

Bad

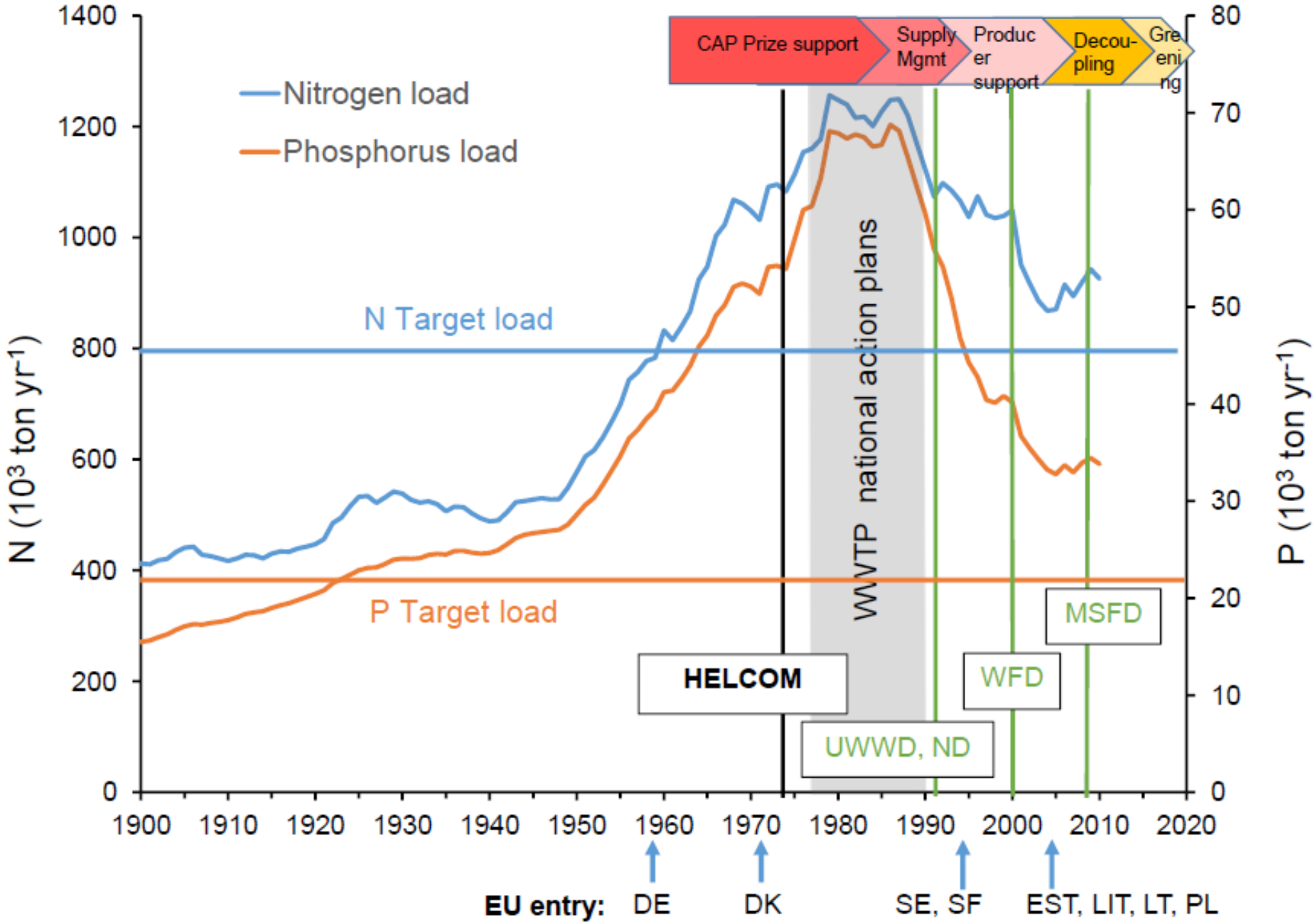
Intermediate

Good

System	Research activities	Monitoring activities	Data availability for fish stock assessments	Governance structure
Baltic Sea				
North Sea				
Mediterranean				
Black Sea				
Gulf of Mexico				
East China Sea				
Barents Sea				

The Baltic Sea as a time machine for the future coastal ocean.
Reusch, et al. 2018. ***Science Advances***.

The Baltic Sea as a time machine for the future coastal ocean. Reusch, et al. 2018. ***Science Advances***.



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International Initiative on Water Quality (IIWQ)

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Thank you
Merci
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This project is funded by the European Union

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United Nations Environment Programme
Mediterranean Action Plan
Barcelona Convention

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