Water quality: C10 and C11

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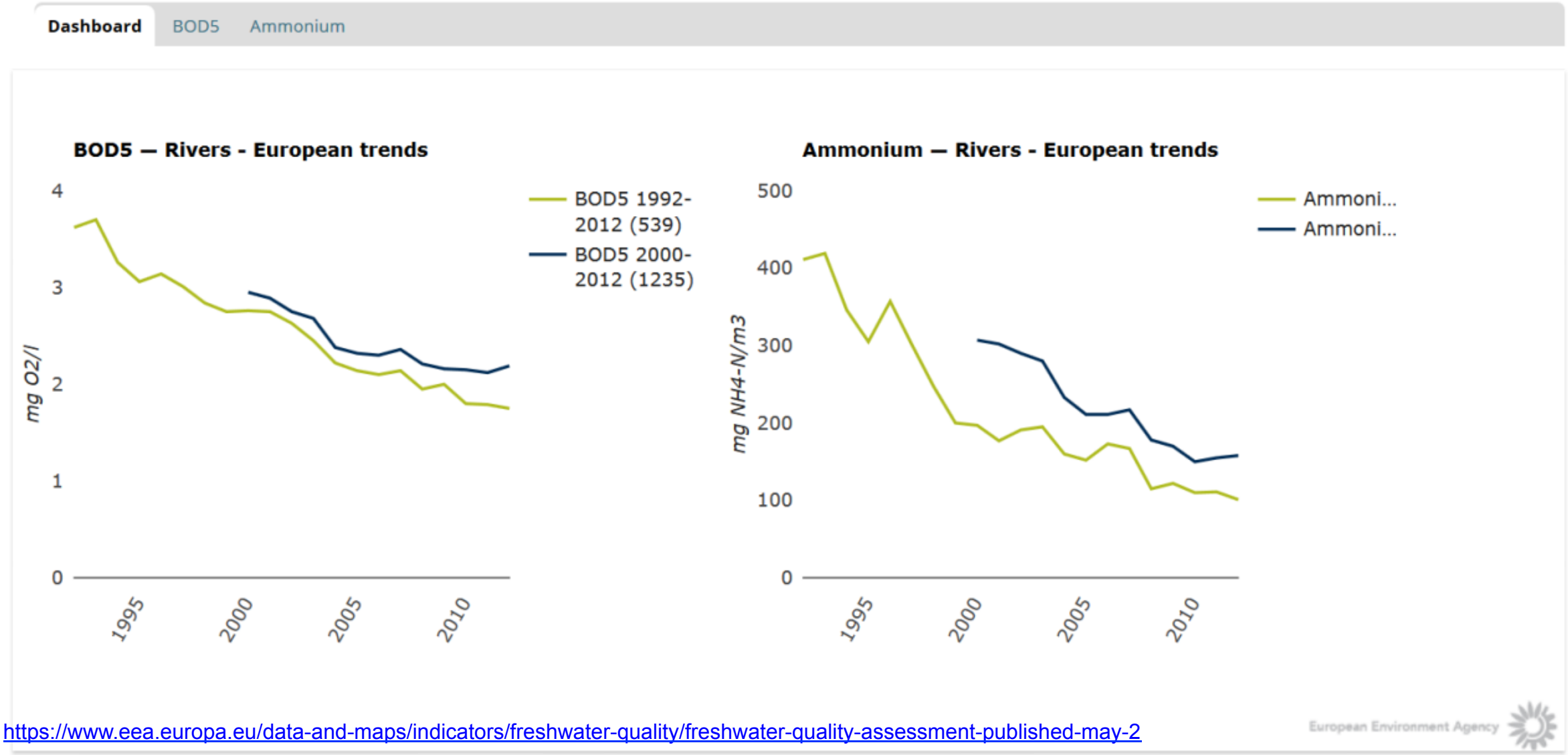
The most important result for communication:

Fig. 1: Rivers - European trends



https://www.eea.europa.eu/data-and-maps/indicators/freshwater-quality/freshwater-quality-assessment-published-may-2

Data sources:

Analysis (different graphs and tables)

- Overall trend in BOD and total ammonium
- BOD and total ammonium time series and trends per geographical region
- BOD and total ammonium time series and trends per sea region
- Present concentrations per country

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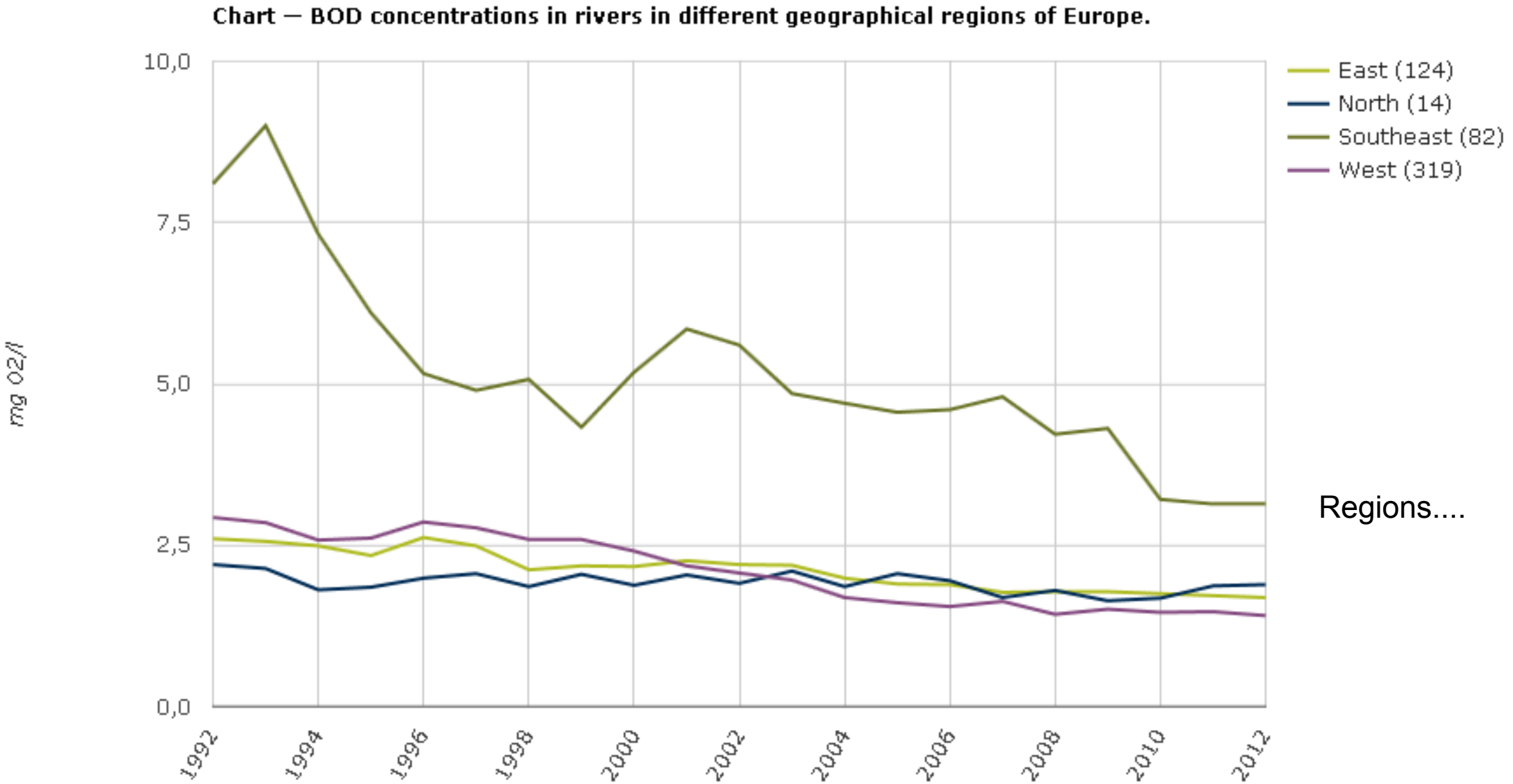
Overall trend in BOD and total ammonium

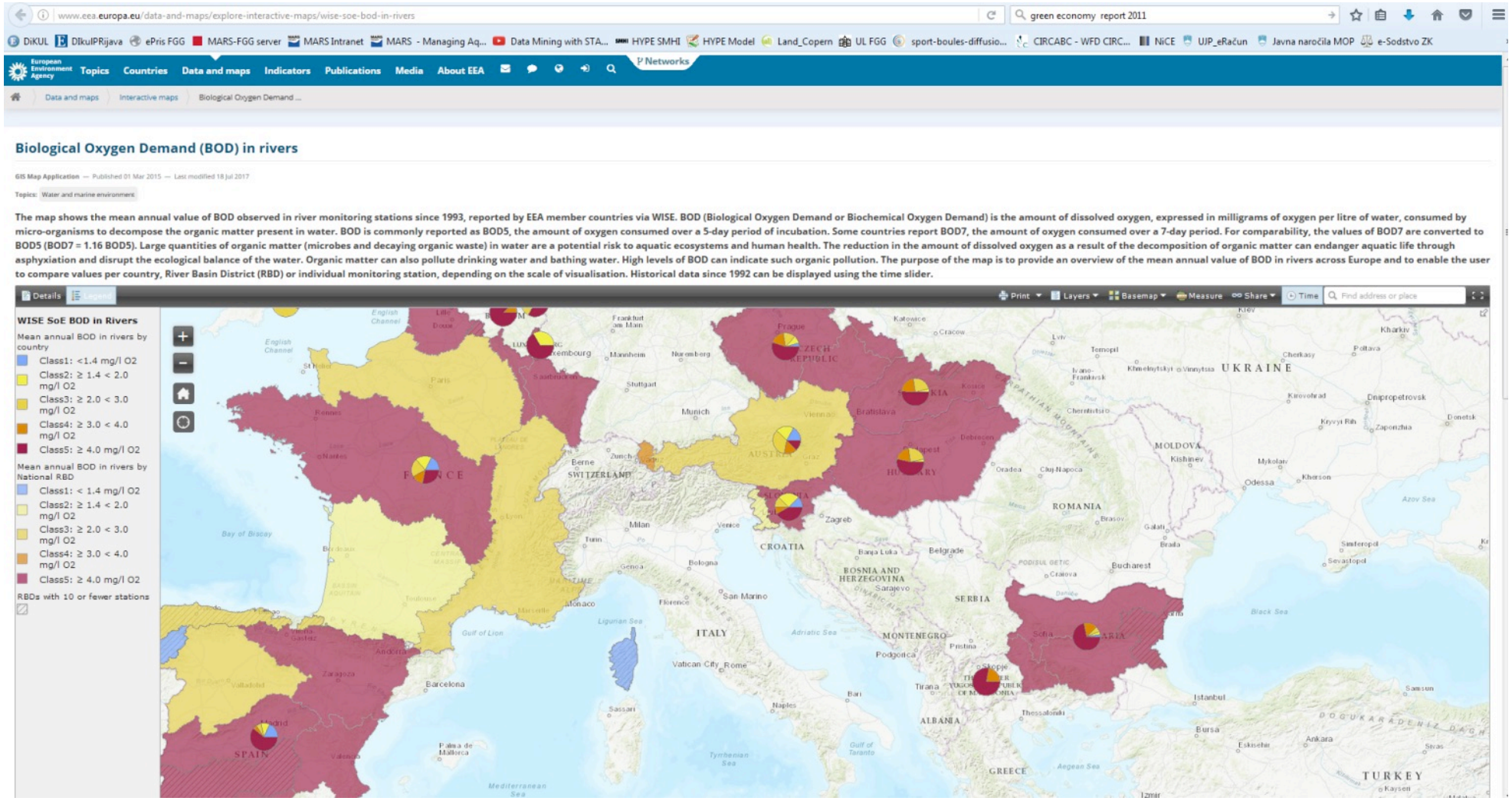
Country	Period	River Stations	Very negative	Marginally negative	No change	Marginally positive	Very positive	Sen slope (mg O2/l)	Sen slope (%)
Europe	1992-2012	539	332 (62%)	30 (6%)	156 (29%)	5 (1%)	16 (3%)	-0.100000	-2.900000
Austria	1992-2012	47	28 (60%)	3 (6%)	16 (34%)	0 (0%)	0 (0%)	-0.100000	-3.300000
Belgium	1992-2012	25	9 (36%)	2 (8%)	13 (52%)	0 (0%)	1 (4%)	-0.100000	-1.800000
Bulgaria	1992-2012	73	41 (56%)	7 (10%)	25 (34%)	0 (0%)	0 (0%)	-0.200000	-3.500000
Denmark	1992-2012	34	24 (71%)	1 (3%)	9 (26%)	0 (0%)	0 (0%)	0.000000	-2.200000
Estonia	1992-2012	53	19 (36%)	2 (4%)	20 (38%)	4 (8%)	8 (15%)	-0.010000	-0.500000
Finland	1992-2012	14	6 (43%)	1 (7%)	6 (43%)	0 (0%)	1 (7%)	-0.010000	-0.800000
France	1992-2012	183	142 (78%)	7 (4%)	33 (18%)	0 (0%)	1 (1%)	-0.100000	-4.100000
FYR of Macedonia	1992-2012	9	0 (0%)	0 (0%)	9 (100%)	0 (0%)	0 (0%)	0.010000	0.400000
Ireland	1992-2012	3	3 (100%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	-0.030000	-2.100000
Latvia	1992-2012	16	3 (19%)	1 (6%)	11 (69%)	0 (0%)	1 (6%)	-0.010000	-0.600000
Lithuania	1992-2012	27	15 (56%)	2 (7%)	6 (22%)	1 (4%)	3 (11%)	-0.050000	-1.300000
Luxembourg	1992-2012	3	2 (67%)	1 (33%)	0 (0%)	0 (0%)	0 (0%)	-0.160000	-4.100000
Slovakia	1992-2012	15	11 (73%)	2 (13%)	2 (13%)	0 (0%)	0 (0%)	-0.090000	-3.100000
Slovenia	1992-2012	13	12 (92%)	0 (0%)	1 (8%)	0 (0%)	0 (0%)	-0.130000	-4.600000
United Kingdom	1992-2012	24	17 (71%)	1 (4%)	5 (21%)	0 (0%)	1 (4%)	-0.030000	-2.200000

BOD and total ammonium time series and trends per geographical region



Regions....

Present BOD concentrations per country



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Data sources:

(https://www.eea.europa.eu/data-and-maps/data/waterbase-rivers-10)

Waterbase - Rivers

Data — **Prod-ID:** DAT-4-en — expired — Created 12 Jun 2014 — Published 13 Jun 2014 — Last modified 05 Dec 2016 — 16 min read

PDF

Topics: Water and marine environment

This content has been archived on 05 Dec 2016, reason: Other (The dataset is replaced by Waterbase - Water Quality dataset, which combines Waterbase - Rivers, Lakes and Groundwater into one. It's available at http://www.eea.europa.eu/data-and-maps/data/waterbase-water-quality/.)

Waterbase is the generic name given to the EEA's databases on the status and quality of Europe's rivers, lakes, groundwater bodies and transitional, coastal and marine waters, and on the quantity of Europe's water resources

European data | Additional information | Metadata

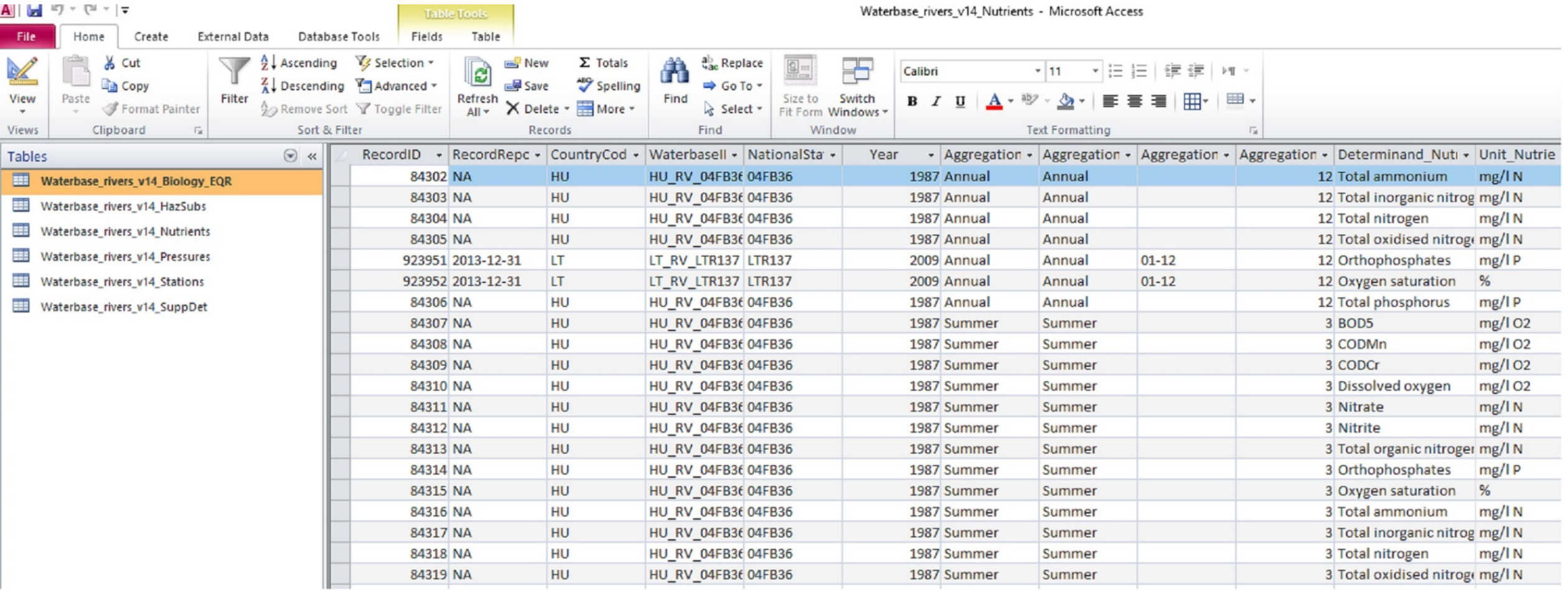
Waterbase - Rivers (6 tables)

The dataset contains data on nutrients, organic matter, hazardous substances and other chemical determinands in water, proxy pressure data on the upstream catchments, physical characteristics of the WISE-SoE river monitoring stations and biological quality elements (BQEs) phytobenthos and macroinvertebrates from WISE-SoE river monitoring stations. The biological data data are reported as ecological quality ratios (EQRs) (for more explanation, see illustration in additional information part). ***WARNING:*** Records, where errors and other quality issues and inconsistencies have been detected, have been removed from the dataset only in the most severe cases (missing primary key values, duplicates...). The other "problematic" records are left in. Each data table contains a set of special QA fields which are used to flag the particular quality issues detected in the individual records. The QA fields and flag codes are described in the QA documentation.

[+] Show table definition

- **Waterbase-Rivers (Microsoft Access database file)** (ZIP archive) 58.58 MB Download file
- **Waterbase-Rivers (CSV files)** (ZIP archive)

Database:



RecordID	RecordRepc	CountryCod	WaterbaseII	NationalSta	Year	Aggregation	Aggregation	Aggregation	Aggregation	Determinand_Nuti	Unit_Nutrie
84302	NA	HU	HU_RV_04FB3(	04FB36	1987	Annual	Annual		12	Total ammonium	mg/l N
84303	NA	HU	HU_RV_04FB3(	04FB36	1987	Annual	Annual		12	Total inorganic nitrog	mg/l N
84304	NA	HU	HU_RV_04FB3(	04FB36	1987	Annual	Annual		12	Total nitrogen	mg/l N
84305	NA	HU	HU_RV_04FB3(	04FB36	1987	Annual	Annual		12	Total oxidised nitroge	mg/l N
923951	2013-12-31	LT	LT_RV_LTR137	LTR137	2009	Annual	Annual	01-12	12	Orthophosphates	mg/l P
923952	2013-12-31	LT	LT_RV_LTR137	LTR137	2009	Annual	Annual	01-12	12	Oxygen saturation	%
84306	NA	HU	HU_RV_04FB3(	04FB36	1987	Annual	Annual		12	Total phosphorus	mg/l P
84307	NA	HU	HU_RV_04FB3(	04FB36	1987	Summer	Summer		3	BOD5	mg/l O2
84308	NA	HU	HU_RV_04FB3(	04FB36	1987	Summer	Summer		3	CODMn	mg/l O2
84309	NA	HU	HU_RV_04FB3(	04FB36	1987	Summer	Summer		3	CODCr	mg/l O2
84310	NA	HU	HU_RV_04FB3(	04FB36	1987	Summer	Summer		3	Dissolved oxygen	mg/l O2
84311	NA	HU	HU_RV_04FB3(	04FB36	1987	Summer	Summer		3	Nitrate	mg/l N
84312	NA	HU	HU_RV_04FB3(	04FB36	1987	Summer	Summer		3	Nitrite	mg/l N
84313	NA	HU	HU_RV_04FB3(	04FB36	1987	Summer	Summer		3	Total organic nitroge	mg/l N
84314	NA	HU	HU_RV_04FB3(	04FB36	1987	Summer	Summer		3	Orthophosphates	mg/l P
84315	NA	HU	HU_RV_04FB3(	04FB36	1987	Summer	Summer		3	Oxygen saturation	%
84316	NA	HU	HU_RV_04FB3(	04FB36	1987	Summer	Summer		3	Total ammonium	mg/l N
84317	NA	HU	HU_RV_04FB3(	04FB36	1987	Summer	Summer		3	Total inorganic nitrog	mg/l N
84318	NA	HU	HU_RV_04FB3(	04FB36	1987	Summer	Summer		3	Total nitrogen	mg/l N
84319	NA	HU	HU_RV_04FB3(	04FB36	1987	Summer	Summer		3	Total oxidised nitroge	mg/l N

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C10 (RIVERS)

		Biochemical oxygen demand (BOD5)			
		Unit	1990	1995	20
2	Type of sampling site				
3	Sampling period	From DD/MM/YYYY to DD/MM/YYYY			
4	Number of samples taken in sampling period	#			
6	Maximum	mg of O_2 /liter			
7	Minimum	mg of O_2 /liter			
8	Mean	mg of O_2 /liter			
9	Standard deviation	mg of O_2 /liter			

		Ammonium (NH4)	
		Unit	1990
10	Type of sampling site		
11	Sampling period	From DD/MM/YYYY to DD/MM/YYYY	
12	Number of samples taken in sampling period	#	
13	Maximum	mg of N/liter	
14	Minimum	mg of N/liter	
15	Mean	mg of N/liter	
16	Standard deviation	mg of N/liter	

C11 - RIVERS

		Phosphates			
		Unit	1990	1995	20
2	Type of sampling site				
3	Sampling period	From DD/MM/YYYY to DD/MM/YYYY			
4	Number of samples taken in sampling period	#			
6	Maximum	mg of P/liter			
7	Minimum	mg of P/liter			
8	Mean	mg of P/liter			
9	Standard deviation	mg of P/liter			

		Nitrates	
		Unit	19
10	Type of sampling site		
11	Sampling period	From DD/MM/YYYY to	
12	Number of samples taken in sampling period	#	
13	Maximum	mg of NO3/liter	
14	Minimum	mg of NO3/liter	
15	Mean	mg of NO3/liter	
16	Standard deviation	mg of NO3/liter	

C11 - LAKES

		Nitrates			
		Unit	1990	1995	20
12	Type of sampling site				
13	Sampling period	From DD/MM/YYYY to			
14	Number of samples taken in sampling period	#			
15	Maximum	mg of NO3/liter			
16	Minimum	mg of NO3/liter			
17	Mean	mg of NO3/liter			
18	Standard deviation	mg of NO3/liter			

Rivers

Lakes

		Phosphates	
		Unit	1990
2	Type of sampling site		
3	Sampling period	From DD/MM/YYYY to DD/MM/YYYY	
4	Number of samples taken in sampling period	#	
6	Maximum	mg of P/liter	
7	Minimum	mg of P/liter	
8	Mean	mg of P/liter	
9	Standard deviation	mg of P/liter	

C11 - GROUNDWATER

		Nitrates			
		Unit	1990	1995	20
1	Type of sampling site (shallow well, deep well, spring)				
2	Sampling period	From DD/MM/YYYY to DD/MM/YYYY			
3	Number of samples taken in sampling period	#			
4	Maximum	mg of NO3/liter			
5	Minimum	mg of NO3/liter			
6	Mean	mg of NO3/liter			
7	Standard deviation	mg of NO3/liter			

Rivers

Lakes

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Questions:

1)Time period? E.g.: 2000 – 2015; 2005-2015
2)Regions: spatial aggregation (how to group data?)
- Statistical regions
- Adminstrative regions
- Catchment regions
- By water bodfy (river)
- By bio-geographical and other regions defiend by physical geographen to dark red..=y

3) Classification: classes (important how to communicate result....).