



Supplement of

GRQA: Global River Water Quality Archive

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Data catalog of Global River Water Quality Archive (GRQA)

Parameter overview figures

Biochemical Oxygen Demand (BOD)	11
Monthly time series availability of BOD observation values.....	11
Box plot of BOD observation values	12
Monthly time series continuity of BOD observation values	12
Distribution of BOD observation values.....	13
Spatial distribution of yearly median of BOD observation values.....	13
Spatial distribution of BOD observation values	14
Temporal distribution of BOD observation values	14
Biochemical Oxygen Demand (BOD5) (BOD5)	15
Monthly time series availability of BOD5 observation values.....	15
Box plot of BOD5 observation values.....	15
Monthly time series continuity of BOD5 observation values	16
Distribution of BOD5 observation values.....	16
Spatial distribution of yearly median of BOD5 observation values.....	17
Spatial distribution of BOD5 observation values	17
Temporal distribution of BOD5 observation values	18
Biochemical Oxygen Demand (BOD7) (BOD7)	18
Monthly time series availability of BOD7 observation values.....	18
Box plot of BOD7 observation values.....	19
Monthly time series continuity of BOD7 observation values	19
Distribution of BOD7 observation values.....	20
Spatial distribution of yearly median of BOD7 observation values.....	20
Spatial distribution of BOD7 observation values	21
Temporal distribution of BOD7 observation values	21
Chemical Oxygen Demand (COD)	22
Monthly time series availability of COD observation values	22
Box plot of COD observation values	22

Monthly time series continuity of COD observation values.....	23
Distribution of COD observation values	23
Spatial distribution of yearly median of COD observation values	24
Spatial distribution of COD observation values	24
Temporal distribution of COD observation values	25
Chemical Oxygen Demand (Cr) (CODCr).....	25
Monthly time series availability of CODCr observation values.....	25
Box plot of CODCr observation values.....	26
Monthly time series continuity of CODCr observation values	26
Distribution of CODCr observation values.....	27
Spatial distribution of yearly median of CODCr observation values.....	27
Spatial distribution of CODCr observation values	28
Temporal distribution of CODCr observation values	28
Chemical Oxygen Demand (Mn) (CODMn)	29
Monthly time series availability of CODMn observation values.....	29
Box plot of CODMn observation values	29
Monthly time series continuity of CODMn observation values.....	30
Distribution of CODMn observation values.....	30
Spatial distribution of yearly median of CODMn observation values	31
Spatial distribution of CODMn observation values	31
Temporal distribution of CODMn observation values	32
Total Dissolved Carbon (DC).....	32
Monthly time series availability of DC observation values	32
Box plot of DC observation values	33
Monthly time series continuity of DC observation values.....	33
Distribution of DC observation values	34
Spatial distribution of yearly median of DC observation values	34
Spatial distribution of DC observation values.....	35
Temporal distribution of DC observation values.....	35
Dissolved Inorganic Carbon (DIC)	36
Monthly time series availability of DIC observation values	36
Box plot of DIC observation values	36
Monthly time series continuity of DIC observation values.....	37

Distribution of DIC observation values	37
Spatial distribution of yearly median of DIC observation values	38
Spatial distribution of DIC observation values	38
Temporal distribution of DIC observation values	39
Dissolved Inorganic Nitrogen (DIN)	39
Monthly time series availability of DIN observation values	39
Box plot of DIN observation values	40
Monthly time series continuity of DIN observation values.....	40
Distribution of DIN observation values	41
Spatial distribution of yearly median of DIN observation values	41
Spatial distribution of DIN observation values	42
Temporal distribution of DIN observation values.....	42
Dissolved Inorganic Phosphorus (DIP).....	43
Monthly time series availability of DIP observation values	43
Box plot of DIP observation values	43
Monthly time series continuity of DIP observation values.....	44
Distribution of DIP observation values	44
Spatial distribution of yearly median of DIP observation values	45
Spatial distribution of DIP observation values	45
Temporal distribution of DIP observation values	46
Dissolved Kjeldahl Nitrogen (DKN).....	46
Monthly time series availability of DKN observation values.....	46
Box plot of DKN observation values.....	47
Monthly time series continuity of DKN observation values	47
Distribution of DKN observation values.....	48
Spatial distribution of yearly median of DKN observation values.....	48
Spatial distribution of DKN observation values.....	49
Temporal distribution of DKN observation values.....	49
Dissolved Oxygen (DO).....	50
Monthly time series availability of DO observation values	50
Box plot of DO observation values.....	50
Monthly time series continuity of DO observation values	51
Distribution of DO observation values	51

Spatial distribution of yearly median of DO observation values	52
Spatial distribution of DO observation values.....	52
Temporal distribution of DO observation values.....	53
Dissolved Organic Carbon (DOC)	53
Monthly time series availability of DOC observation values	53
Box plot of DOC observation values	54
Monthly time series continuity of DOC observation values.....	54
Distribution of DOC observation values	55
Spatial distribution of yearly median of DOC observation values	55
Spatial distribution of DOC observation values	56
Temporal distribution of DOC observation values	56
Dissolved Organic Nitrogen (DON).....	57
Monthly time series availability of DON observation values	57
Box plot of DON observation values	57
Monthly time series continuity of DON observation values.....	58
Distribution of DON observation values	58
Spatial distribution of yearly median of DON observation values	59
Spatial distribution of DON observation values	59
Temporal distribution of DON observation values	60
Dissolved Organic Phosphorus (DOP)	60
Monthly time series availability of DOP observation values.....	60
Box plot of DOP observation values	61
Monthly time series continuity of DOP observation values	61
Distribution of DOP observation values.....	62
Spatial distribution of yearly median of DOP observation values.....	62
Spatial distribution of DOP observation values	63
Temporal distribution of DOP observation values	63
Dissolved Oxygen Saturation (DOSAT).....	64
Monthly time series availability of DOSAT observation values	64
Box plot of DOSAT observation values	64
Monthly time series continuity of DOSAT observation values	65
Distribution of DOSAT observation values	65
Spatial distribution of yearly median of DOSAT observation values	66

Spatial distribution of DOSAT observation values	66
Temporal distribution of DOSAT observation values	67
Ammonium Nitrogen (NH ₄ N).....	67
Monthly time series availability of NH ₄ N observation values.....	67
Box plot of NH ₄ N observation values.....	68
Monthly time series continuity of NH ₄ N observation values	68
Distribution of NH ₄ N observation values.....	69
Spatial distribution of yearly median of NH ₄ N observation values.....	69
Spatial distribution of NH ₄ N observation values	70
Temporal distribution of NH ₄ N observation values	70
Nitrite Nitrogen (NO ₂ N)	71
Monthly time series availability of NO ₂ N observation values	71
Box plot of NO ₂ N observation values	71
Monthly time series continuity of NO ₂ N observation values.....	72
Distribution of NO ₂ N observation values	72
Spatial distribution of yearly median of NO ₂ N observation values	73
Spatial distribution of NO ₂ N observation values	73
Temporal distribution of NO ₂ N observation values	74
Nitrate Nitrogen (NO ₃ N).....	74
Monthly time series availability of NO ₃ N observation values	74
Box plot of NO ₃ N observation values	75
Monthly time series continuity of NO ₃ N observation values.....	75
Distribution of NO ₃ N observation values	76
Spatial distribution of yearly median of NO ₃ N observation values	76
Spatial distribution of NO ₃ N observation values	77
Temporal distribution of NO ₃ N observation values	77
Particulate Carbon (PC)	78
Monthly time series availability of PC observation values	78
Box plot of PC observation values	78
Monthly time series continuity of PC observation values.....	79
Distribution of PC observation values	79
Spatial distribution of yearly median of PC observation values	80
Spatial distribution of PC observation values	80

Temporal distribution of PC observation values	81
pH (pH)	81
Monthly time series availability of pH observation values.....	81
Box plot of pH observation values.....	82
Monthly time series continuity of pH observation values	82
Distribution of pH observation values.....	83
Spatial distribution of yearly median of pH observation values.....	83
Spatial distribution of pH observation values.....	84
Temporal distribution of pH observation values	84
Particulate Inorganic Carbon (PIC).....	85
Monthly time series availability of PIC observation values	85
Box plot of PIC observation values	85
Monthly time series continuity of PIC observation values.....	86
Distribution of PIC observation values	86
Spatial distribution of yearly median of PIC observation values	87
Spatial distribution of PIC observation values	87
Temporal distribution of PIC observation values	88
Particulate Nitrogen (PN)	88
Monthly time series availability of PN observation values	88
Box plot of PN observation values	89
Monthly time series continuity of PN observation values.....	89
Distribution of PN observation values	90
Spatial distribution of yearly median of PN observation values	90
Spatial distribution of PN observation values.....	91
Temporal distribution of PN observation values	91
Particulate Organic Carbon (POC)	92
Monthly time series availability of POC observation values.....	92
Box plot of POC observation values	92
Monthly time series continuity of POC observation values.....	93
Distribution of POC observation values.....	93
Spatial distribution of yearly median of POC observation values.....	94
Spatial distribution of POC observation values	94
Temporal distribution of POC observation values	95

Particulate Organic Nitrogen (PON)	95
Monthly time series availability of PON observation values.....	95
Box plot of PON observation values	96
Monthly time series continuity of PON observation values	96
Distribution of PON observation values.....	97
Spatial distribution of yearly median of PON observation values.....	97
Spatial distribution of PON observation values	98
Temporal distribution of PON observation values	98
Particulate Organic Phosphorus (POP)	99
Monthly time series availability of POP observation values.....	99
Box plot of POP observation values.....	99
Monthly time series continuity of POP observation values	100
Distribution of POP observation values.....	100
Spatial distribution of yearly median of POP observation values.....	101
Spatial distribution of POP observation values.....	101
Temporal distribution of POP observation values.....	102
Total Ammonia Nitrogen (TAN)	102
Monthly time series availability of TAN observation values	102
Box plot of TAN observation values	103
Monthly time series continuity of TAN observation values.....	103
Distribution of TAN observation values	104
Spatial distribution of yearly median of TAN observation values	104
Spatial distribution of TAN observation values	105
Temporal distribution of TAN observation values.....	105
Total Carbon (TC)	106
Monthly time series availability of TC observation values.....	106
Box plot of TC observation values	106
Monthly time series continuity of TC observation values	107
Distribution of TC observation values.....	107
Spatial distribution of yearly median of TC observation values.....	108
Spatial distribution of TC observation values	108
Temporal distribution of TC observation values	109
Total Dissolved Nitrogen (TDN).....	109

Monthly time series availability of TDN observation values	109
Box plot of TDN observation values	110
Monthly time series continuity of TDN observation values	110
Distribution of TDN observation values	111
Spatial distribution of yearly median of TDN observation values	111
Spatial distribution of TDN observation values	112
Temporal distribution of TDN observation values	112
Total Dissolved Phosphorus (TDP)	113
Monthly time series availability of TDP observation values	113
Box plot of TDP observation values	113
Monthly time series continuity of TDP observation values	114
Distribution of TDP observation values	114
Spatial distribution of yearly median of TDP observation values	115
Spatial distribution of TDP observation values	115
Temporal distribution of TDP observation values	116
Water Temperature (TEMP)	116
Monthly time series availability of TEMP observation values	116
Box plot of TEMP observation values	117
Monthly time series continuity of TEMP observation values	117
Distribution of TEMP observation values	118
Spatial distribution of yearly median of TEMP observation values	118
Spatial distribution of TEMP observation values	119
Temporal distribution of TEMP observation values	119
Total Inorganic Carbon (TIC)	120
Monthly time series availability of TIC observation values	120
Box plot of TIC observation values	120
Monthly time series continuity of TIC observation values	121
Distribution of TIC observation values	121
Spatial distribution of yearly median of TIC observation values	122
Spatial distribution of TIC observation values	122
Temporal distribution of TIC observation values	123
Total Inorganic Nitrogen (TIN)	123
Monthly time series availability of TIN observation values	123

Box plot of TIN observation values	124
Monthly time series continuity of TIN observation values	124
Distribution of TIN observation values.....	125
Spatial distribution of yearly median of TIN observation values.....	125
Spatial distribution of TIN observation values	126
Temporal distribution of TIN observation values	126
Total Inorganic Phosphorus (TIP).....	127
Monthly time series availability of TIP observation values.....	127
Box plot of TIP observation values.....	127
Monthly time series continuity of TIP observation values	128
Distribution of TIP observation values.....	128
Spatial distribution of yearly median of TIP observation values.....	129
Spatial distribution of TIP observation values.....	129
Temporal distribution of TIP observation values	130
Total Kjeldahl Nitrogen (TKN).....	130
Monthly time series availability of TKN observation values	130
Box plot of TKN observation values	131
Monthly time series continuity of TKN observation values.....	131
Distribution of TKN observation values	132
Spatial distribution of yearly median of TKN observation values	132
Spatial distribution of TKN observation values	133
Temporal distribution of TKN observation values	133
Total Nitrogen (TN)	134
Monthly time series availability of TN observation values.....	134
Box plot of TN observation values	134
Monthly time series continuity of TN observation values	135
Distribution of TN observation values.....	135
Spatial distribution of yearly median of TN observation values.....	136
Spatial distribution of TN observation values	136
Temporal distribution of TN observation values	137
Total Organic Carbon (TOC)	137
Monthly time series availability of TOC observation values.....	137
Box plot of TOC observation values.....	138

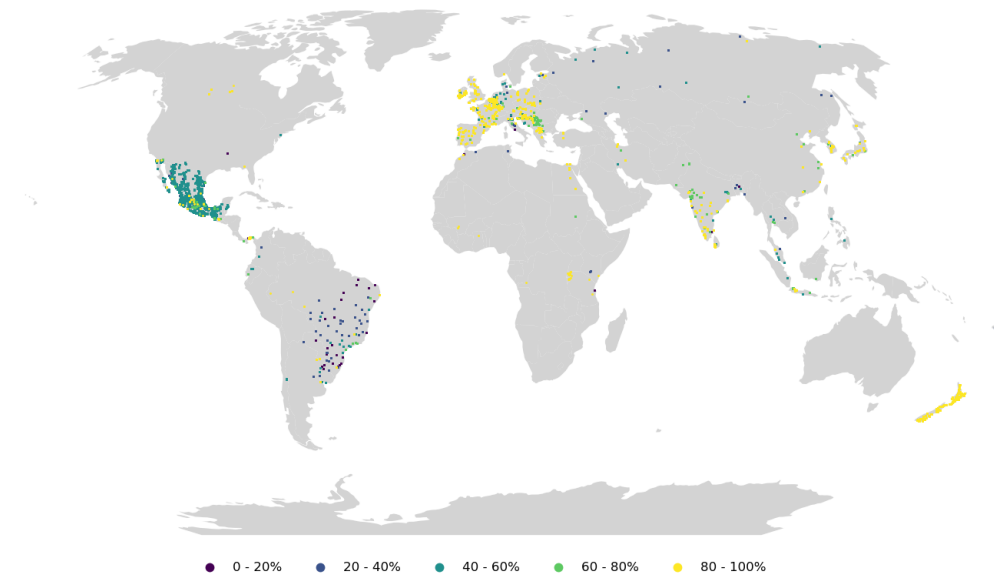
Monthly time series continuity of TOC observation values	138
Distribution of TOC observation values.....	139
Spatial distribution of yearly median of TOC observation values.....	139
Spatial distribution of TOC observation values.....	140
Temporal distribution of TOC observation values.....	140
Total Organic Nitrogen (TON)	141
Monthly time series availability of TON observation values.....	141
Box plot of TON observation values.....	141
Monthly time series continuity of TON observation values	142
Distribution of TON observation values.....	142
Spatial distribution of yearly median of TON observation values.....	143
Spatial distribution of TON observation values.....	143
Temporal distribution of TON observation values.....	144
Total Organic Phosphorus (TOP)	144
Monthly time series availability of TOP observation values	144
Box plot of TOP observation values.....	145
Monthly time series continuity of TOP observation values	145
Distribution of TOP observation values	146
Spatial distribution of yearly median of TOP observation values.....	146
Spatial distribution of TOP observation values.....	147
Temporal distribution of TOP observation values.....	147
Total Phosphorus (TP)	148
Monthly time series availability of TP observation values.....	148
Box plot of TP observation values.....	148
Monthly time series continuity of TP observation values	149
Distribution of TP observation values.....	149
Spatial distribution of yearly median of TP observation values.....	150
Spatial distribution of TP observation values.....	150
Temporal distribution of TP observation values	151
Total Particulate Phosphorus (TPP)	151
Monthly time series availability of TPP observation values	151
Box plot of TPP observation values	152
Monthly time series continuity of TPP observation values.....	152

Distribution of TPP observation values	153
Spatial distribution of yearly median of TPP observation values	153
Spatial distribution of TPP observation values	154
Temporal distribution of TPP observation values	154
Total Suspended Solids (TSS)	155
Monthly time series availability of TSS observation values	155
Box plot of TSS observation values	155
Monthly time series continuity of TSS observation values.....	156
Distribution of TSS observation values	156
Spatial distribution of yearly median of TSS observation values	157
Spatial distribution of TSS observation values	157
Temporal distribution of TSS observation values	158

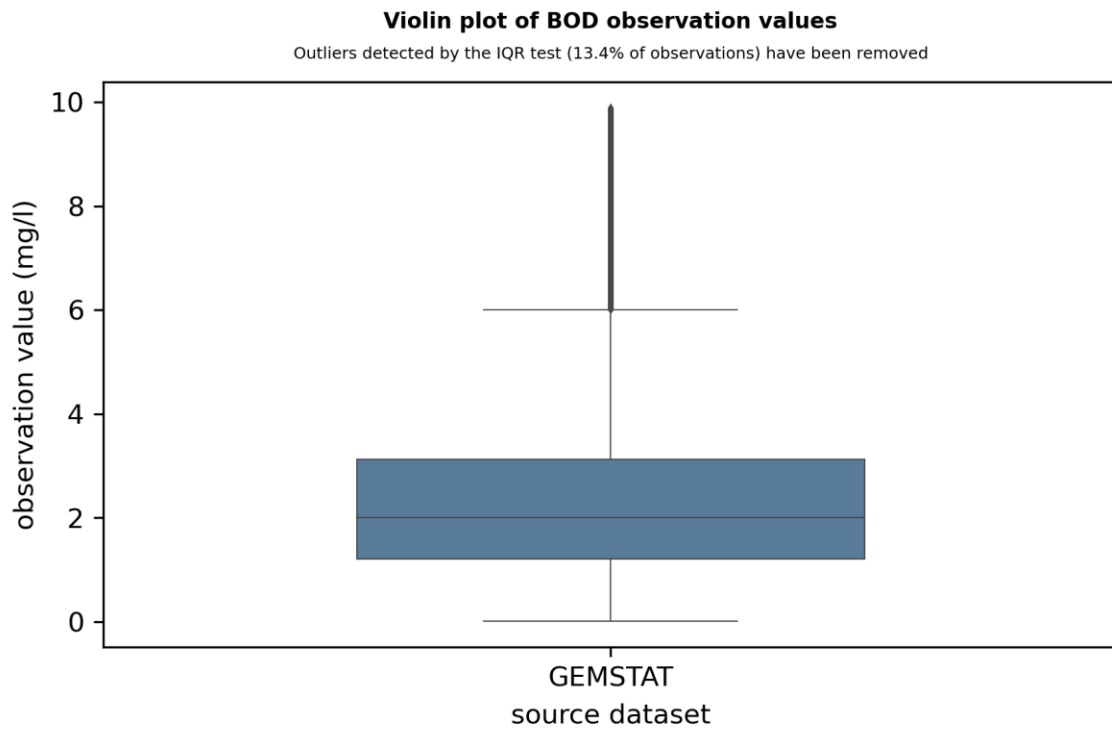
Biochemical Oxygen Demand (BOD)

Monthly time series availability of BOD observation values

Monthly time series availability of BOD observations

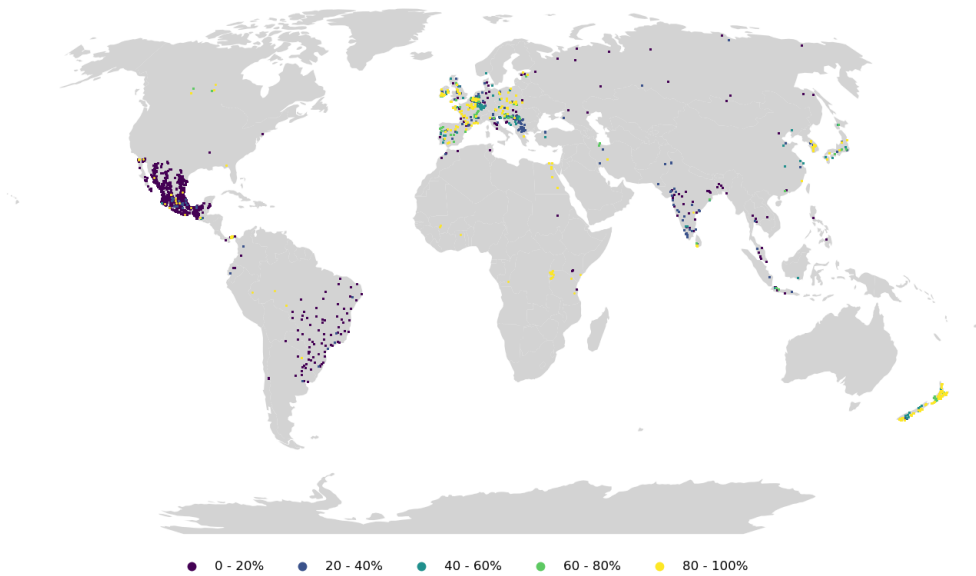


Box plot of BOD observation values



Monthly time series continuity of BOD observation values

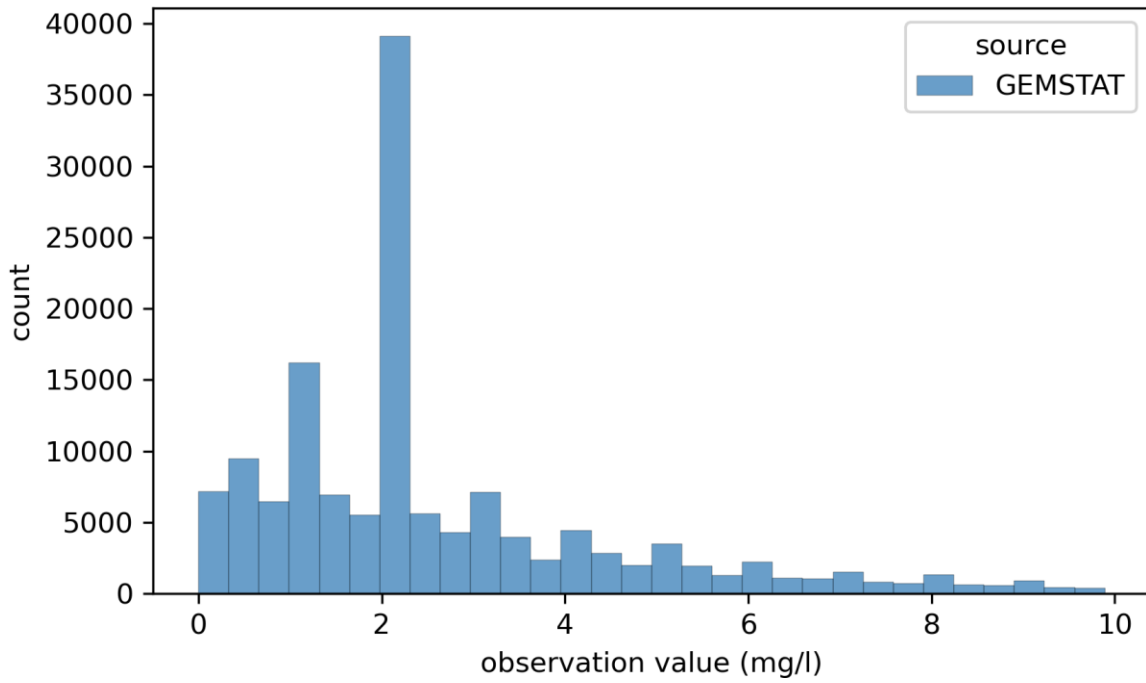
Monthly time series continuity of BOD observations



Distribution of BOD observation values

Histogram plot of BOD observation values

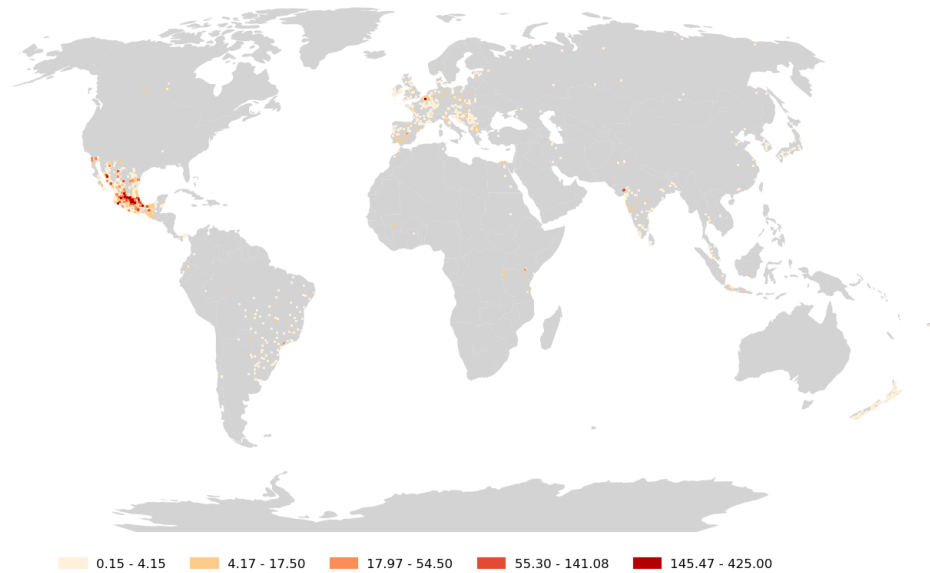
Outliers detected by the IQR test (13.4% of observations) have been removed



Spatial distribution of yearly median of BOD observation values

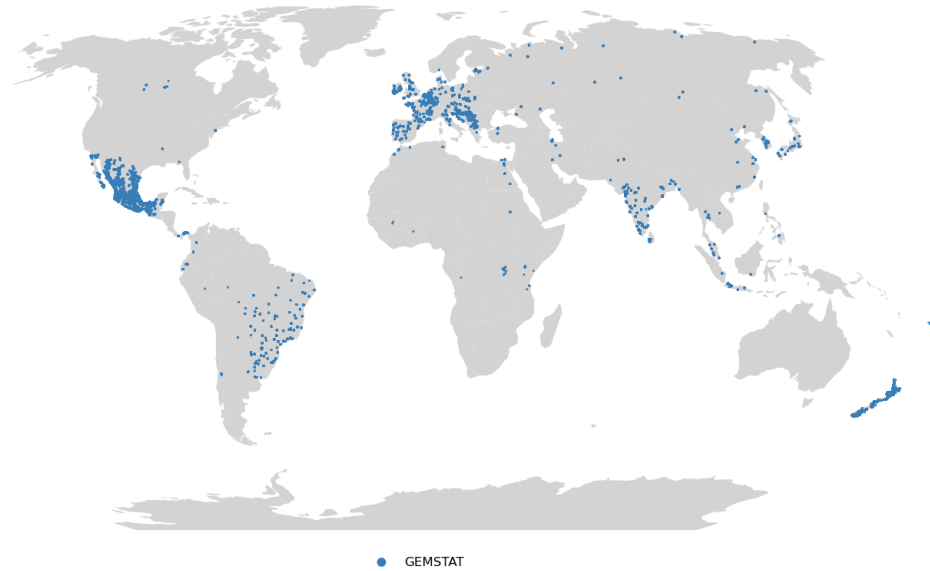
Median observation values of BOD sites (mg/l)

Outliers detected by the IQR test (13.4% of observations) have been removed

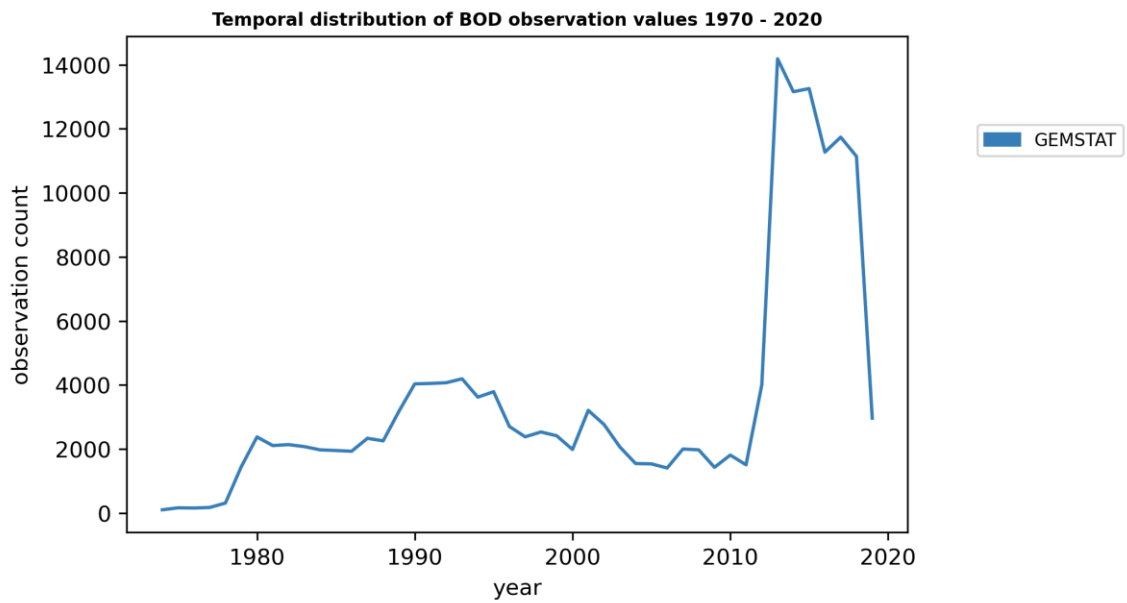


Spatial distribution of BOD observation values

Spatial distribution of BOD sites



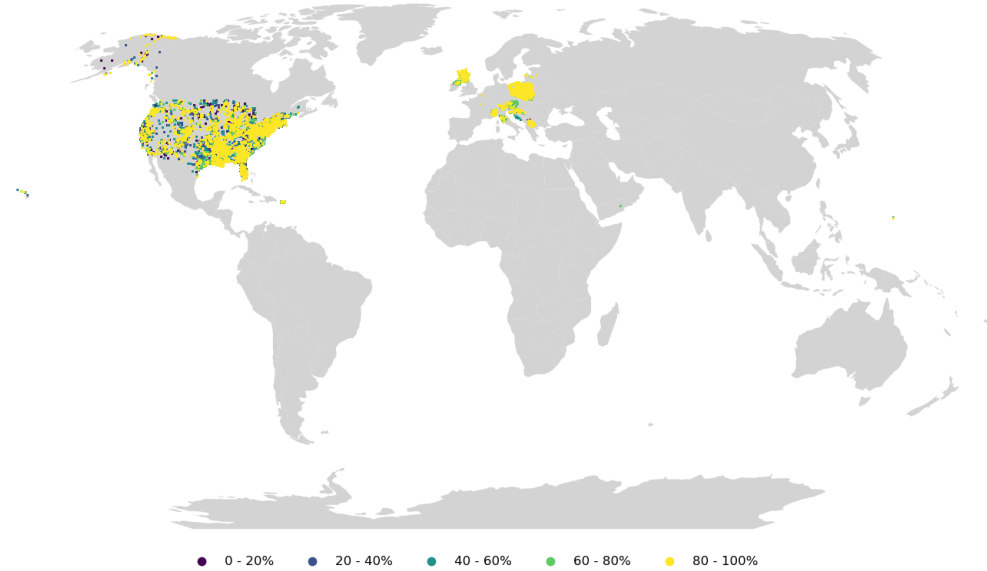
Temporal distribution of BOD observation values



Biochemical Oxygen Demand (BOD5) (BOD5)

Monthly time series availability of BOD5 observation values

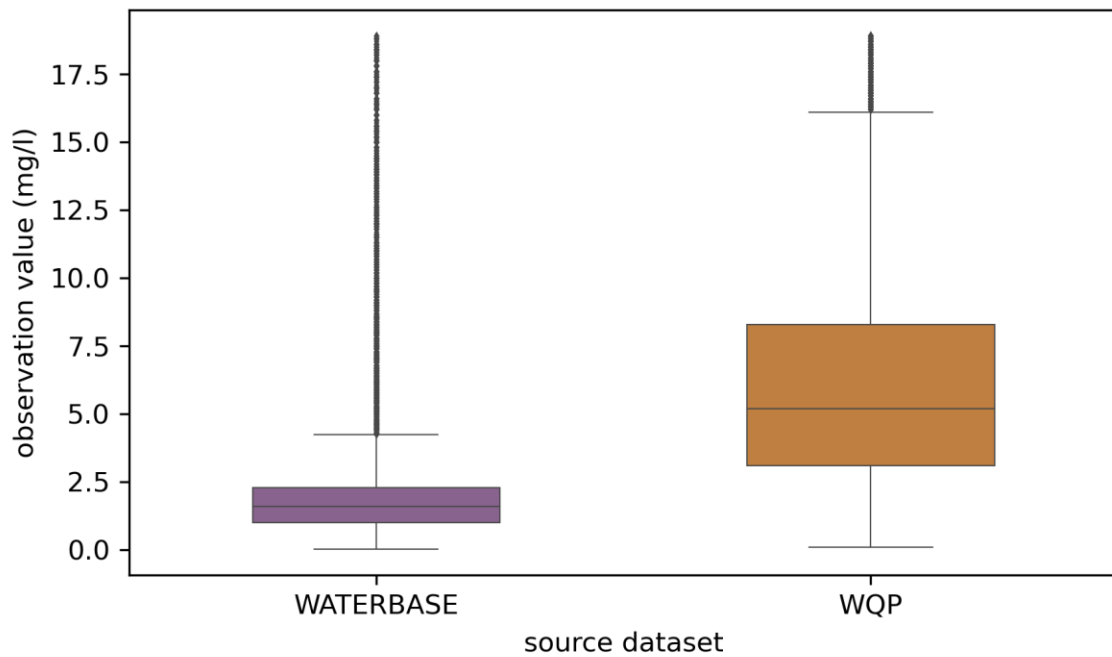
Monthly time series availability of BOD5 observations



Box plot of BOD5 observation values

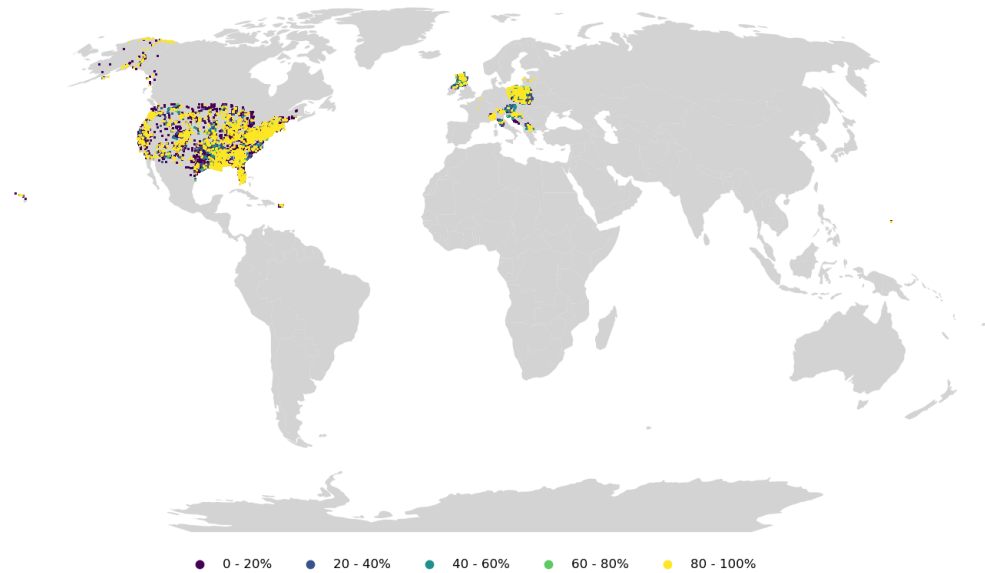
Violin plot of BOD5 observation values

Outliers detected by the IQR test (8.3% of observations) have been removed



Monthly time series continuity of BOD5 observation values

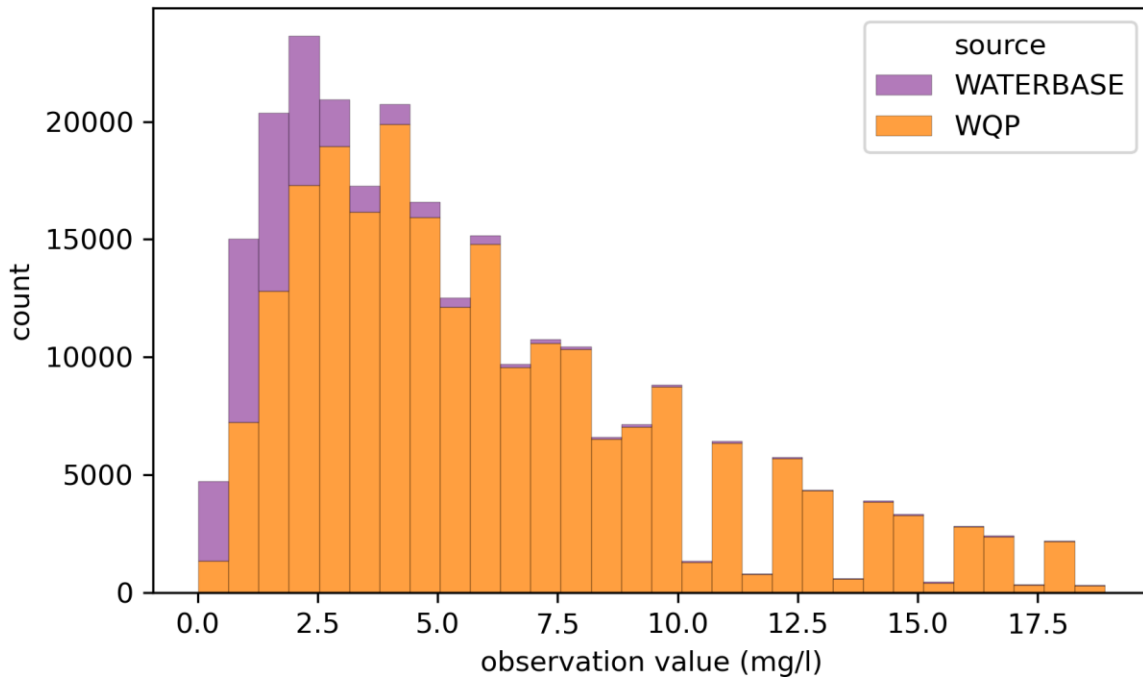
Monthly time series continuity of BOD5 observations



Distribution of BOD5 observation values

Histogram plot of BOD5 observation values

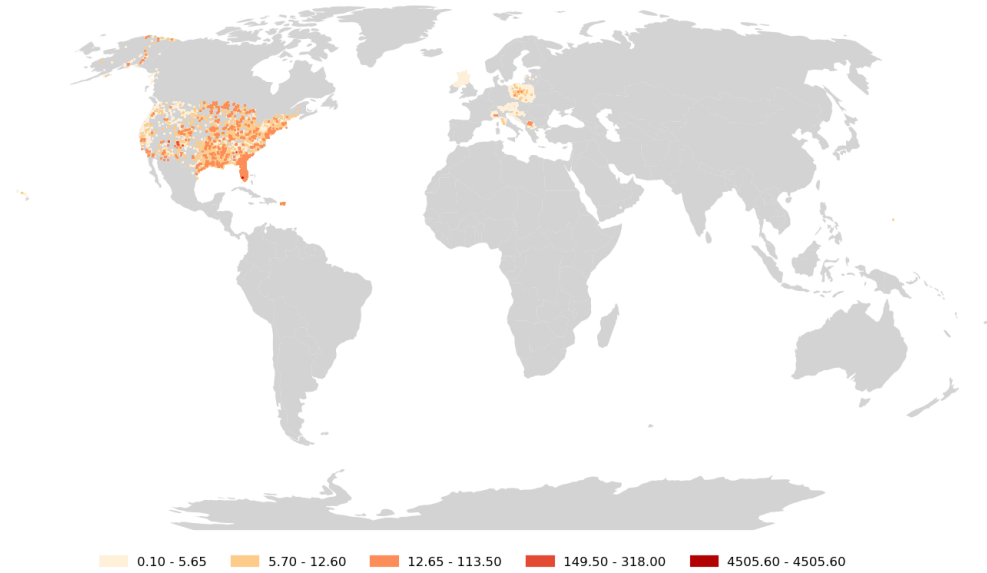
Outliers detected by the IQR test (8.3% of observations) have been removed



Spatial distribution of yearly median of BOD5 observation values

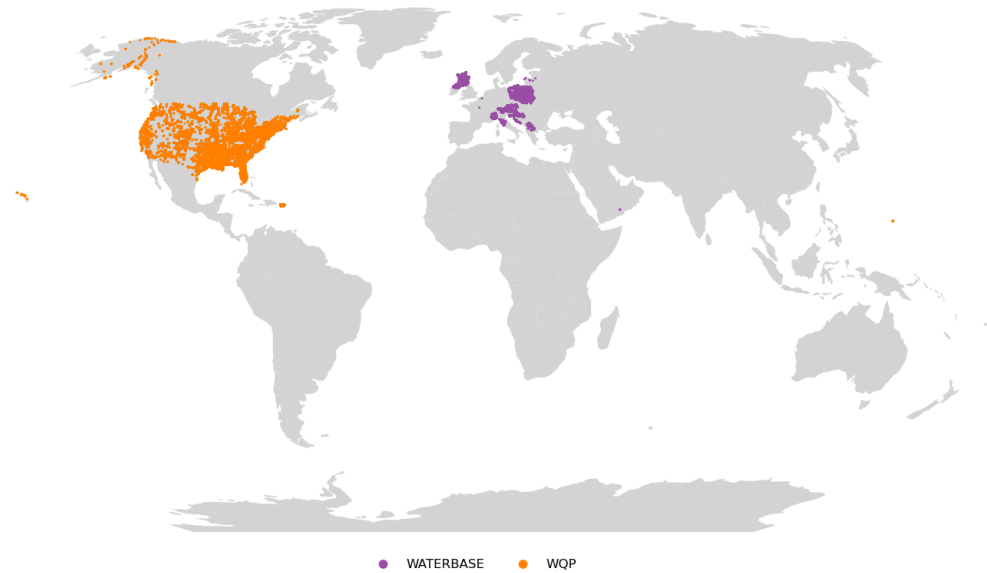
Median observation values of BOD5 sites (mg/l)

Outliers detected by the IQR test (8.3% of observations) have been removed

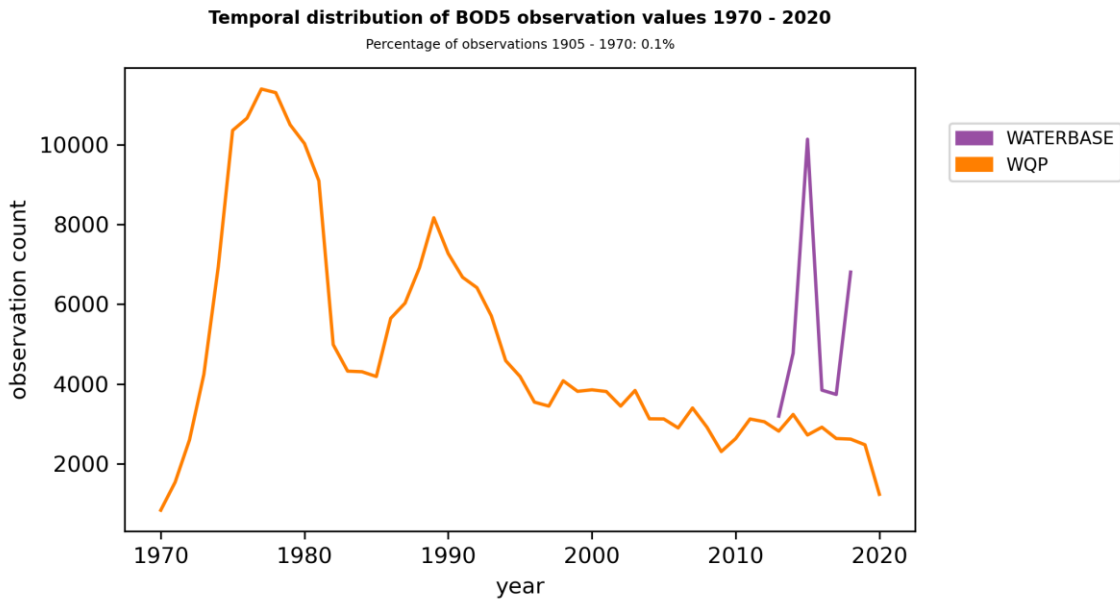


Spatial distribution of BOD5 observation values

Spatial distribution of BOD5 sites



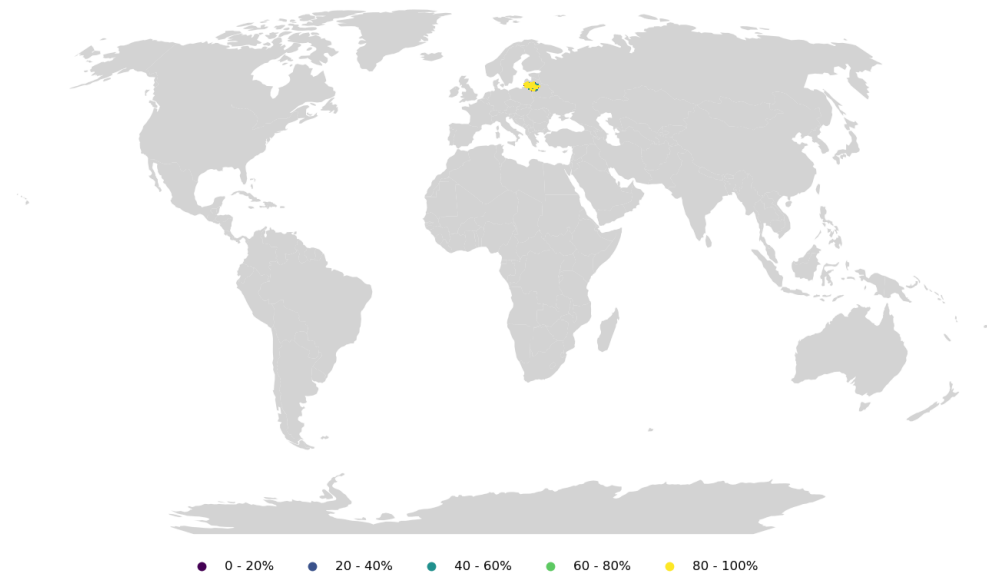
Temporal distribution of BOD5 observation values



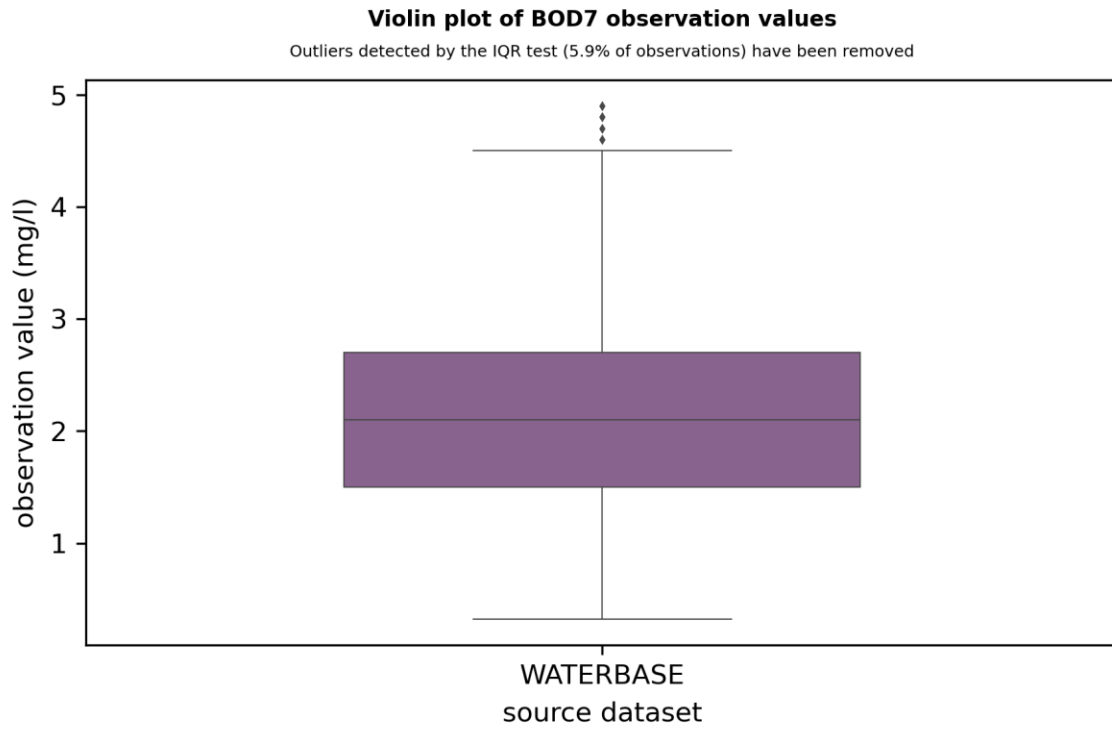
Biochemical Oxygen Demand (BOD7) (BOD7)

Monthly time series availability of BOD7 observation values

Monthly time series availability of BOD7 observations

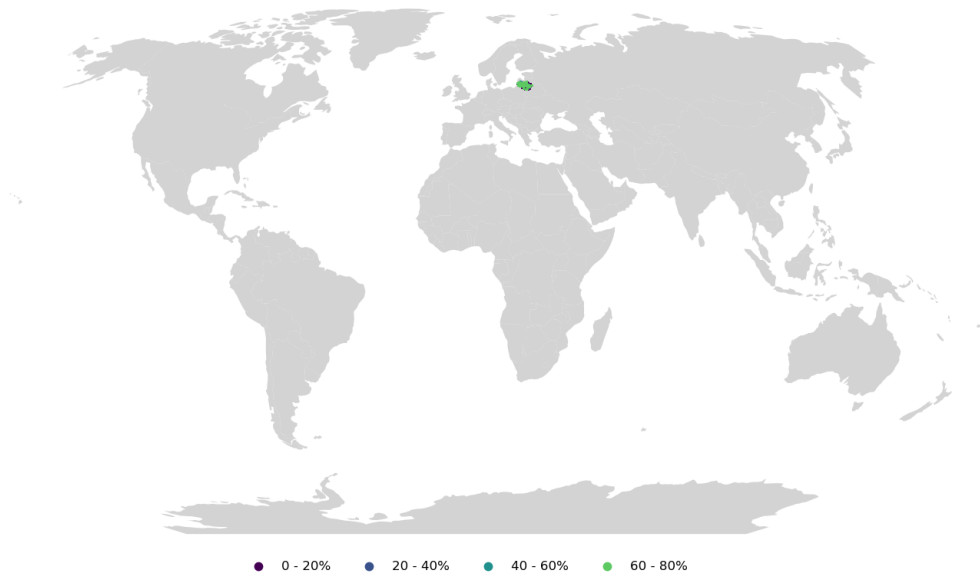


Box plot of BOD7 observation values



Monthly time series continuity of BOD7 observation values

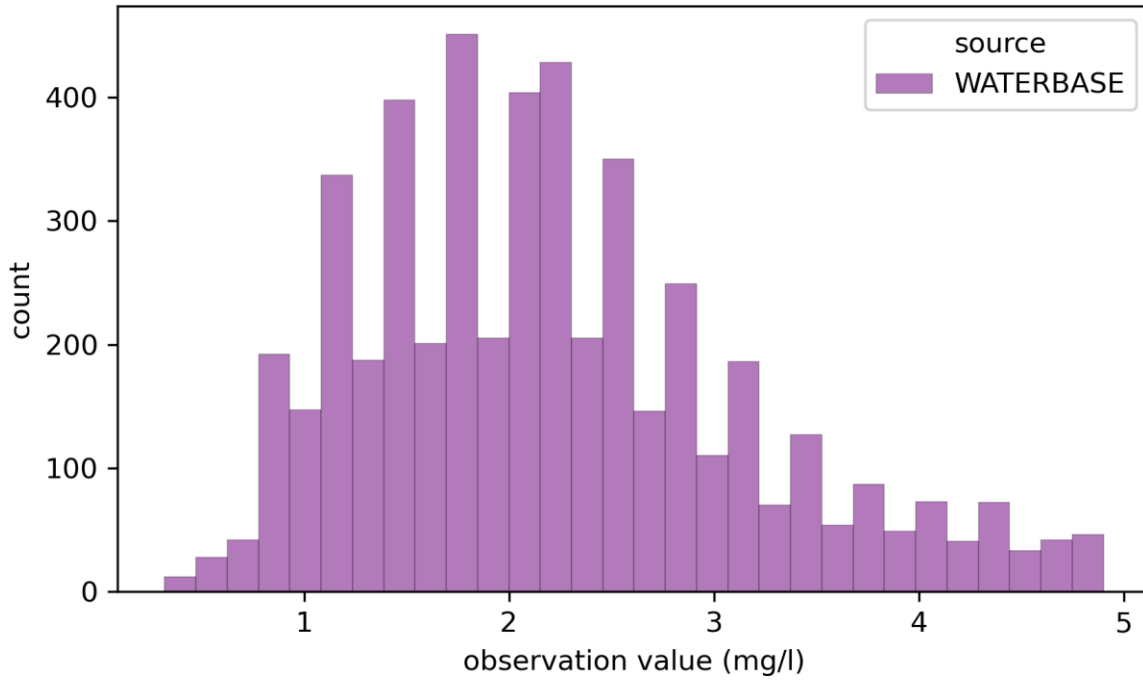
Monthly time series continuity of BOD7 observations



Distribution of BOD7 observation values

Histogram plot of BOD7 observation values

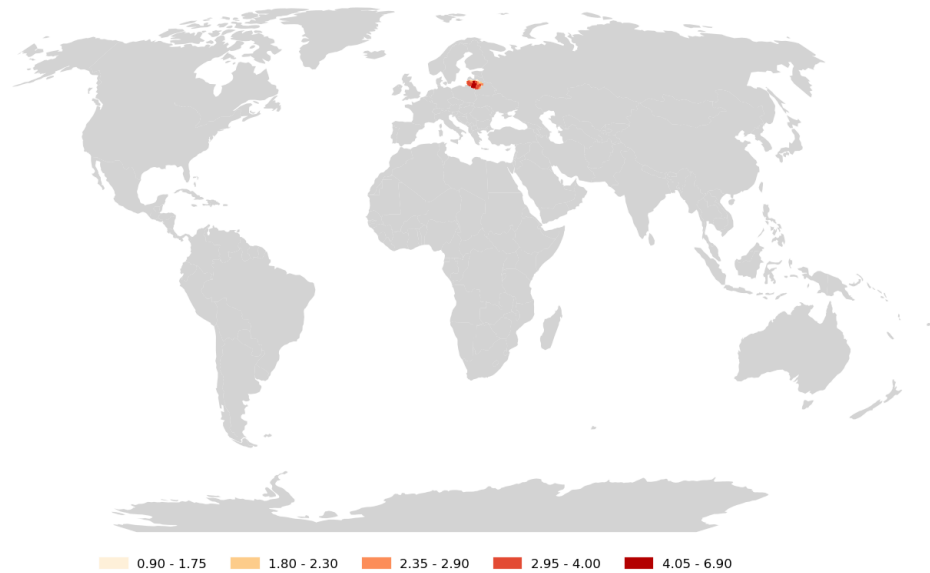
Outliers detected by the IQR test (5.9% of observations) have been removed



Spatial distribution of yearly median of BOD7 observation values

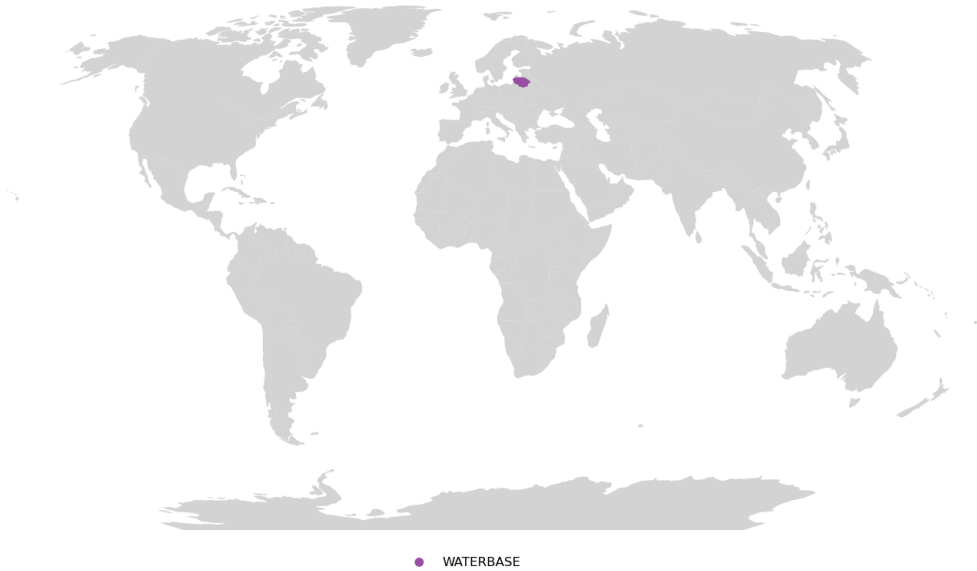
Median observation values of BOD7 sites (mg/l)

Outliers detected by the IQR test (5.9% of observations) have been removed

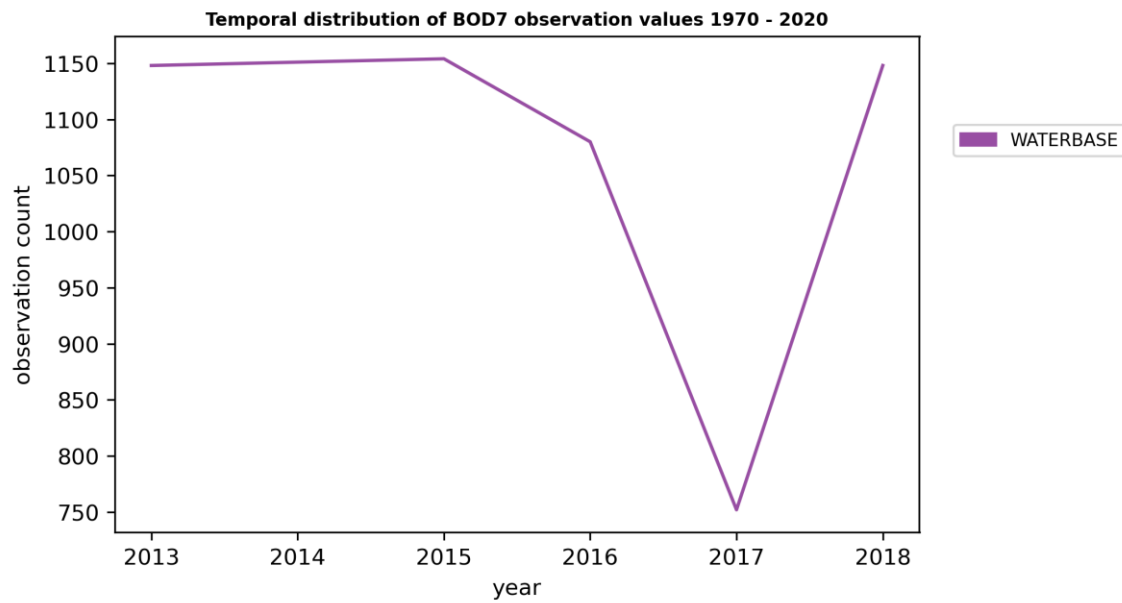


Spatial distribution of BOD7 observation values

Spatial distribution of BOD7 sites



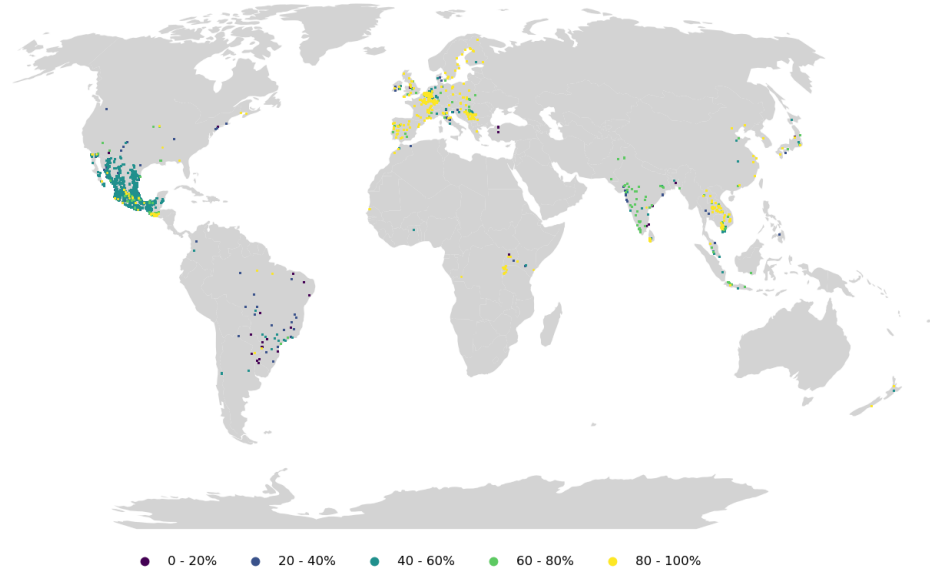
Temporal distribution of BOD7 observation values



Chemical Oxygen Demand (COD)

Monthly time series availability of COD observation values

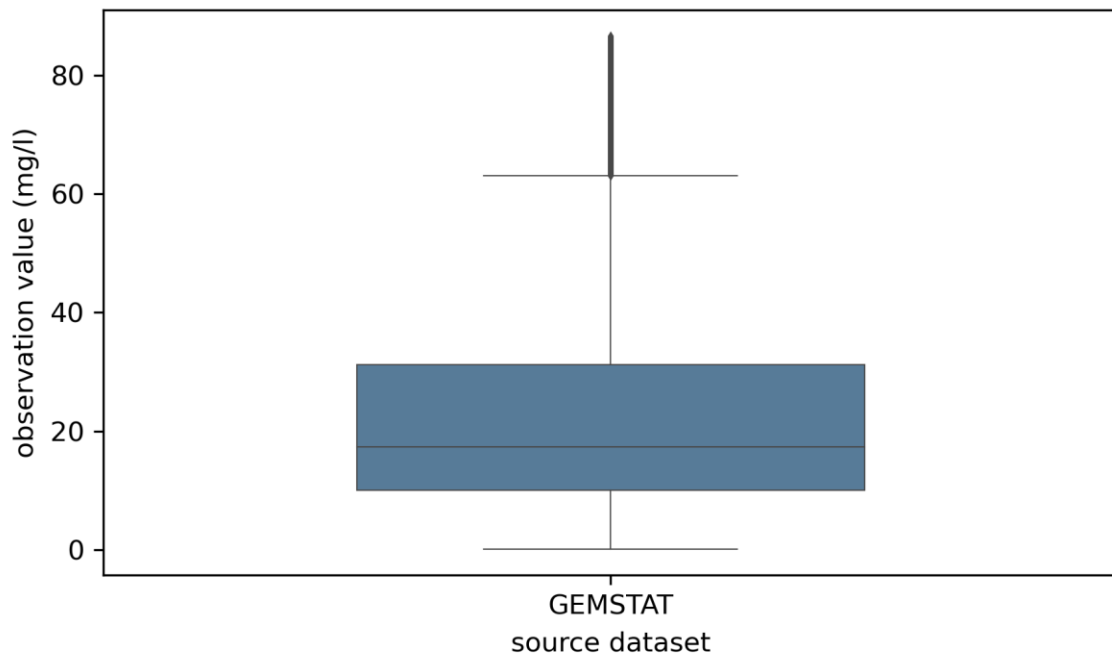
Monthly time series availability of COD observations



Box plot of COD observation values

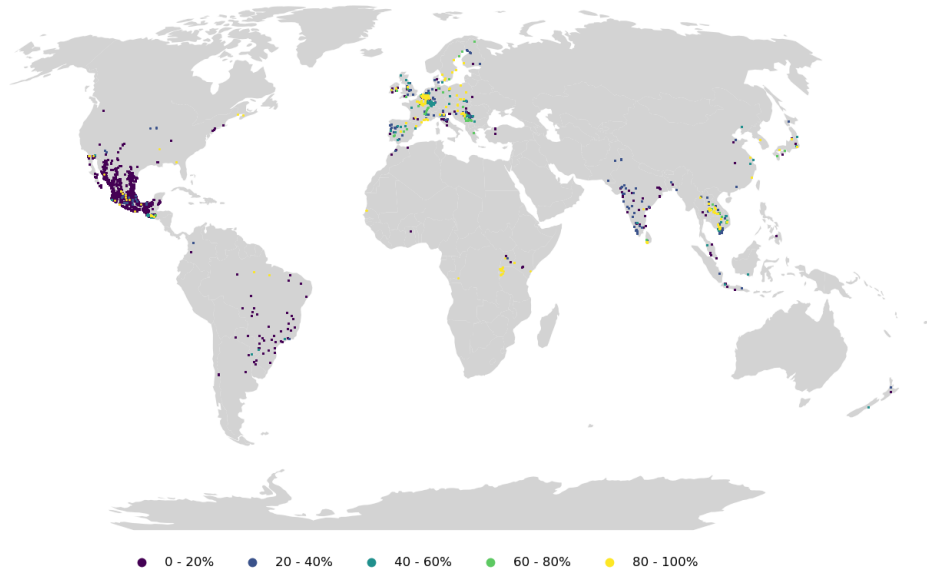
Violin plot of COD observation values

Outliers detected by the IQR test (10.8% of observations) have been removed



Monthly time series continuity of COD observation values

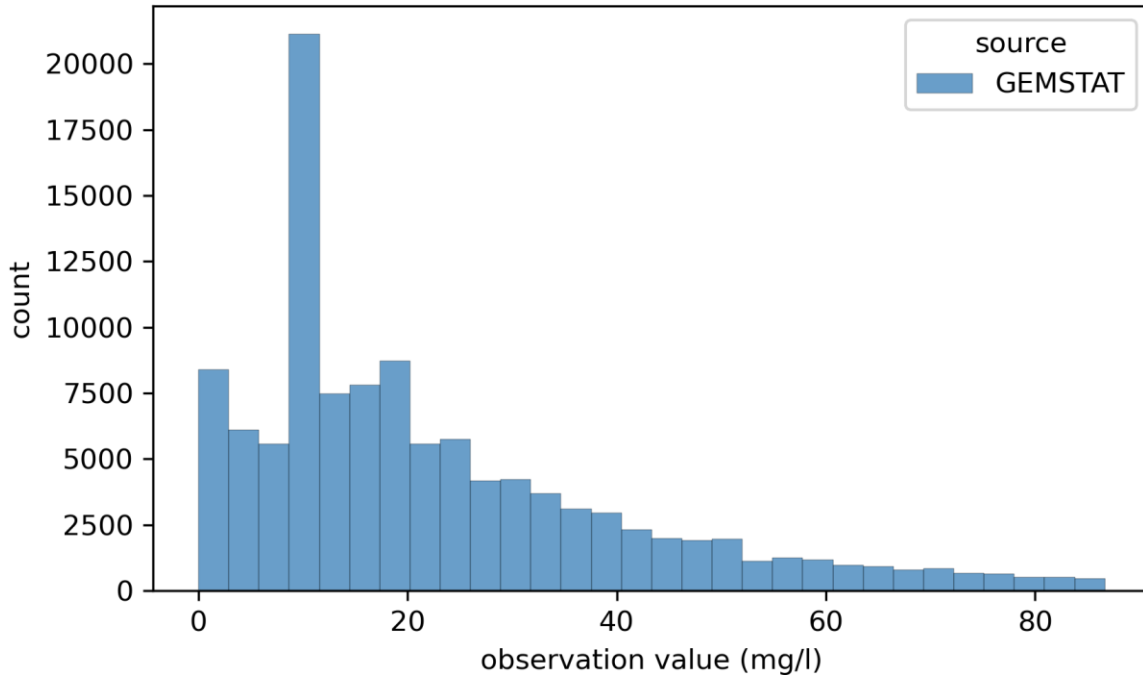
Monthly time series continuity of COD observations



Distribution of COD observation values

Histogram plot of COD observation values

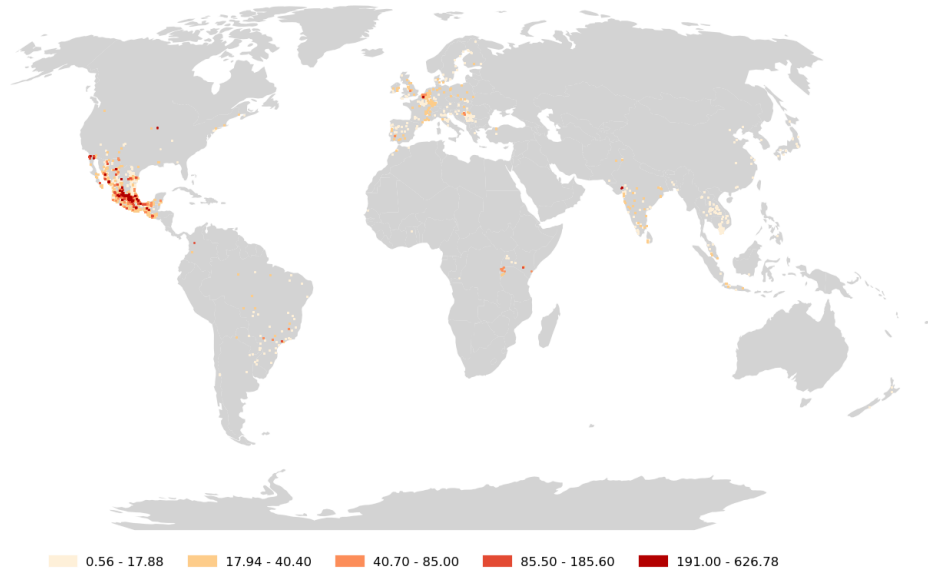
Outliers detected by the IQR test (10.8% of observations) have been removed



Spatial distribution of yearly median of COD observation values

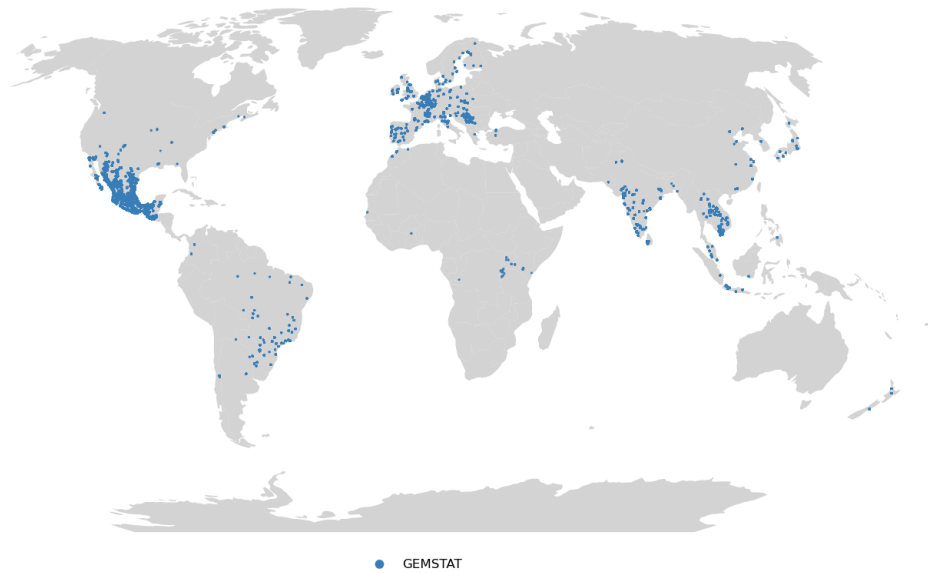
Median observation values of COD sites (mg/l)

Outliers detected by the IQR test (10.8% of observations) have been removed

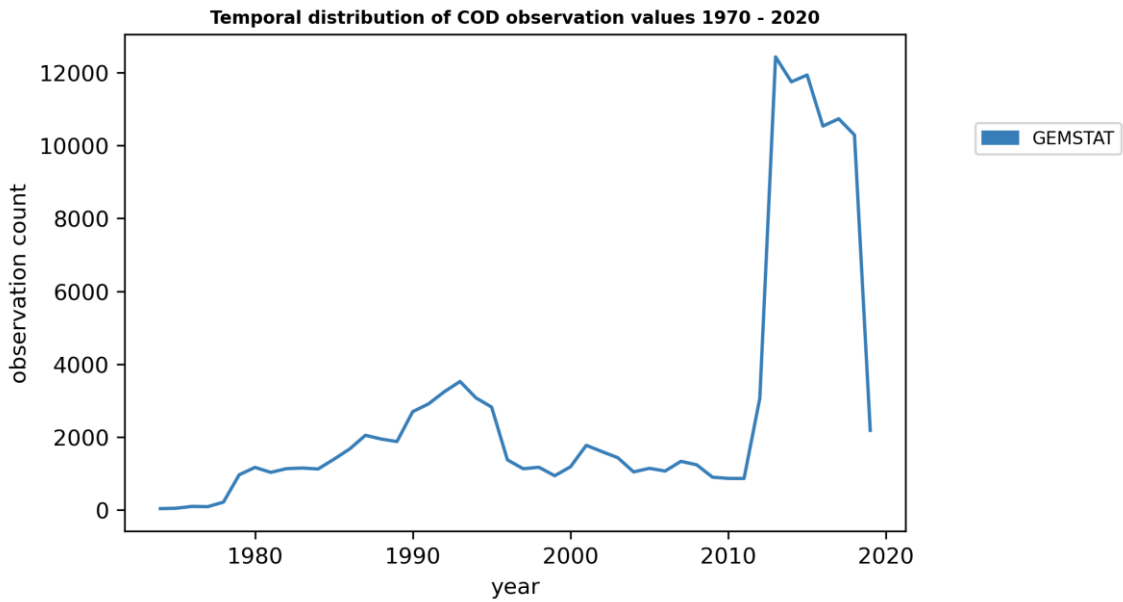


Spatial distribution of COD observation values

Spatial distribution of COD sites



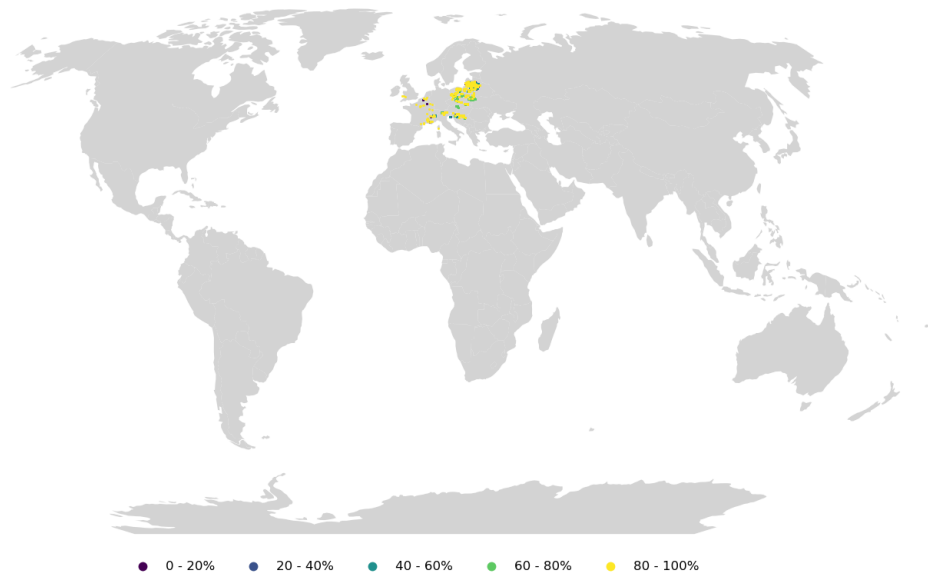
Temporal distribution of COD observation values



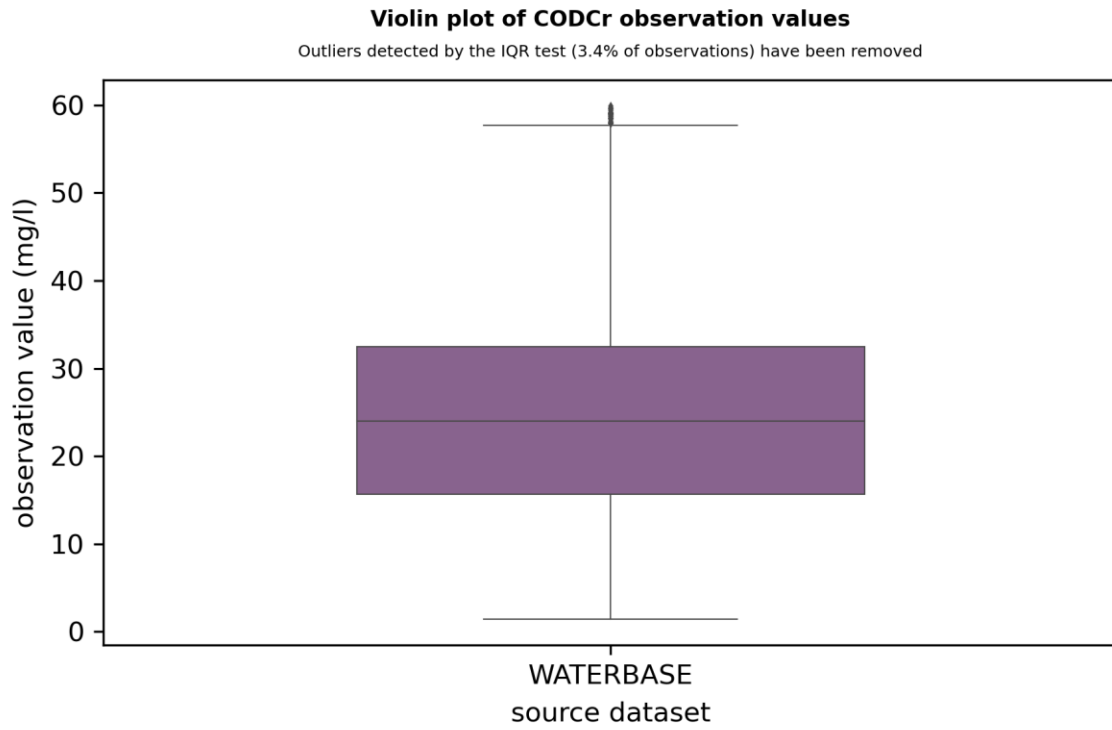
Chemical Oxygen Demand (Cr) (CODCr)

Monthly time series availability of CODCr observation values

Monthly time series availability of CODCr observations

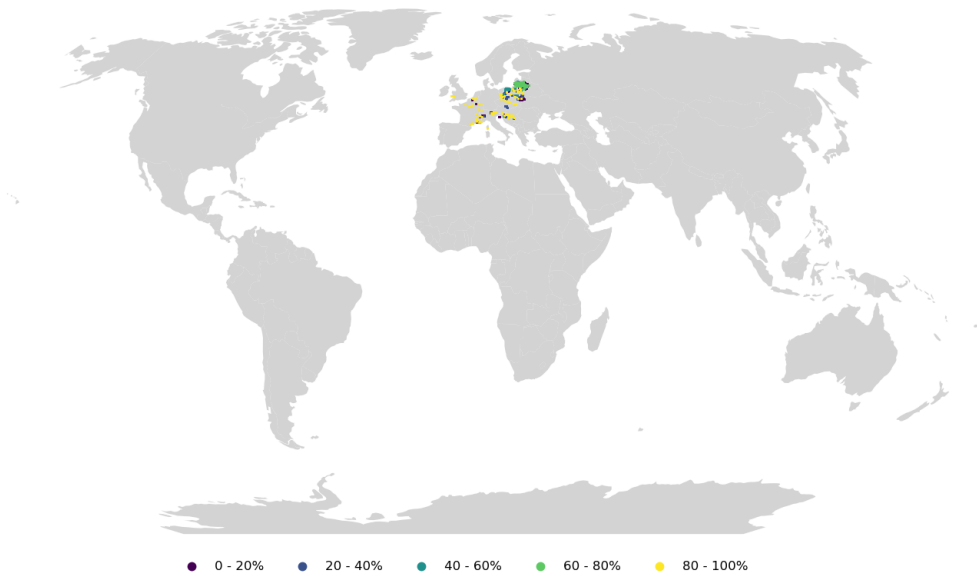


Box plot of CODCr observation values



Monthly time series continuity of CODCr observation values

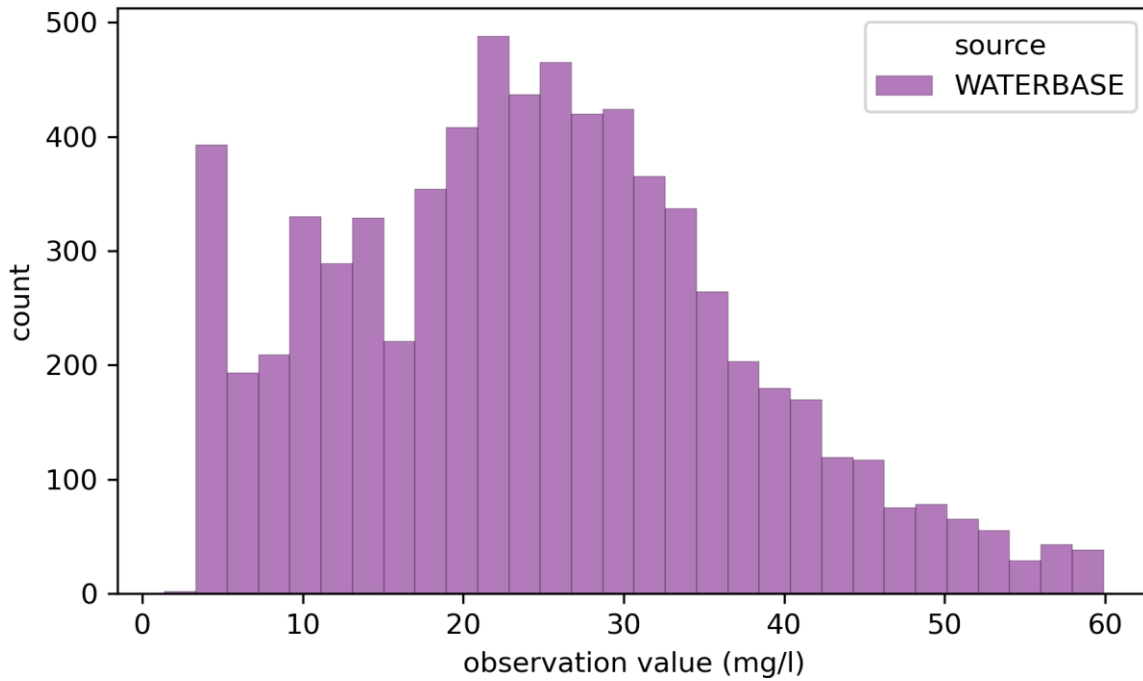
Monthly time series continuity of CODCr observations



Distribution of CODCr observation values

Histogram plot of CODCr observation values

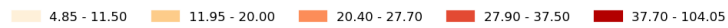
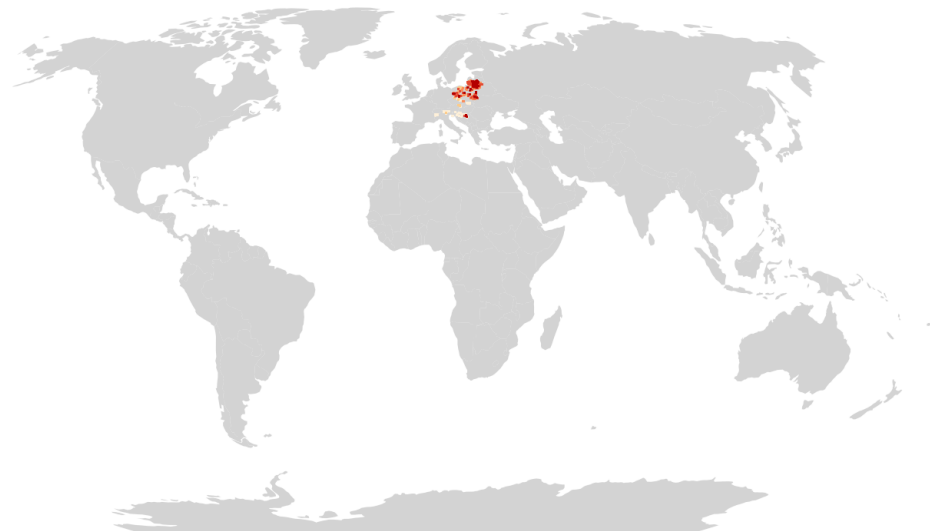
Outliers detected by the IQR test (3.4% of observations) have been removed



Spatial distribution of yearly median of CODCr observation values

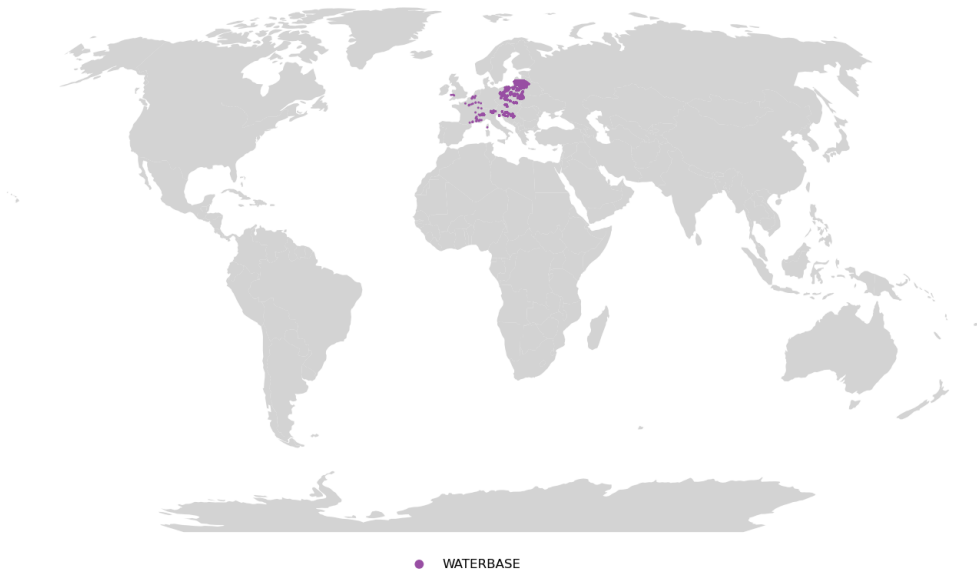
Median observation values of CODCr sites (mg/l)

Outliers detected by the IQR test (3.4% of observations) have been removed

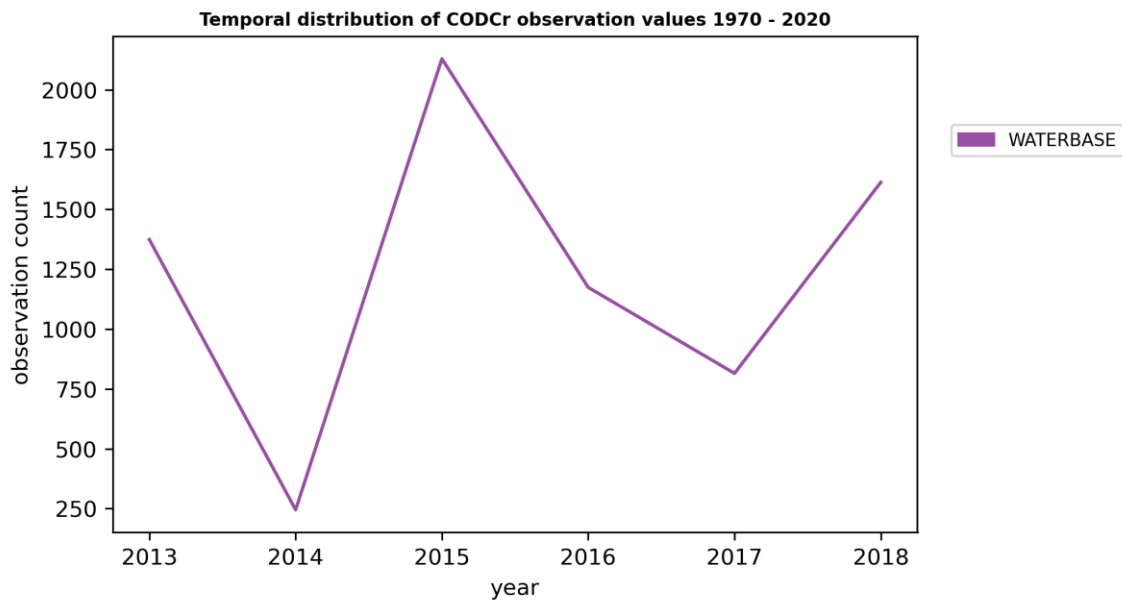


Spatial distribution of CODCr observation values

Spatial distribution of CODCr sites



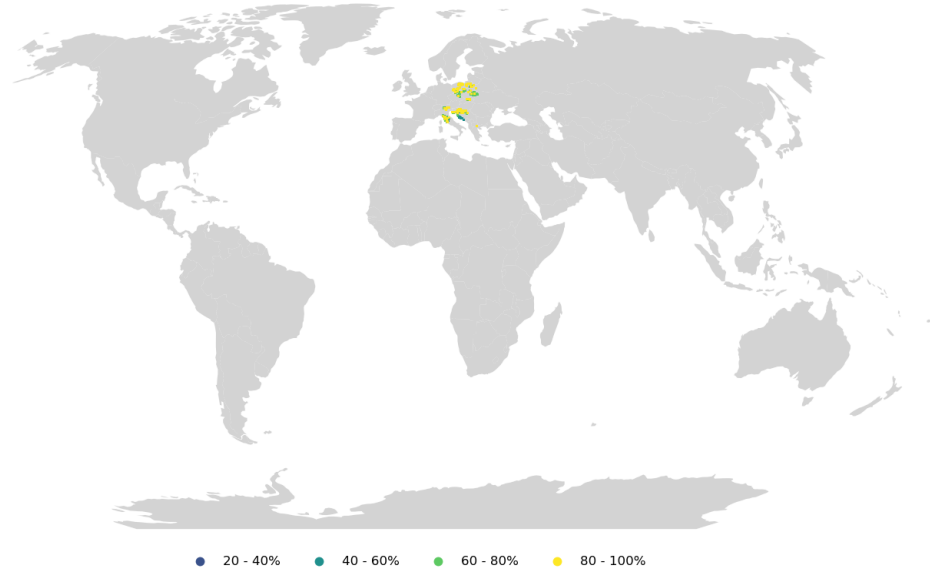
Temporal distribution of CODCr observation values



Chemical Oxygen Demand (Mn) (CODMn)

Monthly time series availability of CODMn observation values

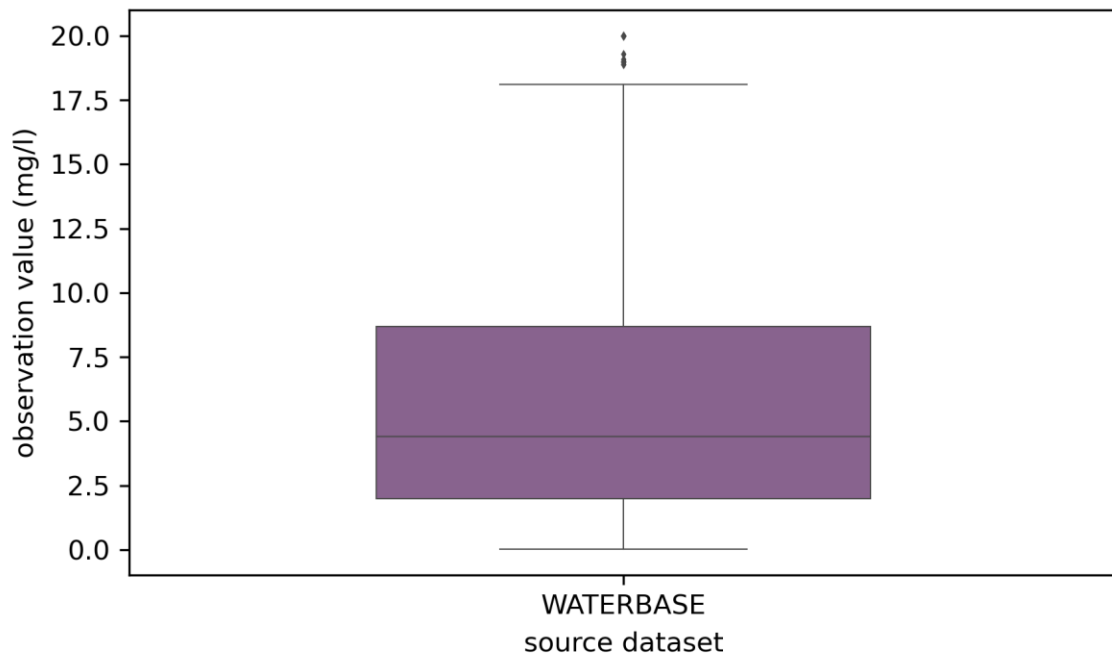
Monthly time series availability of CODMn observations



Box plot of CODMn observation values

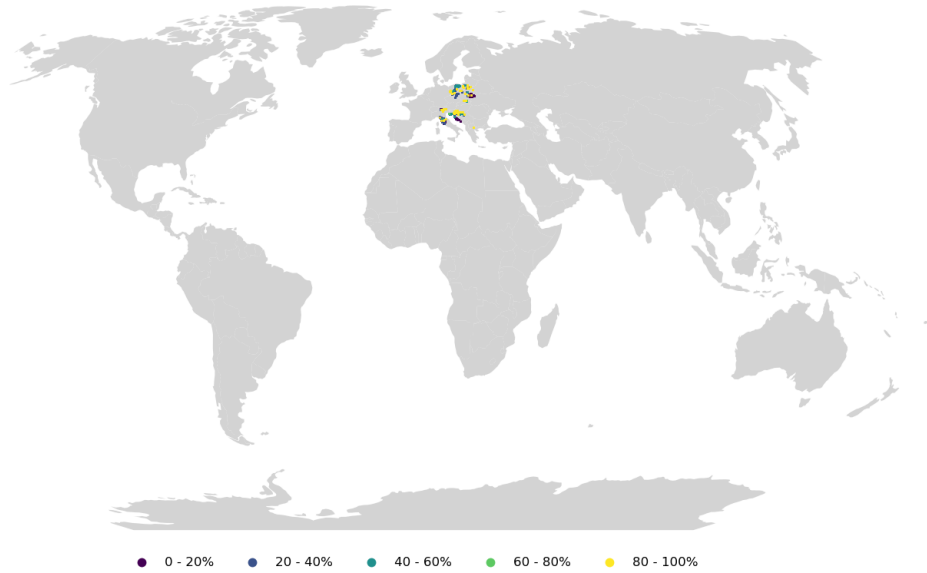
Violin plot of CODMn observation values

Outliers detected by the IQR test (2.3% of observations) have been removed



Monthly time series continuity of CODMn observation values

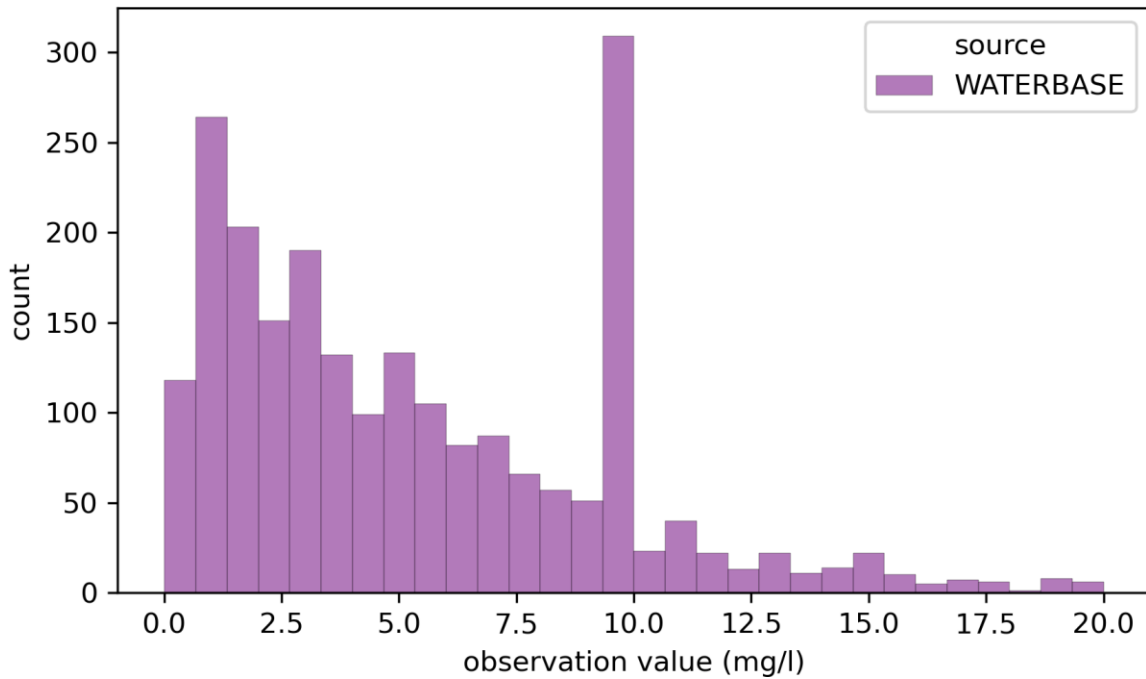
Monthly time series continuity of CODMn observations



Distribution of CODMn observation values

Histogram plot of CODMn observation values

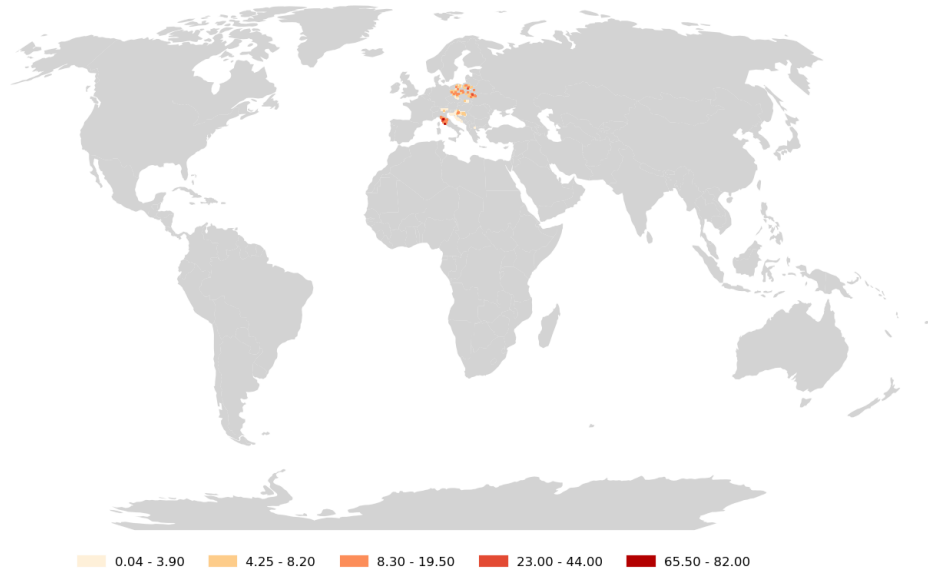
Outliers detected by the IQR test (2.3% of observations) have been removed



Spatial distribution of yearly median of CODMn observation values

Median observation values of CODMn sites (mg/l)

Outliers detected by the IQR test (2.3% of observations) have been removed

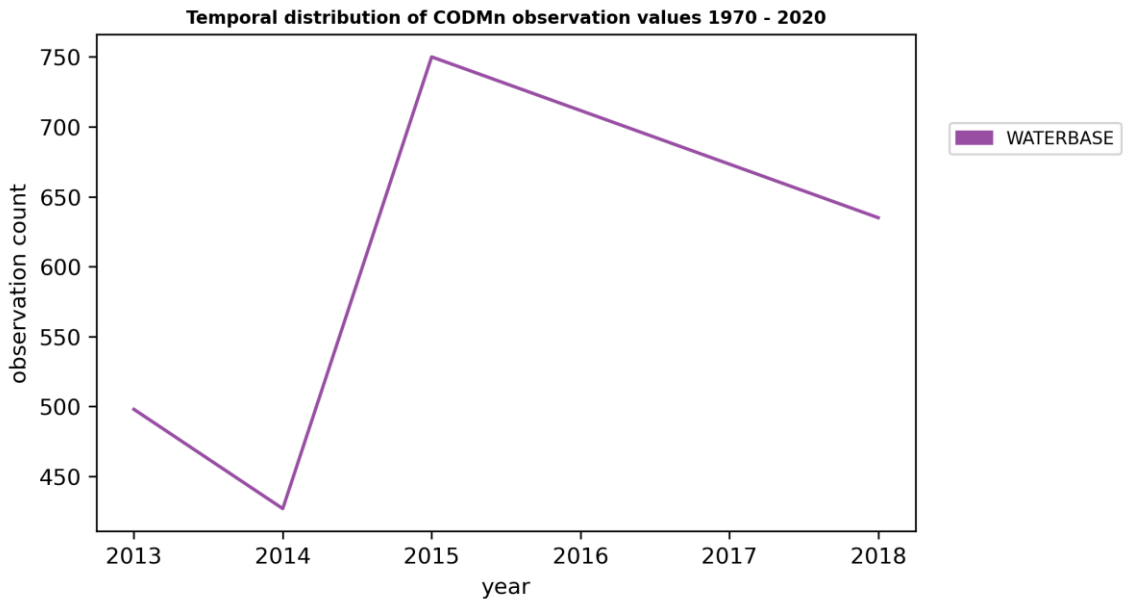


Spatial distribution of CODMn observation values

Spatial distribution of CODMn sites



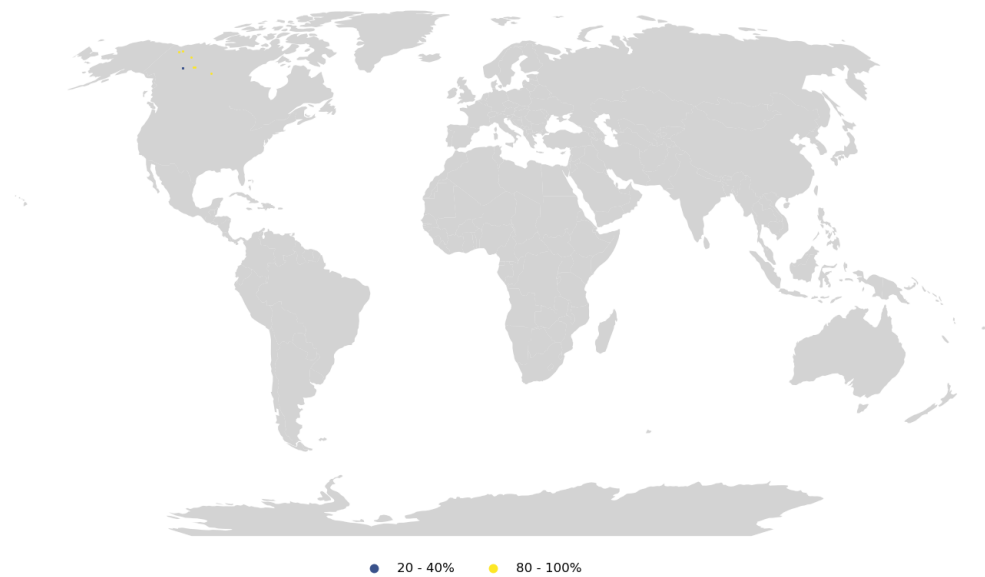
Temporal distribution of CODMn observation values



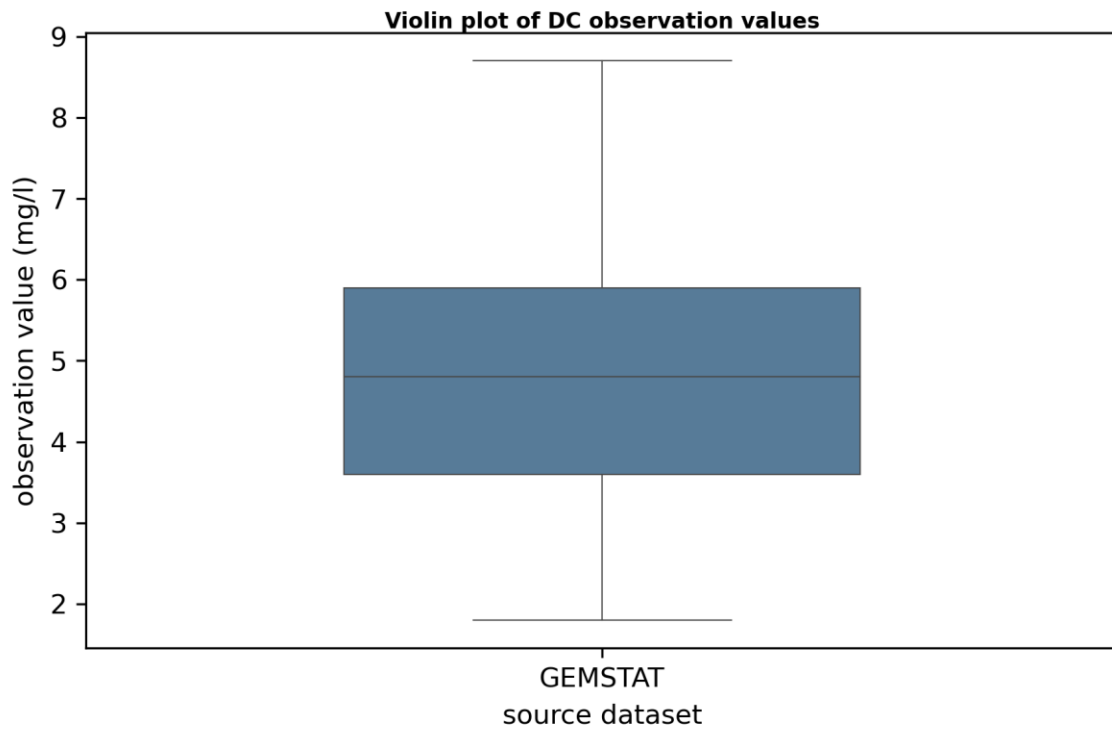
Total Dissolved Carbon (DC)

Monthly time series availability of DC observation values

Monthly time series availability of DC observations

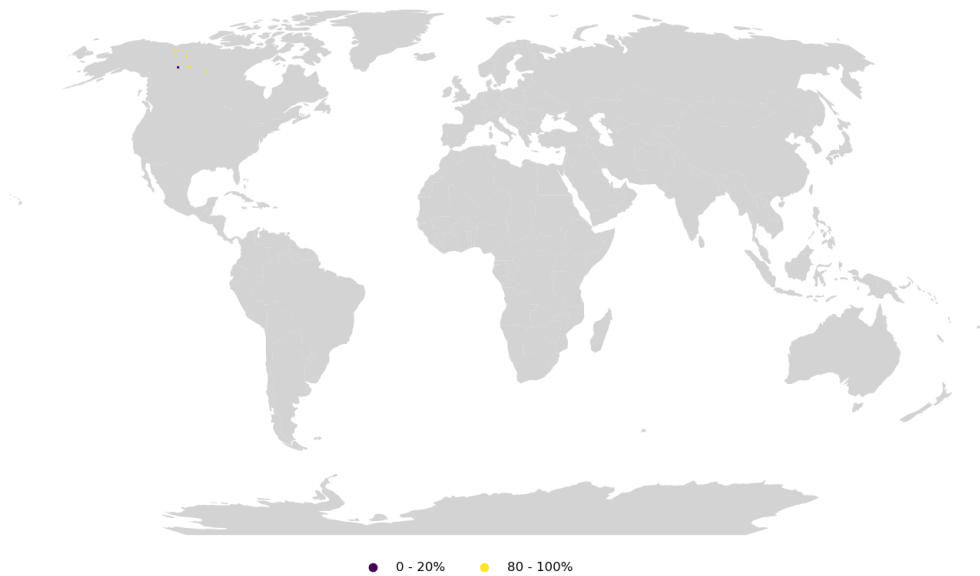


Box plot of DC observation values

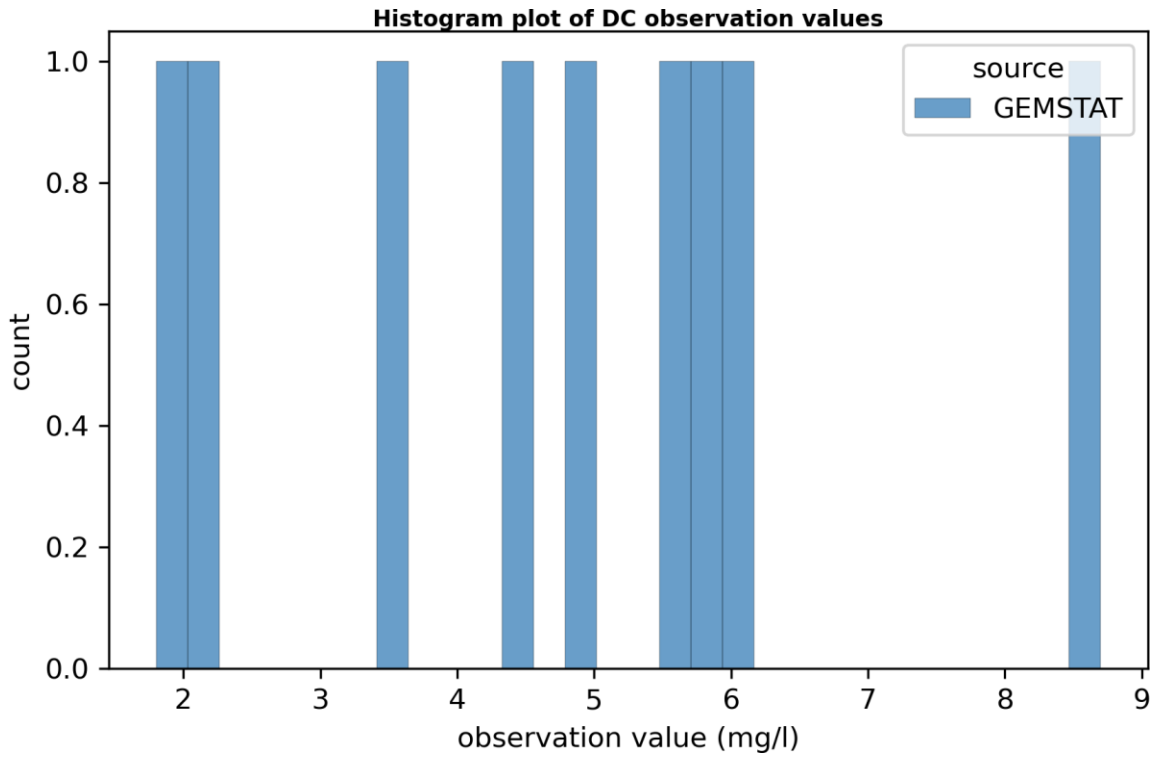


Monthly time series continuity of DC observation values

Monthly time series continuity of DC observations

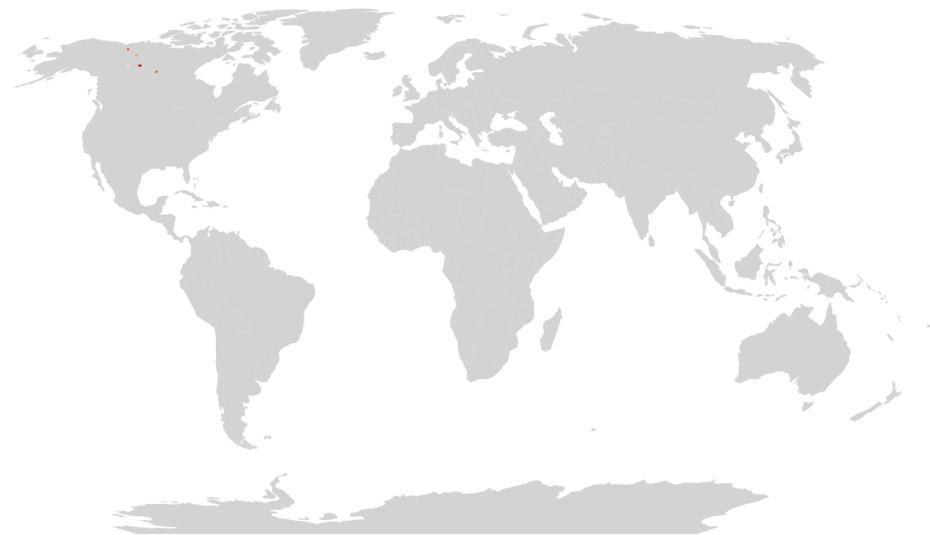


Distribution of DC observation values



Spatial distribution of yearly median of DC observation values

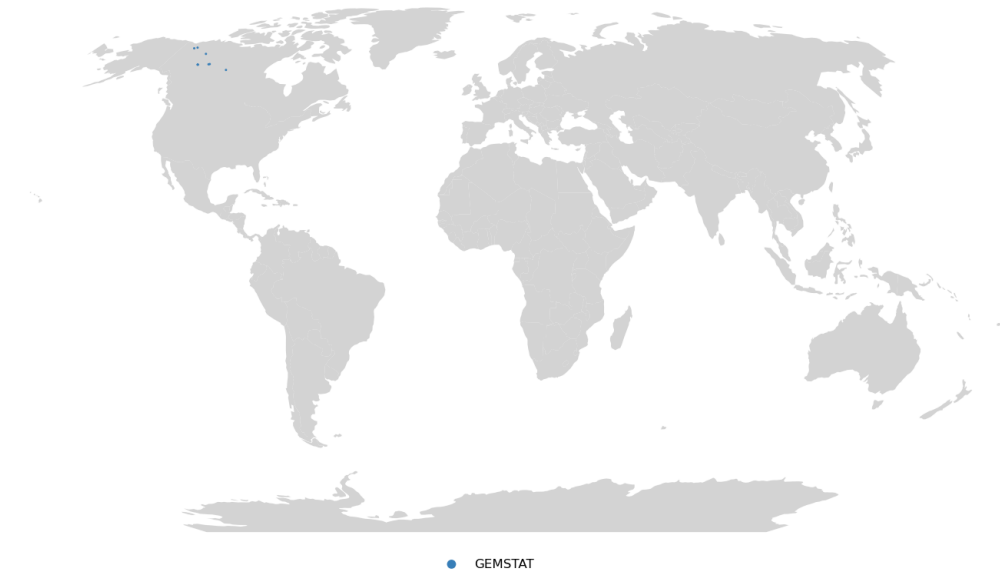
Median observation values of DC sites (mg/l)



2.10 - 2.10 3.60 - 3.60 4.80 - 4.80 5.60 - 6.10 8.70 - 8.70

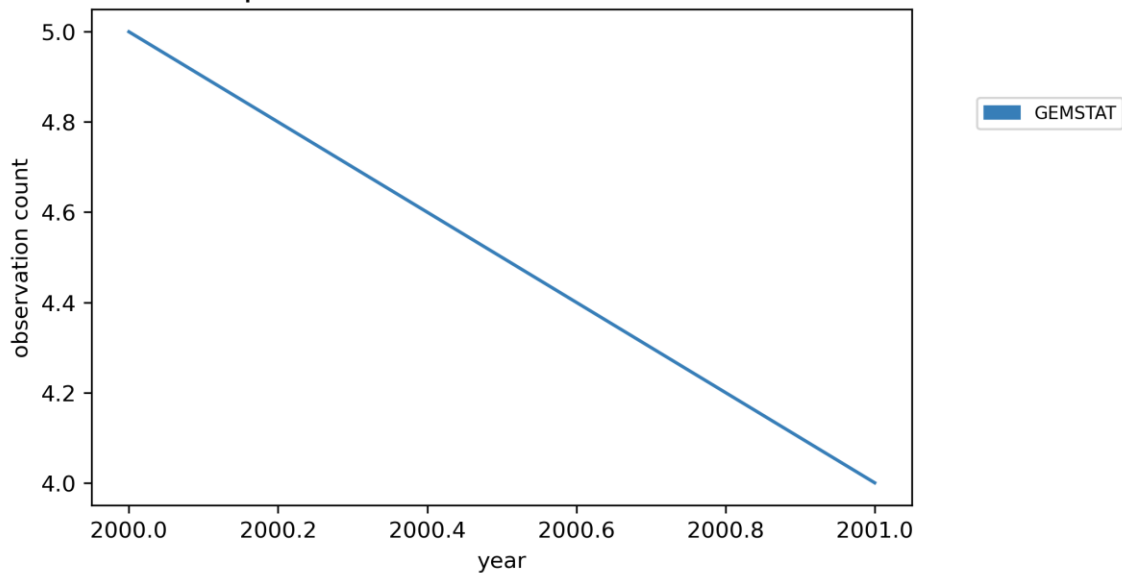
Spatial distribution of DC observation values

Spatial distribution of DC sites



Temporal distribution of DC observation values

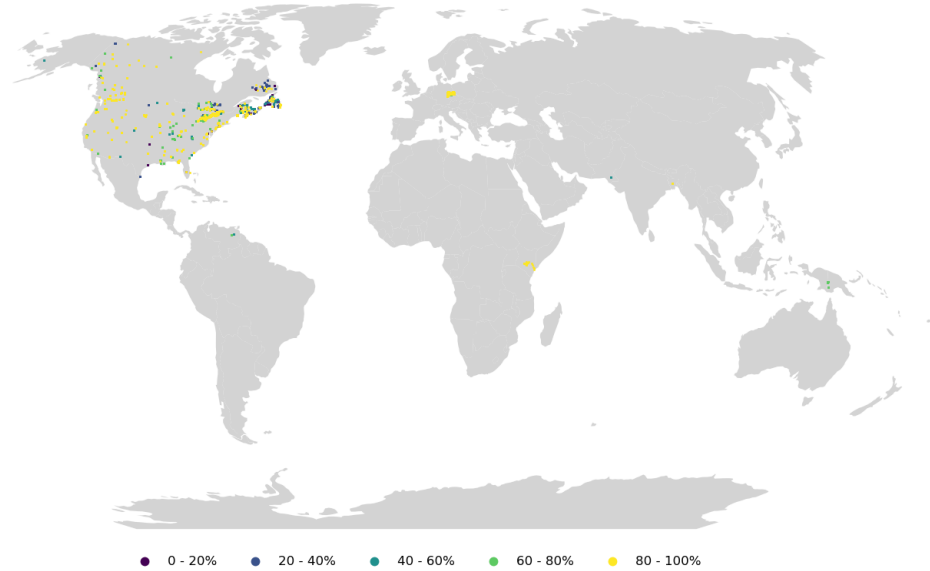
Temporal distribution of DC observation values 1970 - 2020



Dissolved Inorganic Carbon (DIC)

Monthly time series availability of DIC observation values

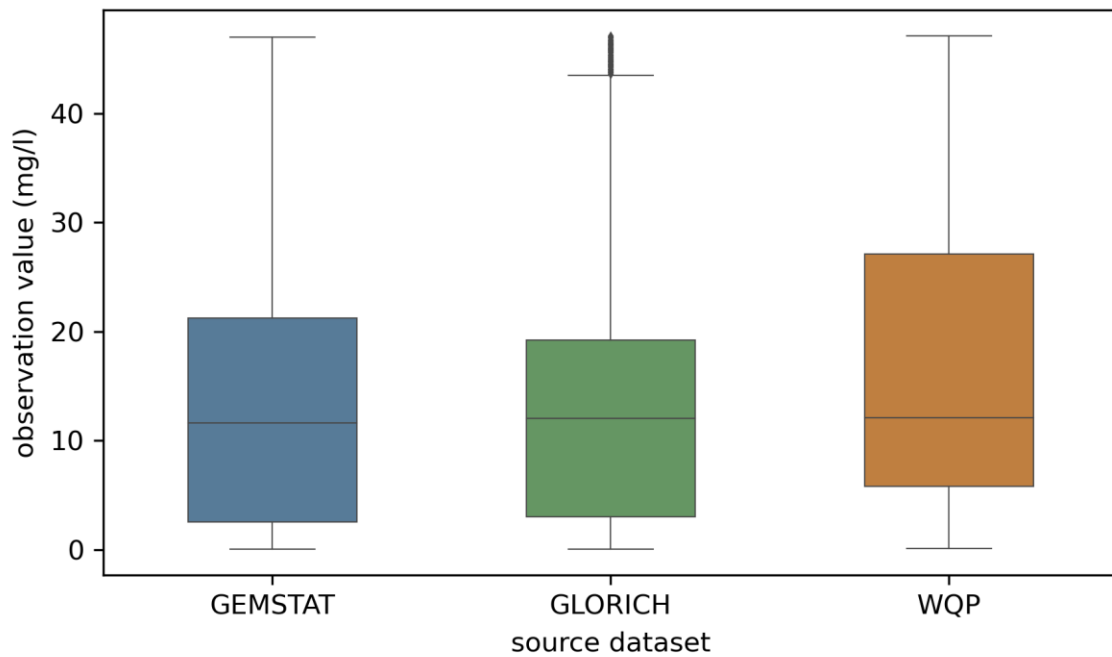
Monthly time series availability of DIC observations



Box plot of DIC observation values

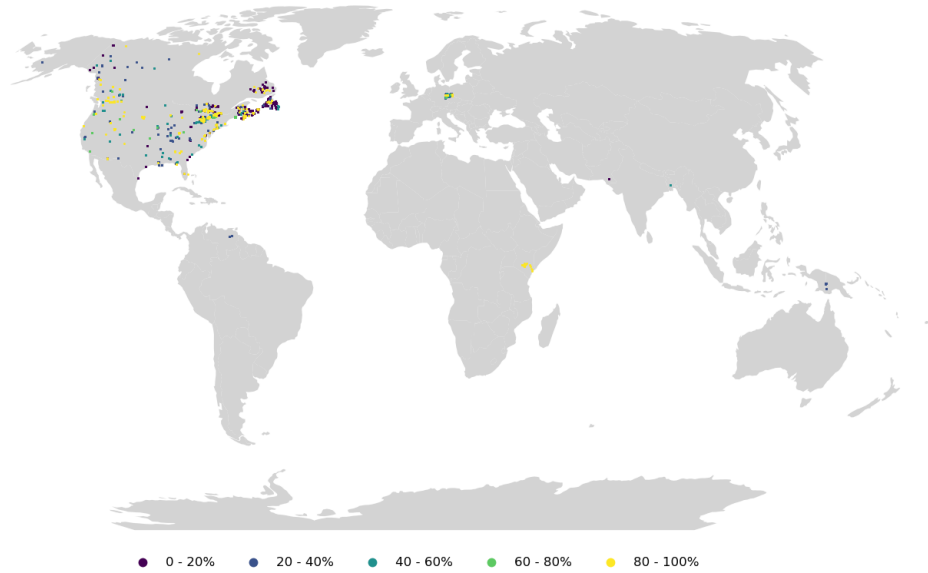
Violin plot of DIC observation values

Outliers detected by the IQR test (3.5% of observations) have been removed



Monthly time series continuity of DIC observation values

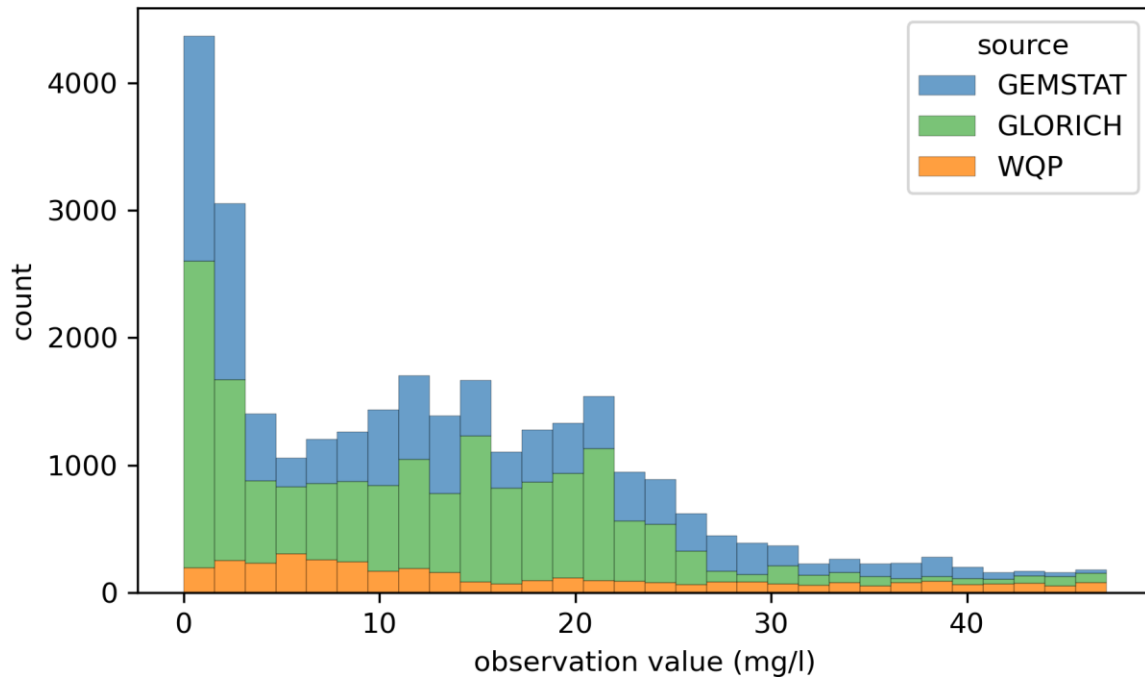
Monthly time series continuity of DIC observations



Distribution of DIC observation values

Histogram plot of DIC observation values

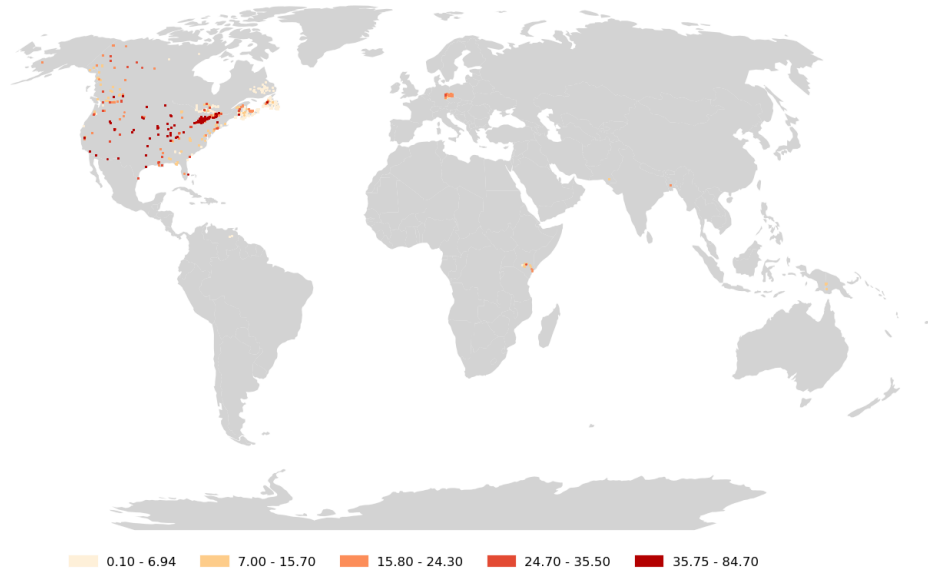
Outliers detected by the IQR test (3.5% of observations) have been removed



Spatial distribution of yearly median of DIC observation values

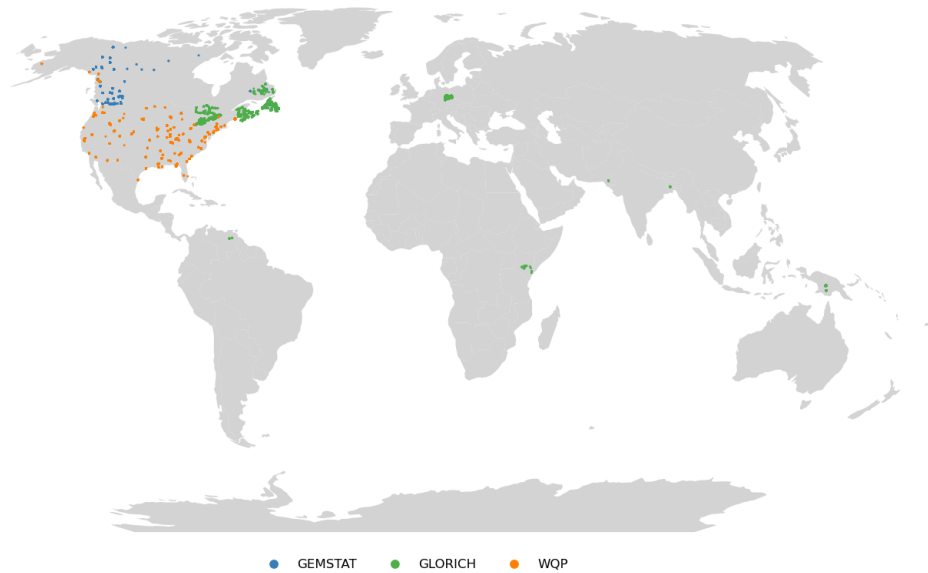
Median observation values of DIC sites (mg/l)

Outliers detected by the IQR test (3.5% of observations) have been removed

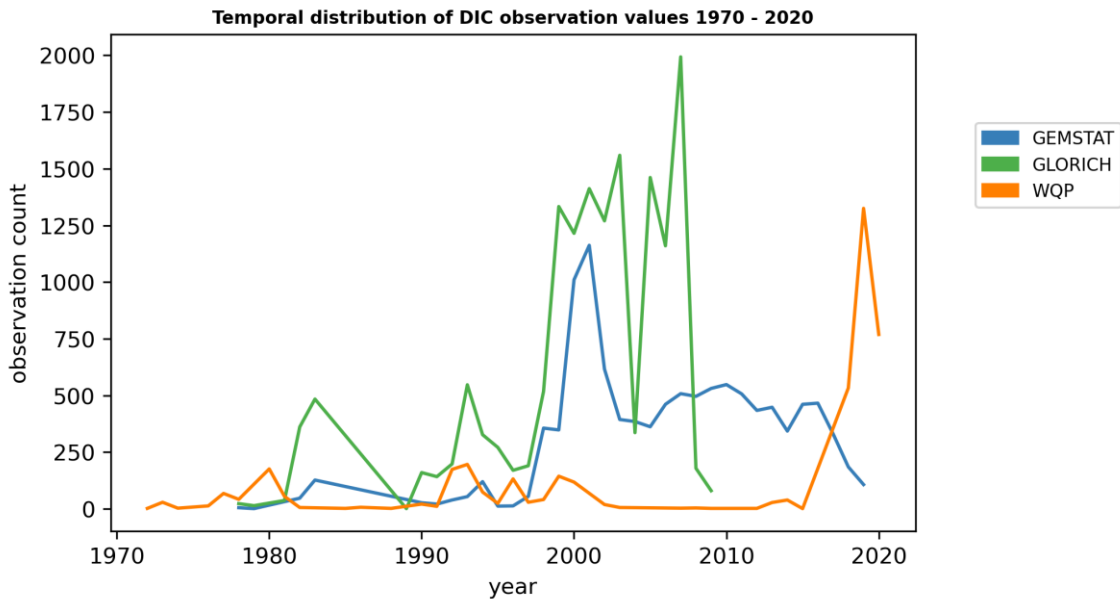


Spatial distribution of DIC observation values

Spatial distribution of DIC sites



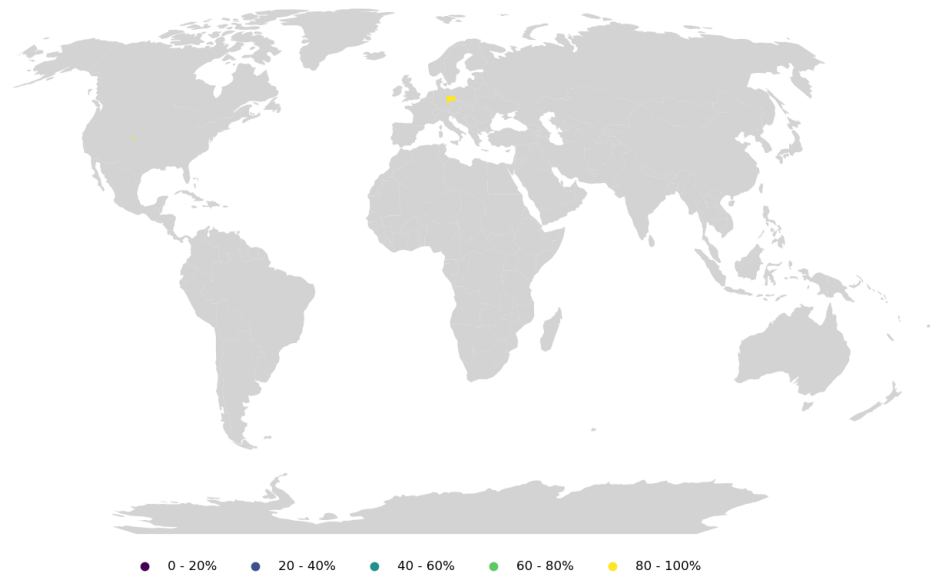
Temporal distribution of DIC observation values



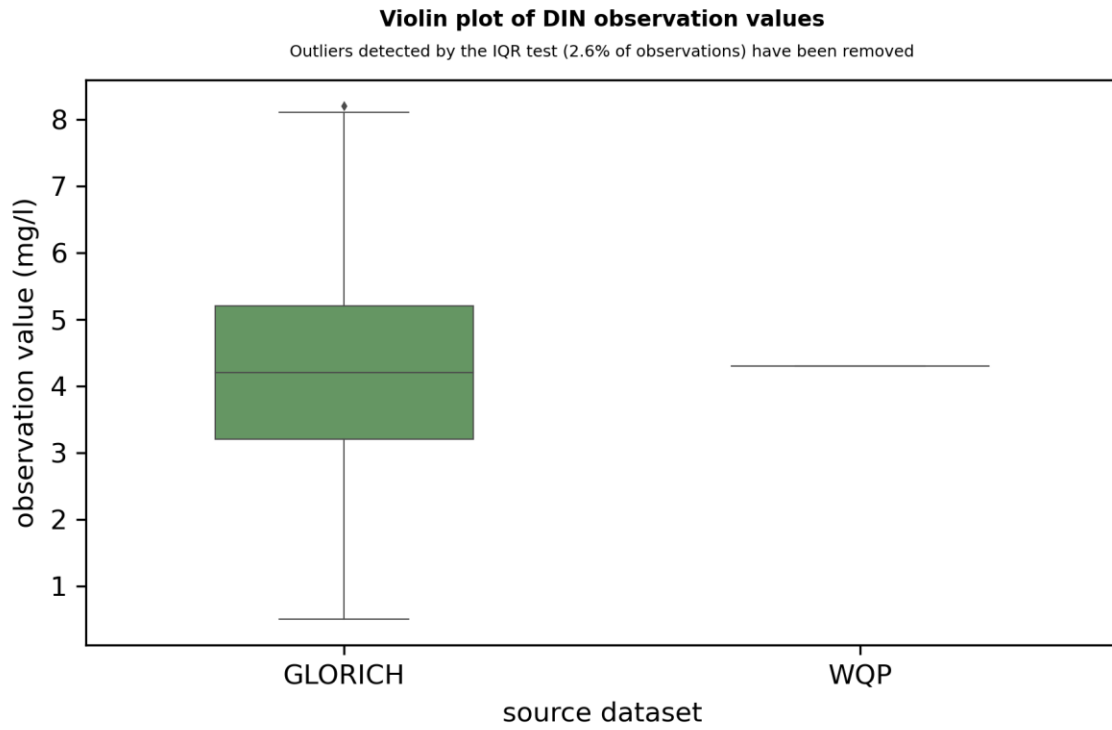
Dissolved Inorganic Nitrogen (DIN)

Monthly time series availability of DIN observation values

Monthly time series availability of DIN observations

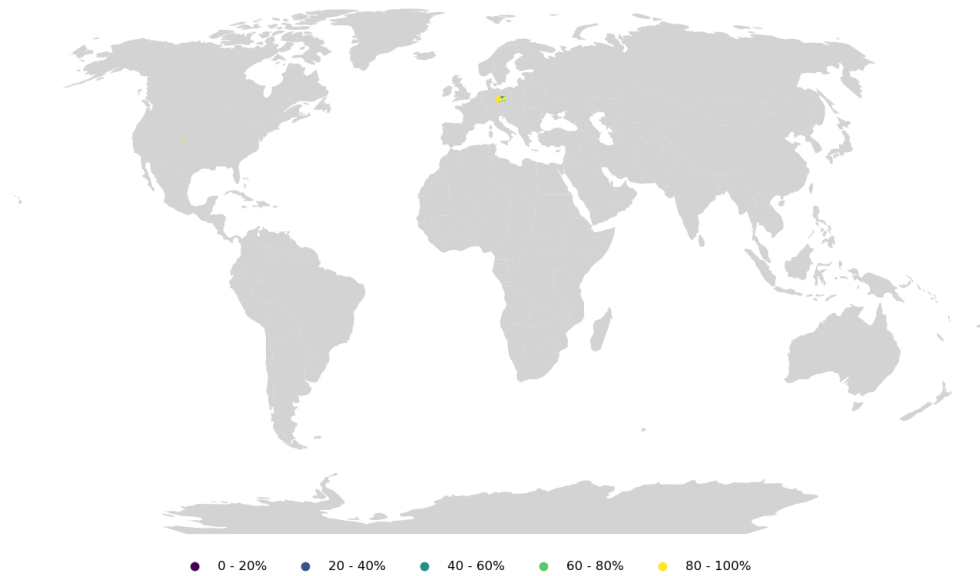


Box plot of DIN observation values



Monthly time series continuity of DIN observation values

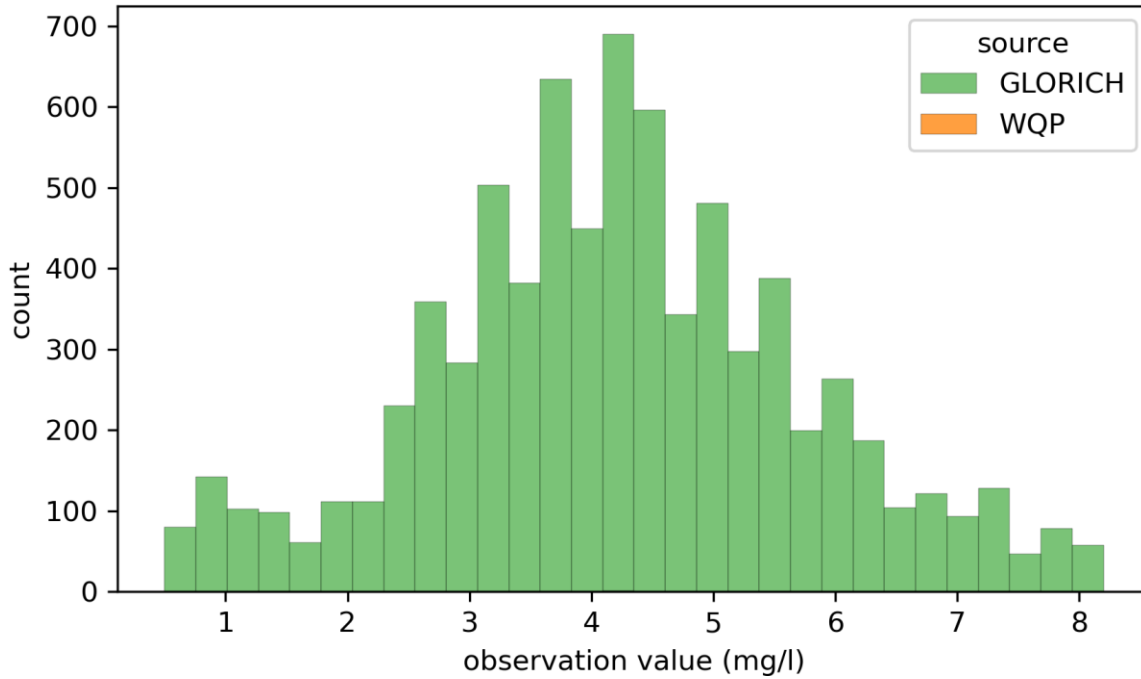
Monthly time series continuity of DIN observations



Distribution of DIN observation values

Histogram plot of DIN observation values

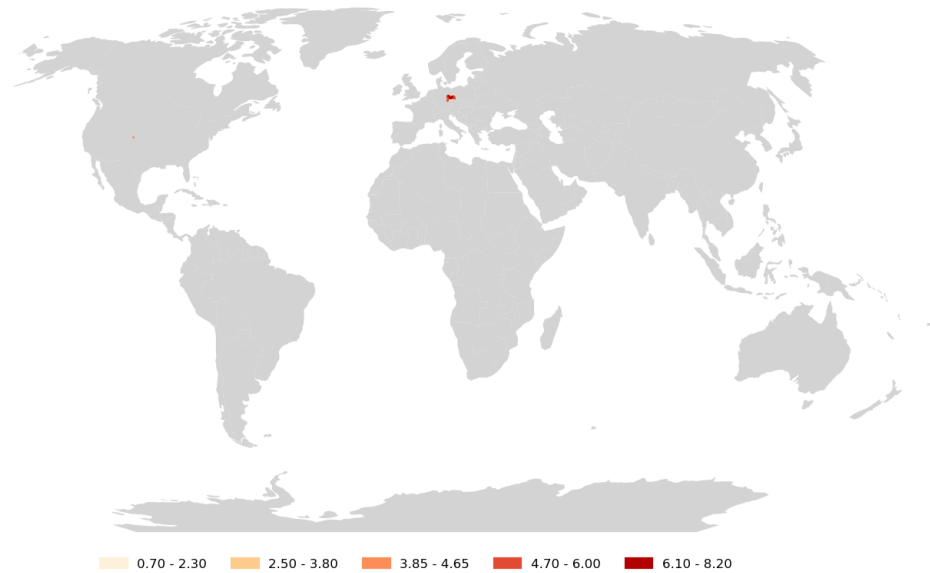
Outliers detected by the IQR test (2.6% of observations) have been removed



Spatial distribution of yearly median of DIN observation values

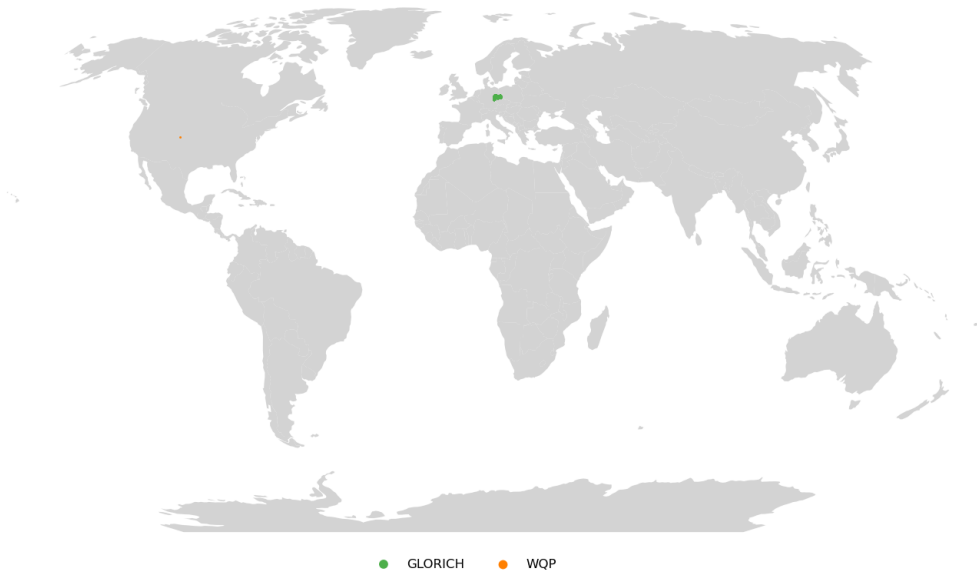
Median observation values of DIN sites (mg/l)

Outliers detected by the IQR test (2.6% of observations) have been removed

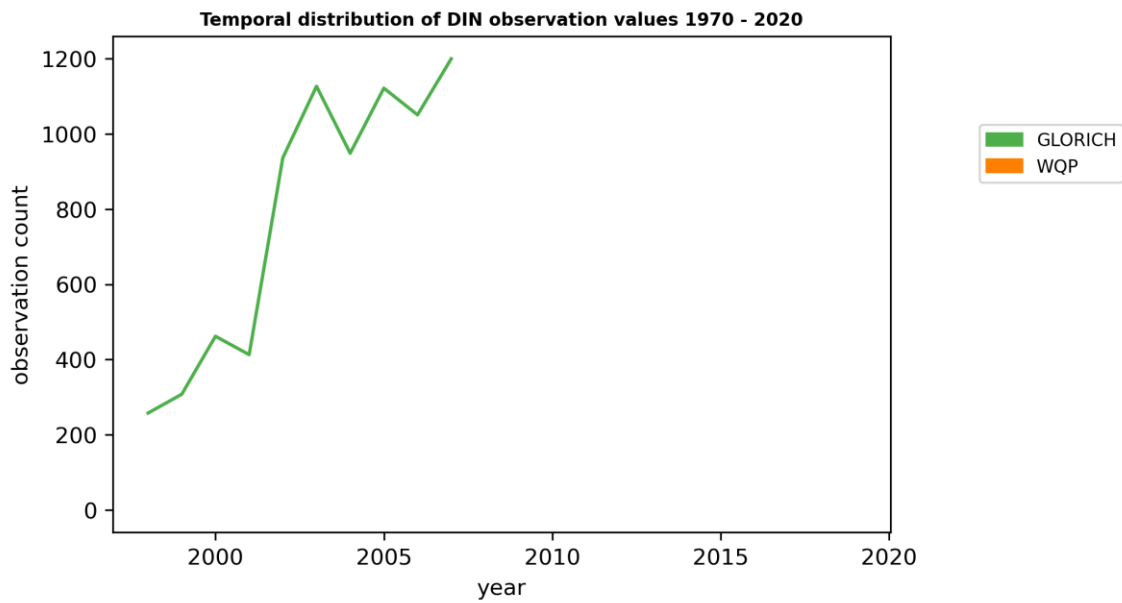


Spatial distribution of DIN observation values

Spatial distribution of DIN sites



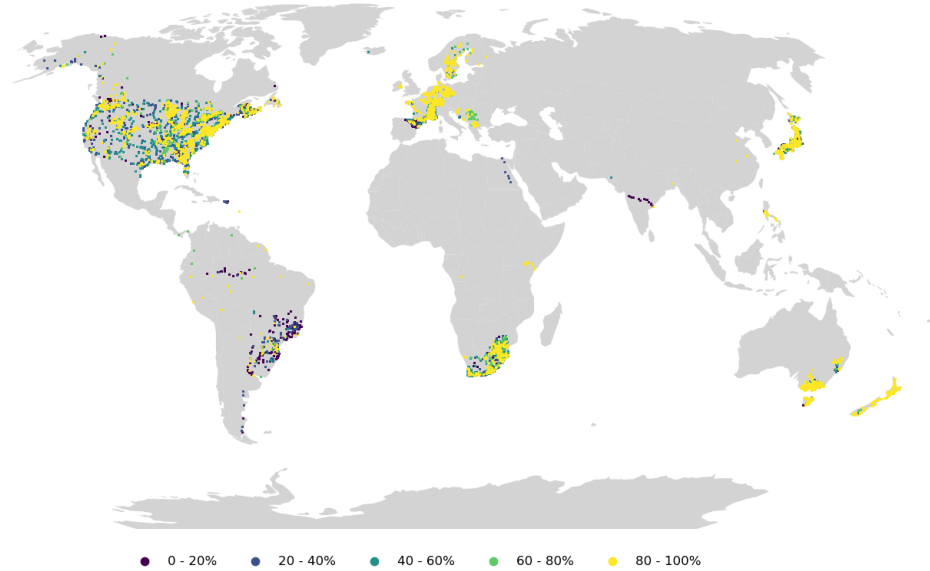
Temporal distribution of DIN observation values



Dissolved Inorganic Phosphorus (DIP)

Monthly time series availability of DIP observation values

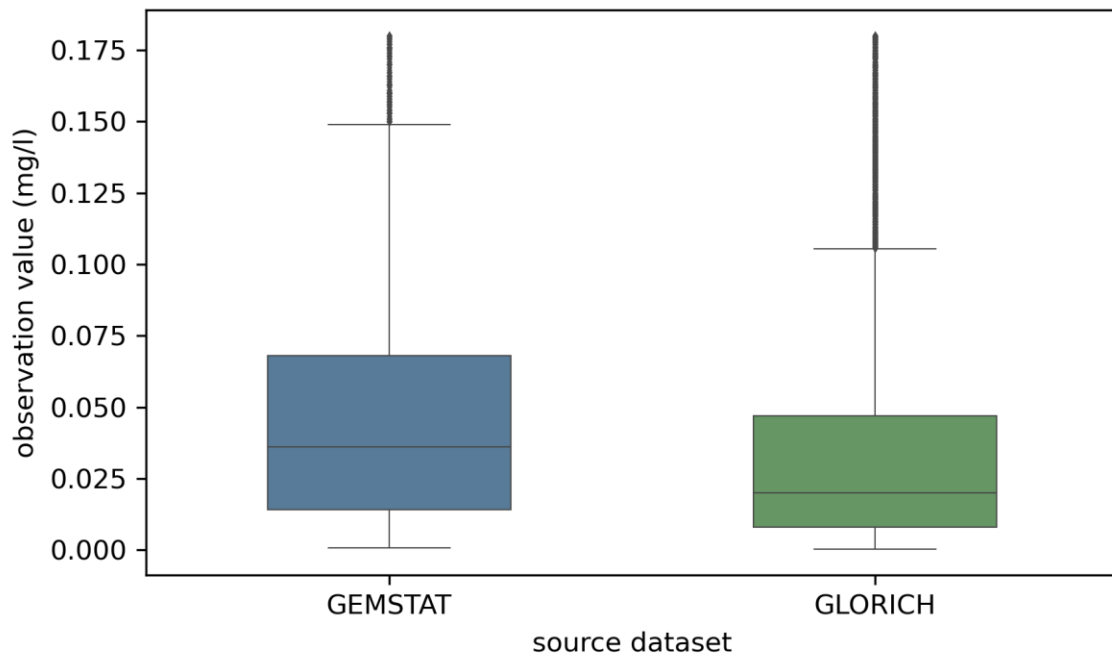
Monthly time series availability of DIP observations



Box plot of DIP observation values

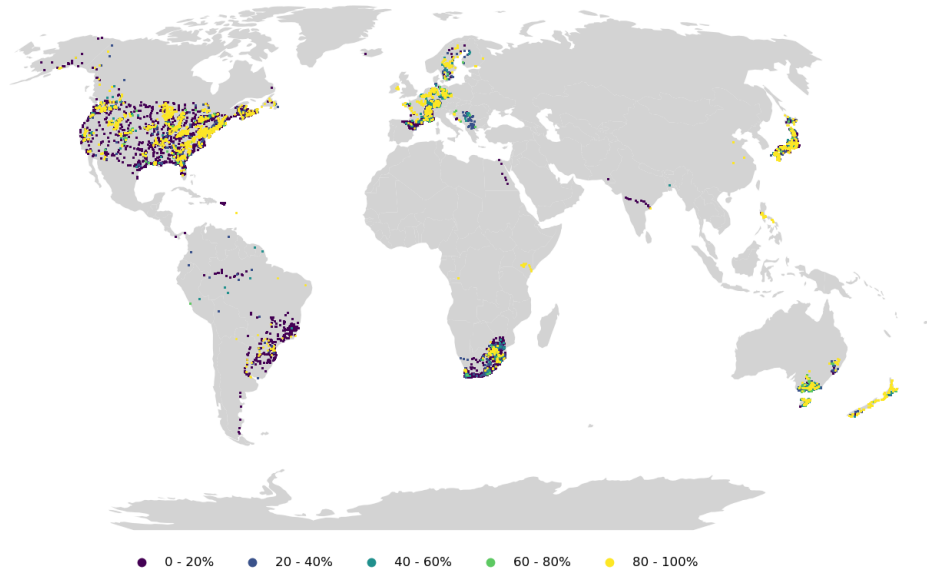
Violin plot of DIP observation values

Outliers detected by the IQR test (13.3% of observations) have been removed



Monthly time series continuity of DIP observation values

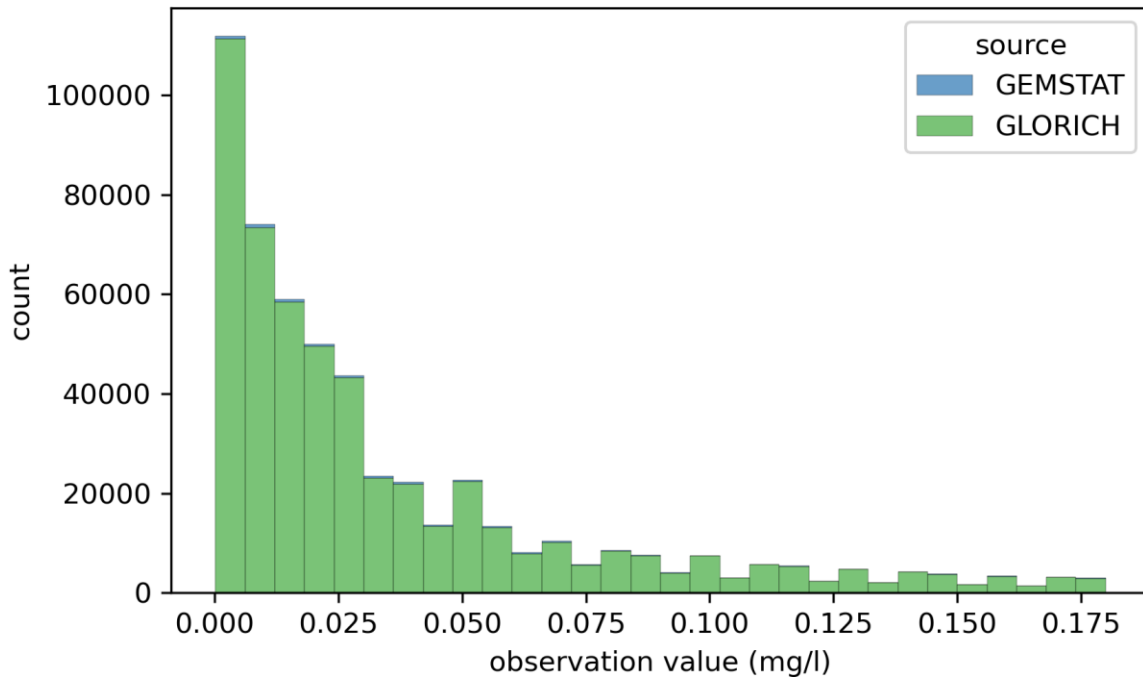
Monthly time series continuity of DIP observations



Distribution of DIP observation values

Histogram plot of DIP observation values

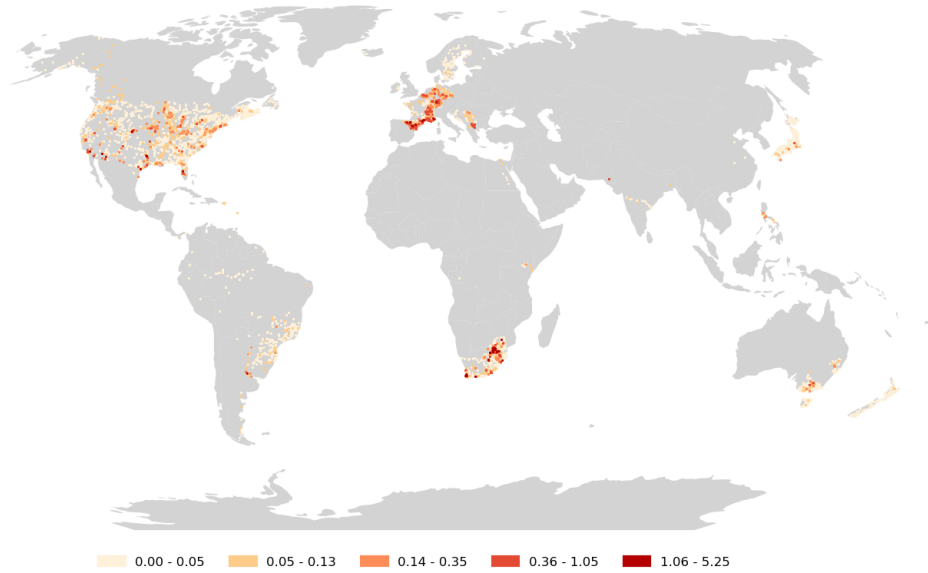
Outliers detected by the IQR test (13.3% of observations) have been removed



Spatial distribution of yearly median of DIP observation values

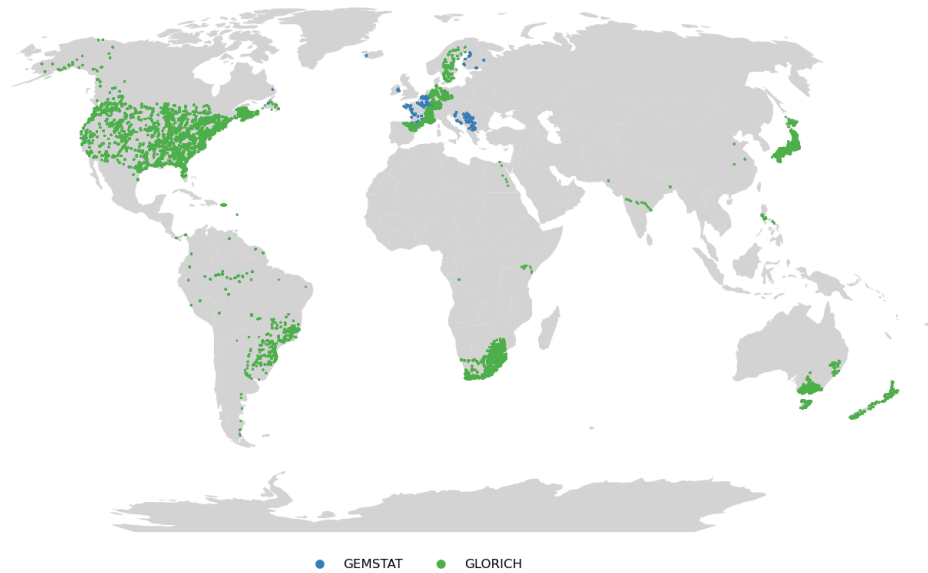
Median observation values of DIP sites (mg/l)

Outliers detected by the IQR test (13.3% of observations) have been removed

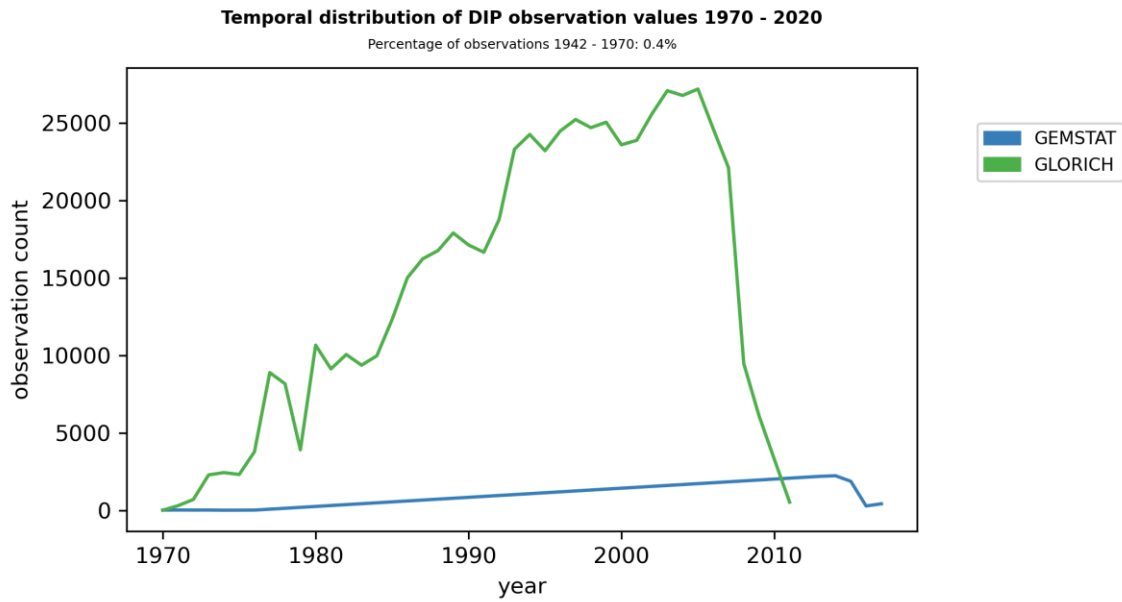


Spatial distribution of DIP observation values

Spatial distribution of DIP sites



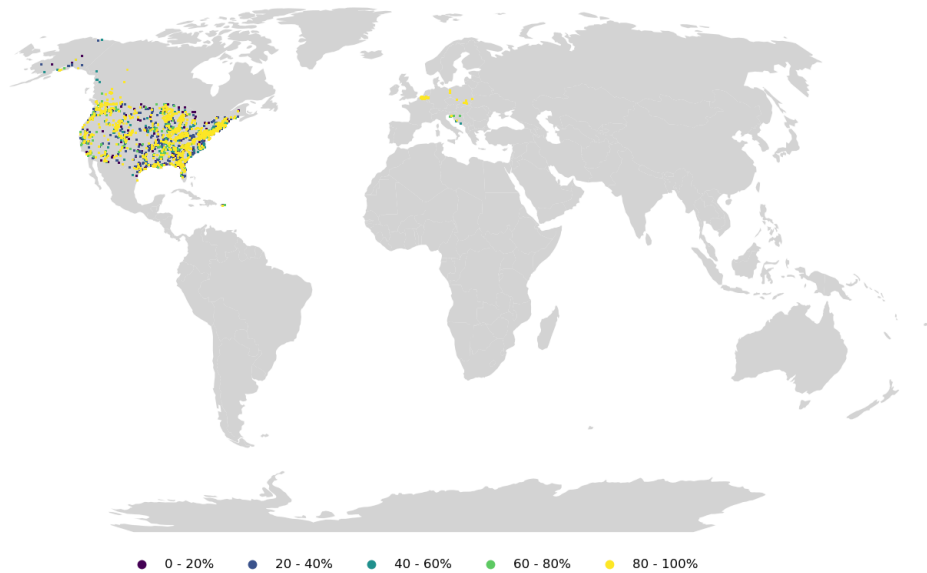
Temporal distribution of DIP observation values



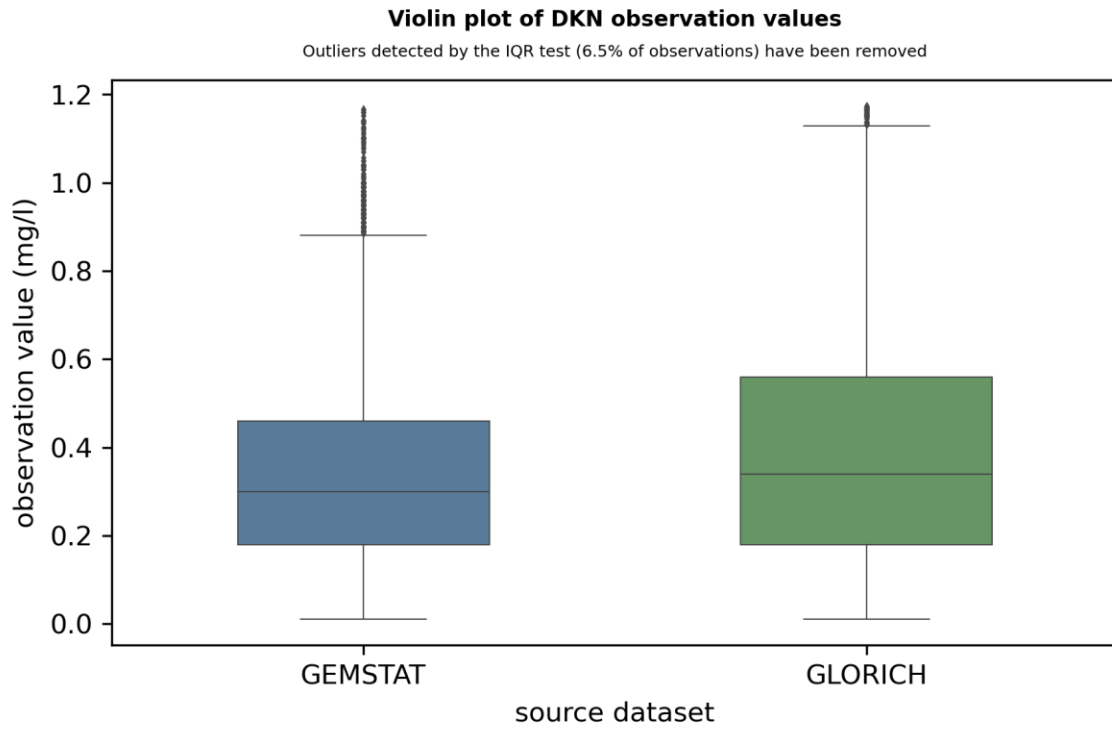
Dissolved Kjeldahl Nitrogen (DKN)

Monthly time series availability of DKN observation values

Monthly time series availability of DKN observations

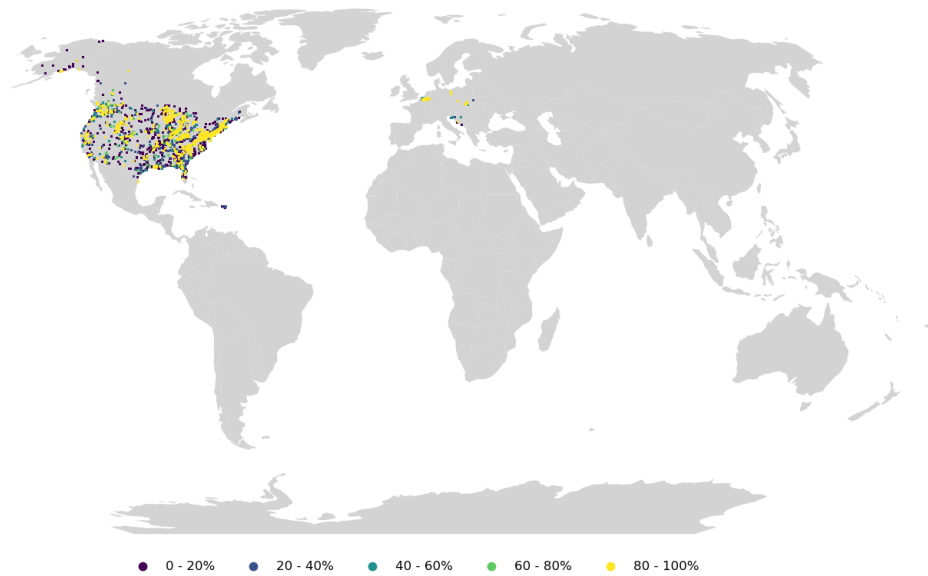


Box plot of DKN observation values



Monthly time series continuity of DKN observation values

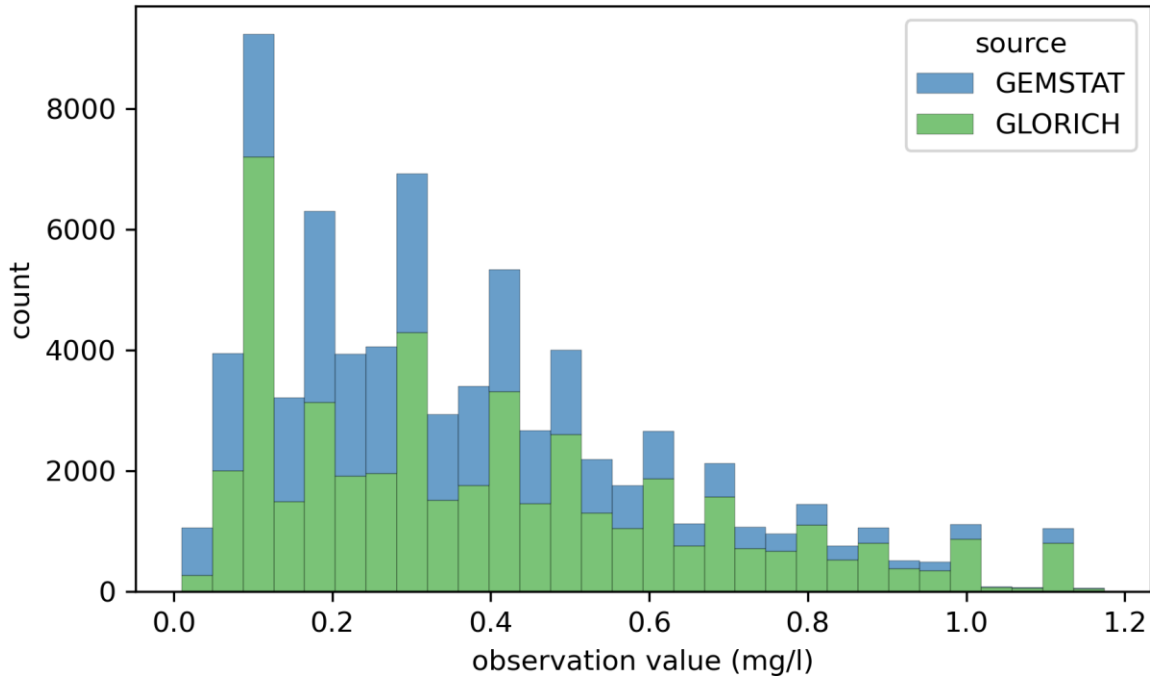
Monthly time series continuity of DKN observations



Distribution of DKN observation values

Histogram plot of DKN observation values

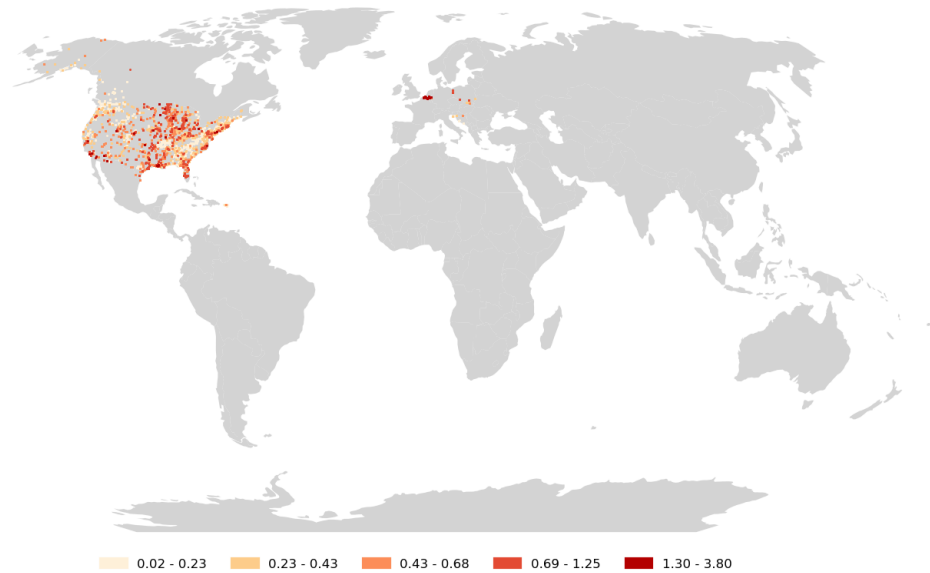
Outliers detected by the IQR test (6.5% of observations) have been removed



Spatial distribution of yearly median of DKN observation values

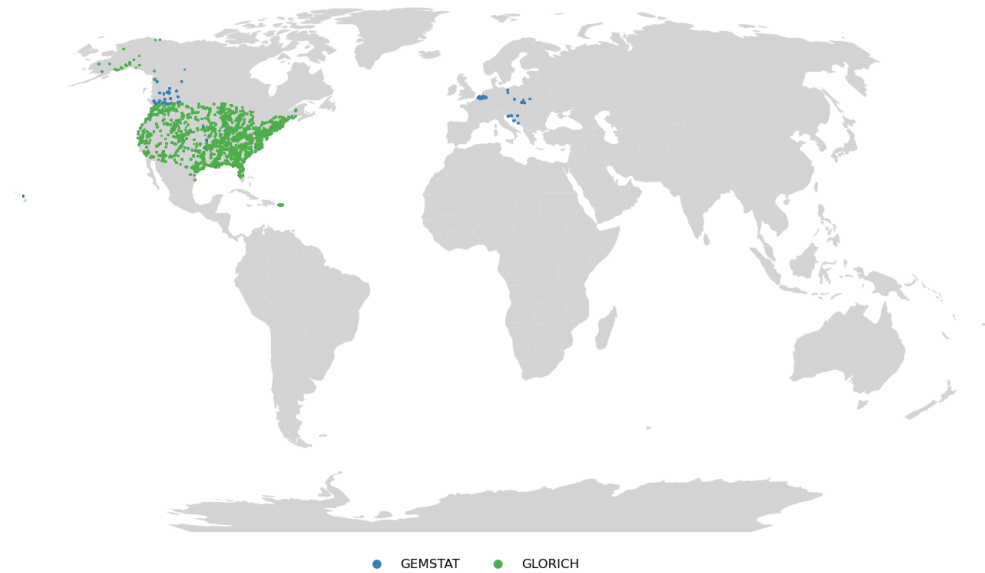
Median observation values of DKN sites (mg/l)

Outliers detected by the IQR test (6.5% of observations) have been removed

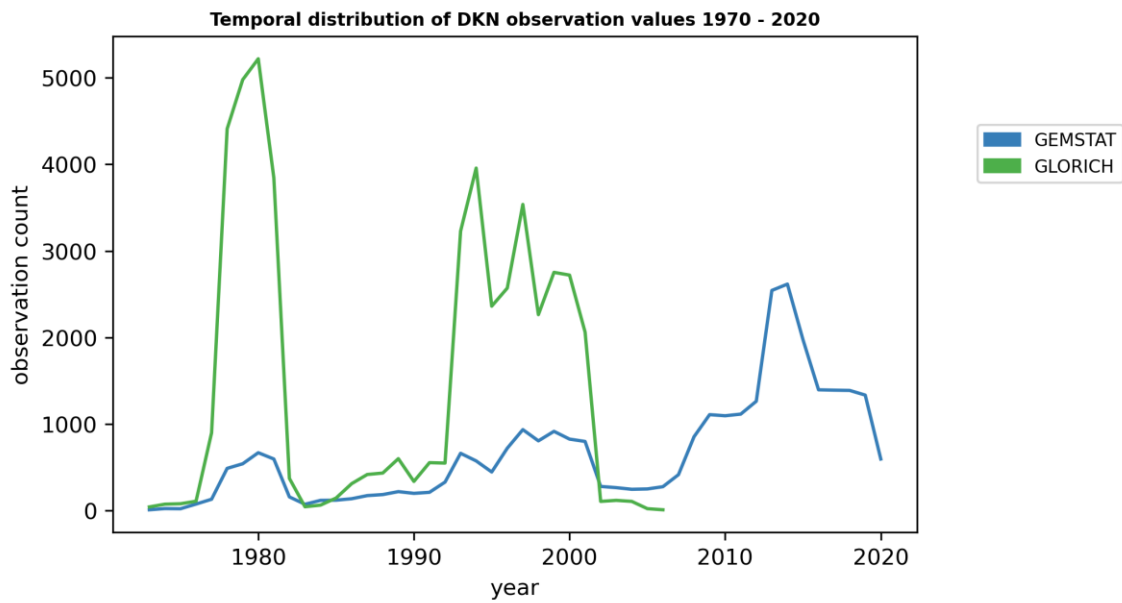


Spatial distribution of DKN observation values

Spatial distribution of DKN sites



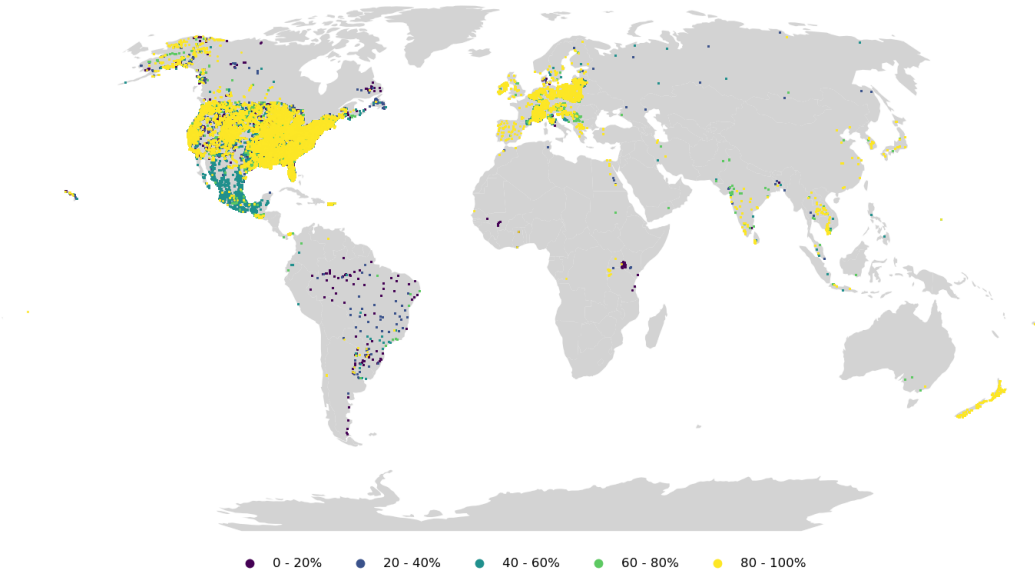
Temporal distribution of DKN observation values



Dissolved Oxygen (DO)

Monthly time series availability of DO observation values

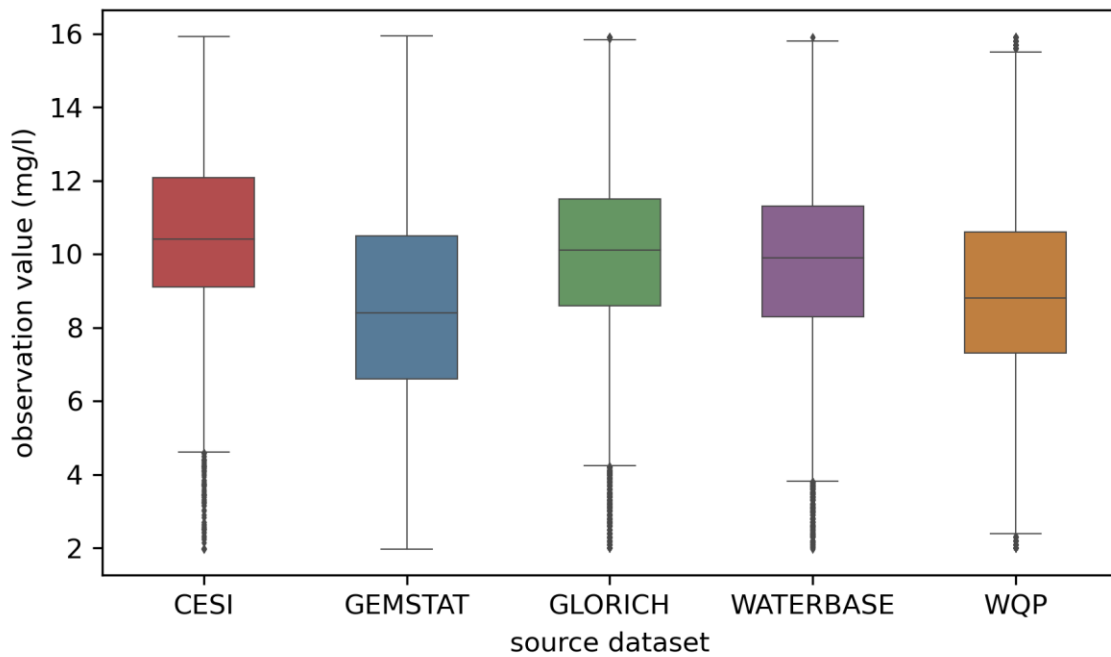
Monthly time series availability of DO observations



Box plot of DO observation values

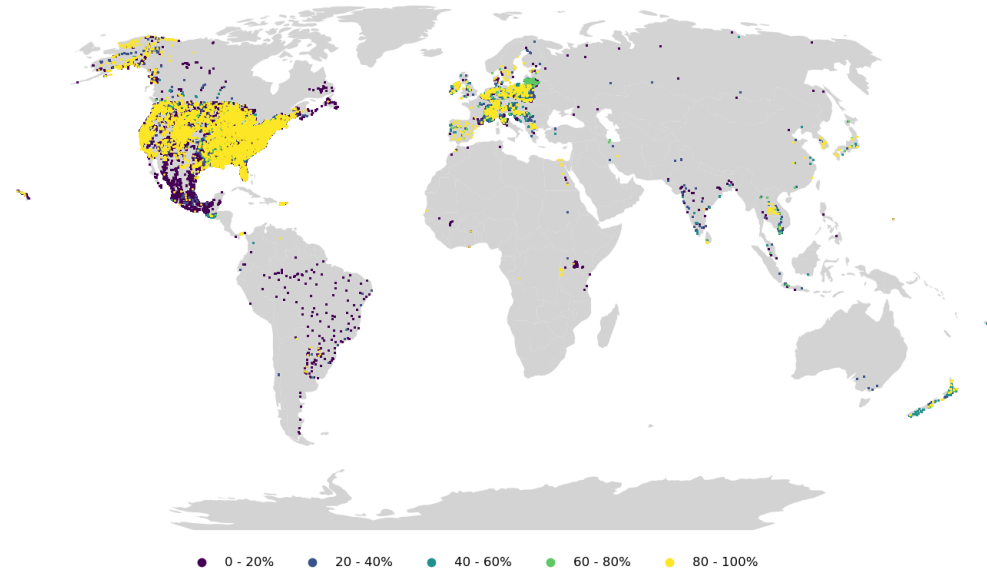
Violin plot of DO observation values

Outliers detected by the IQR test (2.2% of observations) have been removed



Monthly time series continuity of DO observation values

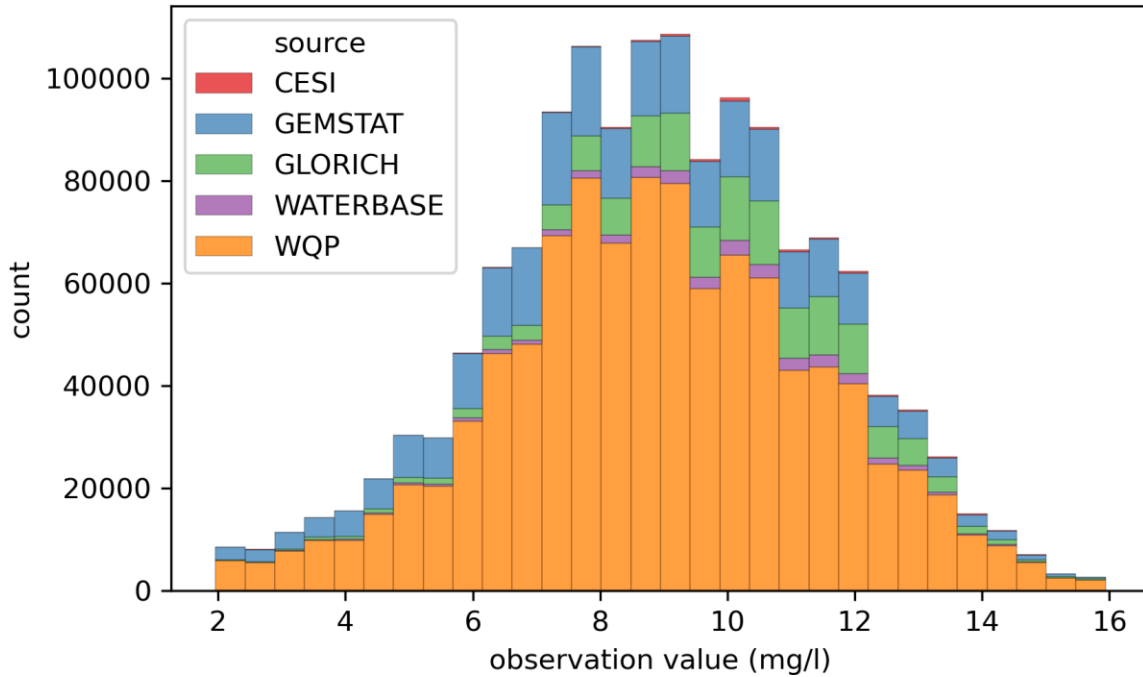
Monthly time series continuity of DO observations



Distribution of DO observation values

Histogram plot of DO observation values

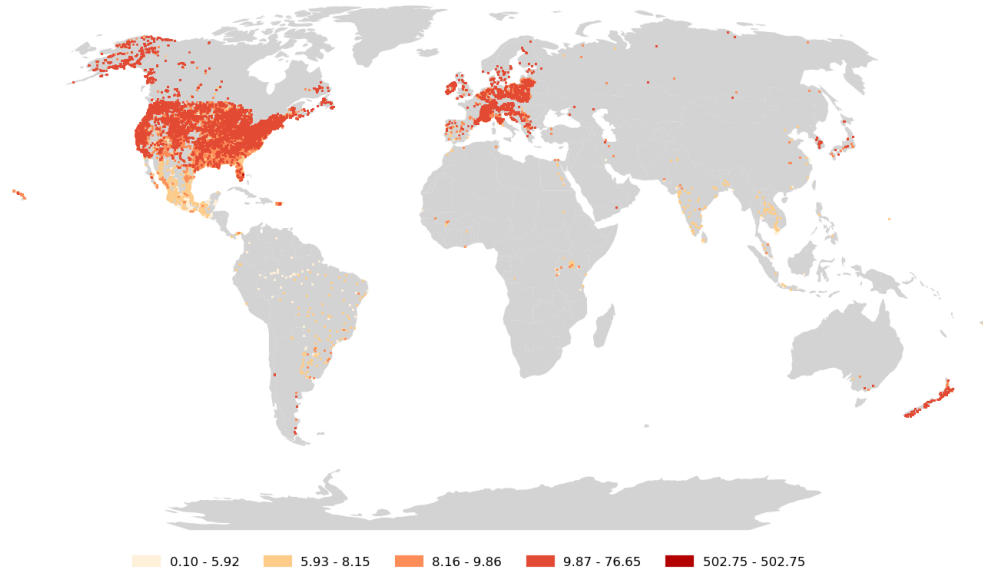
Outliers detected by the IQR test (2.2% of observations) have been removed



Spatial distribution of yearly median of DO observation values

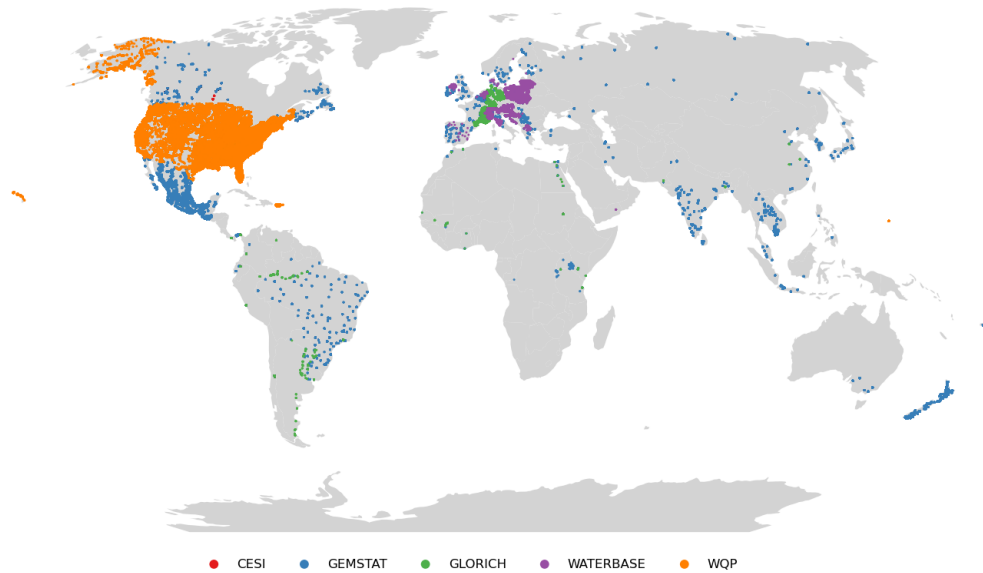
Median observation values of DO sites (mg/l)

Outliers detected by the IQR test (2.2% of observations) have been removed

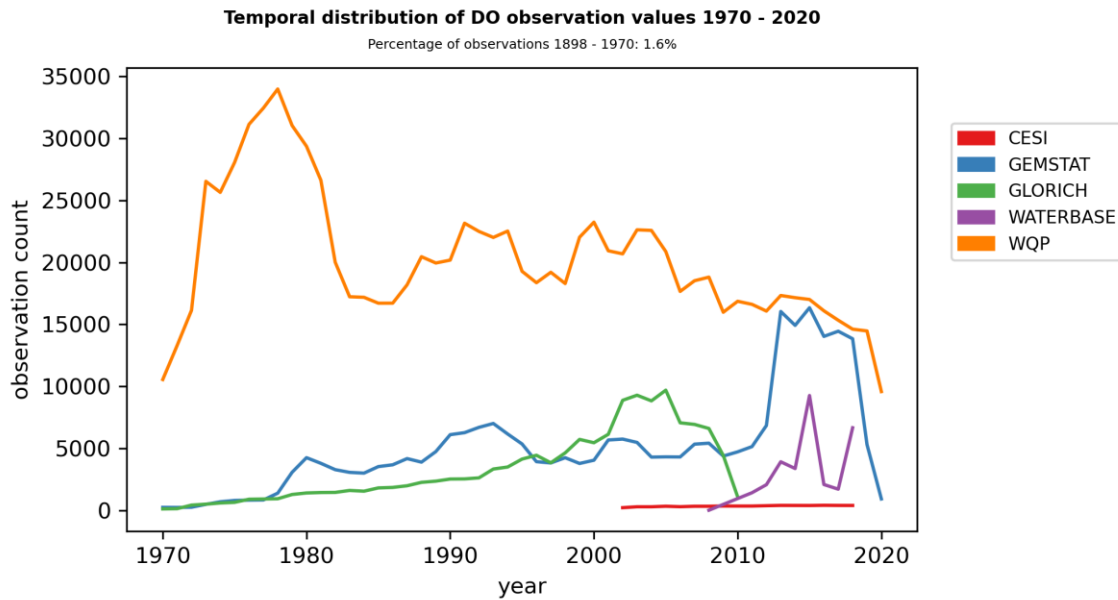


Spatial distribution of DO observation values

Spatial distribution of DO sites



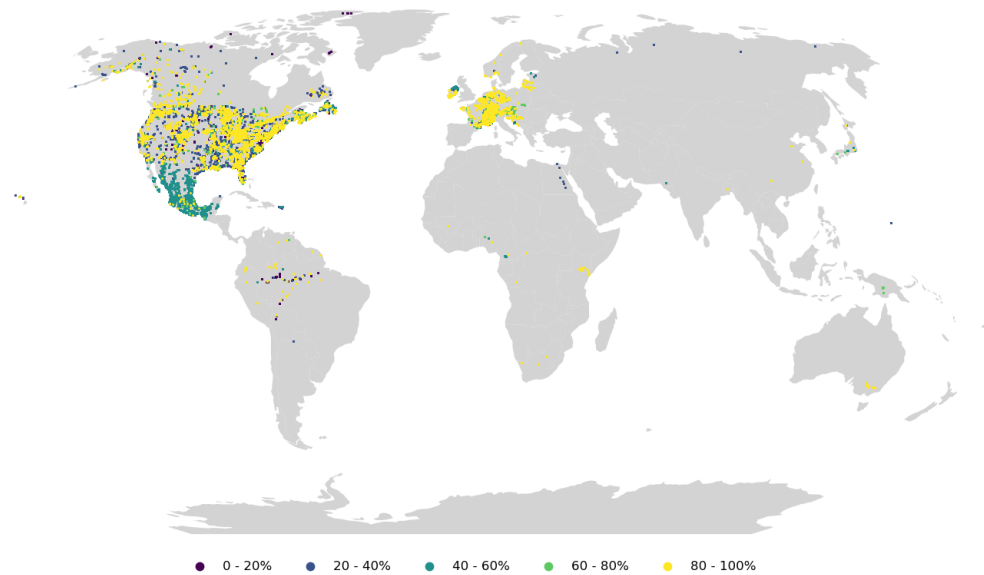
Temporal distribution of DO observation values



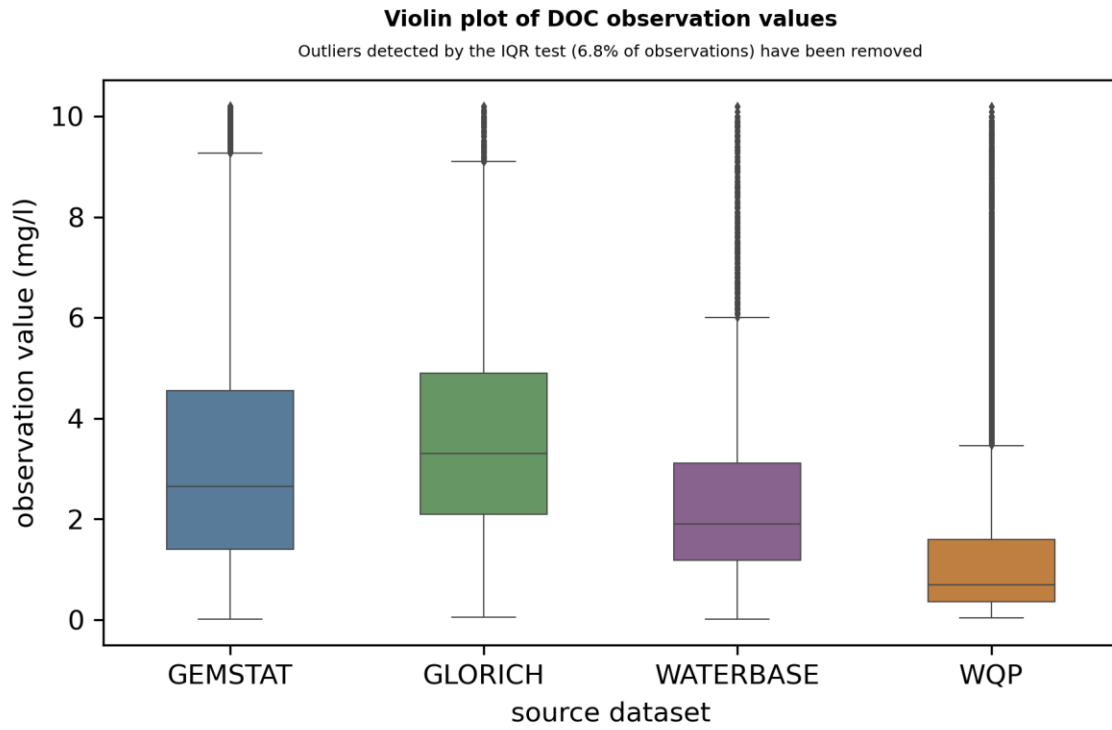
Dissolved Organic Carbon (DOC)

Monthly time series availability of DOC observation values

Monthly time series availability of DOC observations

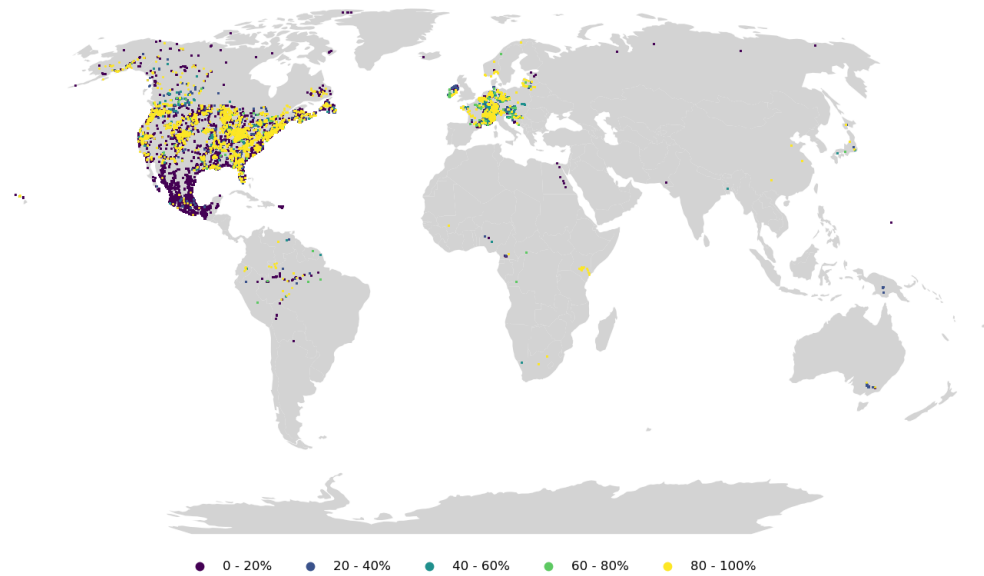


Box plot of DOC observation values



Monthly time series continuity of DOC observation values

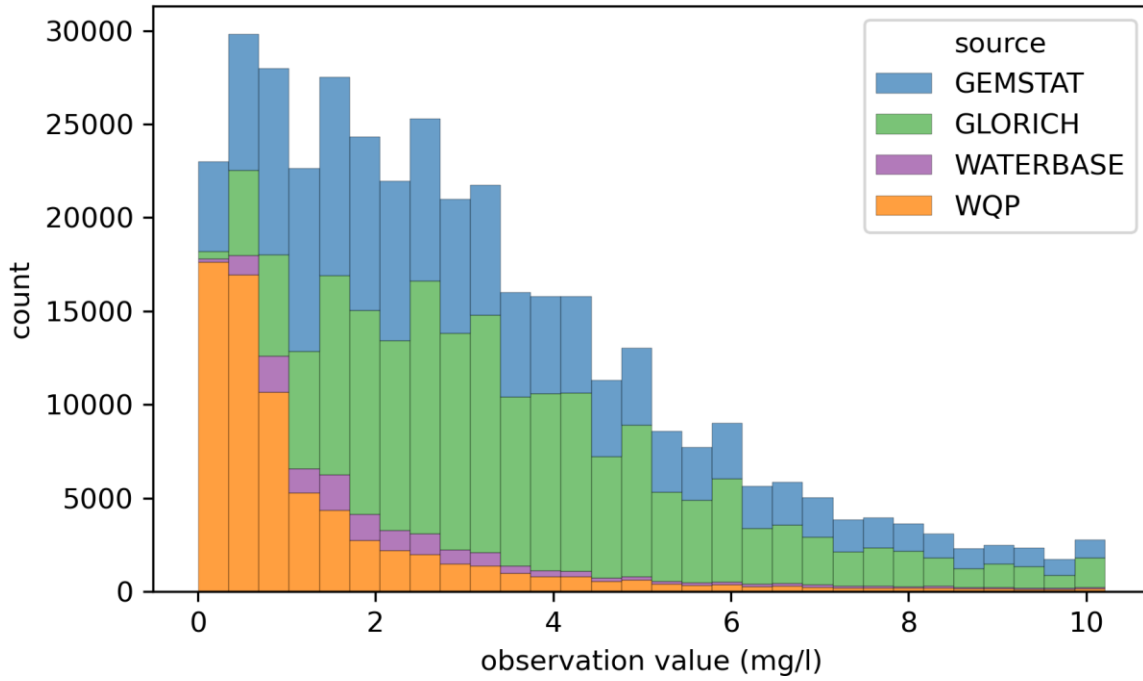
Monthly time series continuity of DOC observations



Distribution of DOC observation values

Histogram plot of DOC observation values

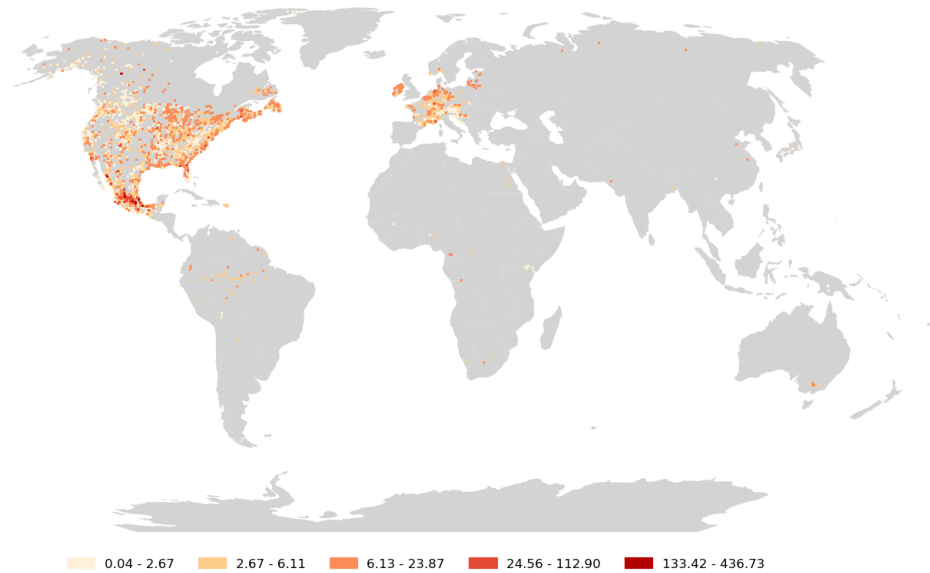
Outliers detected by the IQR test (6.8% of observations) have been removed



Spatial distribution of yearly median of DOC observation values

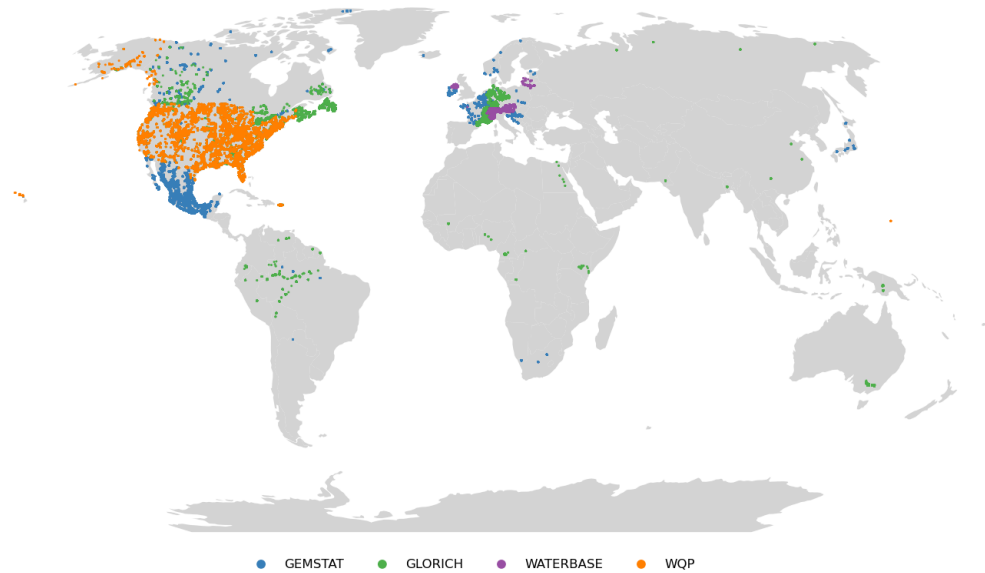
Median observation values of DOC sites (mg/l)

Outliers detected by the IQR test (6.8% of observations) have been removed

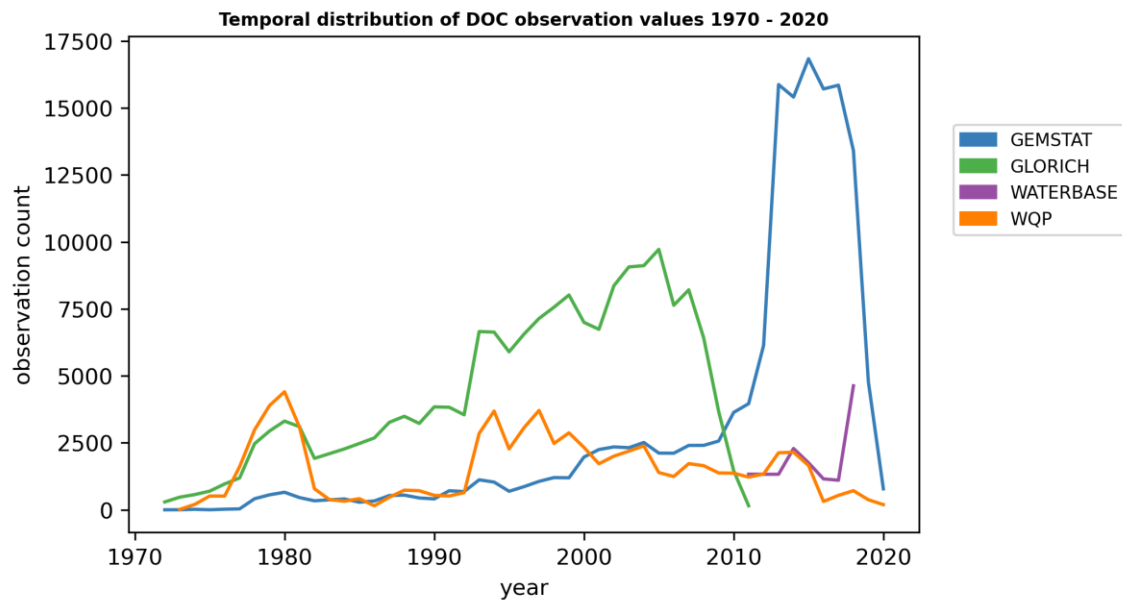


Spatial distribution of DOC observation values

Spatial distribution of DOC sites



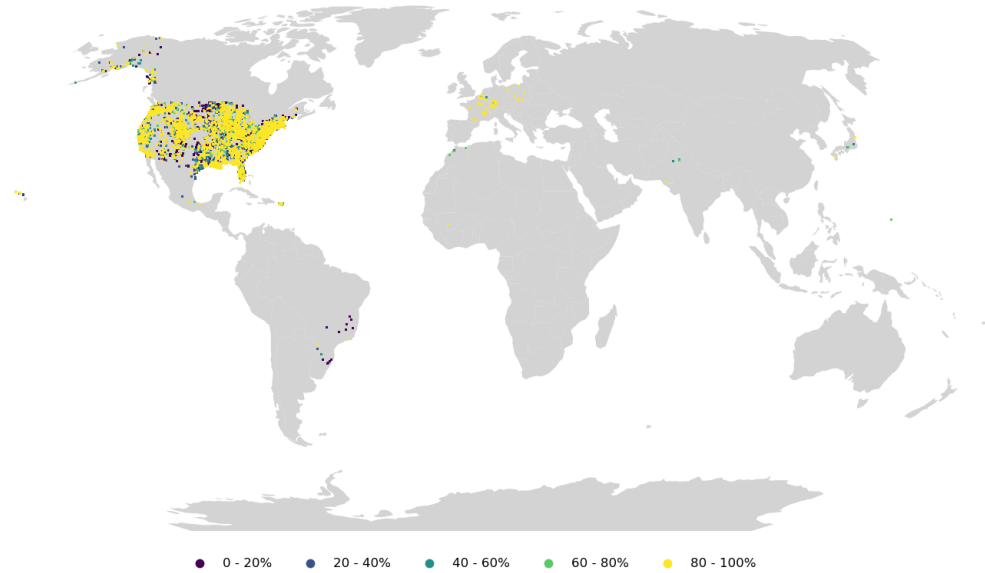
Temporal distribution of DOC observation values



Dissolved Organic Nitrogen (DON)

Monthly time series availability of DON observation values

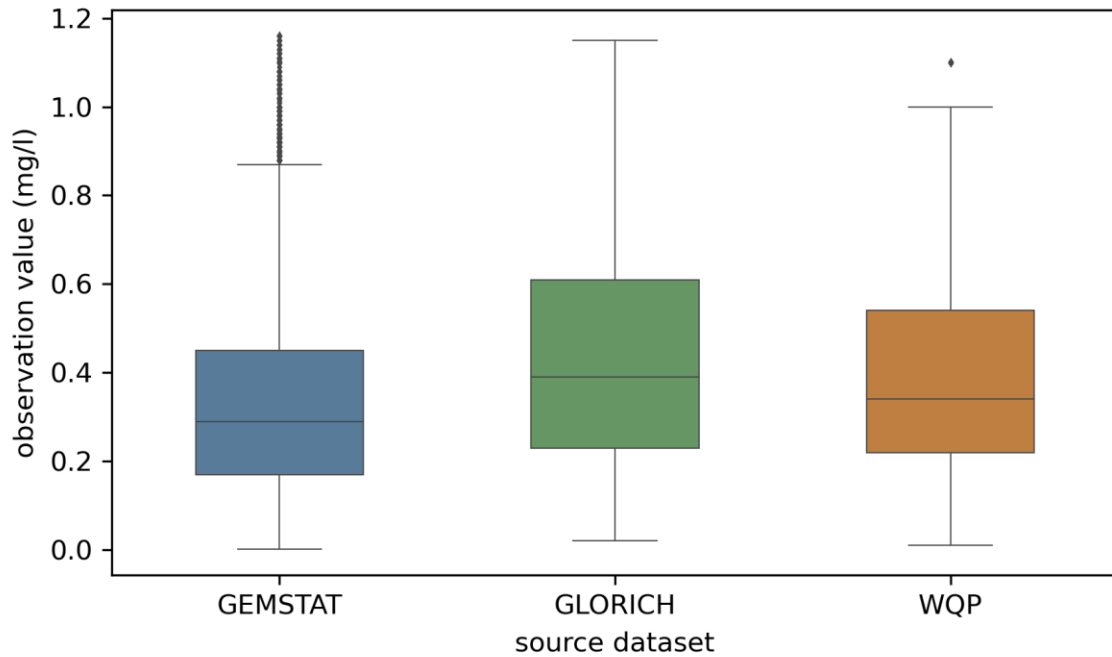
Monthly time series availability of DON observations



Box plot of DON observation values

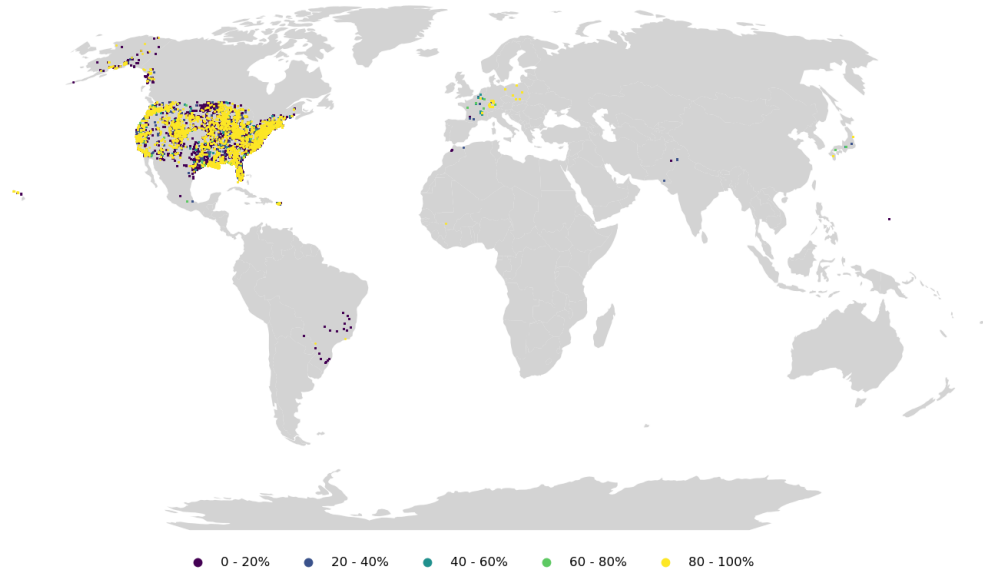
Violin plot of DON observation values

Outliers detected by the IQR test (8.1% of observations) have been removed



Monthly time series continuity of DON observation values

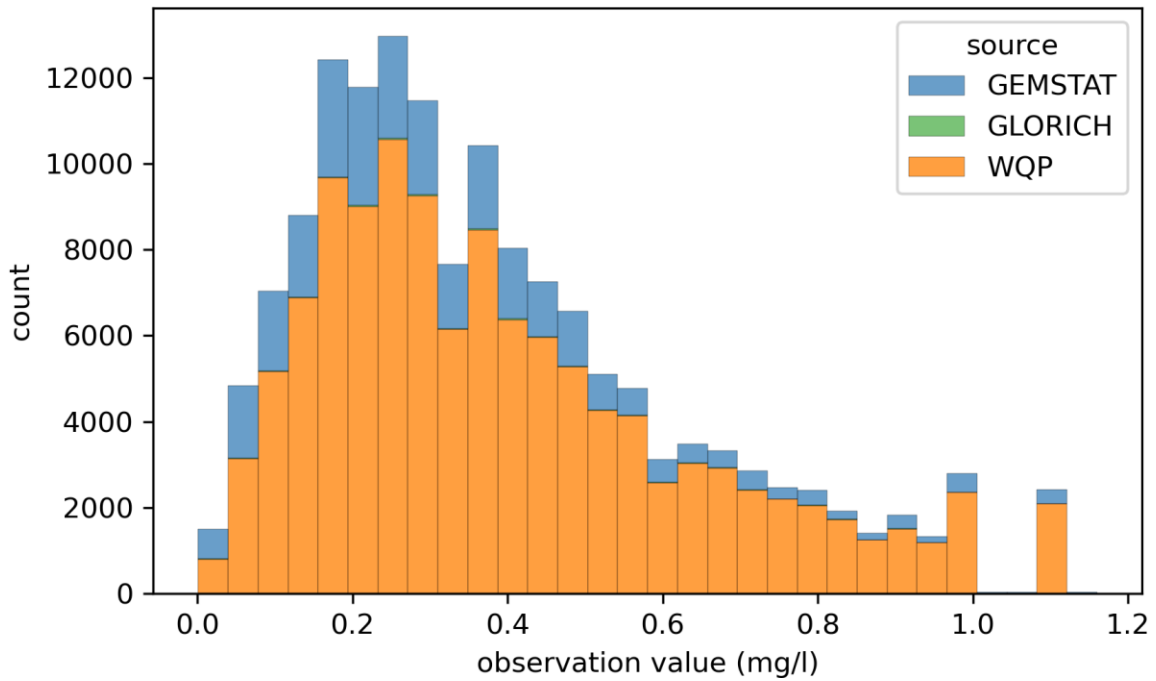
Monthly time series continuity of DON observations



Distribution of DON observation values

Histogram plot of DON observation values

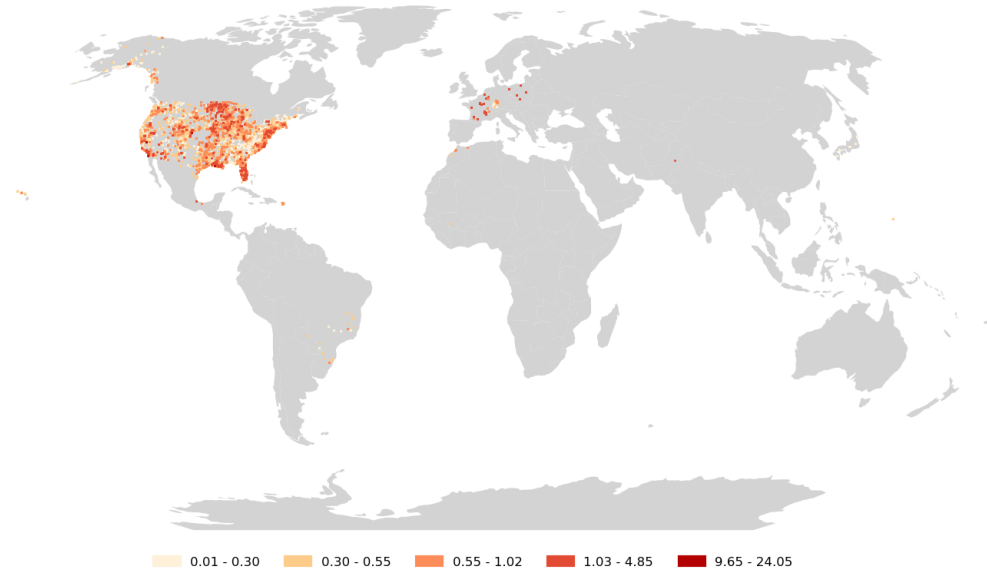
Outliers detected by the IQR test (8.1% of observations) have been removed



Spatial distribution of yearly median of DON observation values

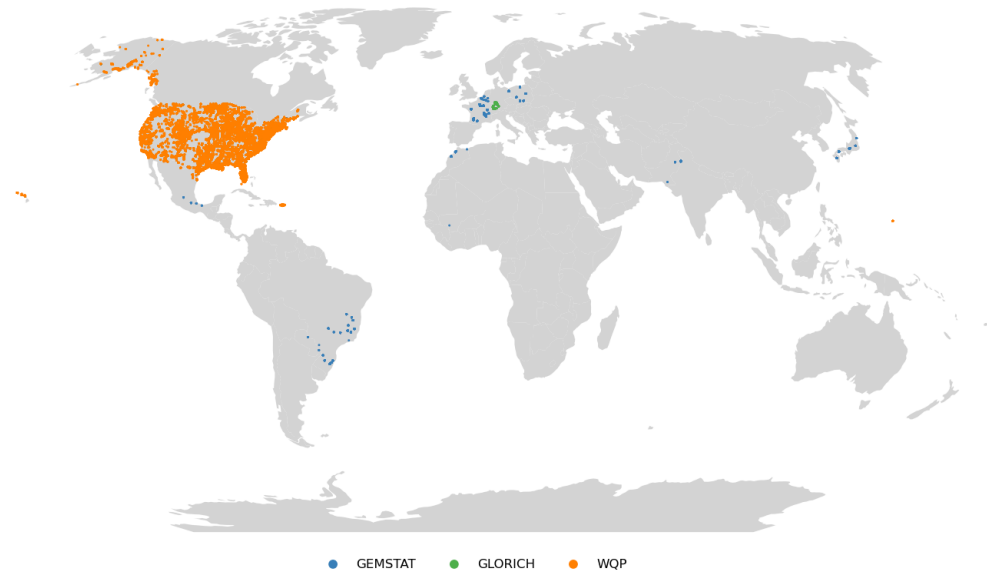
Median observation values of DON sites (mg/l)

Outliers detected by the IQR test (8.1% of observations) have been removed

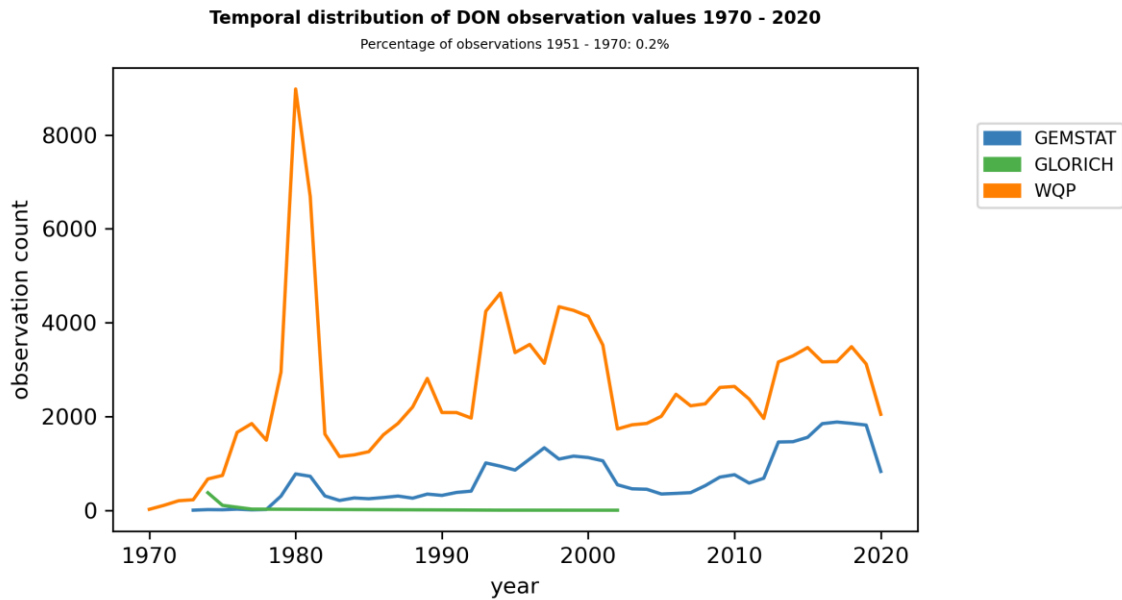


Spatial distribution of DON observation values

Spatial distribution of DON sites



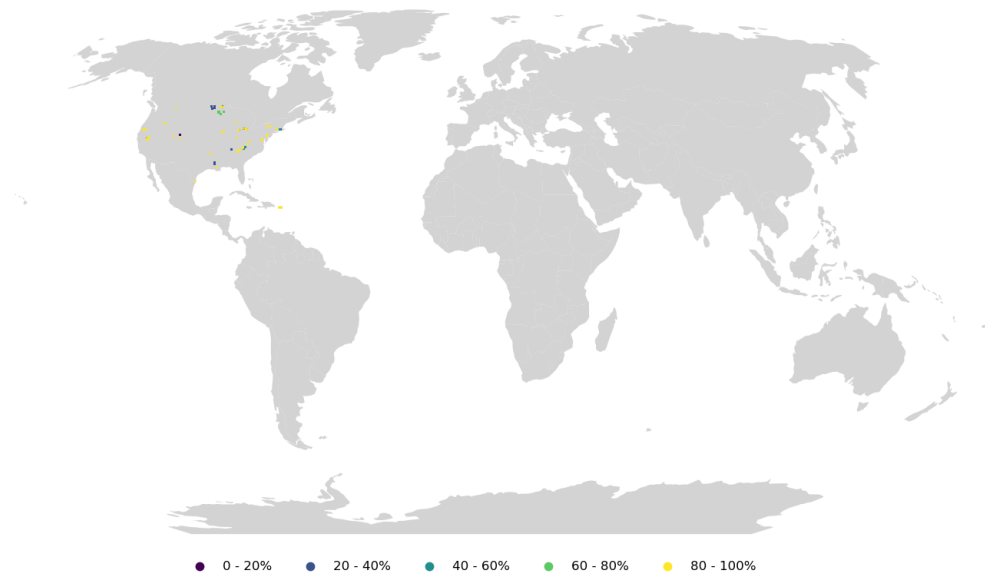
Temporal distribution of DON observation values



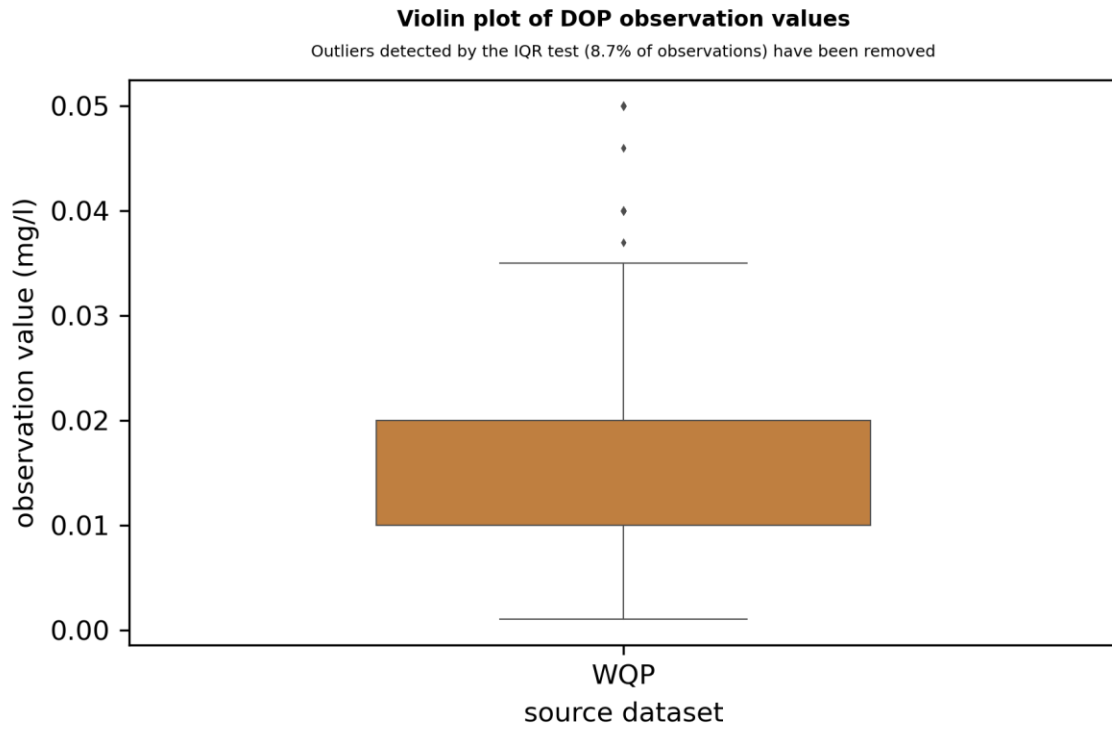
Dissolved Organic Phosphorus (DOP)

Monthly time series availability of DOP observation values

Monthly time series availability of DOP observations

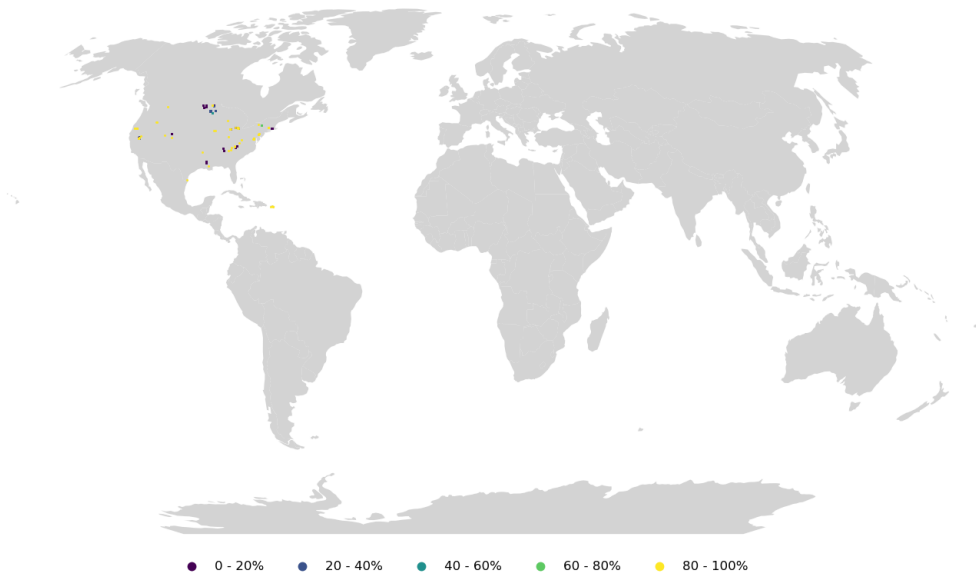


Box plot of DOP observation values



Monthly time series continuity of DOP observation values

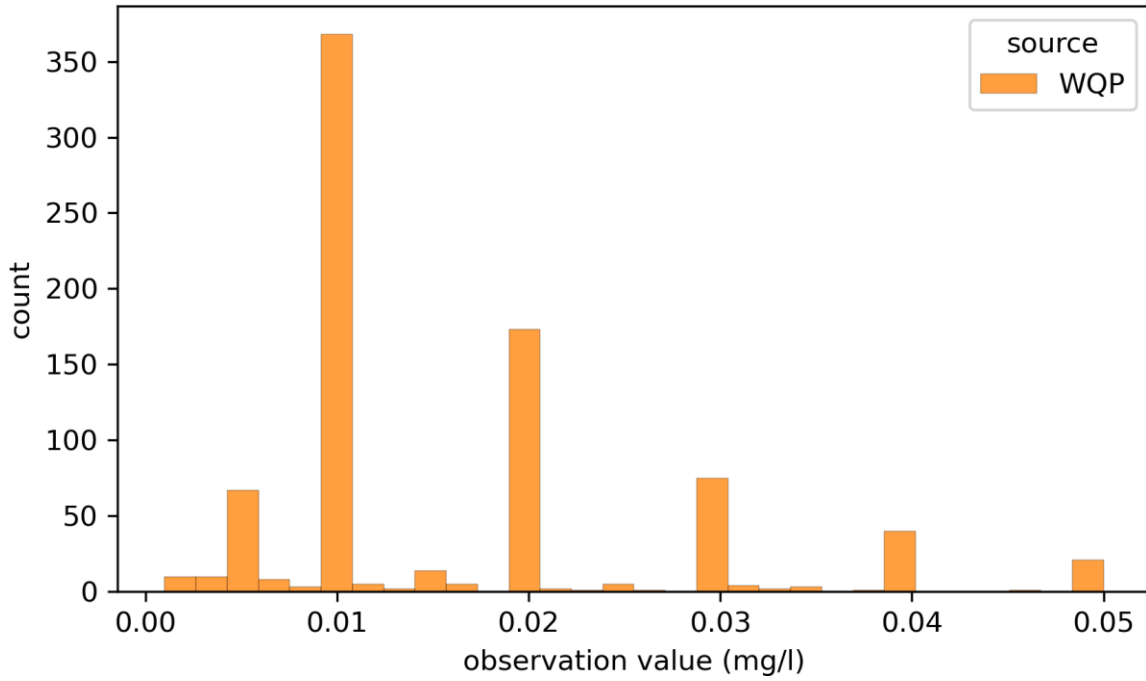
Monthly time series continuity of DOP observations



Distribution of DOP observation values

Histogram plot of DOP observation values

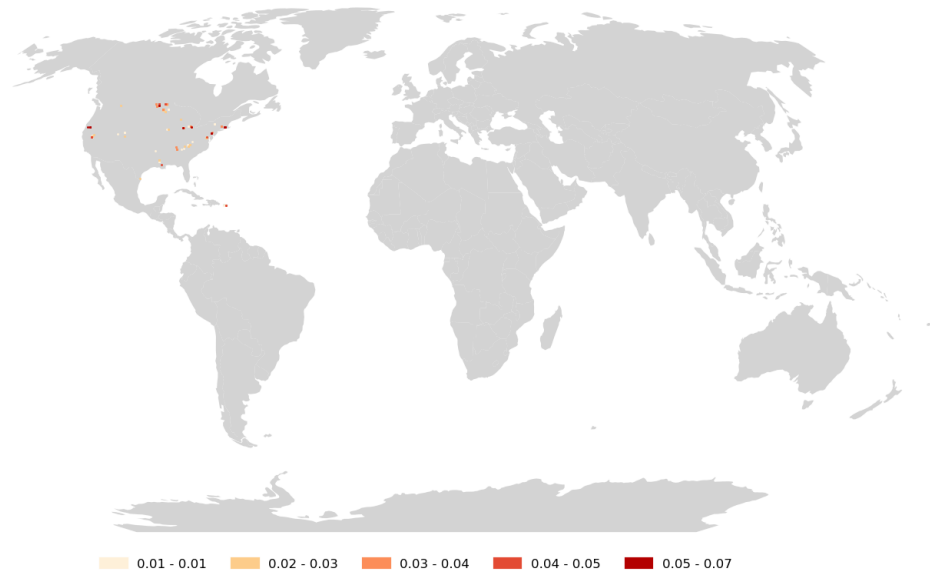
Outliers detected by the IQR test (8.7% of observations) have been removed



Spatial distribution of yearly median of DOP observation values

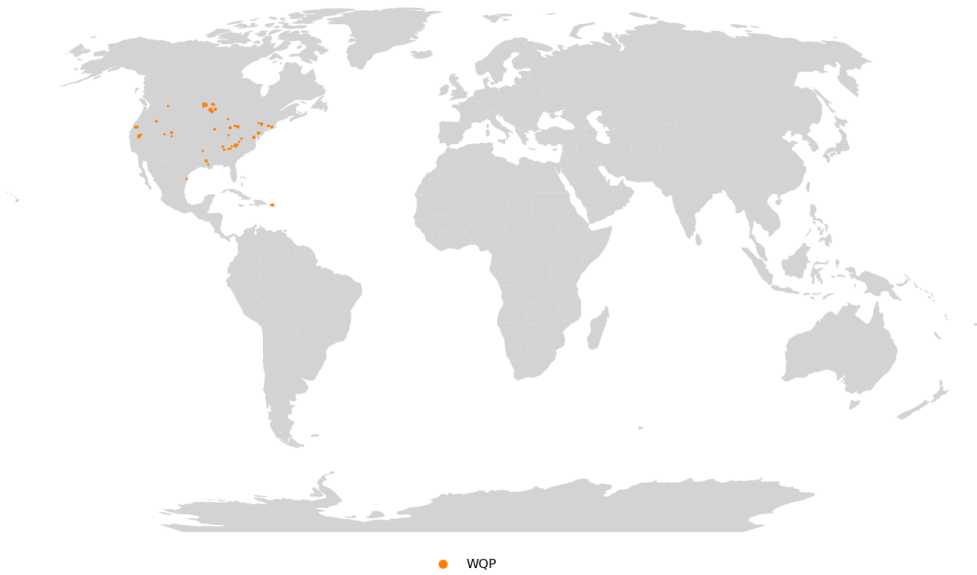
Median observation values of DOP sites (mg/l)

Outliers detected by the IQR test (8.7% of observations) have been removed

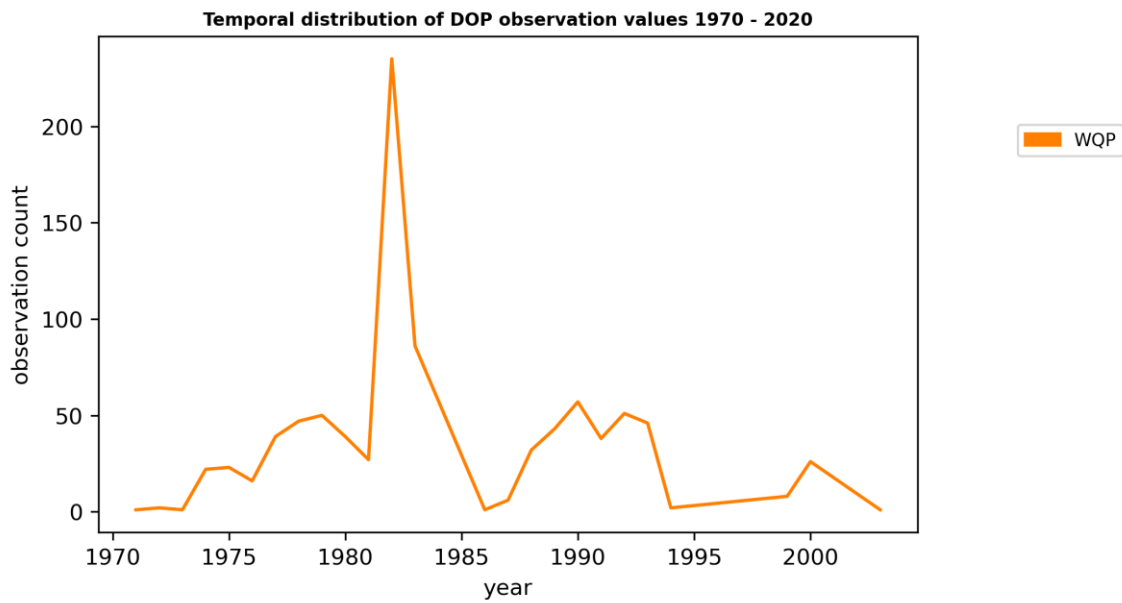


Spatial distribution of DOP observation values

Spatial distribution of DOP sites



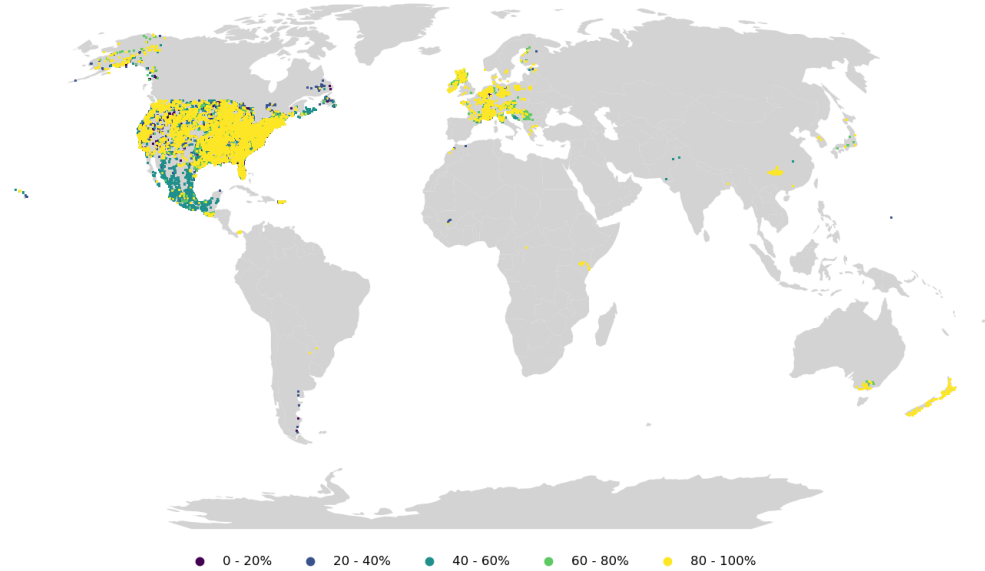
Temporal distribution of DOP observation values



Dissolved Oxygen Saturation (DOSAT)

Monthly time series availability of DOSAT observation values

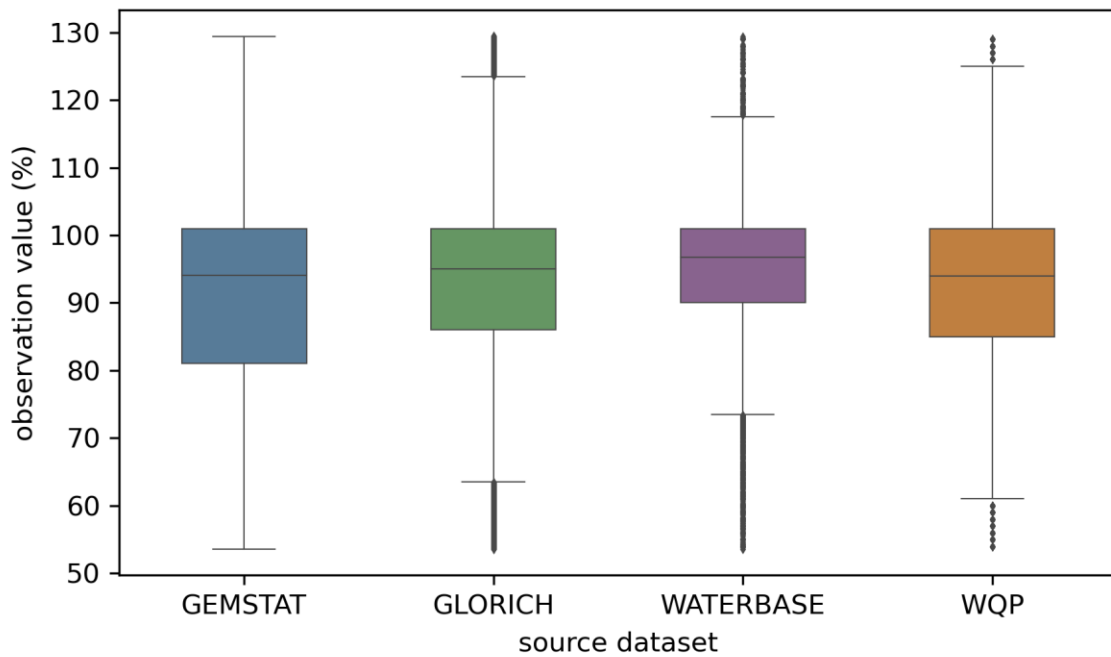
Monthly time series availability of DOSAT observations



Box plot of DOSAT observation values

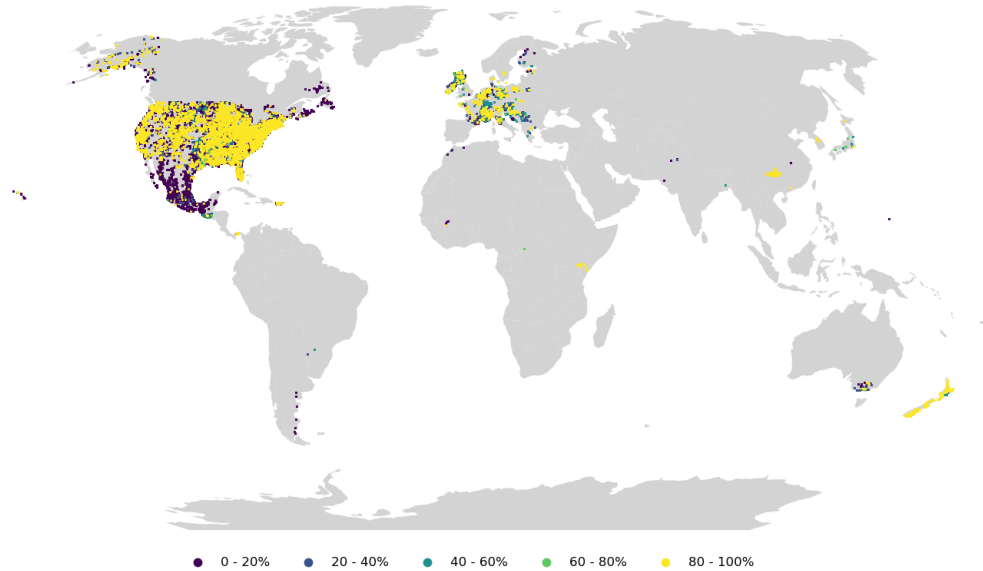
Violin plot of DOSAT observation values

Outliers detected by the IQR test (8.7% of observations) have been removed



Monthly time series continuity of DOSAT observation values

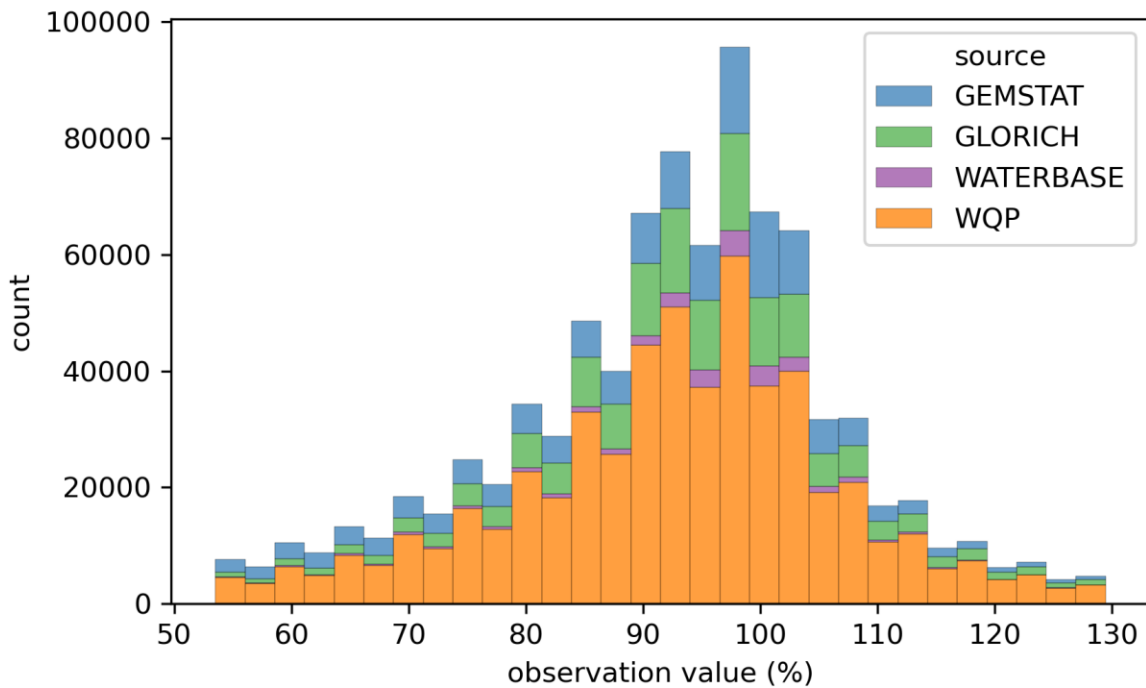
Monthly time series continuity of DOSAT observations



Distribution of DOSAT observation values

Histogram plot of DOSAT observation values

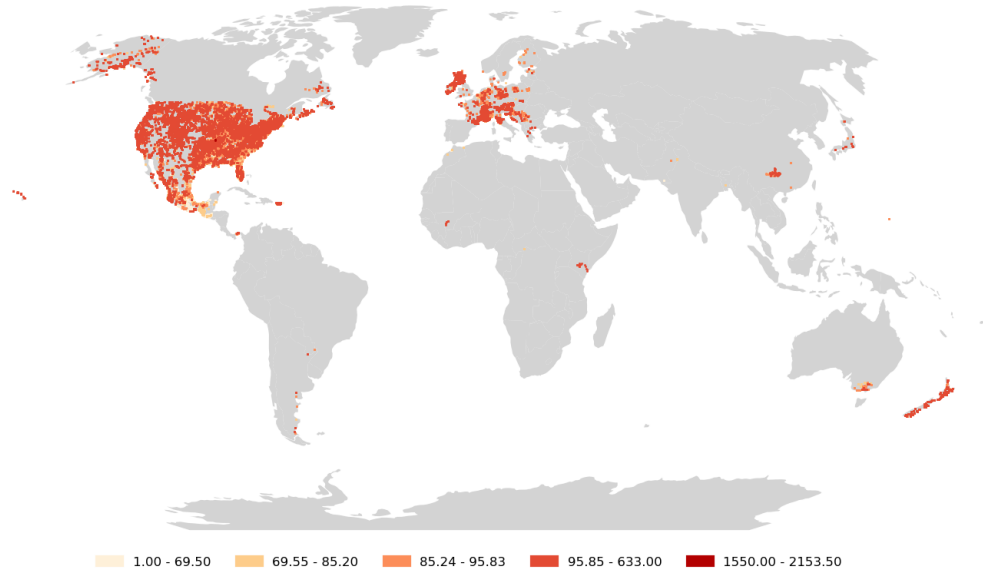
Outliers detected by the IQR test (8.7% of observations) have been removed



Spatial distribution of yearly median of DOSAT observation values

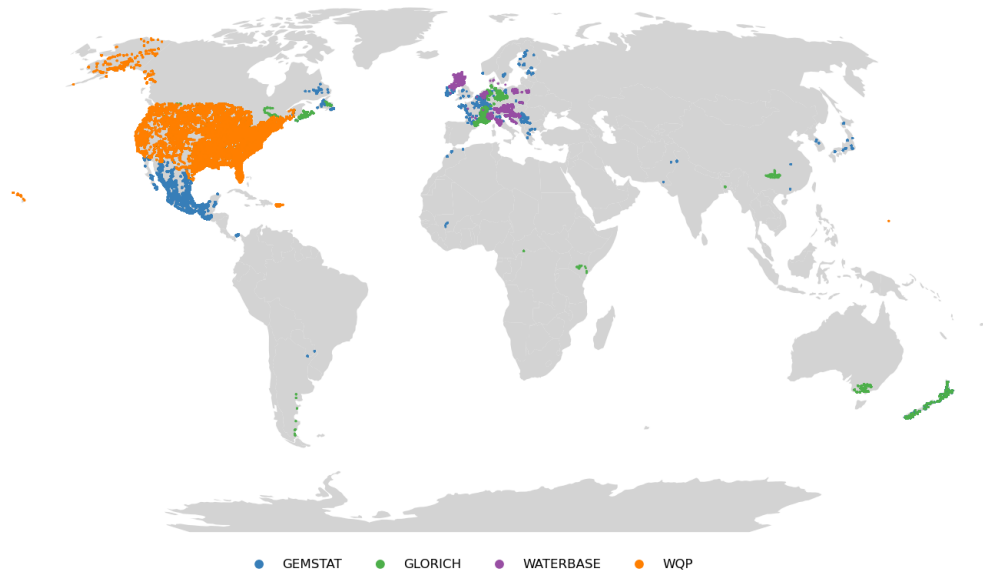
Median observation values of DOSAT sites (%)

Outliers detected by the IQR test (8.7% of observations) have been removed

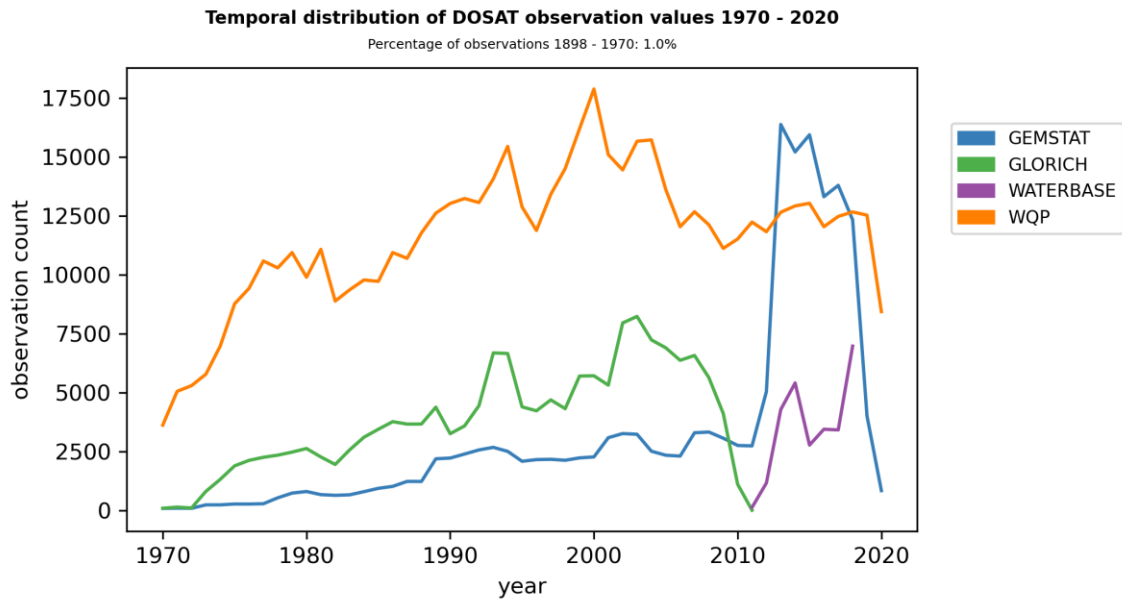


Spatial distribution of DOSAT observation values

Spatial distribution of DOSAT sites



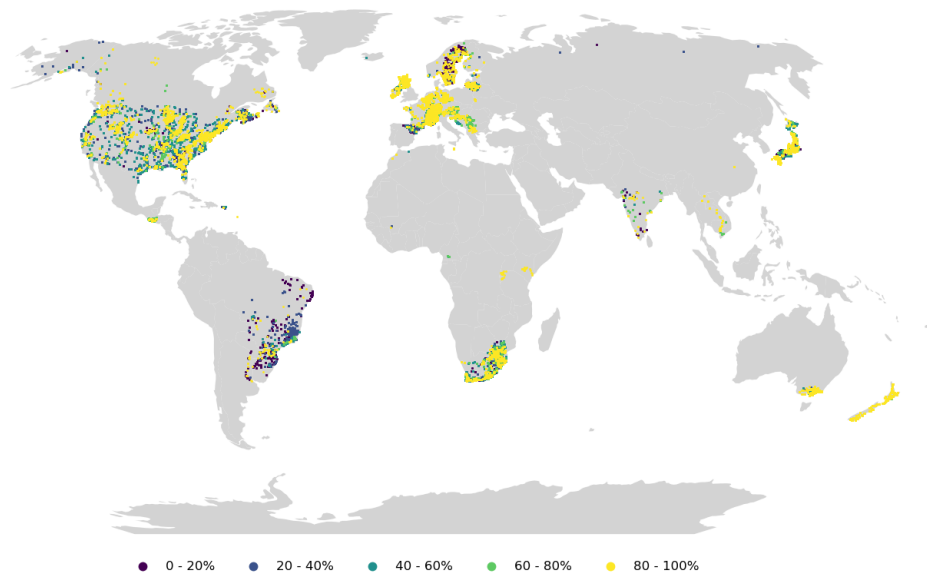
Temporal distribution of DOSAT observation values



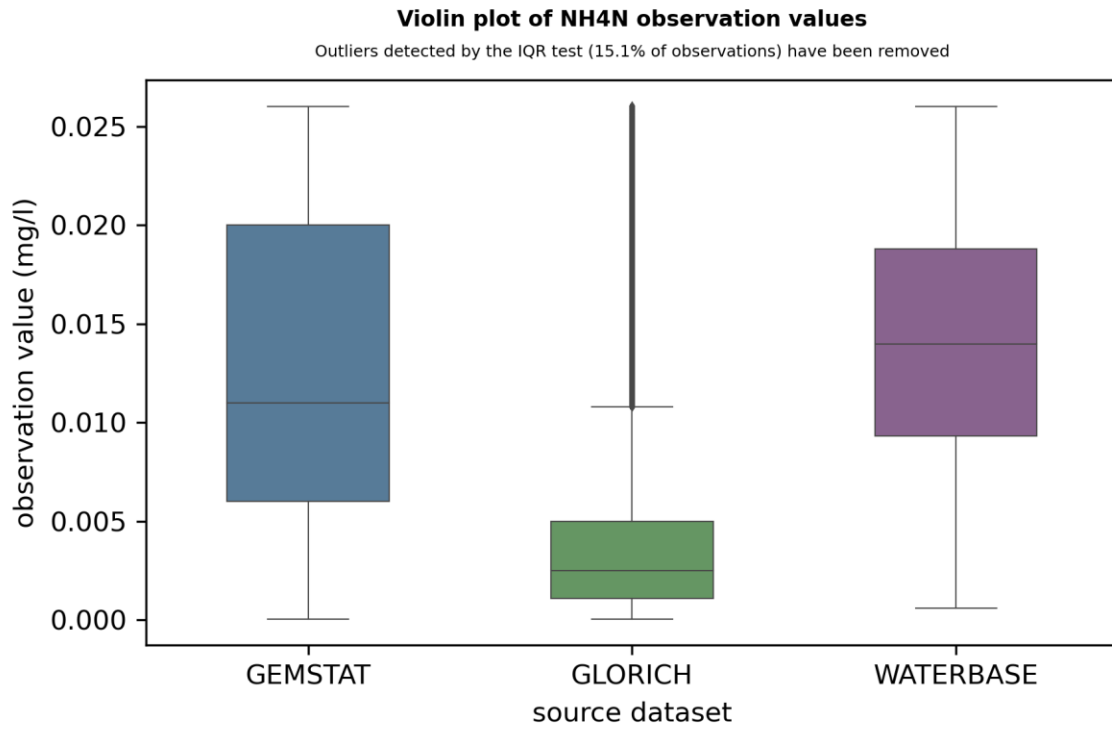
Ammonium Nitrogen (NH₄N)

Monthly time series availability of NH₄N observation values

Monthly time series availability of NH₄N observations

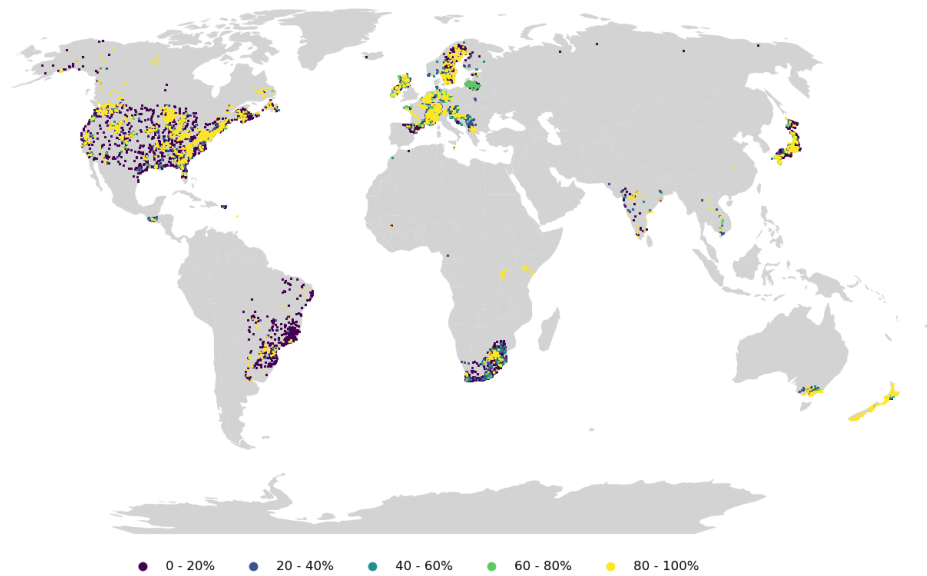


Box plot of NH4N observation values



Monthly time series continuity of NH4N observation values

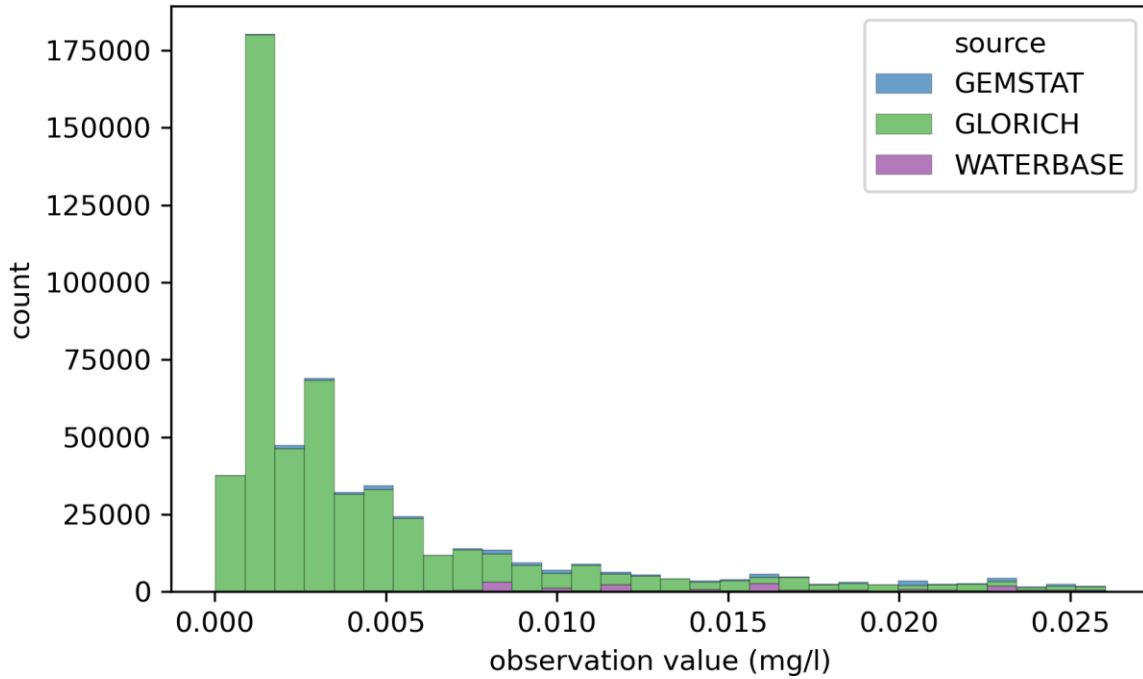
Monthly time series continuity of NH4N observations



Distribution of NH4N observation values

Histogram plot of NH4N observation values

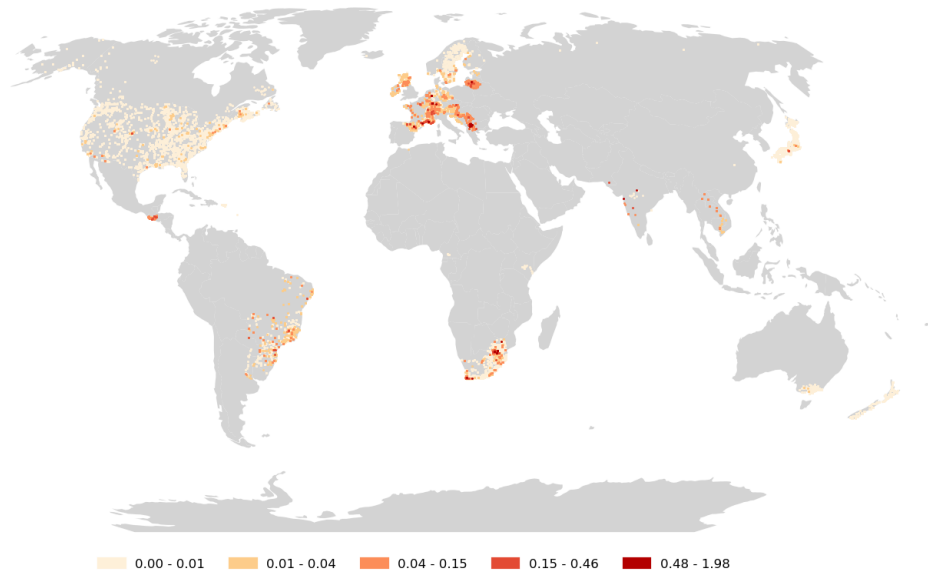
Outliers detected by the IQR test (15.1% of observations) have been removed



Spatial distribution of yearly median of NH4N observation values

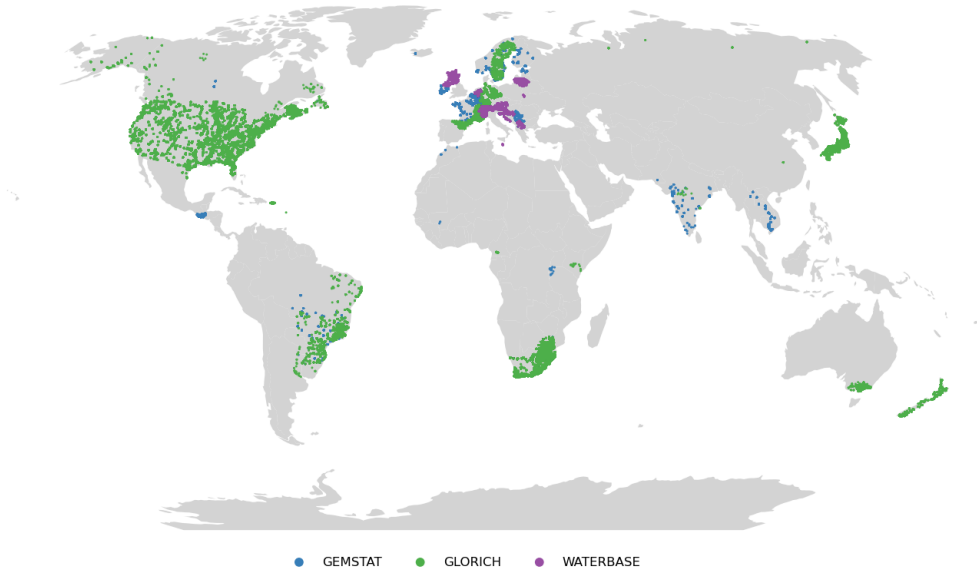
Median observation values of NH4N sites (mg/l)

Outliers detected by the IQR test (15.1% of observations) have been removed



Spatial distribution of NH4N observation values

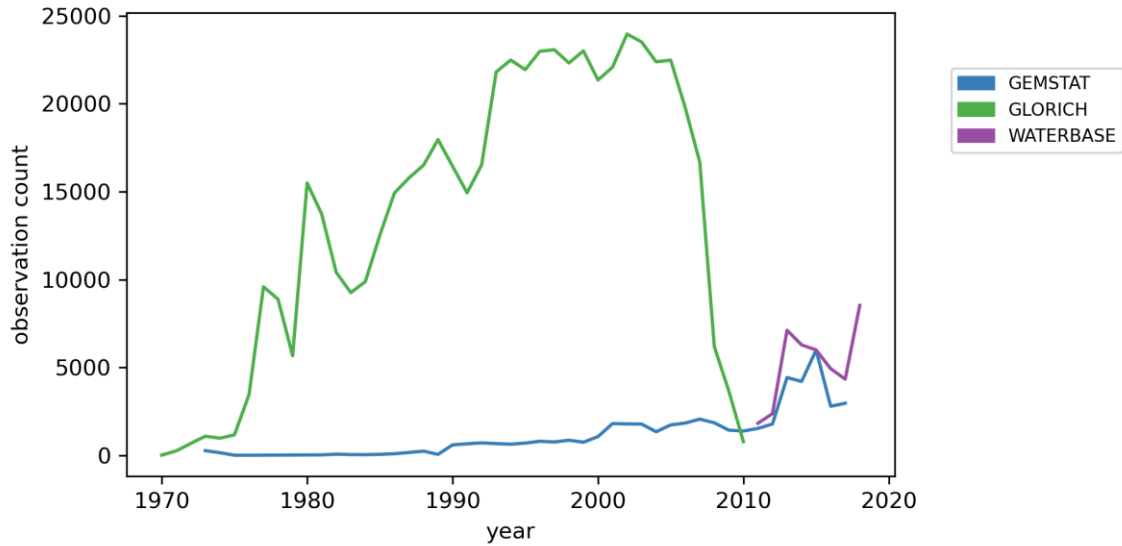
Spatial distribution of NH4N sites



Temporal distribution of NH4N observation values

Temporal distribution of NH4N observation values 1970 - 2020

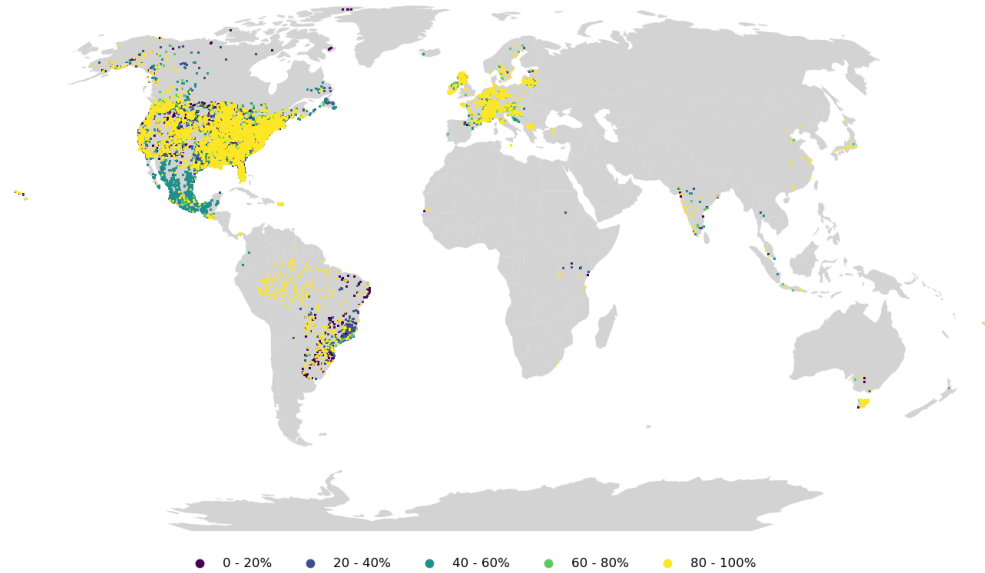
Percentage of observations 1942 - 1970: 0.6%



Nitrite Nitrogen (NO₂N)

Monthly time series availability of NO₂N observation values

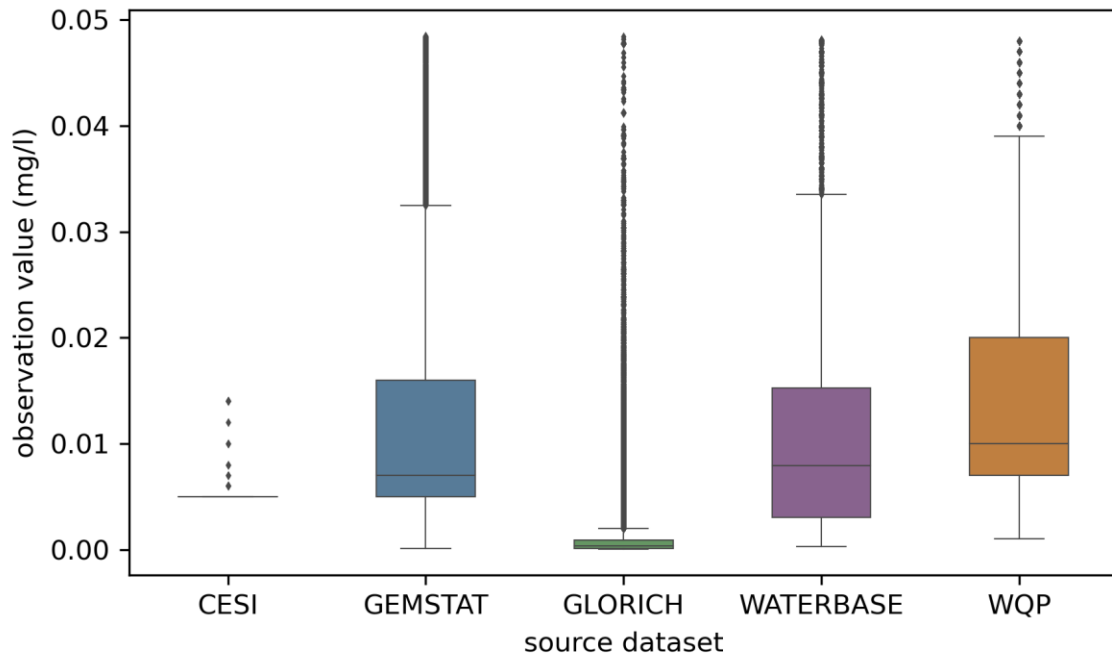
Monthly time series availability of NO₂N observations



Box plot of NO₂N observation values

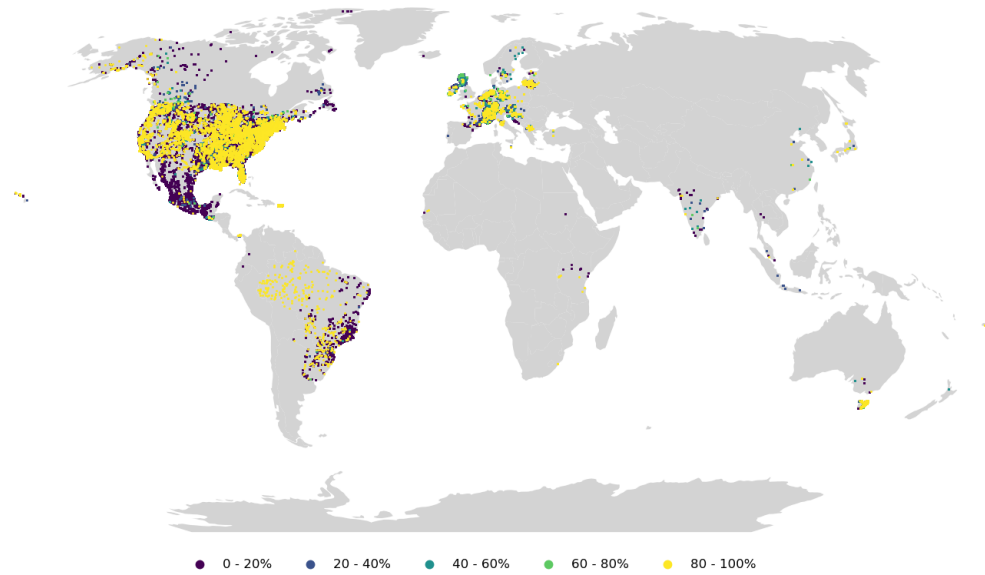
Violin plot of NO₂N observation values

Outliers detected by the IQR test (12.7% of observations) have been removed



Monthly time series continuity of NO₂N observation values

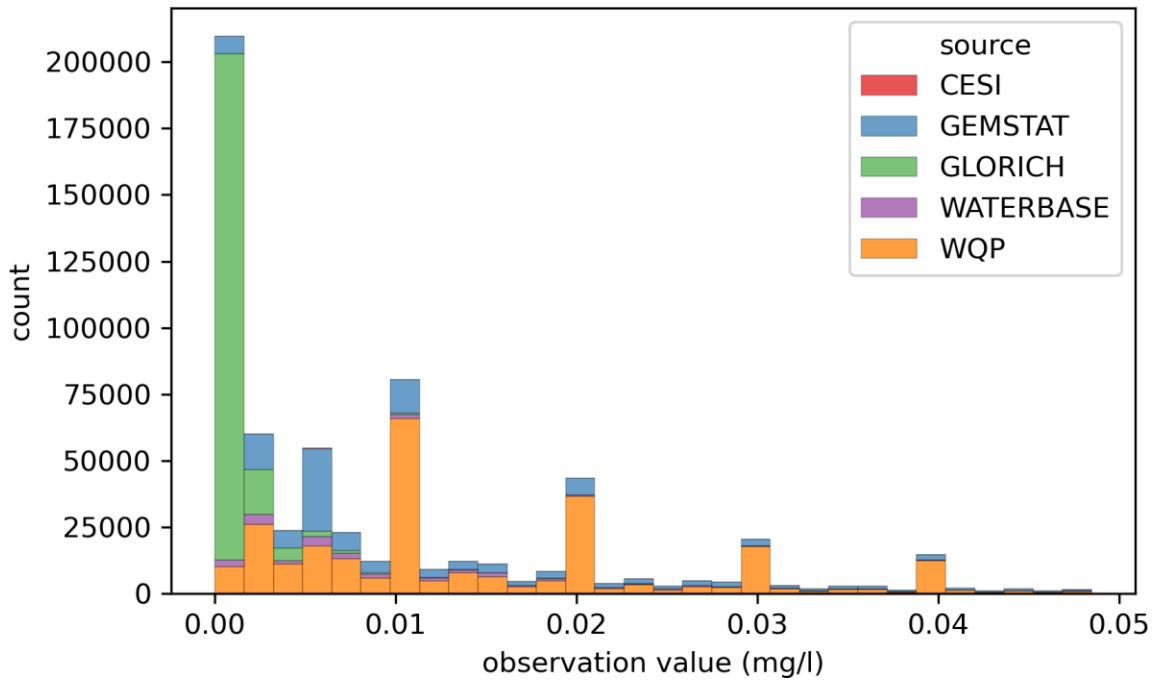
Monthly time series continuity of NO₂N observations



Distribution of NO₂N observation values

Histogram plot of NO₂N observation values

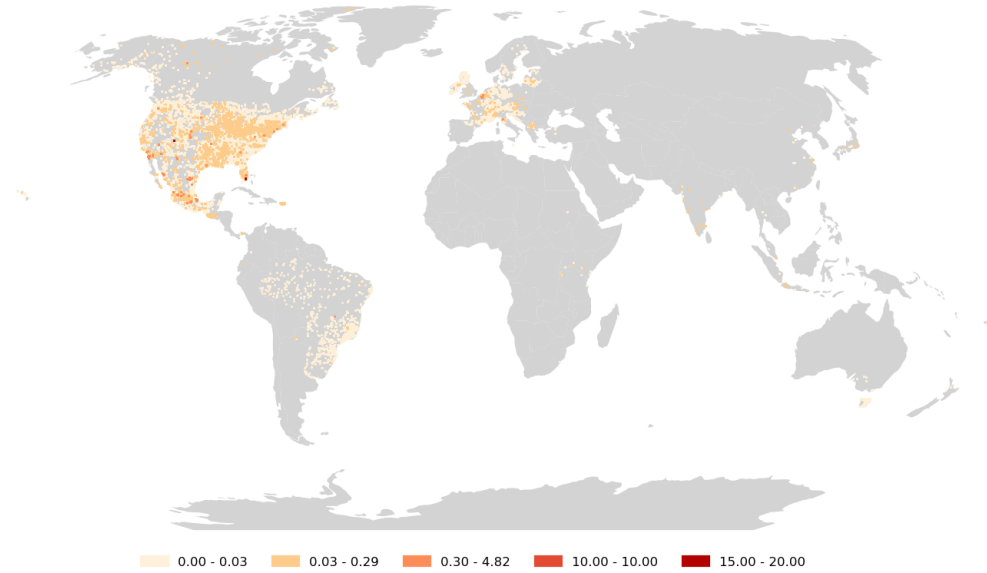
Outliers detected by the IQR test (12.7% of observations) have been removed



Spatial distribution of yearly median of NO₂N observation values

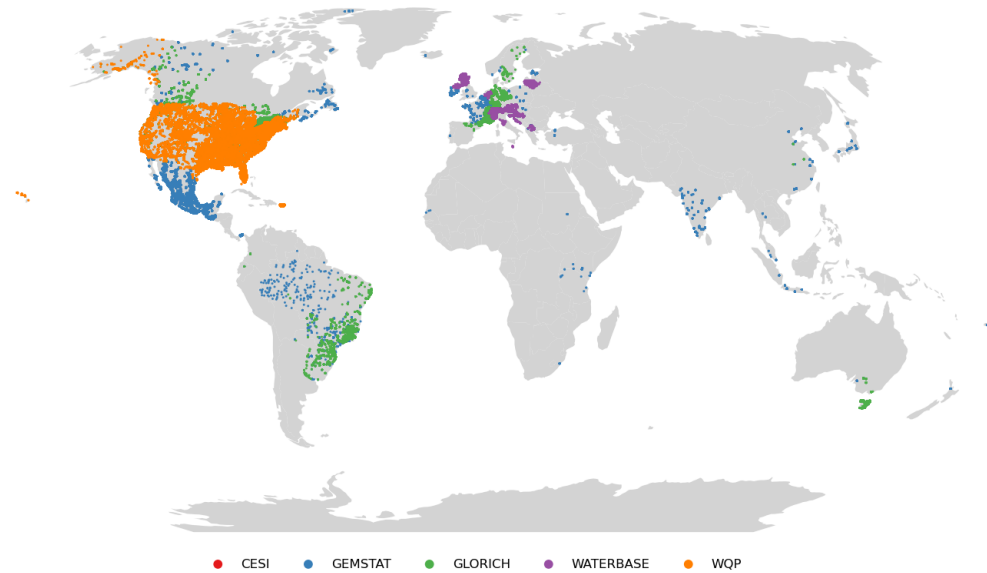
Median observation values of NO₂N sites (mg/l)

Outliers detected by the IQR test (12.7% of observations) have been removed

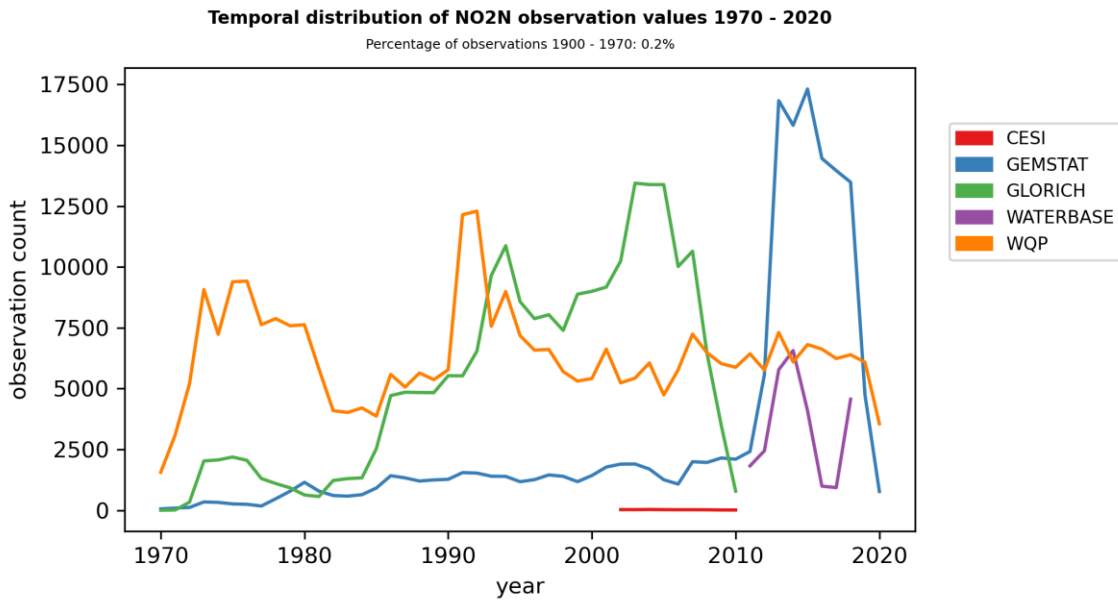


Spatial distribution of NO₂N observation values

Spatial distribution of NO₂N sites



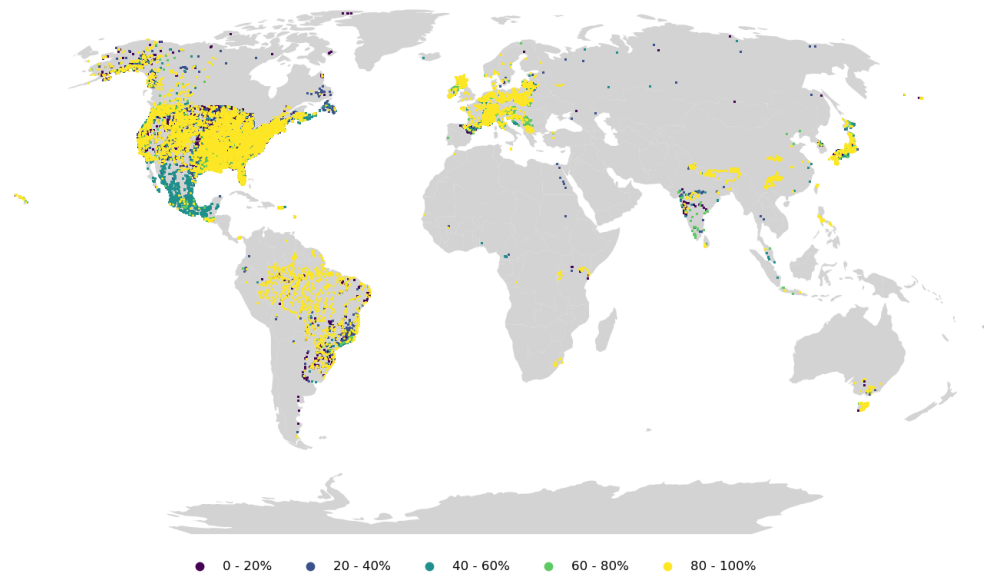
Temporal distribution of NO₂N observation values



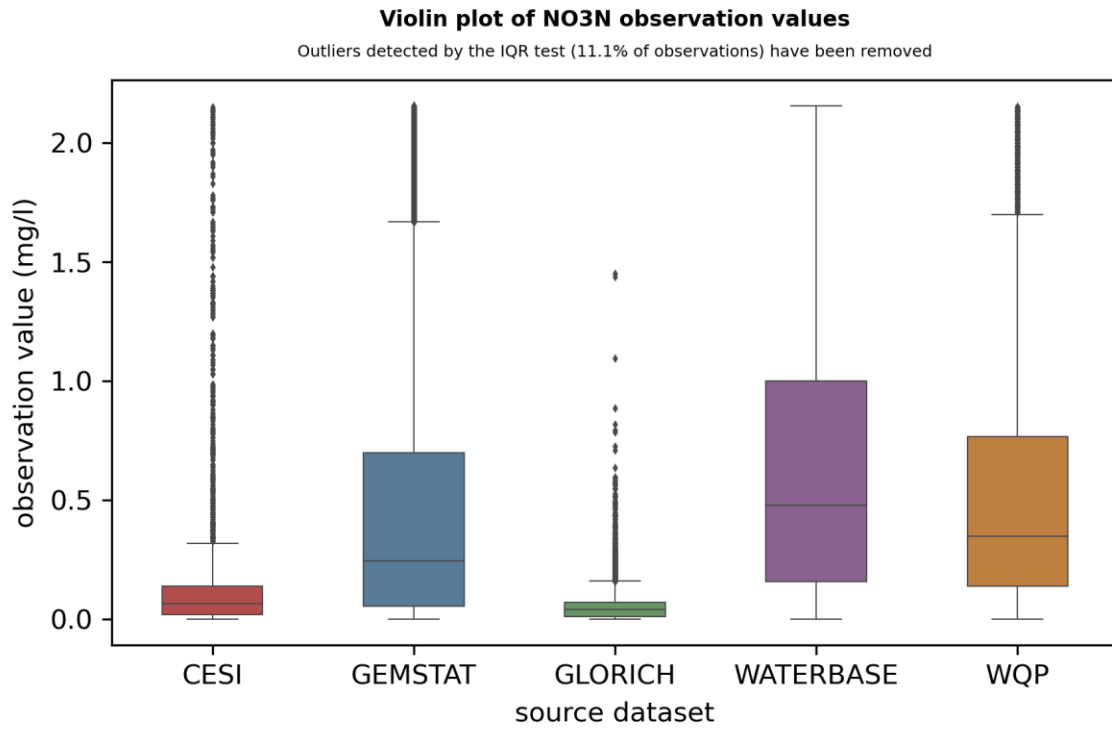
Nitrate Nitrogen (NO₃N)

Monthly time series availability of NO₃N observation values

Monthly time series availability of NO₃N observations

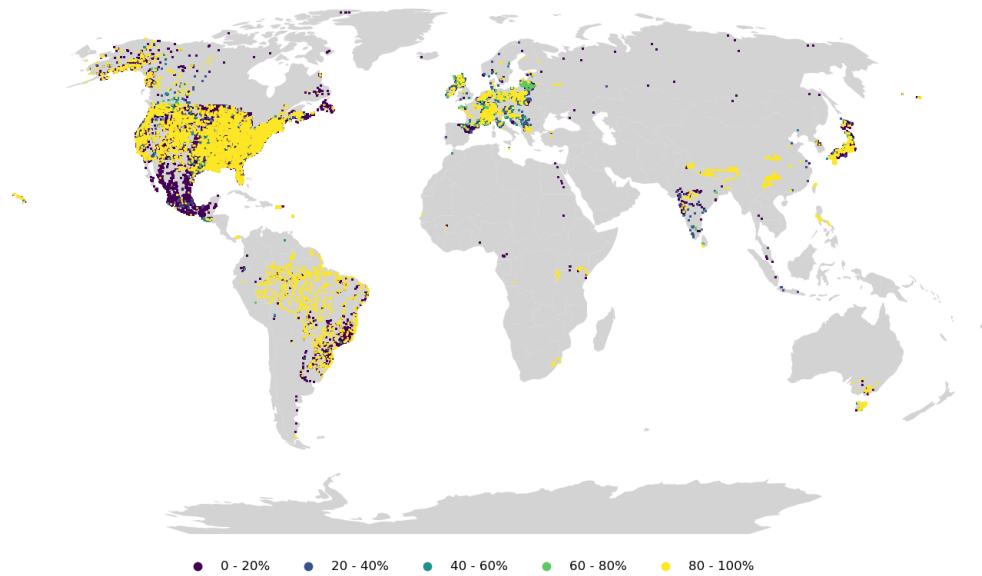


Box plot of NO3N observation values



Monthly time series continuity of NO3N observation values

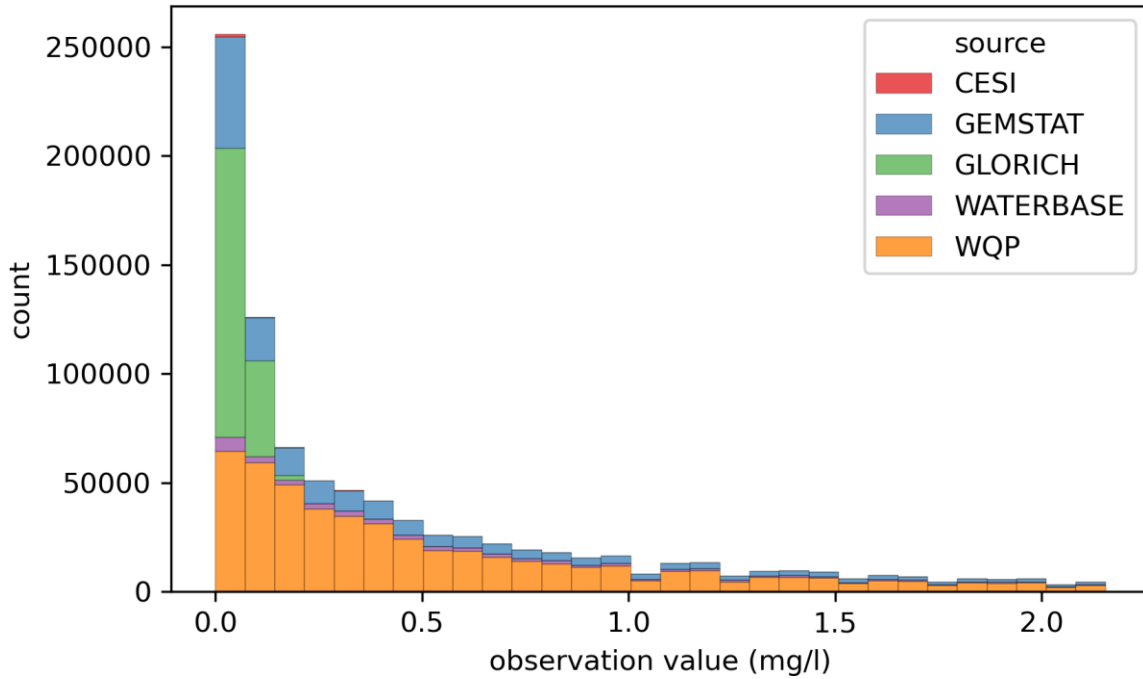
Monthly time series continuity of NO3N observations



Distribution of NO3N observation values

Histogram plot of NO3N observation values

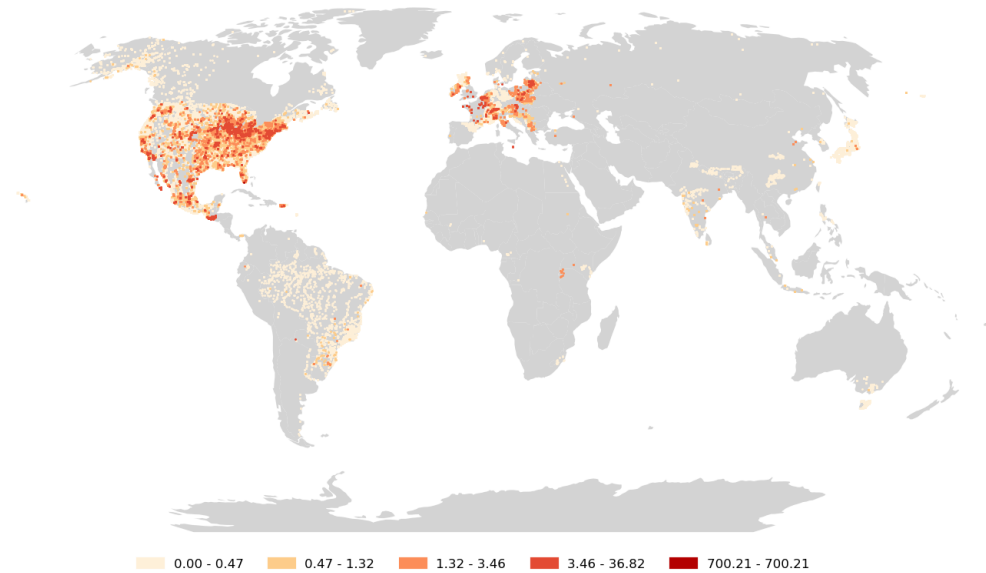
Outliers detected by the IQR test (11.1% of observations) have been removed



Spatial distribution of yearly median of NO3N observation values

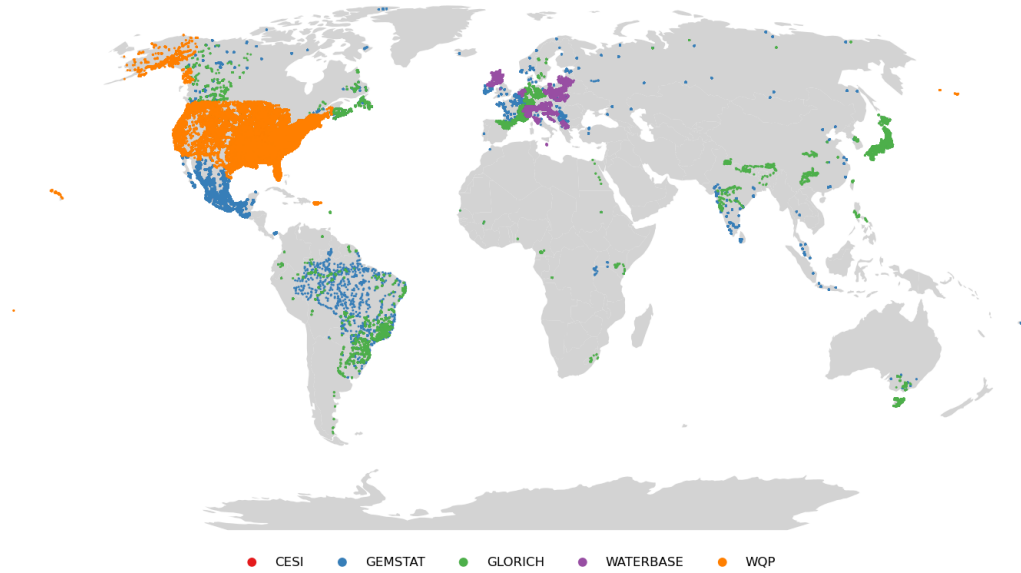
Median observation values of NO3N sites (mg/l)

Outliers detected by the IQR test (11.1% of observations) have been removed



Spatial distribution of NO3N observation values

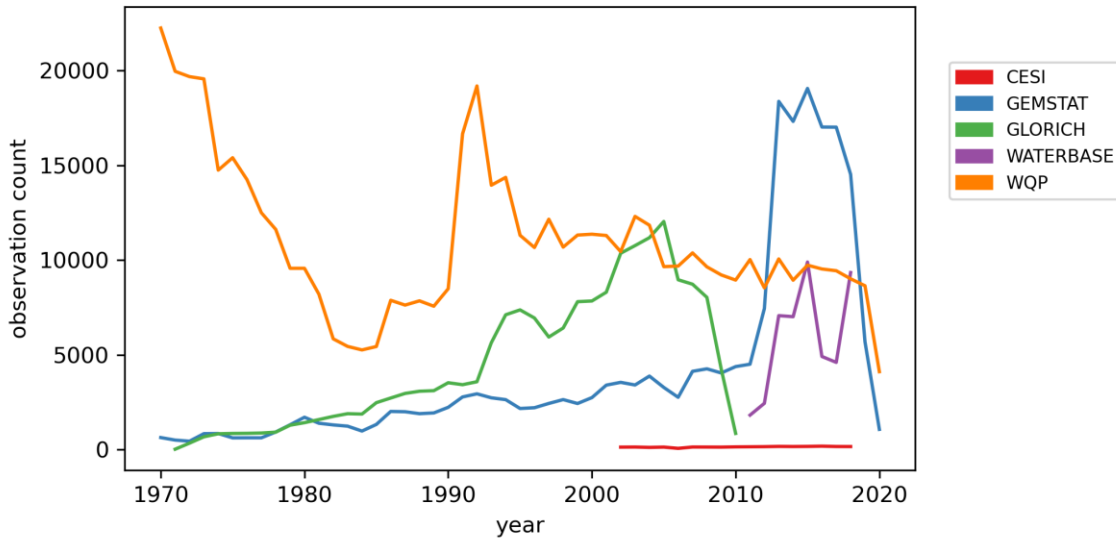
Spatial distribution of NO3N sites



Temporal distribution of NO3N observation values

Temporal distribution of NO3N observation values 1970 - 2020

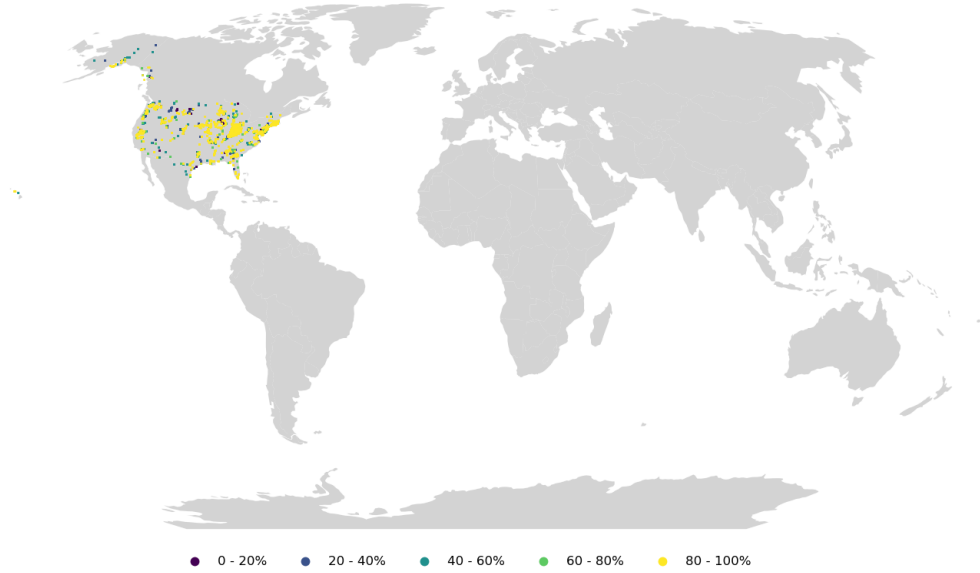
Percentage of observations 1900 - 1970: 18.6%



Particulate Carbon (PC)

Monthly time series availability of PC observation values

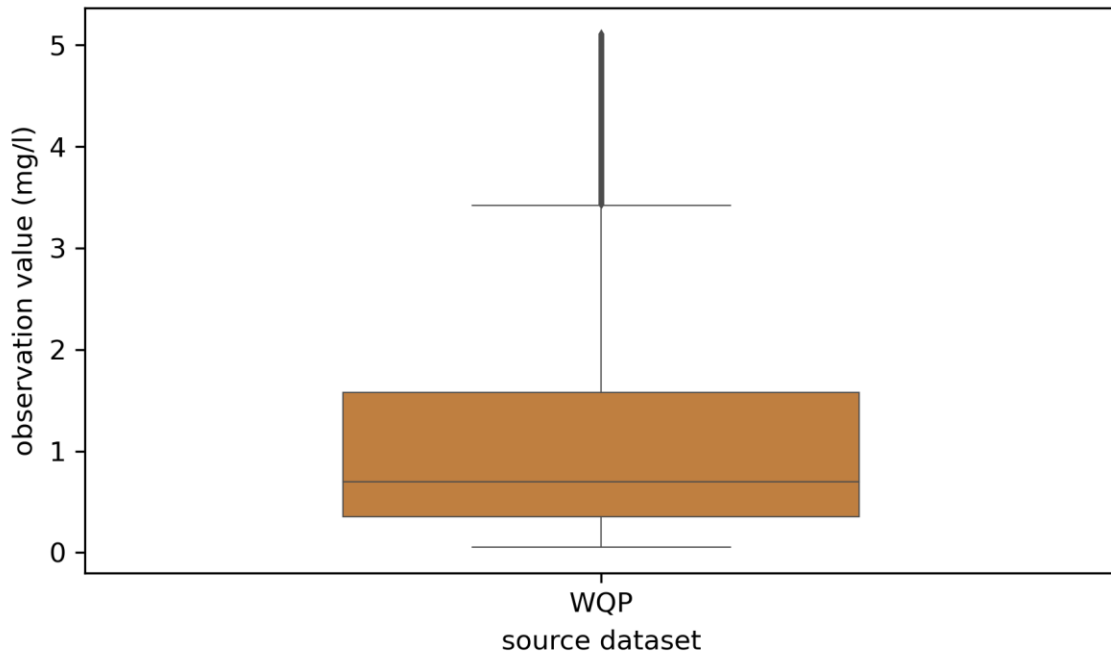
Monthly time series availability of PC observations



Box plot of PC observation values

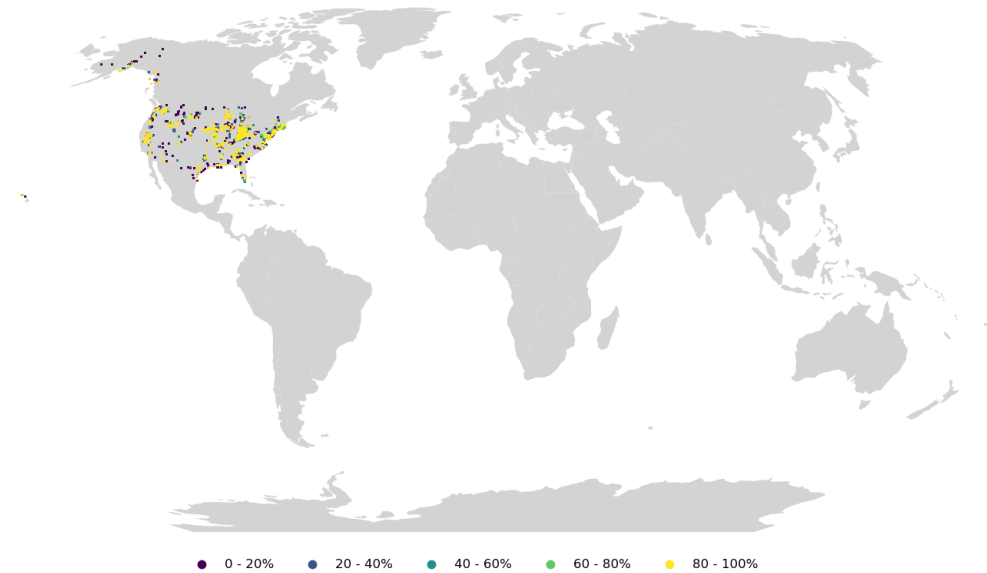
Violin plot of PC observation values

Outliers detected by the IQR test (11.0% of observations) have been removed



Monthly time series continuity of PC observation values

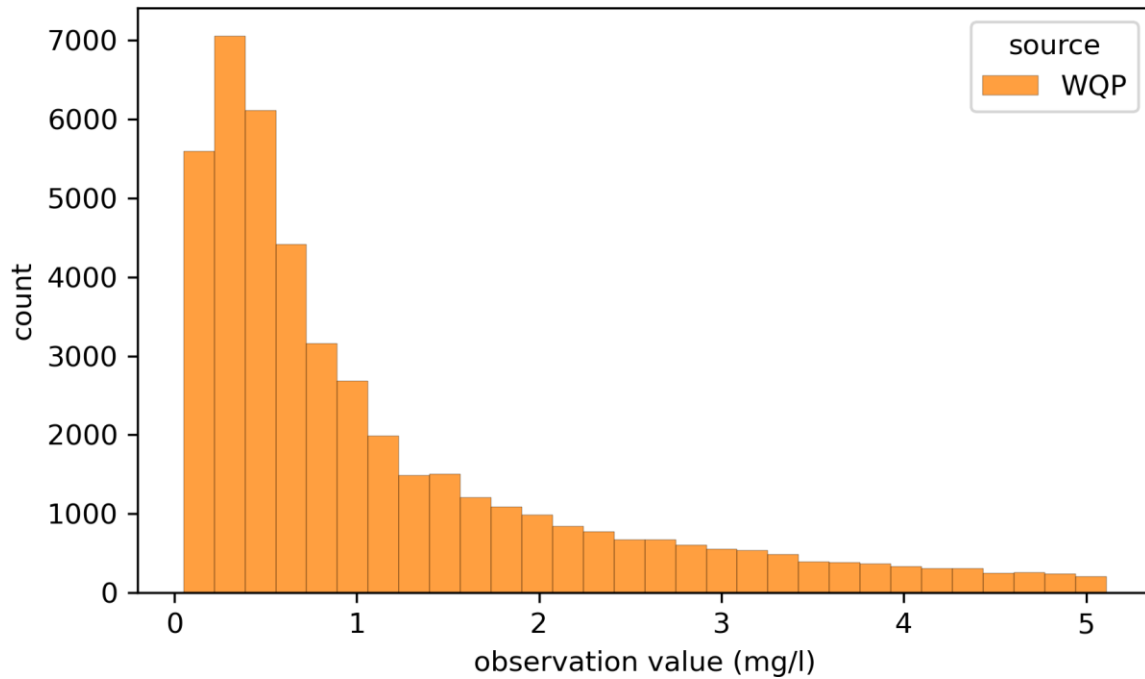
Monthly time series continuity of PC observations



Distribution of PC observation values

Histogram plot of PC observation values

Outliers detected by the IQR test (11.0% of observations) have been removed



Spatial distribution of yearly median of PC observation values

Median observation values of PC sites (mg/l)

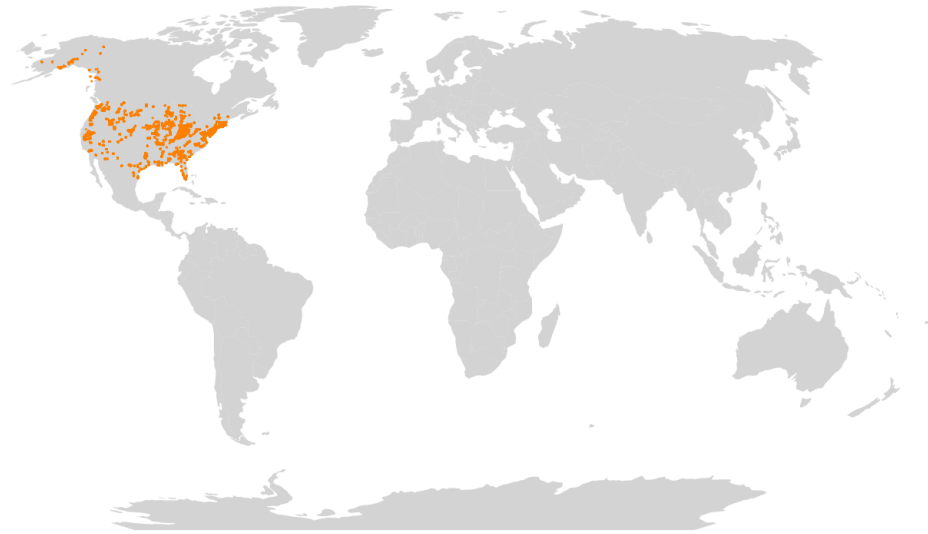
Outliers detected by the IQR test (11.0% of observations) have been removed



0.06 - 1.22 1.23 - 2.76 2.78 - 5.41 5.55 - 11.80 17.30 - 27.20

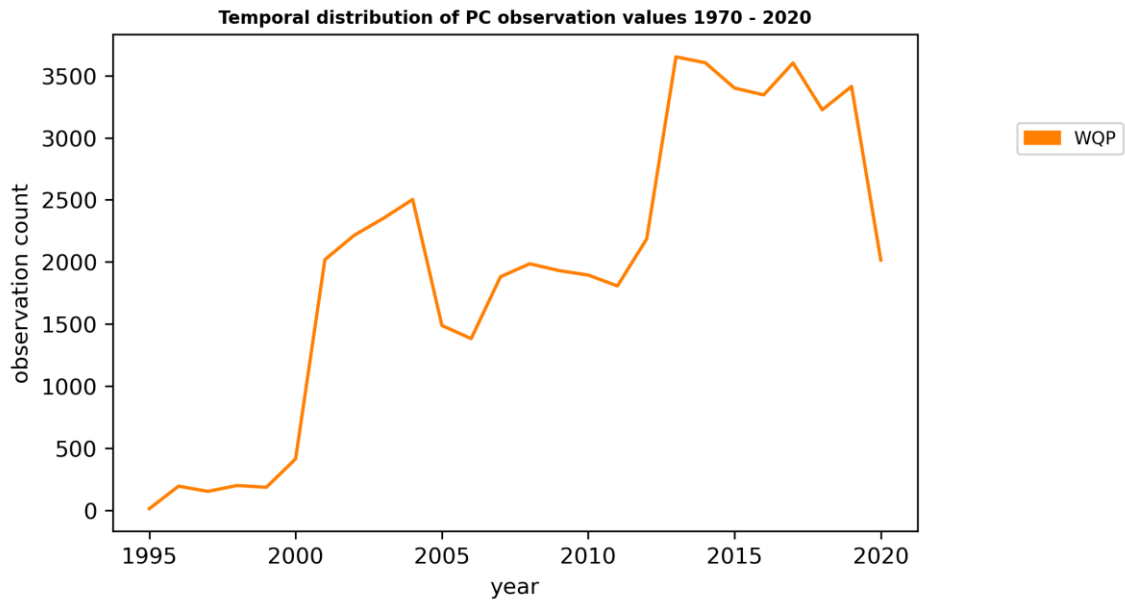
Spatial distribution of PC observation values

Spatial distribution of PC sites



● WQP

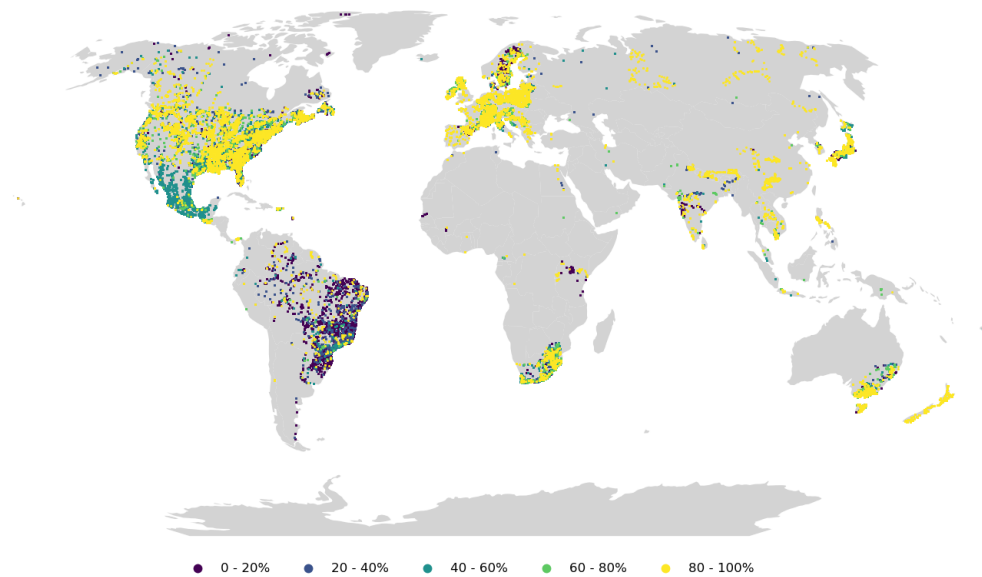
Temporal distribution of PC observation values



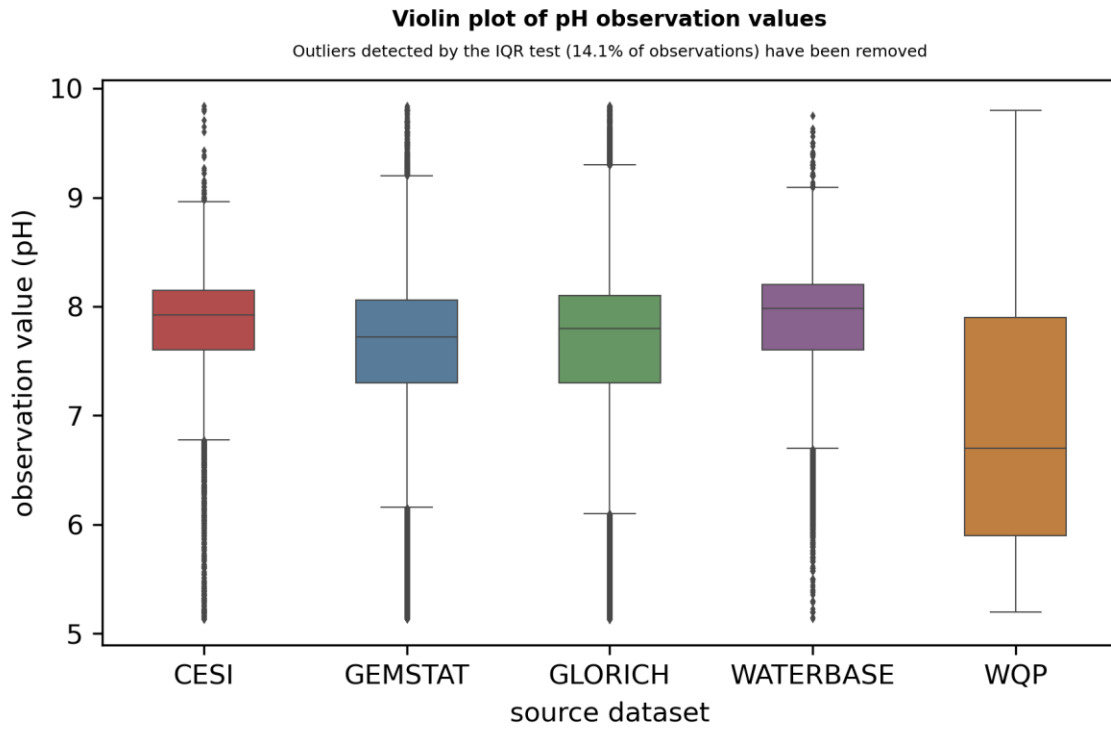
pH (pH)

Monthly time series availability of pH observation values

Monthly time series availability of pH observations

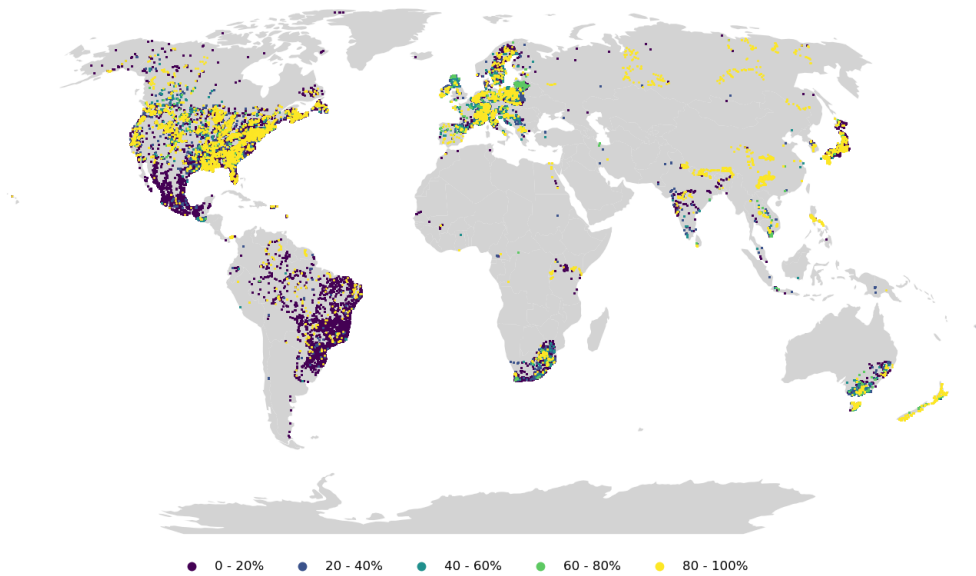


Box plot of pH observation values



Monthly time series continuity of pH observation values

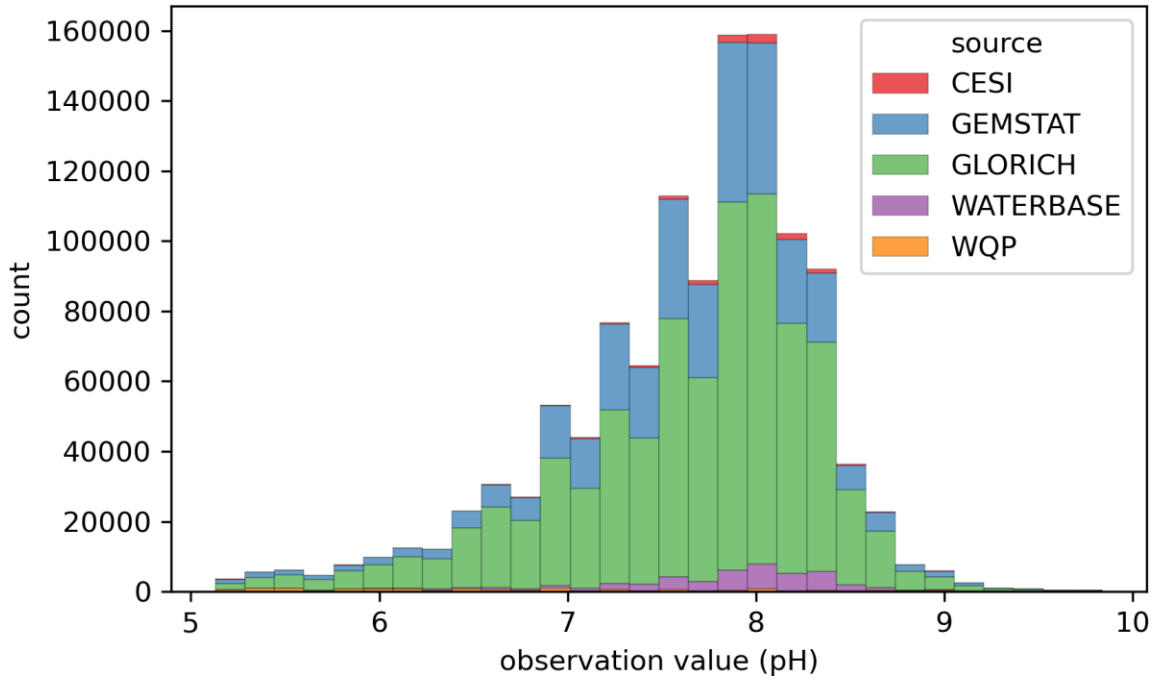
Monthly time series continuity of pH observations



Distribution of pH observation values

Histogram plot of pH observation values

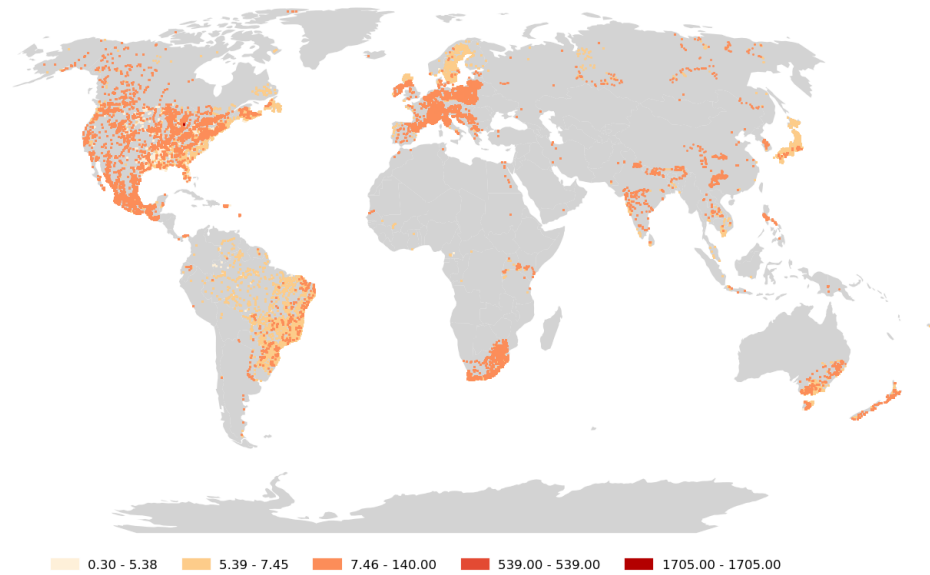
Outliers detected by the IQR test (14.1% of observations) have been removed



Spatial distribution of yearly median of pH observation values

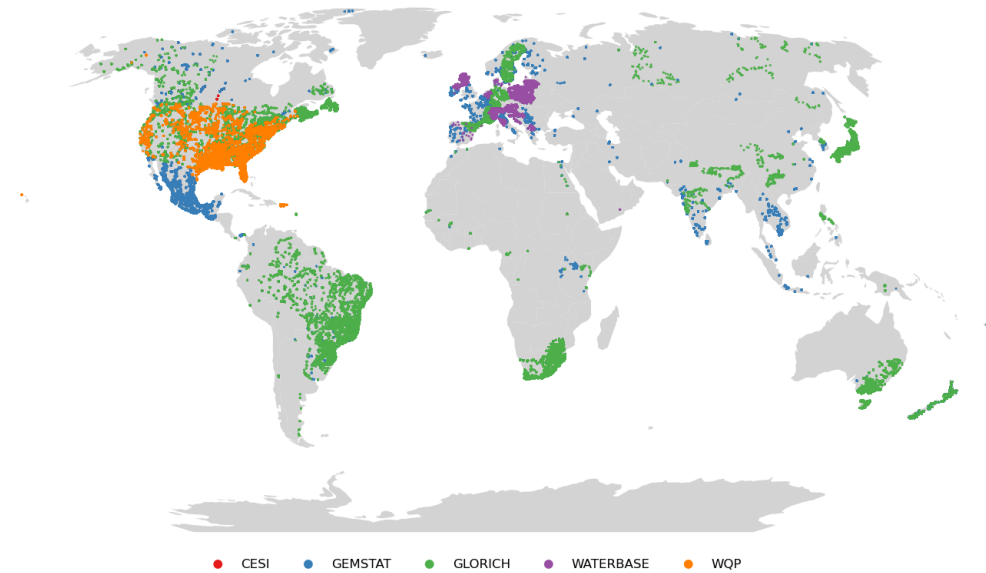
Median observation values of pH sites (pH)

Outliers detected by the IQR test (14.1% of observations) have been removed



Spatial distribution of pH observation values

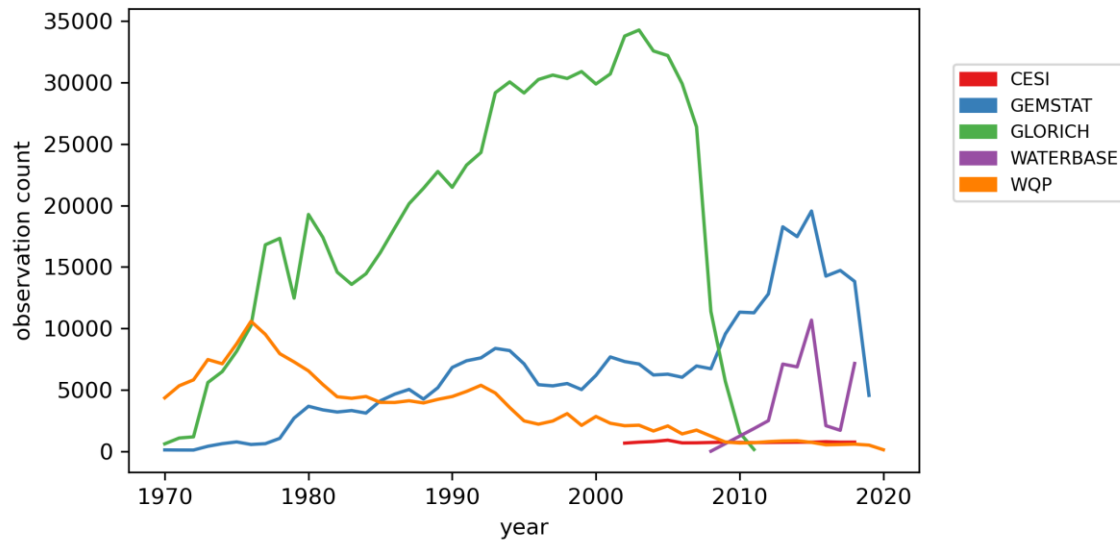
Spatial distribution of pH sites



Temporal distribution of pH observation values

Temporal distribution of pH observation values 1970 - 2020

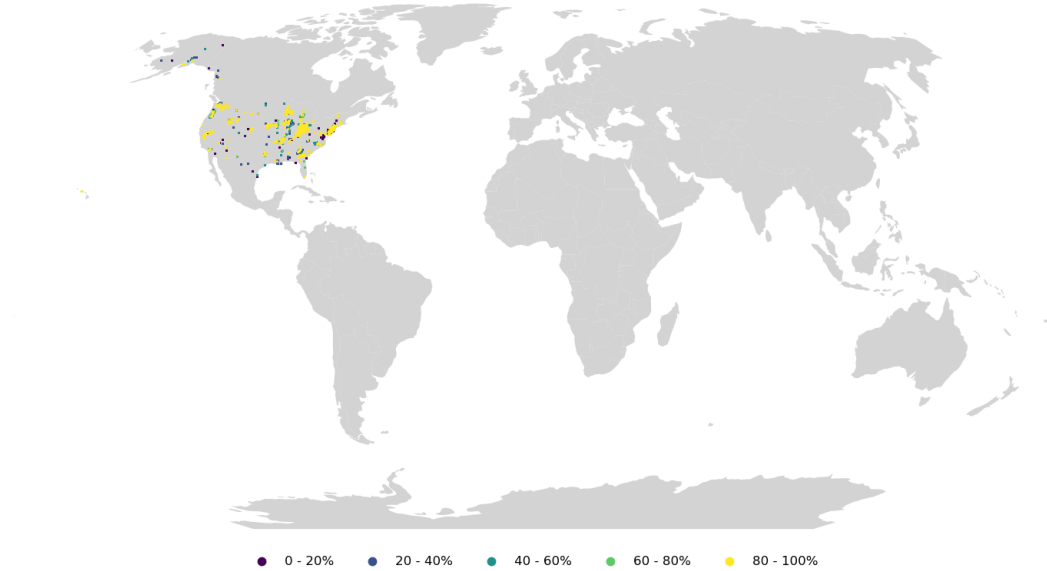
Percentage of observations 1900 - 1970: 1.0%



Particulate Inorganic Carbon (PIC)

Monthly time series availability of PIC observation values

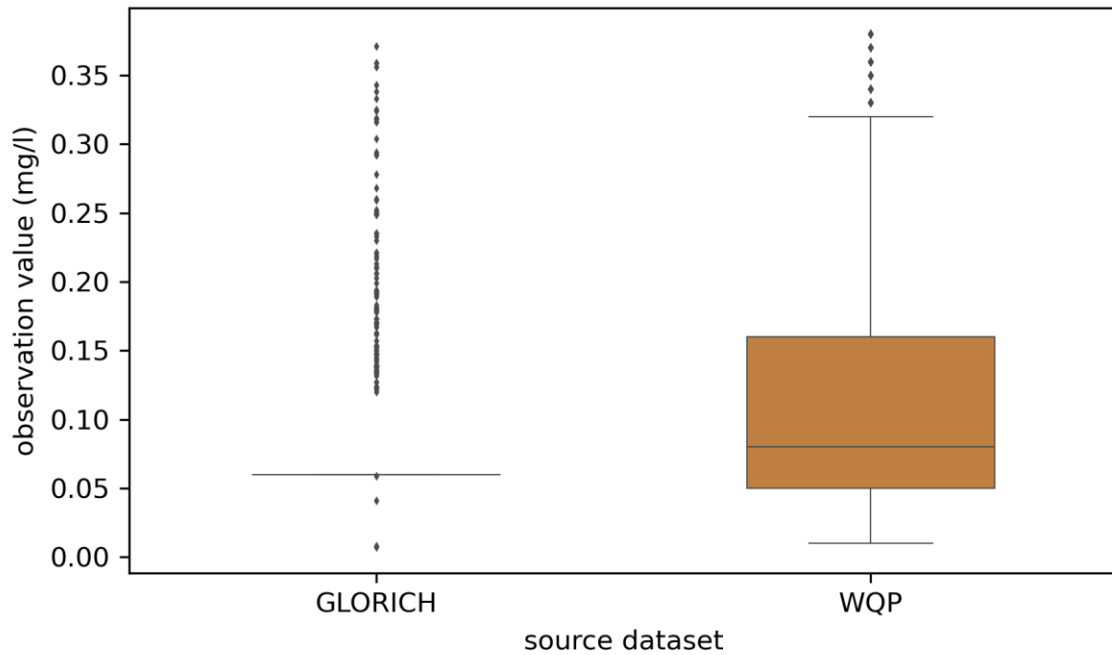
Monthly time series availability of PIC observations



Box plot of PIC observation values

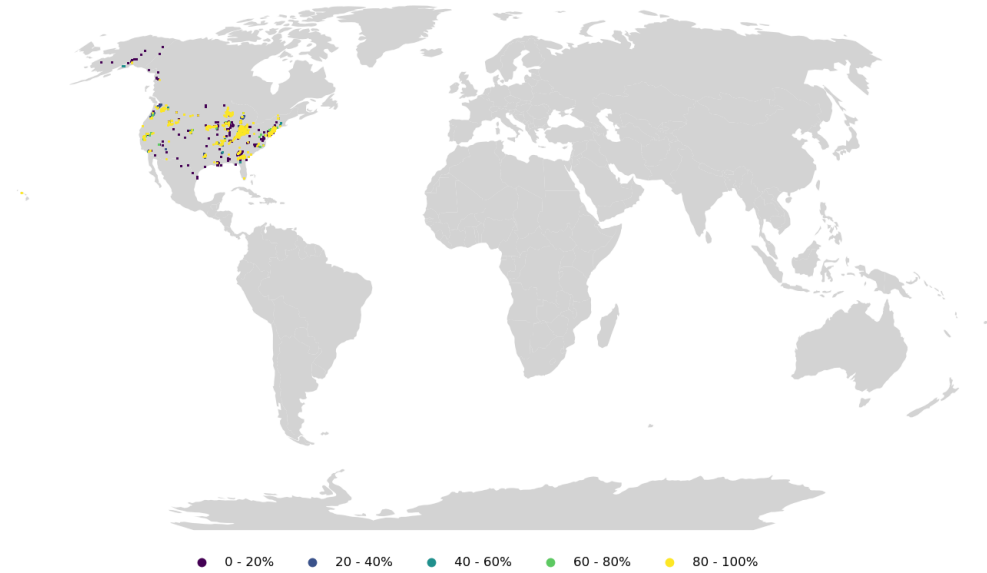
Violin plot of PIC observation values

Outliers detected by the IQR test (14.0% of observations) have been removed



Monthly time series continuity of PIC observation values

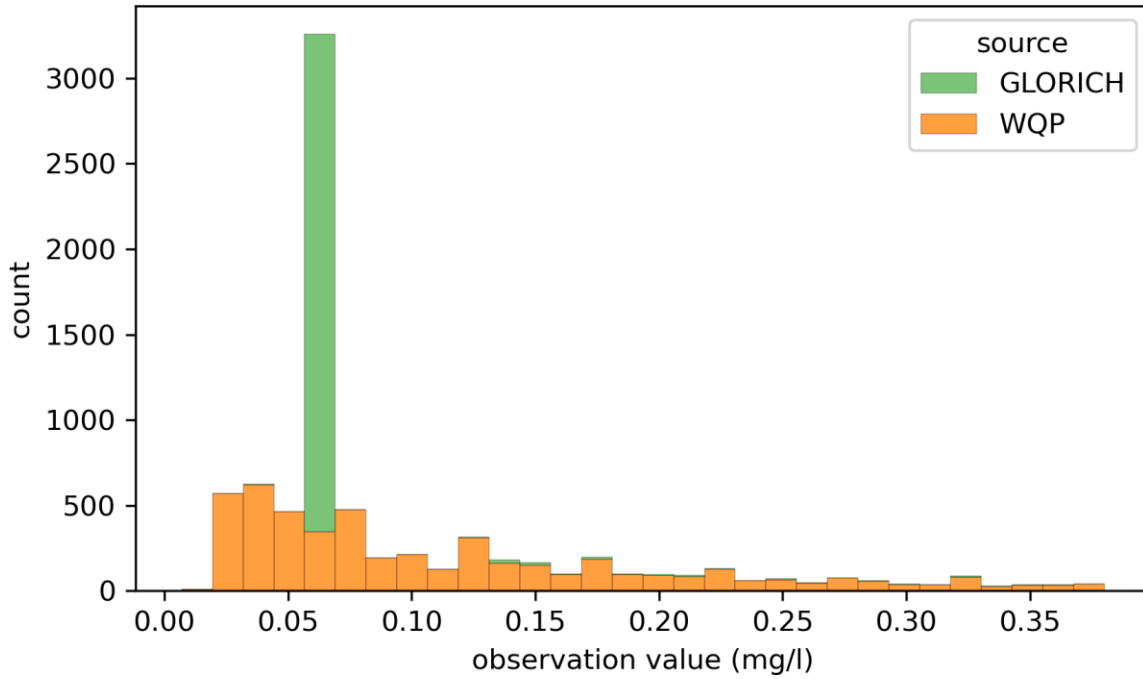
Monthly time series continuity of PIC observations



Distribution of PIC observation values

Histogram plot of PIC observation values

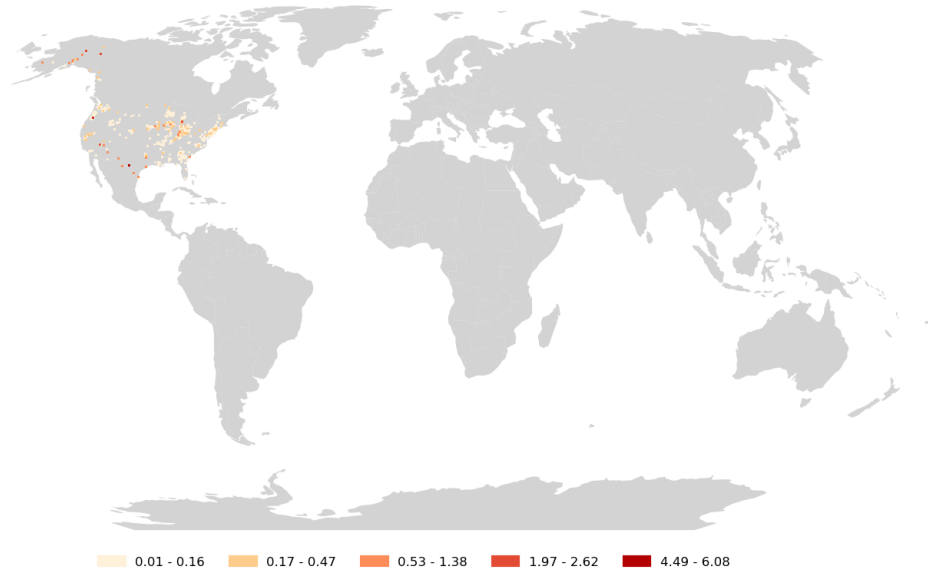
Outliers detected by the IQR test (14.0% of observations) have been removed



Spatial distribution of yearly median of PIC observation values

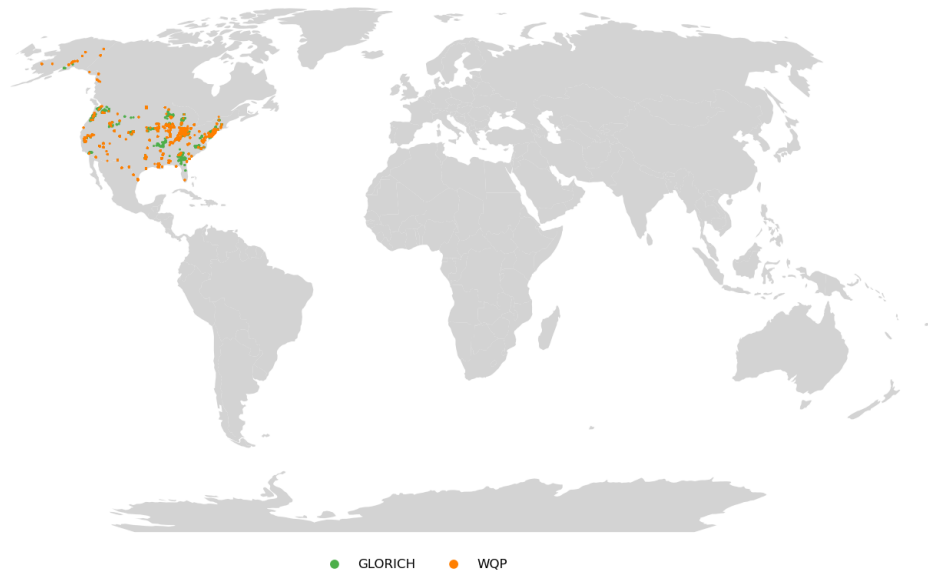
Median observation values of PIC sites (mg/l)

Outliers detected by the IQR test (14.0% of observations) have been removed

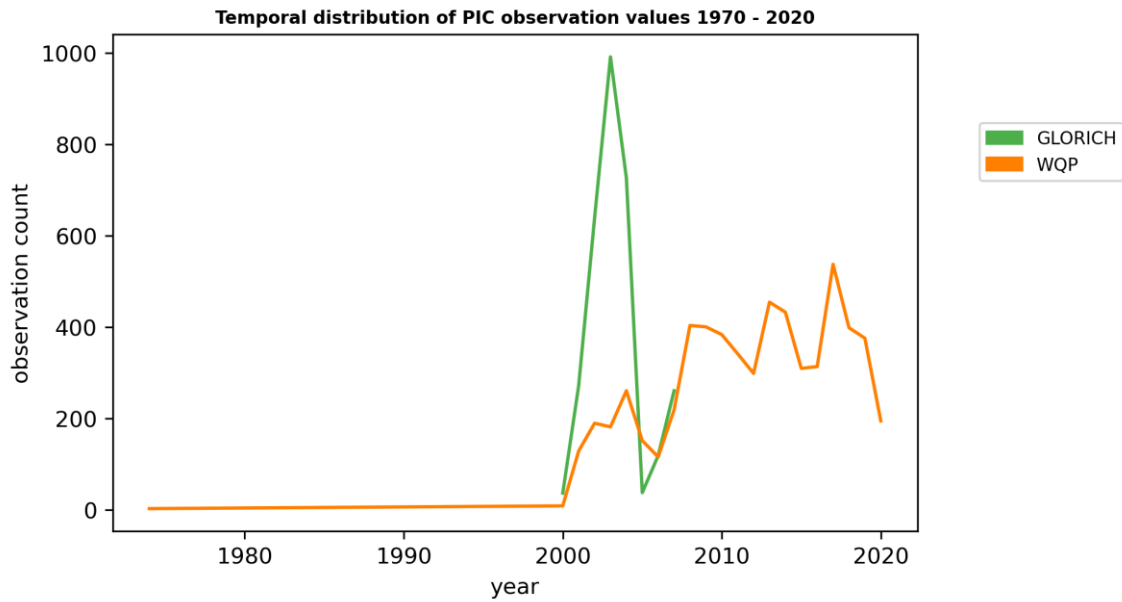


Spatial distribution of PIC observation values

Spatial distribution of PIC sites



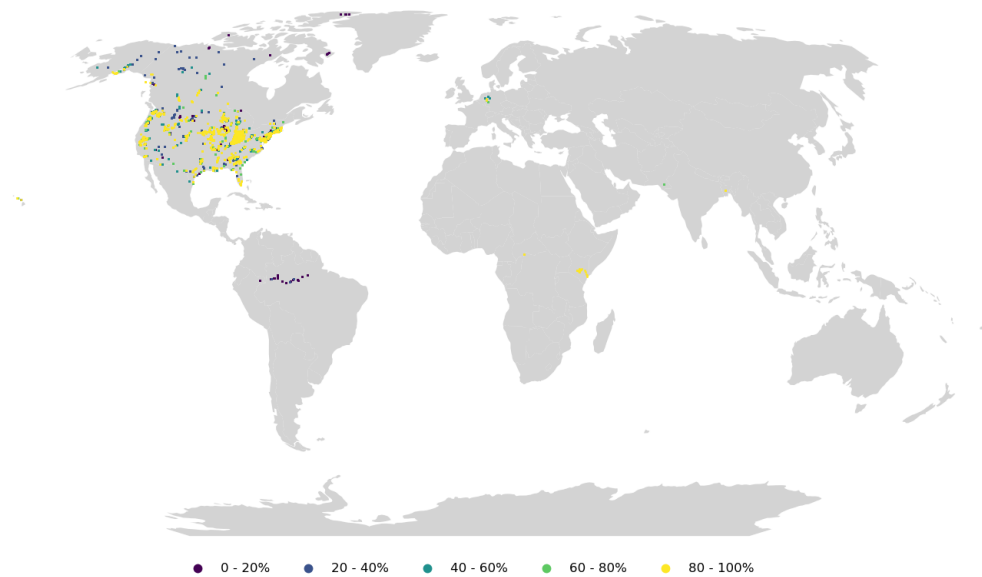
Temporal distribution of PIC observation values



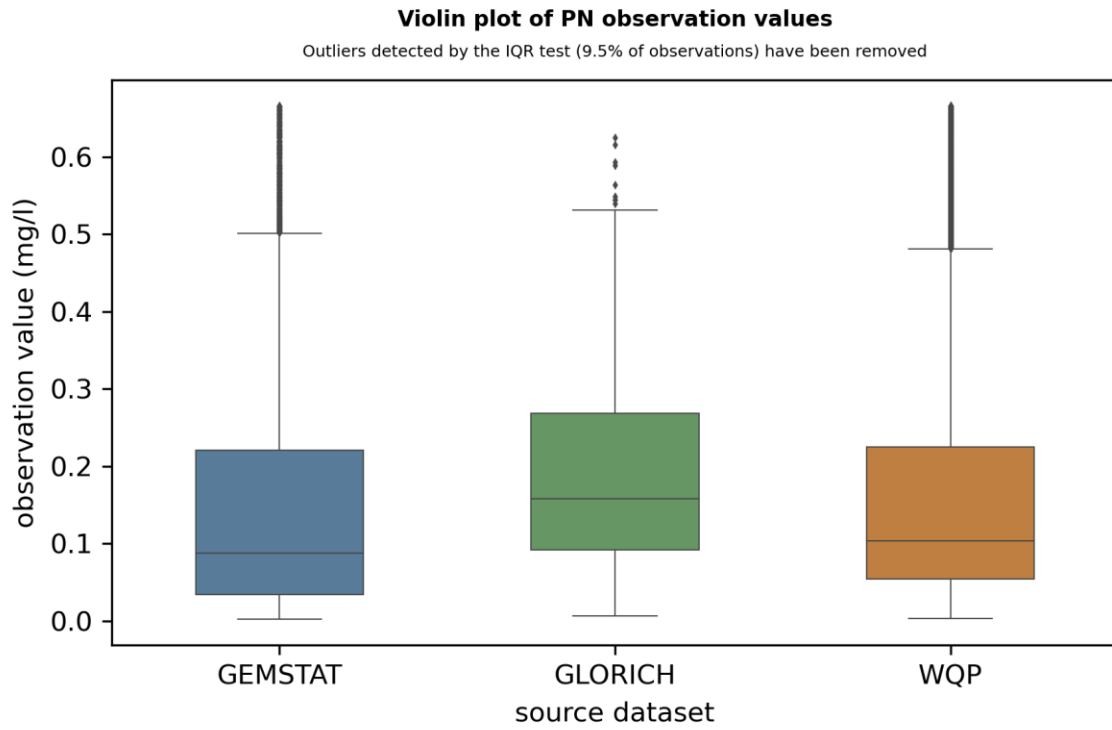
Particulate Nitrogen (PN)

Monthly time series availability of PN observation values

Monthly time series availability of PN observations

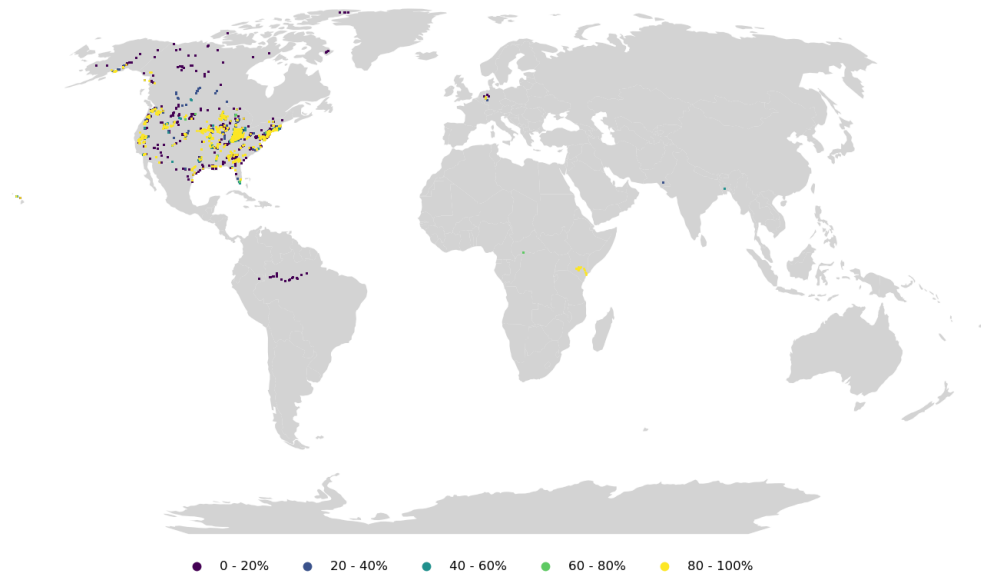


Box plot of PN observation values



Monthly time series continuity of PN observation values

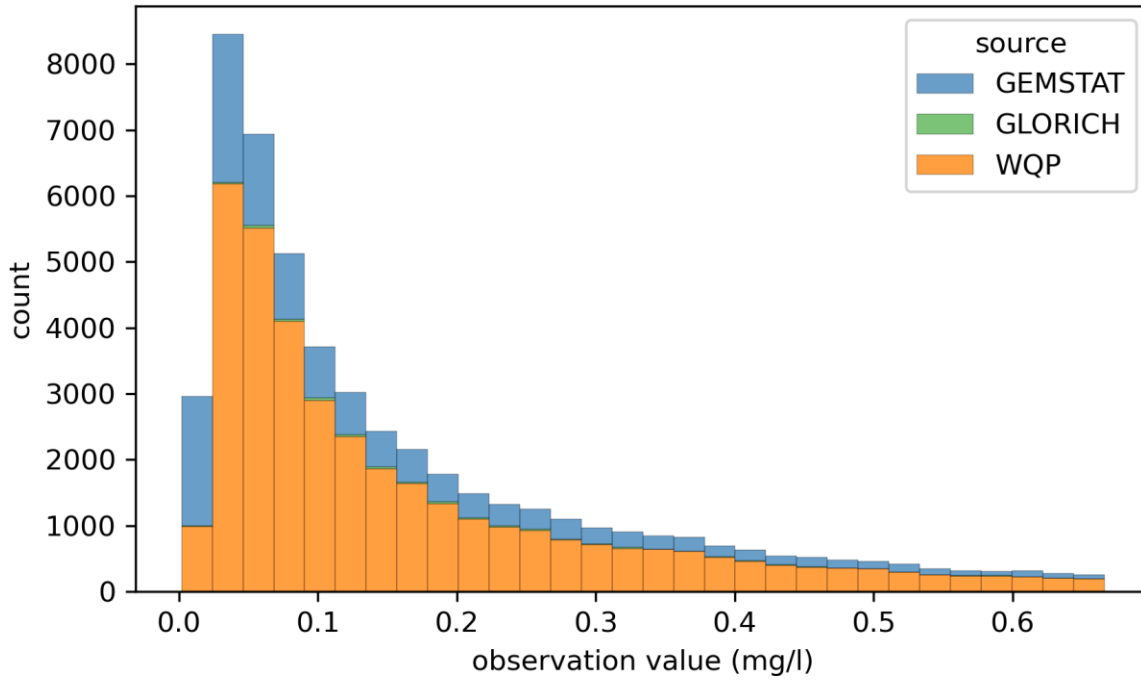
Monthly time series continuity of PN observations



Distribution of PN observation values

Histogram plot of PN observation values

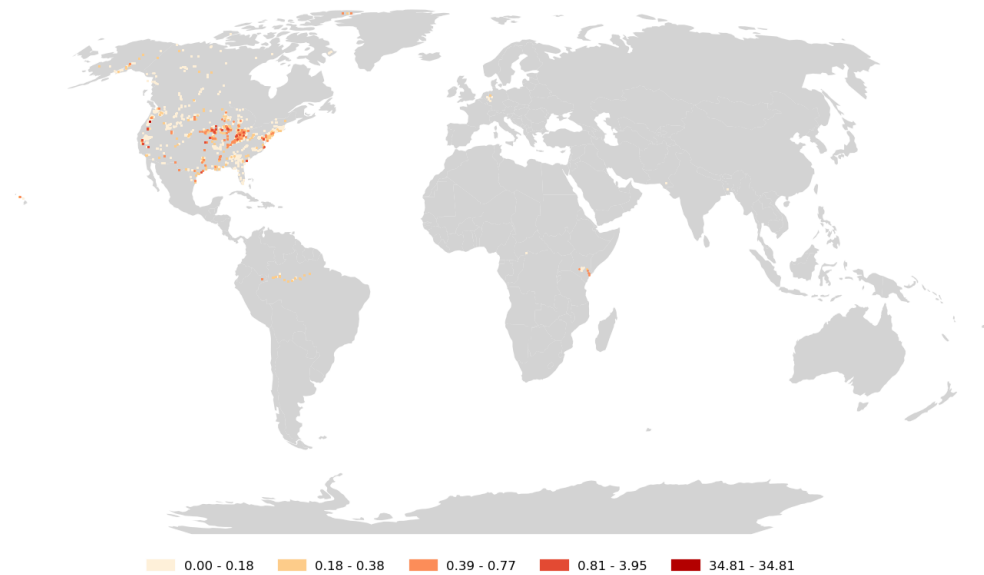
Outliers detected by the IQR test (9.5% of observations) have been removed



Spatial distribution of yearly median of PN observation values

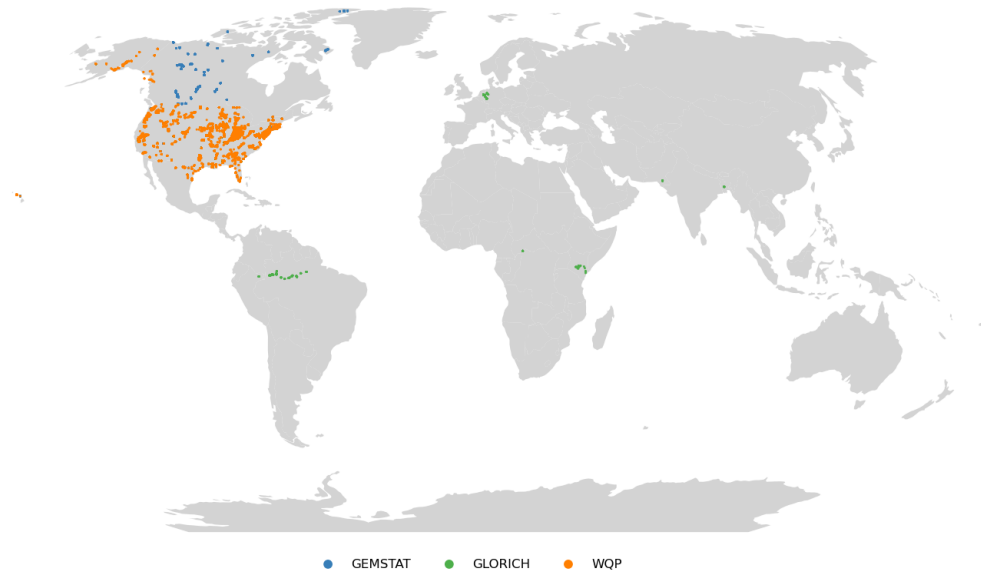
Median observation values of PN sites (mg/l)

Outliers detected by the IQR test (9.5% of observations) have been removed



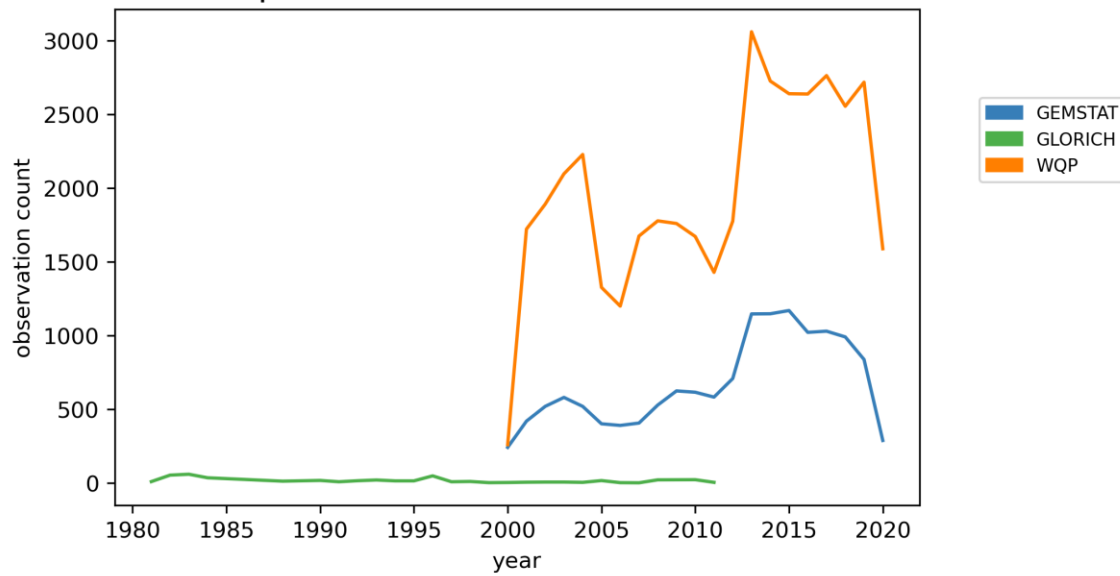
Spatial distribution of PN observation values

Spatial distribution of PN sites



Temporal distribution of PN observation values

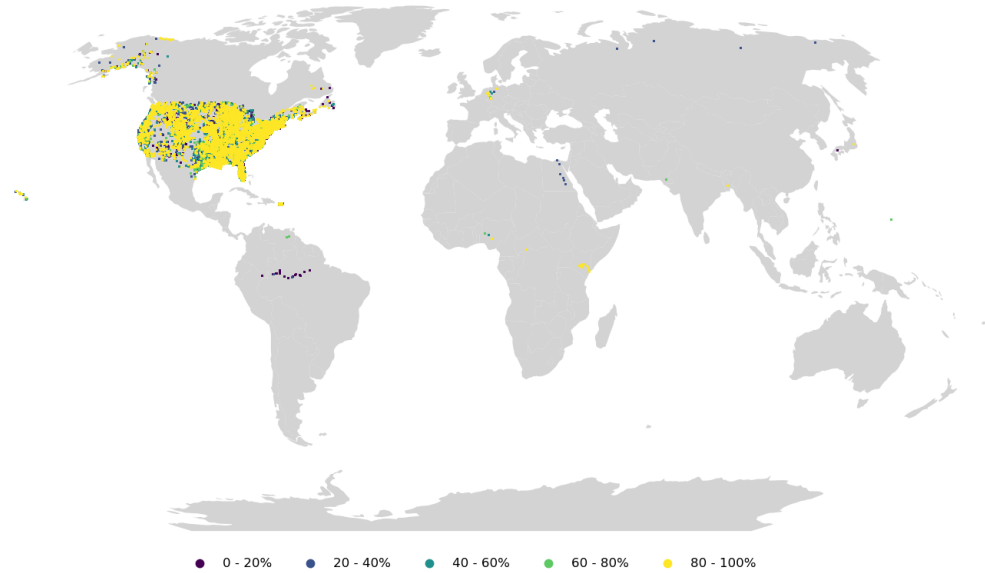
Temporal distribution of PN observation values 1970 - 2020



Particulate Organic Carbon (POC)

Monthly time series availability of POC observation values

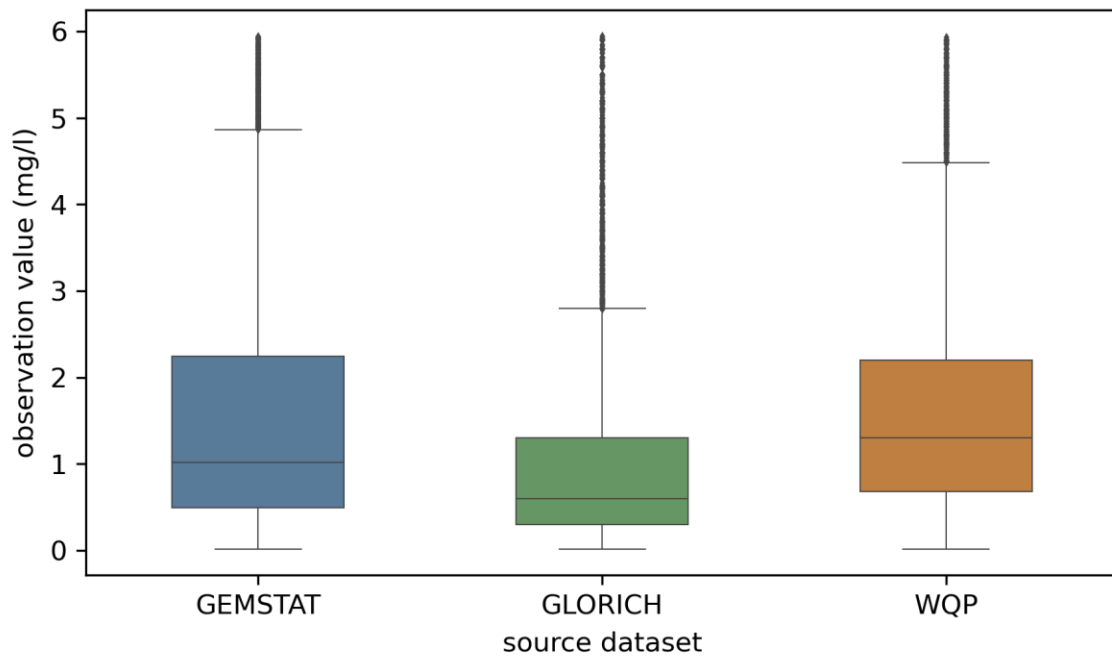
Monthly time series availability of POC observations



Box plot of POC observation values

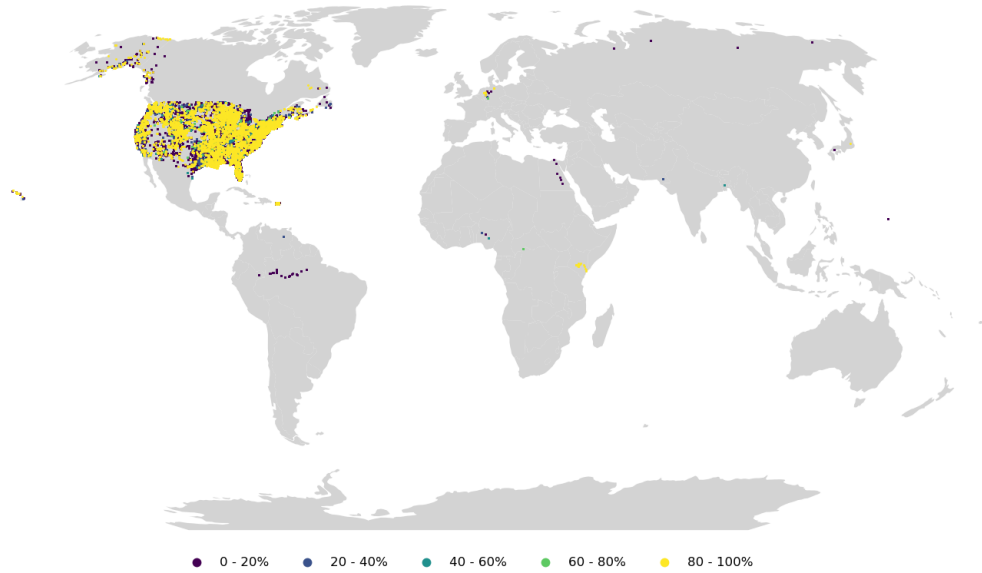
Violin plot of POC observation values

Outliers detected by the IQR test (9.7% of observations) have been removed



Monthly time series continuity of POC observation values

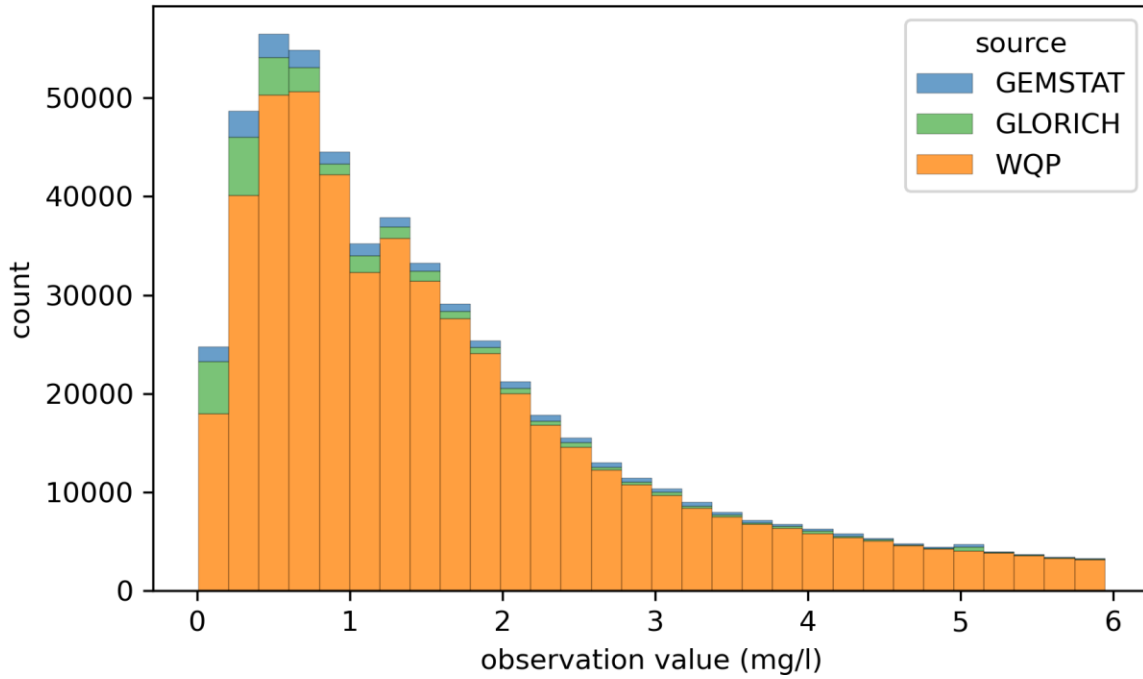
Monthly time series continuity of POC observations



Distribution of POC observation values

Histogram plot of POC observation values

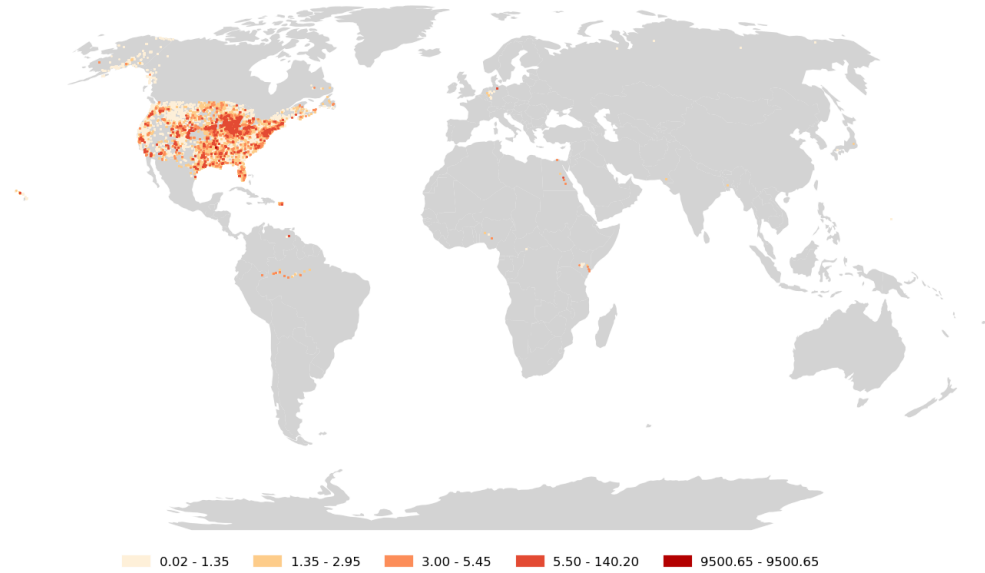
Outliers detected by the IQR test (9.7% of observations) have been removed



Spatial distribution of yearly median of POC observation values

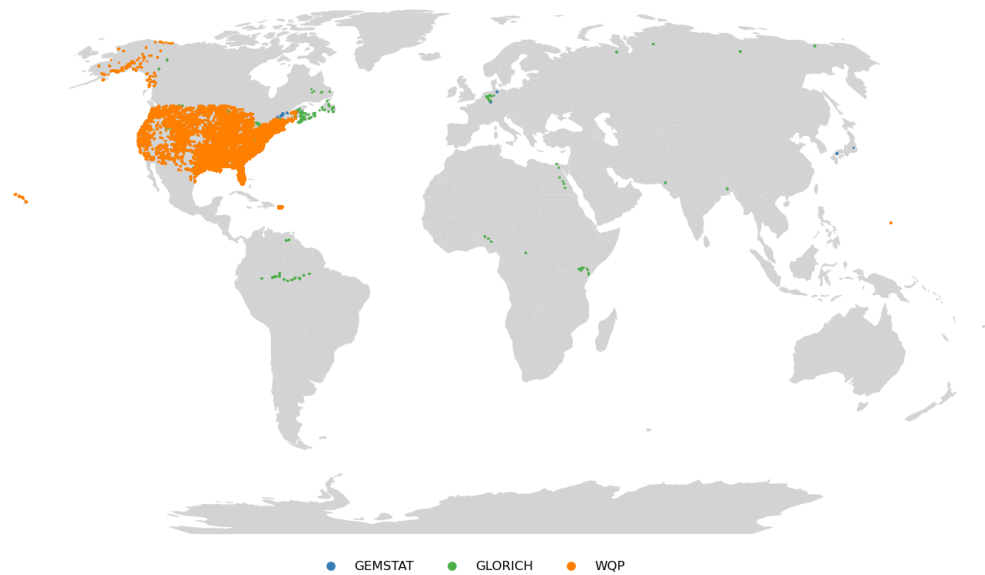
Median observation values of POC sites (mg/l)

Outliers detected by the IQR test (9.7% of observations) have been removed

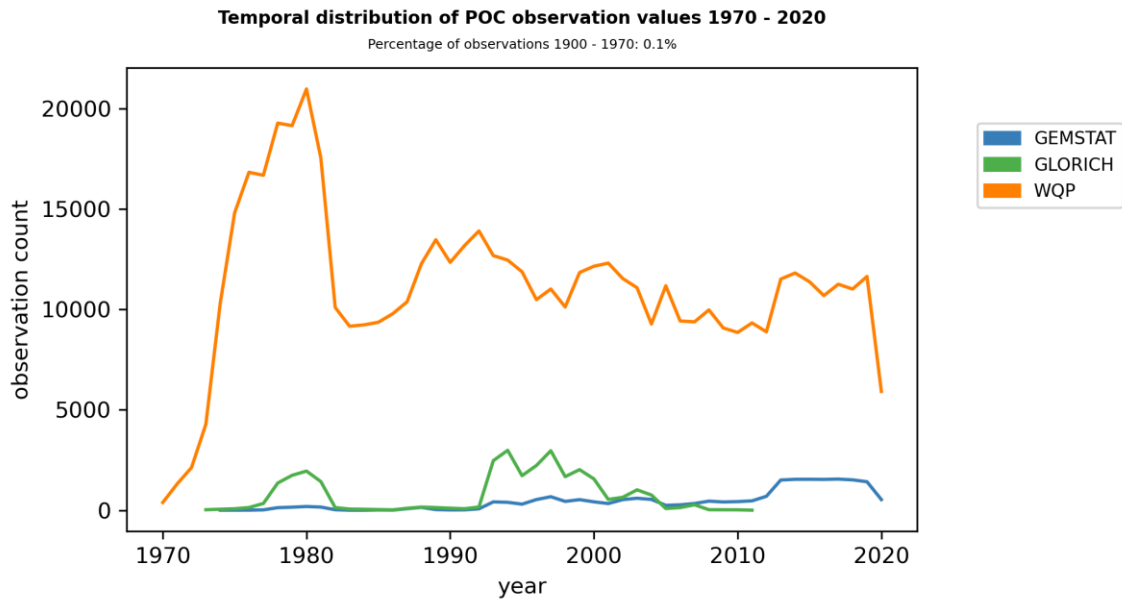


Spatial distribution of POC observation values

Spatial distribution of POC sites



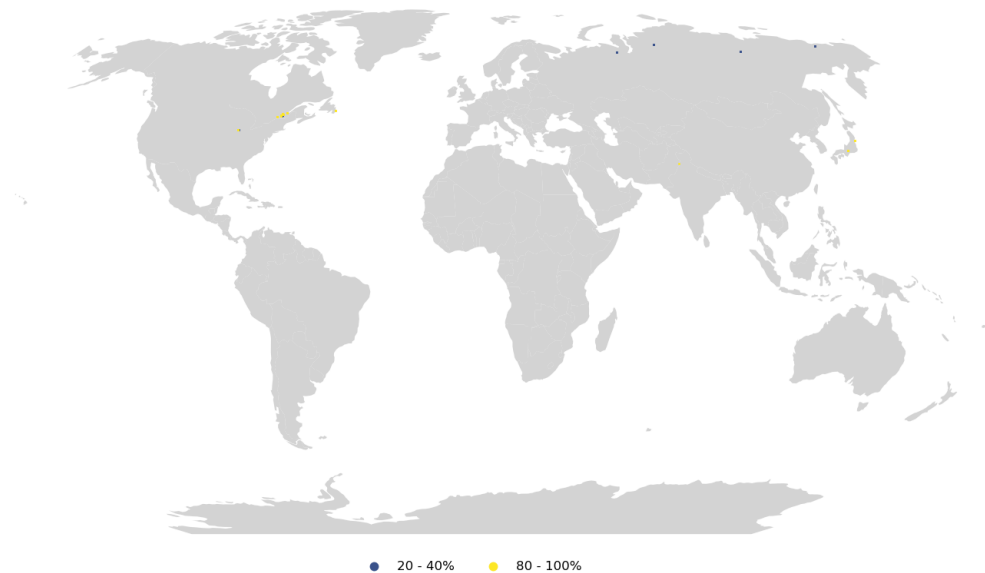
Temporal distribution of POC observation values



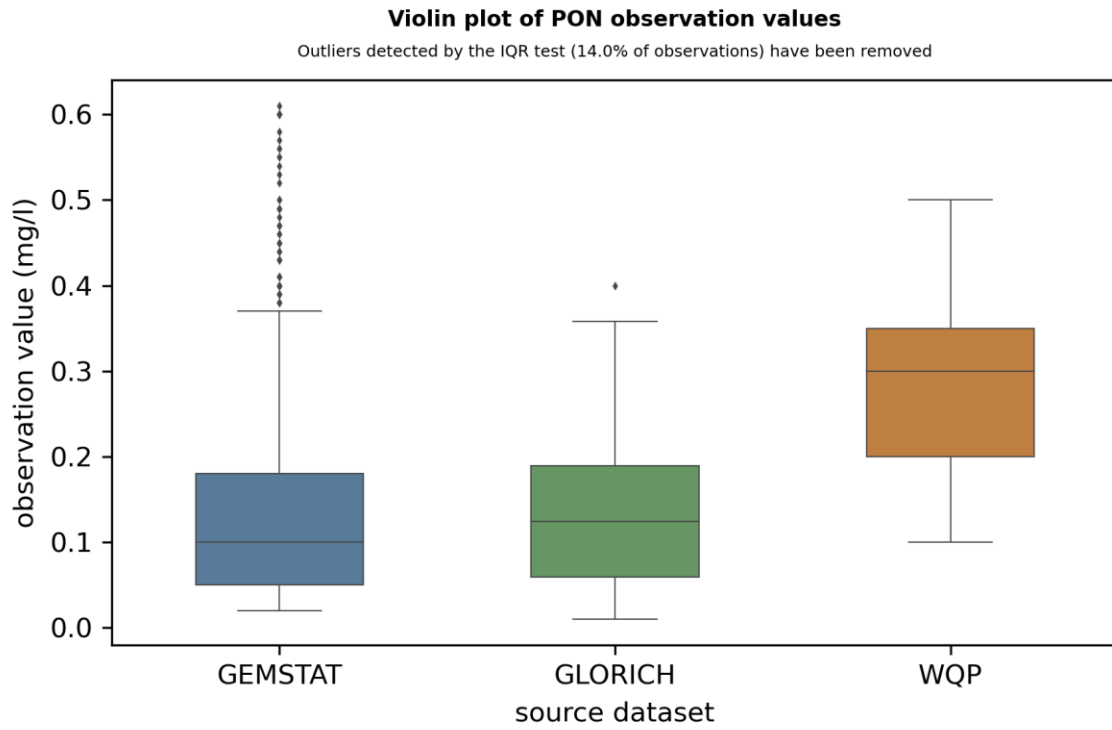
Particulate Organic Nitrogen (PON)

Monthly time series availability of PON observation values

Monthly time series availability of PON observations

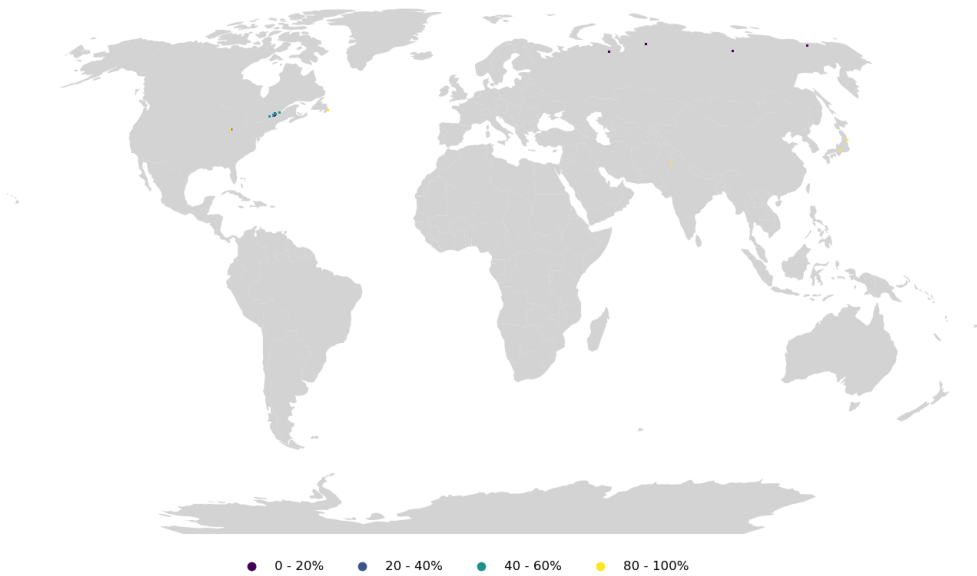


Box plot of PON observation values



Monthly time series continuity of PON observation values

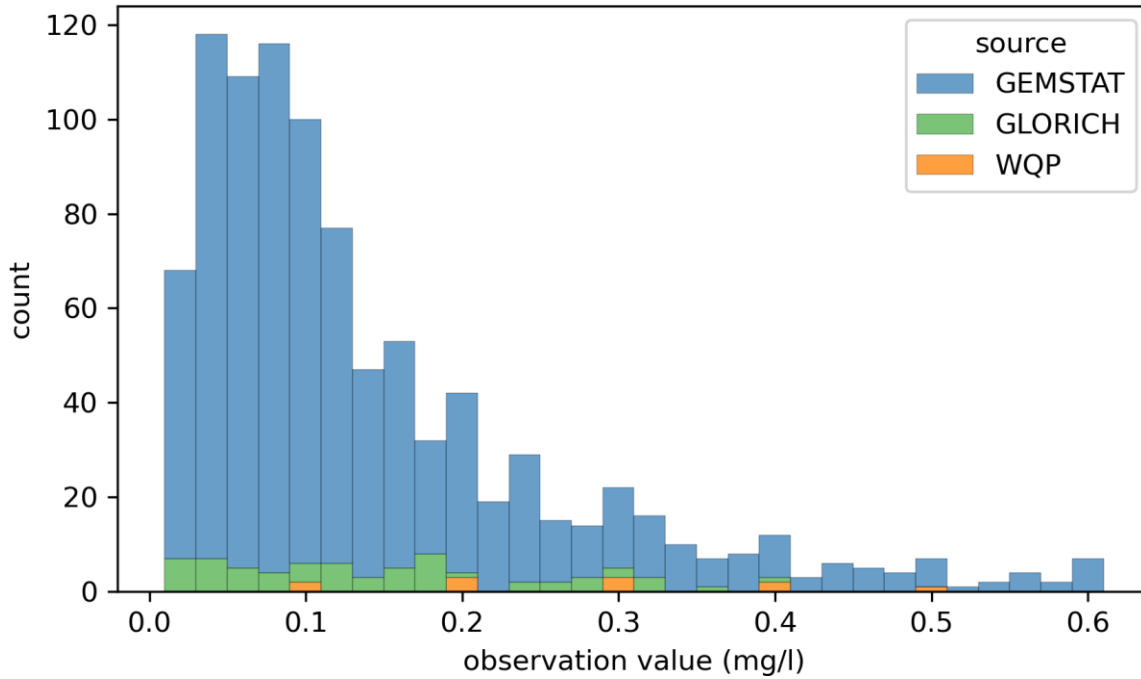
Monthly time series continuity of PON observations



Distribution of PON observation values

Histogram plot of PON observation values

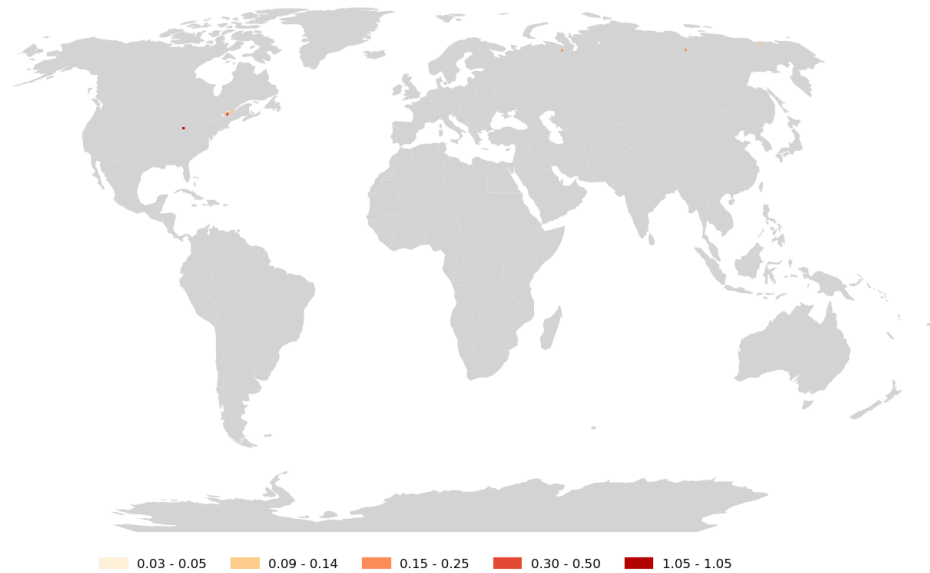
Outliers detected by the IQR test (14.0% of observations) have been removed



Spatial distribution of yearly median of PON observation values

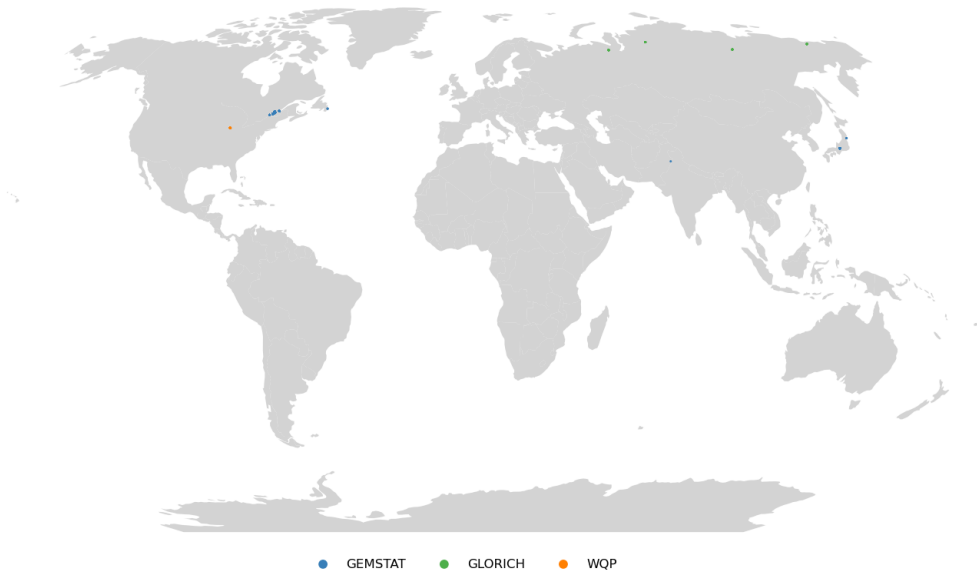
Median observation values of PON sites (mg/l)

Outliers detected by the IQR test (14.0% of observations) have been removed

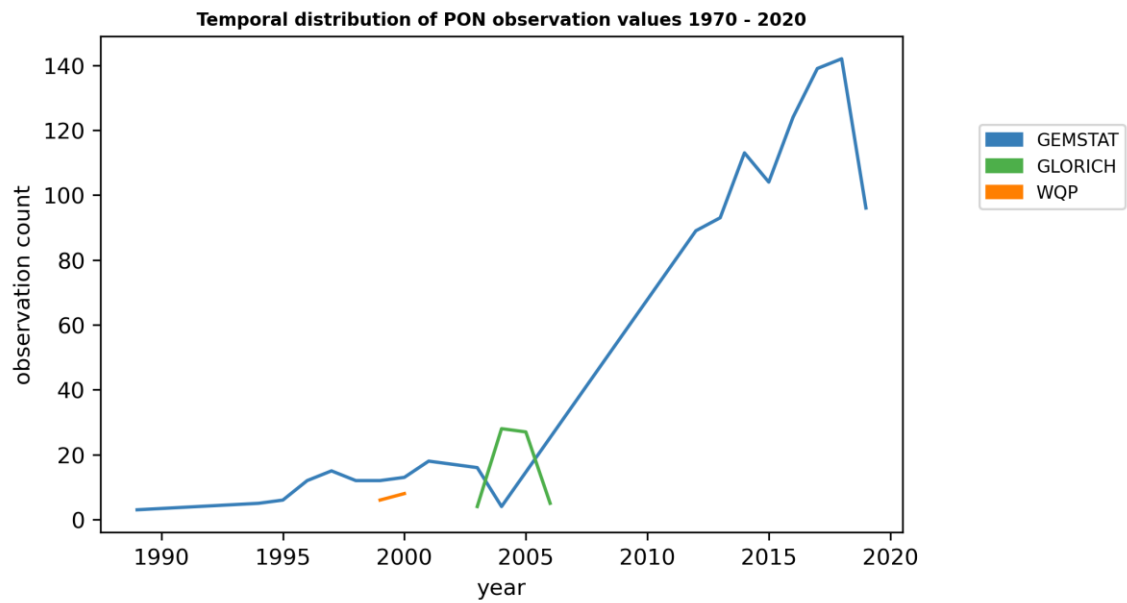


Spatial distribution of PON observation values

Spatial distribution of PON sites



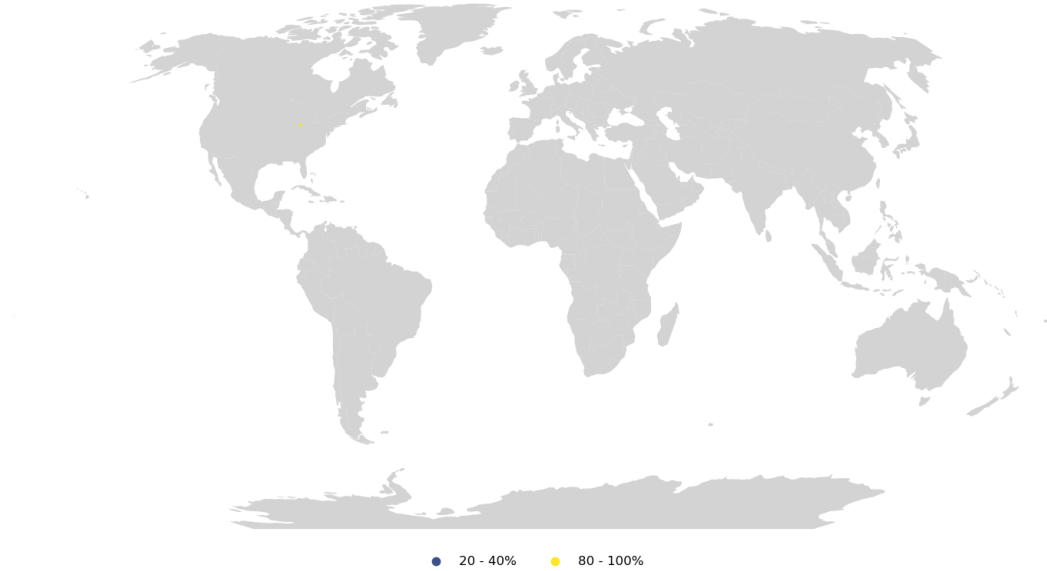
Temporal distribution of PON observation values



Particulate Organic Phosphorus (POP)

Monthly time series availability of POP observation values

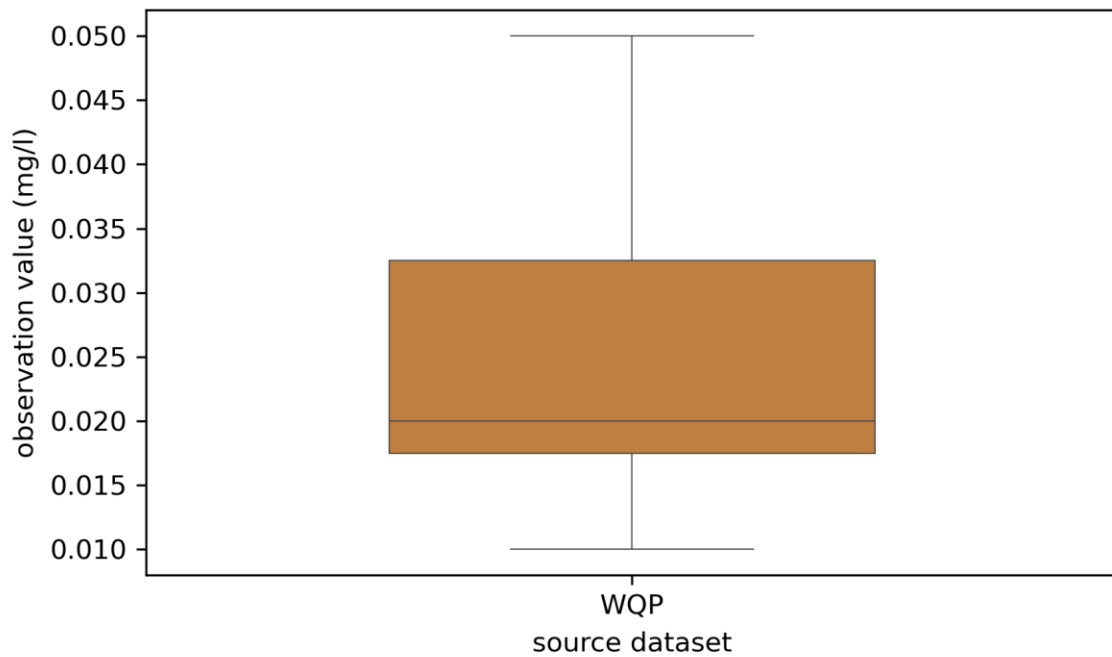
Monthly time series availability of POP observations



Box plot of POP observation values

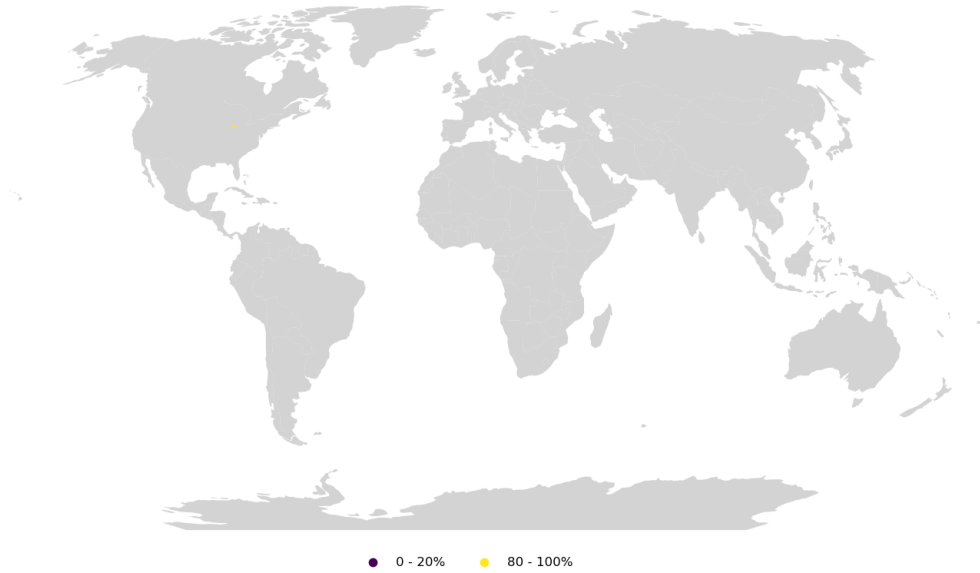
Violin plot of POP observation values

Outliers detected by the IQR test (7.7% of observations) have been removed



Monthly time series continuity of POP observation values

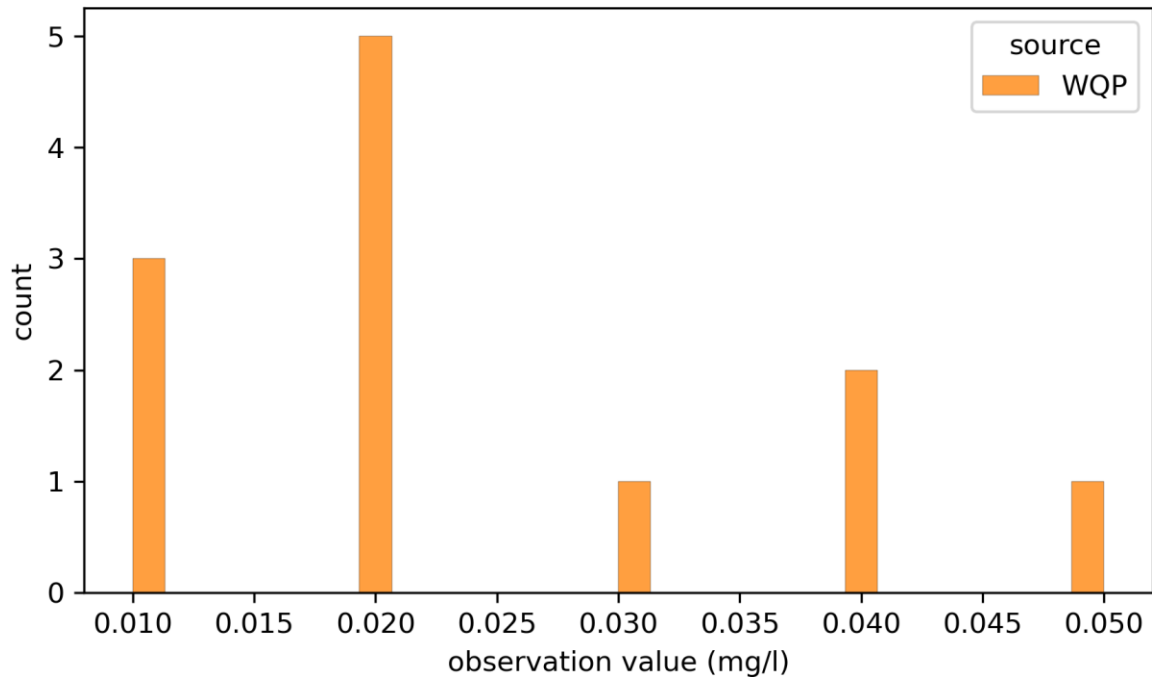
Monthly time series continuity of POP observations



Distribution of POP observation values

Histogram plot of POP observation values

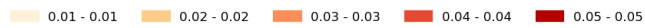
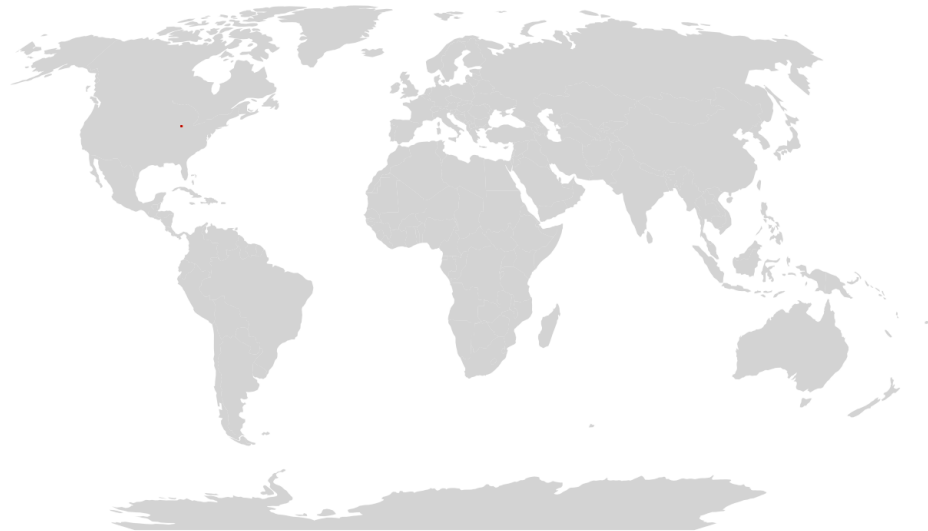
Outliers detected by the IQR test (7.7% of observations) have been removed



Spatial distribution of yearly median of POP observation values

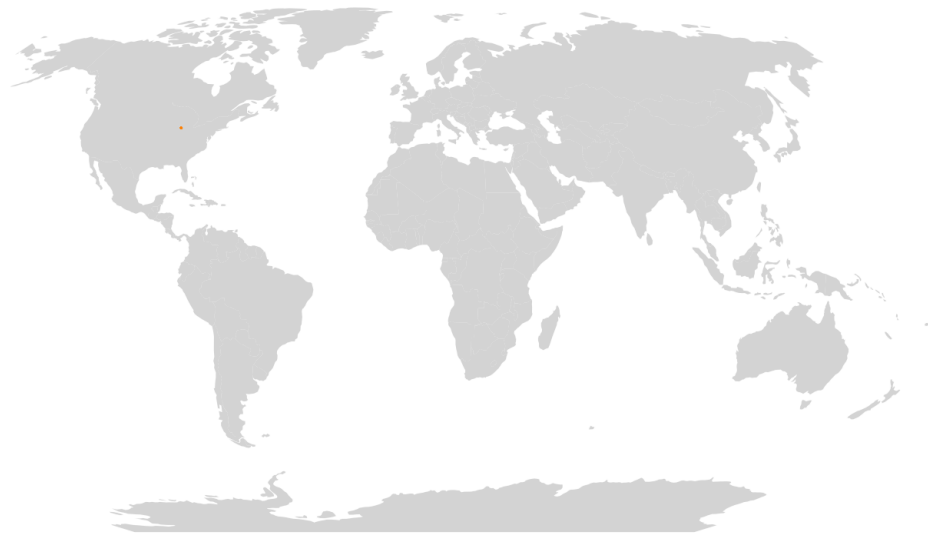
Median observation values of POP sites (mg/l)

Outliers detected by the IQR test (7.7% of observations) have been removed



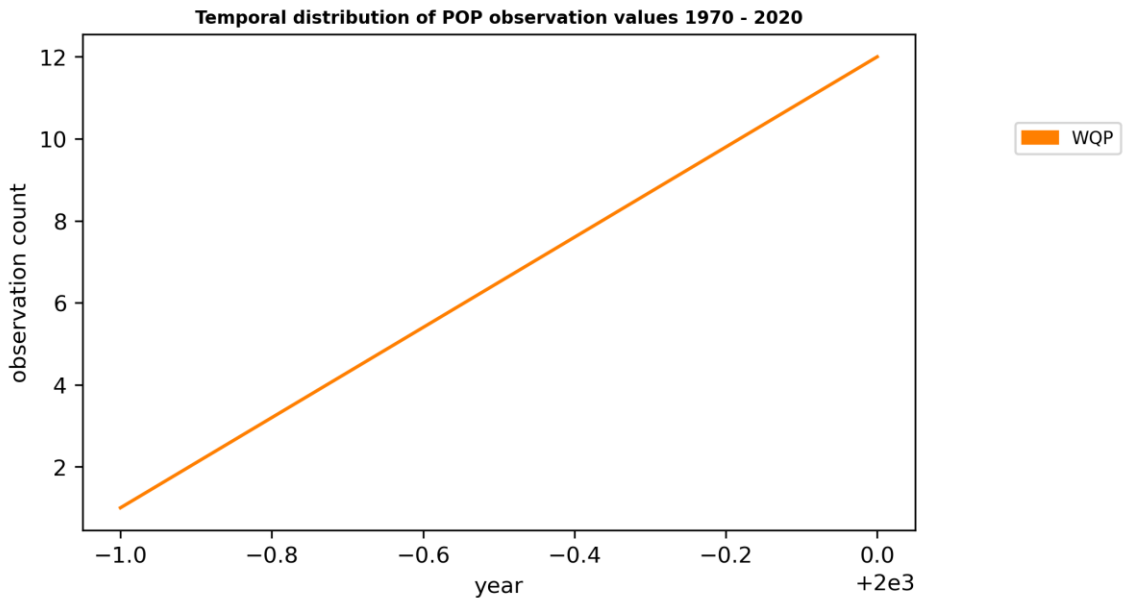
Spatial distribution of POP observation values

Spatial distribution of POP sites



● WQP

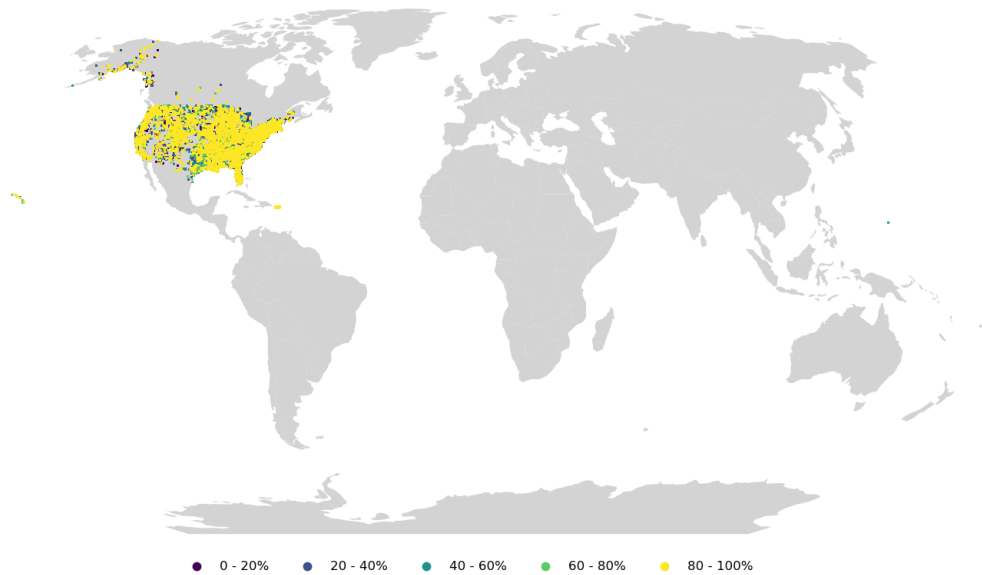
Temporal distribution of POP observation values



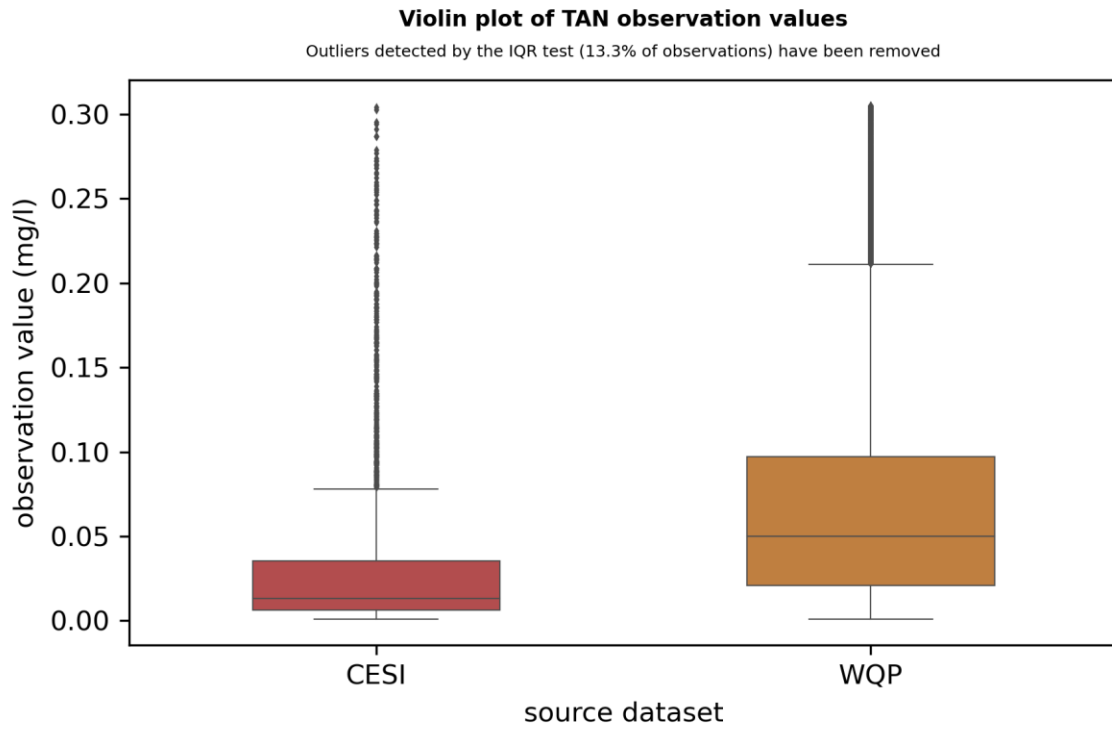
Total Ammonia Nitrogen (TAN)

Monthly time series availability of TAN observation values

Monthly time series availability of TAN observations

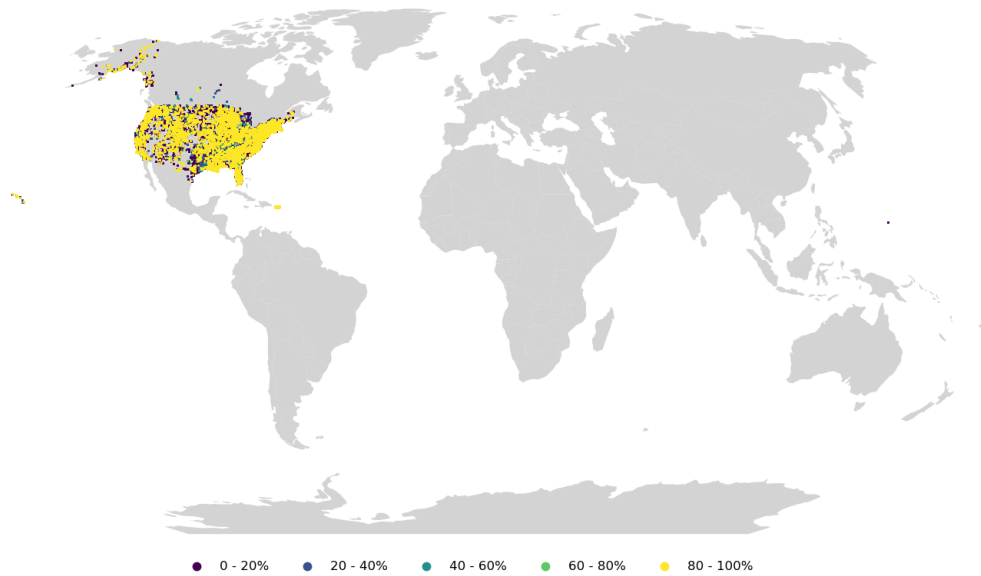


Box plot of TAN observation values



Monthly time series continuity of TAN observation values

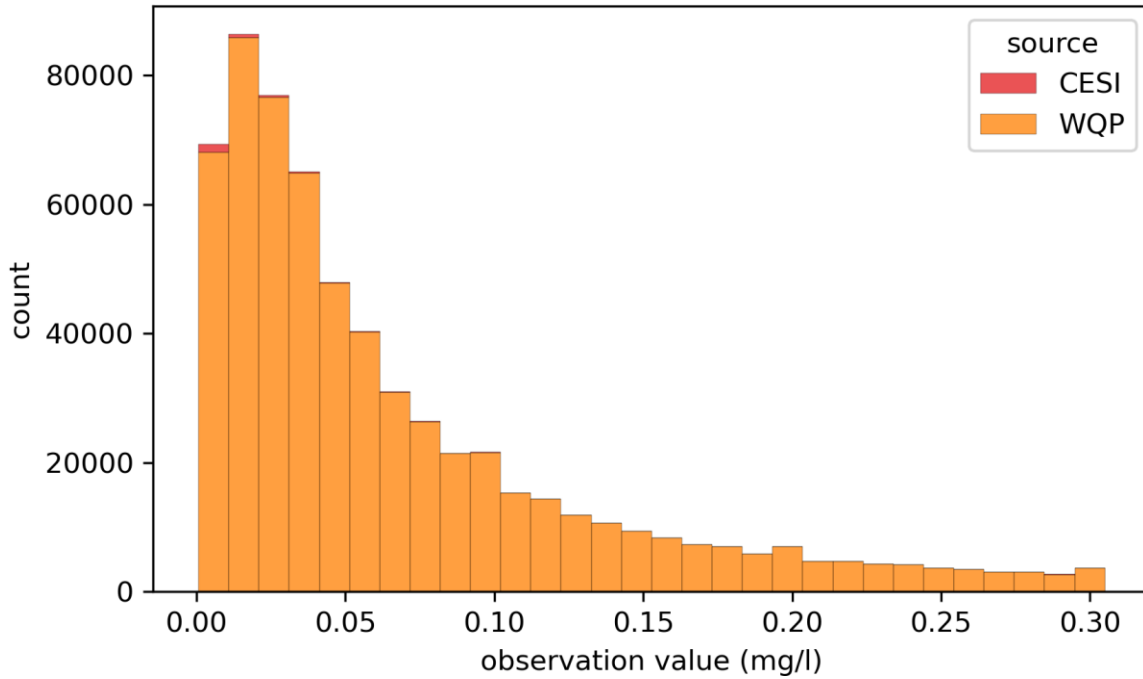
Monthly time series continuity of TAN observations



Distribution of TAN observation values

Histogram plot of TAN observation values

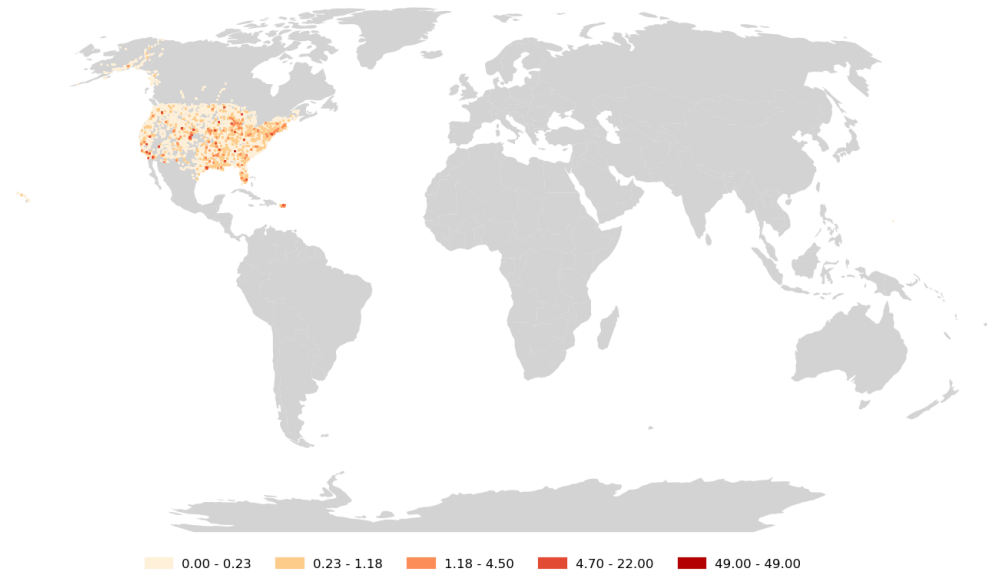
Outliers detected by the IQR test (13.3% of observations) have been removed



Spatial distribution of yearly median of TAN observation values

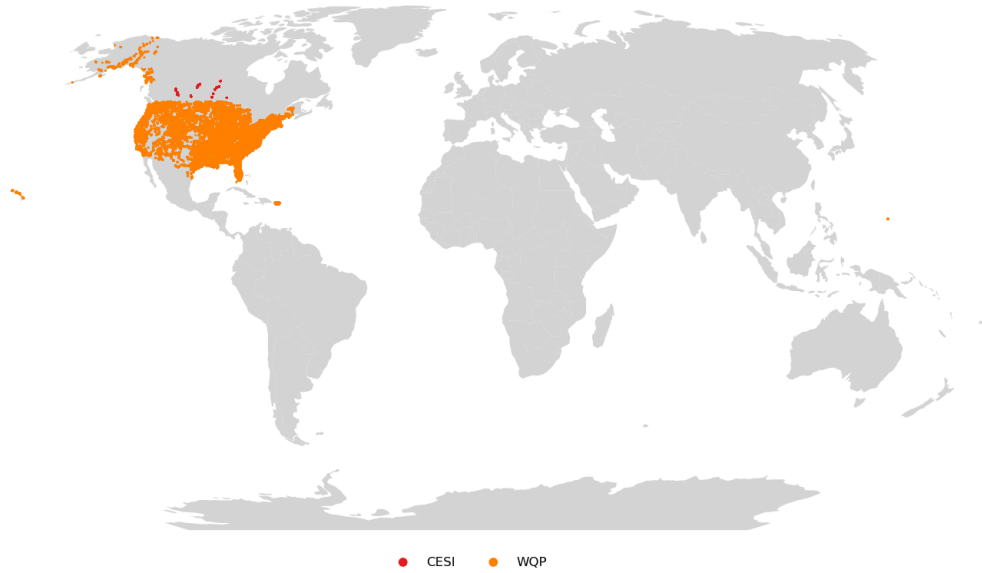
Median observation values of TAN sites (mg/l)

Outliers detected by the IQR test (13.3% of observations) have been removed



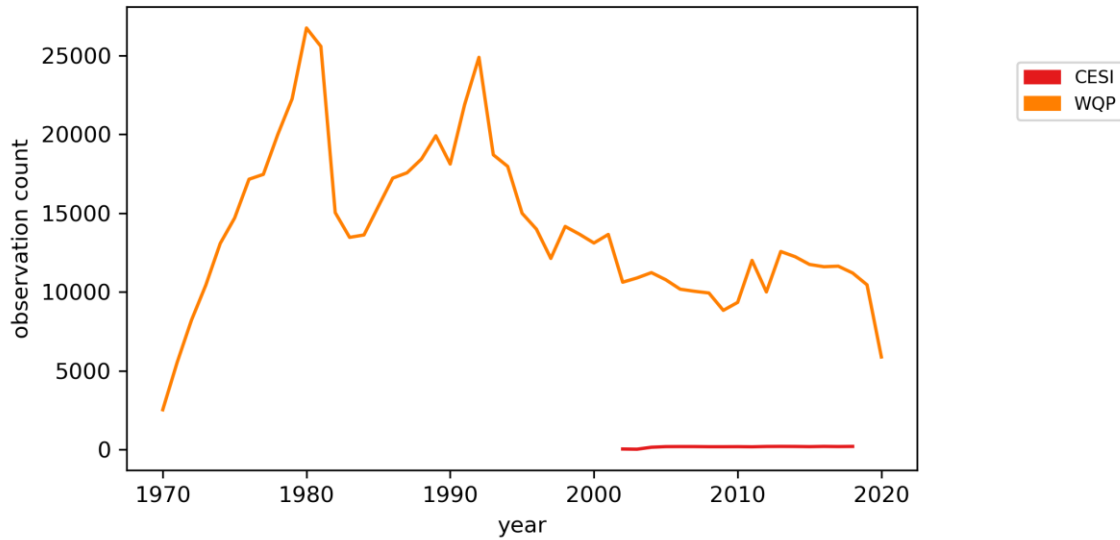
Spatial distribution of TAN observation values

Spatial distribution of TAN sites



Temporal distribution of TAN observation values

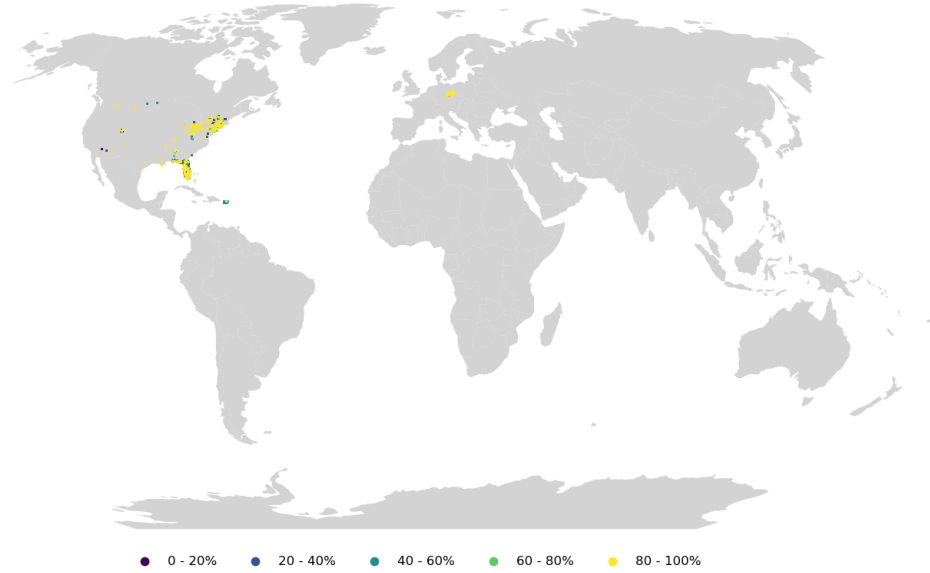
Temporal distribution of TAN observation values 1970 - 2020
Percentage of observations 1900 - 1970: 0.4%



Total Carbon (TC)

Monthly time series availability of TC observation values

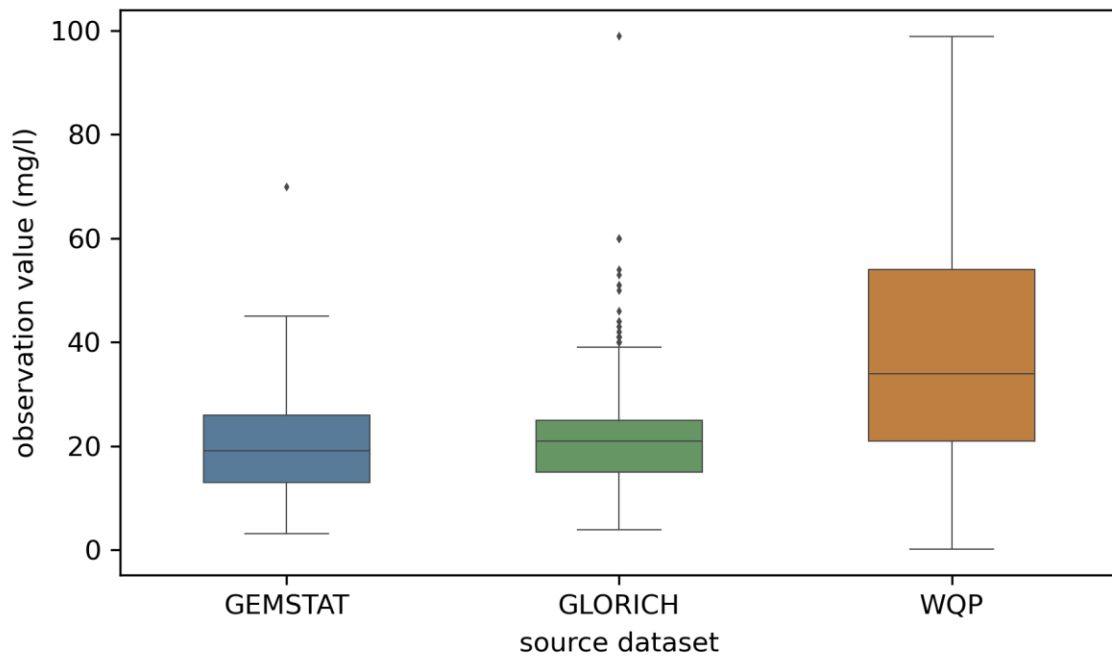
Monthly time series availability of TC observations



Box plot of TC observation values

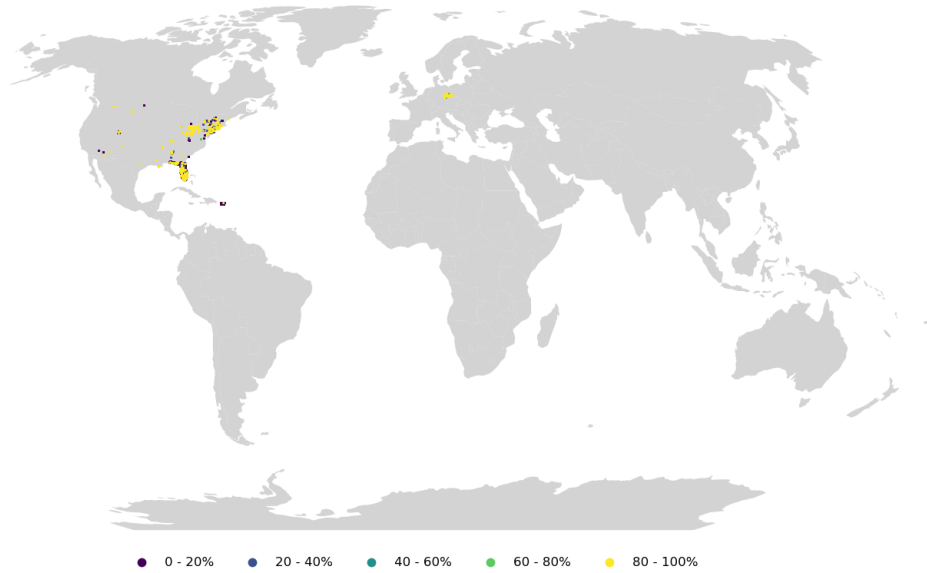
Violin plot of TC observation values

Outliers detected by the IQR test (3.3% of observations) have been removed



Monthly time series continuity of TC observation values

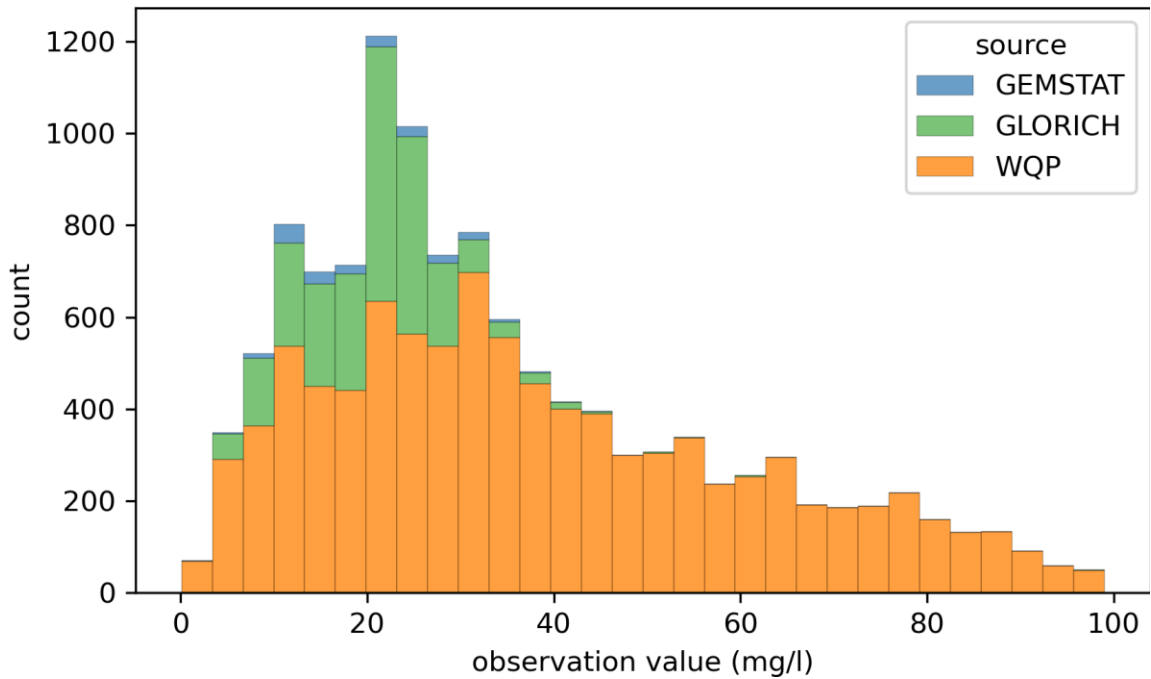
Monthly time series continuity of TC observations



Distribution of TC observation values

Histogram plot of TC observation values

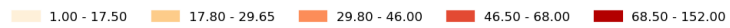
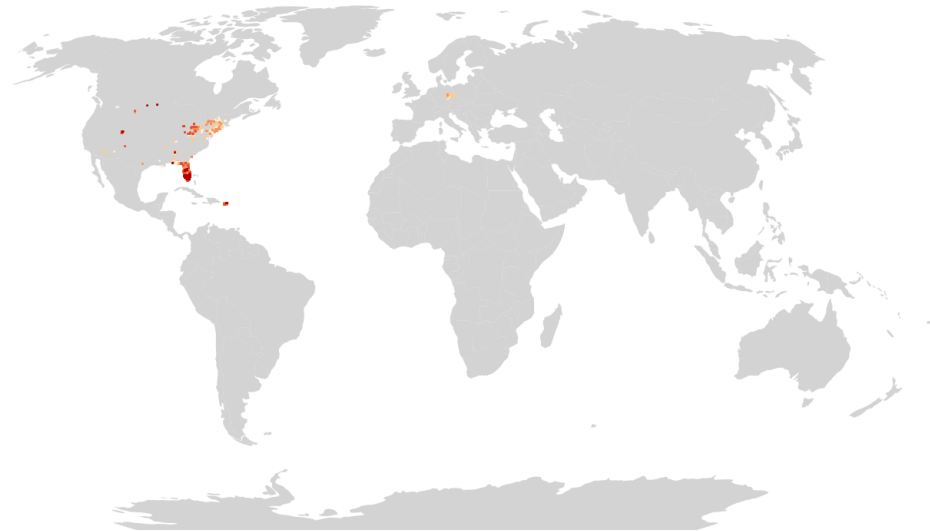
Outliers detected by the IQR test (3.3% of observations) have been removed



Spatial distribution of yearly median of TC observation values

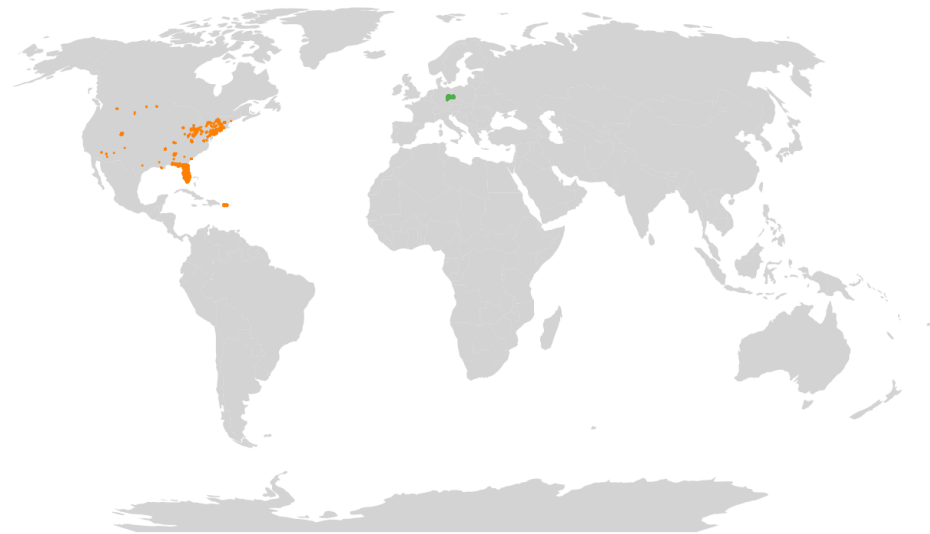
Median observation values of TC sites (mg/l)

Outliers detected by the IQR test (3.3% of observations) have been removed

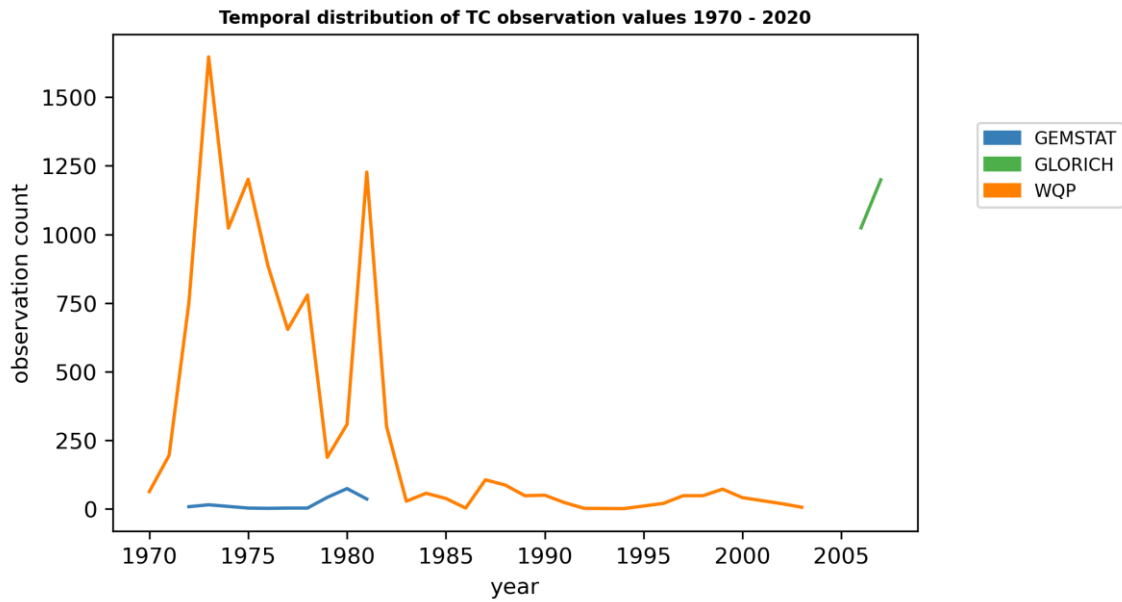


Spatial distribution of TC observation values

Spatial distribution of TC sites



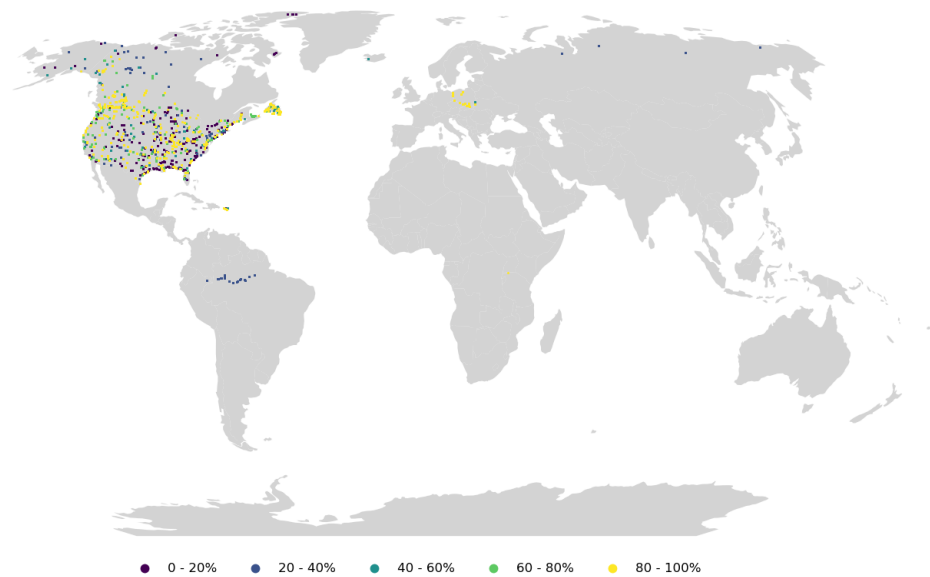
Temporal distribution of TC observation values



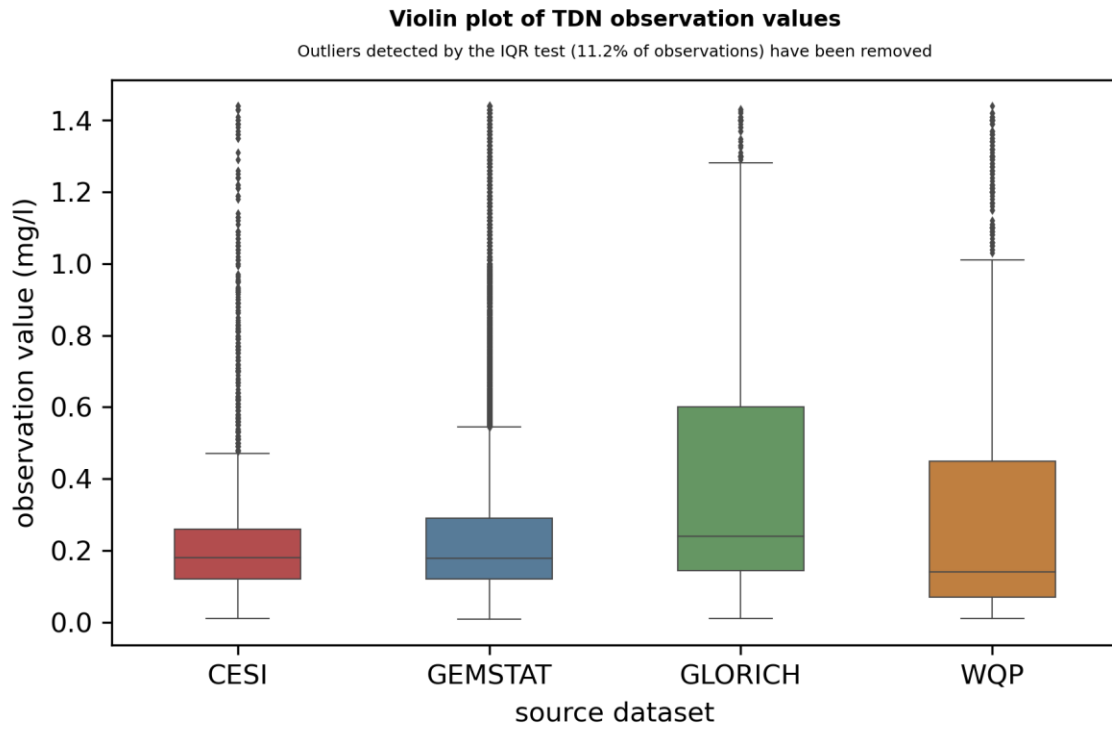
Total Dissolved Nitrogen (TDN)

Monthly time series availability of TDN observation values

Monthly time series availability of TDN observations

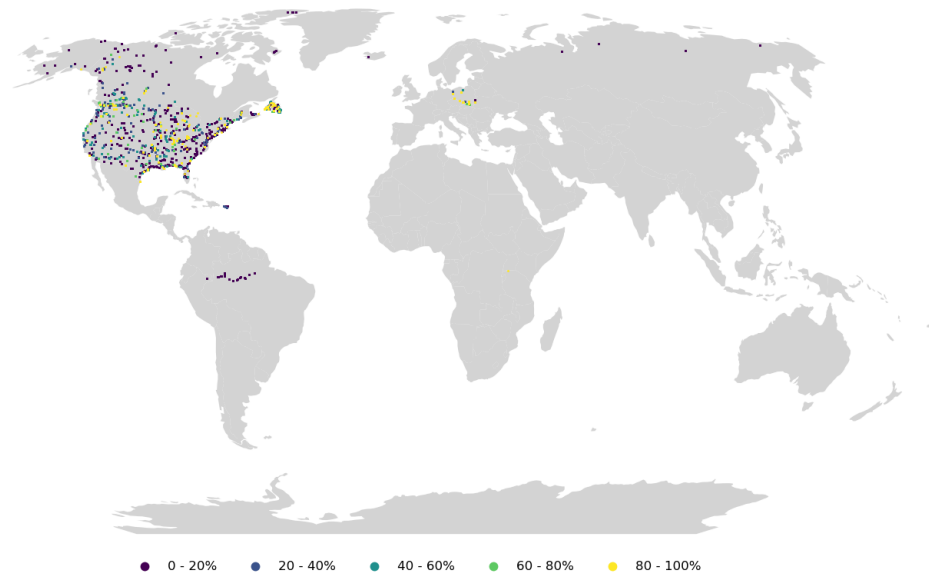


Box plot of TDN observation values



Monthly time series continuity of TDN observation values

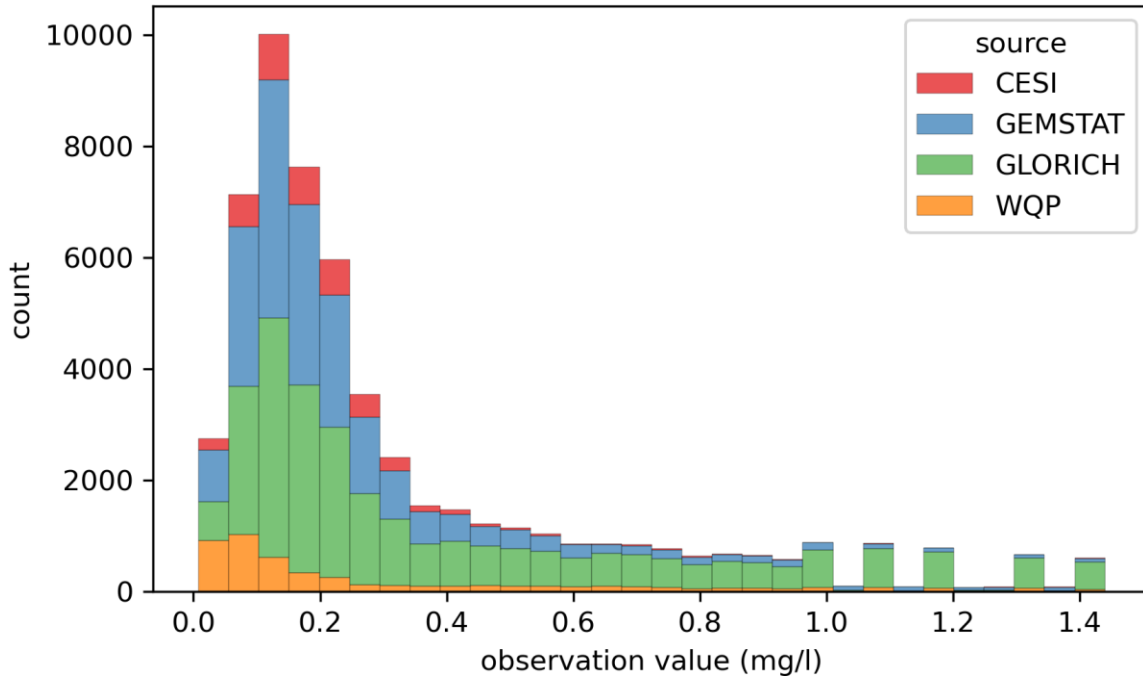
Monthly time series continuity of TDN observations



Distribution of TDN observation values

Histogram plot of TDN observation values

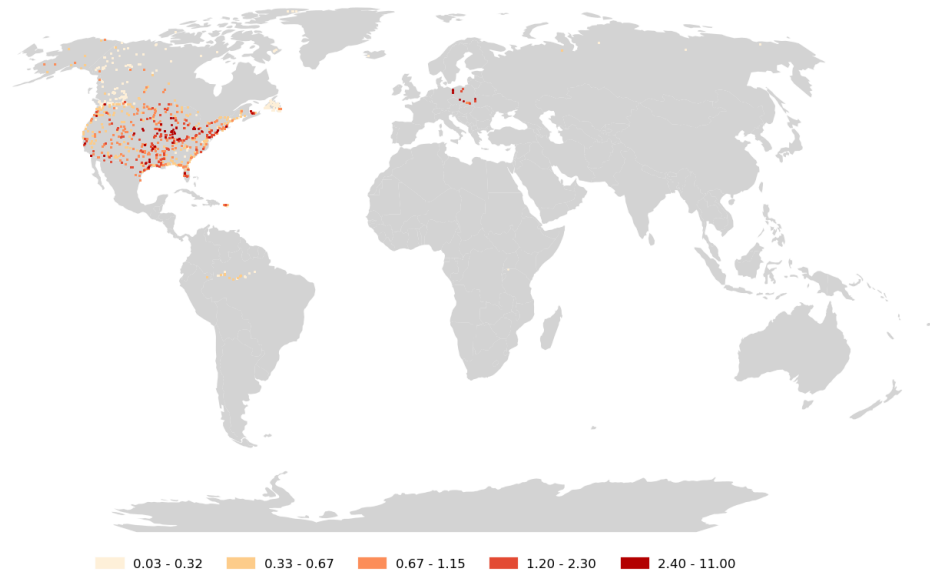
Outliers detected by the IQR test (11.2% of observations) have been removed



Spatial distribution of yearly median of TDN observation values

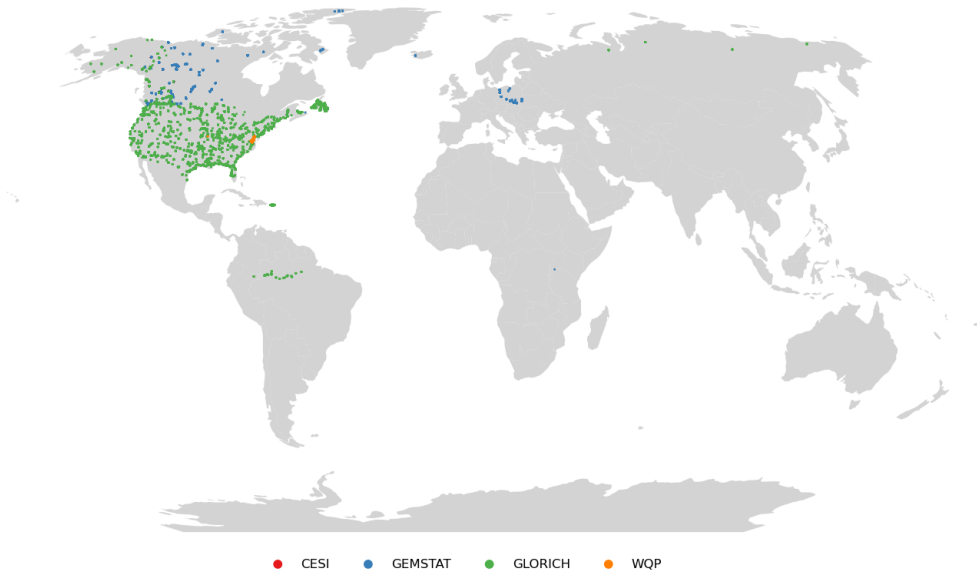
Median observation values of TDN sites (mg/l)

Outliers detected by the IQR test (11.2% of observations) have been removed

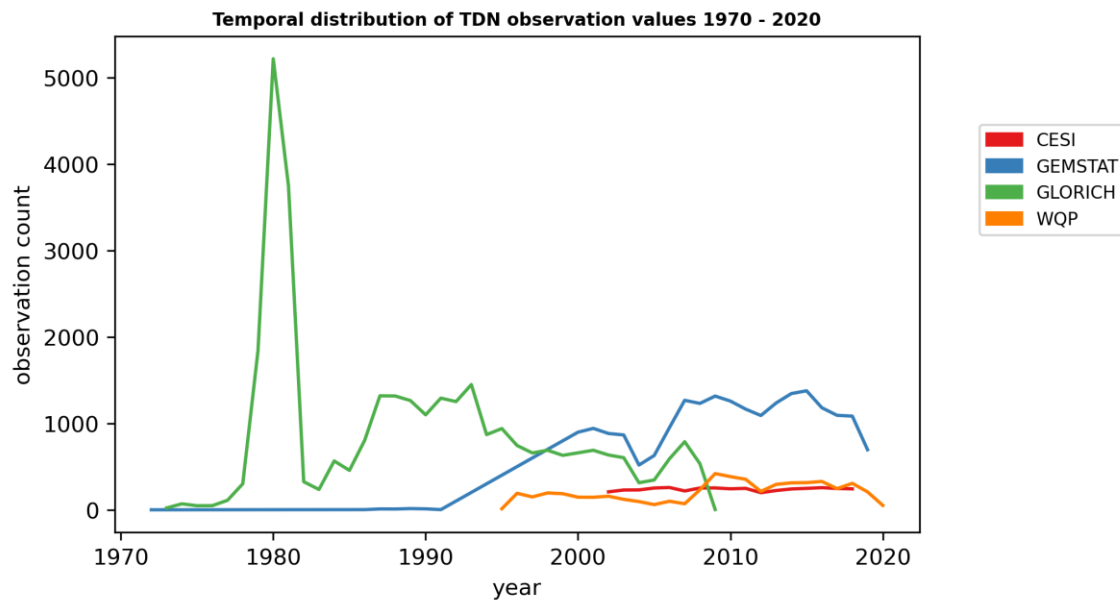


Spatial distribution of TDN observation values

Spatial distribution of TDN sites



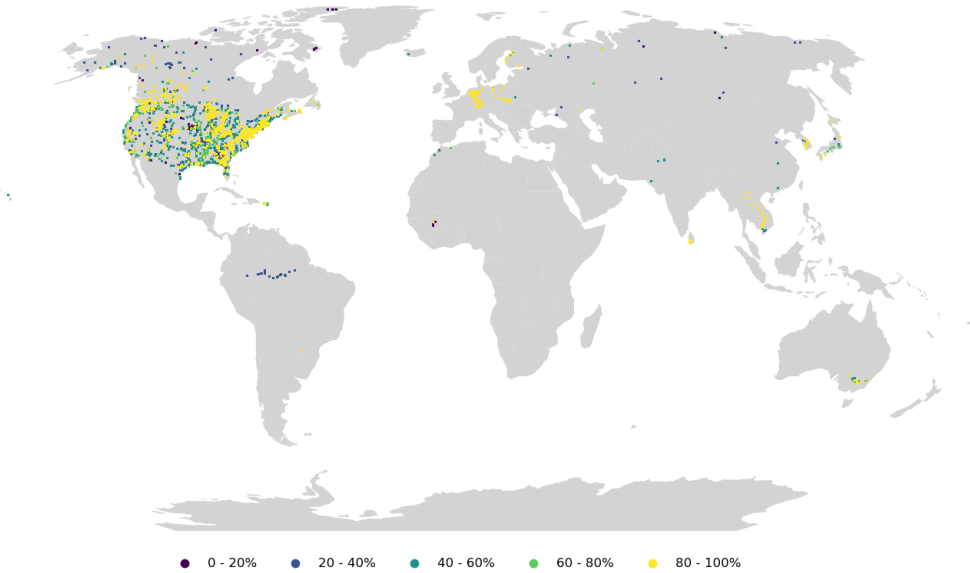
Temporal distribution of TDN observation values



Total Dissolved Phosphorus (TDP)

Monthly time series availability of TDP observation values

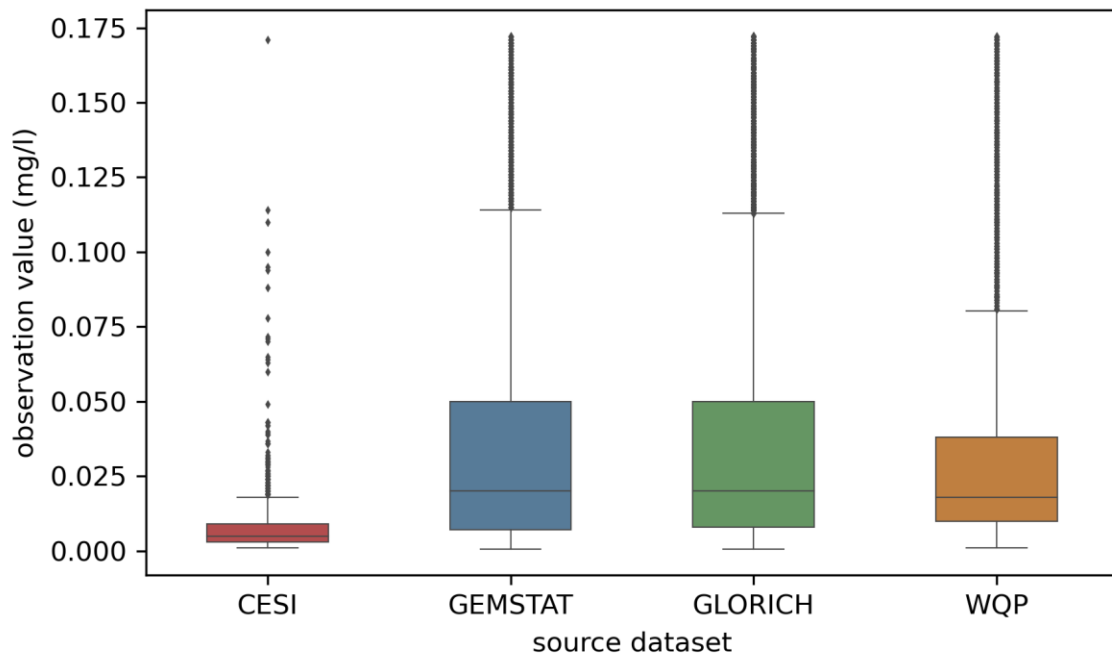
Monthly time series availability of TDP observations



Box plot of TDP observation values

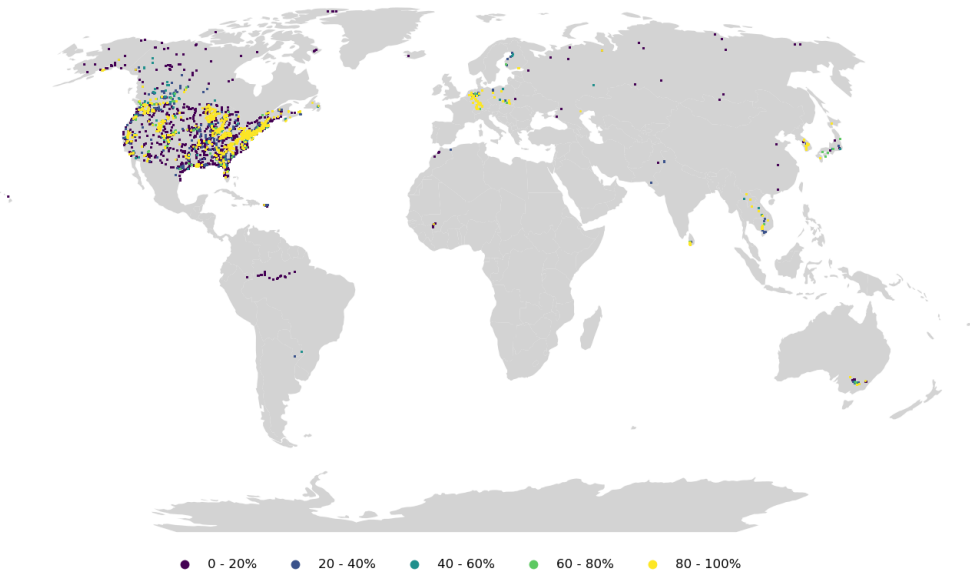
Violin plot of TDP observation values

Outliers detected by the IQR test (11.3% of observations) have been removed



Monthly time series continuity of TDP observation values

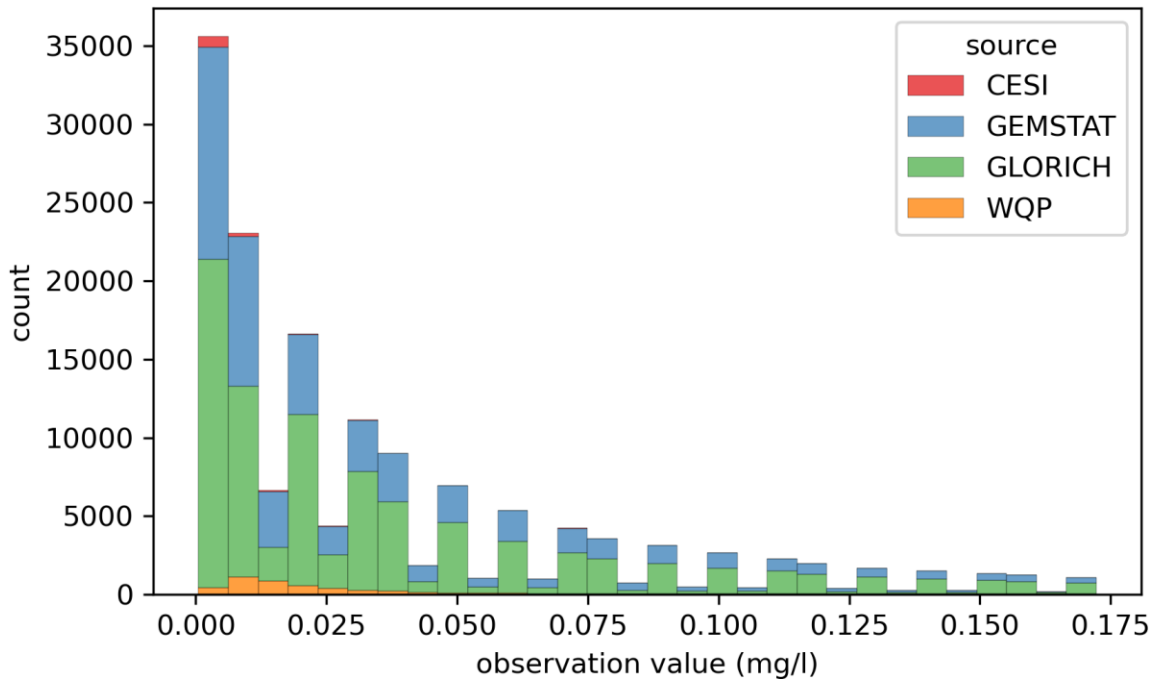
Monthly time series continuity of TDP observations



Distribution of TDP observation values

Histogram plot of TDP observation values

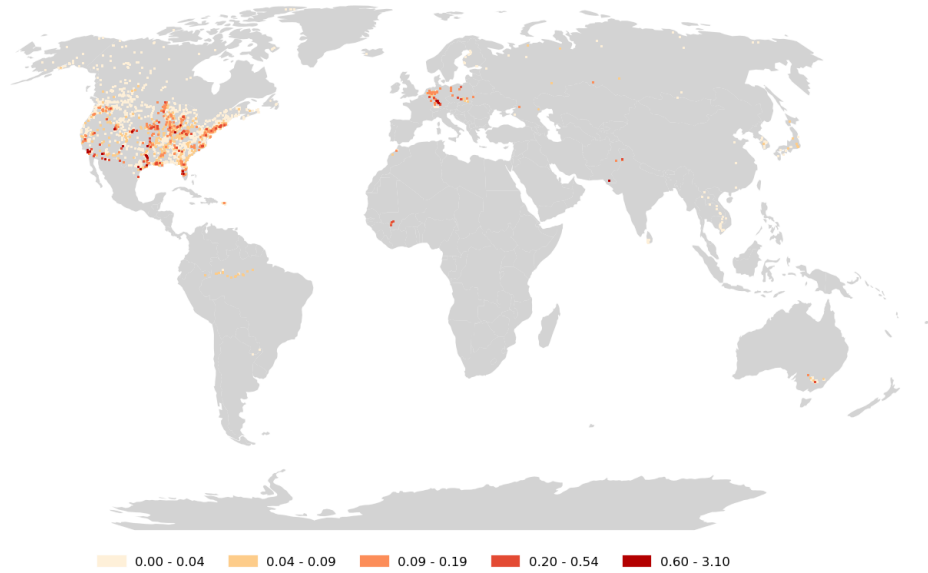
Outliers detected by the IQR test (11.3% of observations) have been removed



Spatial distribution of yearly median of TDP observation values

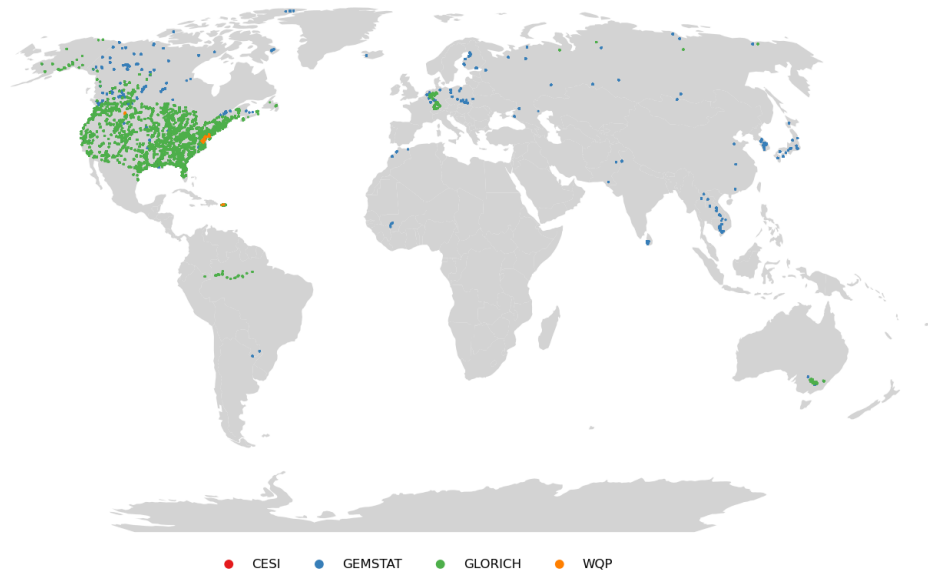
Median observation values of TDP sites (mg/l)

Outliers detected by the IQR test (11.3% of observations) have been removed

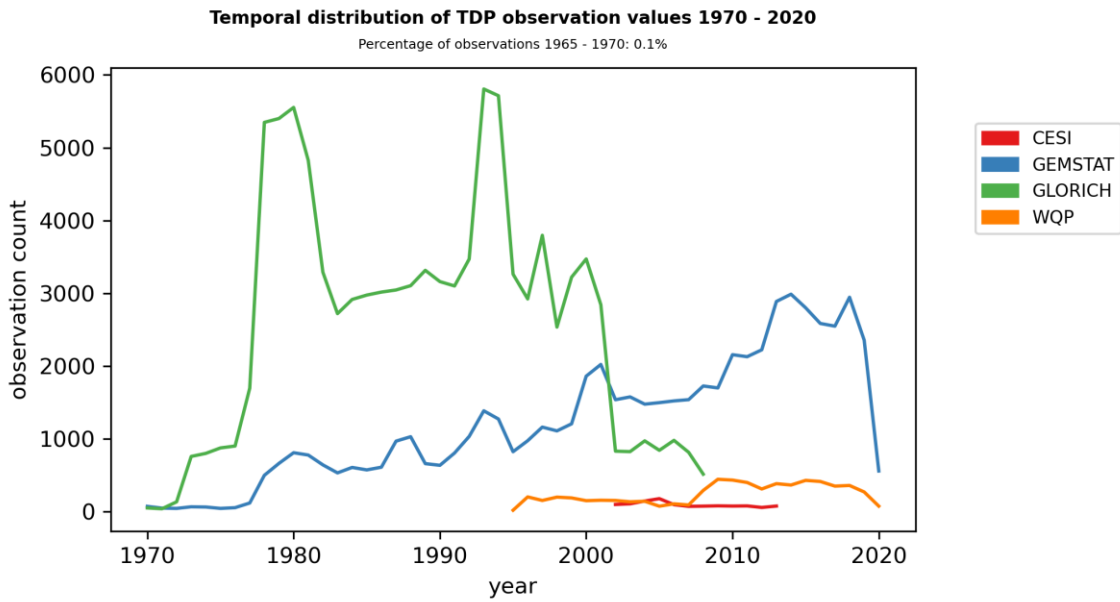


Spatial distribution of TDP observation values

Spatial distribution of TDP sites



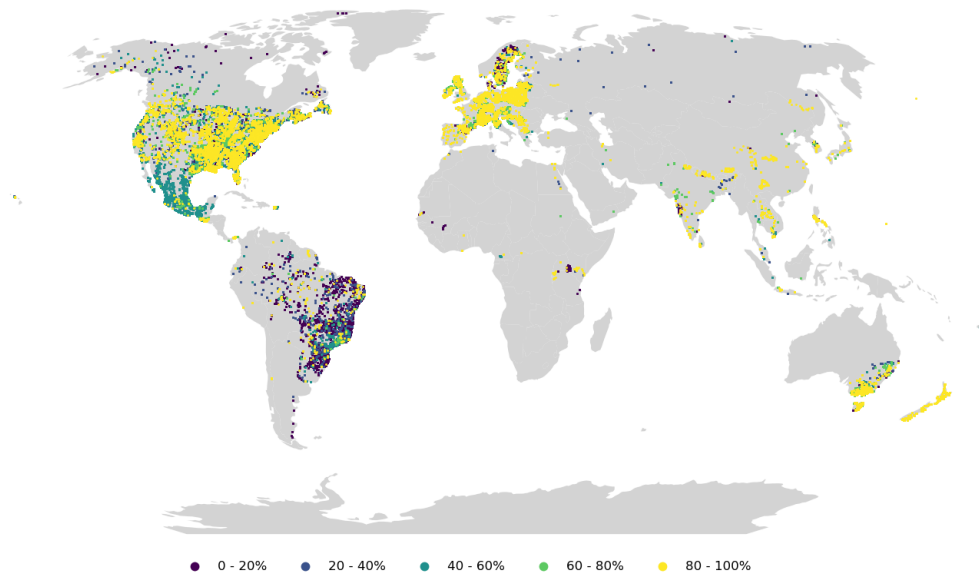
Temporal distribution of TDP observation values



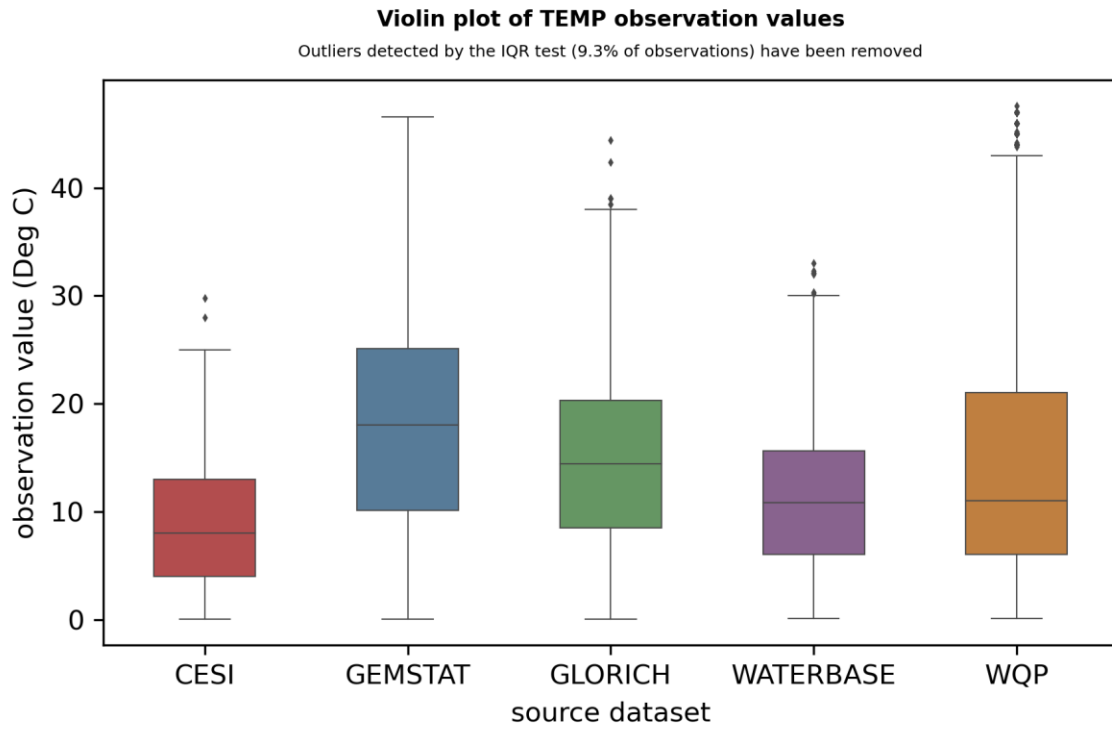
Water Temperature (TEMP)

Monthly time series availability of TEMP observation values

Monthly time series availability of TEMP observations

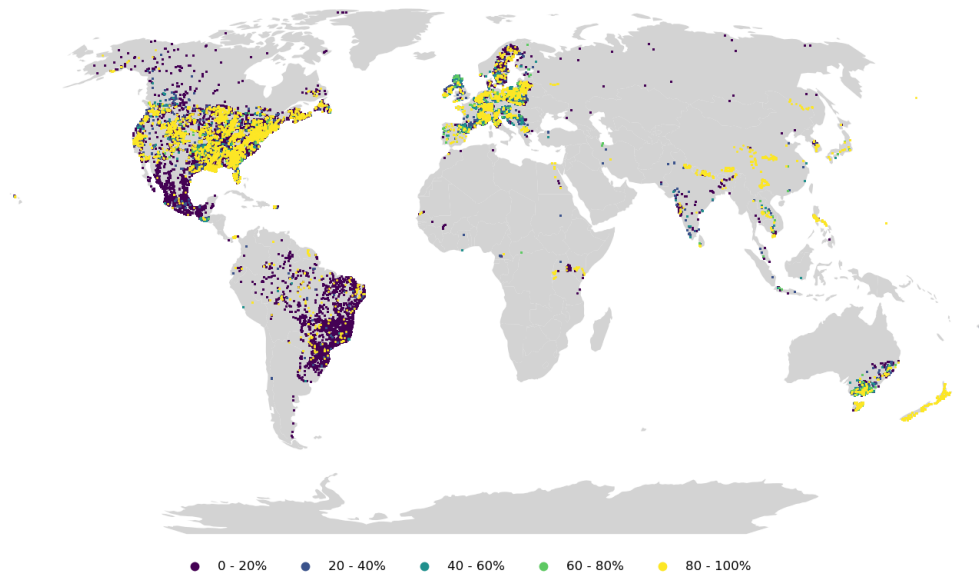


Box plot of TEMP observation values



Monthly time series continuity of TEMP observation values

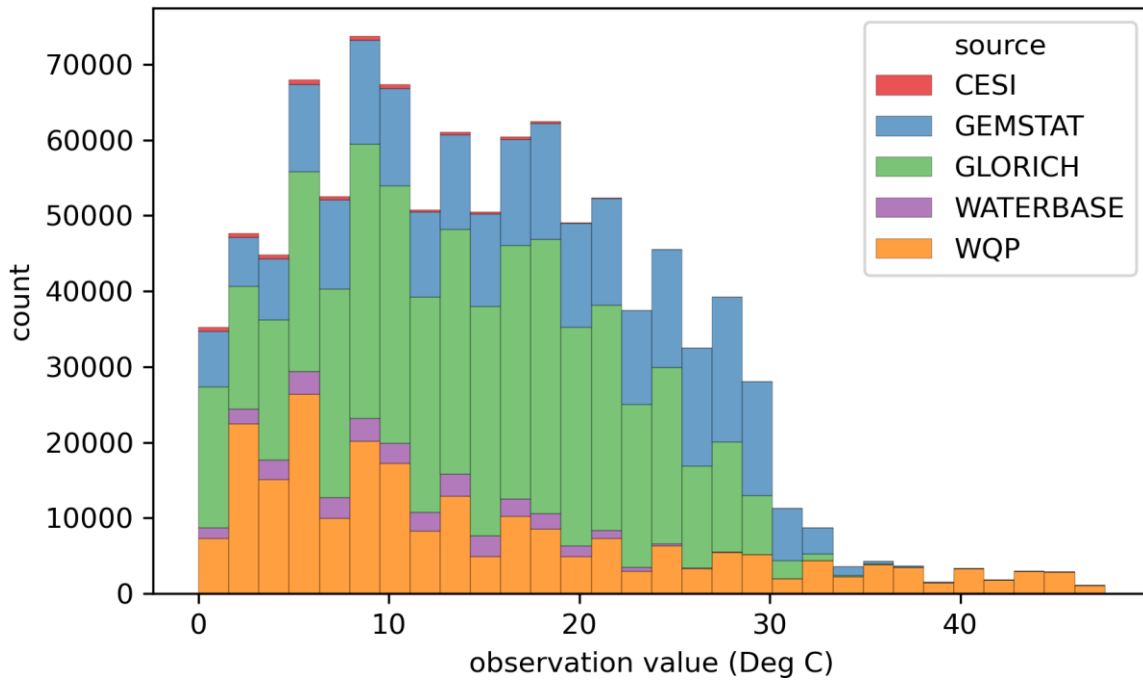
Monthly time series continuity of TEMP observations



Distribution of TEMP observation values

Histogram plot of TEMP observation values

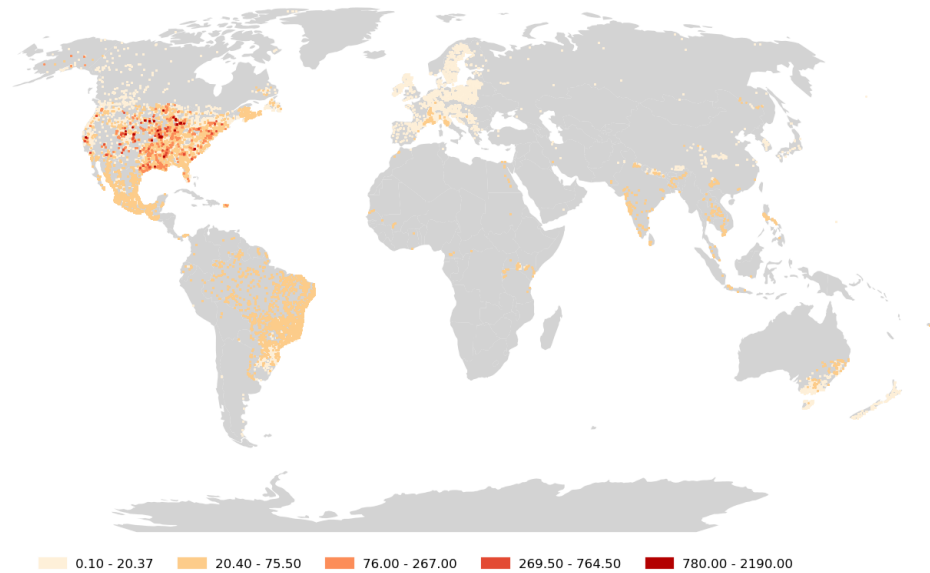
Outliers detected by the IQR test (9.3% of observations) have been removed



Spatial distribution of yearly median of TEMP observation values

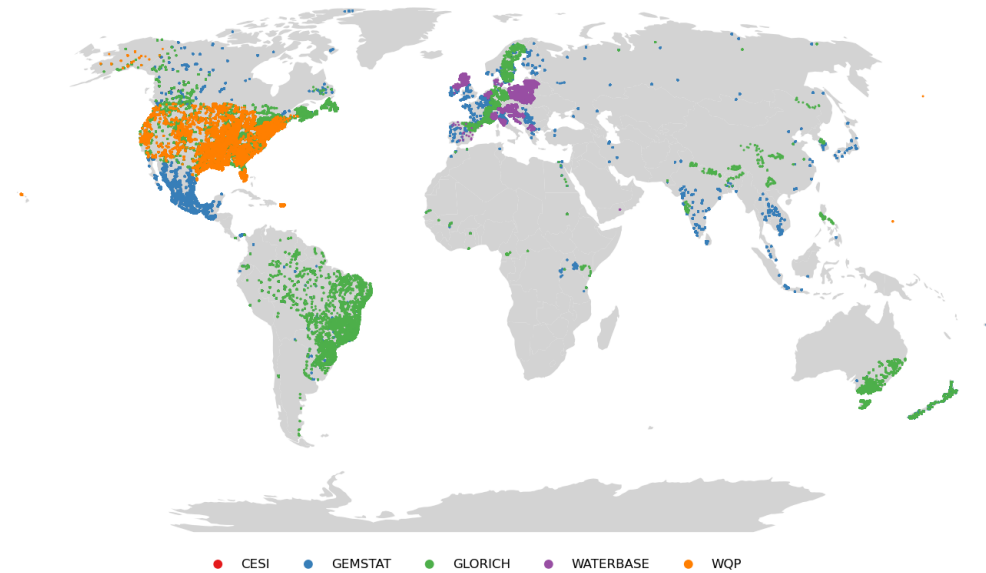
Median observation values of TEMP sites (Deg C)

Outliers detected by the IQR test (9.3% of observations) have been removed



Spatial distribution of TEMP observation values

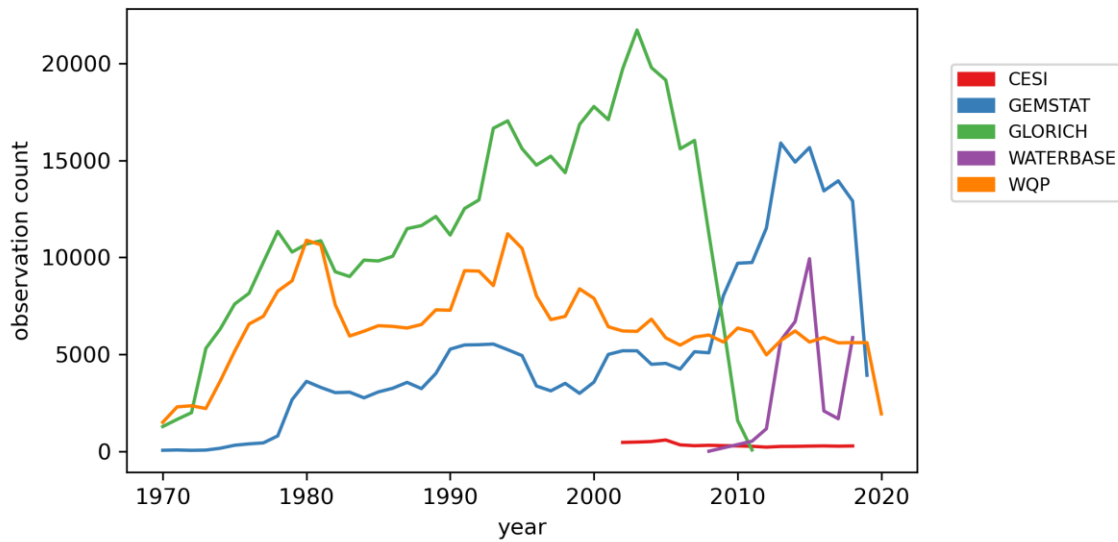
Spatial distribution of TEMP sites



Temporal distribution of TEMP observation values

Temporal distribution of TEMP observation values 1970 - 2020

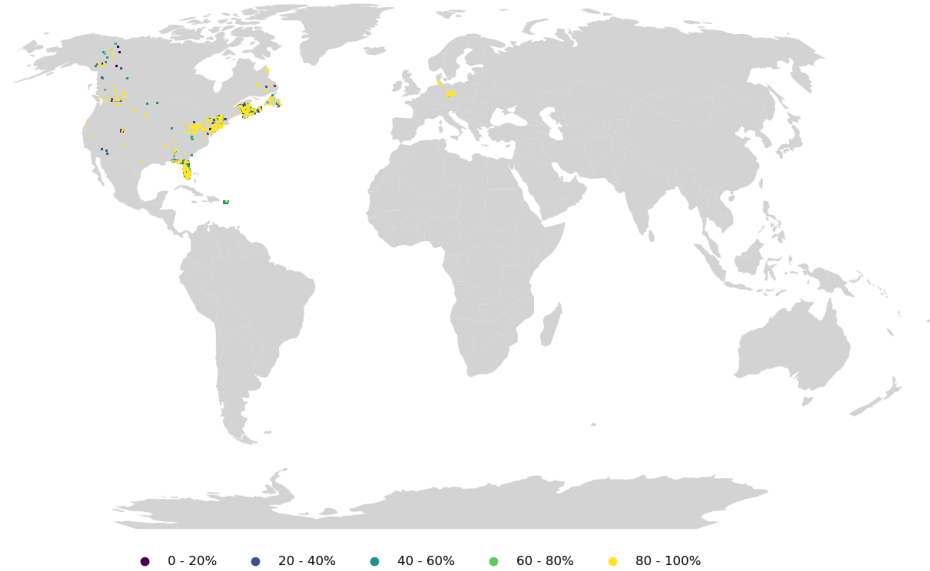
Percentage of observations 1912 - 1970: 0.7%



Total Inorganic Carbon (TIC)

Monthly time series availability of TIC observation values

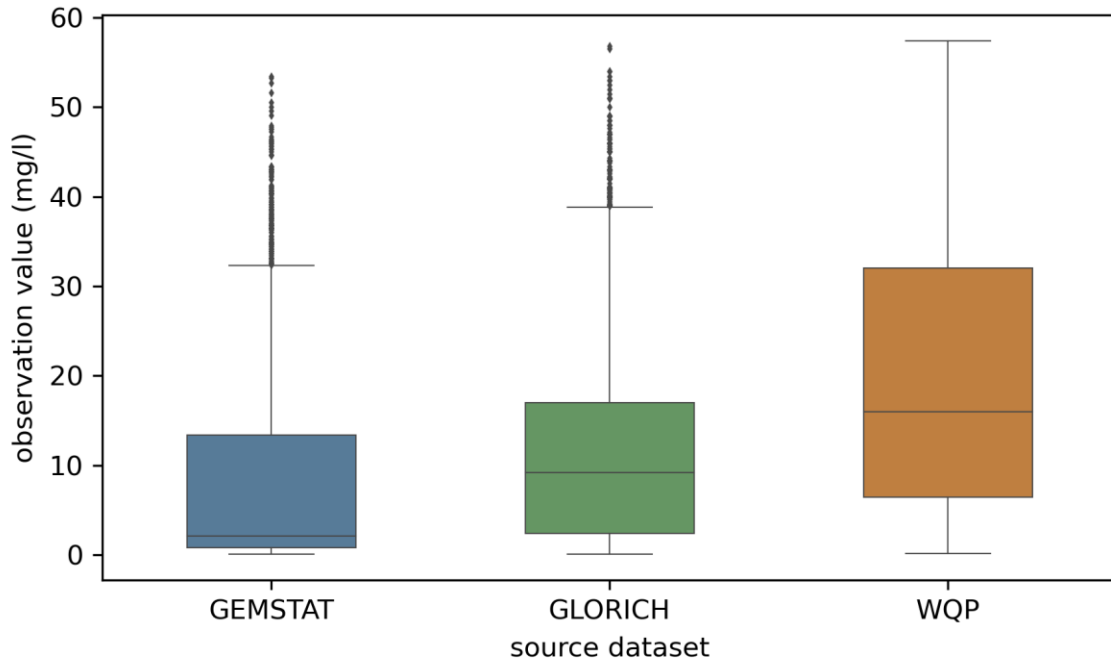
Monthly time series availability of TIC observations



Box plot of TIC observation values

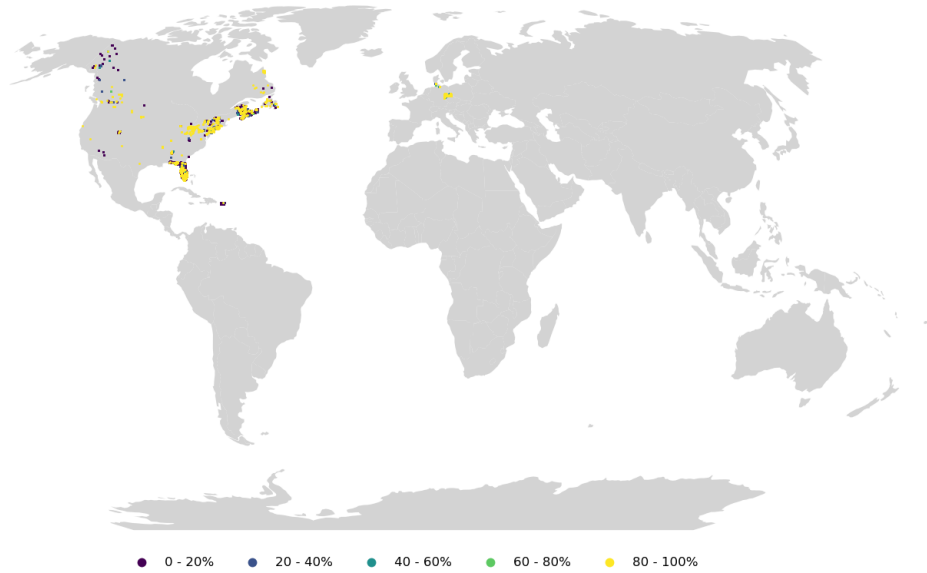
Violin plot of TIC observation values

Outliers detected by the IQR test (3.8% of observations) have been removed



Monthly time series continuity of TIC observation values

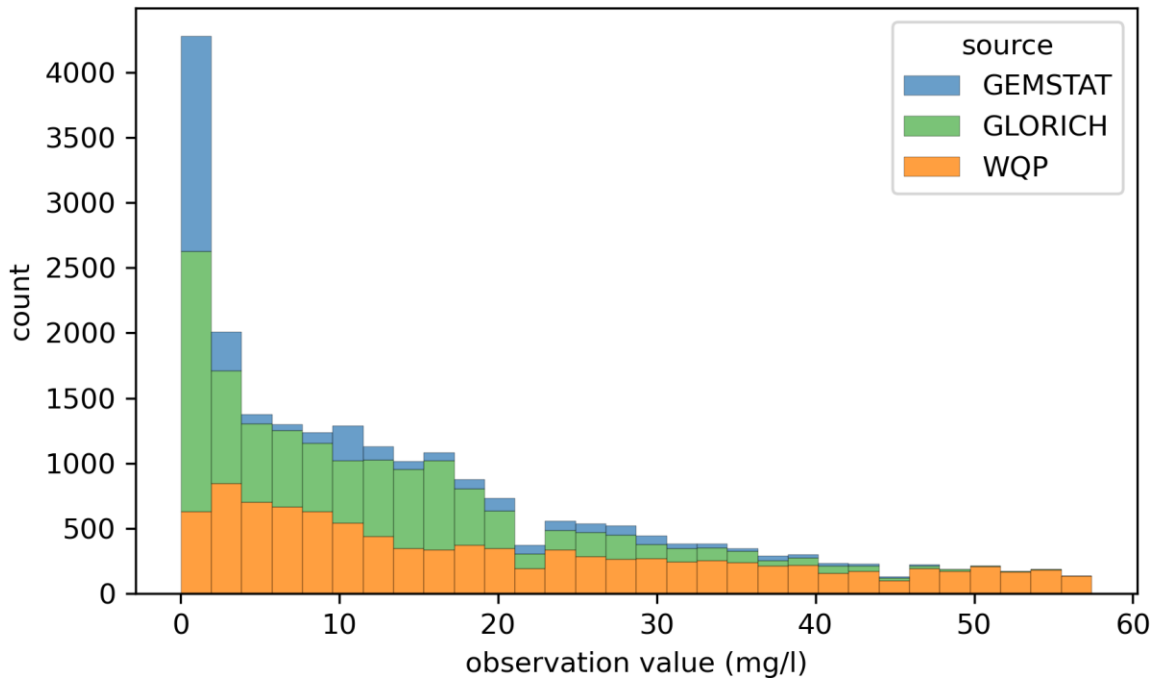
Monthly time series continuity of TIC observations



Distribution of TIC observation values

Histogram plot of TIC observation values

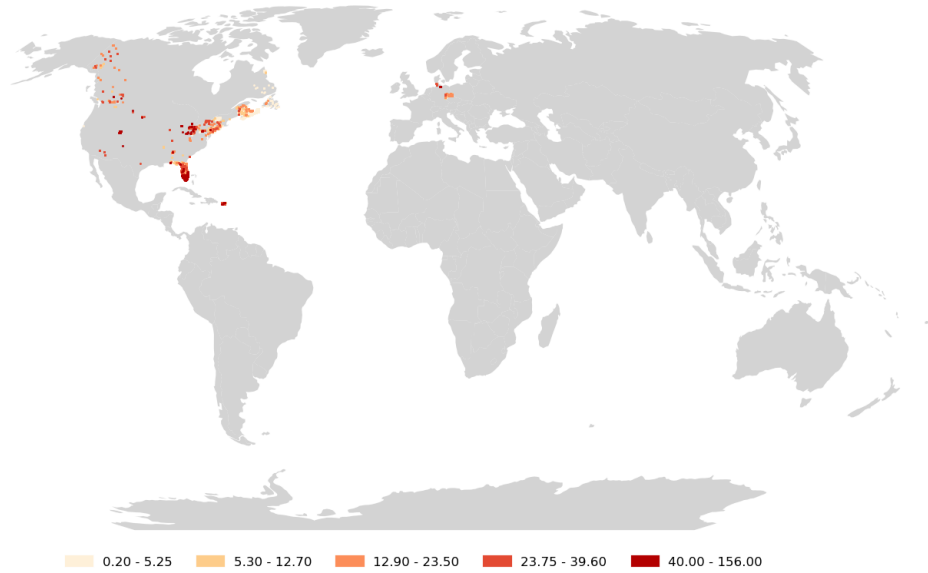
Outliers detected by the IQR test (3.8% of observations) have been removed



Spatial distribution of yearly median of TIC observation values

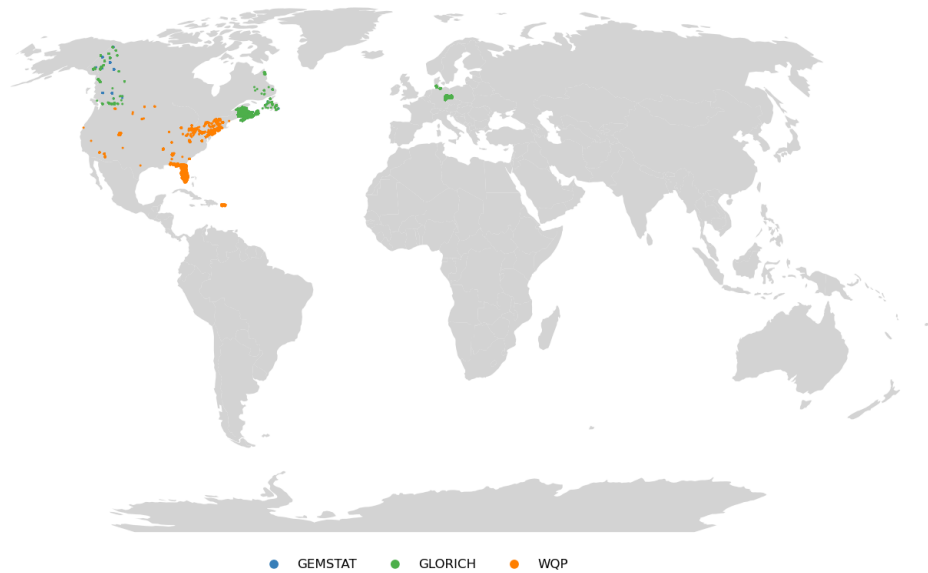
Median observation values of TIC sites (mg/l)

Outliers detected by the IQR test (3.8% of observations) have been removed

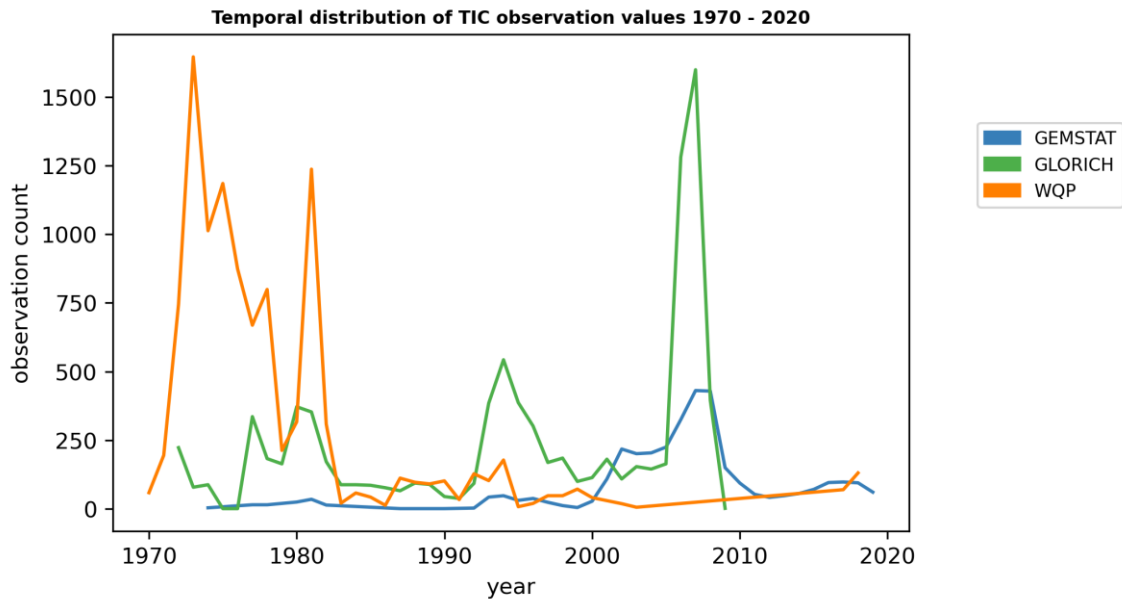


Spatial distribution of TIC observation values

Spatial distribution of TIC sites



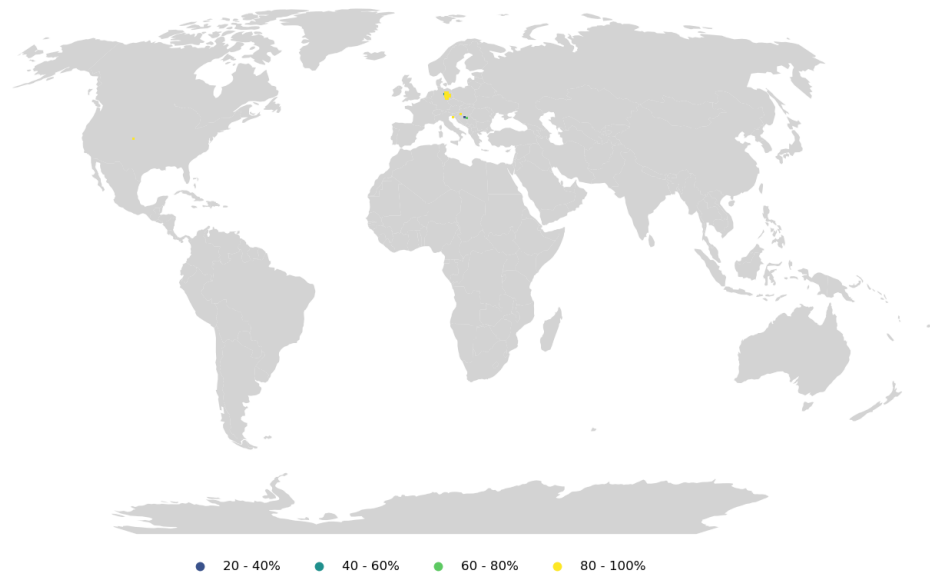
Temporal distribution of TIC observation values



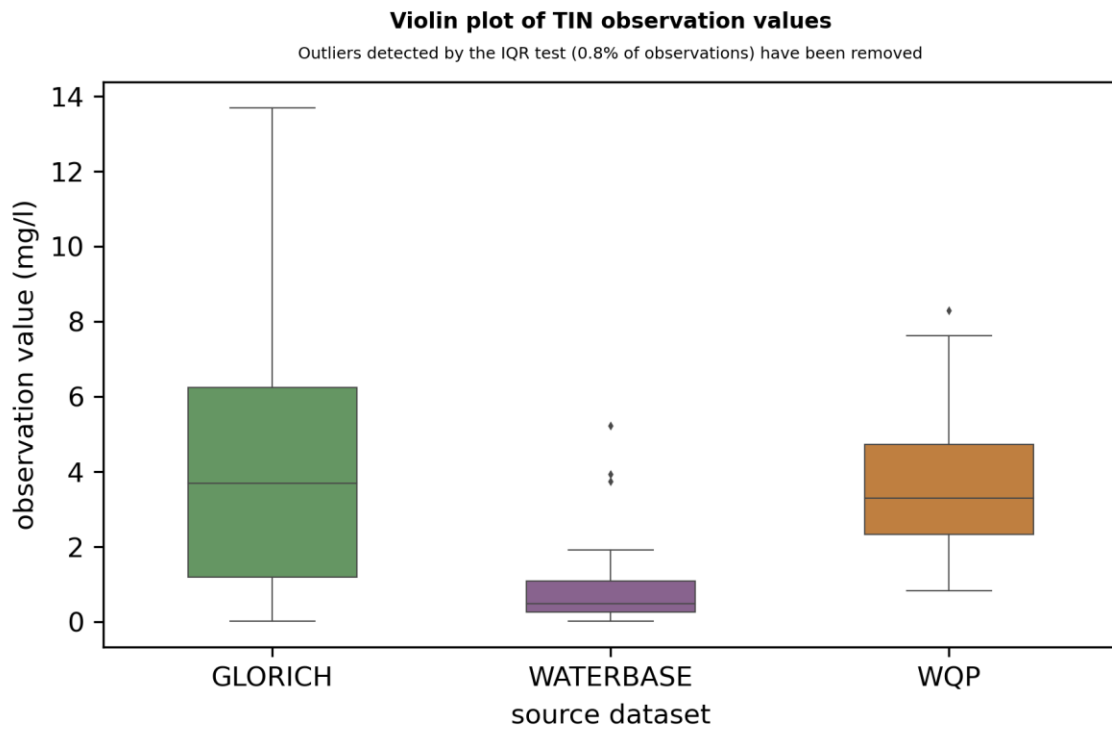
Total Inorganic Nitrogen (TIN)

Monthly time series availability of TIN observation values

Monthly time series availability of TIN observations

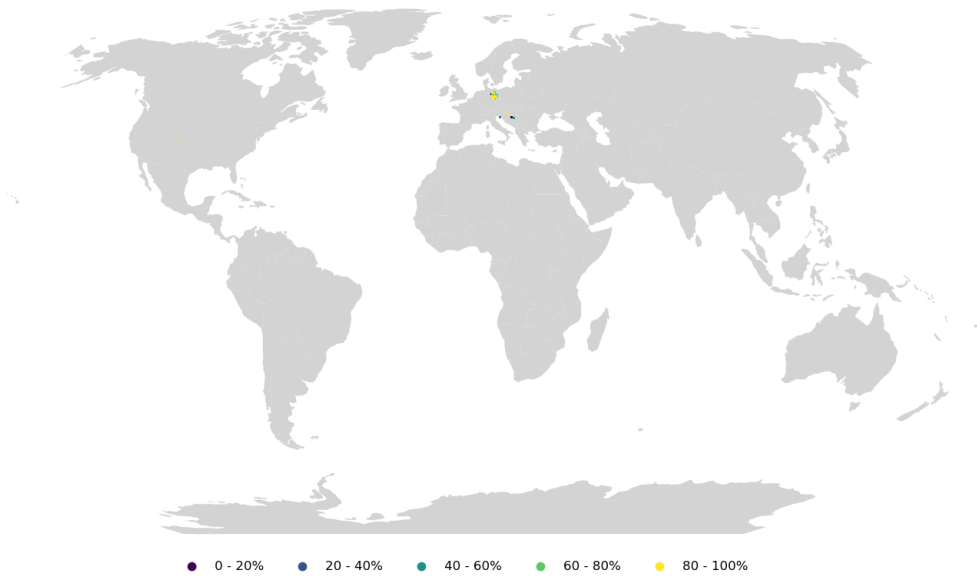


Box plot of TIN observation values



Monthly time series continuity of TIN observation values

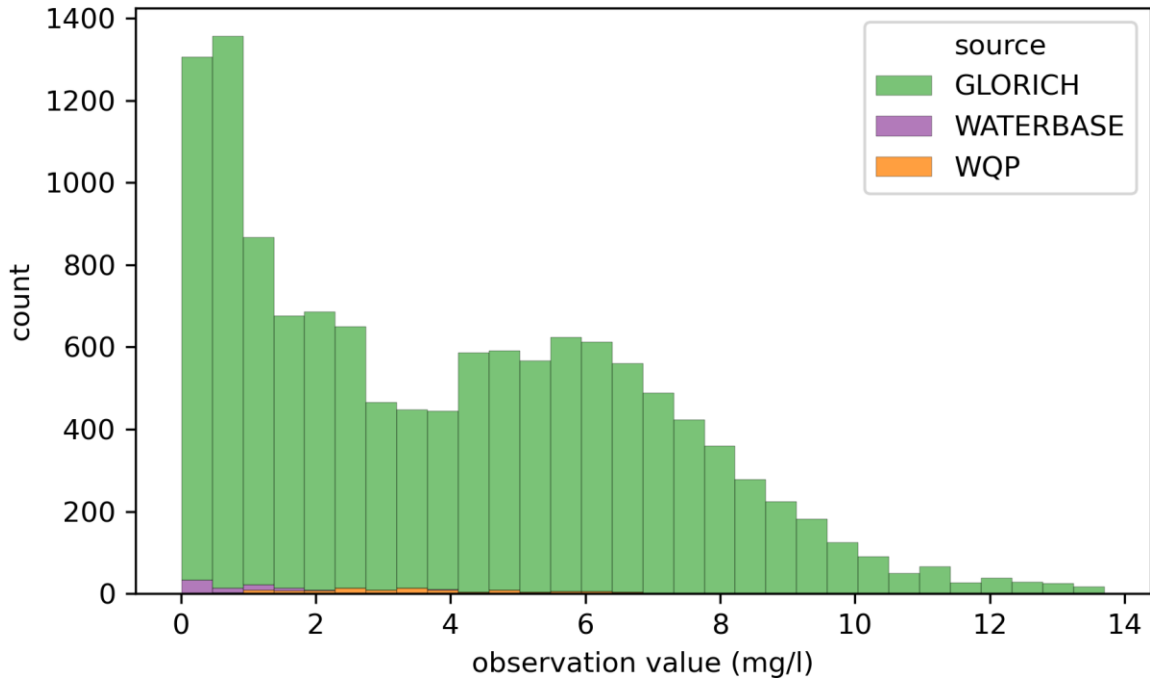
Monthly time series continuity of TIN observations



Distribution of TIN observation values

Histogram plot of TIN observation values

Outliers detected by the IQR test (0.8% of observations) have been removed



Spatial distribution of yearly median of TIN observation values

Median observation values of TIN sites (mg/l)

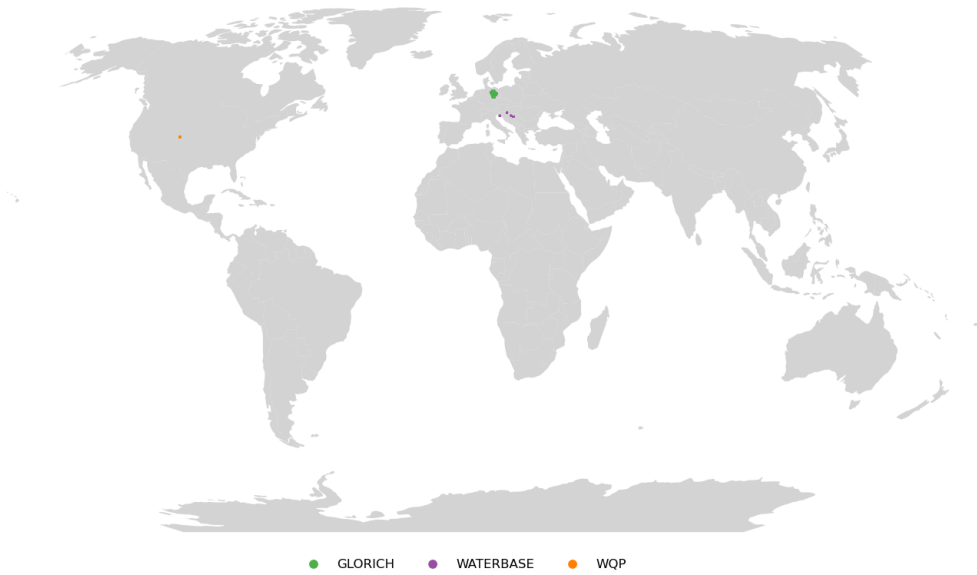
Outliers detected by the IQR test (0.8% of observations) have been removed



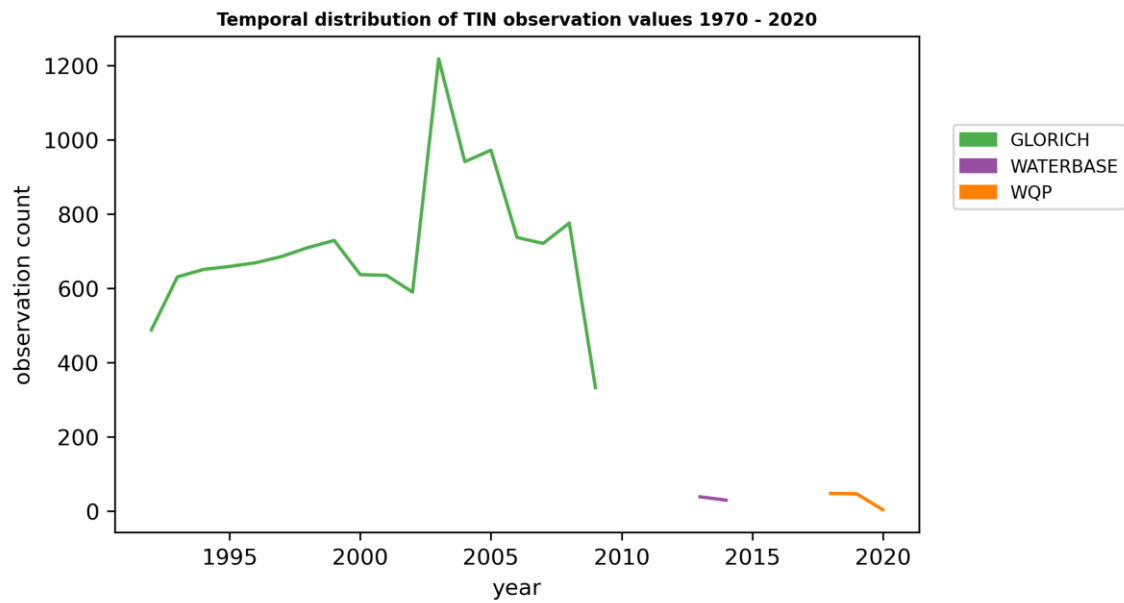
0.19 - 1.90 2.18 - 4.03 4.55 - 6.21 6.66 - 8.14 12.30 - 12.30

Spatial distribution of TIN observation values

Spatial distribution of TIN sites



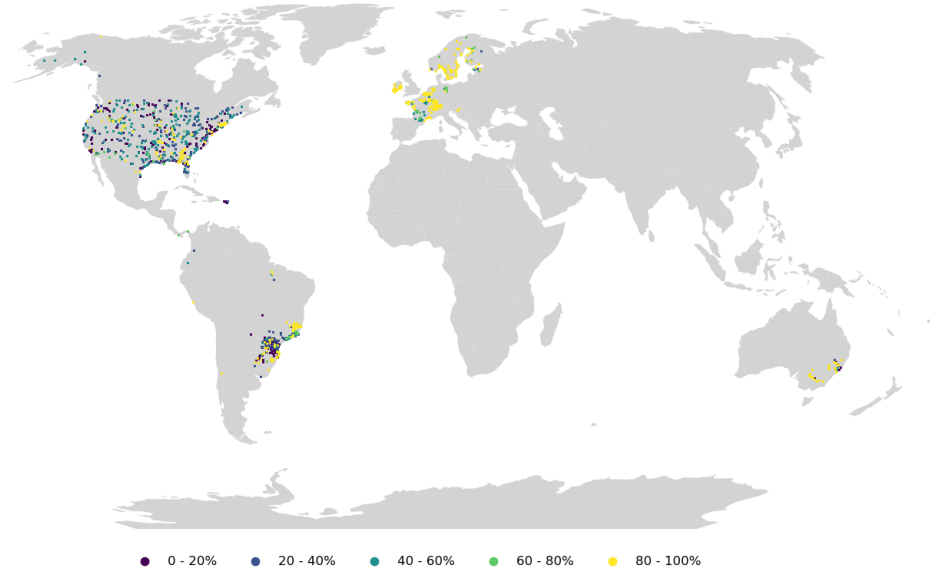
Temporal distribution of TIN observation values



Total Inorganic Phosphorus (TIP)

Monthly time series availability of TIP observation values

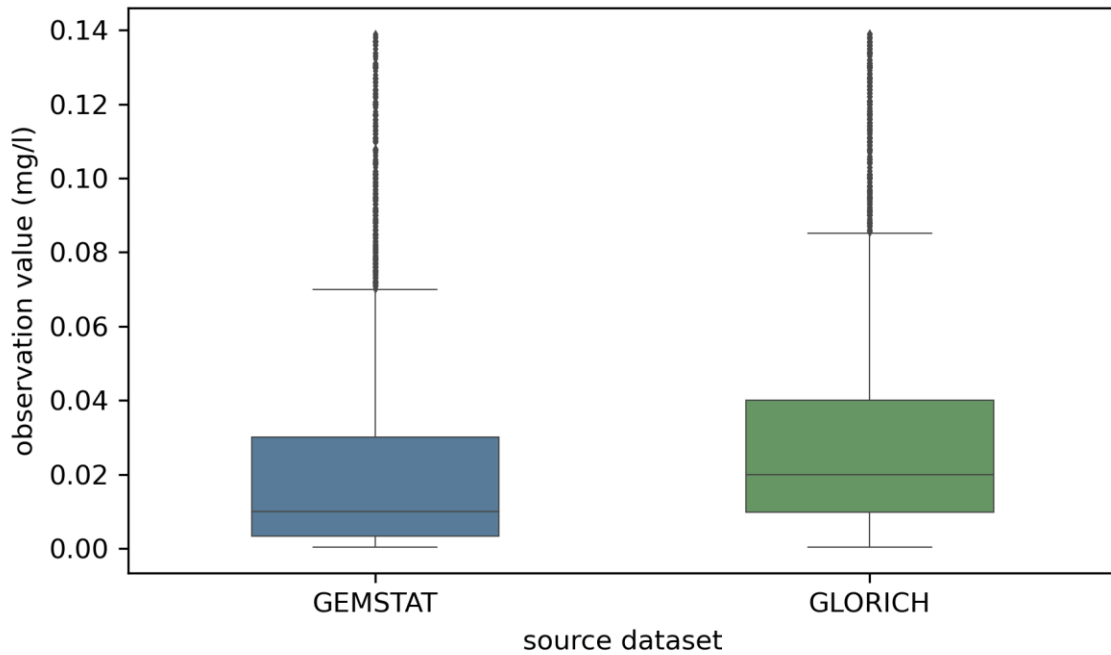
Monthly time series availability of TIP observations



Box plot of TIP observation values

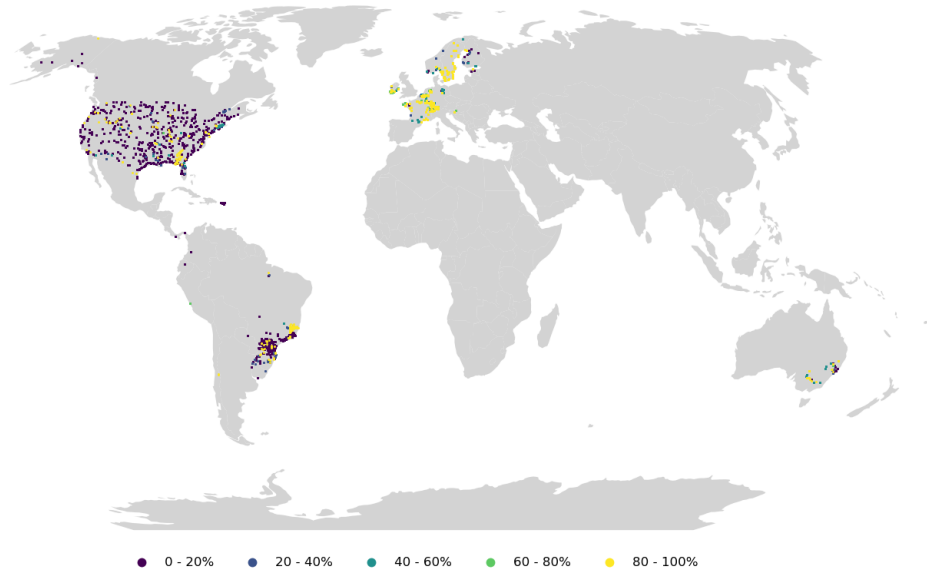
Violin plot of TIP observation values

Outliers detected by the IQR test (13.8% of observations) have been removed



Monthly time series continuity of TIP observation values

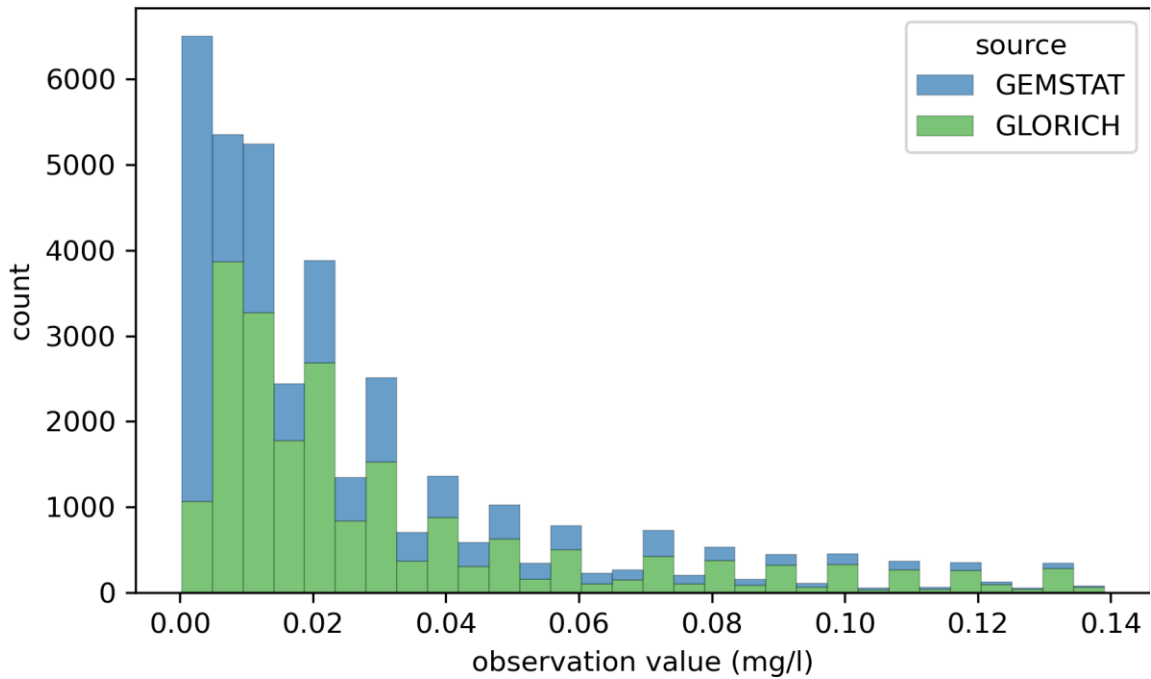
Monthly time series continuity of TIP observations



Distribution of TIP observation values

Histogram plot of TIP observation values

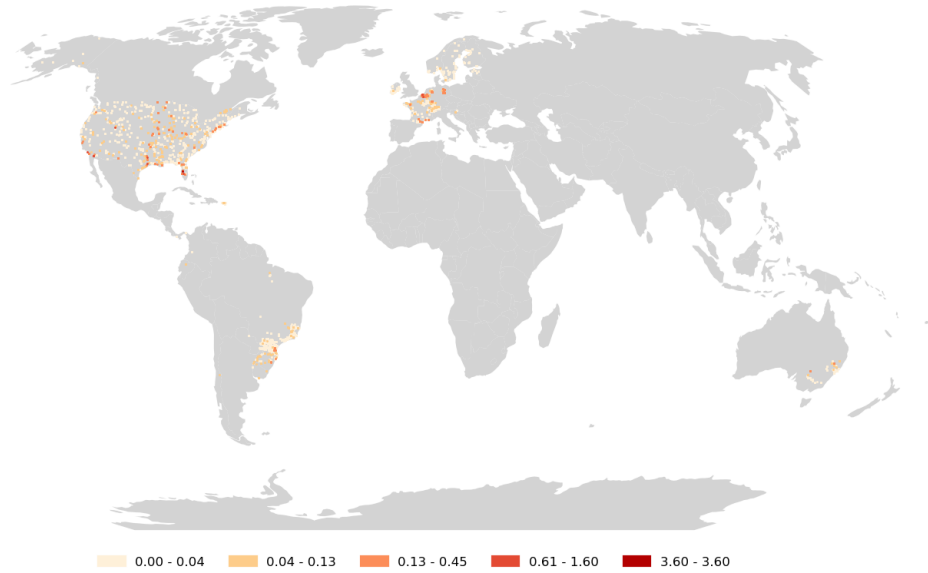
Outliers detected by the IQR test (13.8% of observations) have been removed



Spatial distribution of yearly median of TIP observation values

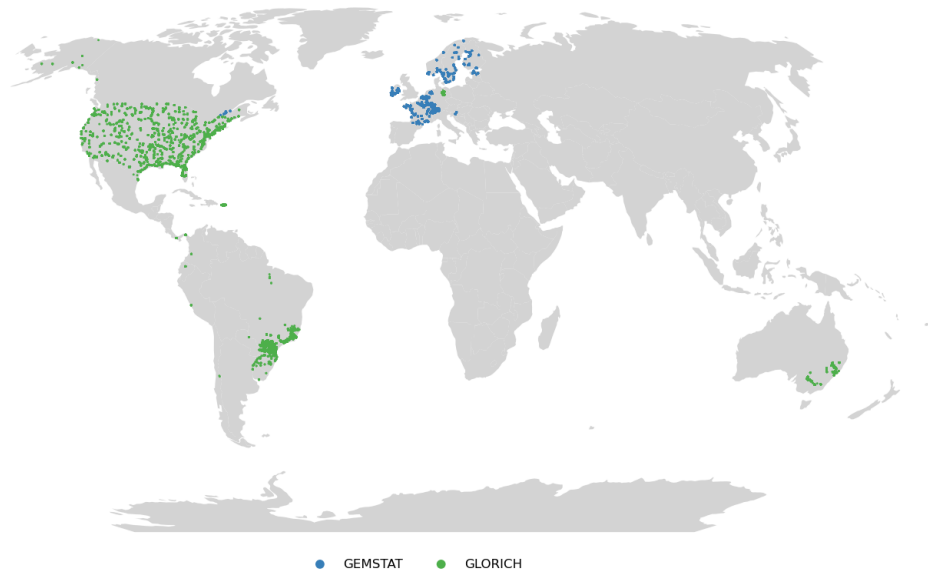
Median observation values of TIP sites (mg/l)

Outliers detected by the IQR test (13.8% of observations) have been removed

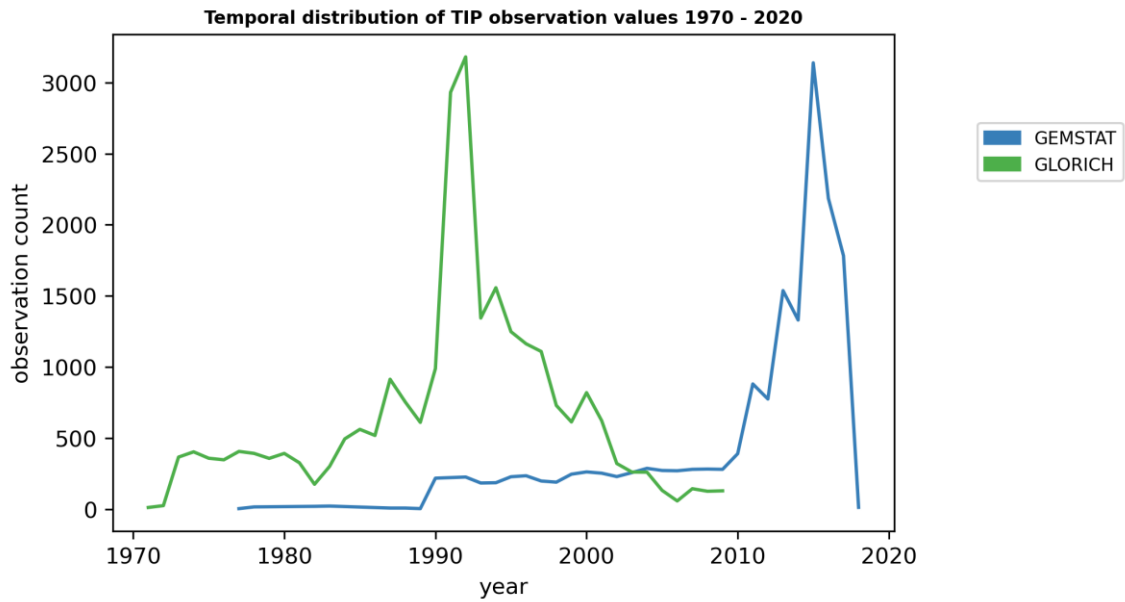


Spatial distribution of TIP observation values

Spatial distribution of TIP sites



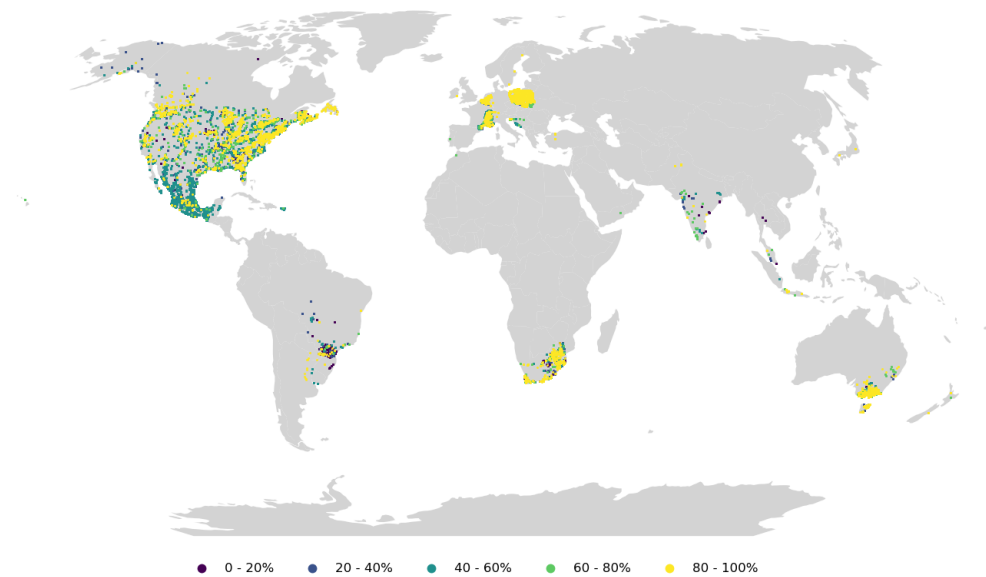
Temporal distribution of TIP observation values



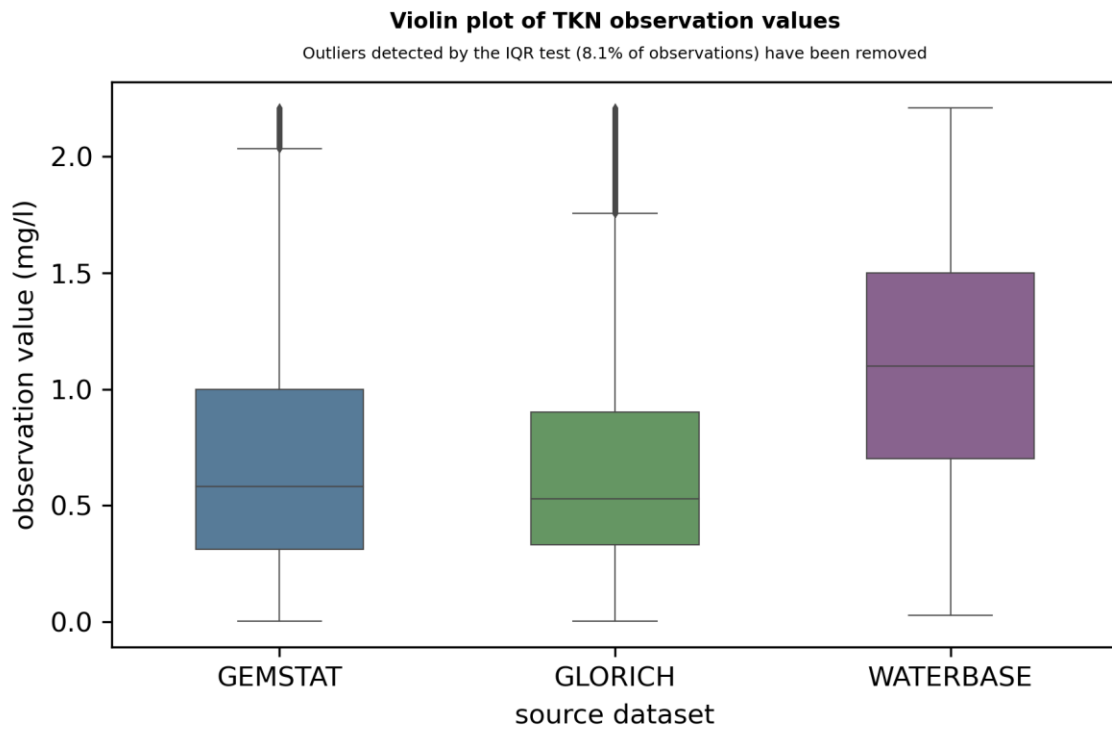
Total Kjeldahl Nitrogen (TKN)

Monthly time series availability of TKN observation values

Monthly time series availability of TKN observations

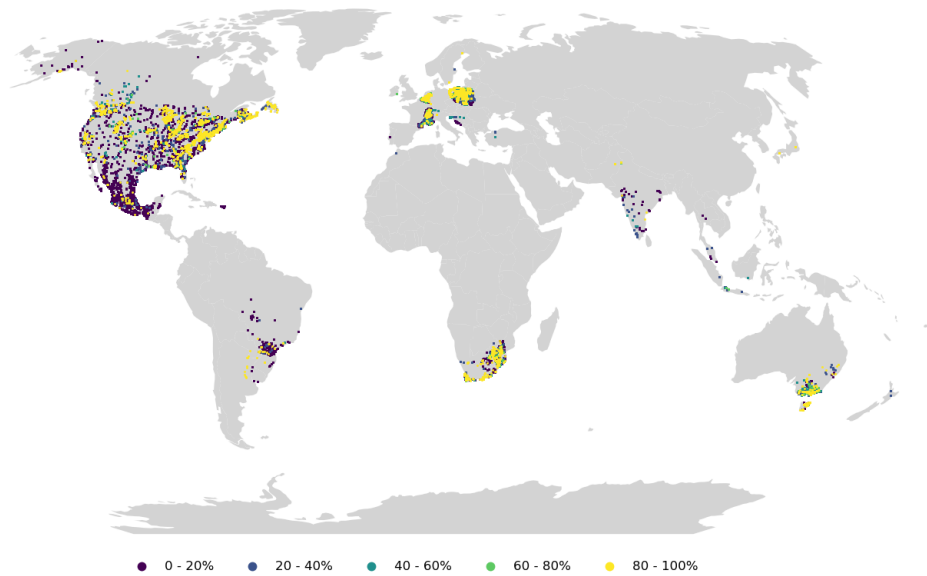


Box plot of TKN observation values



Monthly time series continuity of TKN observation values

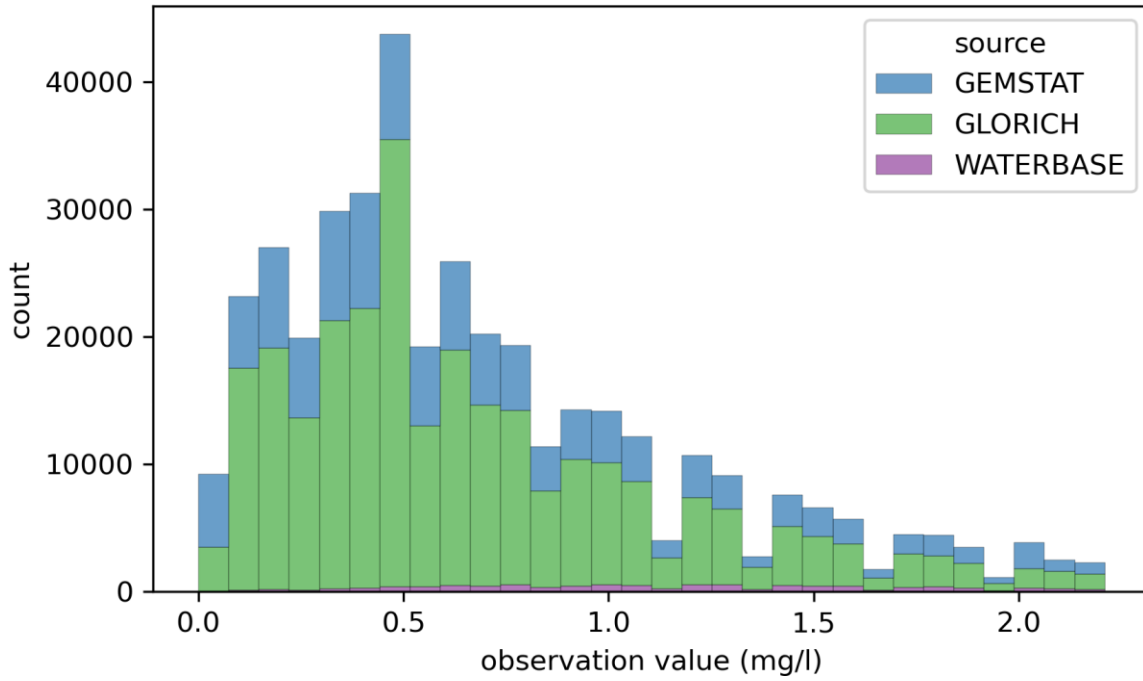
Monthly time series continuity of TKN observations



Distribution of TKN observation values

Histogram plot of TKN observation values

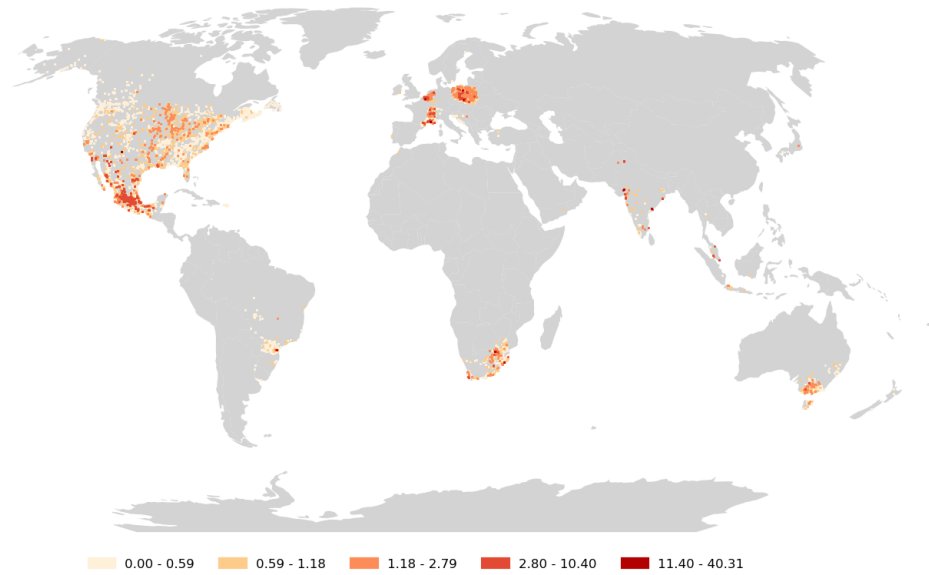
Outliers detected by the IQR test (8.1% of observations) have been removed



Spatial distribution of yearly median of TKN observation values

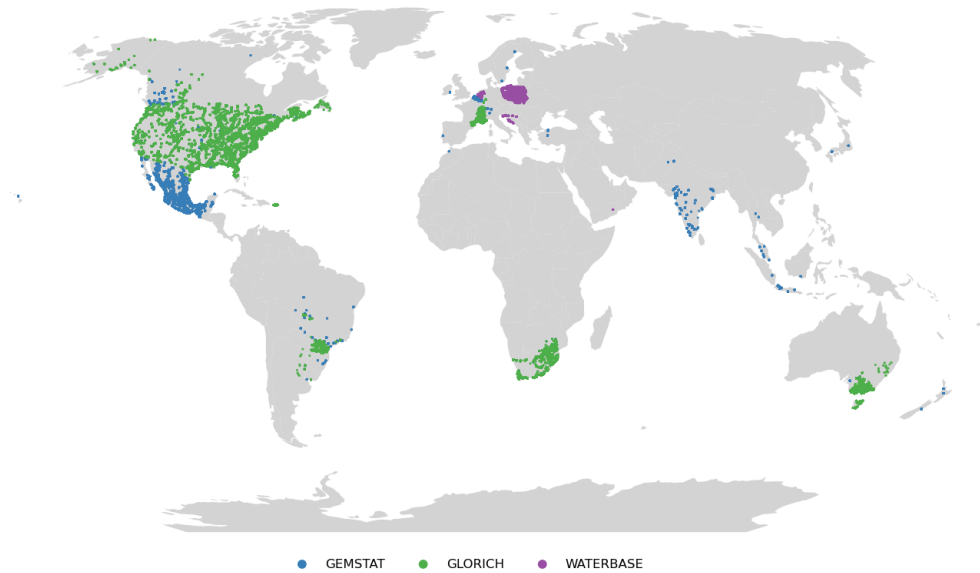
Median observation values of TKN sites (mg/l)

Outliers detected by the IQR test (8.1% of observations) have been removed

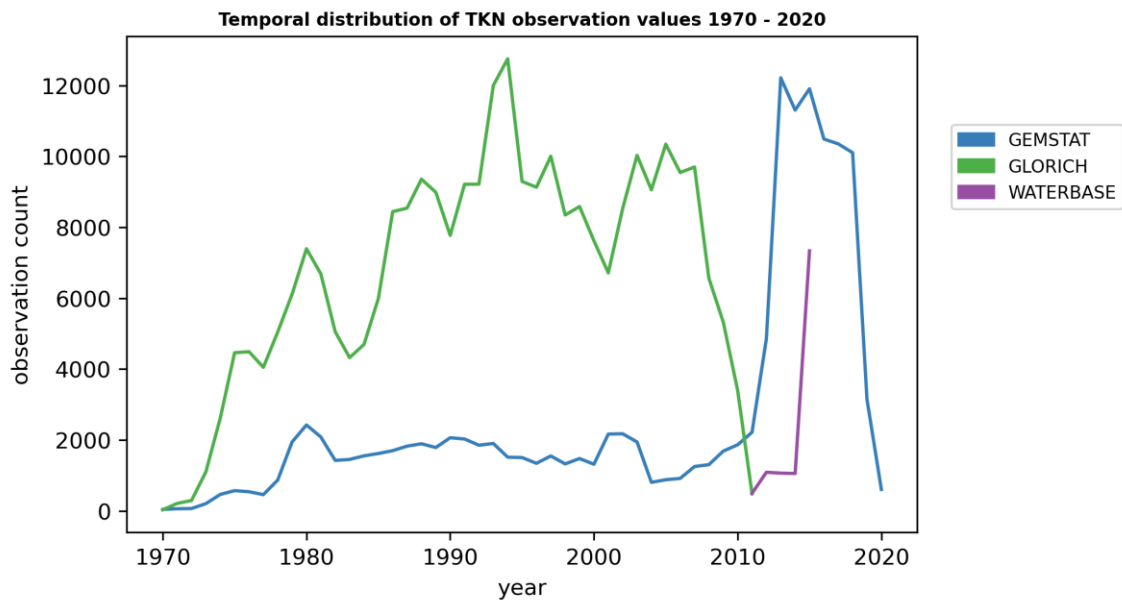


Spatial distribution of TKN observation values

Spatial distribution of TKN sites



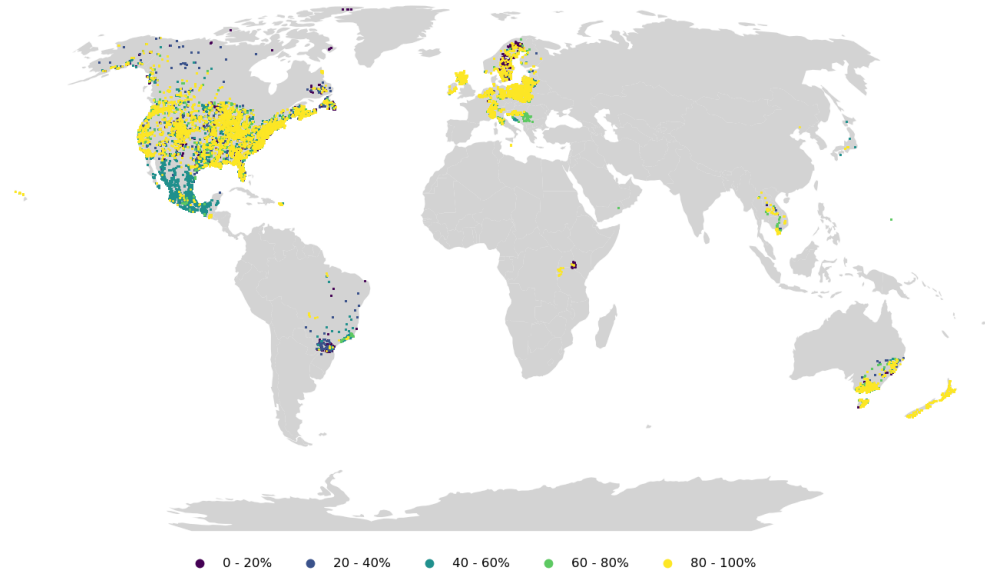
Temporal distribution of TKN observation values



Total Nitrogen (TN)

Monthly time series availability of TN observation values

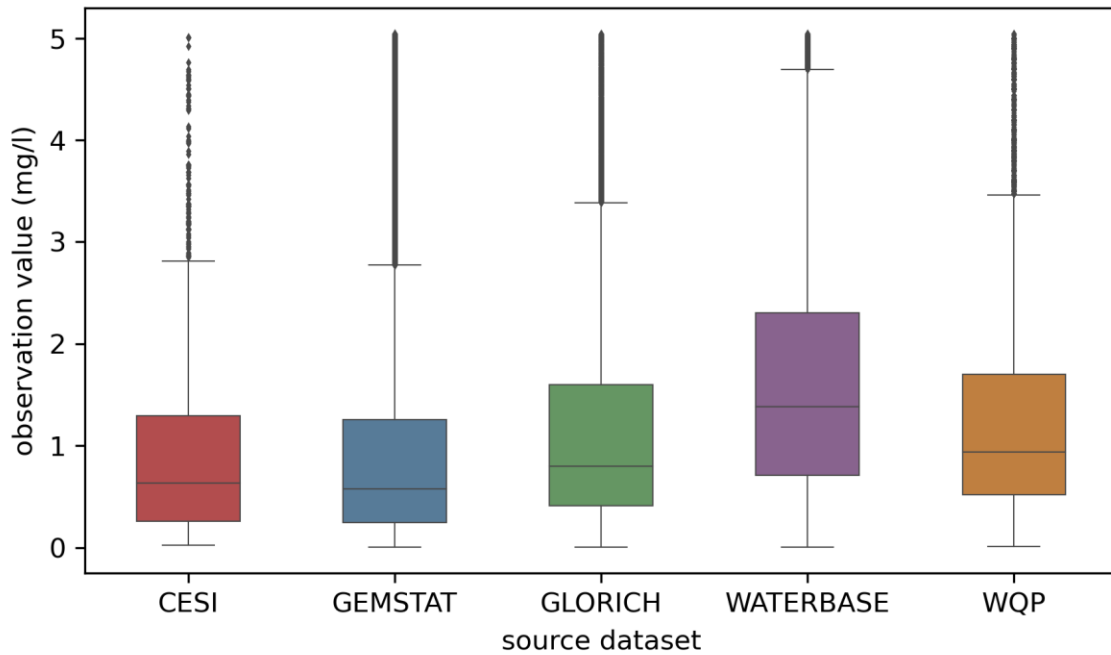
Monthly time series availability of TN observations



Box plot of TN observation values

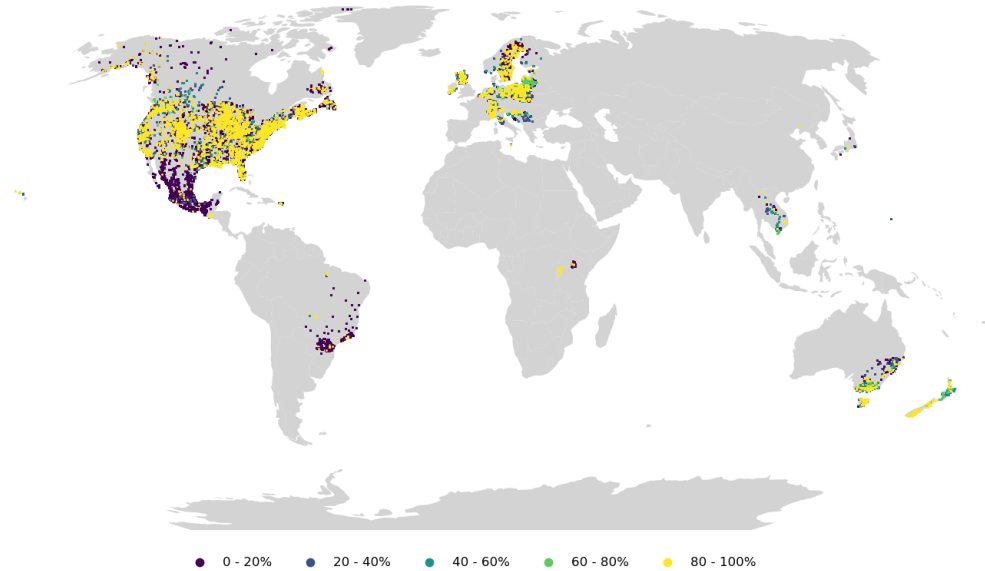
Violin plot of TN observation values

Outliers detected by the IQR test (11.9% of observations) have been removed



Monthly time series continuity of TN observation values

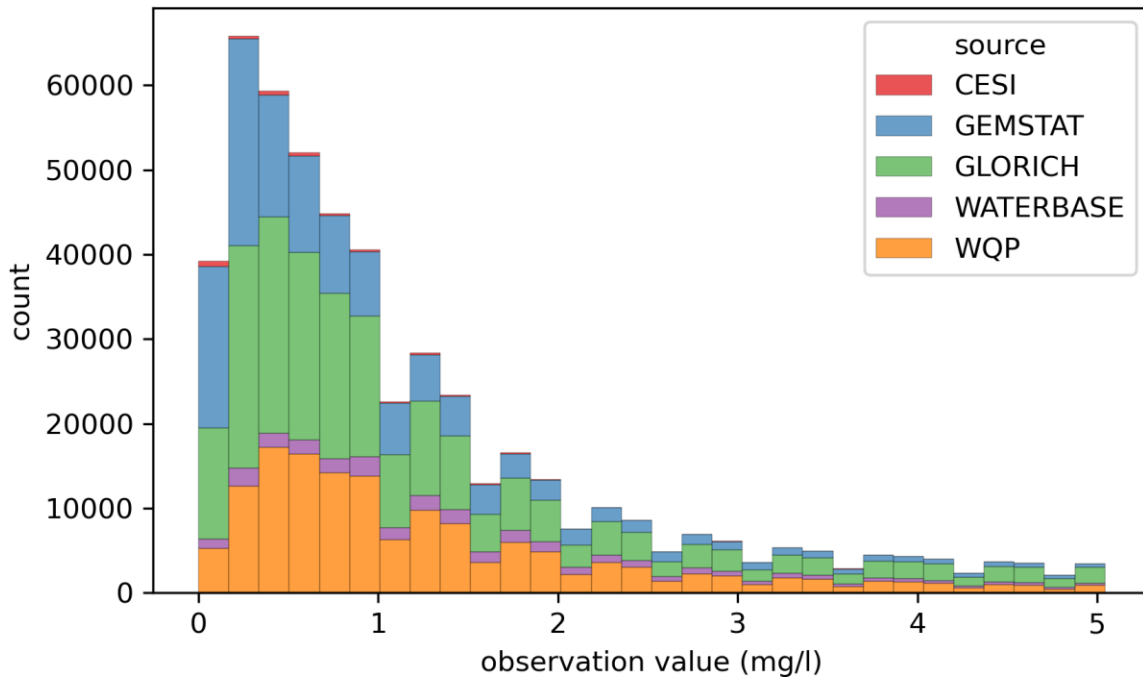
Monthly time series continuity of TN observations



Distribution of TN observation values

Histogram plot of TN observation values

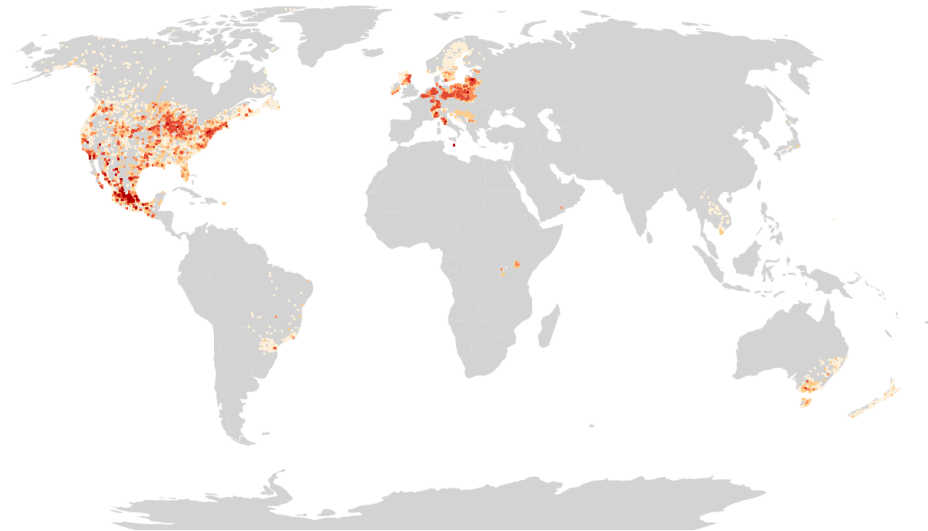
Outliers detected by the IQR test (11.9% of observations) have been removed



Spatial distribution of yearly median of TN observation values

Median observation values of TN sites (mg/l)

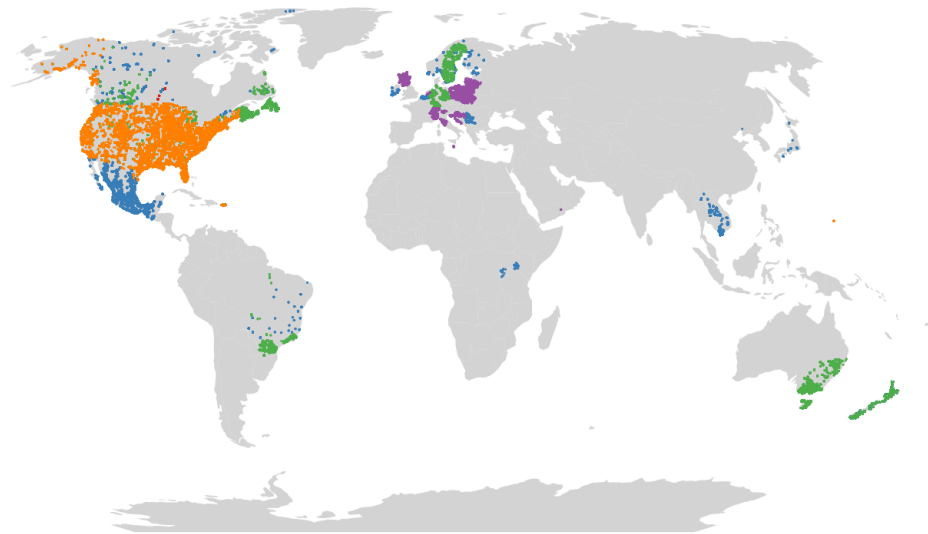
Outliers detected by the IQR test (11.9% of observations) have been removed



0.01 - 1.10 1.10 - 2.62 2.63 - 5.04 5.05 - 14.55 14.70 - 60.95

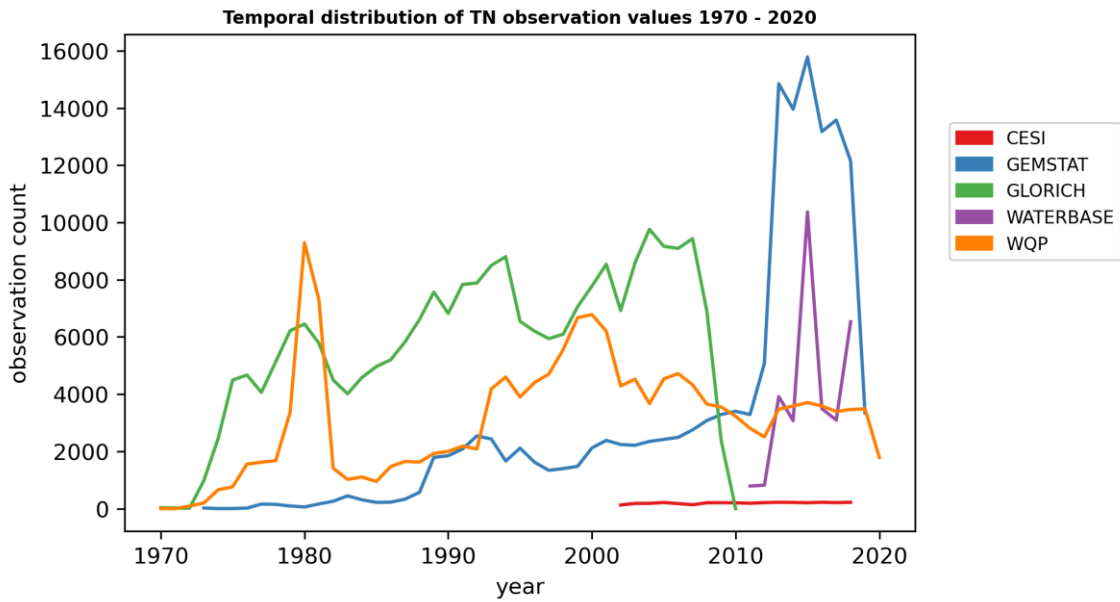
Spatial distribution of TN observation values

Spatial distribution of TN sites



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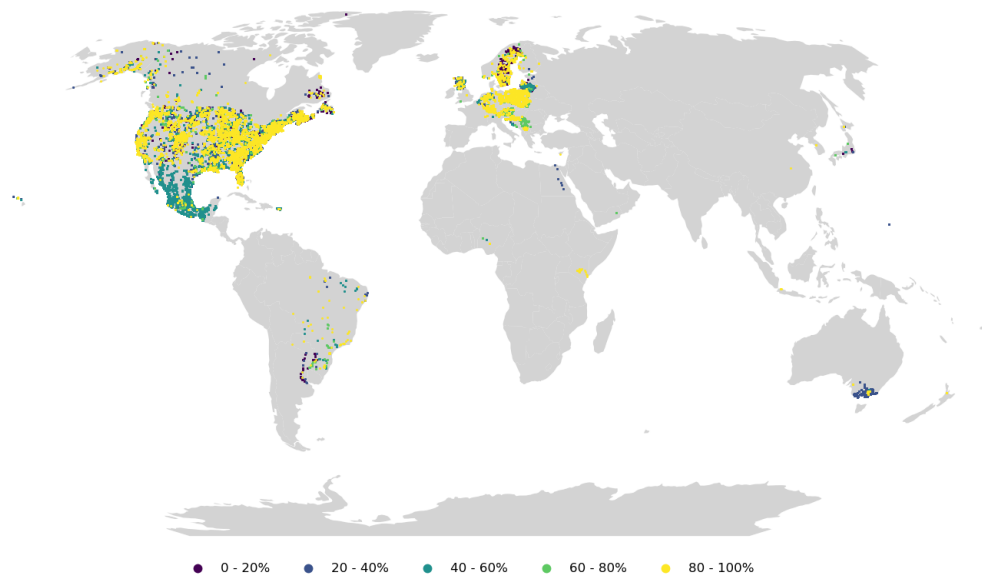
Temporal distribution of TN observation values



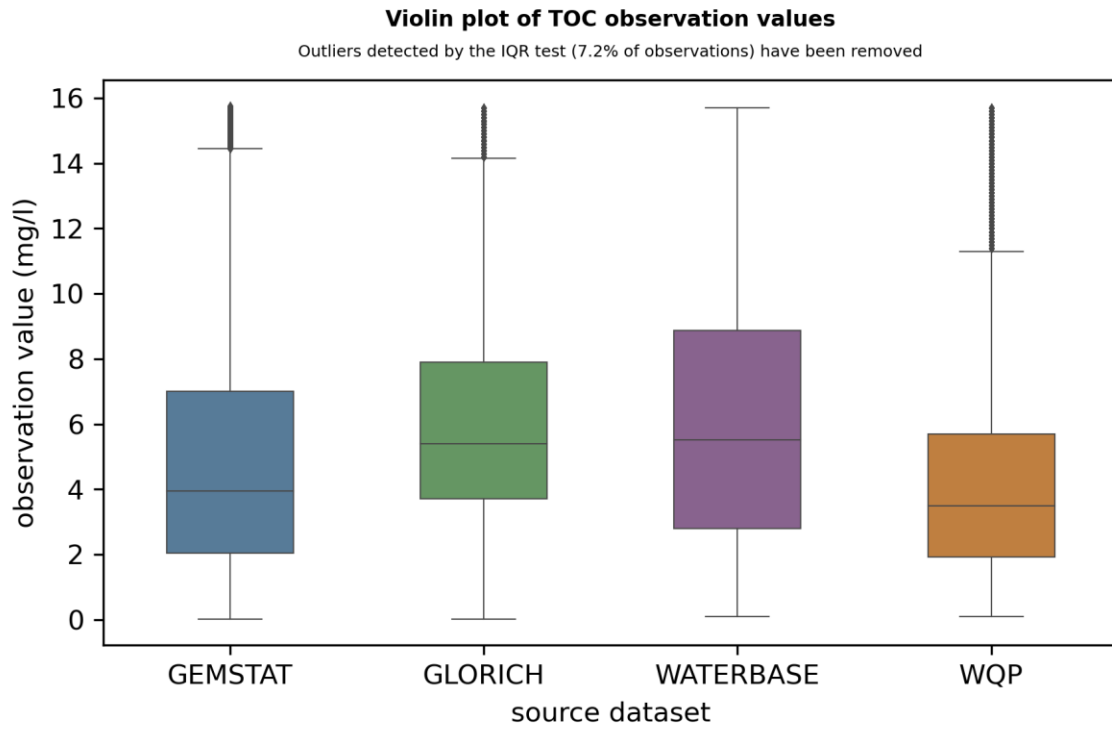
Total Organic Carbon (TOC)

Monthly time series availability of TOC observation values

Monthly time series availability of TOC observations

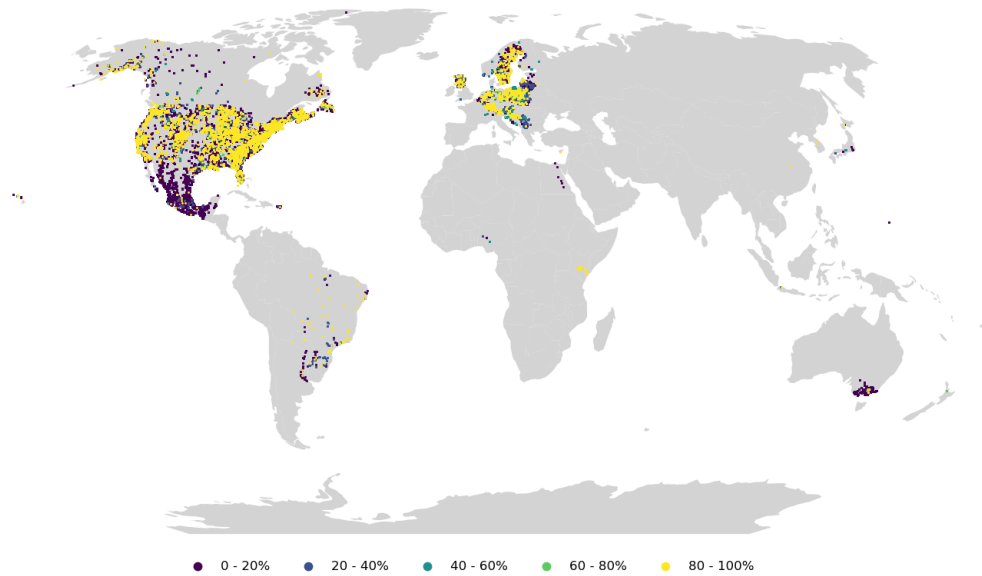


Box plot of TOC observation values



Monthly time series continuity of TOC observation values

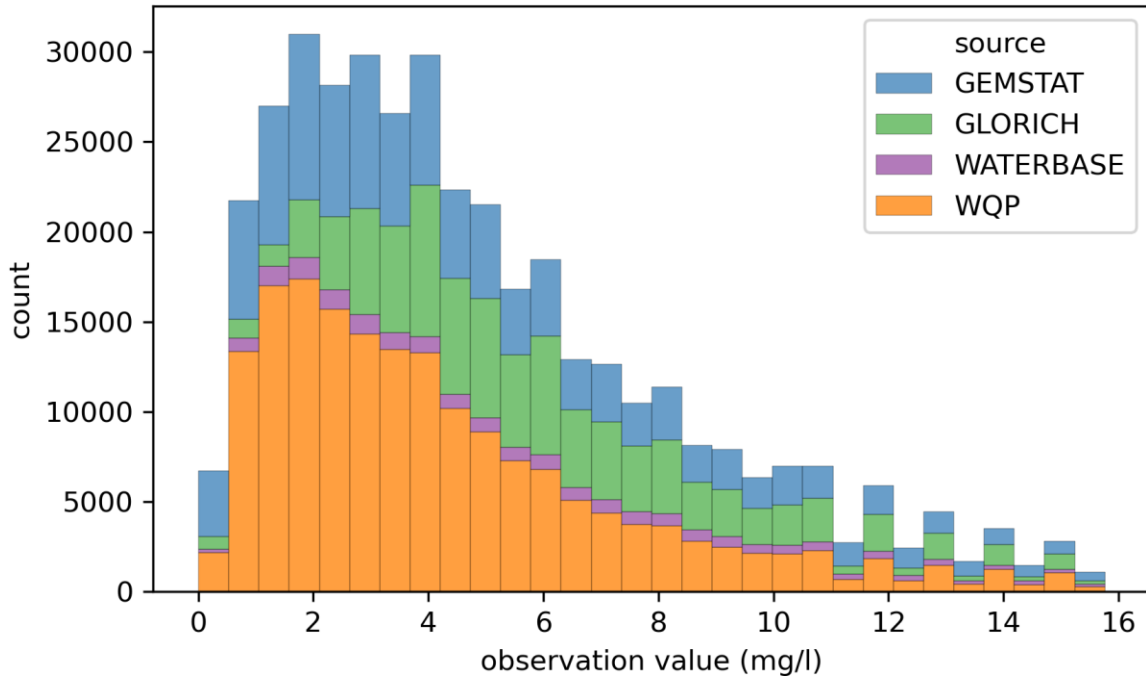
Monthly time series continuity of TOC observations



Distribution of TOC observation values

Histogram plot of TOC observation values

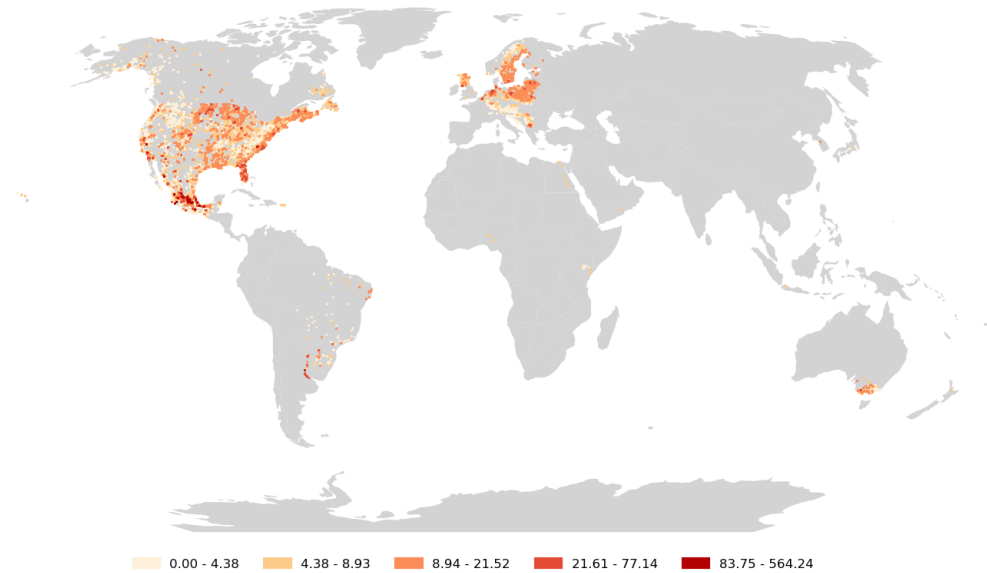
Outliers detected by the IQR test (7.2% of observations) have been removed



Spatial distribution of yearly median of TOC observation values

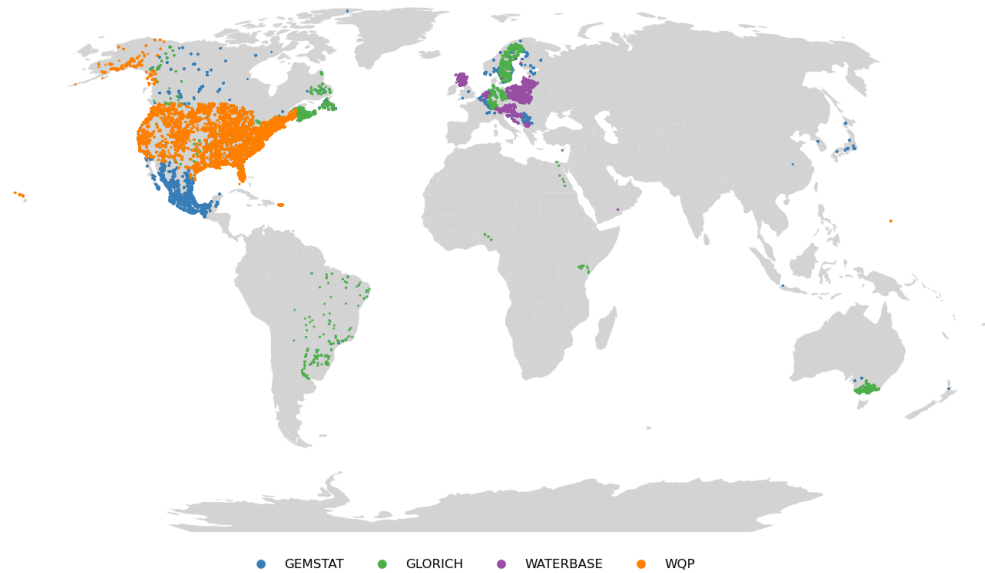
Median observation values of TOC sites (mg/l)

Outliers detected by the IQR test (7.2% of observations) have been removed

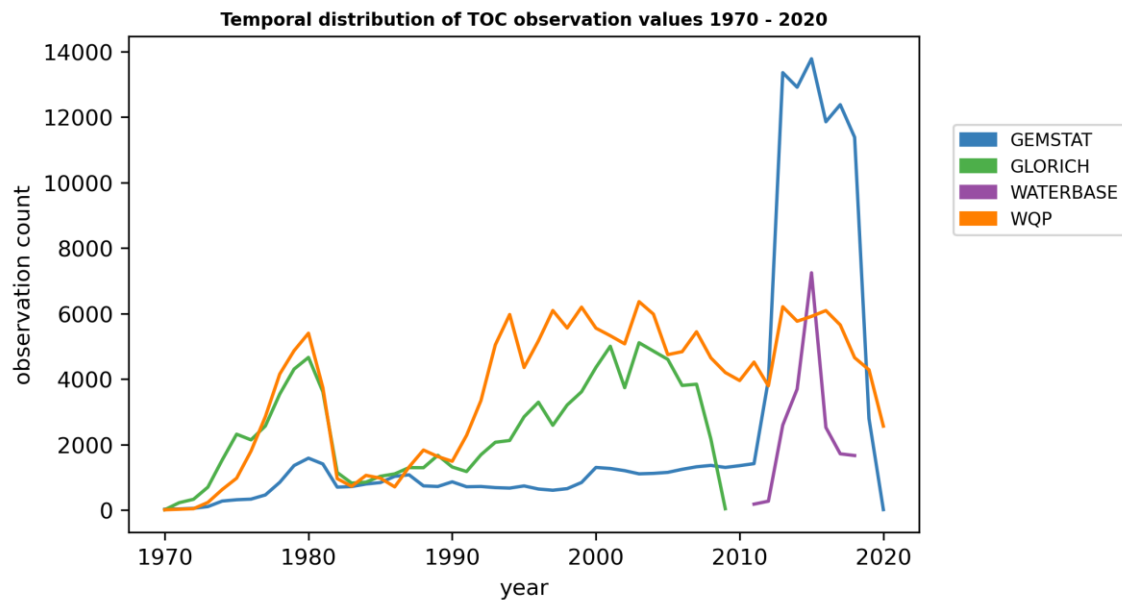


Spatial distribution of TOC observation values

Spatial distribution of TOC sites



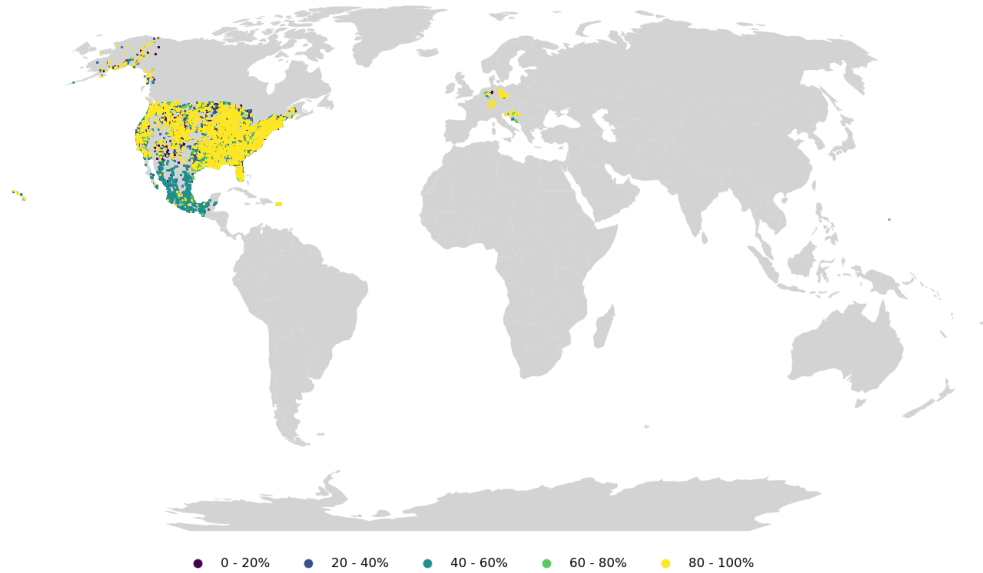
Temporal distribution of TOC observation values



Total Organic Nitrogen (TON)

Monthly time series availability of TON observation values

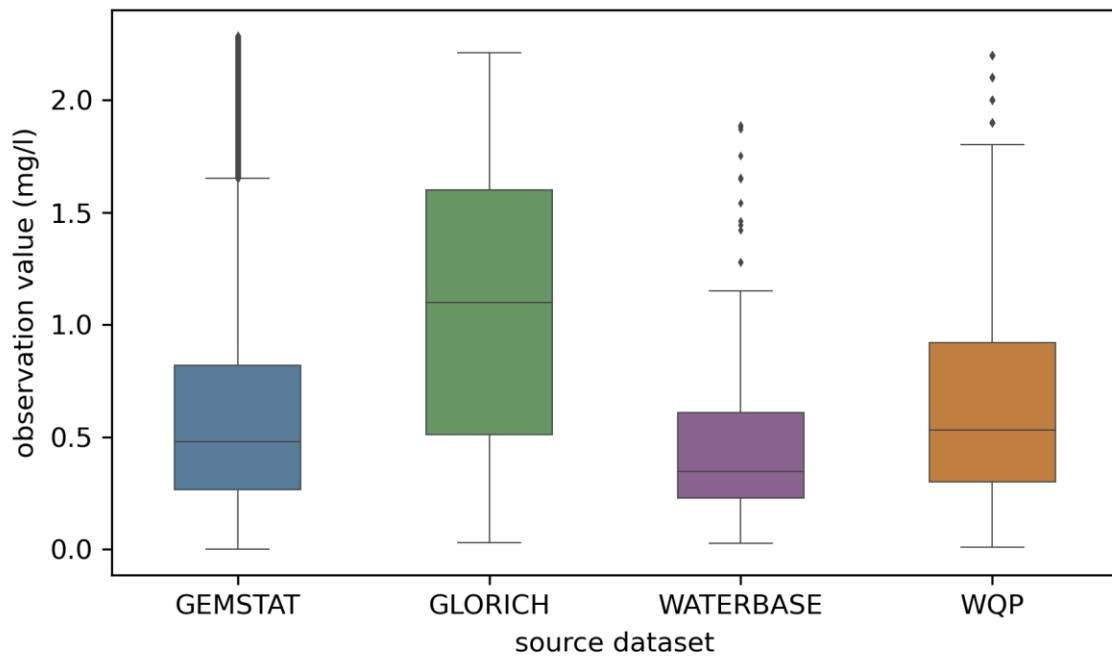
Monthly time series availability of TON observations



Box plot of TON observation values

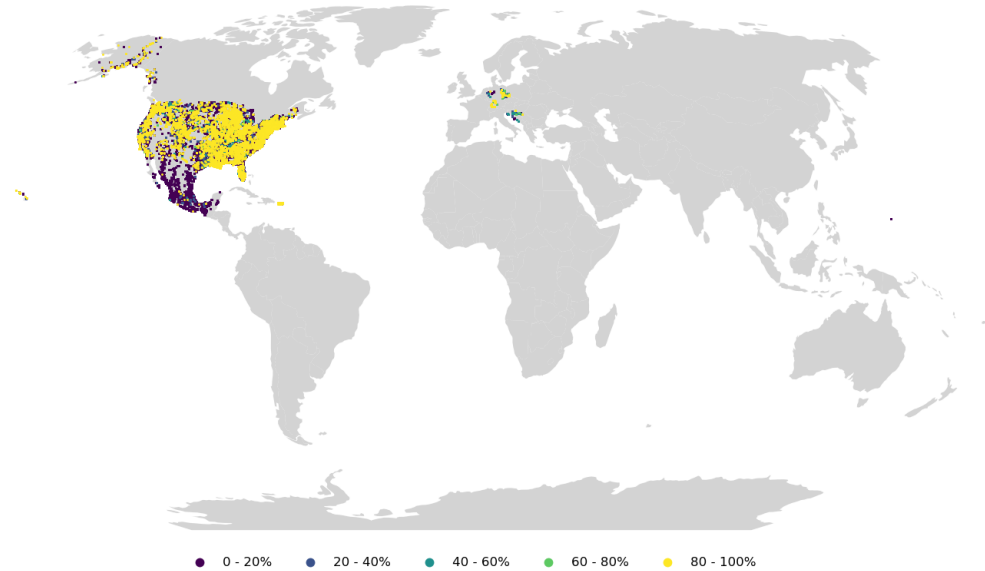
Violin plot of TON observation values

Outliers detected by the IQR test (8.6% of observations) have been removed



Monthly time series continuity of TON observation values

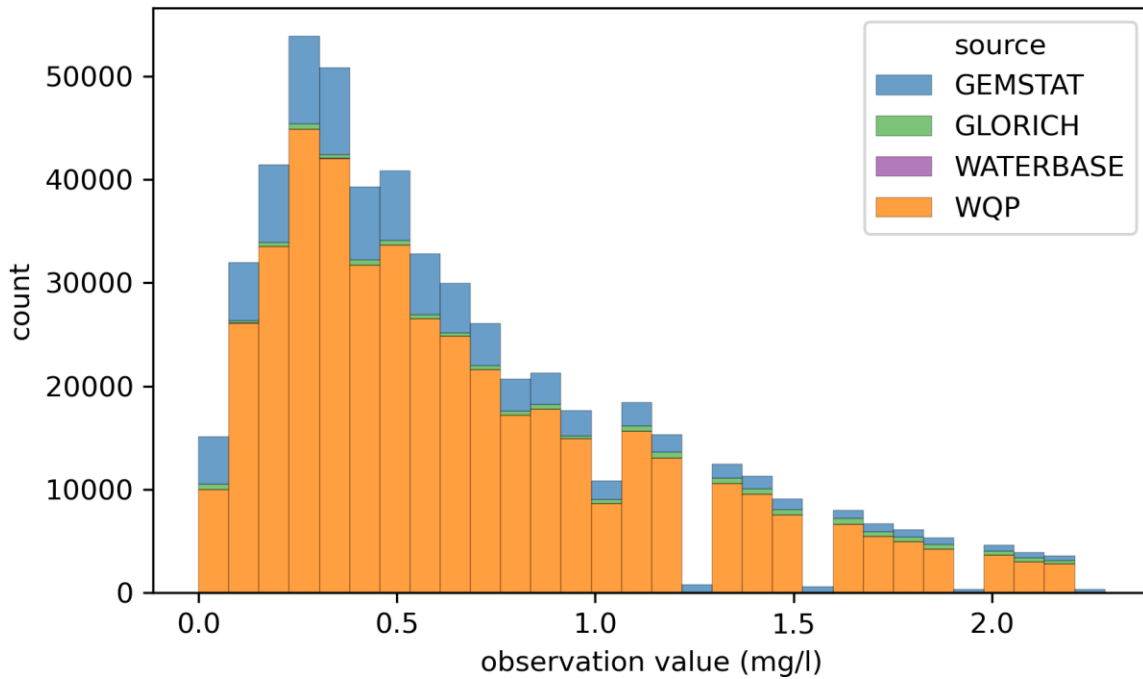
Monthly time series continuity of TON observations



Distribution of TON observation values

Histogram plot of TON observation values

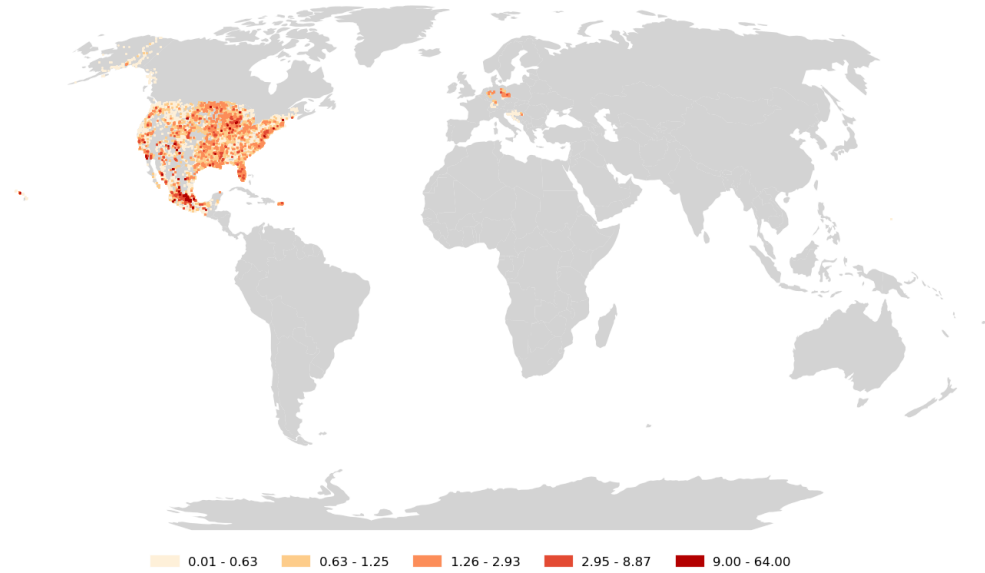
Outliers detected by the IQR test (8.6% of observations) have been removed



Spatial distribution of yearly median of TON observation values

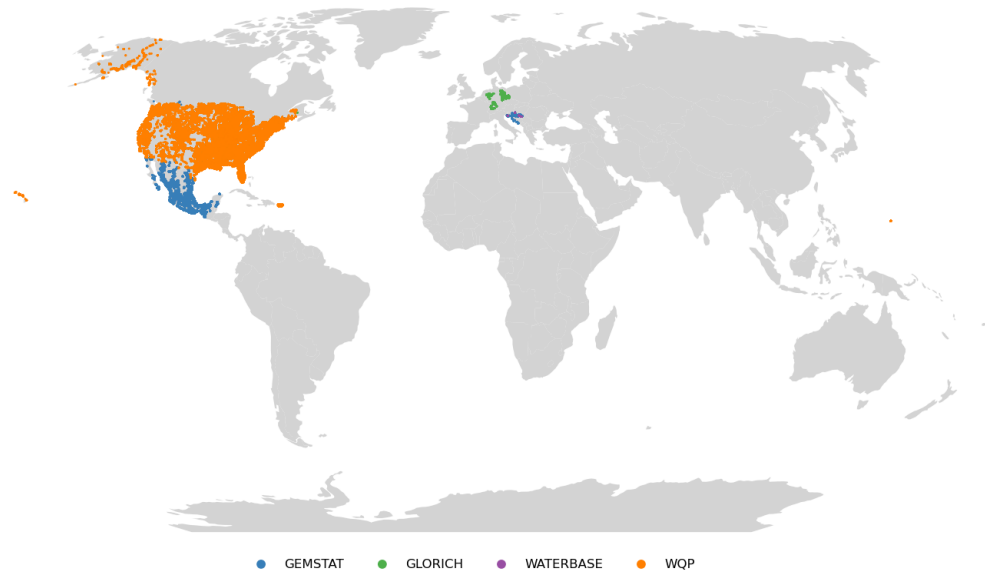
Median observation values of TON sites (mg/l)

Outliers detected by the IQR test (8.6% of observations) have been removed

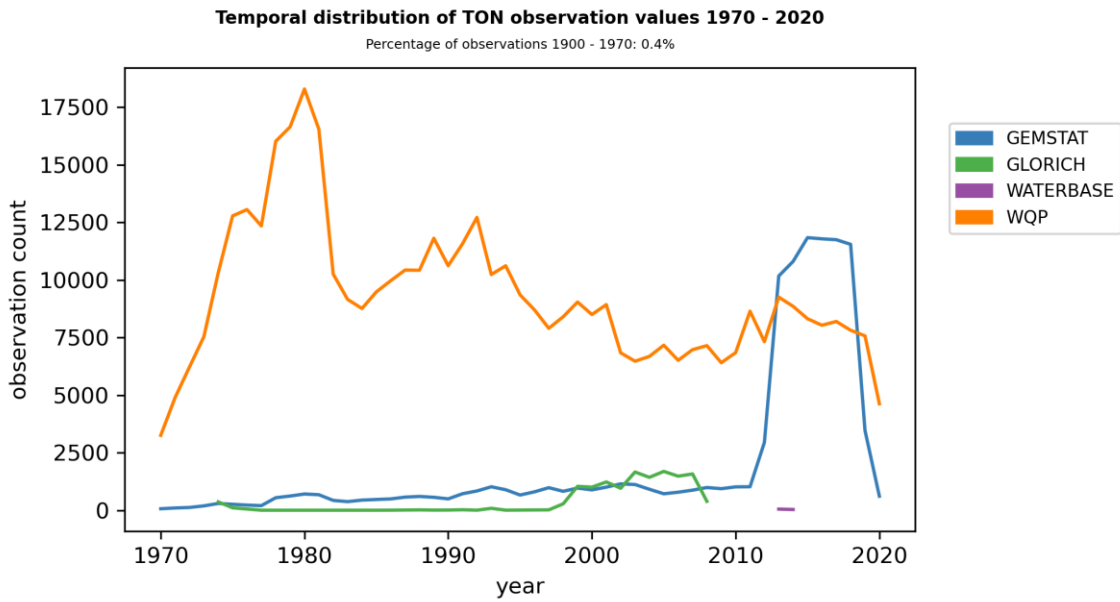


Spatial distribution of TON observation values

Spatial distribution of TON sites



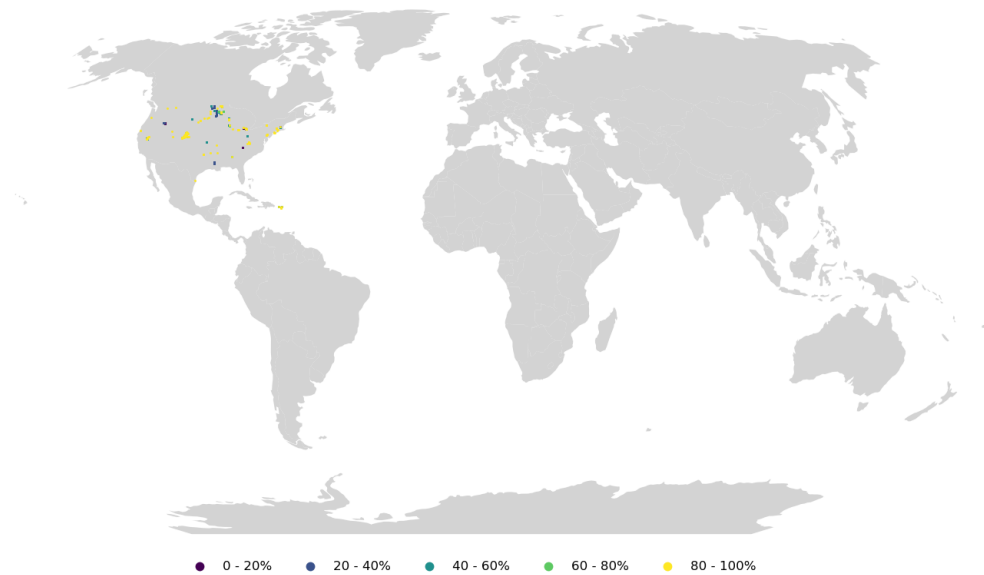
Temporal distribution of TON observation values



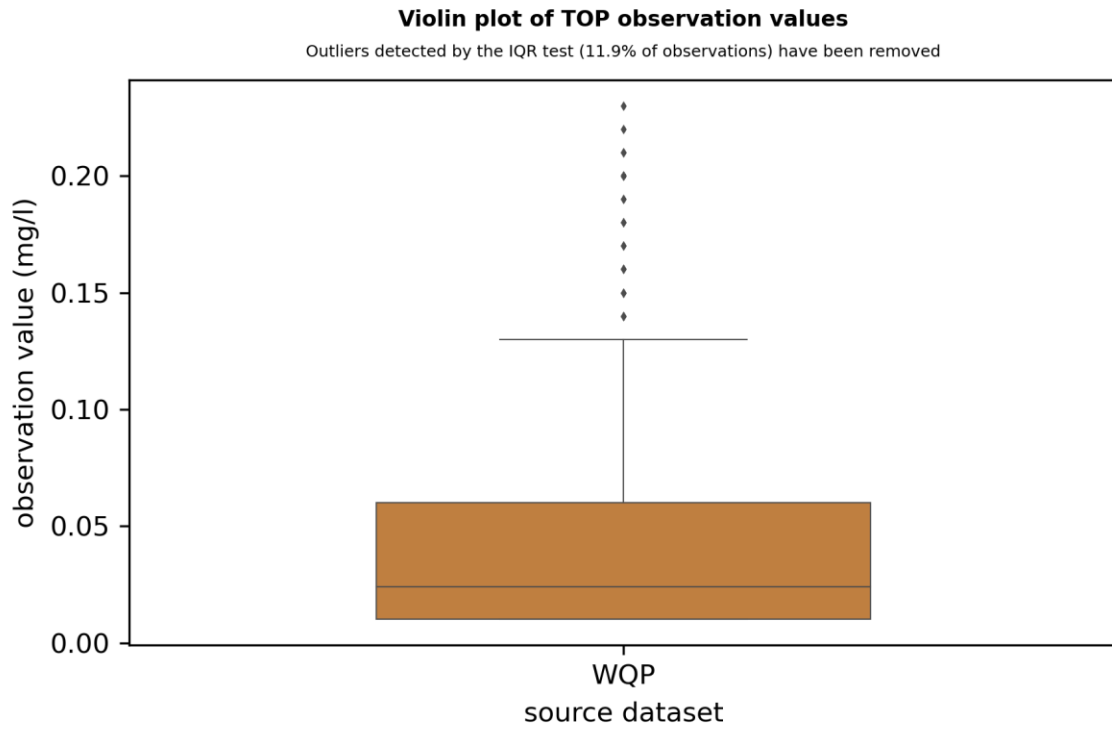
Total Organic Phosphorus (TOP)

Monthly time series availability of TOP observation values

Monthly time series availability of TOP observations

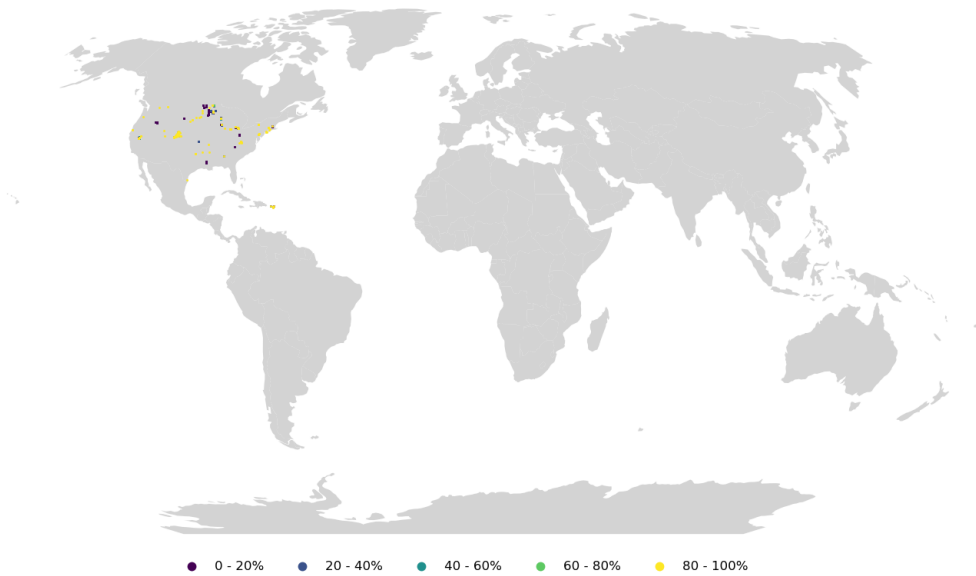


Box plot of TOP observation values



Monthly time series continuity of TOP observation values

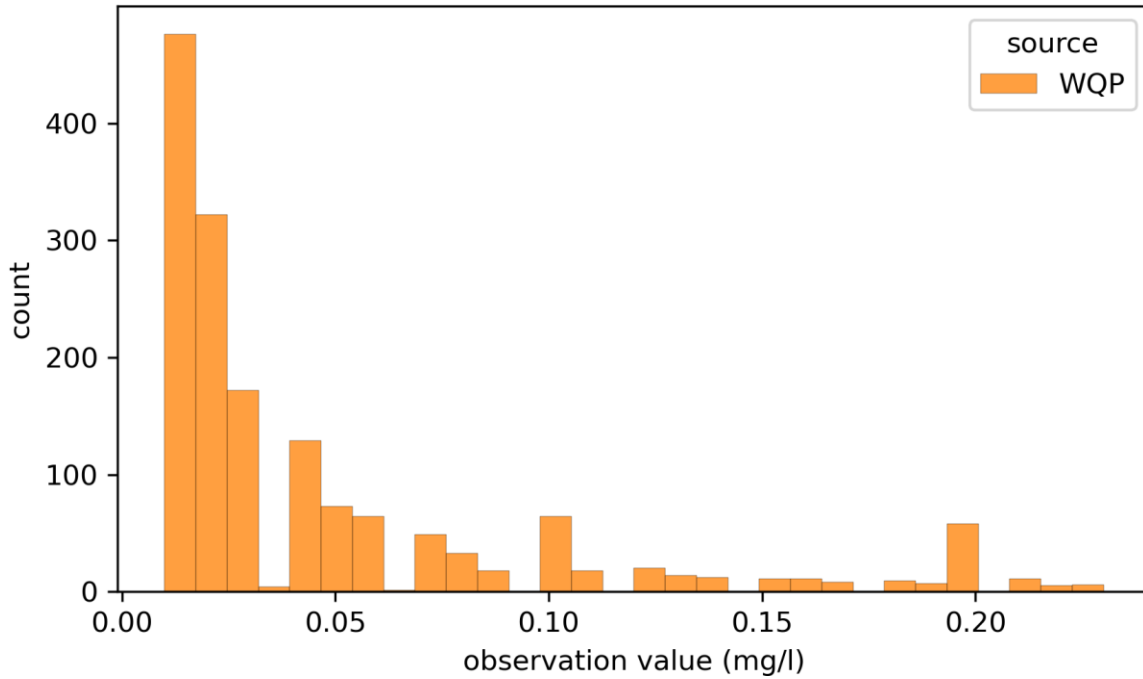
Monthly time series continuity of TOP observations



Distribution of TOP observation values

Histogram plot of TOP observation values

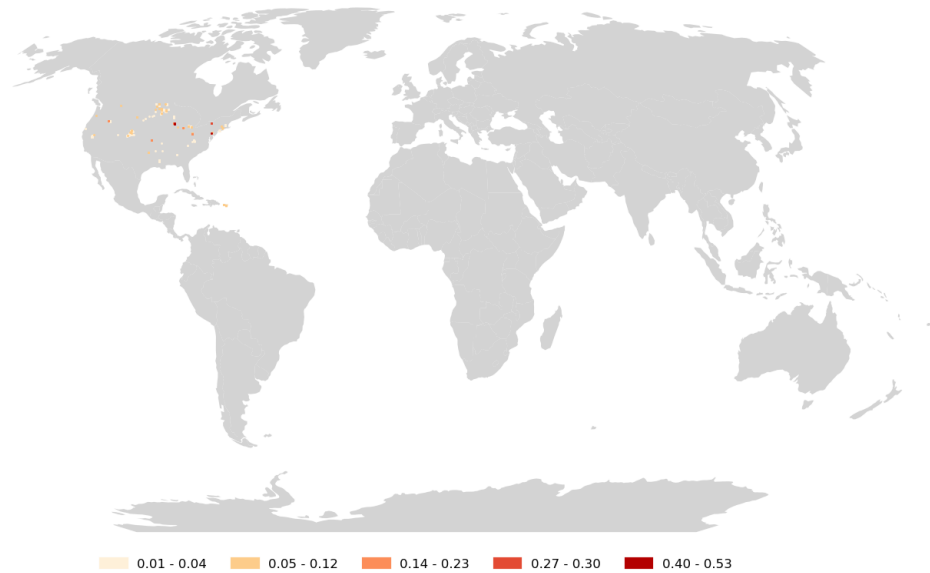
Outliers detected by the IQR test (11.9% of observations) have been removed



Spatial distribution of yearly median of TOP observation values

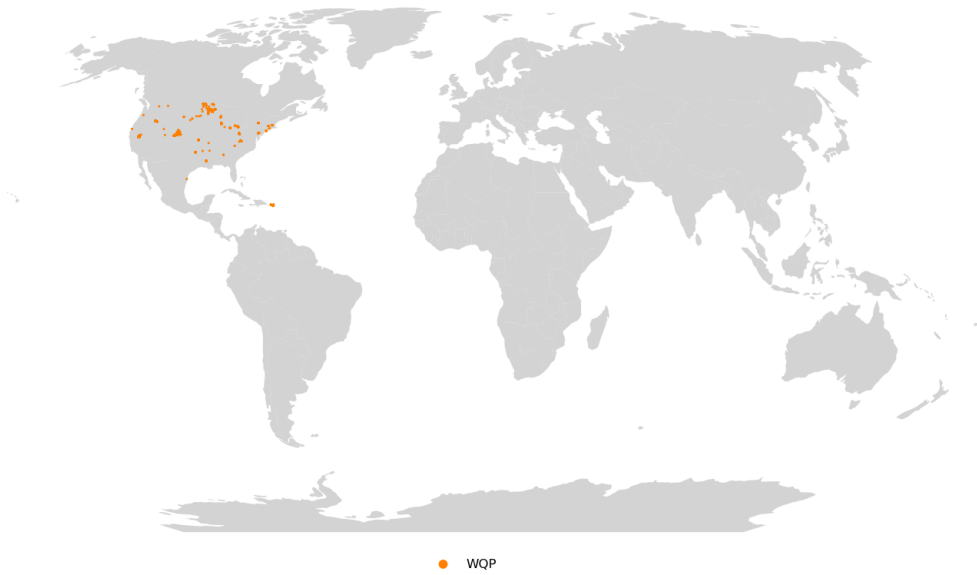
Median observation values of TOP sites (mg/l)

Outliers detected by the IQR test (11.9% of observations) have been removed

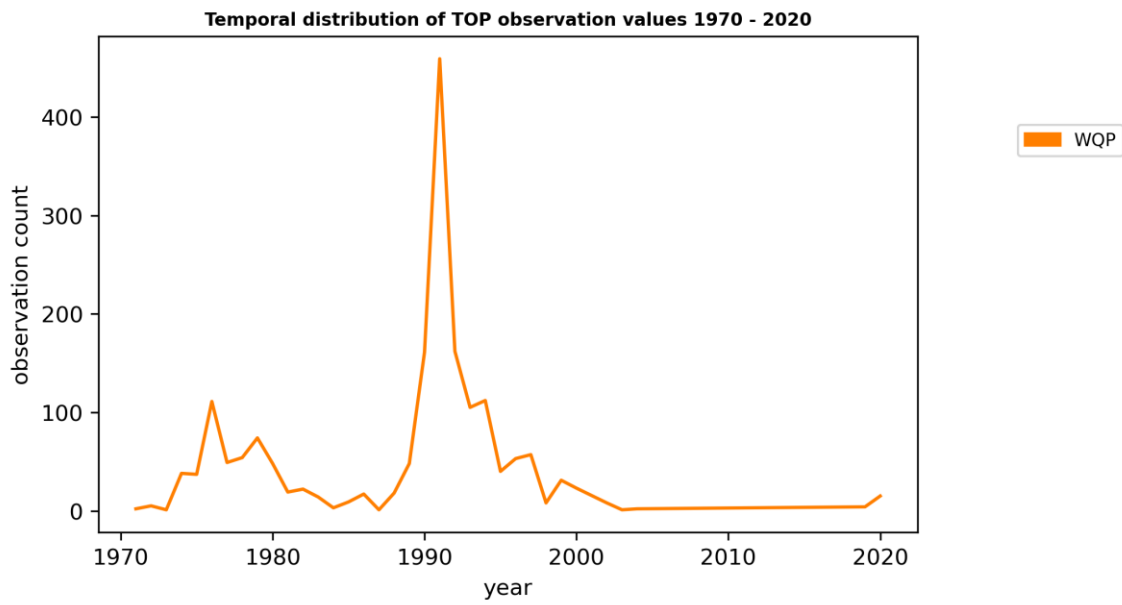


Spatial distribution of TOP observation values

Spatial distribution of TOP sites



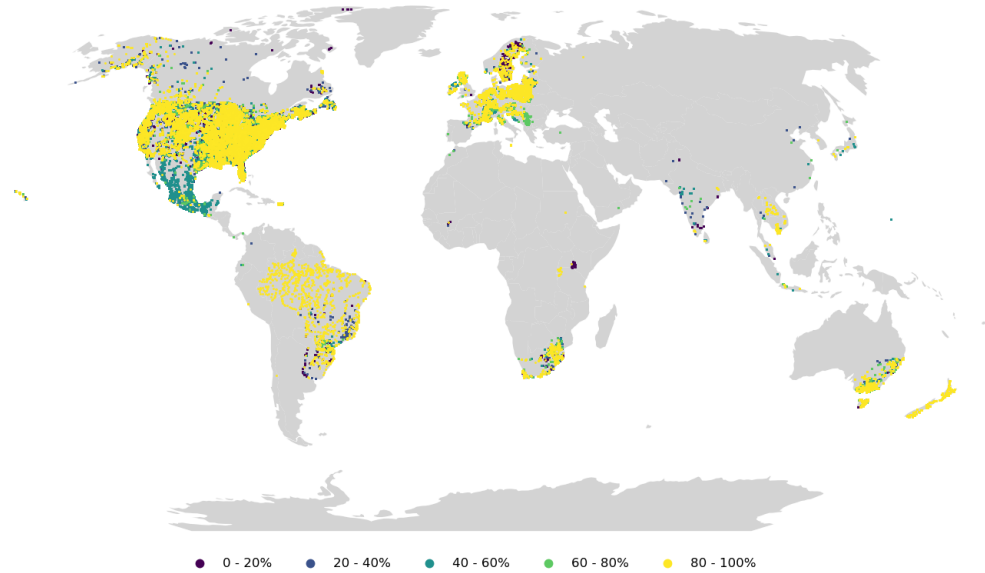
Temporal distribution of TOP observation values



Total Phosphorus (TP)

Monthly time series availability of TP observation values

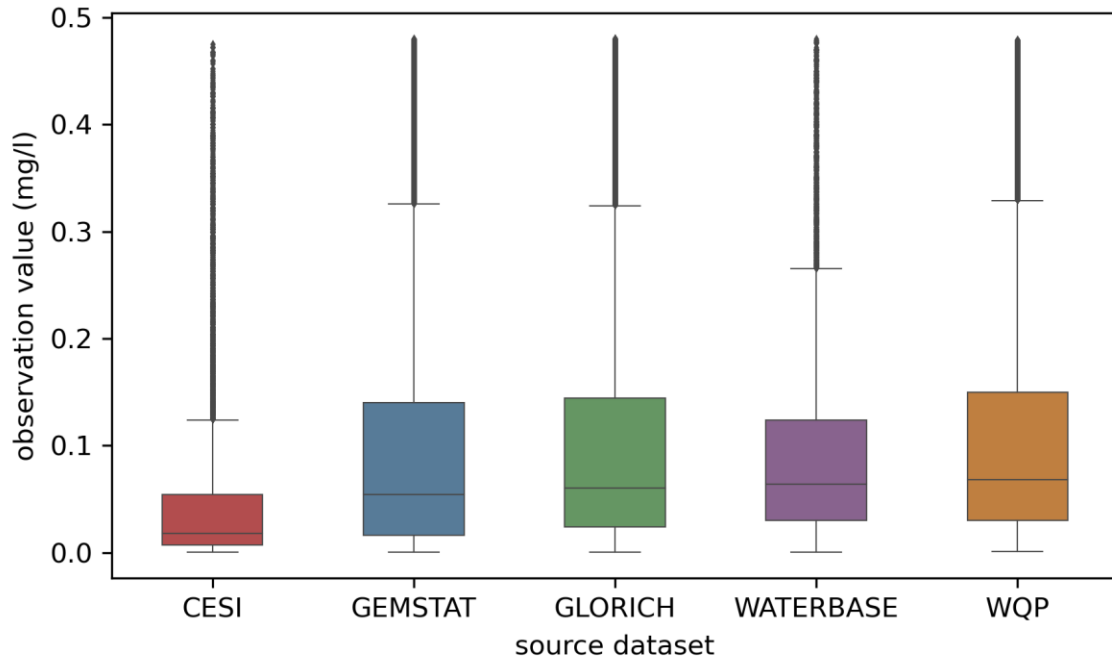
Monthly time series availability of TP observations



Box plot of TP observation values

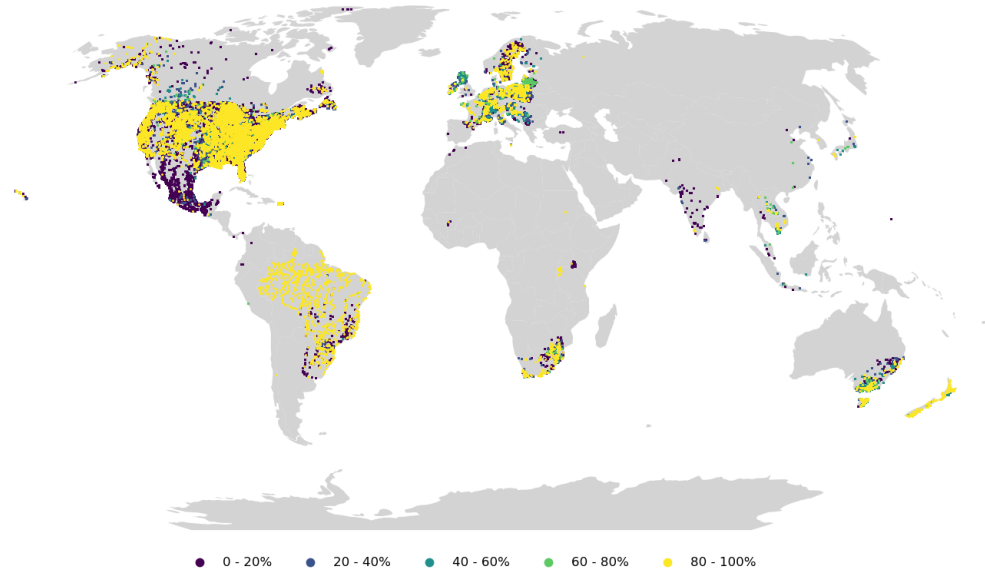
Violin plot of TP observation values

Outliers detected by the IQR test (11.8% of observations) have been removed



Monthly time series continuity of TP observation values

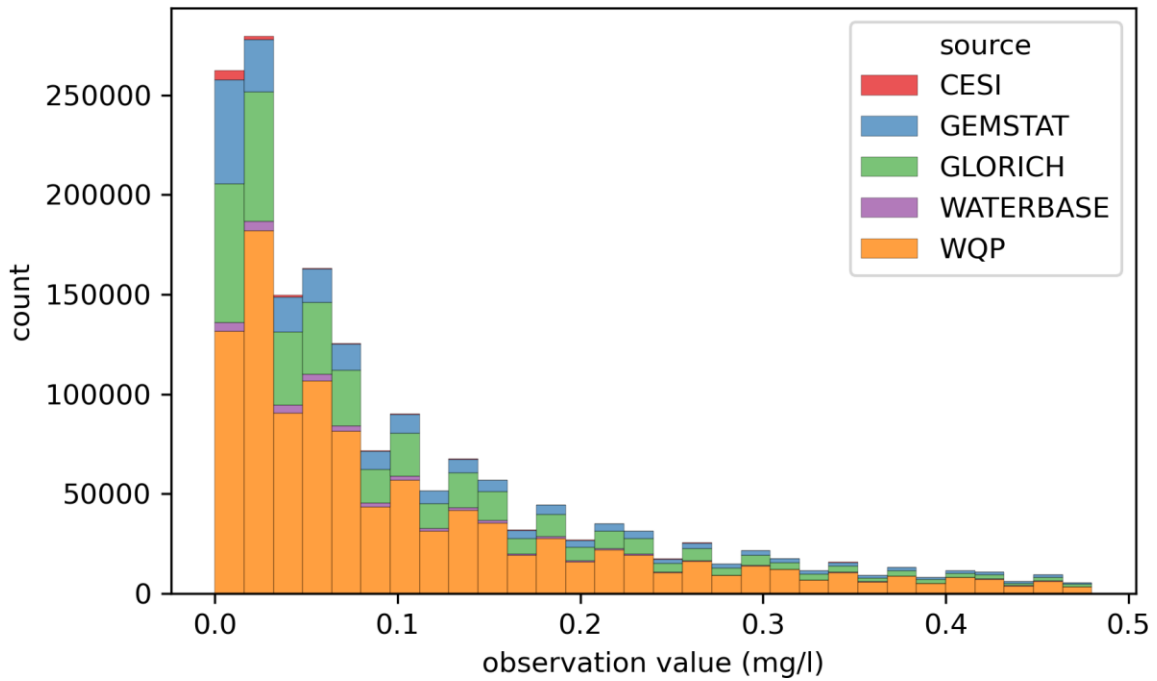
Monthly time series continuity of TP observations



Distribution of TP observation values

Histogram plot of TP observation values

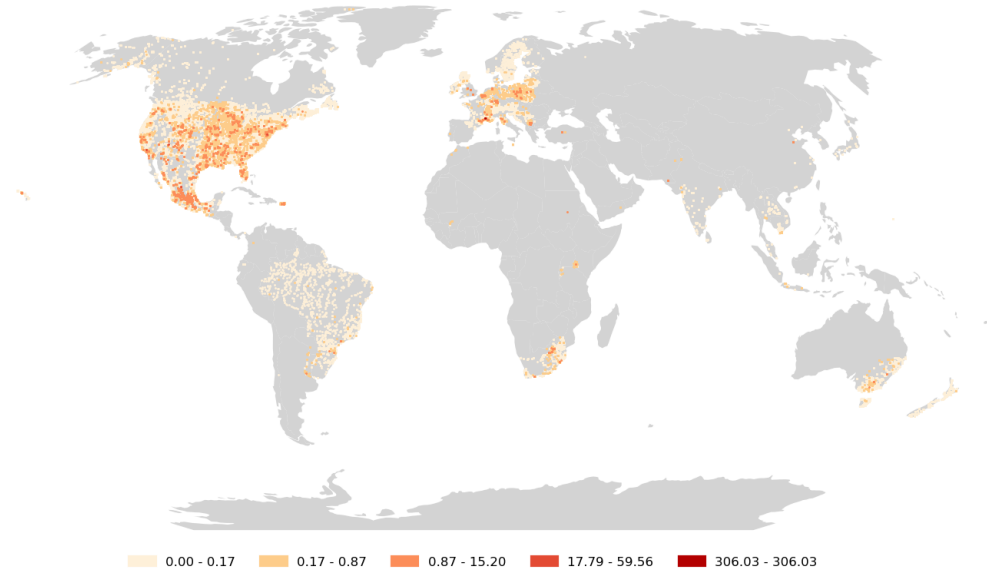
Outliers detected by the IQR test (11.8% of observations) have been removed



Spatial distribution of yearly median of TP observation values

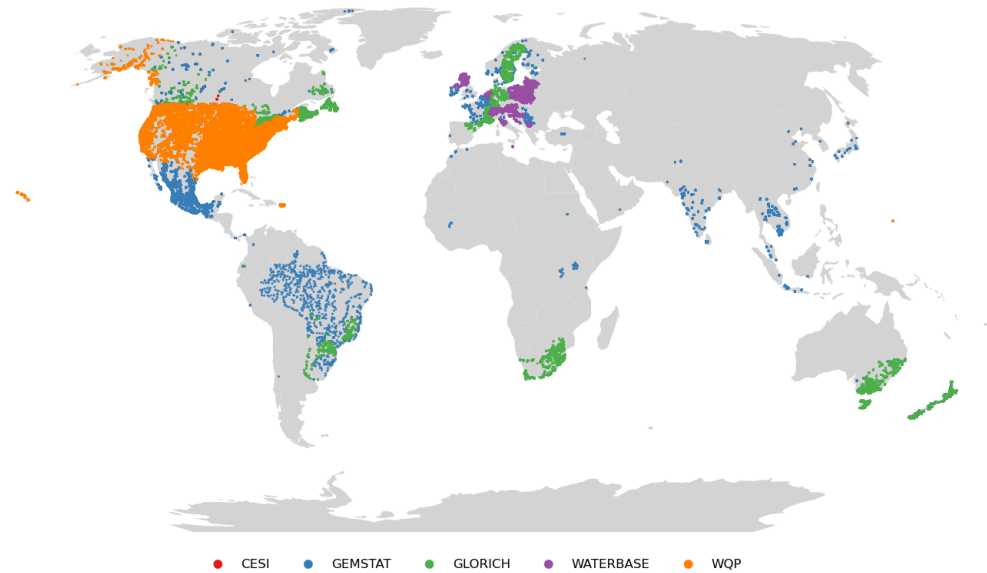
Median observation values of TP sites (mg/l)

Outliers detected by the IQR test (11.8% of observations) have been removed

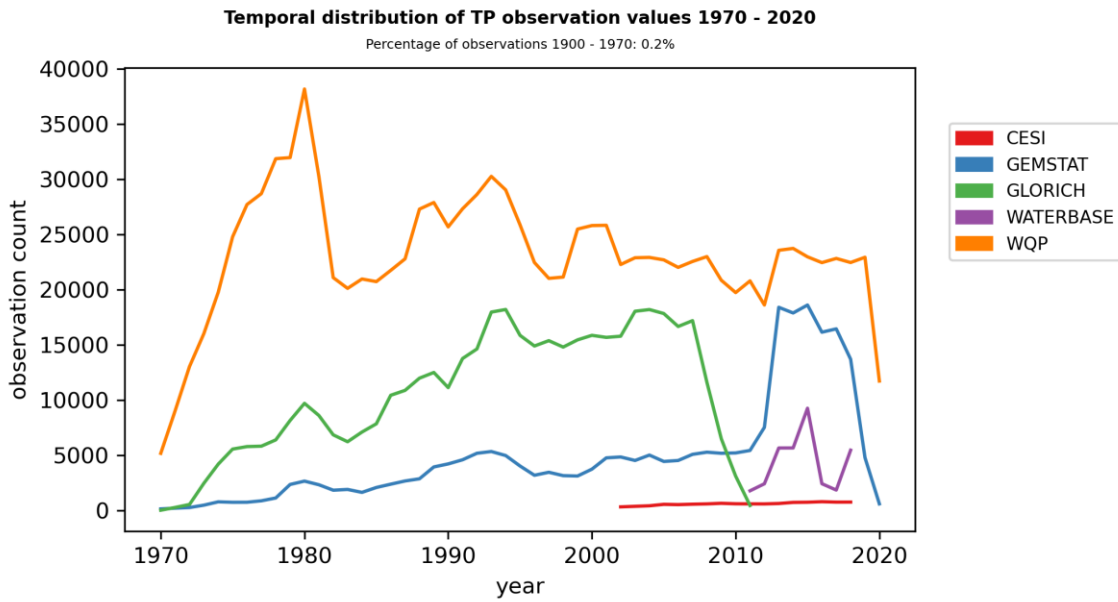


Spatial distribution of TP observation values

Spatial distribution of TP sites



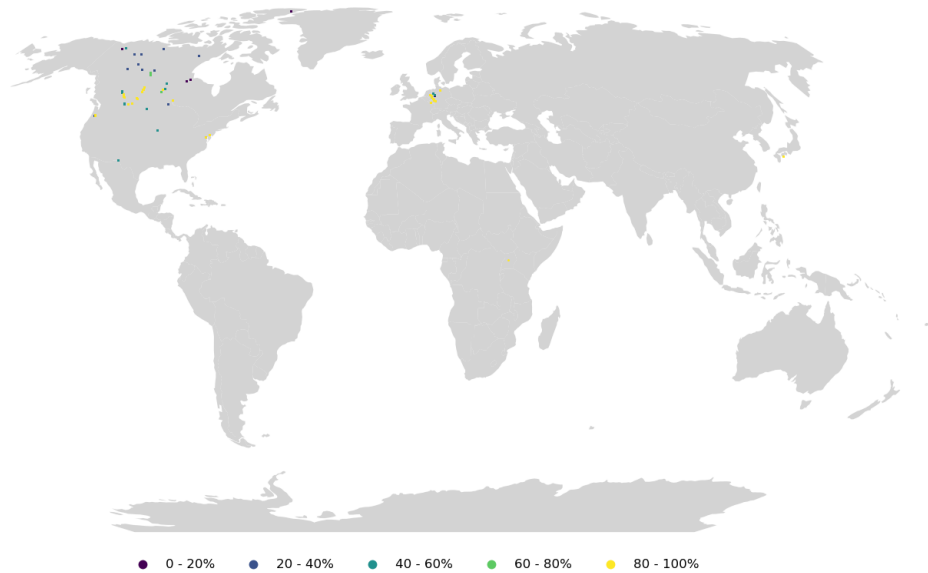
Temporal distribution of TP observation values



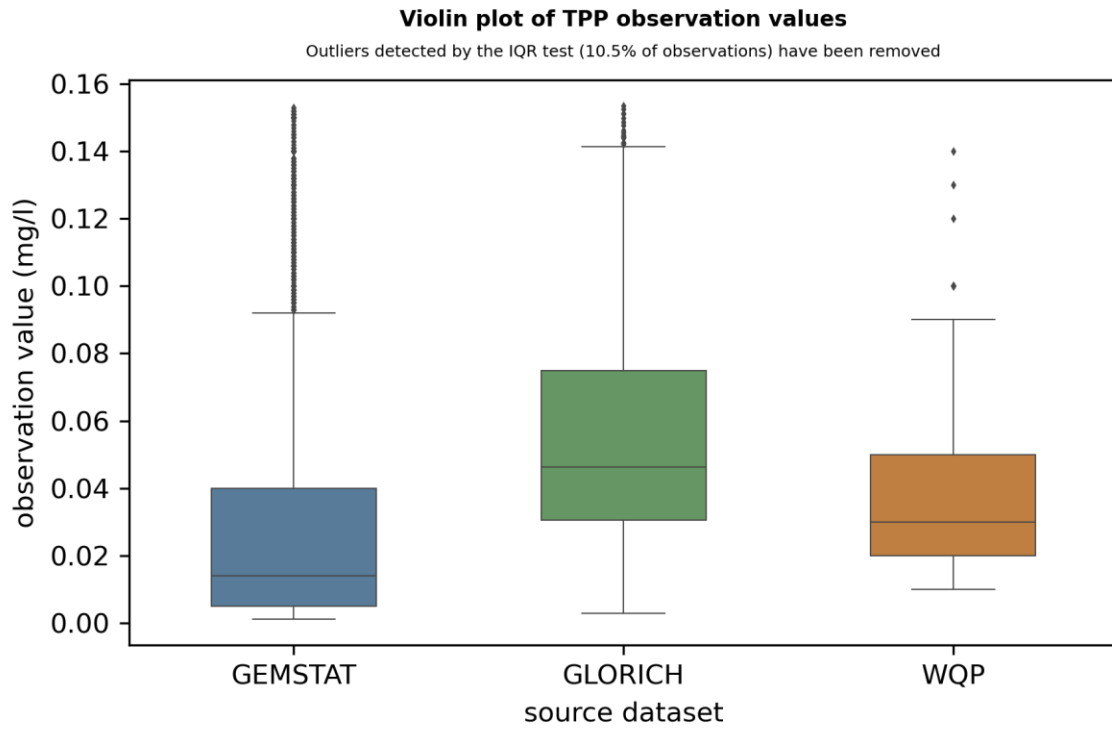
Total Particulate Phosphorus (TPP)

Monthly time series availability of TPP observation values

Monthly time series availability of TPP observations

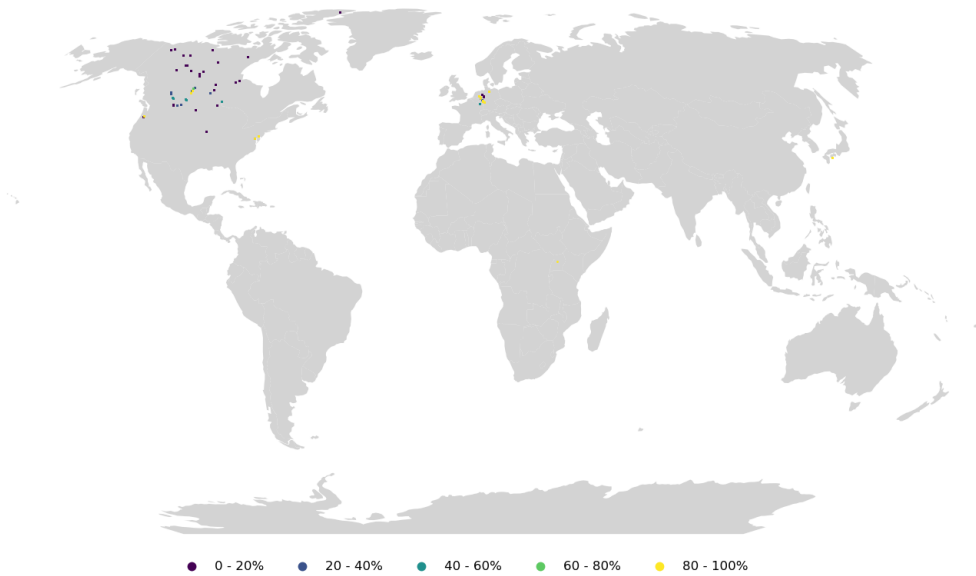


Box plot of TPP observation values



Monthly time series continuity of TPP observation values

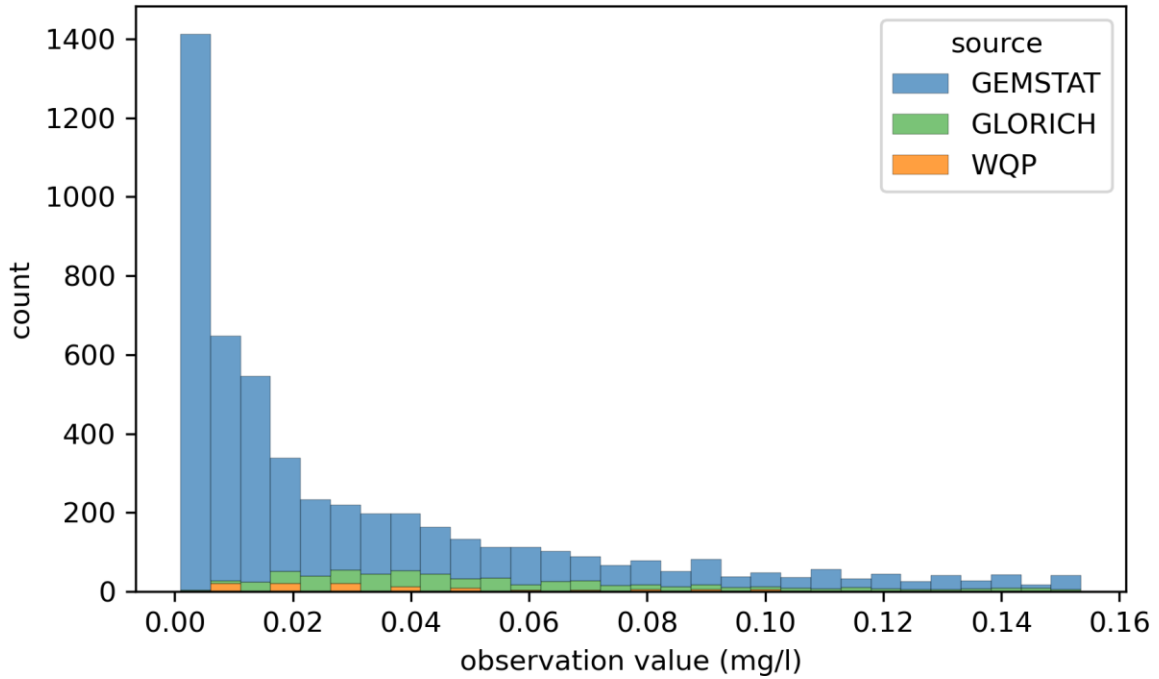
Monthly time series continuity of TPP observations



Distribution of TPP observation values

Histogram plot of TPP observation values

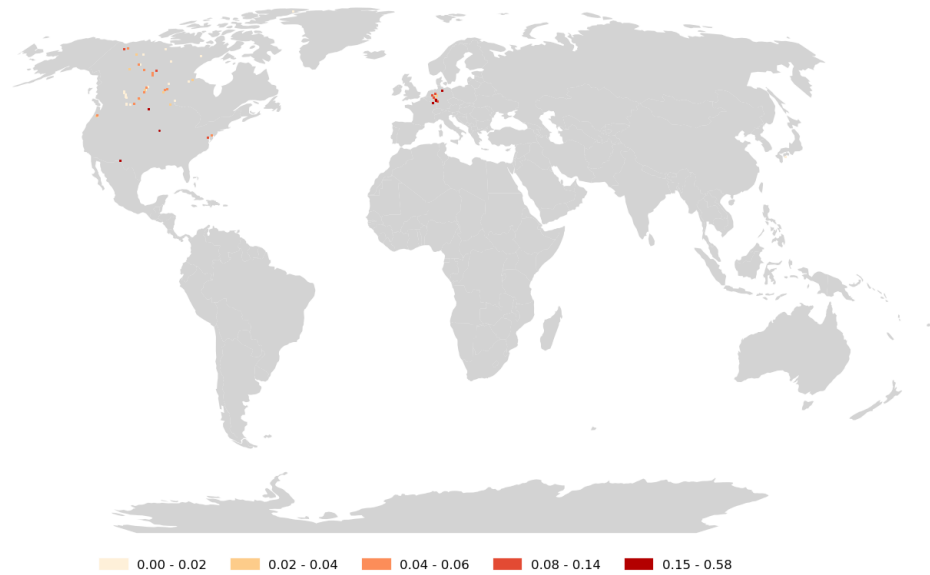
Outliers detected by the IQR test (10.5% of observations) have been removed



Spatial distribution of yearly median of TPP observation values

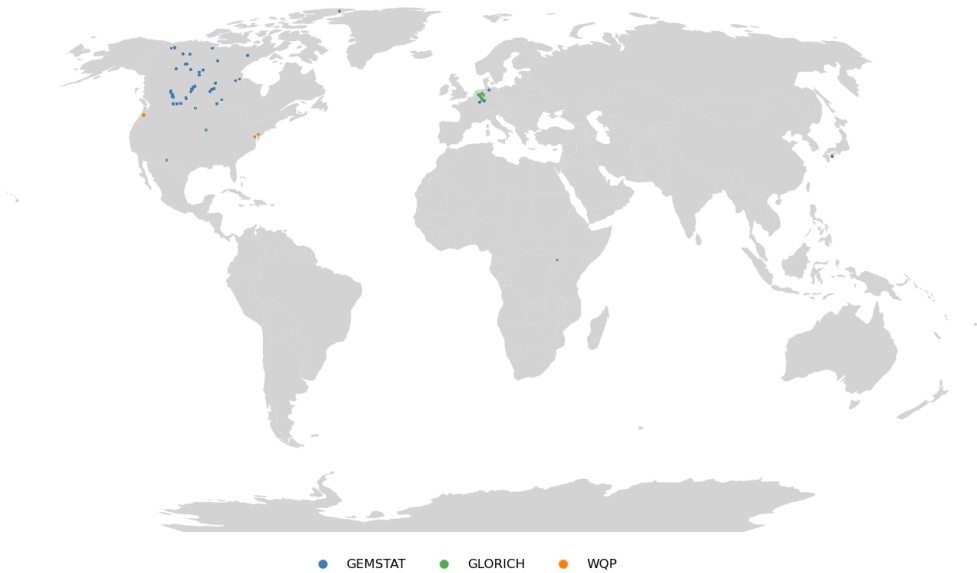
Median observation values of TPP sites (mg/l)

Outliers detected by the IQR test (10.5% of observations) have been removed

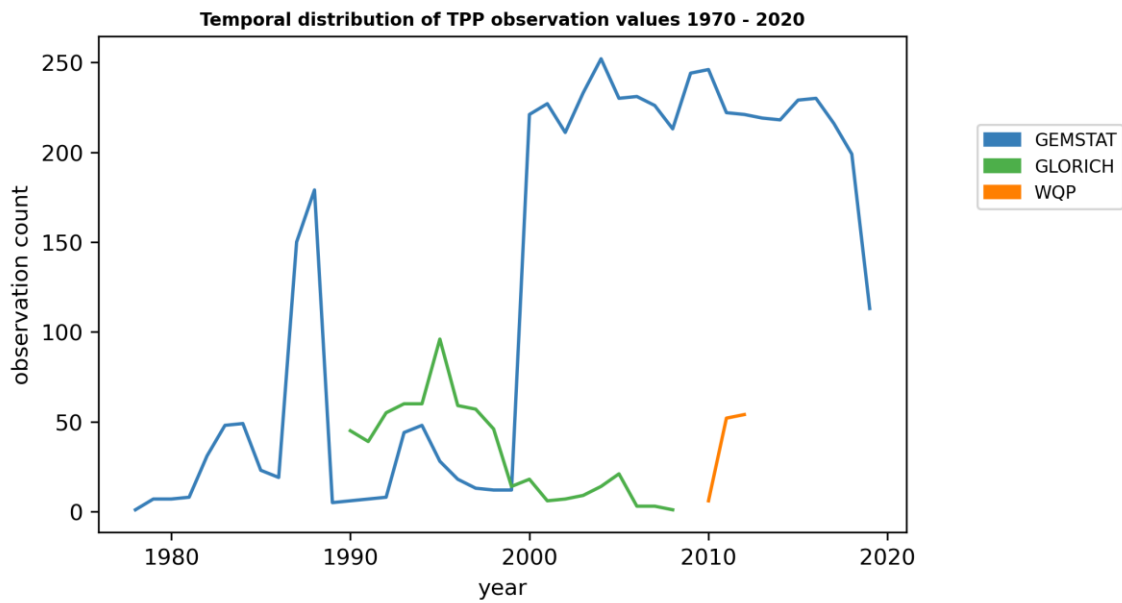


Spatial distribution of TPP observation values

Spatial distribution of TPP sites



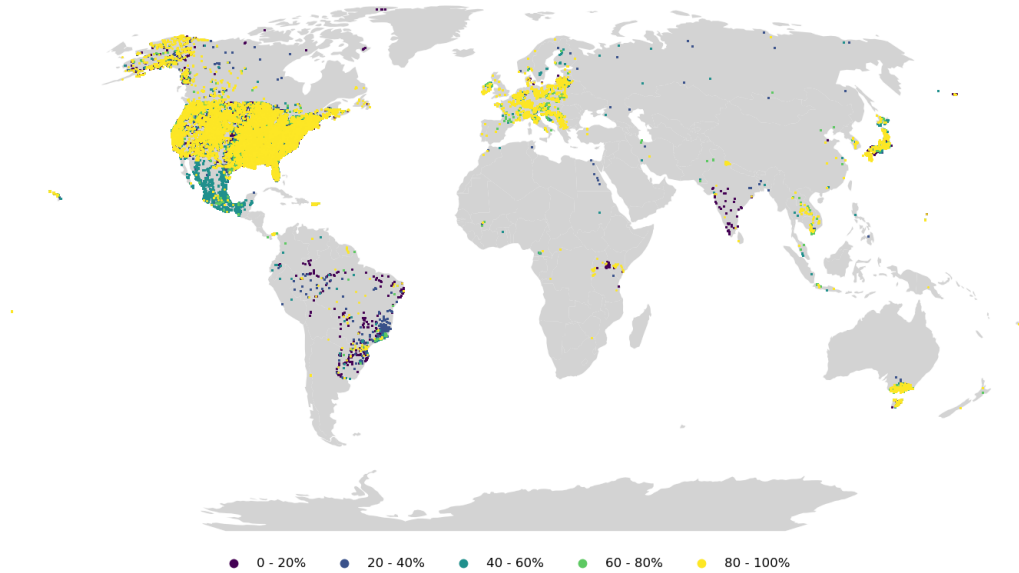
Temporal distribution of TPP observation values



Total Suspended Solids (TSS)

Monthly time series availability of TSS observation values

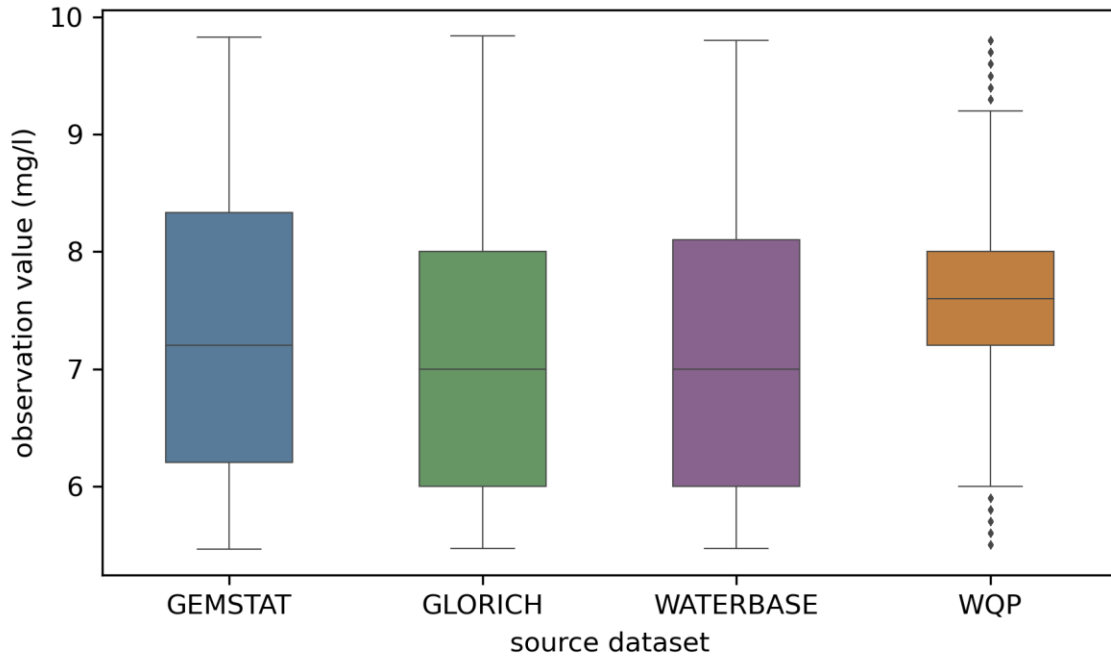
Monthly time series availability of TSS observations



Box plot of TSS observation values

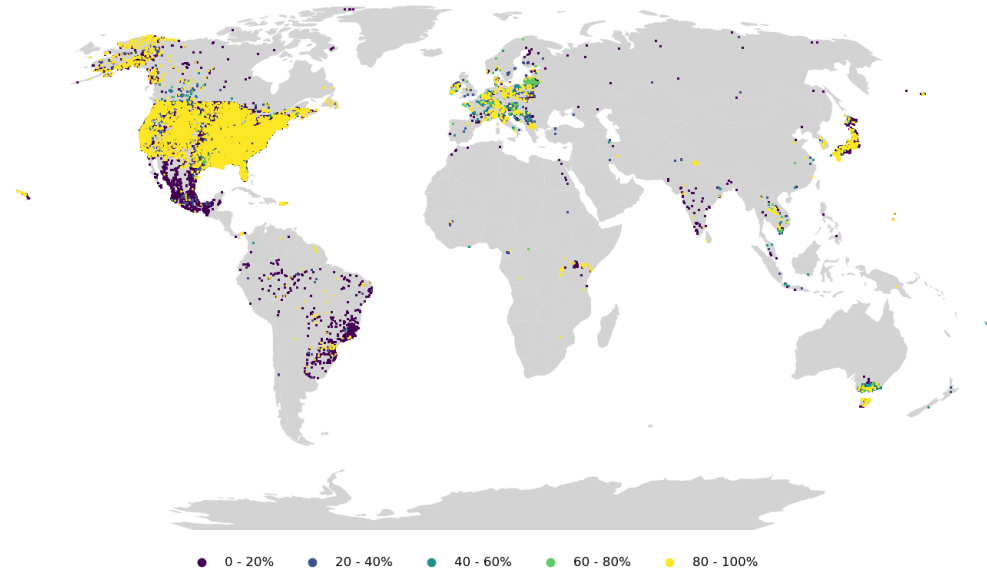
Violin plot of TSS observation values

Outliers detected by the IQR test (20.5% of observations) have been removed



Monthly time series continuity of TSS observation values

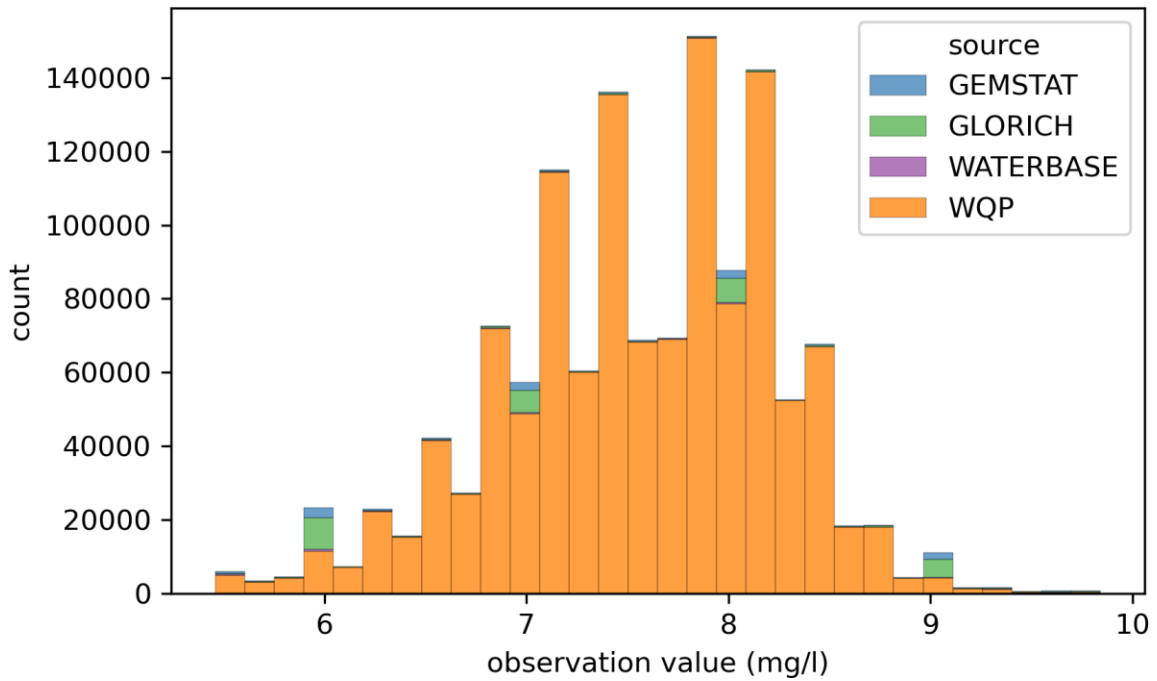
Monthly time series continuity of TSS observations



Distribution of TSS observation values

Histogram plot of TSS observation values

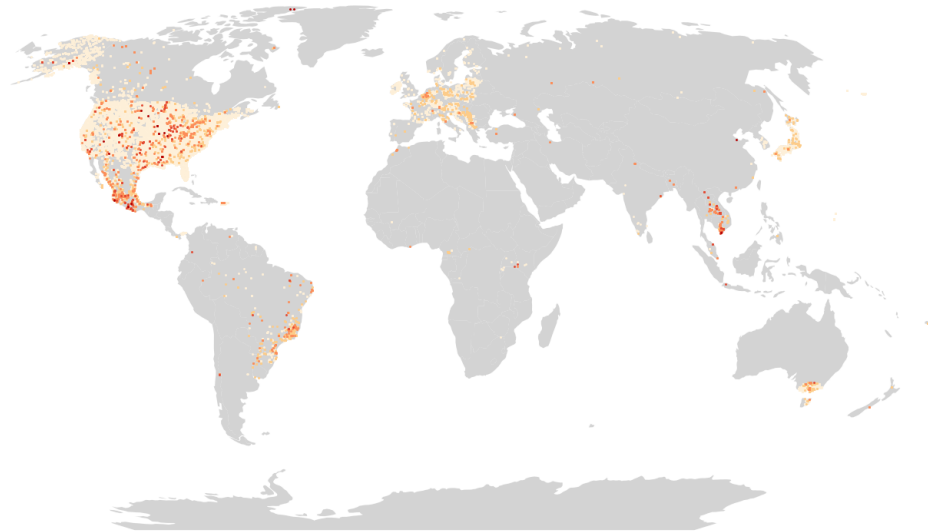
Outliers detected by the IQR test (20.5% of observations) have been removed



Spatial distribution of yearly median of TSS observation values

Median observation values of TSS sites (mg/l)

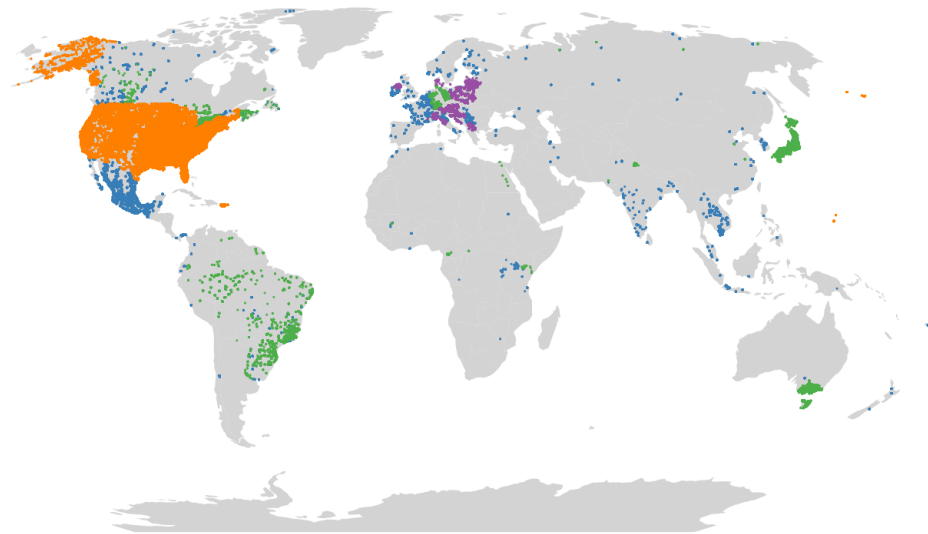
Outliers detected by the IQR test (20.5% of observations) have been removed



0.30 - 13.05 13.10 - 31.11 31.19 - 77.50 77.75 - 218.50 236.60 - 913.50

Spatial distribution of TSS observation values

Spatial distribution of TSS sites



● GEMSTAT ● GLORICH ● WATERBASE ● WQP

Temporal distribution of TSS observation values

