

# Indian River-Malabar to Vero Beach Aquatic Preserve

## SEACAR Discrete Water Quality Analysis

Last compiled on 14 August, 2024

### Contents

<b>Indicators</b>	<b>2</b>
Nutrients . . . . .	2
Total Nitrogen - Discrete . . . . .	2
Total Phosphorus - Discrete . . . . .	3
Water Quality . . . . .	4
Dissolved Oxygen - Discrete . . . . .	4
Dissolved Oxygen - Continuous . . . . .	5
Dissolved Oxygen Saturation - Discrete . . . . .	6
Dissolved Oxygen Saturation - Continuous . . . . .	7
Salinity - Discrete . . . . .	8
Salinity - Continuous . . . . .	9
Water Temperature - Discrete . . . . .	10
Water Temperature - Continuous . . . . .	11
pH - Discrete . . . . .	12
pH - Continuous . . . . .	13
Water Clarity . . . . .	14
Turbidity - Discrete . . . . .	14
Turbidity - Continuous . . . . .	15
Total Suspended Solids - Discrete . . . . .	16
Chlorophyll a, Uncorrected for Pheophytin - Discrete . . . . .	17
Chlorophyll a, Corrected for Pheophytin - Discrete . . . . .	18
Secchi Depth - Discrete . . . . .	19
Colored Dissolved Organic Matter - Discrete . . . . .	20

# Indicators

## Nutrients

### Total Nitrogen - Discrete

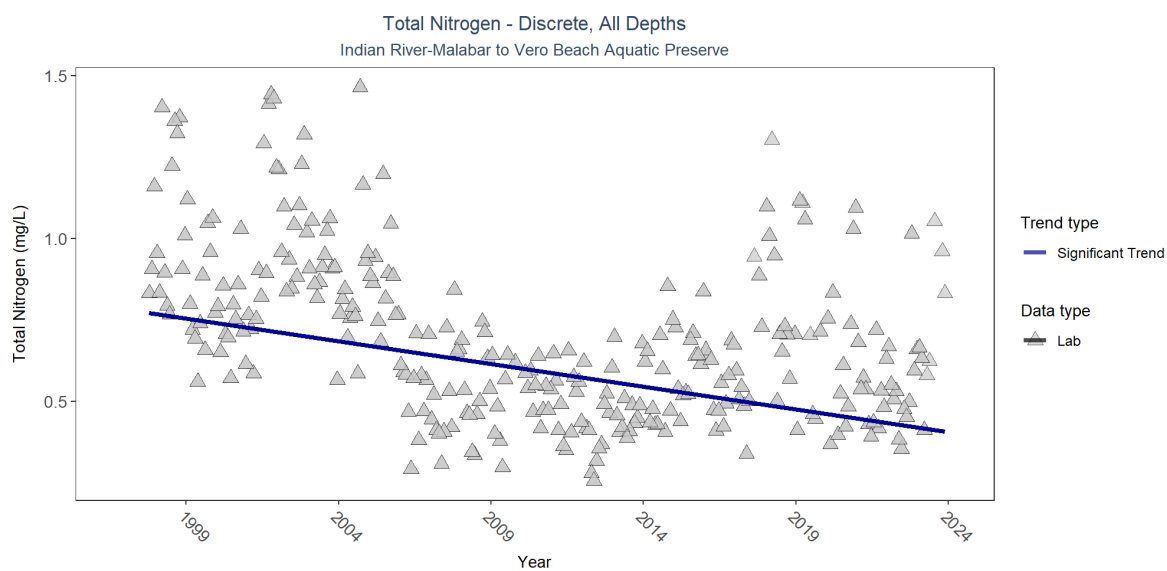


Table 1: Seasonal Kendall-Tau Results for - Total Nitrogen

ActivityType	Statistical Trend	N-Data	N-Years	Period of Record	Median	tau	SennIntercept	SennSlope	p
Lab	Significantly decreasing trend	3107	27	1997 - 2023	0.6546	-0.3079	0.78305	-0.01397	0.0000

## Total Phosphorus - Discrete

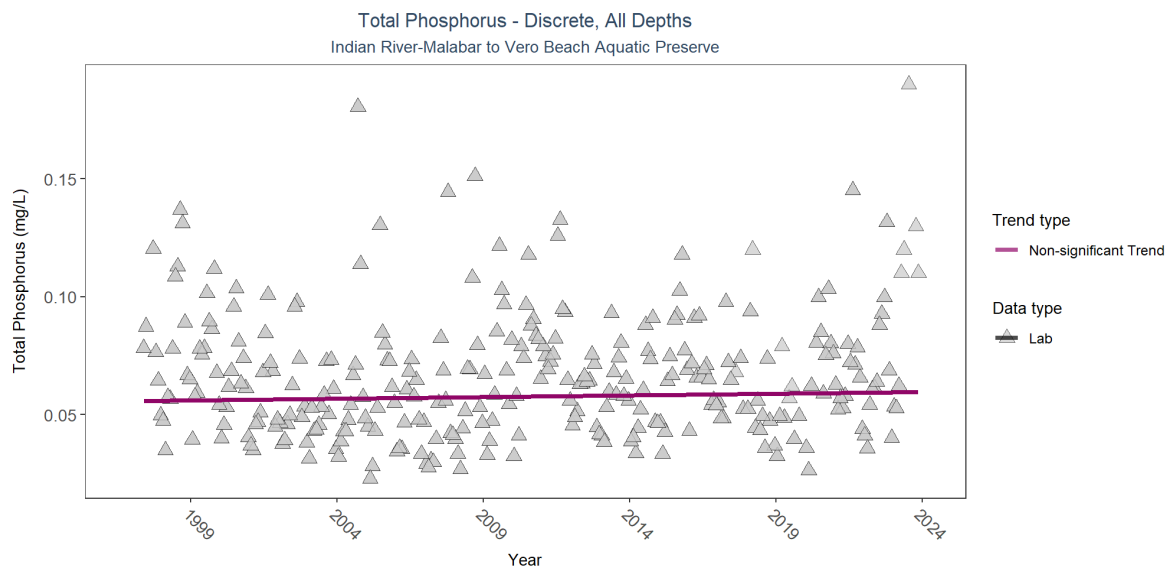


Table 2: Seasonal Kendall-Tau Results for - Total Phosphorus

ActivityType	Statistical Trend	N-Data	N-Years	Period of Record	Median	tau	SennIntercept	SennSlope	p
Lab	No significant trend	6334	27	1997 - 2023	0.053	0.0517	0.05565	0.00015	0.1957

## Water Quality

### Dissolved Oxygen - Discrete

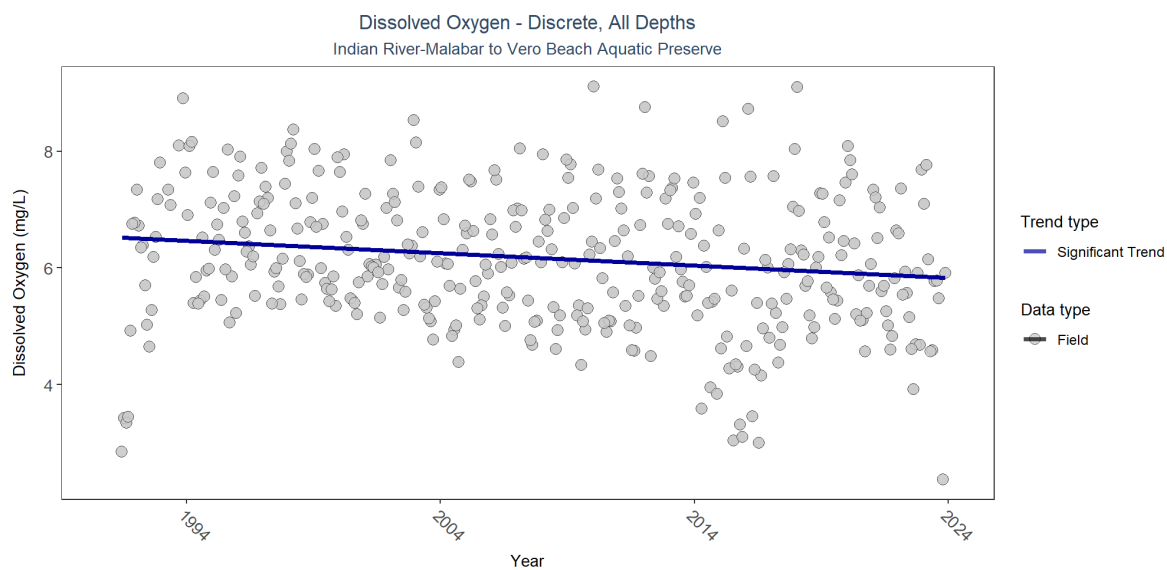


Table 3: Seasonal Kendall-Tau Results for - Dissolved Oxygen

ActivityType	Statistical Trend	N-Data	N-Years	Period of Record	Median	tau	SennIntercept	SennSlope	p
Field	Significantly decreasing trend	52869	33	1991 - 2023	6.2	-0.1894	6.53033	-0.02128	0.0000

## Dissolved Oxygen - Continuous

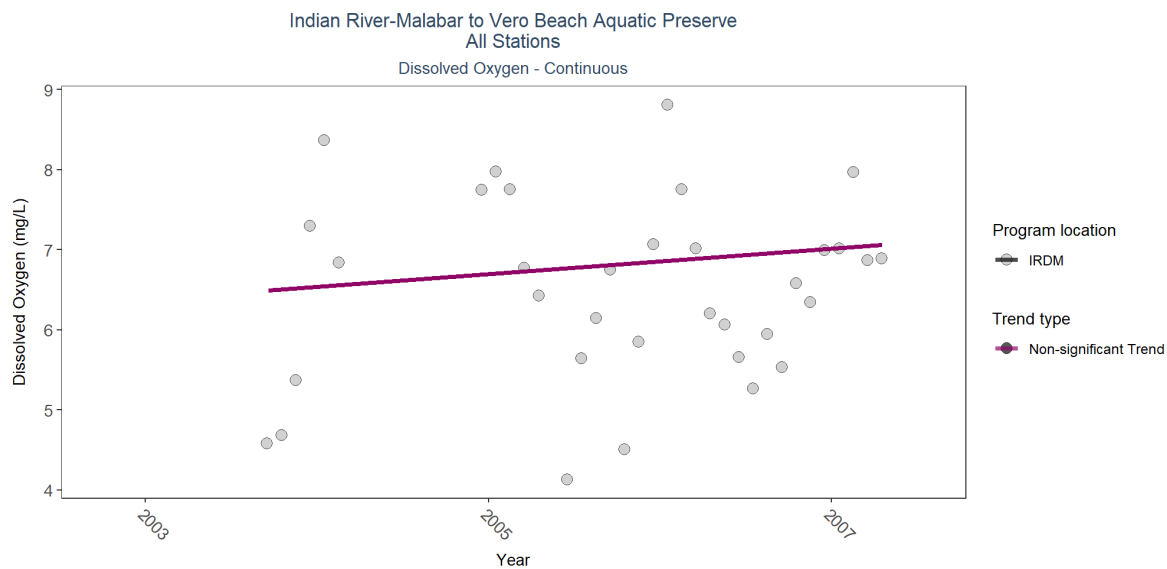


Table 4: Seasonal Kendall-Tau Results for All Stations - Dissolved Oxygen

ProgramLocationID	Statistical Trend	N-Data	N-Years	Period of Record	Median	tau	SennIntercept	SennSlope	p
IRDM	No significant trend	39746	5	2003 - 2007	6.5	0.15	6.38	0.16	0.4674

## Dissolved Oxygen Saturation - Discrete

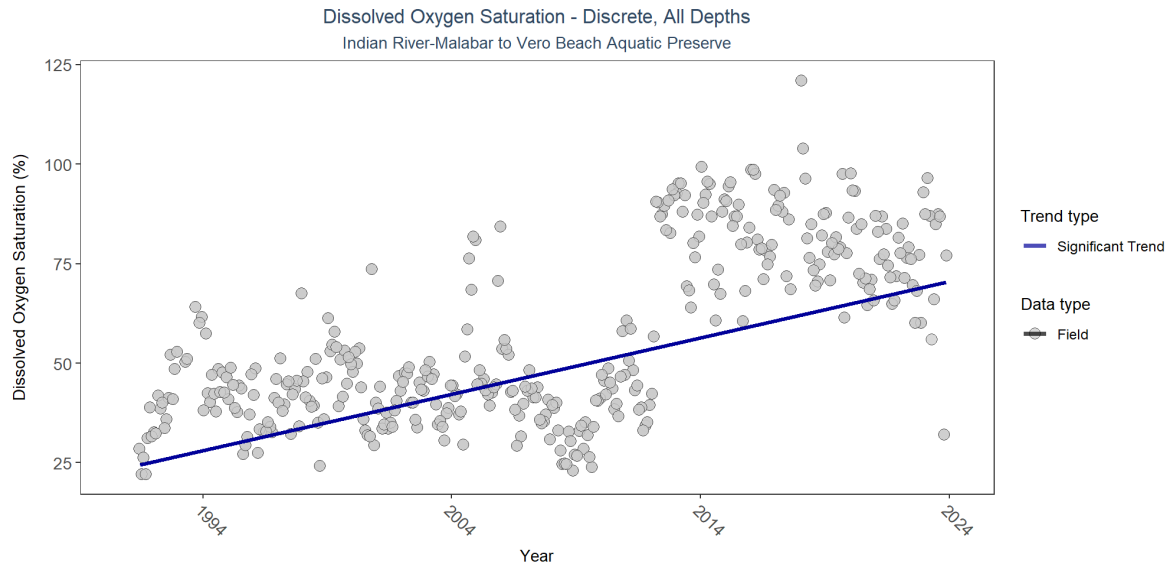


Table 5: Seasonal Kendall-Tau Results for - Dissolved Oxygen Saturation

ActivityType	Statistical Trend	N-Data	N-Years	Period of Record	Median	tau	SennIntercept	SennSlope	p
Field	Significantly increasing trend	12817	33	1991 - 2023	68	0.4129	23.76152	1.41865	0.0000

## Dissolved Oxygen Saturation - Continuous

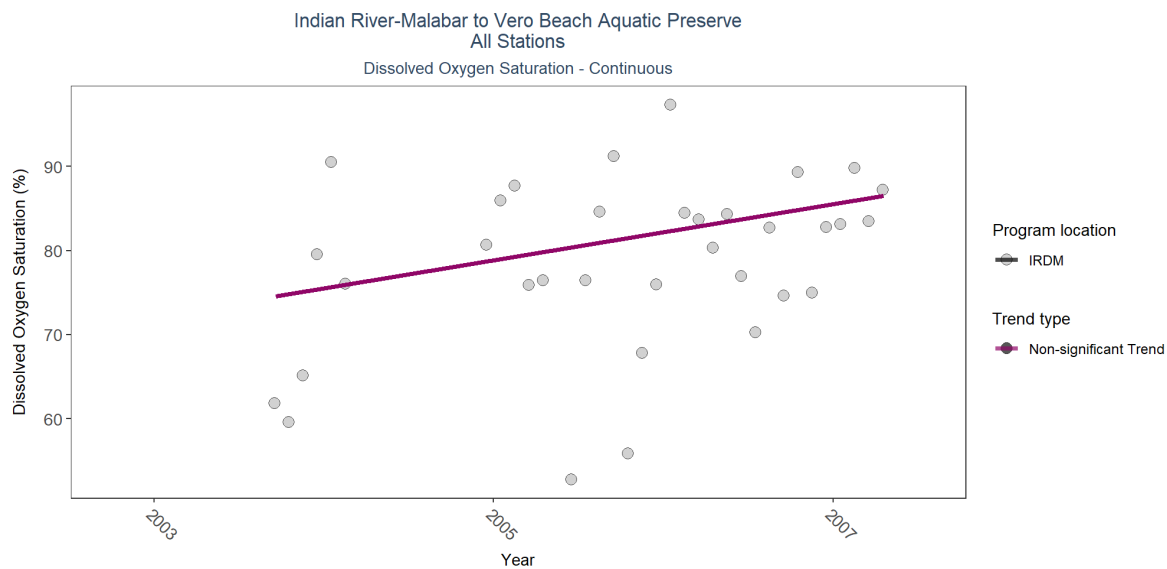


Table 6: Seasonal Kendall-Tau Results for All Stations - Dissolved Oxygen Saturation

ProgramLocationID	Statistical Trend	N-Data	N-Years	Period of Record	Median	tau	SennIntercept	SennSlope	p
IRDM	No significant trend	39746	5	2003 - 2007	77.7	0.29	72.16	3.34	0.1099

## Salinity - Discrete

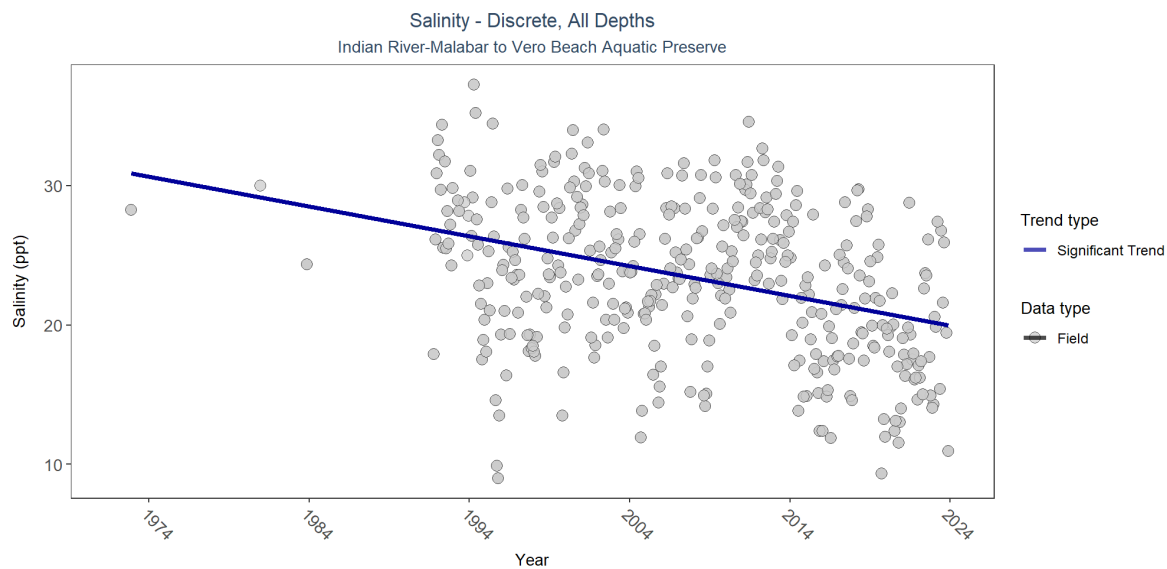


Table 7: Seasonal Kendall-Tau Results for - Salinity

ActivityType	Statistical Trend	N-Data	N-Years	Period of Record	Median	tau	SennIntercept	SennSlope	p
All	Significantly decreasing trend	55766	36	1972 - 2023	26.1	-0.2738	31.07039	-0.21411	0.0000



## Salinity - Continuous

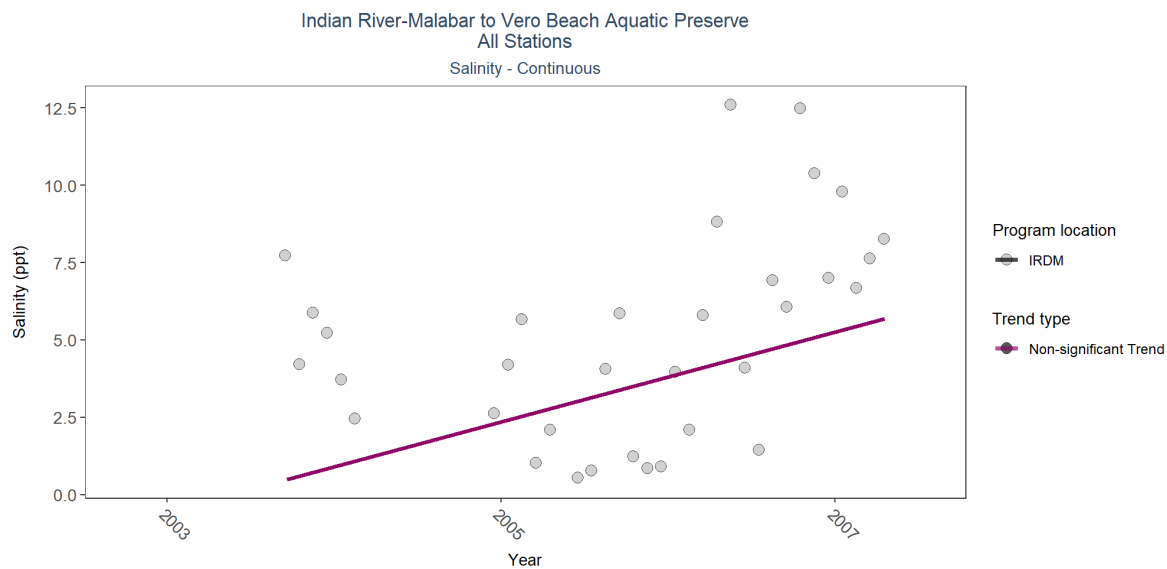


Table 8: Seasonal Kendall-Tau Results for All Stations - Salinity

ProgramLocationID	Statistical Trend	N-Data	N-Years	Period of Record	Median	tau	SennIntercept	SennSlope	p
IRDM	No significant trend	43791	5	2003 - 2007	3.9	0.45	-0.55	1.45	0.0588

## Water Temperature - Discrete

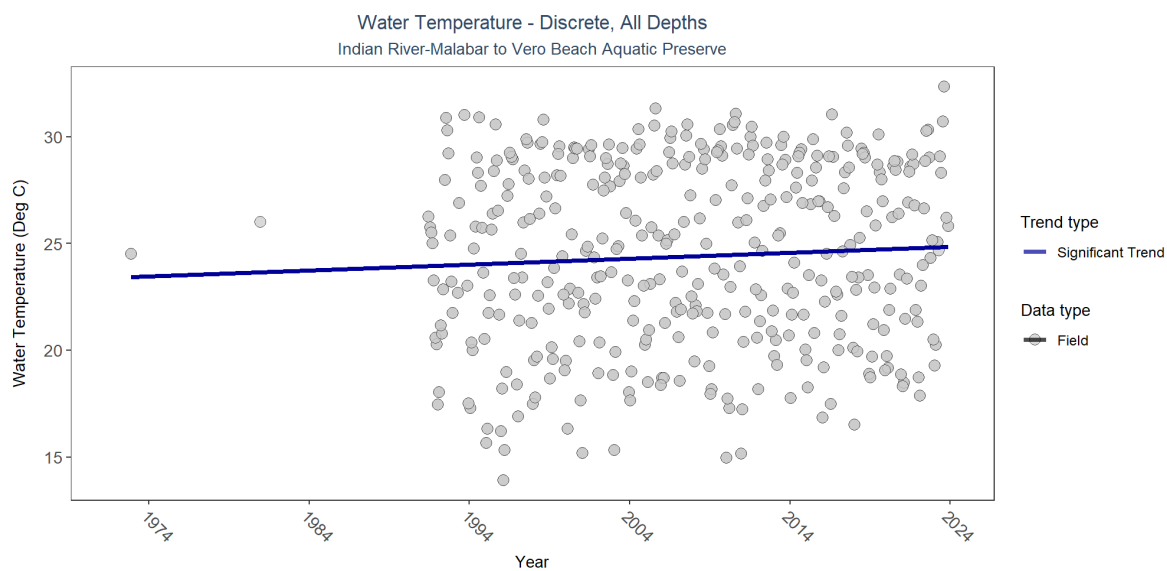


Table 9: Seasonal Kendall-Tau Results for - Water Temperature

ActivityType	Statistical Trend	N-Data	N-Years	Period of Record	Median	tau	SennIntercept	SennSlope	p
Field	Significantly increasing trend	54907	35	1972 - 2023	25.4	0.1374	23.40877	0.02743	0.0001

## Water Temperature - Continuous

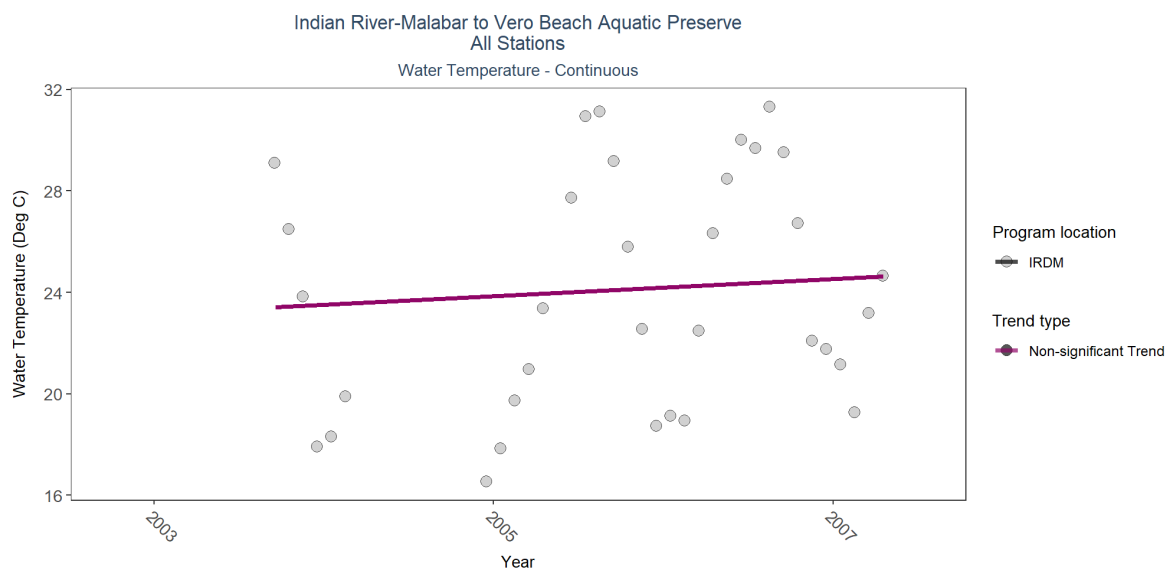


Table 10: Seasonal Kendall-Tau Results for All Stations - Water Temperature

ProgramLocationID	Statistical Trend	N-Data	N-Years	Period of Record	Median	tau	SennIntercept	SennSlope	p
IRDM	No significant trend	43791	5	2003 - 2007	23.5	0.29	23.17	0.34	0.1908

## pH - Discrete

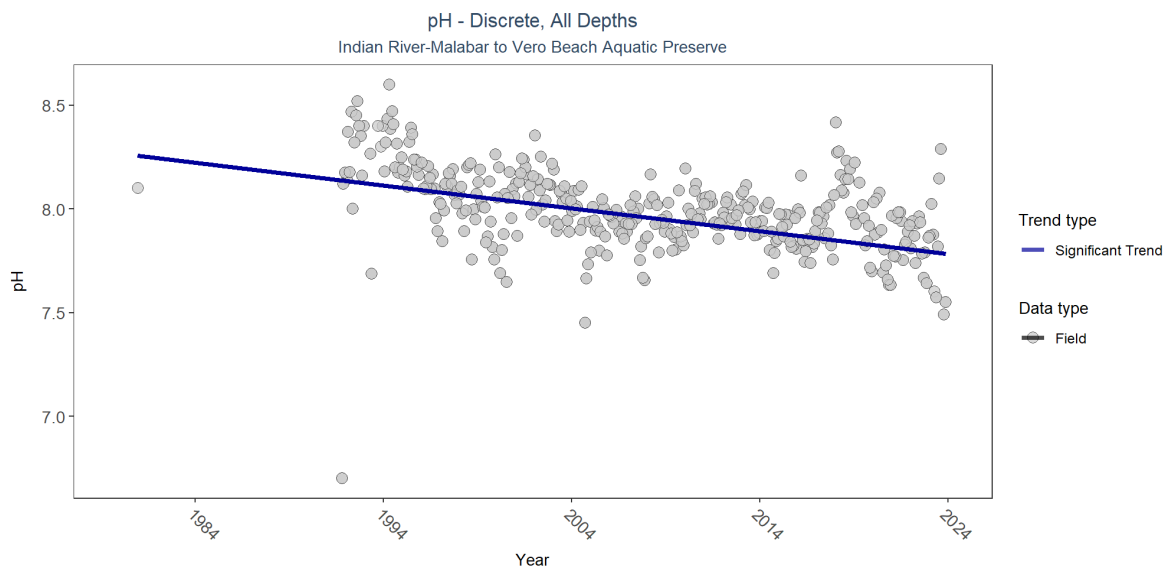


Table 11: Seasonal Kendall-Tau Results for - pH

ActivityType	Statistical Trend	N-Data	N-Years	Period of Record	Median	tau	SennIntercept	SennSlope	p
Field	Significantly decreasing trend	43857	34	1980 - 2023	8	-0.3986	8.26827	-0.01106	0.0000

## pH - Continuous

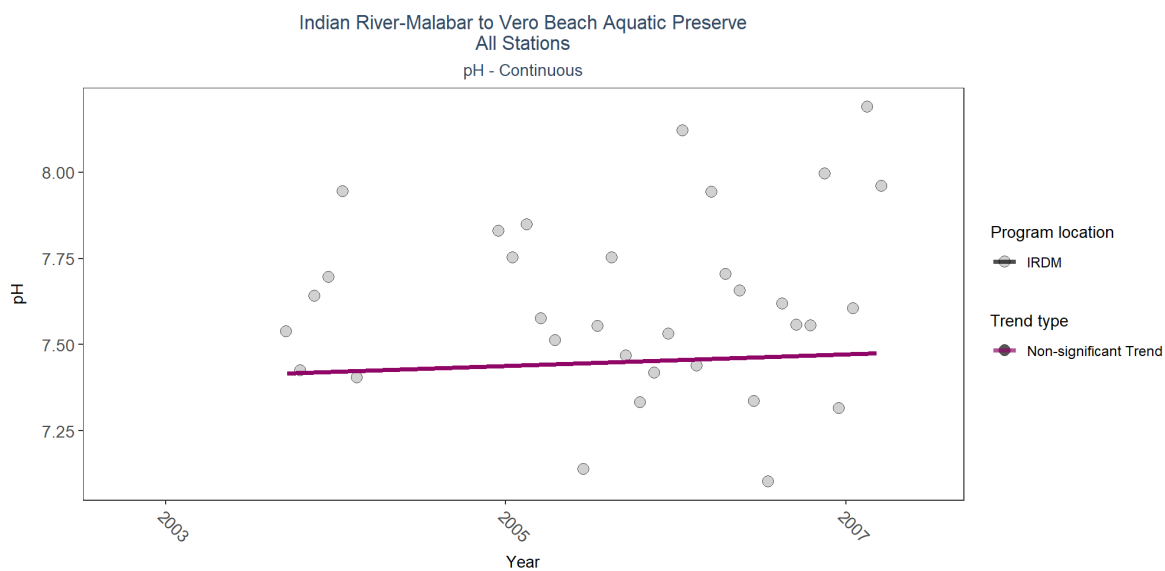


Table 12: Seasonal Kendall-Tau Results for All Stations - pH

ProgramLocationID	Statistical Trend	N-Data	N-Years	Period of Record	Median	tau	SennIntercept	SennSlope	p
IRDM	No significant trend	38184	5	2003 - 2007	7.6	0.15	7.4	0.02	0.6535

## Water Clarity

### Turbidity - Discrete

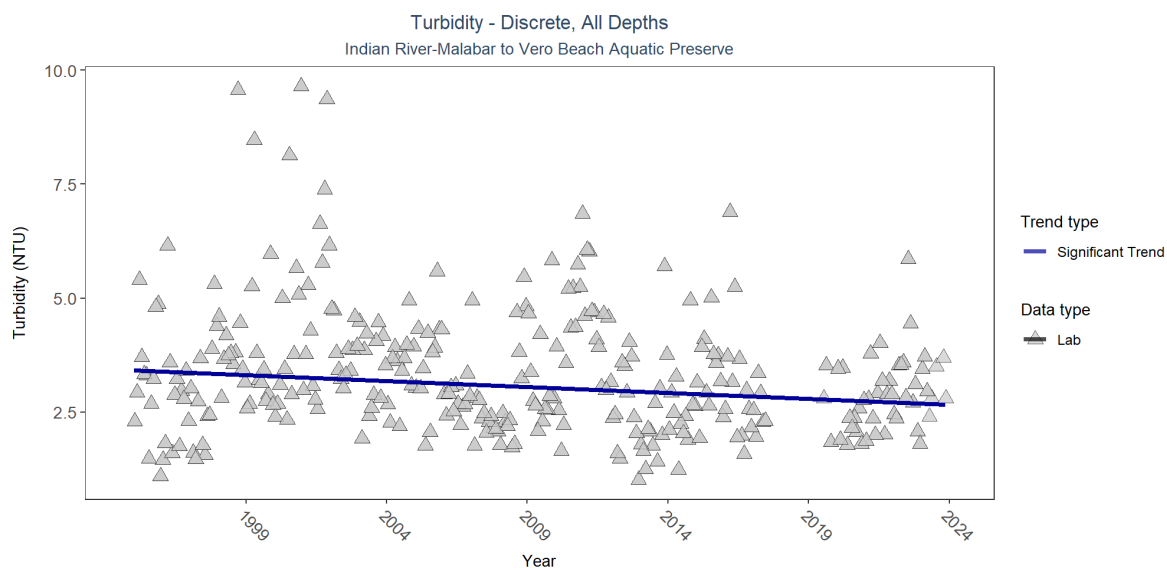


Table 13: Seasonal Kendall-Tau Results for - Turbidity

ActivityType	Statistical Trend	N-Data	N-Years	Period of Record	Median	tau	SennIntercept	SennSlope	p
Lab	Significantly decreasing trend	14310	28	1995 - 2023	2.8	-0.1414	3.42071	-0.02622	0.0005

## Turbidity - Continuous

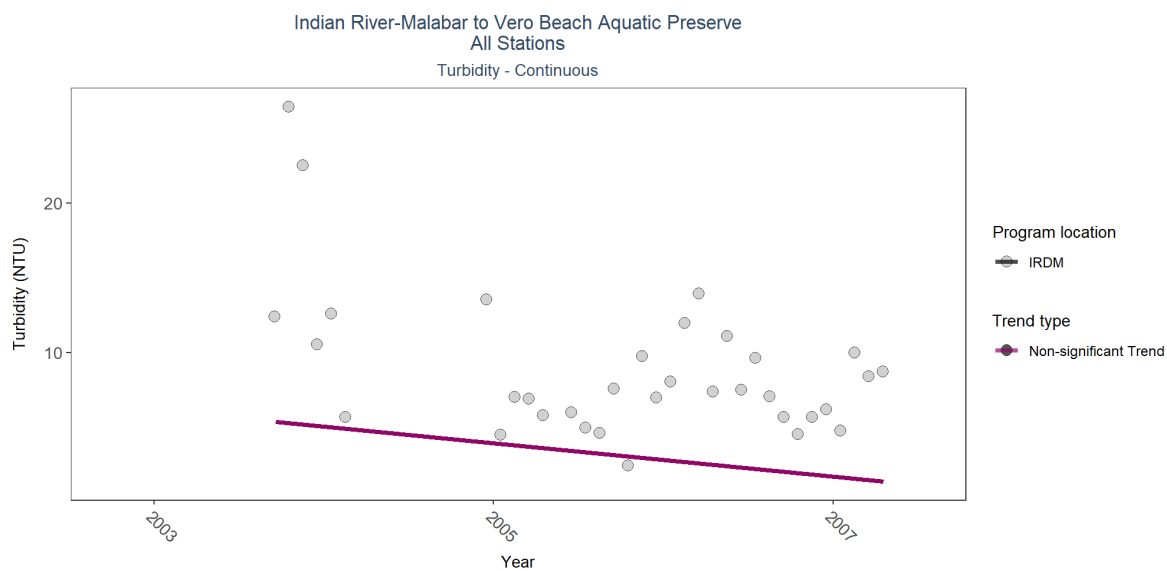


Table 14: Seasonal Kendall-Tau Results for All Stations - Turbidity

ProgramLocationID	Statistical Trend	N-Data	N-Years	Period of Record	Median	tau	SennIntercept	SennSlope	p
IRDM	No significant trend	39124	5	2003 - 2007	5	0.05	6.13	-1.11	0.8844

## Total Suspended Solids - Discrete

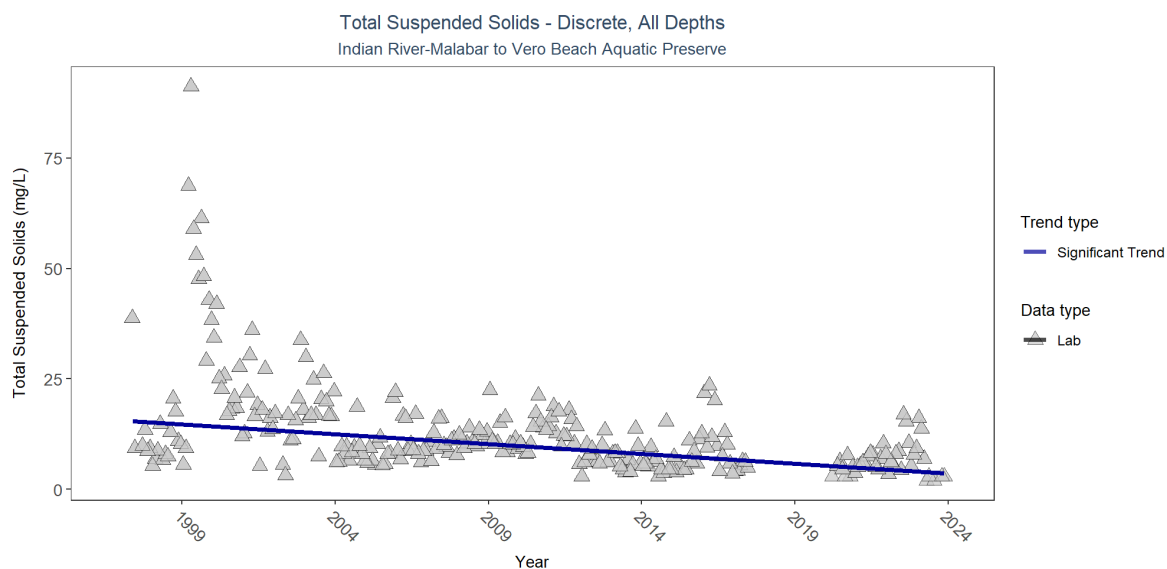


Table 15: Seasonal Kendall-Tau Results for - Total Suspended Solids

ActivityType	Statistical Trend	N-Data	N-Years	Period of Record	Median	tau	SennIntercept	SennSlope	p
Lab	Significantly decreasing trend	3180	25	1997 - 2023	9.2	-0.4036	15.66475	-0.44601	0.0000



## Chlorophyll a, Uncorrected for Pheophytin - Discrete

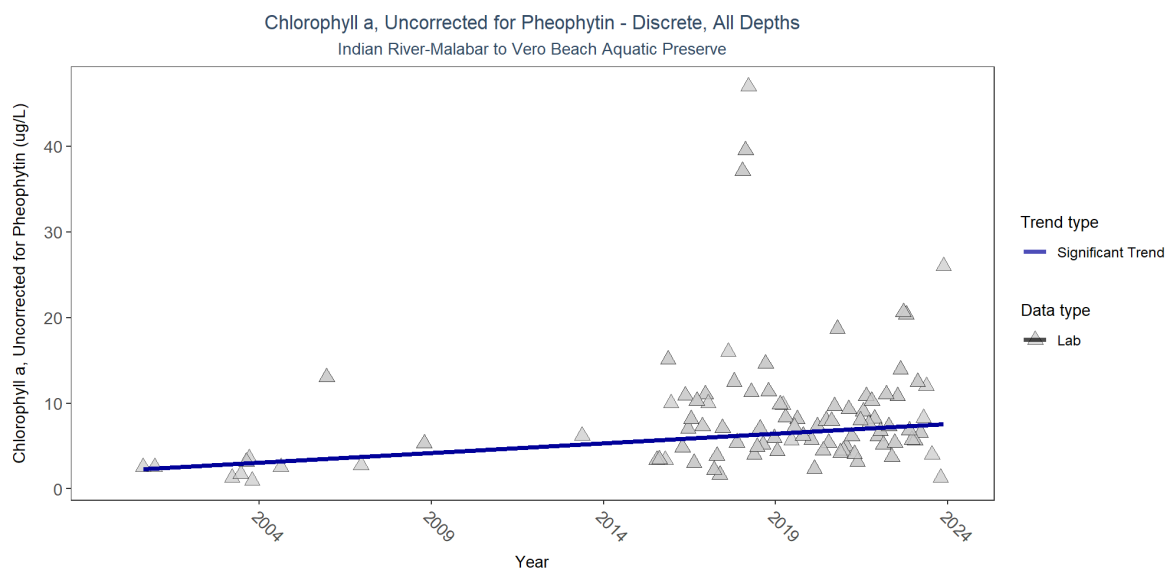


Table 16: Seasonal Kendall-Tau Results for - Chlorophyll a, Uncorrected for Pheophytin

ActivityType	Statistical Trend	N-Data	N-Years	Period of Record	Median	tau	SennIntercept	SennSlope	p
Lab	Significantly increasing trend	494	16	2000 - 2023	5.93966	0.1798	2.18413	0.22552	0.0126

## Chlorophyll a, Corrected for Pheophytin - Discrete

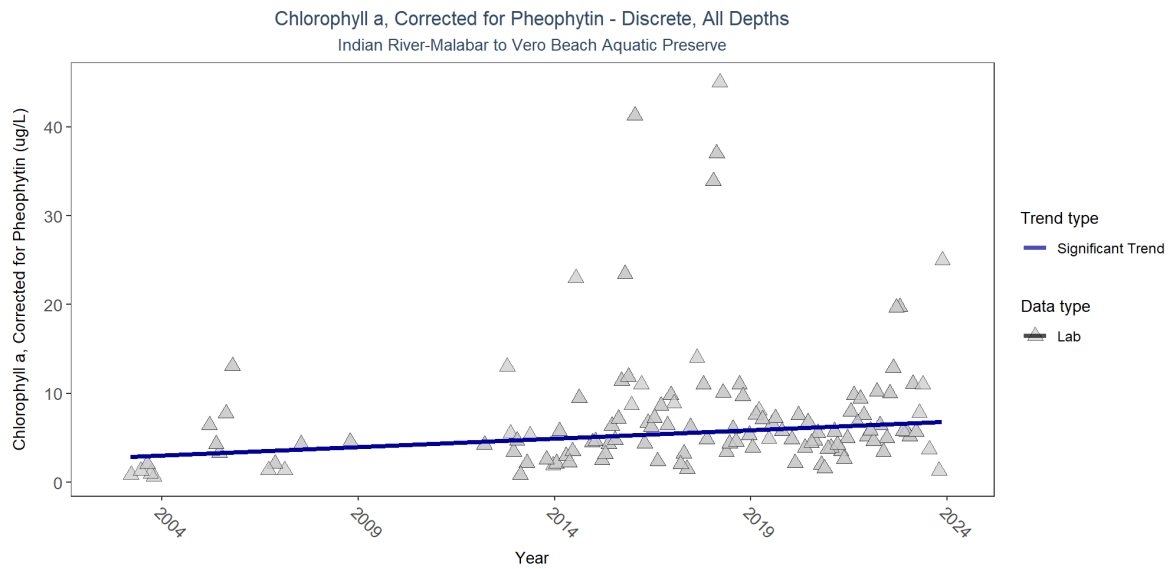


Table 17: Seasonal Kendall-Tau Results for - Chlorophyll a, Corrected for Pheophytin

ActivityType	Statistical Trend	N-Data	N-Years	Period of Record	Median	tau	SennIntercept	SennSlope	p
Lab	Significantly increasing trend	663	17	2003 - 2023	4.3788	0.2197	2.83574	0.19048	0.0043

## Secchi Depth - Discrete

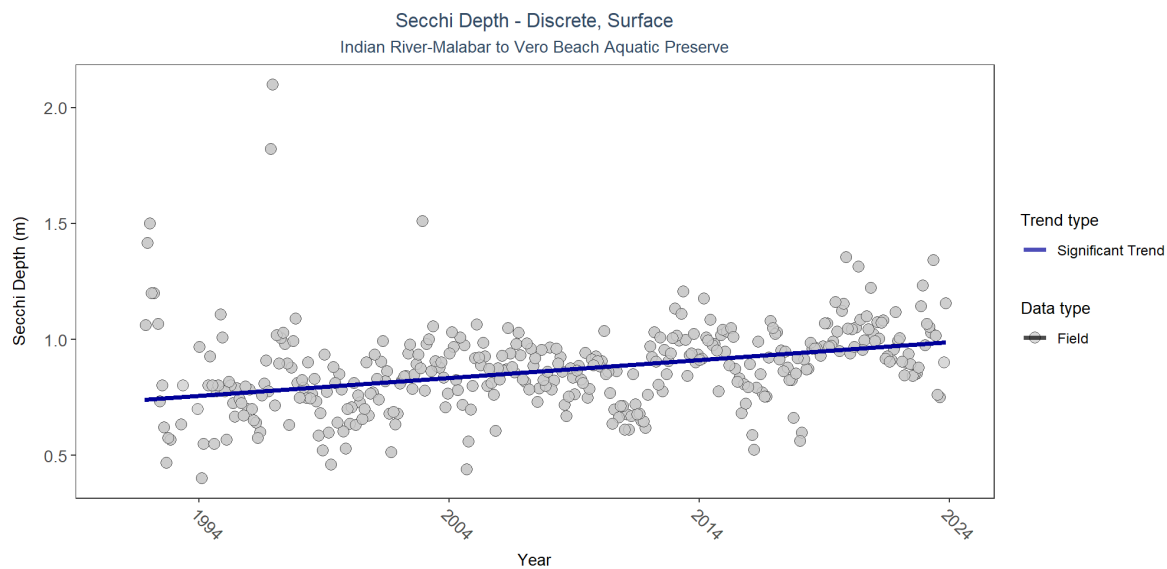


Table 18: Seasonal Kendall-Tau Results for - Secchi Depth

ActivityType	Statistical Trend	N-Data	N-Years	Period of Record	Median	tau	SennIntercept	SennSlope	p
Field	Significantly increasing trend	22900	33	1991 - 2023	0.8	0.3125	0.73403	0.00773	0.0000

## Colored Dissolved Organic Matter - Discrete

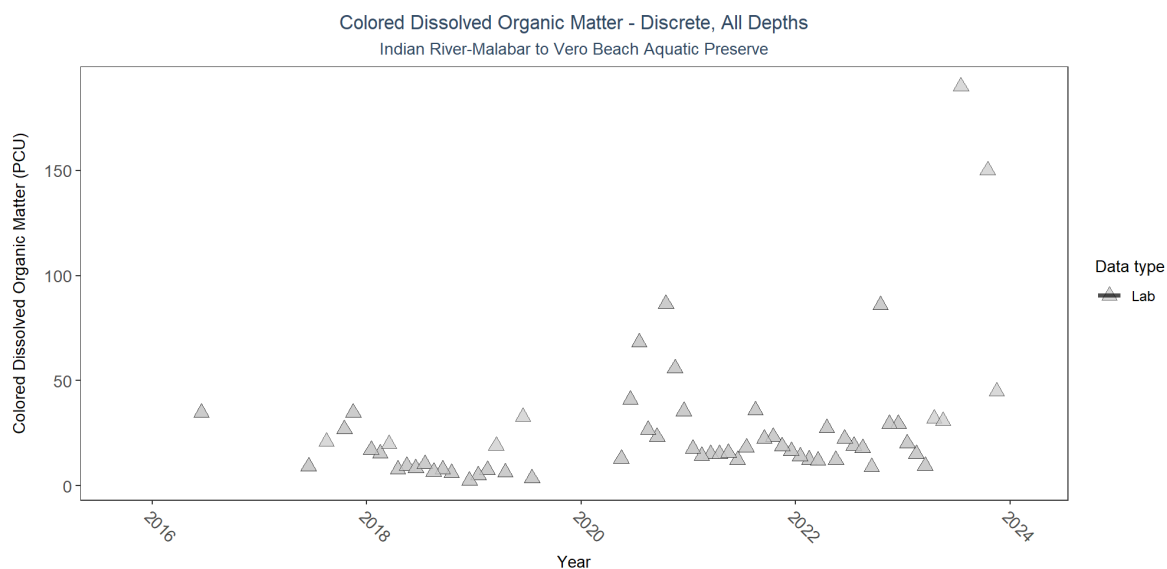


Table 19: Seasonal Kendall-Tau Results for - Colored Dissolved Organic Matter

ActivityType	Statistical Trend	N-Data	N-Years	Period of Record	Median	tau	SennIntercept	SennSlope	p
Lab	Insufficient data to calculate trend	364	8	2016 - 2023	13.18069	-	-	-	NA