

Apalachicola National Estuarine Research Reserve

SEACAR Discrete Water Quality Analysis

Last compiled on 14 August, 2024

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Indicators

Nutrients

Total Nitrogen - Discrete

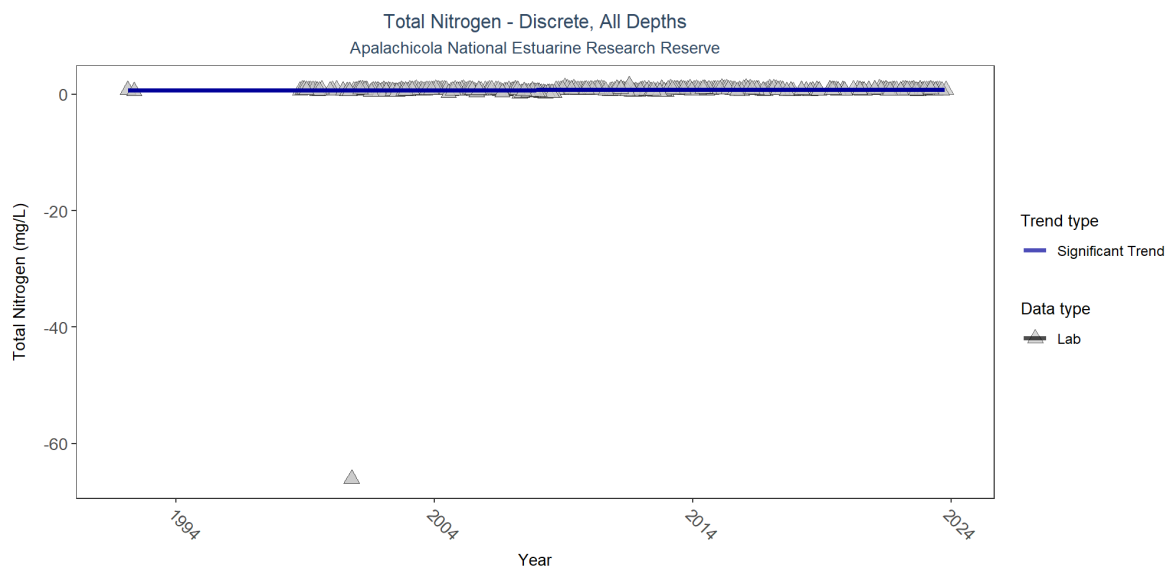


Table 1: Seasonal Kendall-Tau Results for - Total Nitrogen

ActivityType	Statistical Trend	N-Data	N-Years	Period of Record	Median	tau	SennIntercept	SennSlope	p
Lab	Significantly increasing trend	1134	27	1992 - 2023	0.63	0.175	0.65731	0.005	0.0001

Total Phosphorus - Discrete

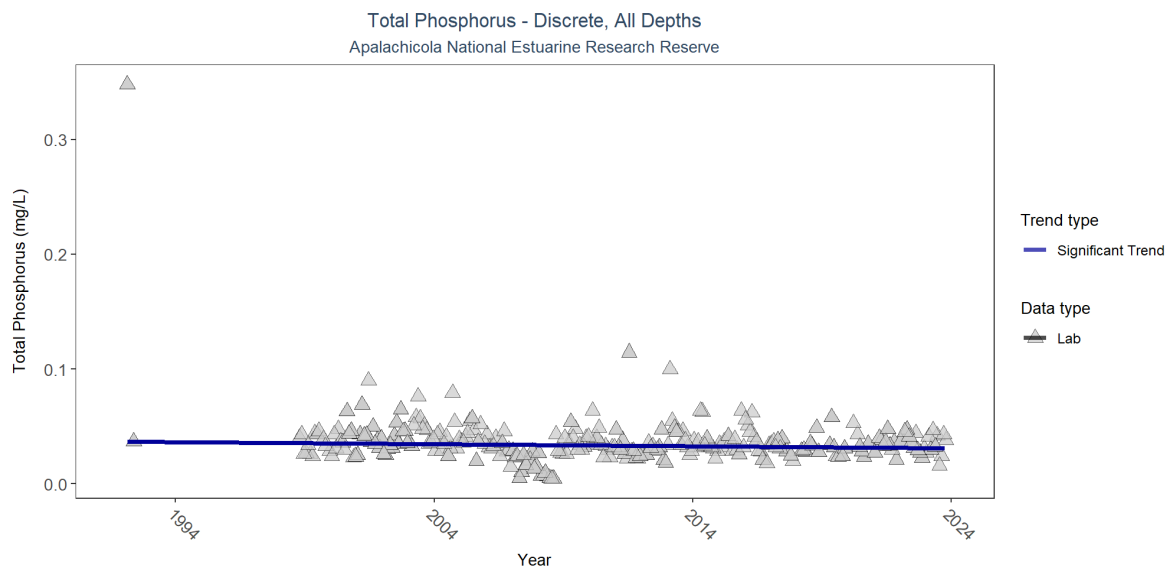


Table 2: Seasonal Kendall-Tau Results for - Total Phosphorus

ActivityType	Statistical Trend	N-Data	N-Years	Period of Record	Median	tau	SennIntercept	SennSlope	p
Lab	Significantly decreasing trend	1230	27	1992 - 2023	0.032	-0.0963	0.03654	-0.00018	0.0261

Water Quality

Dissolved Oxygen - Discrete

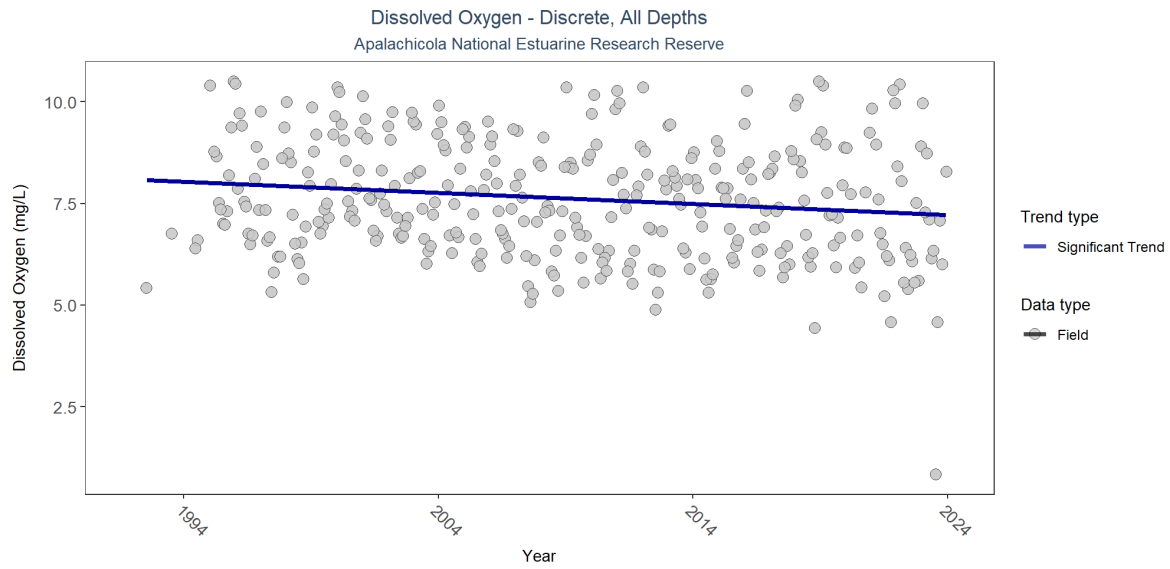


Table 3: Seasonal Kendall-Tau Results for - Dissolved Oxygen

ActivityType	Statistical Trend	N-Data	N-Years	Period of Record	Median	tau	SennIntercept	SennSlope	p
Field	Significantly decreasing trend	71612	32	1992 - 2023	7.5	-0.2087	8.08677	-0.02707	0.0000

Dissolved Oxygen - Continuous

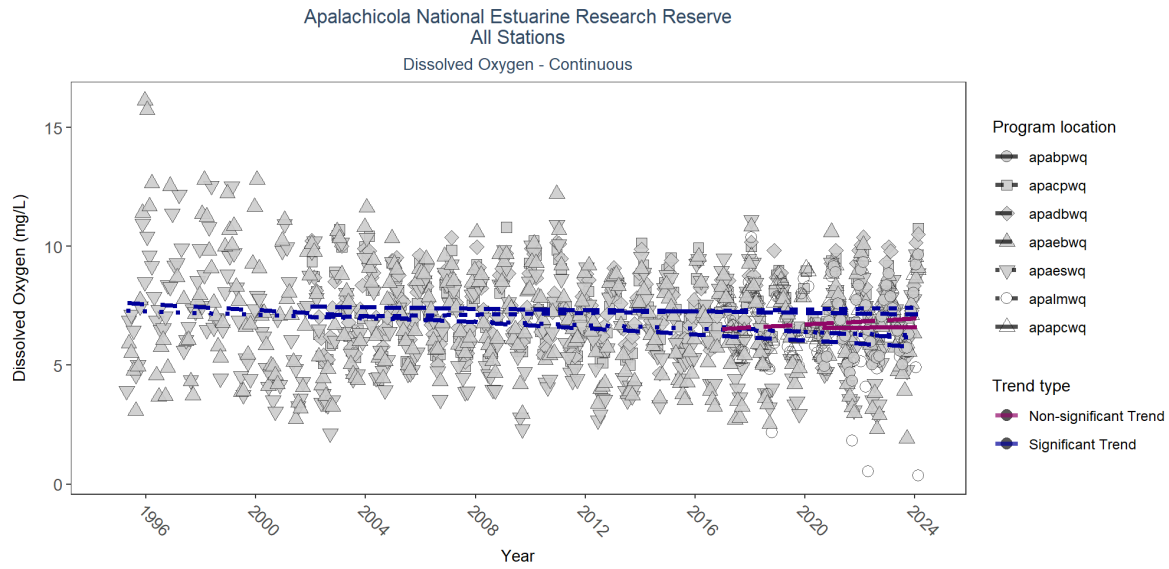


Table 4: Seasonal Kendall-Tau Results for All Stations - Dissolved Oxygen

ProgramLocationID	Statistical Trend	N-Data	N-Years	Period of Record	Median	tau	SennIntercept	SennSlope	p
apacpwq	Significantly increasing trend	583404	23	2002 - 2024	7.1	0.15	7.01	0.02	0.0010
apadbwq	Significantly decreasing trend	588608	23	2002 - 2024	7.3	-0.13	7.47	-0.01	0.0060
apaeswq	Significantly decreasing trend	681262	30	1995 - 2024	6.8	-0.19	7.30	-0.04	0.0000
apalmwq	Significantly decreasing trend	228250	8	2017 - 2024	6.4	-0.18	6.61	-0.06	0.0498
apapcwq	No significant trend	232084	8	2017 - 2024	6.9	0.16	6.52	0.07	0.0727
apaebwq	Significantly decreasing trend	630825	30	1995 - 2024	6.9	-0.29	7.64	-0.06	0.0000
apabpwq	No significant trend	116850	5	2020 - 2024	6.6	0.01	6.56	0.01	0.8220

Dissolved Oxygen Saturation - Discrete

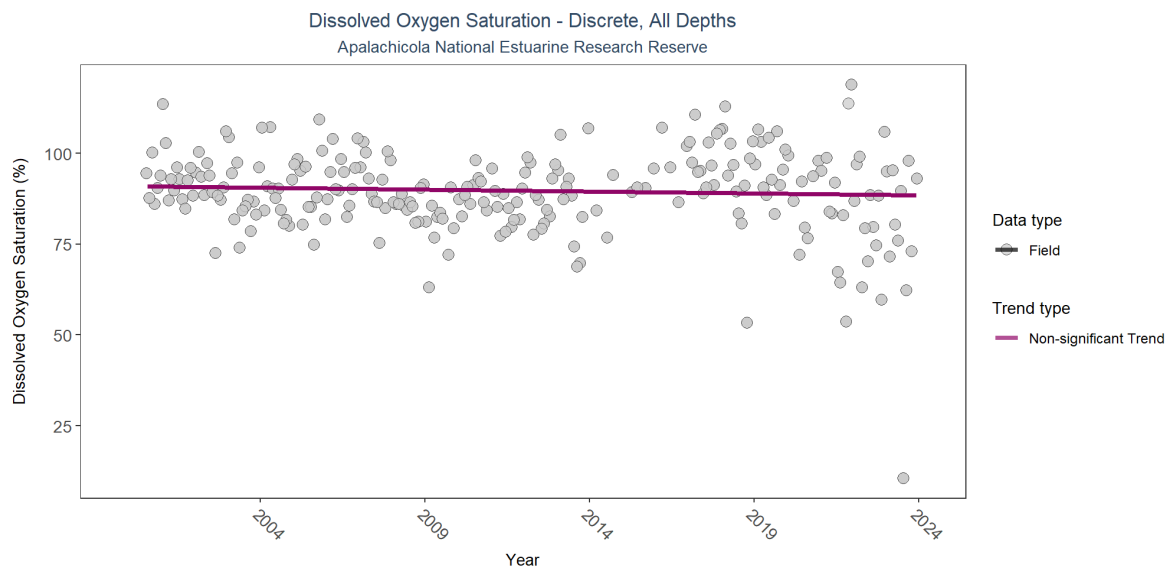


Table 5: Seasonal Kendall-Tau Results for - Dissolved Oxygen Saturation

ActivityType	Statistical Trend	N-Data	N-Years	Period of Record	Median	tau	SennIntercept	SennSlope	p
Field	No significant trend	5623	24	2000 - 2023	91.4	-0.0574	91.02258	-0.10465	0.2360

Dissolved Oxygen Saturation - Continuous

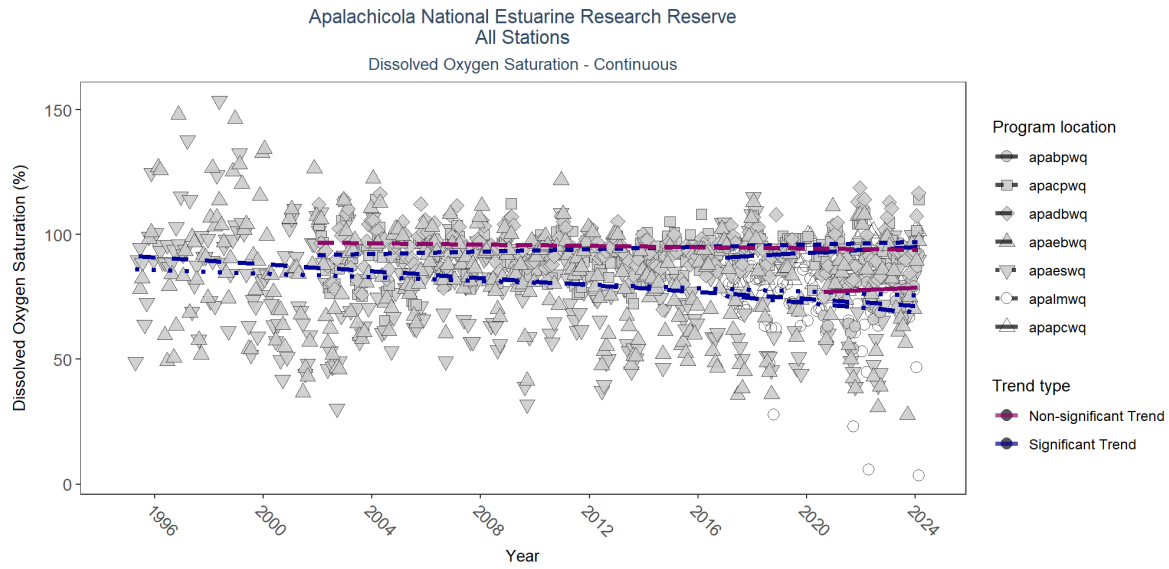


Table 6: Seasonal Kendall-Tau Results for All Stations - Dissolved Oxygen Saturation

ProgramLocationID	Statistical Trend	N-Data	N-Years	Period of Record	Median	tau	SennIntercept	SennSlope	p
apalmwq	Significantly decreasing trend	228186	8	2017 - 2024	75.0	-0.20	75.37	-0.91	0.0270
apapcwq	Significantly increasing trend	235540	8	2017 - 2024	94.4	0.18	90.96	0.57	0.0408
apaeswq	Significantly decreasing trend	682431	30	1995 - 2024	83.9	-0.15	86.12	-0.36	0.0001
apabpwq	No significant trend	116850	5	2020 - 2024	76.6	0.21	76.93	0.47	0.1770
apacpwq	Significantly increasing trend	584932	23	2002 - 2024	94.1	0.19	91.76	0.24	0.0000
apadbqw	No significant trend	592057	23	2002 - 2024	94.8	-0.08	96.82	-0.13	0.0788
apaebwq	Significantly decreasing trend	626646	30	1995 - 2024	85.0	-0.26	91.67	-0.69	0.0000

Salinity - Discrete

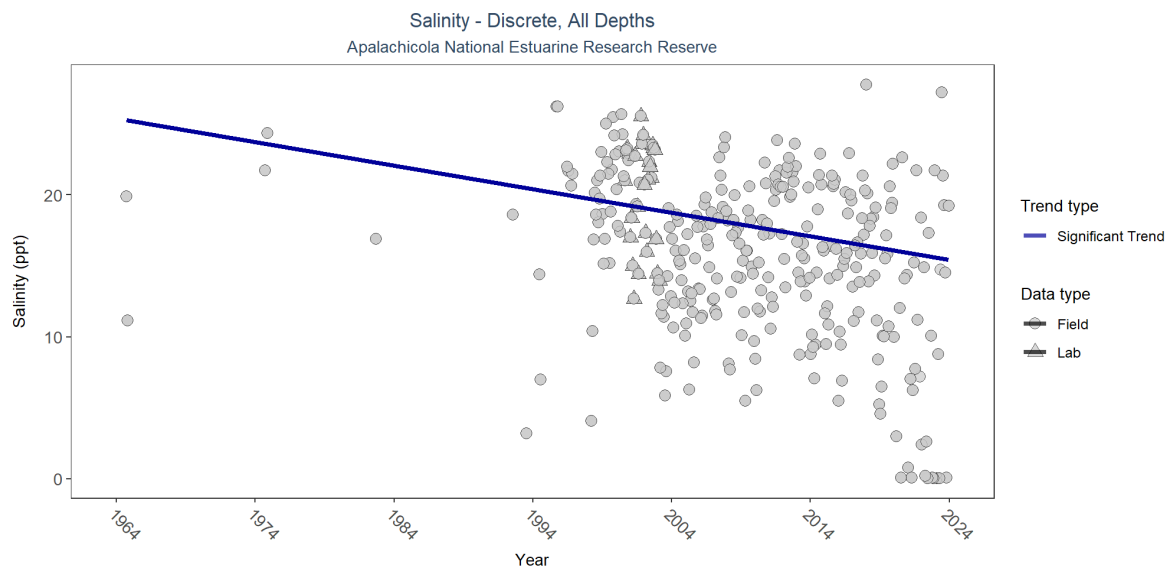


Table 7: Seasonal Kendall-Tau Results for - Salinity

ActivityType	Statistical Trend	N-Data	N-Years	Period of Record	Median	tau	SennIntercept	SennSlope	p
All	Significantly decreasing trend	85674	35	1964 - 2023	16.9	-0.2108	25.37553	-0.16595	0.0000

Salinity - Continuous

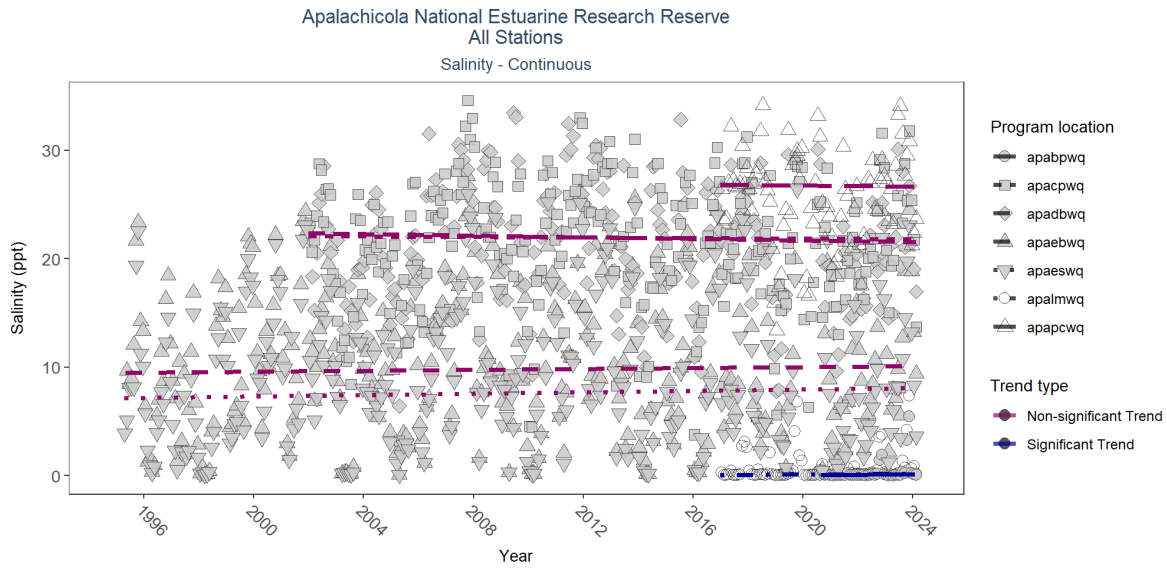


Table 8: Seasonal Kendall-Tau Results for All Stations - Salinity

ProgramLocationID	Statistical Trend	N-Data	N-Years	Period of Record	Median	tau	SennIntercept	SennSlope	p
apaebwq	No significant trend	712575	30	1995 - 2024	9.9	0.04	9.50	0.02	0.3779
apalmwq	Significantly increasing trend	240151	8	2017 - 2024	0.1	0.18	0.10	0.01	0.0494
apadbwq	No significant trend	586052	23	2002 - 2024	22.1	-0.03	22.36	-0.04	0.4487
apacpwq	No significant trend	597141	23	2002 - 2024	22.4	-0.01	22.08	-0.01	0.8307
apabpwq	Significantly increasing trend	116849	5	2020 - 2024	0.1	0.29	0.07	0.01	0.0272
apaeswq	No significant trend	725430	30	1995 - 2024	7.5	0.05	7.18	0.03	0.1880
apapcwq	No significant trend	234391	8	2017 - 2024	26.6	-0.03	26.82	-0.02	0.8347

Water Temperature - Discrete

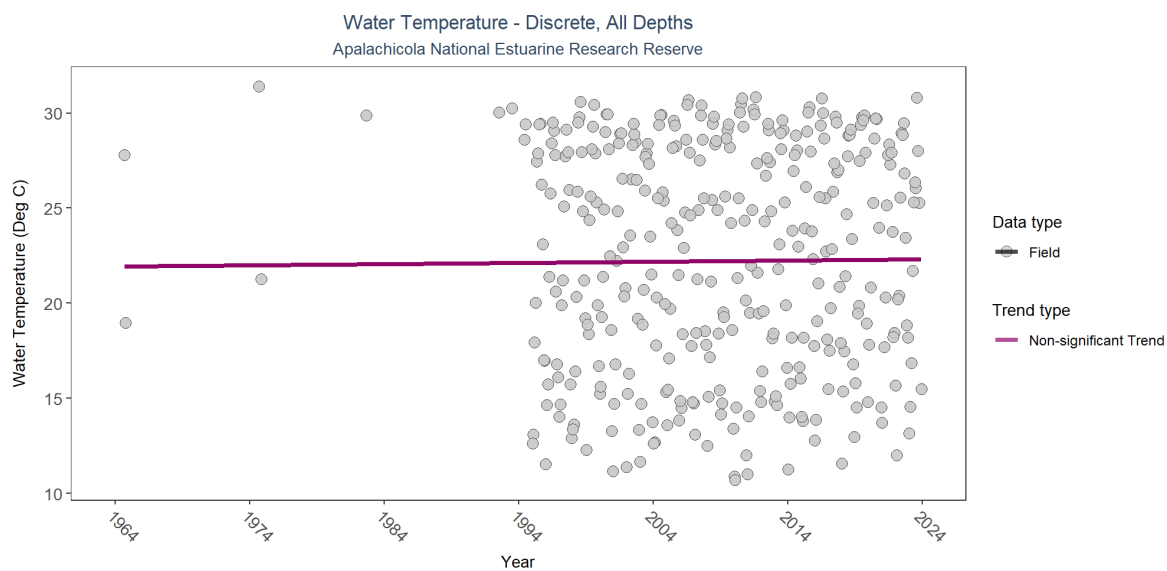


Table 9: Seasonal Kendall-Tau Results for - Water Temperature

ActivityType	Statistical Trend	N-Data	N-Years	Period of Record	Median	tau	SennIntercept	SennSlope	p
Field	No significant trend	84548	35	1964 - 2023	23.3	0.0365	21.92371	0.0062	0.3434

Water Temperature - Continuous

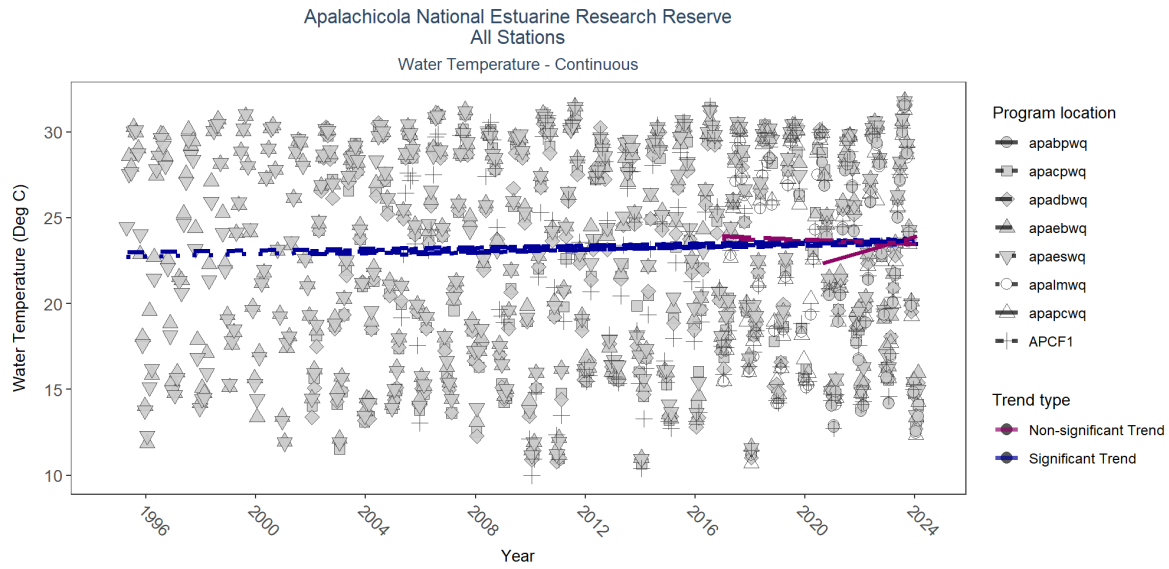


Table 10: Seasonal Kendall-Tau Results for All Stations - Water Temperature

ProgramLocationID	Statistical Trend	N-Data	N-Years	Period of Record	Median	tau	SennIntercept	SennSlope	p
apacpwq	Significantly increasing trend	636134	23	2002 - 2024	23.5	0.15	23.06	0.03	0.0010
apadbwq	Significantly increasing trend	611217	23	2002 - 2024	23.2	0.13	22.89	0.03	0.0037
apalmwq	No significant trend	240151	8	2017 - 2024	22.5	-0.07	23.78	-0.04	0.3807
apaebwq	Significantly increasing trend	727646	30	1995 - 2024	24.1	0.13	23.00	0.02	0.0009
apaeswq	Significantly increasing trend	734660	30	1995 - 2024	24.1	0.17	22.72	0.04	0.0000
apapcwq	No significant trend	237844	8	2017 - 2024	23.0	-0.10	23.93	-0.06	0.2598
apabpwq	No significant trend	116849	5	2020 - 2024	22.3	0.29	22.05	0.46	0.1152
APCF1	Significantly increasing trend	1266969	19	2005 - 2023	23.4	0.12	22.85	0.04	0.0418

pH - Discrete

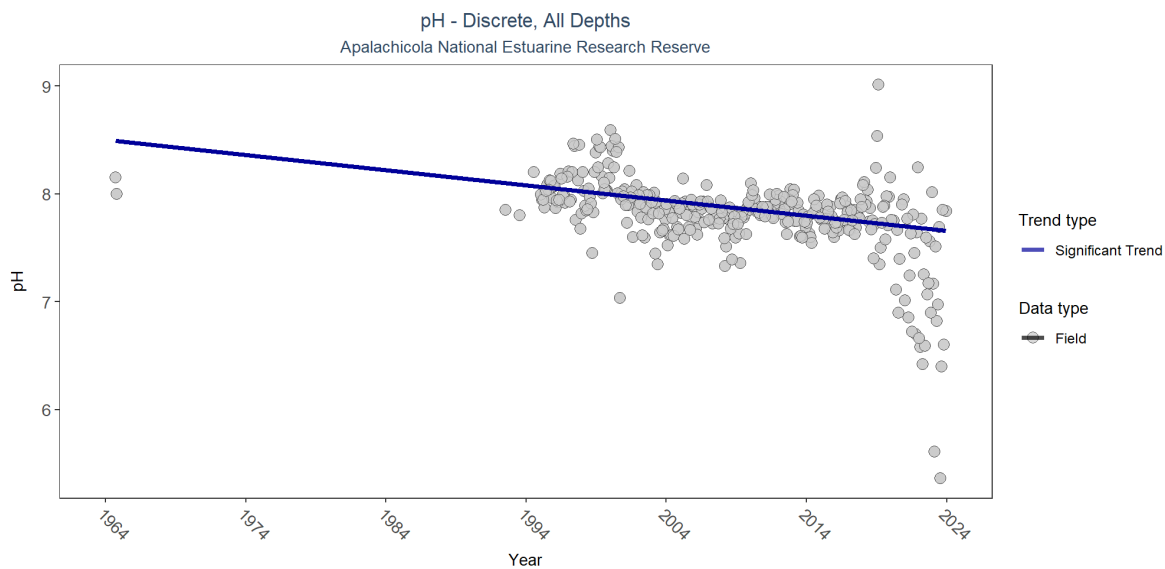


Table 11: Seasonal Kendall-Tau Results for - pH

ActivityType	Statistical Trend	N-Data	N-Years	Period of Record	Median	tau	SennIntercept	SennSlope	p
Field	Significantly decreasing trend	56861	33	1964 - 2023	7.9	-0.3706	8.50207	-0.01407	0.0000

pH - Continuous

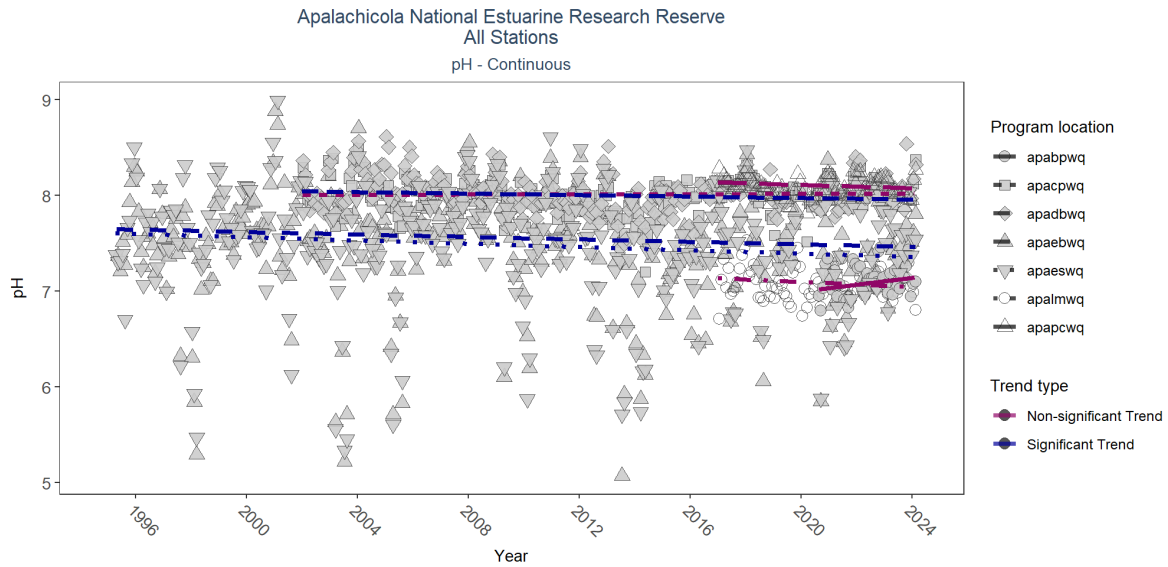


Table 12: Seasonal Kendall-Tau Results for All Stations - pH

ProgramLocationID	Statistical Trend	N-Data	N-Years	Period of Record	Median	tau	SennIntercept	SennSlope	p
apaebwq	Significantly decreasing trend	683408	30	1995 - 2024	7.6	-0.11	7.65	-0.01	0.0049
apacpwq	No significant trend	582021	23	2002 - 2024	8.0	0.02	8.01	0.00	0.7052
apalmwq	No significant trend	230318	8	2017 - 2024	7.1	-0.09	7.13	-0.01	0.3371
apadbwq	Significantly decreasing trend	569023	23	2002 - 2024	8.0	-0.11	8.04	0.00	0.0131
apabpwq	No significant trend	115611	5	2020 - 2024	7.1	0.24	7.00	0.04	0.1770
apaeswq	Significantly decreasing trend	688178	30	1995 - 2024	7.5	-0.14	7.61	-0.01	0.0004
apapcwq	No significant trend	231974	8	2017 - 2024	8.1	-0.14	8.13	-0.01	0.1441

Water Clarity

Turbidity - Discrete

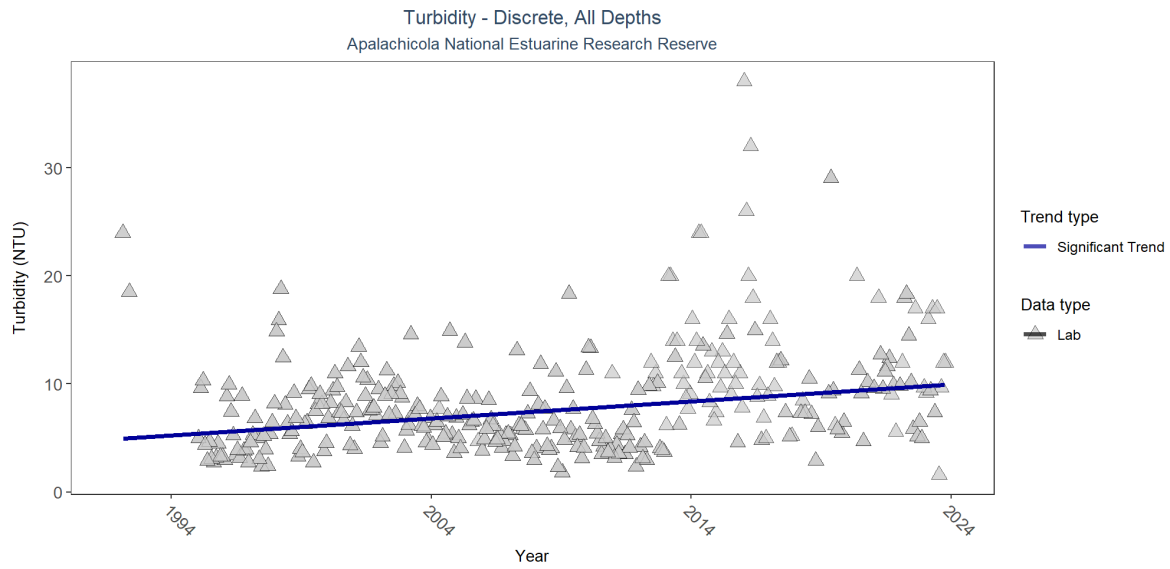


Table 13: Seasonal Kendall-Tau Results for - Turbidity

ActivityType	Statistical Trend	N-Data	N-Years	Period of Record	Median	tau	SennIntercept	SennSlope	p
Lab	Significantly increasing trend	22938	30	1992 - 2023	5.1	0.237	4.91796	0.15758	0.0000

Turbidity - Continuous

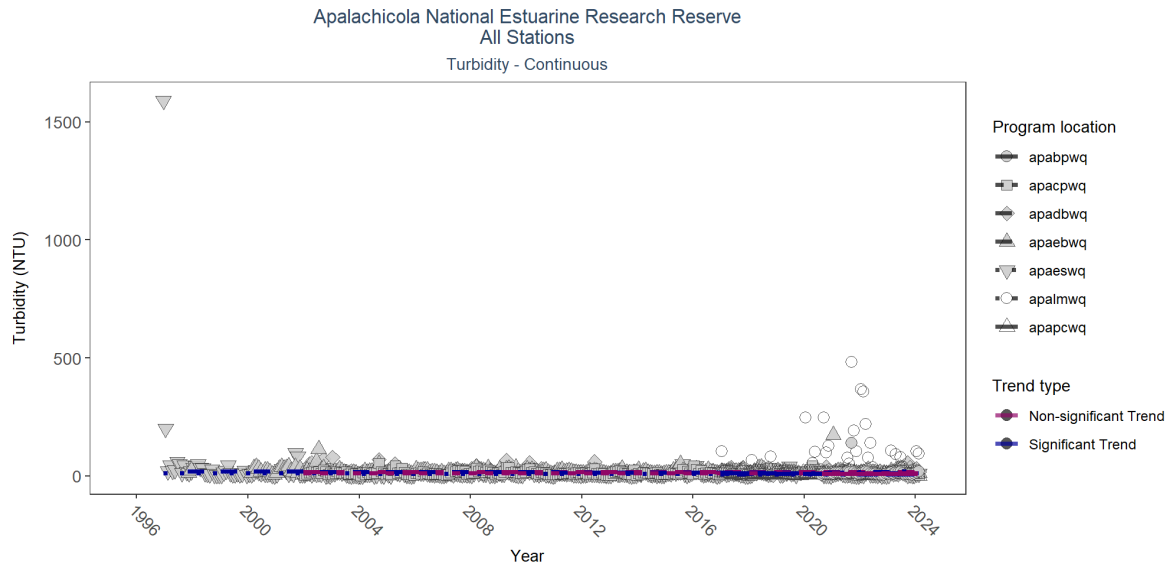


Table 14: Seasonal Kendall-Tau Results for All Stations - Turbidity

ProgramLocationID	Statistical Trend	N-Data	N-Years	Period of Record	Median	tau	SennIntercept	SennSlope	p
apaeswq	Significantly decreasing trend	669279	29	1996 - 2024	9	-0.17	11.58	-0.13	0.0000
apadbwq	No significant trend	575230	23	2002 - 2024	10	0.00	16.21	0.00	0.9655
apaebwq	Significantly decreasing trend	601147	26	1997 - 2024	13	-0.21	19.74	-0.24	0.0000
apalmwq	Significantly increasing trend	214143	8	2017 - 2024	12	0.33	8.07	1.80	0.0004
apacpwq	No significant trend	594195	23	2002 - 2024	8	-0.03	13.12	-0.03	0.6140
apapcwq	Significantly decreasing trend	223412	8	2017 - 2024	7	-0.22	11.67	-0.48	0.0158
apabpwq	No significant trend	116845	5	2020 - 2024	11	-0.07	11.03	-0.15	0.6527

Total Suspended Solids - Discrete

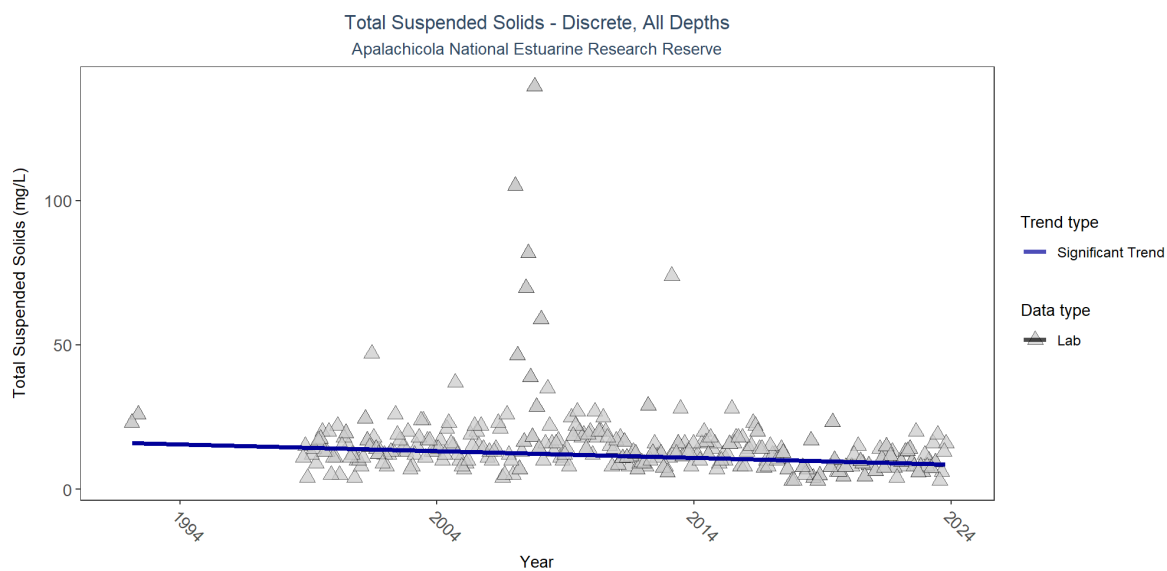


Table 15: Seasonal Kendall-Tau Results for - Total Suspended Solids

ActivityType	Statistical Trend	N-Data	N-Years	Period of Record	Median	tau	SennIntercept	SennSlope	p
Lab	Significantly decreasing trend	697	27	1992 - 2023	12	-0.2084	15.92731	-0.23077	0.0000

Chlorophyll a, Uncorrected for Pheophytin - Discrete

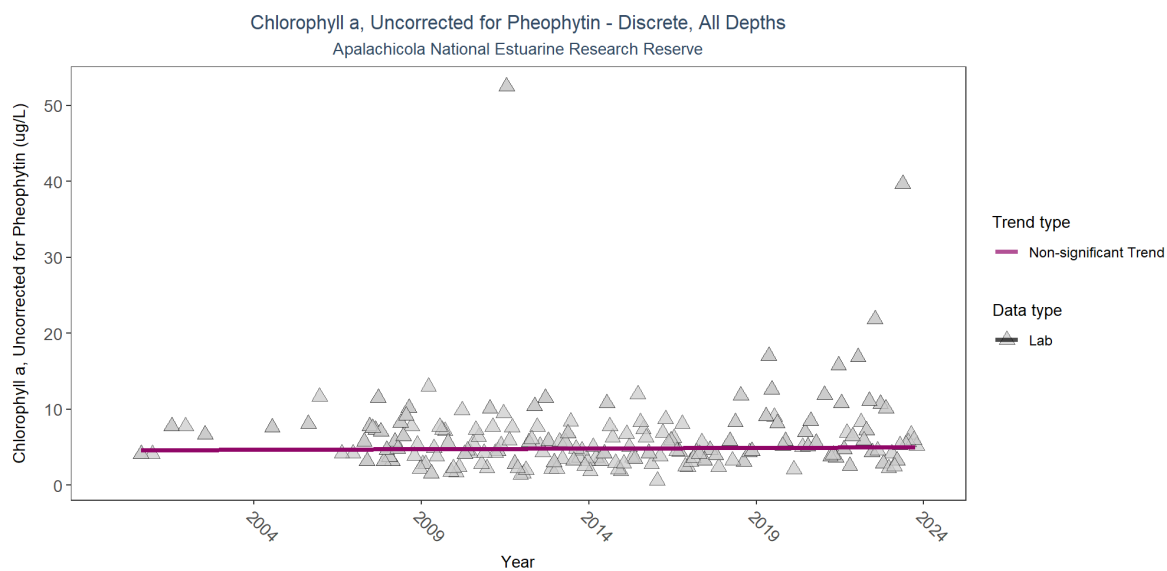


Table 16: Seasonal Kendall-Tau Results for - Chlorophyll a, Uncorrected for Pheophytin

ActivityType	Statistical Trend	N-Data	N-Years	Period of Record	Median	tau	SennIntercept	SennSlope	p
Lab	No significant trend	467	23	2000 - 2023	5	0.0216	4.63258	0.01484	0.5996

Chlorophyll a, Corrected for Pheophytin - Discrete

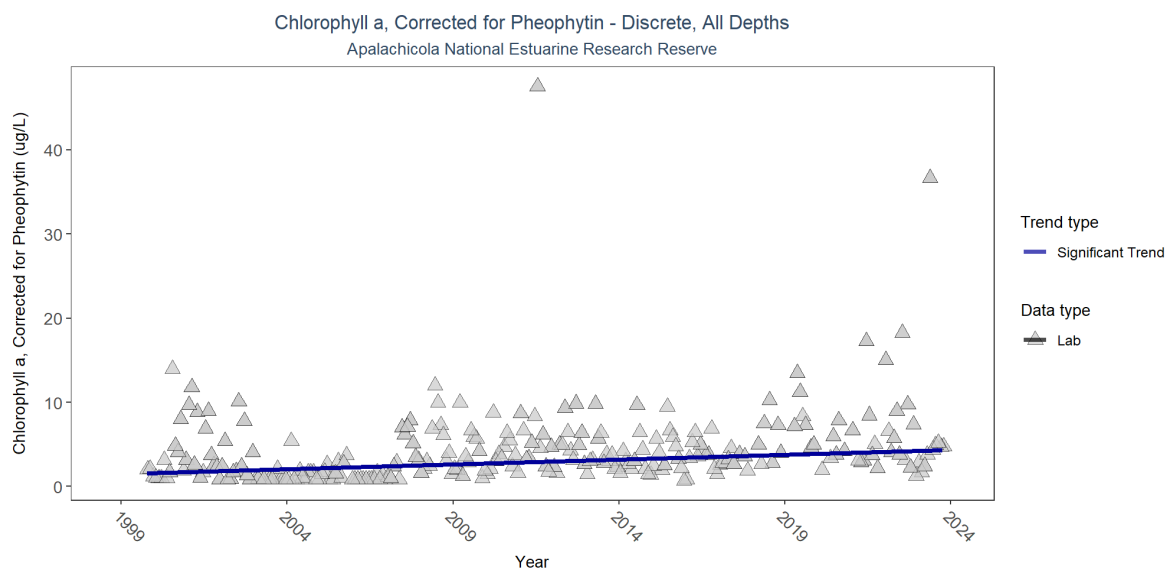


Table 17: Seasonal Kendall-Tau Results for - Chlorophyll a, Corrected for Pheophytin

ActivityType	Statistical Trend	N-Data	N-Years	Period of Record	Median	tau	SennIntercept	SennSlope	p
Lab	Significantly increasing trend	1121	25	1999 - 2023	2.6	0.2552	1.525	0.11222	0.0000

Secchi Depth - Discrete

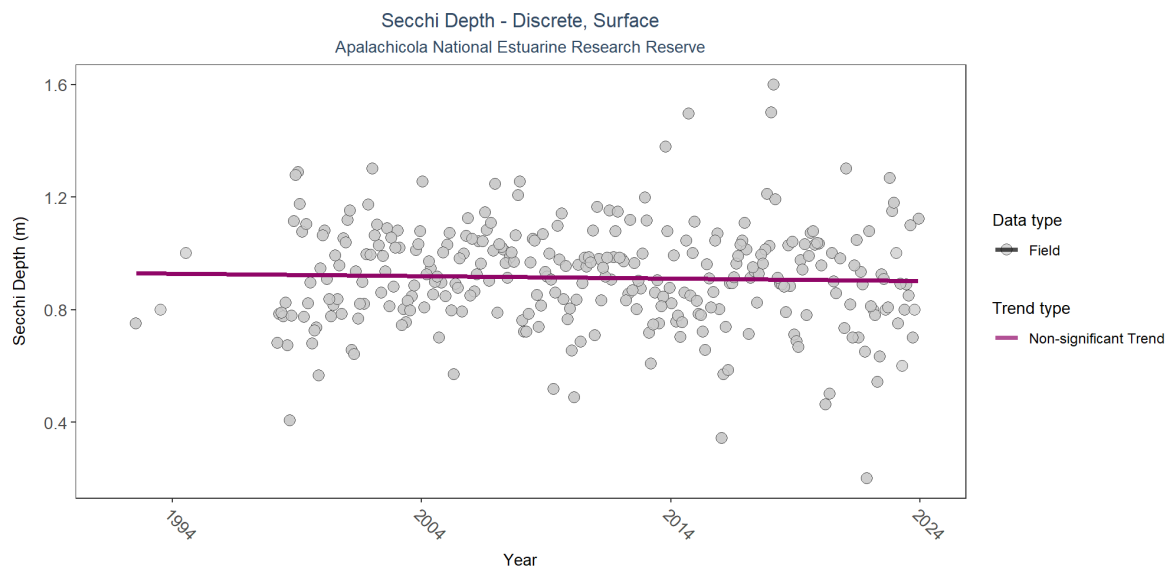


Table 18: Seasonal Kendall-Tau Results for - Secchi Depth

ActivityType	Statistical Trend	N-Data	N-Years	Period of Record	Median	tau	SennIntercept	SennSlope	p
Field	No significant trend	37193	29	1992 - 2023	0.8	-0.034	0.92986	-0.00086	0.4674

Colored Dissolved Organic Matter - Discrete

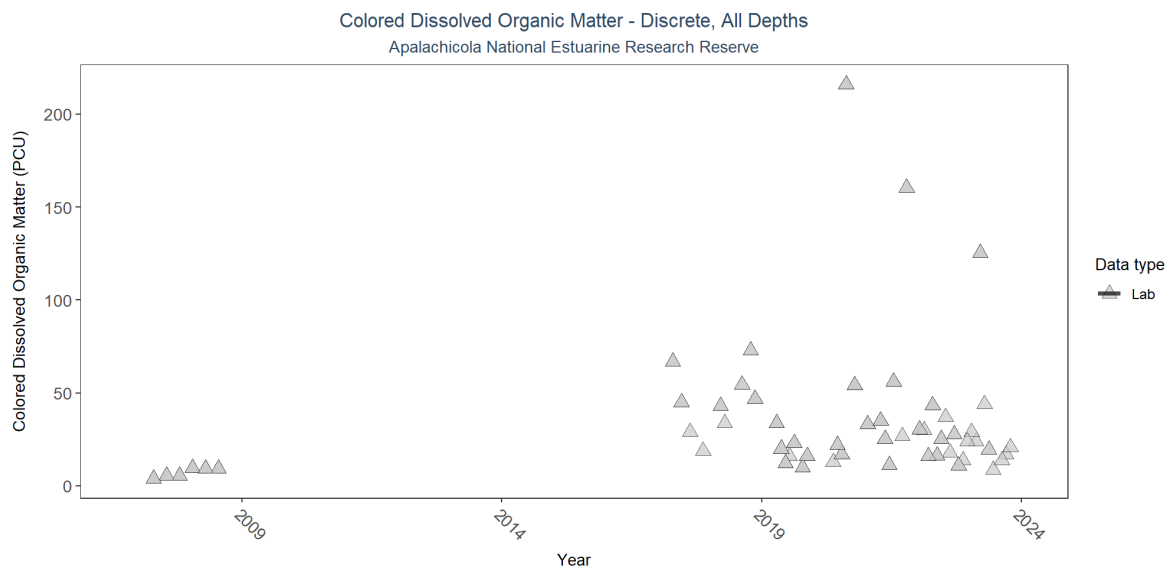


Table 19: Seasonal Kendall-Tau Results for - Colored Dissolved Organic Matter

ActivityType	Statistical Trend	N-Data	N-Years	Period of Record	Median	tau	SennIntercept	SennSlope	p
Lab	Insufficient data to calculate trend	143	9	2007 - 2023	21	-	-	-	NA