

Estero Bay Aquatic Preserve

SEACAR Water Quality Analysis

Last compiled on 18 March, 2025

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Indicators

Nutrients

Total Nitrogen - Discrete

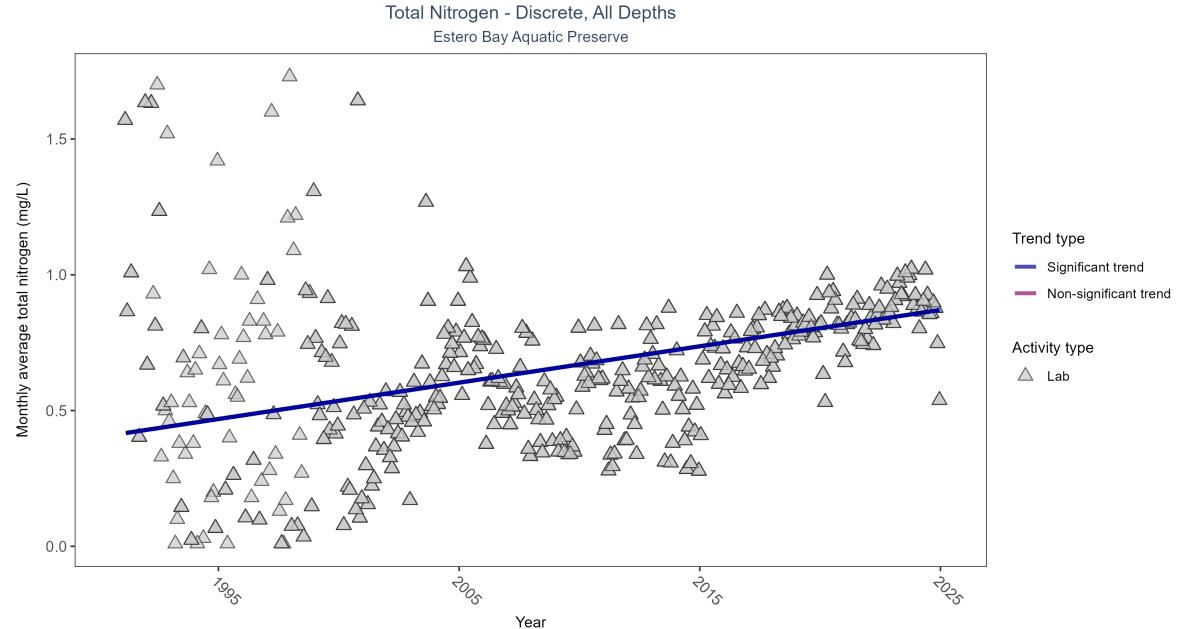
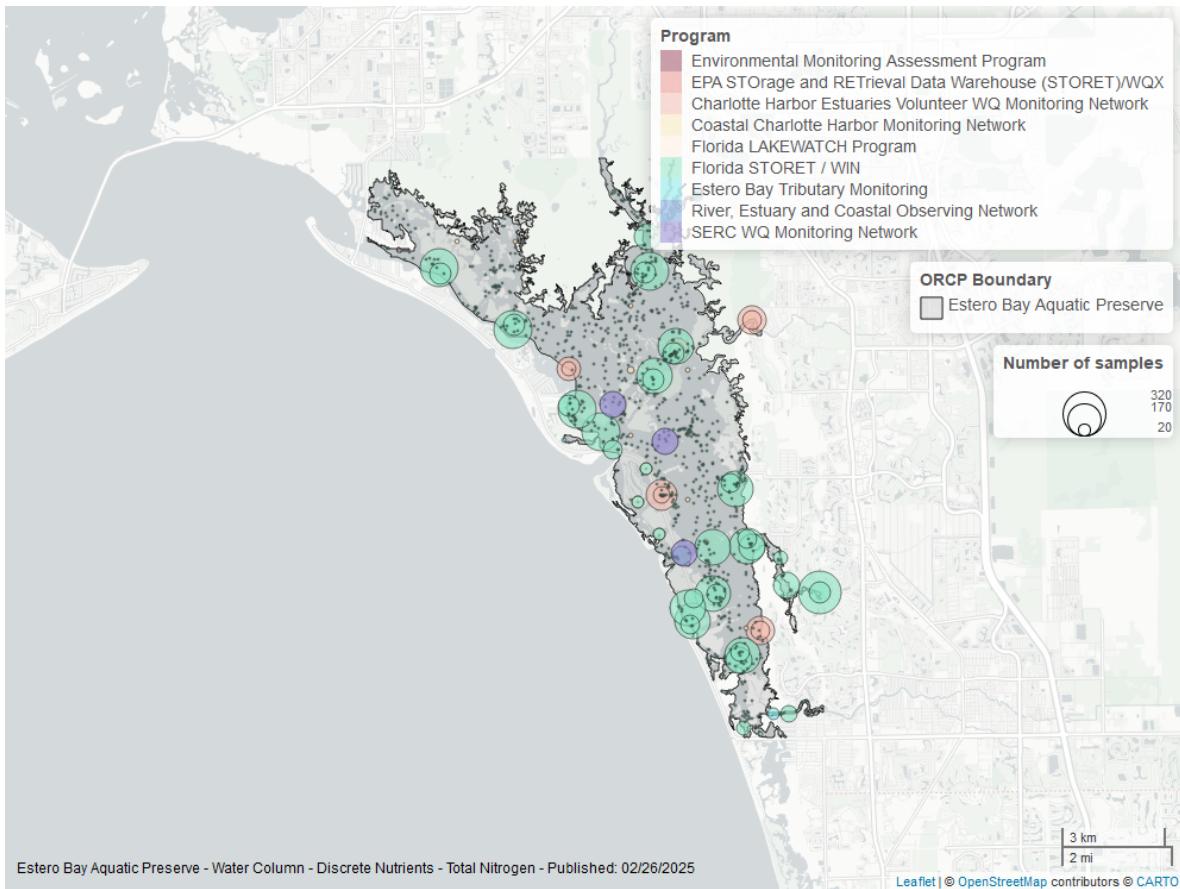


Table 1: Seasonal Kendall-Tau Results for - Total Nitrogen

Activity Type	Statistical Trend	Sample Count	Years with Data	Period of Record	Median Result Value	Tau	Sen Intercept	Sen Slope	P
Lab	Significantly increasing trend	7953	34	1991 - 2024	0.64	0.32195	0.41526	0.01339	0.00000000000000005382103948



Total Phosphorus - Discrete

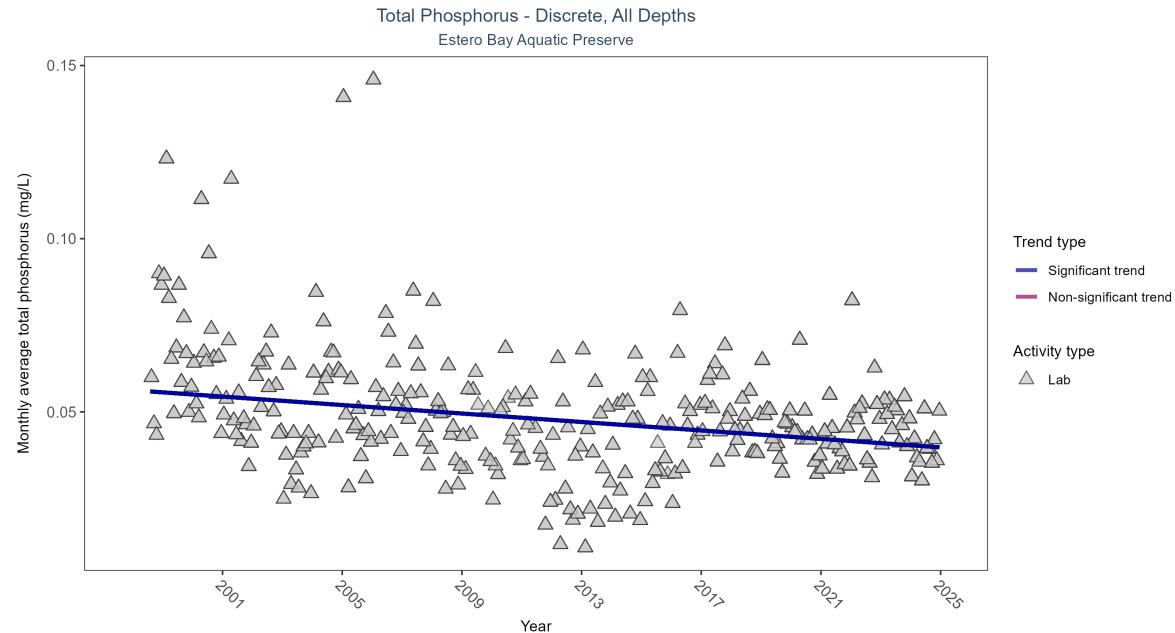
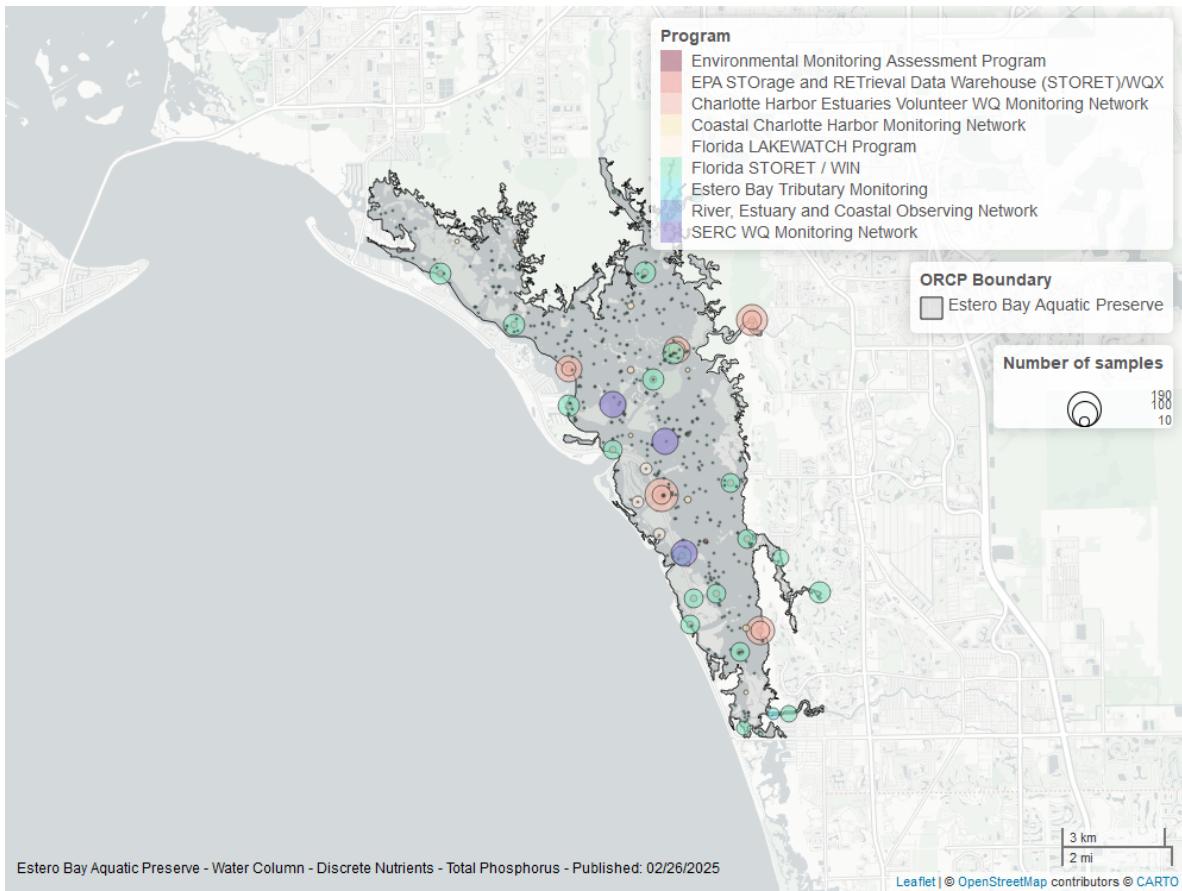


Table 2: Seasonal Kendall-Tau Results for - Total Phosphorus

Activity Type	Statistical Trend	Sample Count	Years with Data	Period of Record	Median Result Value	Tau	Sen Intercept	Sen Slope	P
Lab	Significantly decreasing trend	3465	27	1998 - 2024	0.0427	-0.24808	0.05626	-0.00061	0.0000000122748171425122749975296365665400344369118101894855499268



Water Quality

Dissolved Oxygen - Discrete

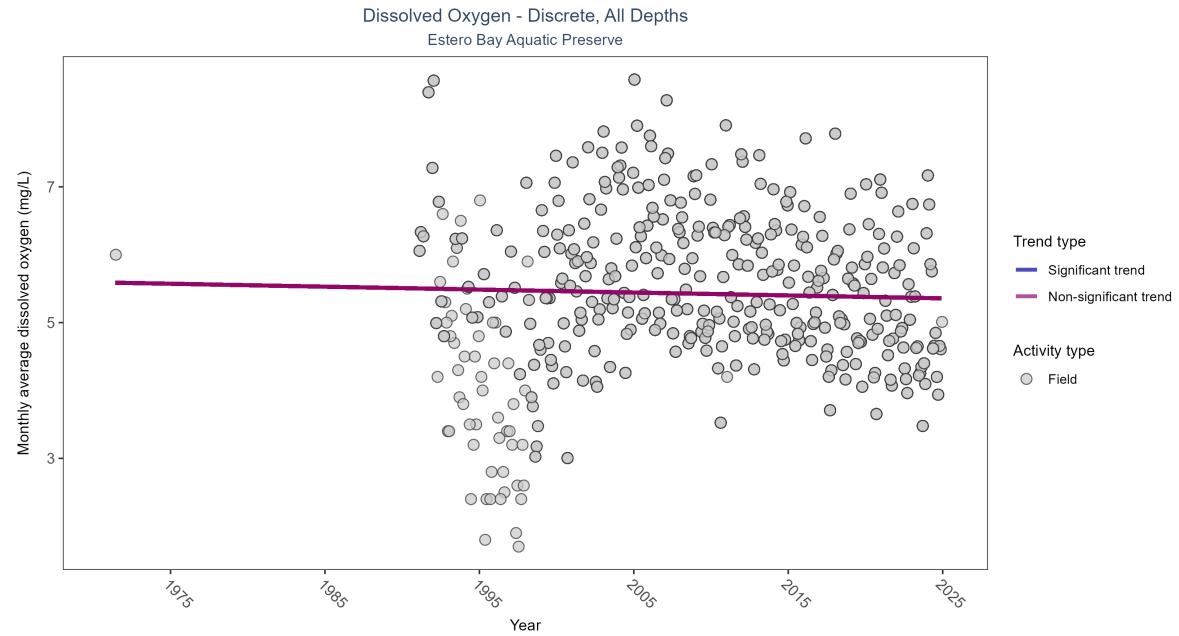
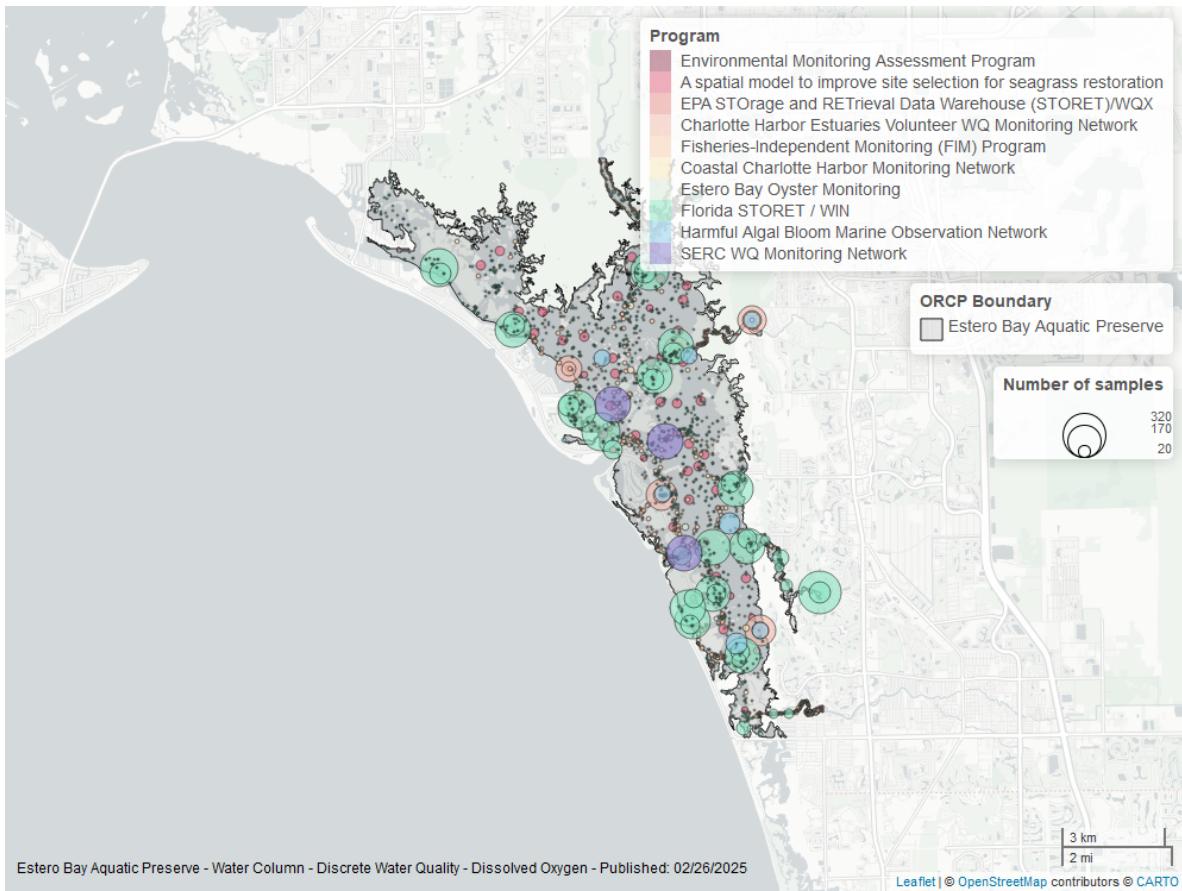


Table 3: Seasonal Kendall-Tau Results for - Dissolved Oxygen

Activity Type	Statistical Trend	Sample Count	Years with Data	Period of Record	Median Result Value	Tau	Sen Intercept	Sen Slope	P
Field	No significant trend	11622	35	1971 - 2024	5.78	-0.03637	5.58952	-0.00431	0.31101965902259332



Dissolved Oxygen - Continuous

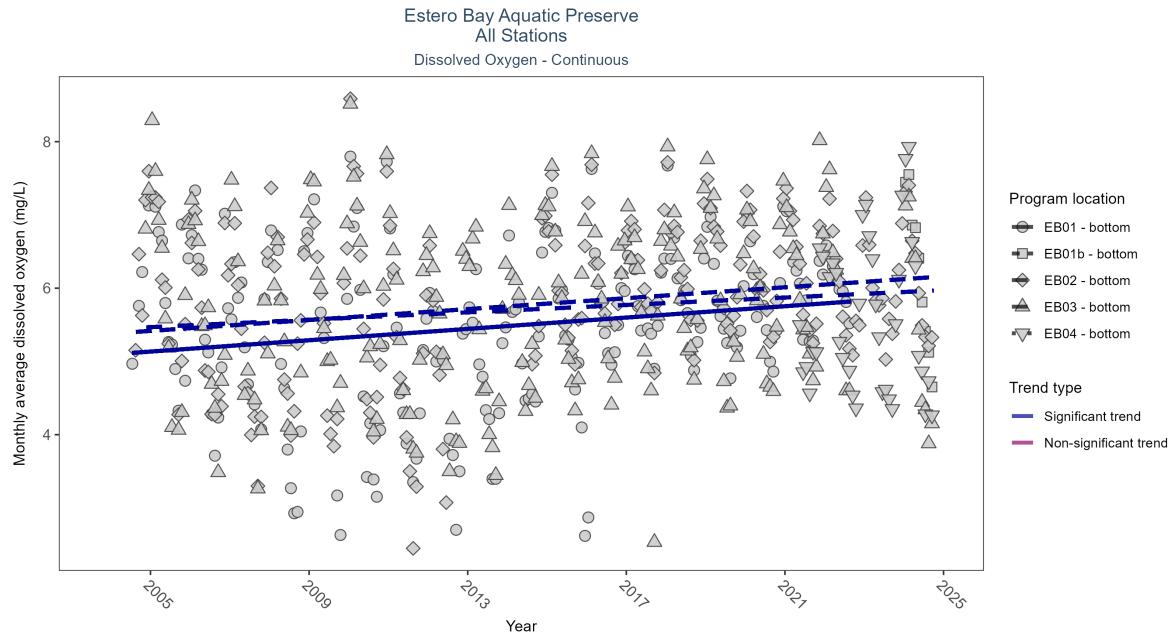
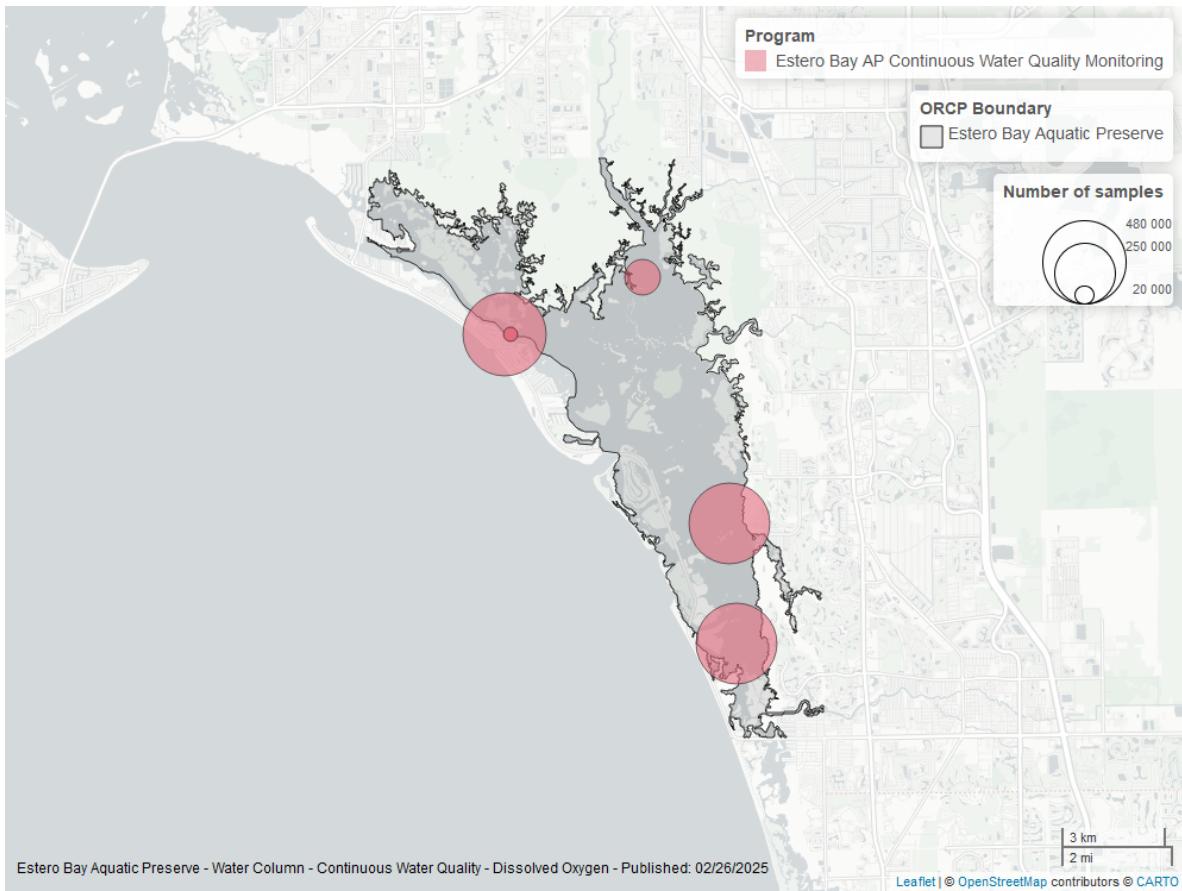


Table 4: Seasonal Kendall-Tau Results for All Stations - Dissolved Oxygen

Program Location	Statistical Trend	Sample Count	Years with Data	Period of Record	Median Result Value	Tau	Sen Intercept	Sen Slope	P
EB01	Significantly increasing trend	478415	19	2004 - 2022	5.6	0.22	5.1	0.04	0.00003195135866924
EB02	Significantly increasing trend	478256	20	2004 - 2024	6.0	0.25	5.38	0.04	0.0000092680669150
EB03	Significantly increasing trend	465070	20	2004 - 2024	5.9	0.16	5.44	0.03	0.00141445881727709
EB04	Insufficient data to calculate trend	101087	4	2021 - 2024	5.6	-	-	-	NA
EB01b	Insufficient data to calculate trend	23562	1	2024 - 2024	6.3	-	-	-	NA



Dissolved Oxygen Saturation - Discrete

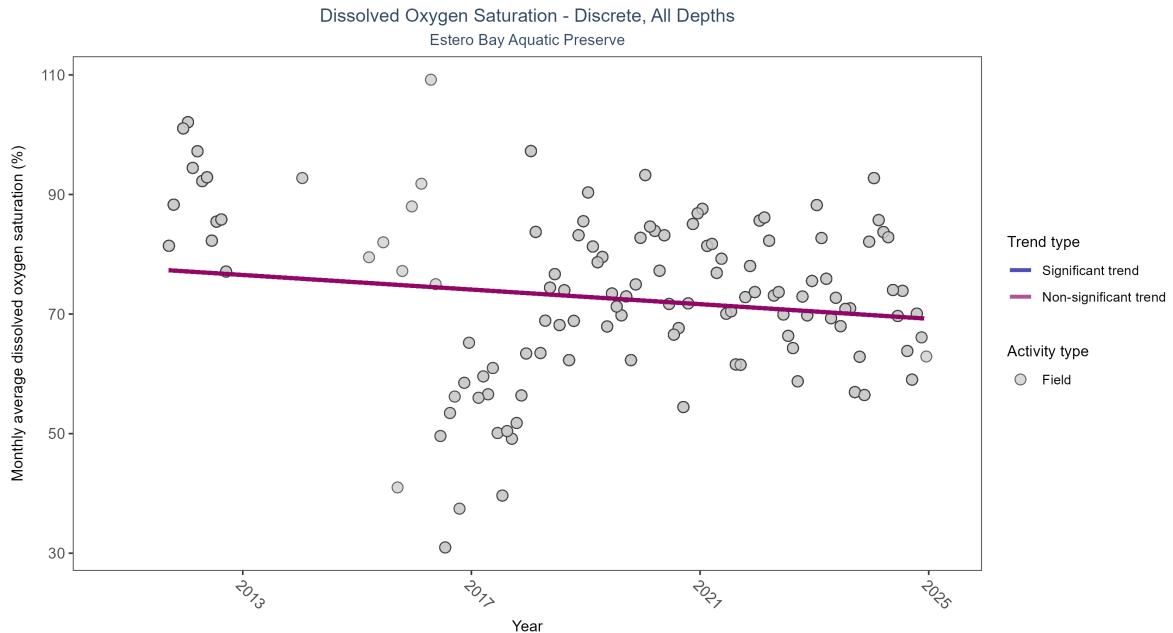
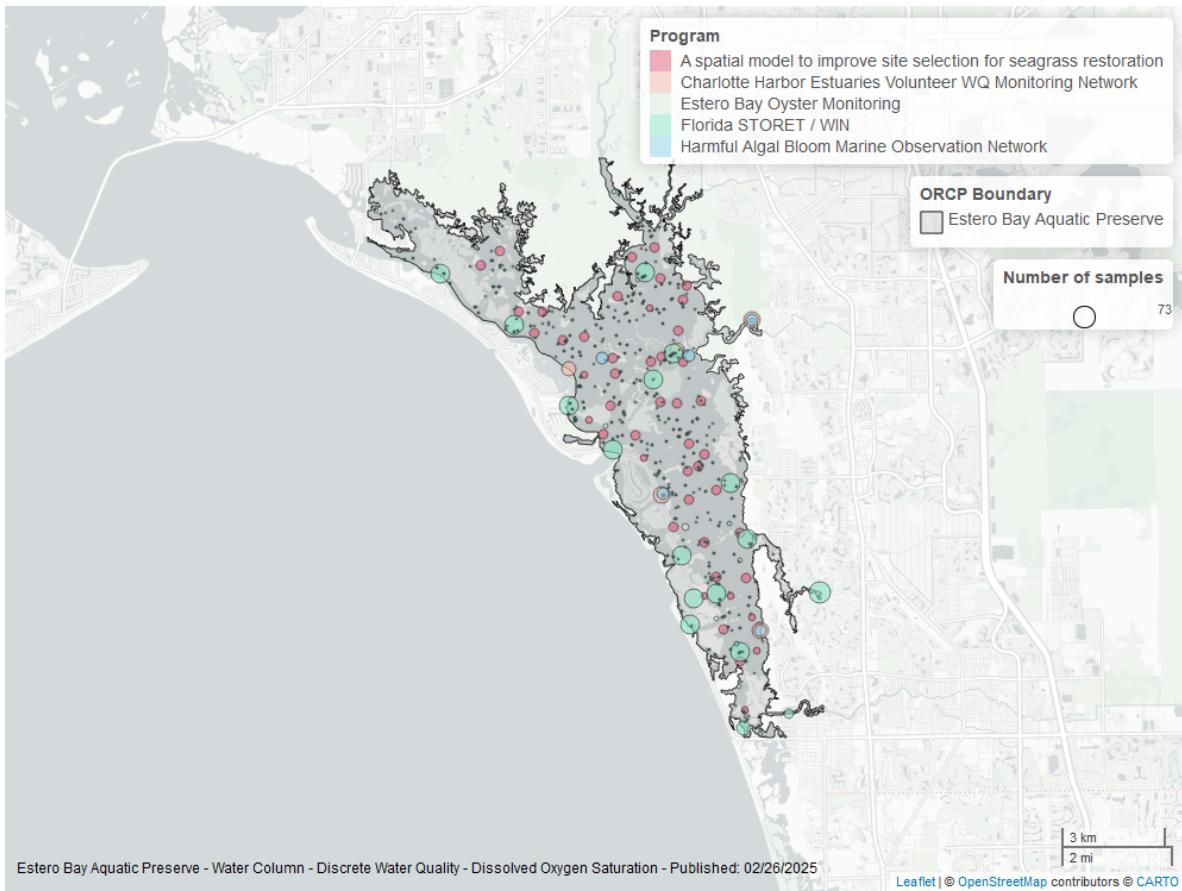


Table 5: Seasonal Kendall-Tau Results for - Dissolved Oxygen Saturation

Activity Type	Statistical Trend	Sample Count	Years with Data	Period of Record	Median Result Value	Tau	Sen Intercept	Sen Slope	P
Field	No significant trend	2738	13	2011 - 2024	81.8	-0.13685	77.75699	-0.61029	0.0542175039841477010515021486503246705791088104248046875000000000000000000



Dissolved Oxygen Saturation - Continuous

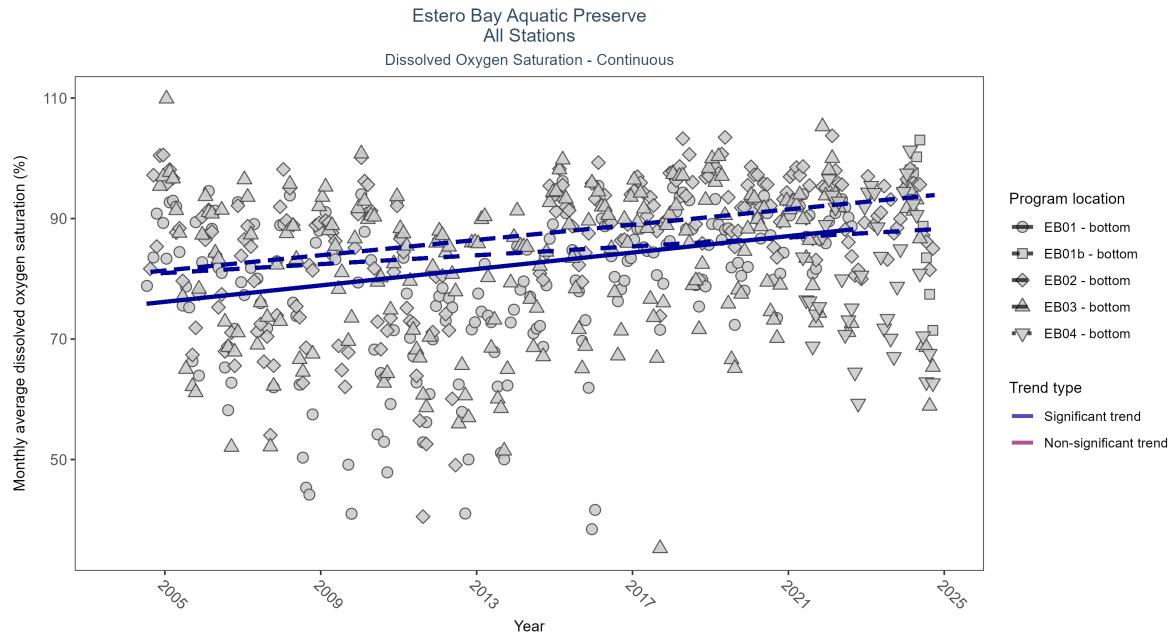
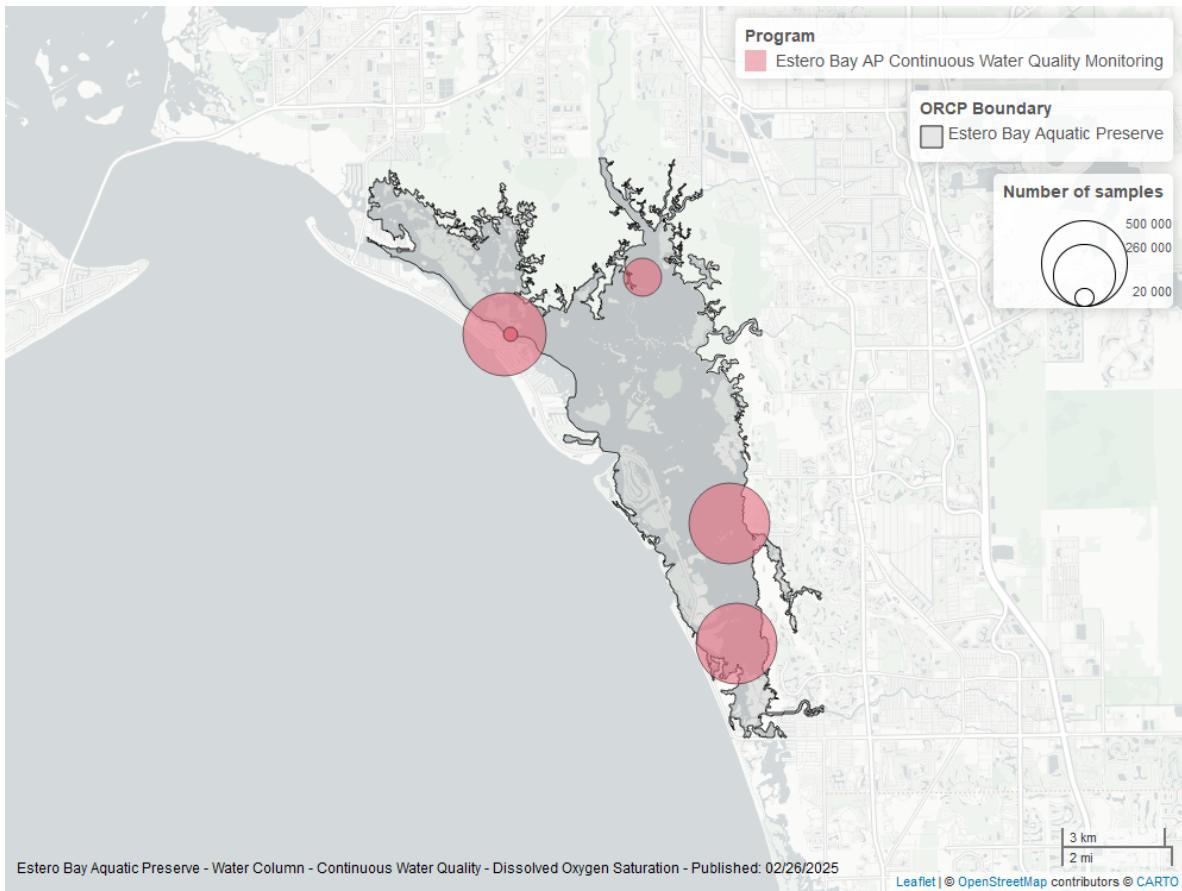


Table 6: Seasonal Kendall-Tau Results for All Stations - Dissolved Oxygen Saturation

Program Location	Statistical Trend	Sample Count	Years with Data	Period of Record	Median Result Value	Tau	Sen Intercept	Sen Slope	P
EB01	Significantly increasing trend	480233	19	2004 - 2022	81.6	0.31	75.5	0.68	0.000000067932632727
EB02	Significantly increasing trend	478493	20	2004 - 2024	87.8	0.37	80.74	0.63	0.0000000000002818212
EB01b	Insufficient data to calculate trend	23563	1	2024 - 2024	90.3	-	-	-	NA
EB03	Significantly increasing trend	466596	20	2004 - 2024	83.6	0.22	80.59	0.37	0.0000127355598407936
EB04	Insufficient data to calculate trend	111351	4	2021 - 2024	81.6	-	-	-	NA



Salinity - Discrete

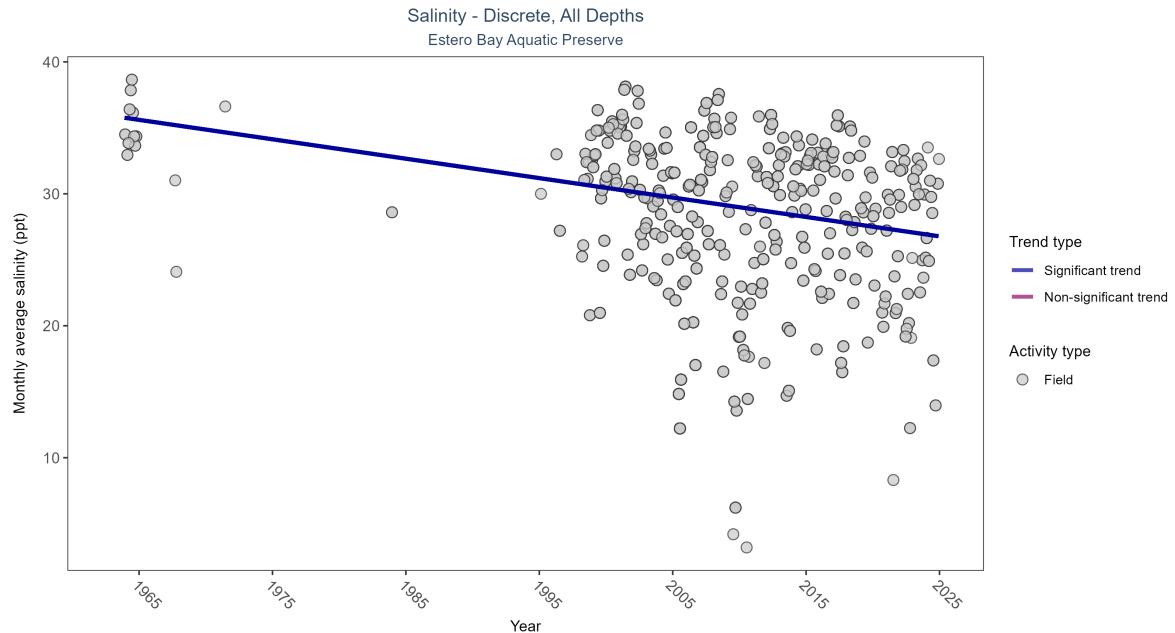
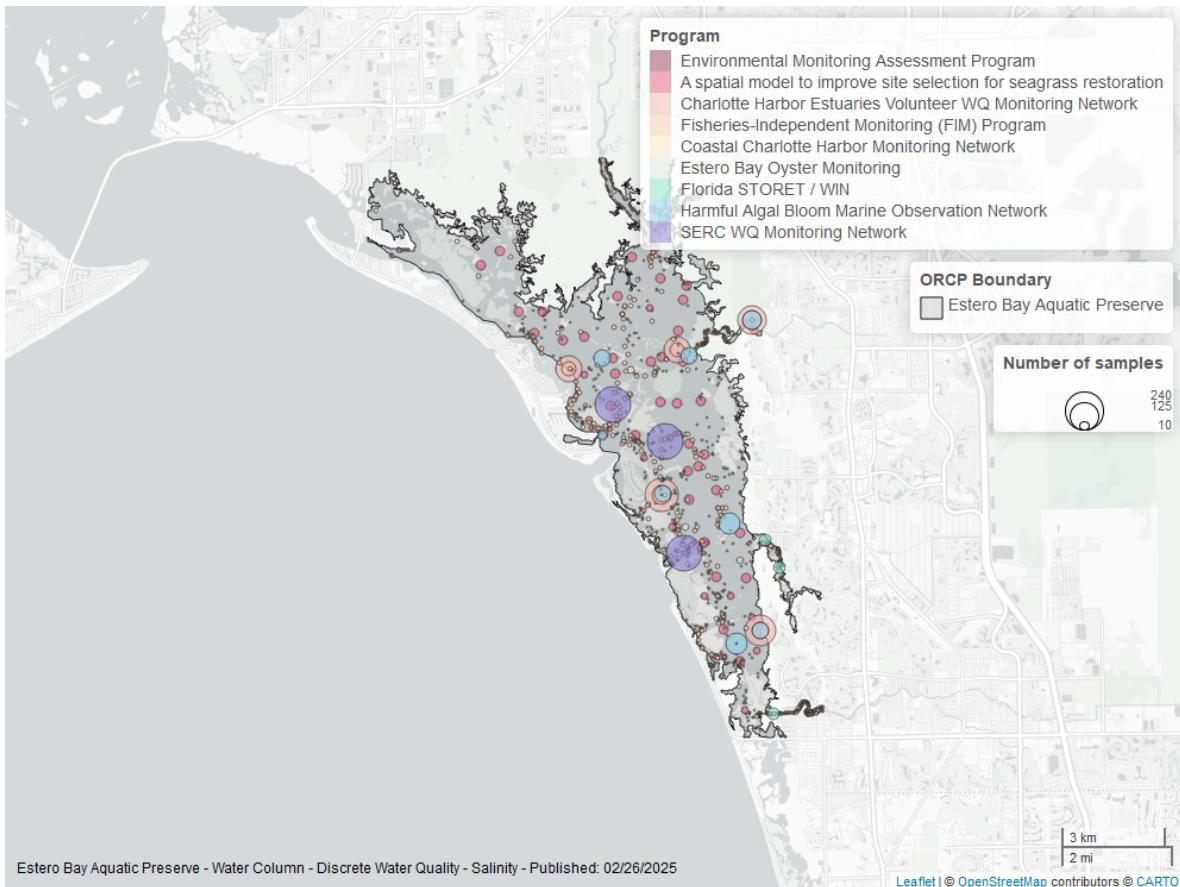


Table 7: Seasonal Kendall-Tau Results for - Salinity

Activity Type	Statistical Trend	Sample Count	Years with Data	Period of Record	Median Result Value	Tau	Sen Intercept	Sen Slope	P
All	Significantly decreasing trend	5322	34	1963 - 2024	32.285	-0.27053	35.90011	-0.14715	0.0000000000425100072229451029582128485095893211



Salinity - Continuous

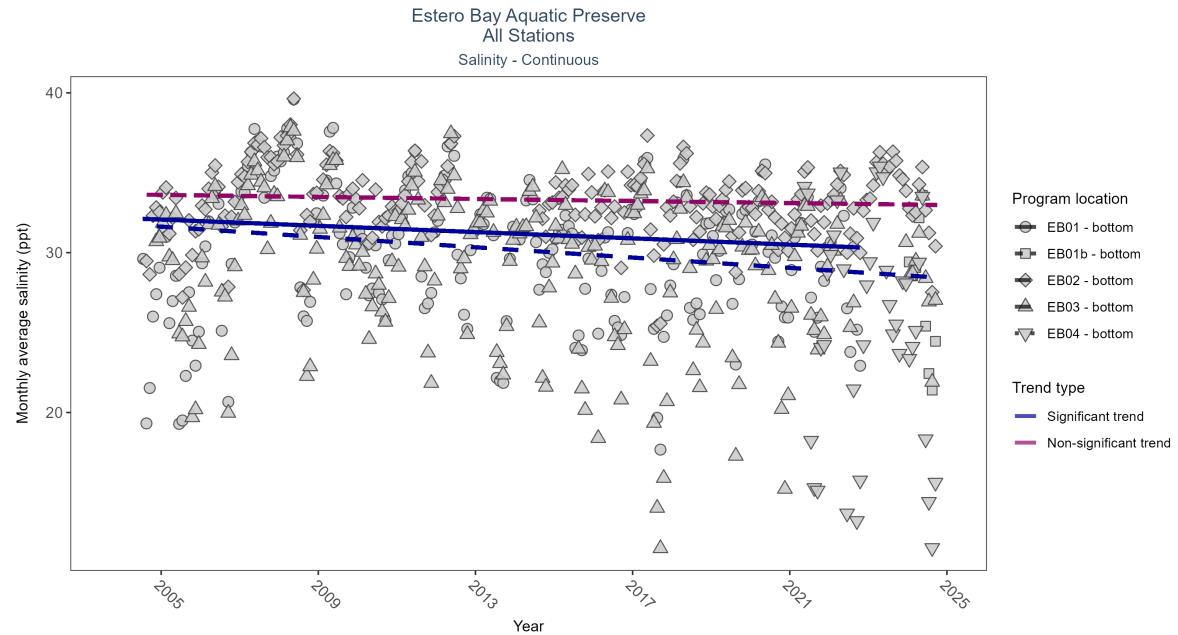
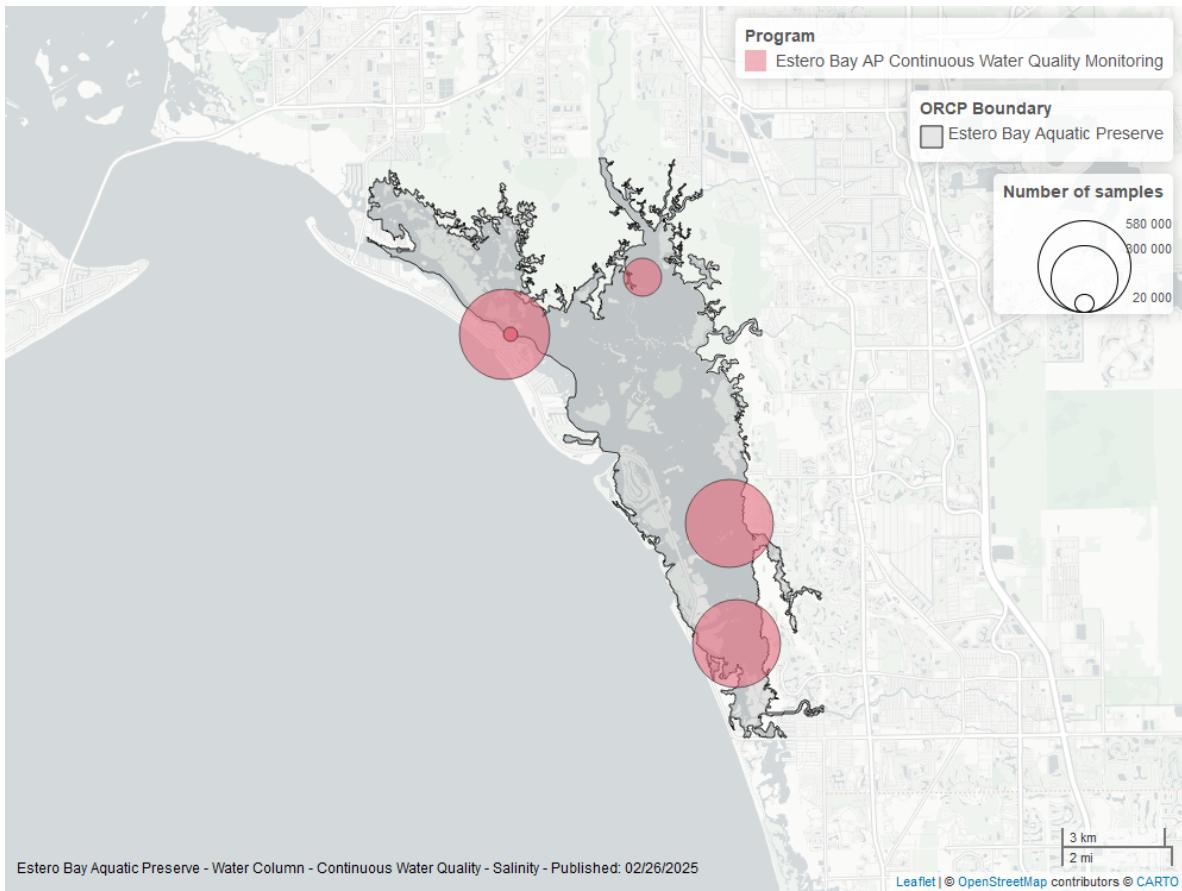


Table 8: Seasonal Kendall-Tau Results for All Stations - Salinity

Program Location	Statistical Trend	Sample Count	Years with Data	Period of Record	Median Result Value	Tau	Sen Intercept	Sen Slope	P
EB01	Significantly decreasing trend	567163	19	2004 - 2022	30.7	-0.13	32.17	-0.1	0.011014092301923758
EB02	No significant trend	566154	20	2004 - 2024	33.6	-0.08	33.65	-0.03	0.088249605598183650
EB01b	Insufficient data to calculate trend	23534	1	2024 - 2024	28.0	-	-	-	NA
EB03	Significantly decreasing trend	561328	21	2004 - 2024	30.8	-0.23	31.79	-0.16	0.000003252056190716
EB04	Insufficient data to calculate trend	110779	4	2021 - 2024	27.3	-	-	-	NA



Water Temperature - Discrete

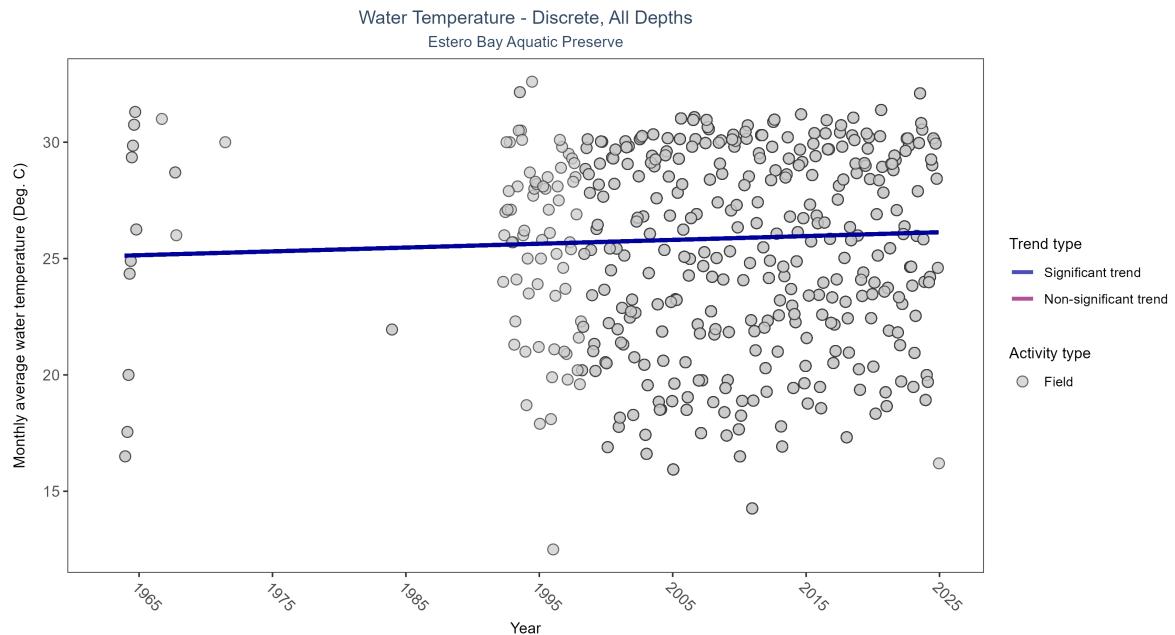
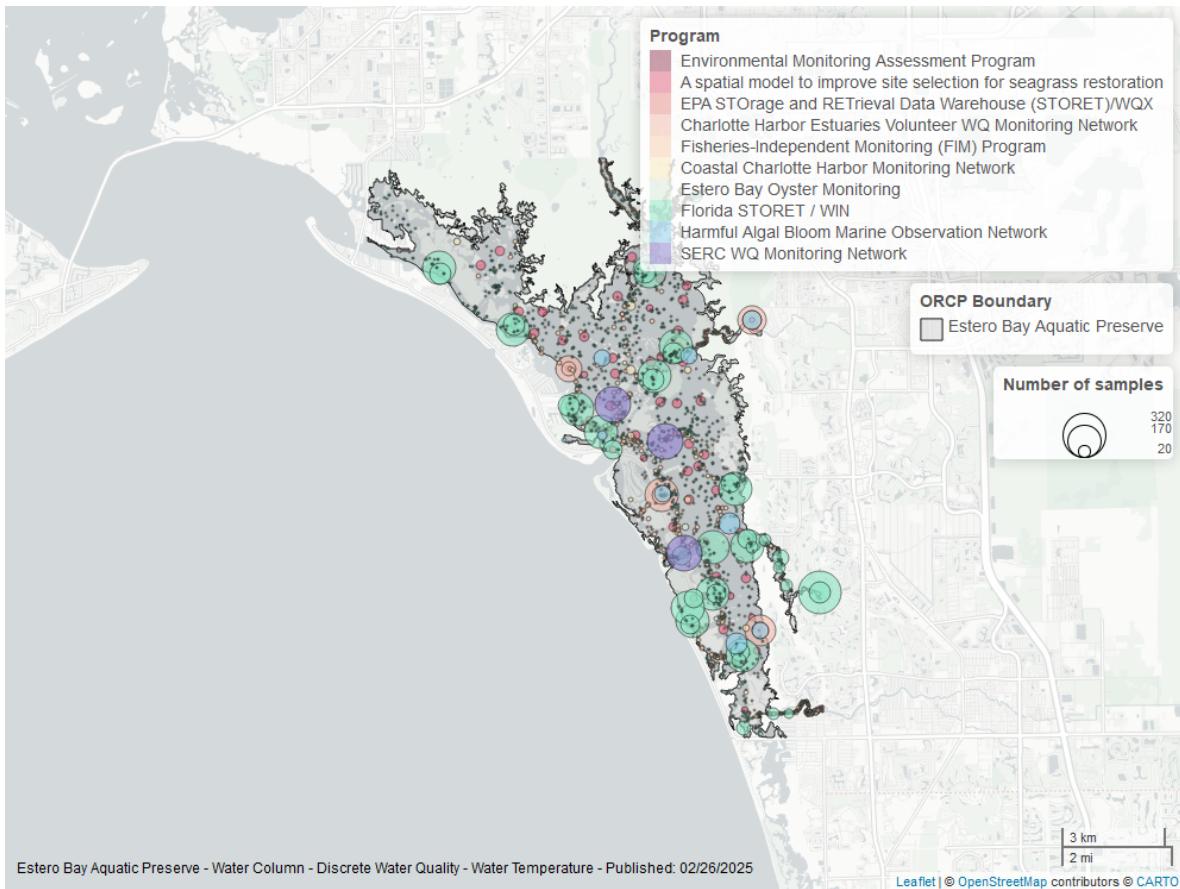


Table 9: Seasonal Kendall-Tau Results for - Water Temperature

Activity Type	Statistical Trend	Sample Count	Years with Data	Period of Record	Median Result Value	Tau	Sen Intercept	Sen Slope	P
Field	Significantly increasing trend	11243	39	1963 - 2024	26	0.09147	25.11041	0.01646	0.008787333077739838



Water Temperature - Continuous

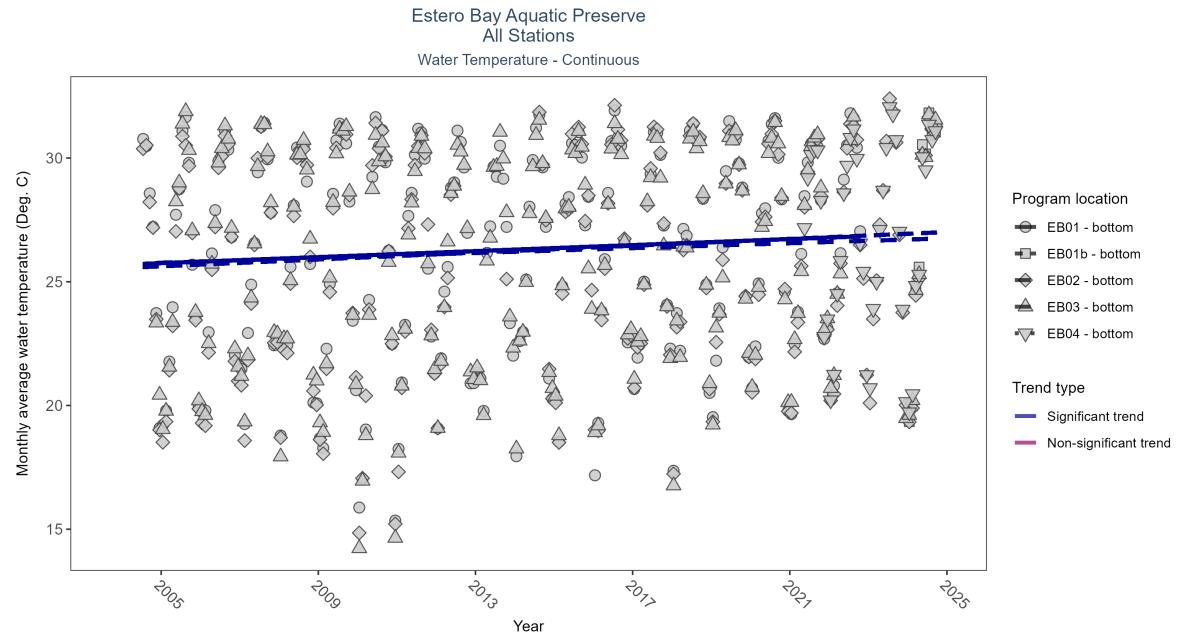
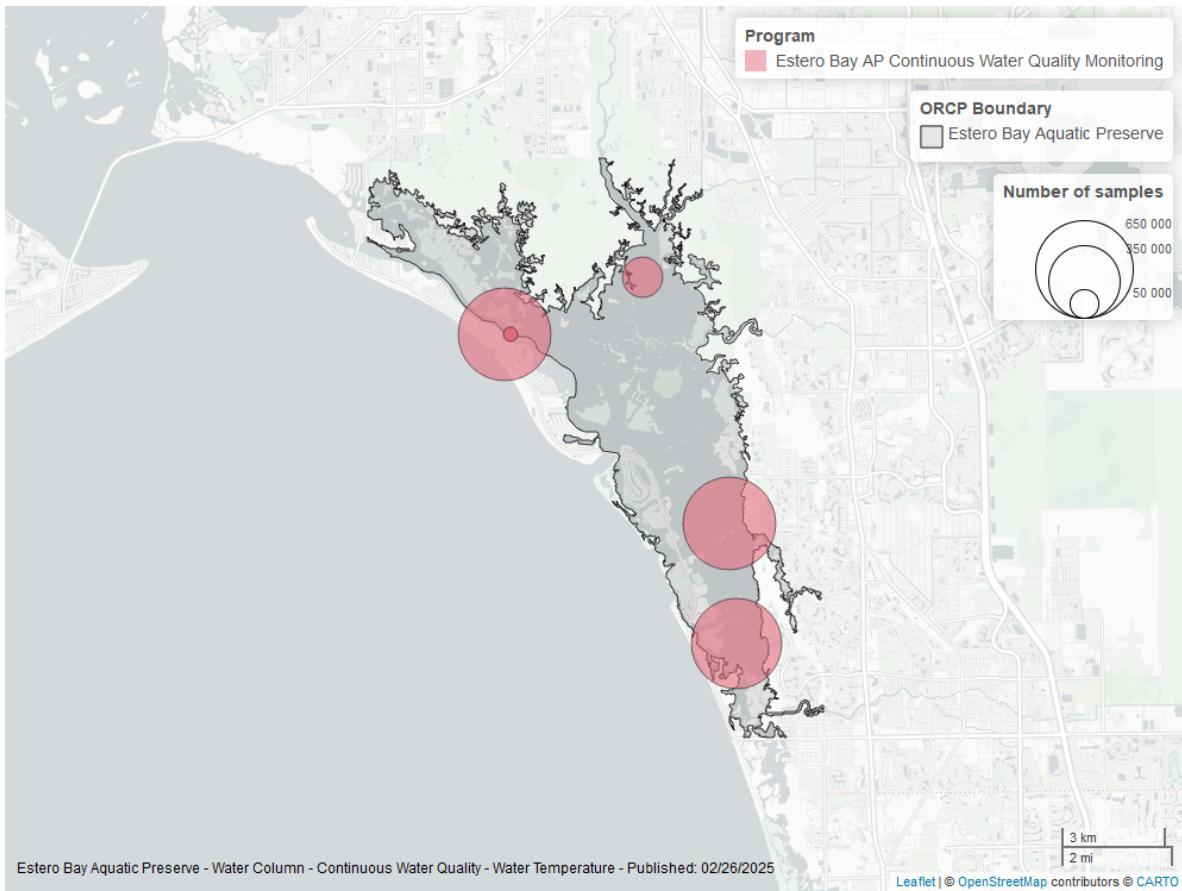


Table 10: Seasonal Kendall-Tau Results for All Stations - Water Temperature

Program Location	Statistical Trend	Sample Count	Years with Data	Period of Record	Median Result Value	Tau	Sen Intercept	Sen Slope	P
EB01	Significantly increasing trend	617636	19	2004 - 2022	26.8	0.25	25.69	0.06	0.00000055272801254
EB02	Significantly increasing trend	609843	21	2004 - 2024	26.6	0.33	25.55	0.07	0.00000000002209246
EB01b	Insufficient data to calculate trend	23561	1	2024 - 2024	29.7	-	-	-	NA
EB03	Significantly increasing trend	600244	21	2004 - 2024	26.5	0.19	25.72	0.05	0.00016027365179879
EB04	Insufficient data to calculate trend	118843	4	2021 - 2024	27.8	-	-	-	NA



pH - Discrete

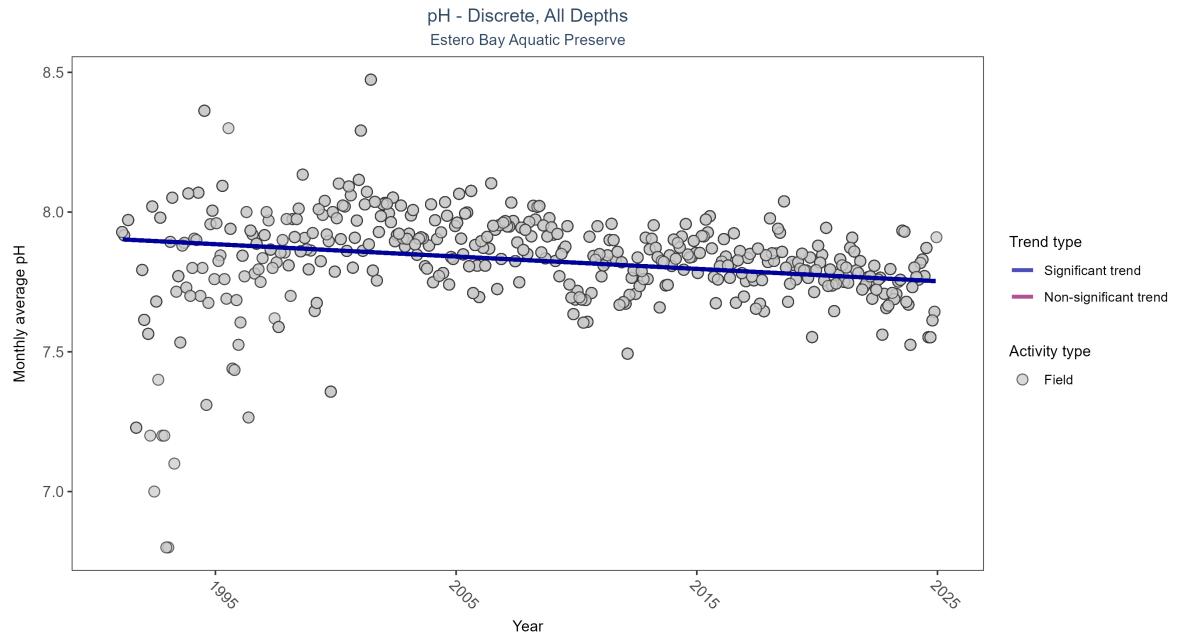
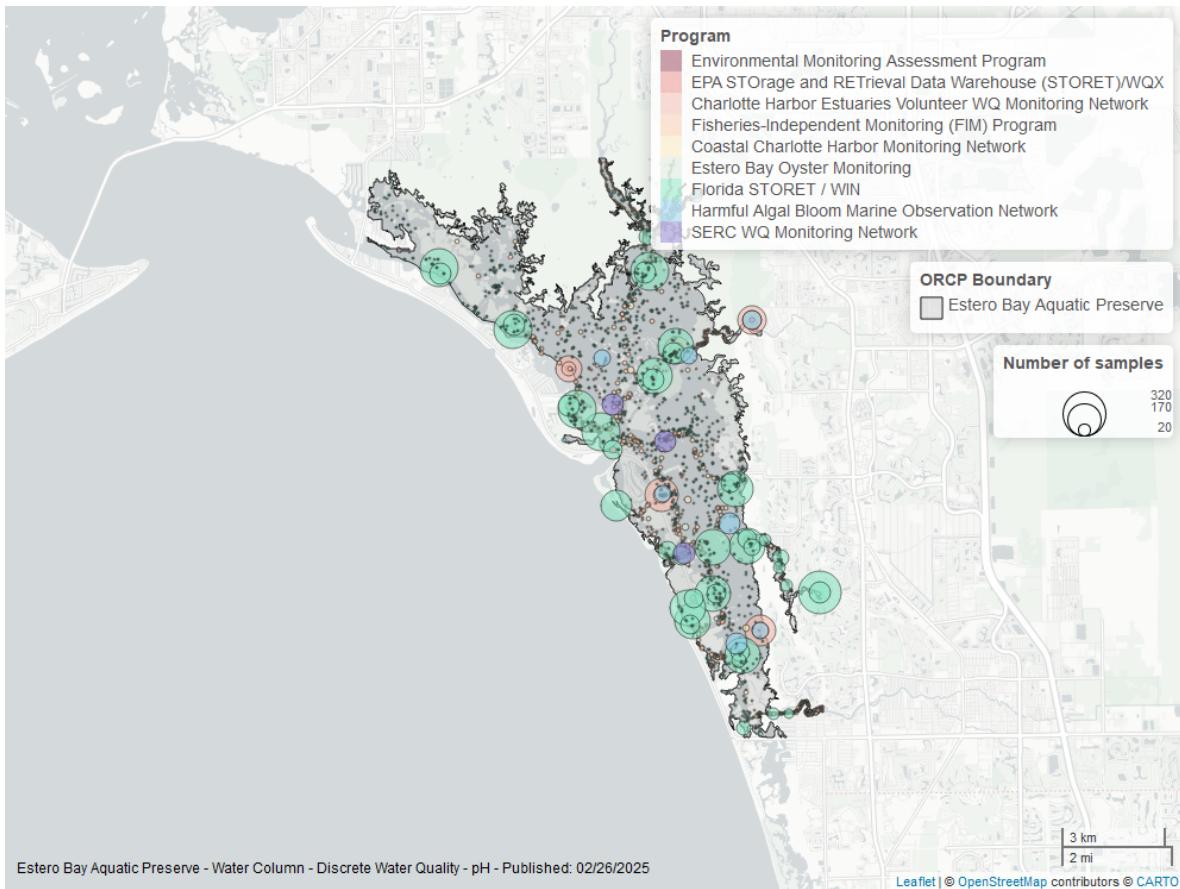


Table 11: Seasonal Kendall-Tau Results for - pH

Activity Type	Statistical Trend	Sample Count	Years with Data	Period of Record	Median Result Value	Tau	Sen Intercept	Sen Slope	P
Field	Significantly decreasing trend	10977	34	1991 - 2024	7.9	-0.19861	7.90276	-0.00442	0.0000001665741387859015976190615870855538



pH - Continuous

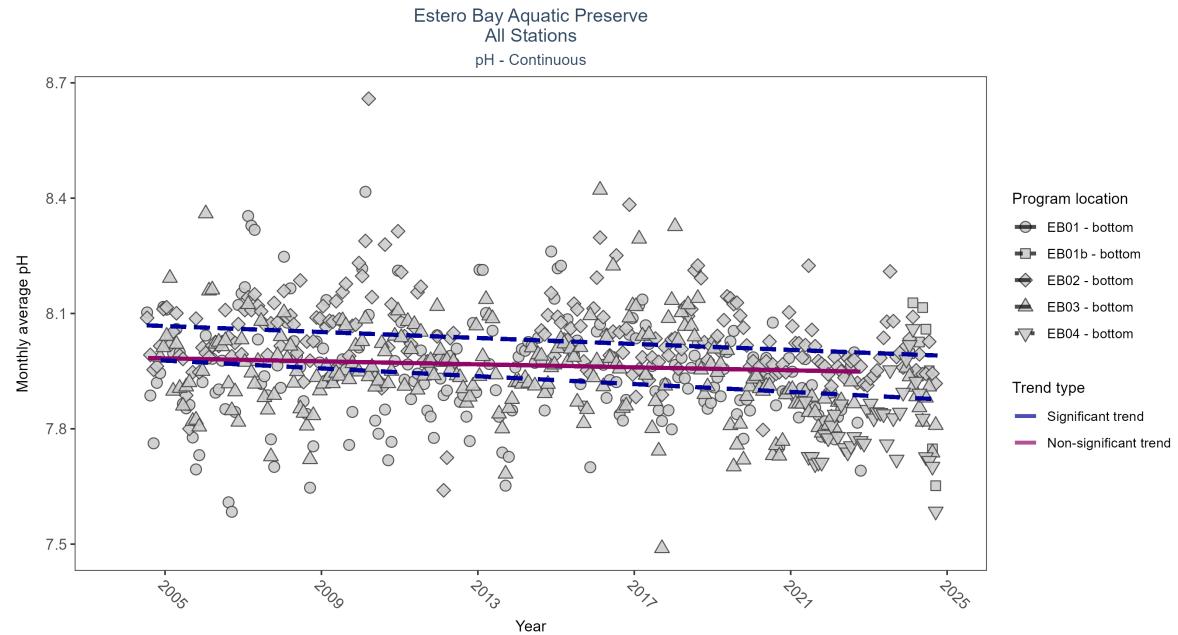
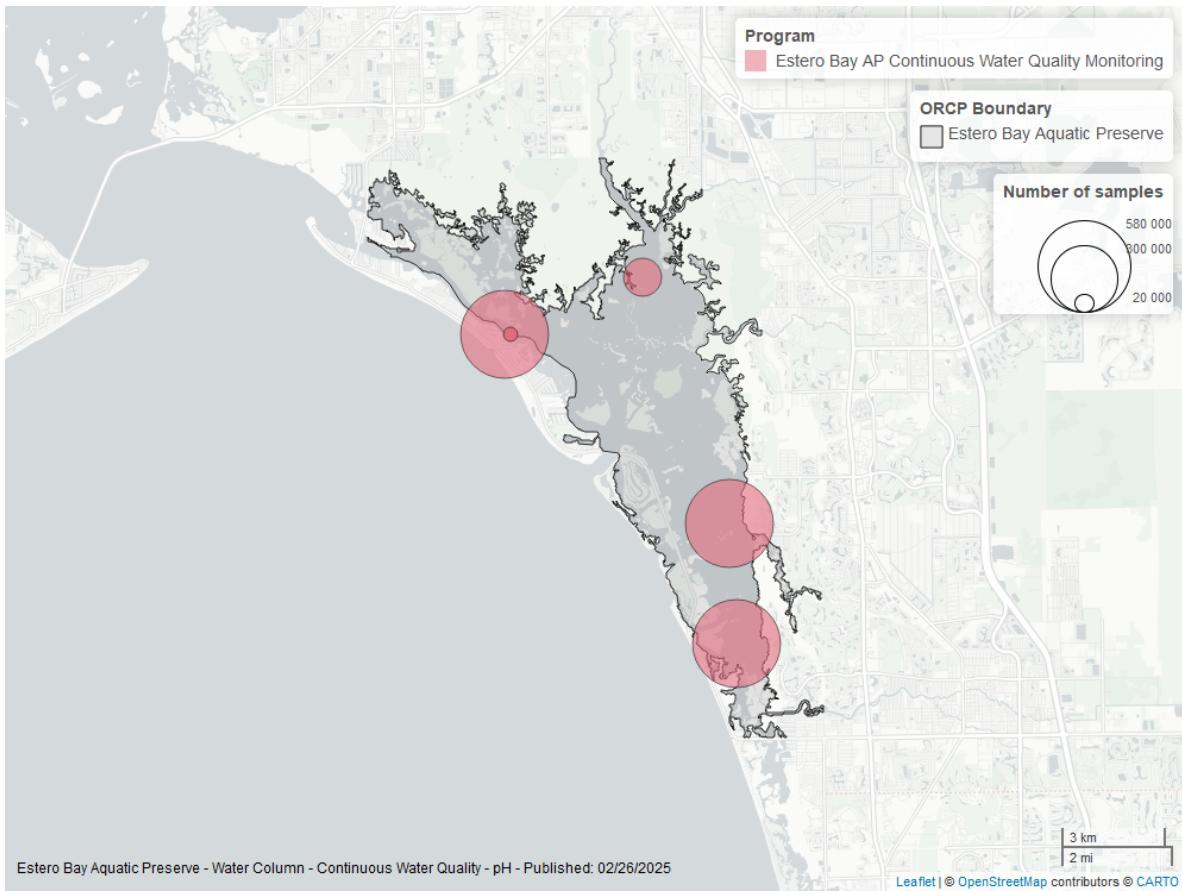


Table 12: Seasonal Kendall-Tau Results for All Stations - pH

Program Location	Statistical Trend	Sample Count	Years with Data	Period of Record	Median Result Value	Tau	Sen Intercept	Sen Slope	P
EB01	No significant trend	562188	19	2004 - 2022	7.9	-0.08	7.99	0	0.11574994550
EB02	Significantly decreasing trend	547192	20	2004 - 2024	8.0	-0.2	8.07	0	0.00007848289
EB01b	Insufficient data to calculate trend	23563	1	2024 - 2024	8.0	-	-	-	NA
EB03	Significantly decreasing trend	553331	21	2004 - 2024	7.9	-0.21	7.98	-0.01	0.00002006699
EB04	Insufficient data to calculate trend	113849	4	2021 - 2024	7.8	-	-	-	NA



Water Clarity

Turbidity - Discrete

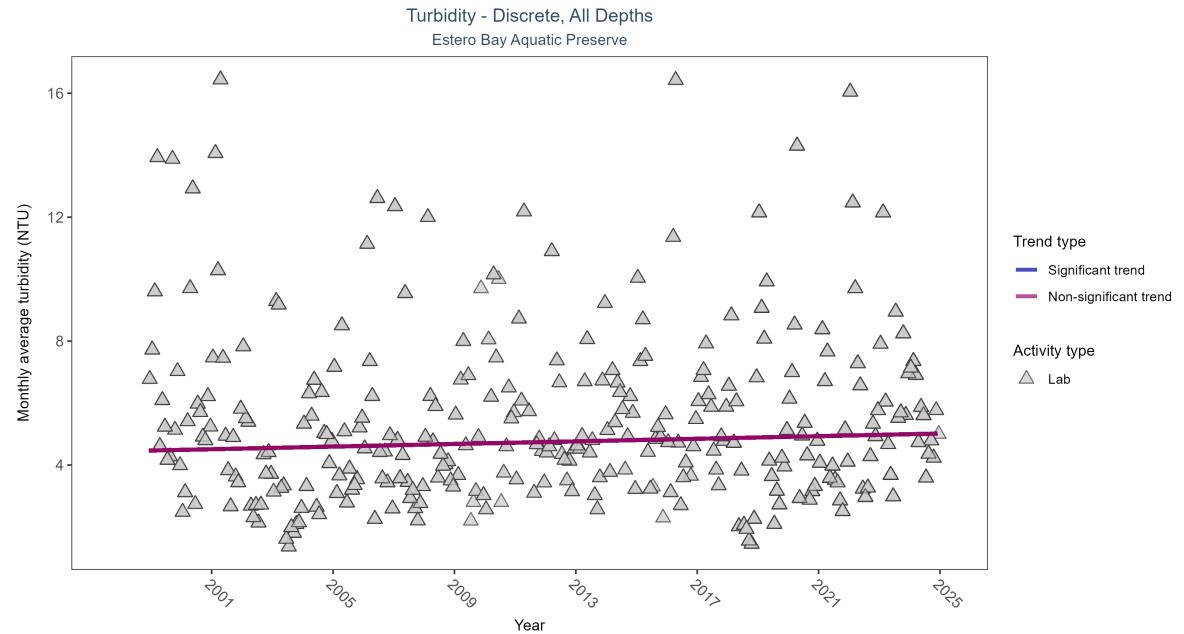
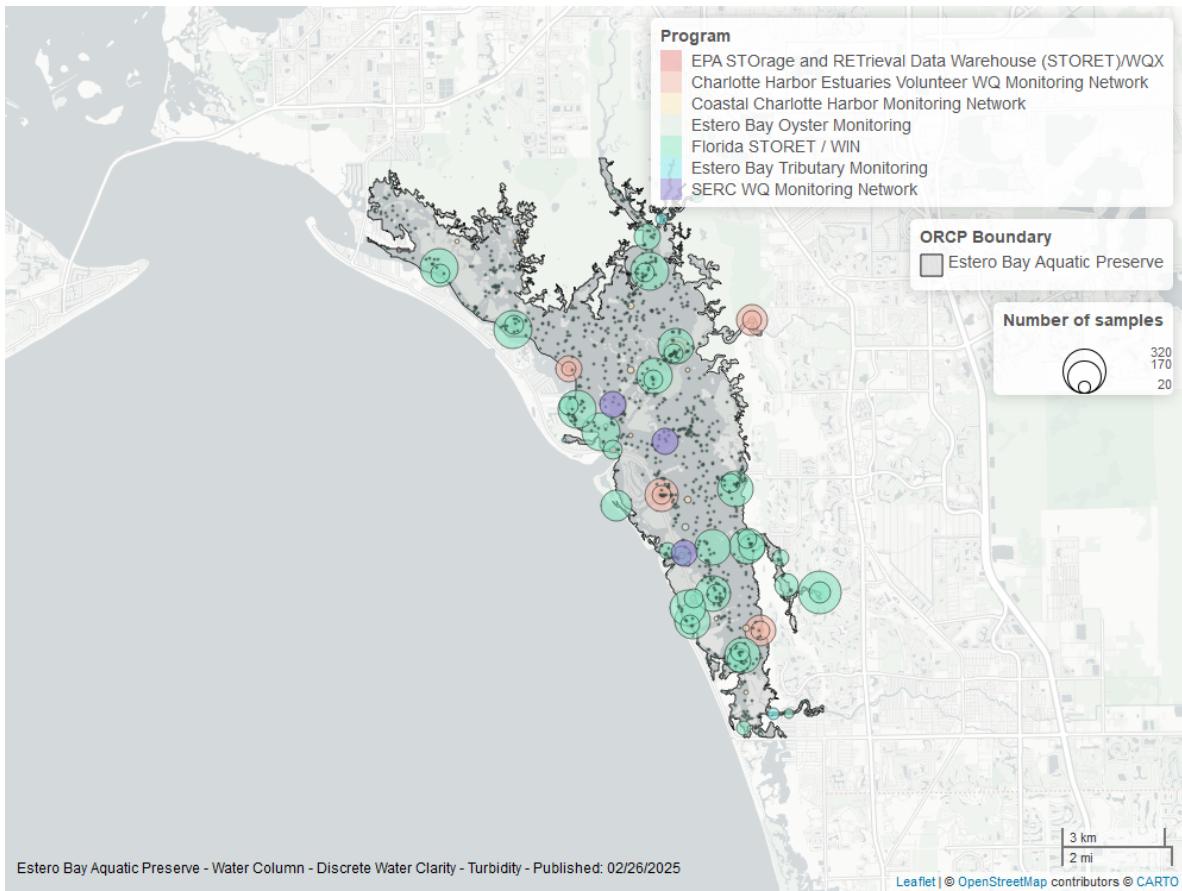


Table 13: Seasonal Kendall-Tau Results for - Turbidity

Activity Type	Statistical Trend	Sample Count	Years with Data	Period of Record	Median Result Value	Tau	Sen Intercept	Sen Slope	P
Lab	No significant trend	3042	27	1998 - 2024	4	0.05612	4.44689	0.02107	0.15410039660165858466



Turbidity - Continuous

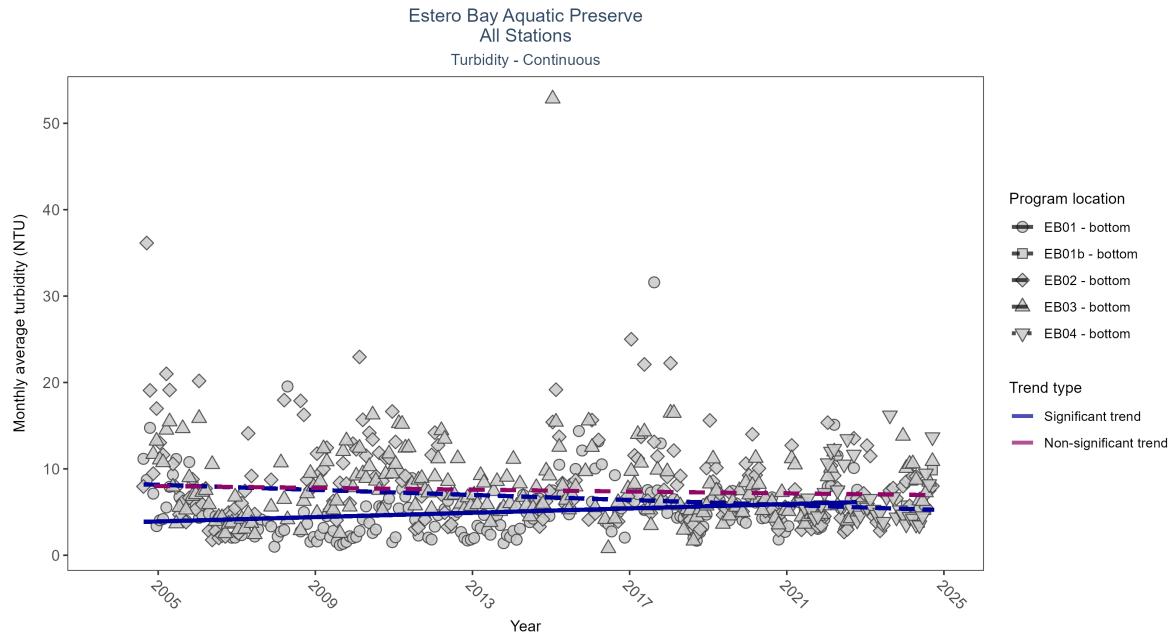
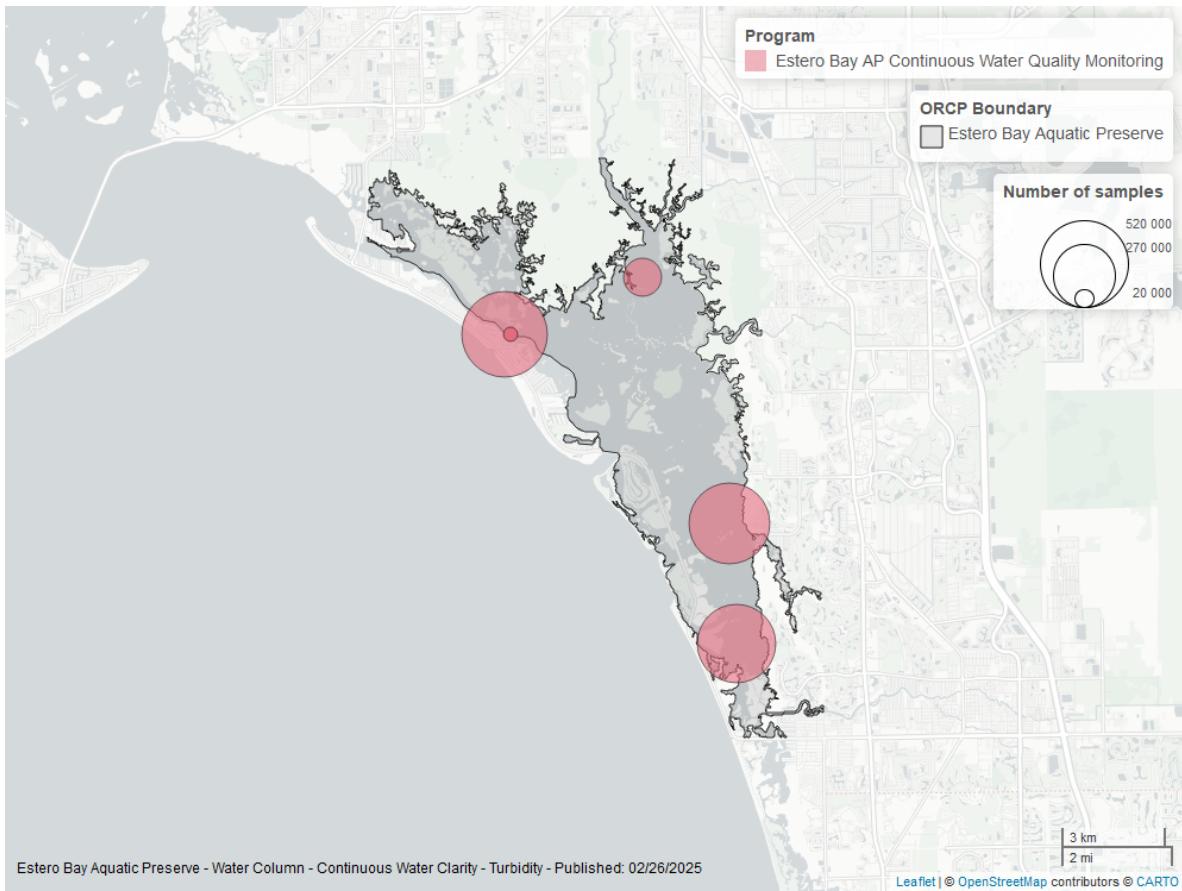


Table 14: Seasonal Kendall-Tau Results for All Stations - Turbidity

Program Location	Statistical Trend	Sample Count	Years with Data	Period of Record	Median Result Value	Tau	Sen Intercept	Sen Slope	P
EB01	Significantly increasing trend	510965	19	2004 - 2022	4	0.18	3.79	0.13	0.0004849459134610107973948
EB01b	Insufficient data to calculate trend	22383	1	2024 - 2024	5	-	-	-	NA
EB02	Significantly decreasing trend	460772	20	2004 - 2024	5	-0.18	8.3	-0.15	0.0010990138896204342065094
EB03	No significant trend	441554	21	2004 - 2024	6	-0.08	8.07	-0.05	0.1585989706881163197049744
EB04	Insufficient data to calculate trend	108414	4	2021 - 2024	5	-	-	-	NA



Total Suspended Solids - Discrete

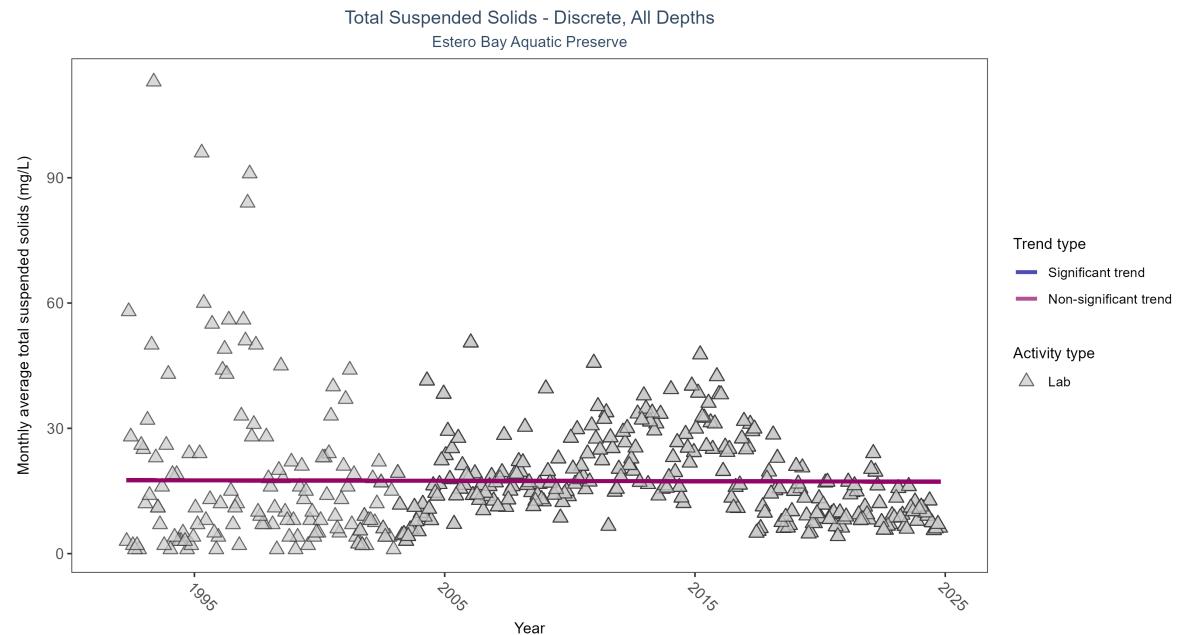
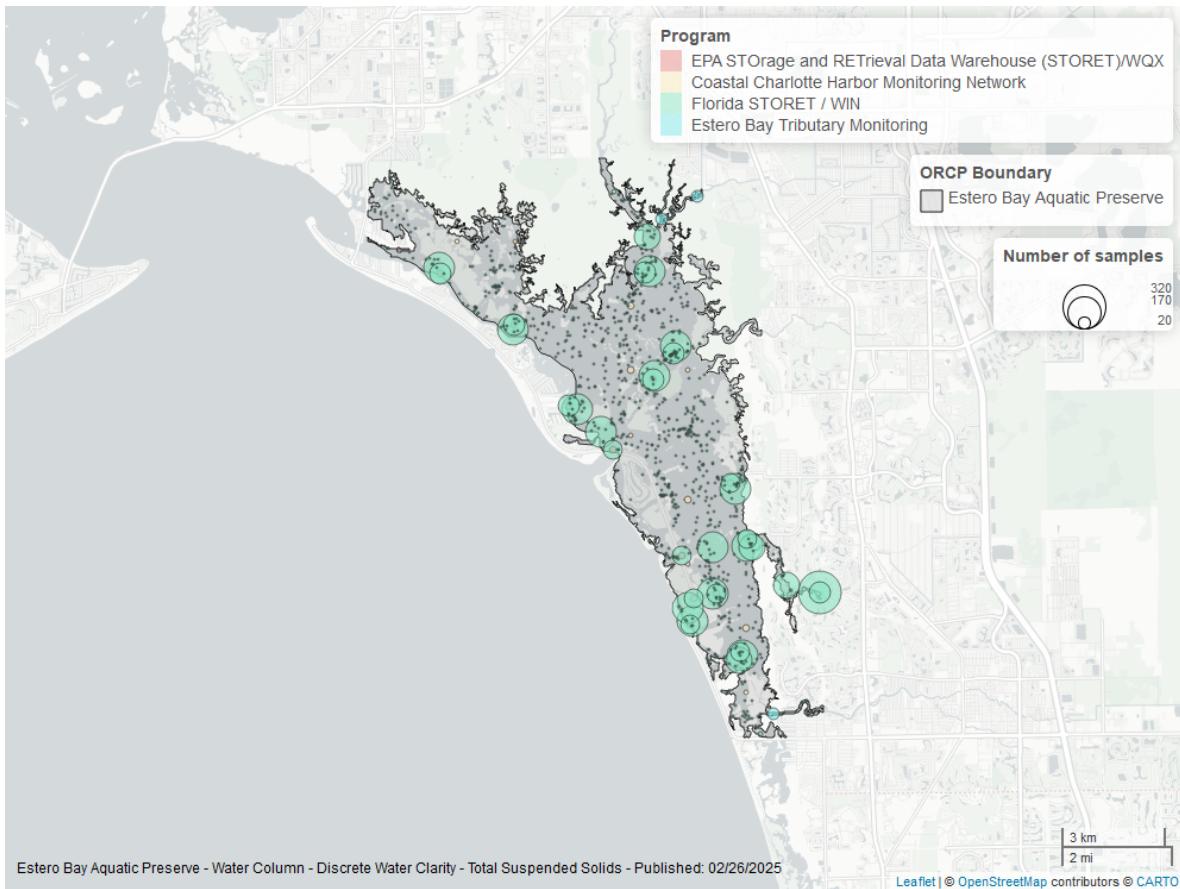


Table 15: Seasonal Kendall-Tau Results for - Total Suspended Solids

Activity Type	Statistical Trend	Sample Count	Years with Data	Period of Record	Median Result Value	Tau	Sen Intercept	Sen Slope	P
Lab	No significant trend	5468	33	1992 - 2024	13.9	-0.00942	17.57222	-0.01047	0.782158313219423861895052141335327



Chlorophyll a, Uncorrected for Pheophytin - Discrete

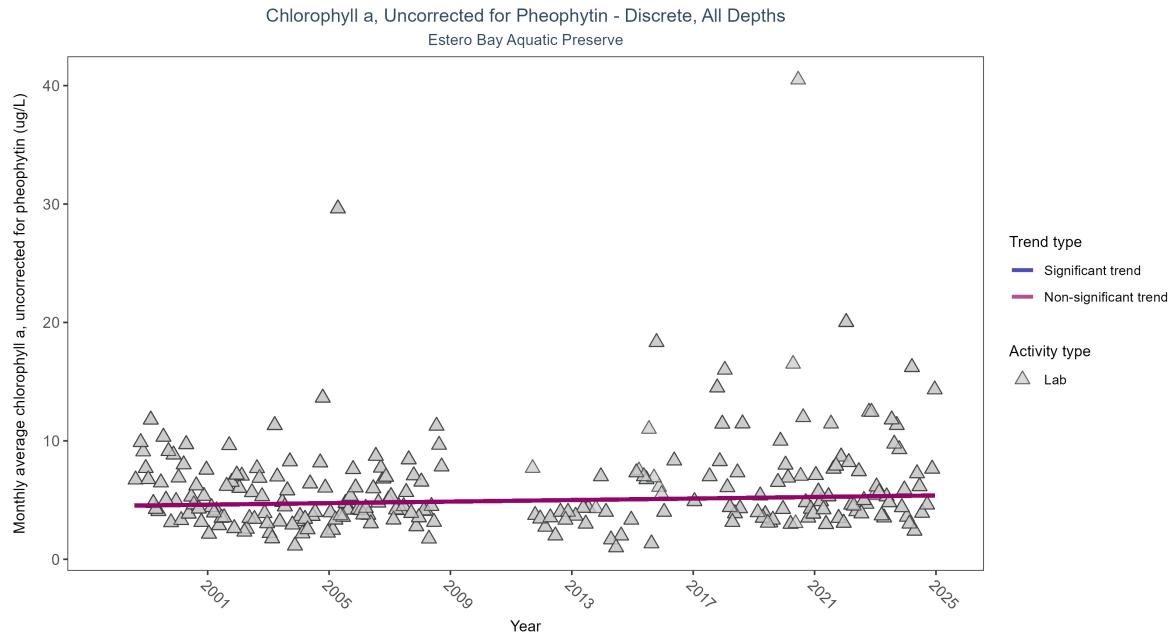
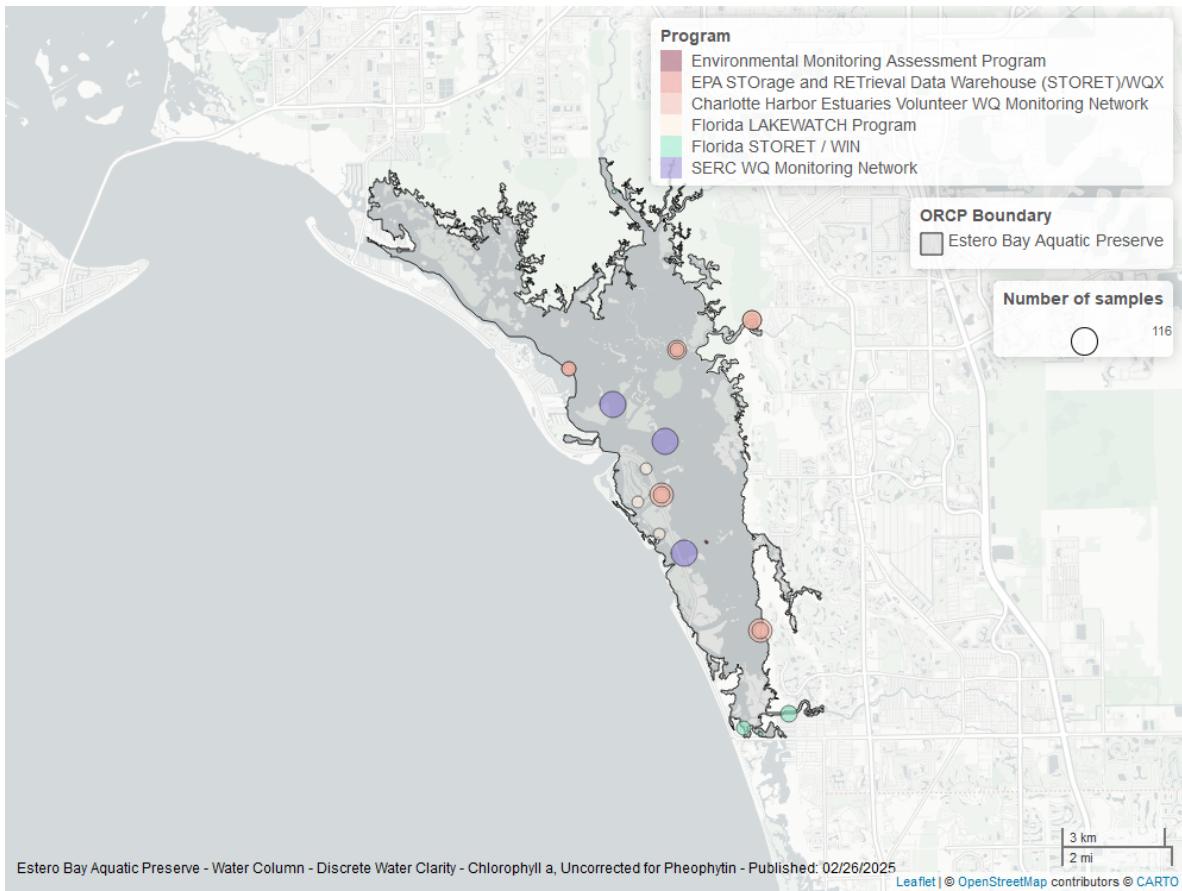


Table 16: Seasonal Kendall-Tau Results for - Chlorophyll a, Uncorrected for Pheophytin

Activity Type	Statistical Trend	Sample Count	Years with Data	Period of Record	Median Result Value	Tau	Sen Intercept	Sen Slope	P
Lab	No significant trend	1245	25	1998 - 2024	4.3271	0.08734	4.51467	0.03239	0.05921683562802530775837084



Chlorophyll a, Corrected for Pheophytin - Discrete

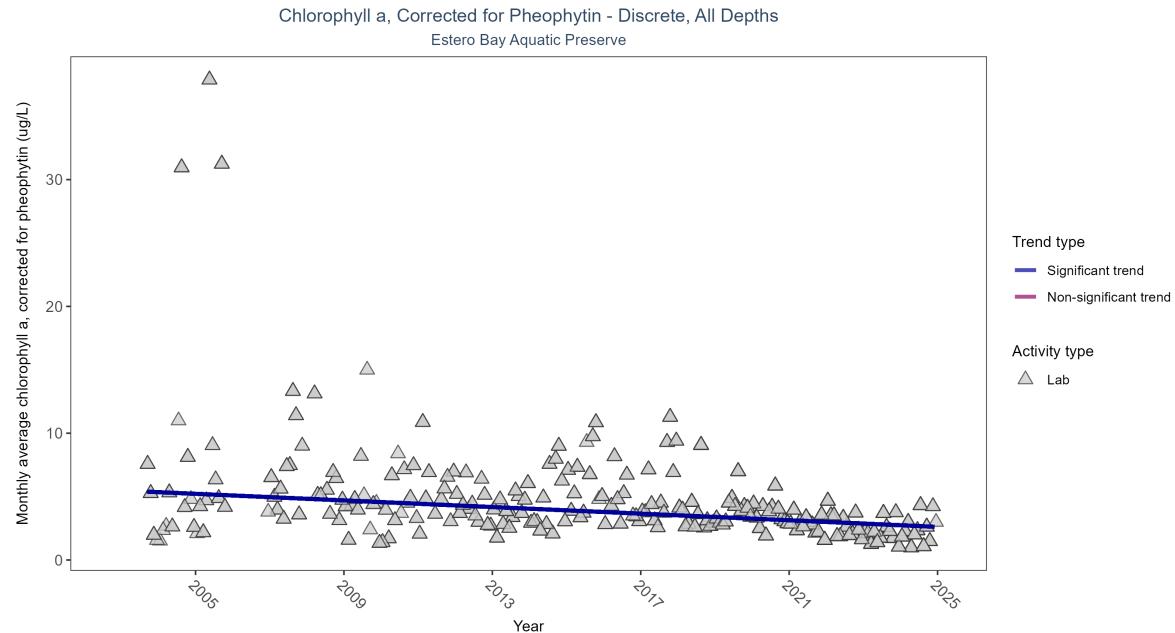
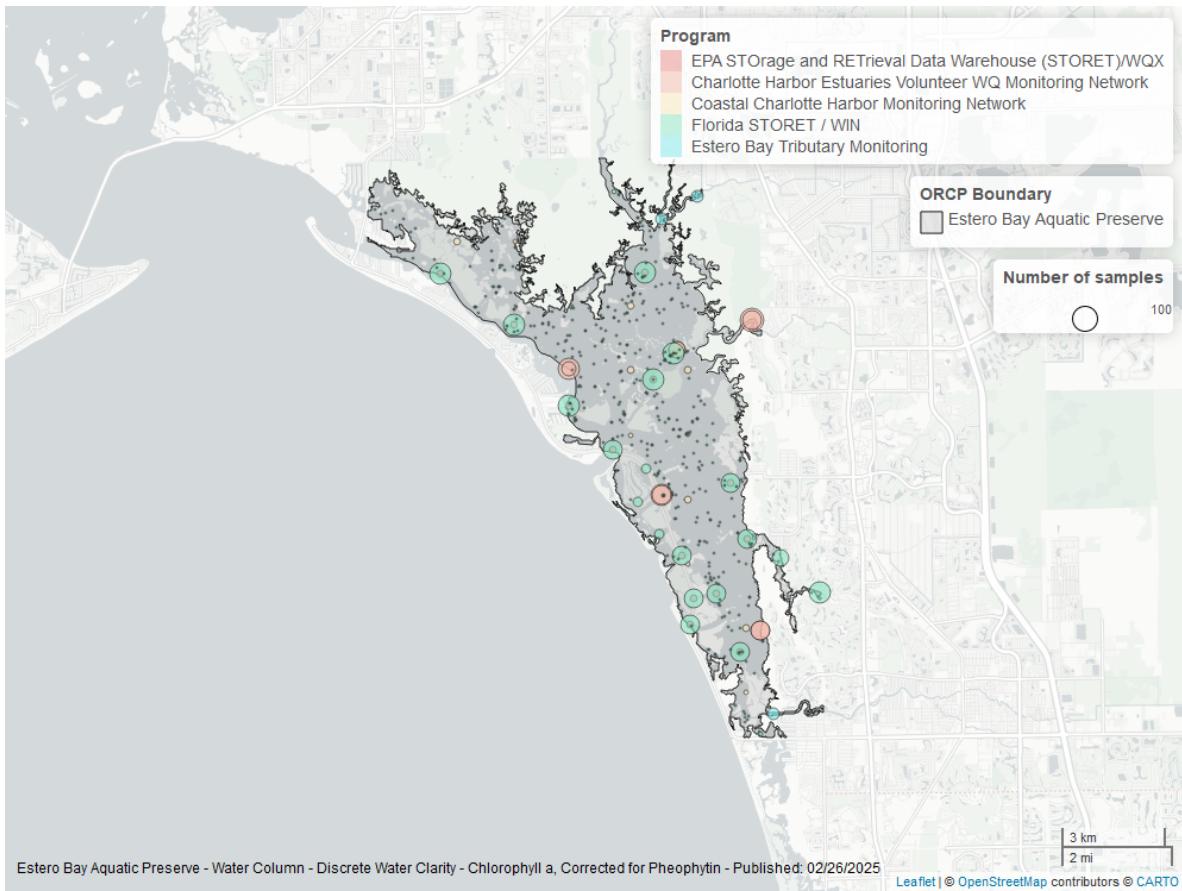


Table 17: Seasonal Kendall-Tau Results for - Chlorophyll a, Corrected for Pheophytin

Activity Type	Statistical Trend	Sample Count	Years with Data	Period of Record	Median Result Value	Tau	Sen Intercept	Sen Slope	P
Lab	Significantly decreasing trend	2545	22	2003 - 2024	2.7	-0.28994	5.47927	-0.13036	0.000000011412000041366274131



Secchi Depth - Discrete

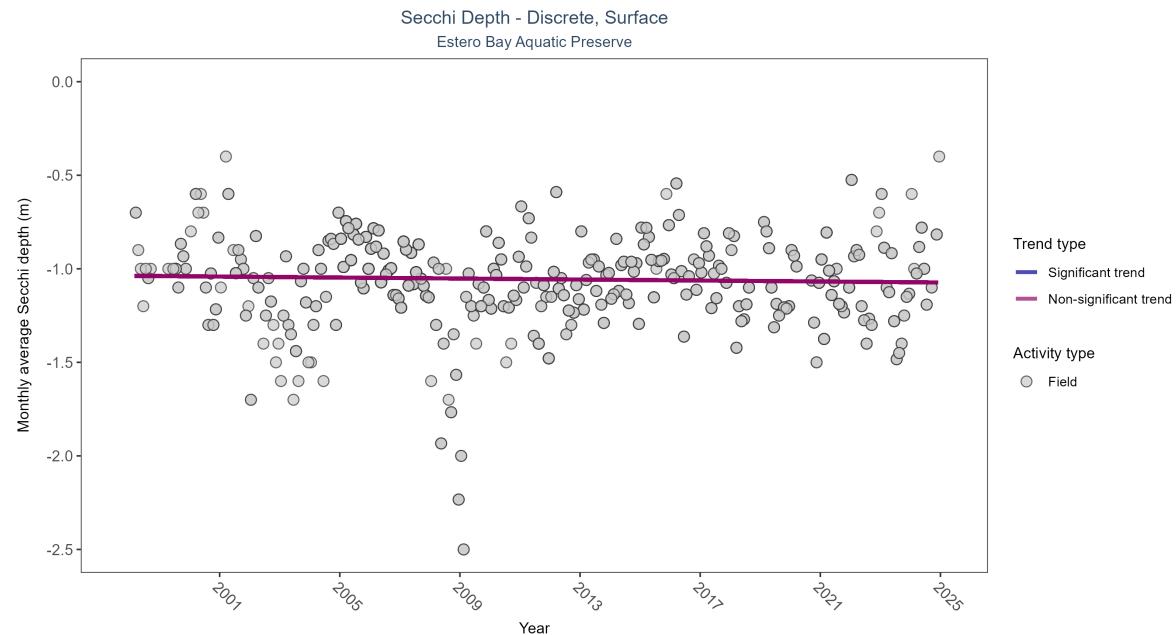
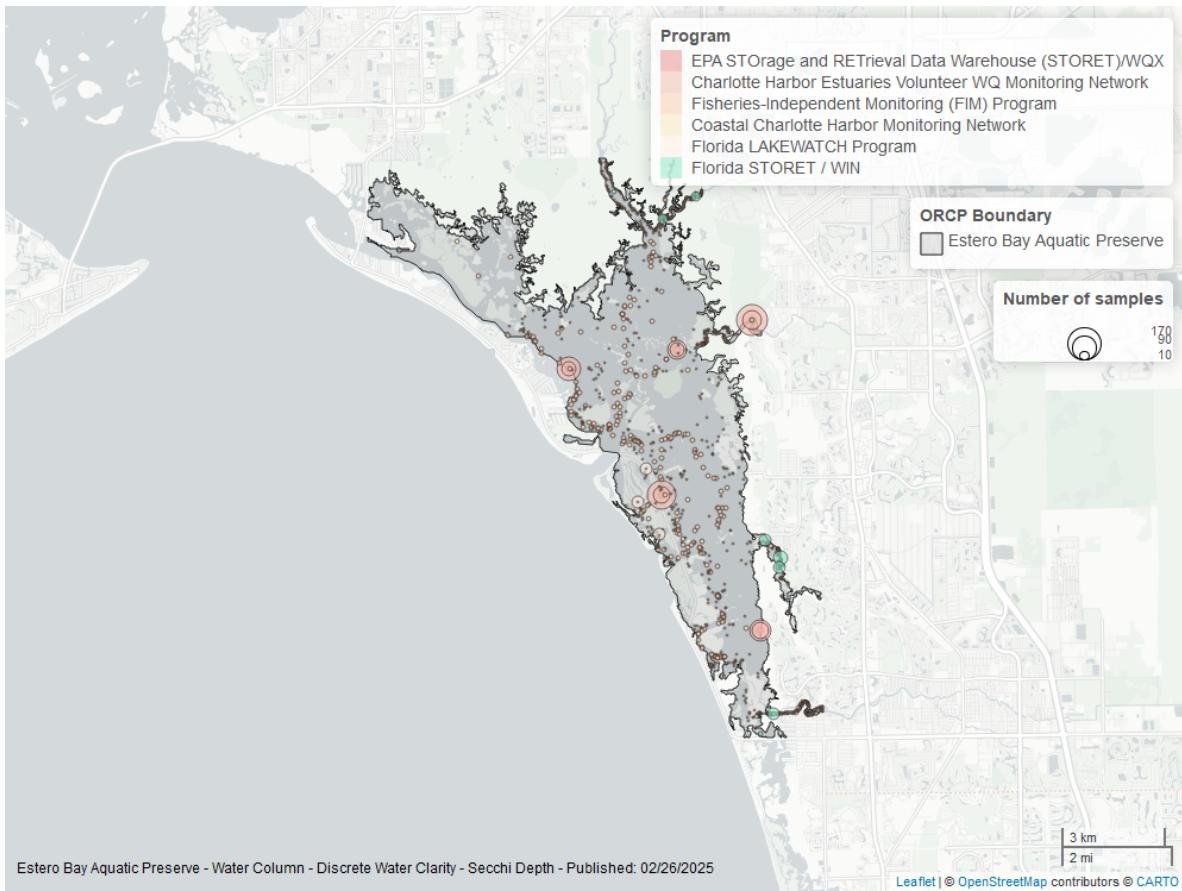


Table 18: Seasonal Kendall-Tau Results for - Secchi Depth

Activity Type	Statistical Trend	Sample Count	Years with Data	Period of Record	Median Result Value	Tau	Sen Intercept	Sen Slope	P
Field	No significant trend	3388	27	1998 - 2024	-0.9	-0.03045	-1.03761	-0.00132	0.4075488238030918197729590701783



Colored Dissolved Organic Matter - Discrete

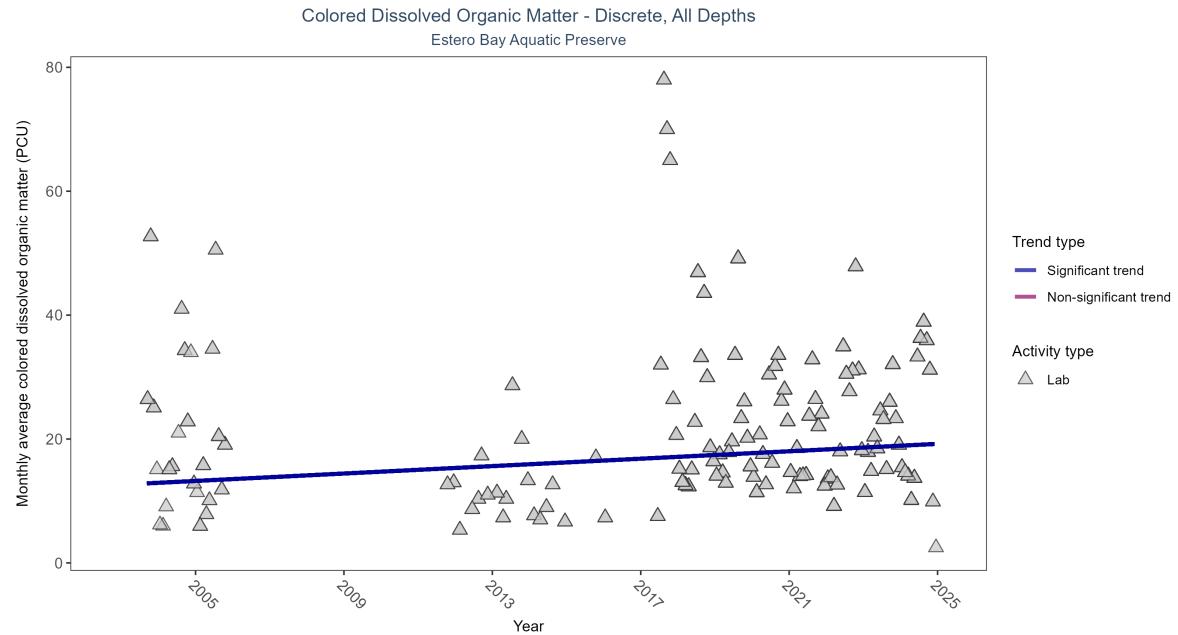


Table 19: Seasonal Kendall-Tau Results for - Colored Dissolved Organic Matter

Activity Type	Statistical Trend	Sample Count	Years with Data	Period of Record	Median Result Value	Tau	Sen Intercept	Sen Slope	P
Lab	Significantly increasing trend	1984	17	2003 - 2024	14.4	0.19752	12.63436	0.29925	0.003111517791593194914856

