

Estero Bay Aquatic Preserve

SEACAR Water Quality Analysis

Last compiled on 06 March, 2025

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Indicators

Nutrients

Total Nitrogen - Discrete

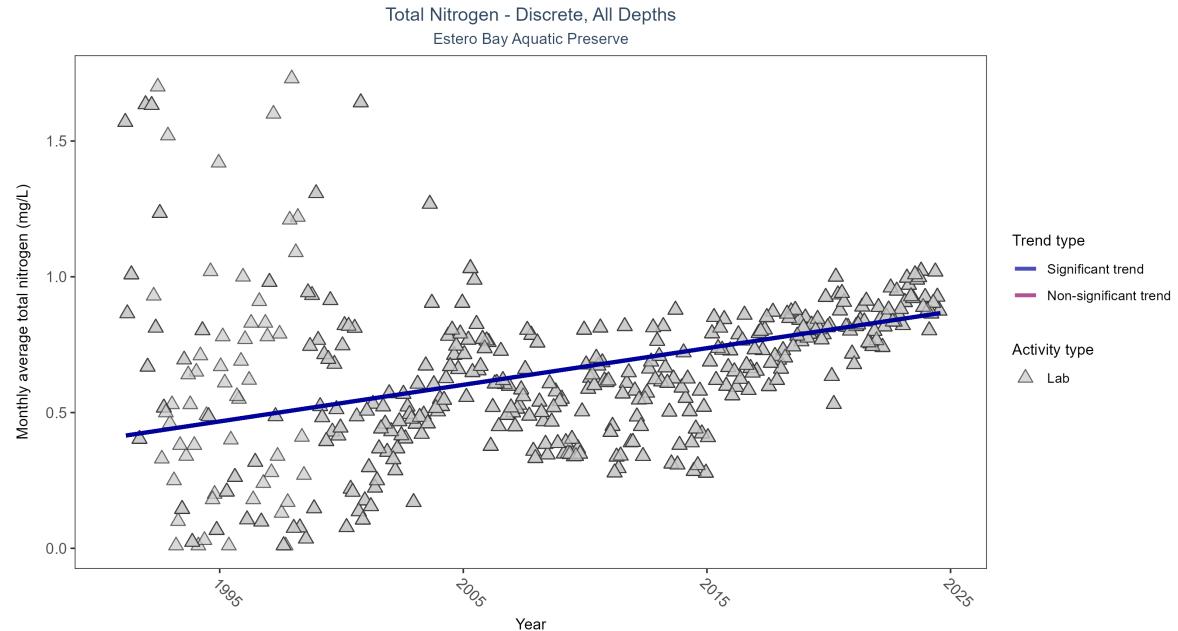
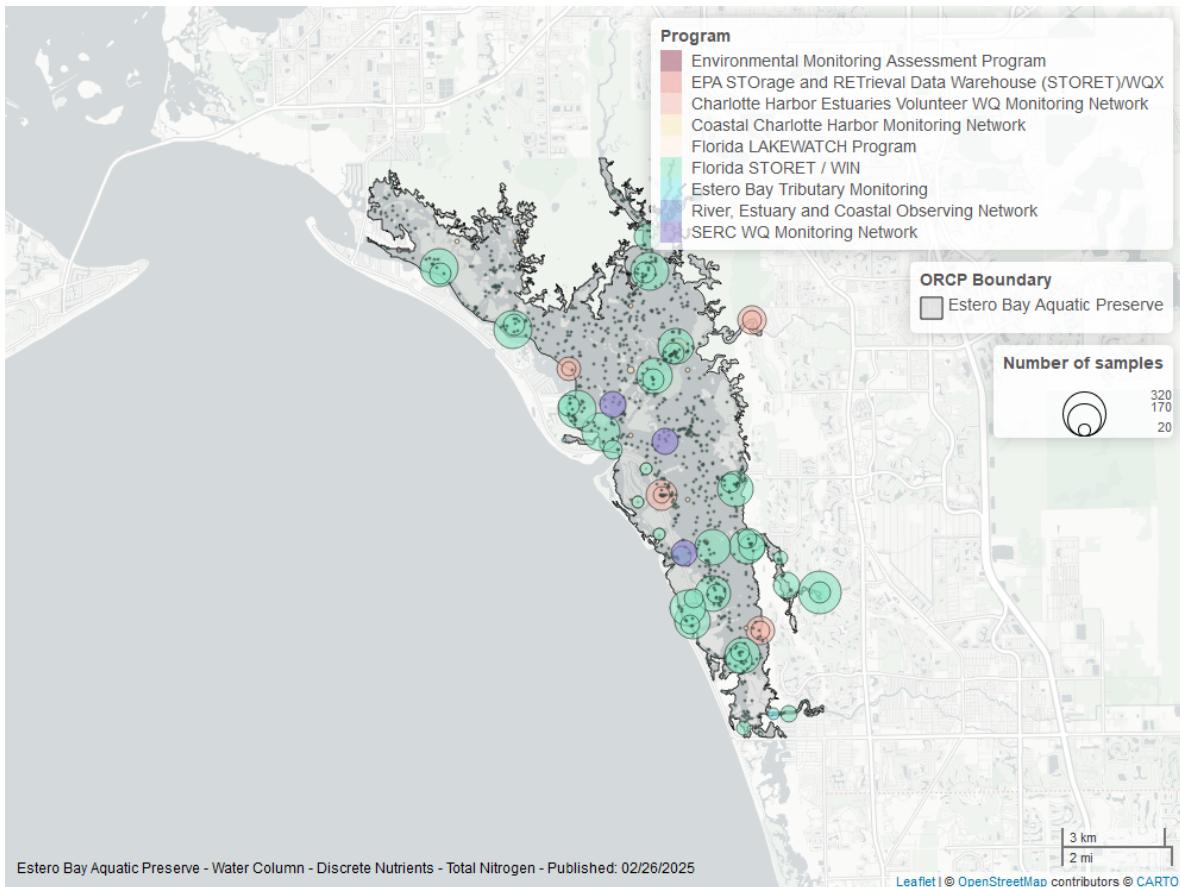


Table 1: Seasonal Kendall-Tau Results for - Total Nitrogen

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	7880	34	1991 - 2024	0.64	0.3193	0.4134	0.01349	0.0000



Total Phosphorus - Discrete

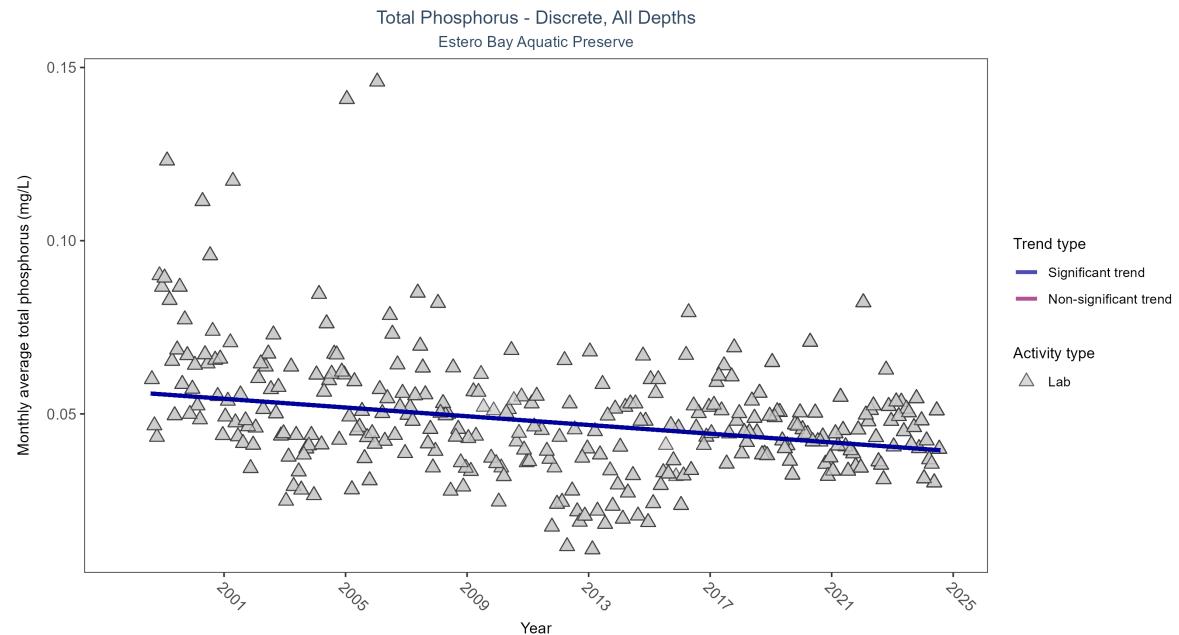
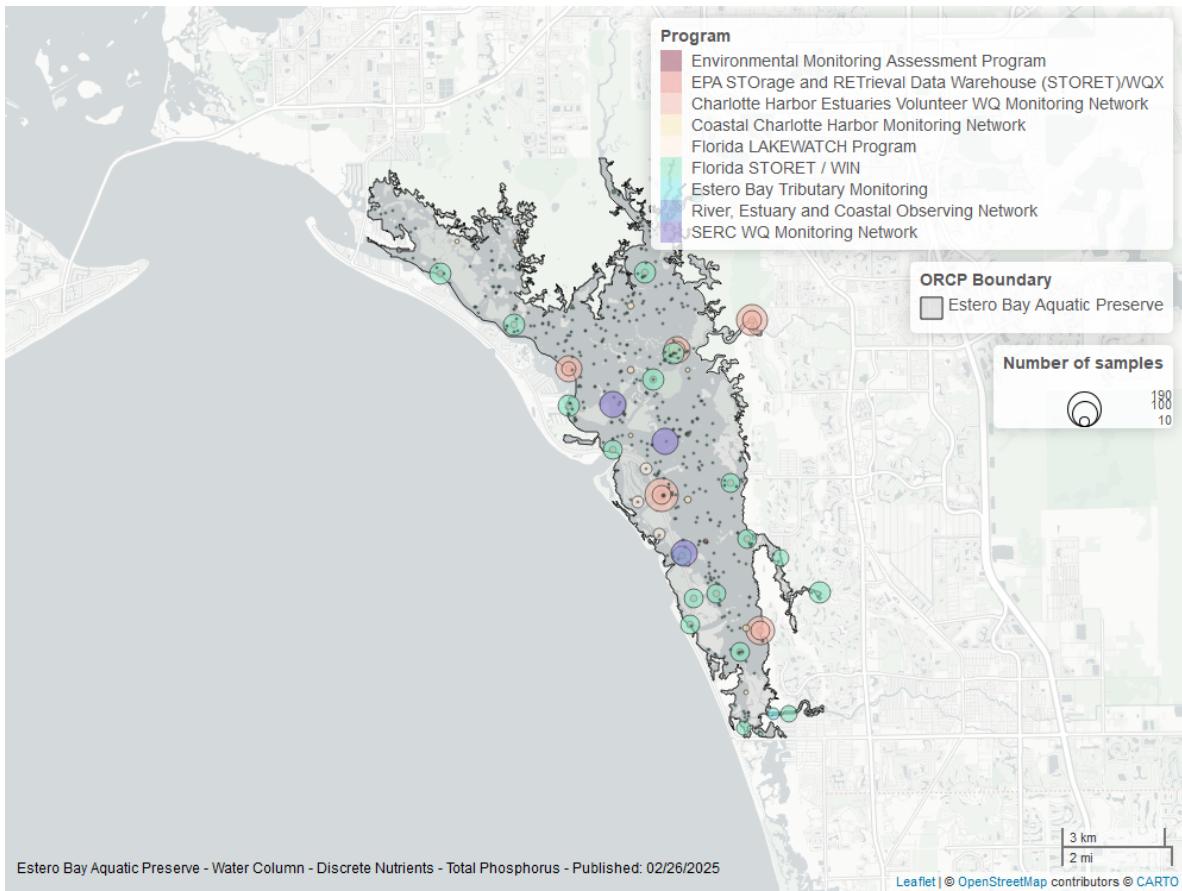


Table 2: Seasonal Kendall-Tau Results for - Total Phosphorus

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	3392	27	1998 - 2024	0.043	-0.2495	0.05626	-0.00063	0.0000



Water Quality

Dissolved Oxygen - Discrete

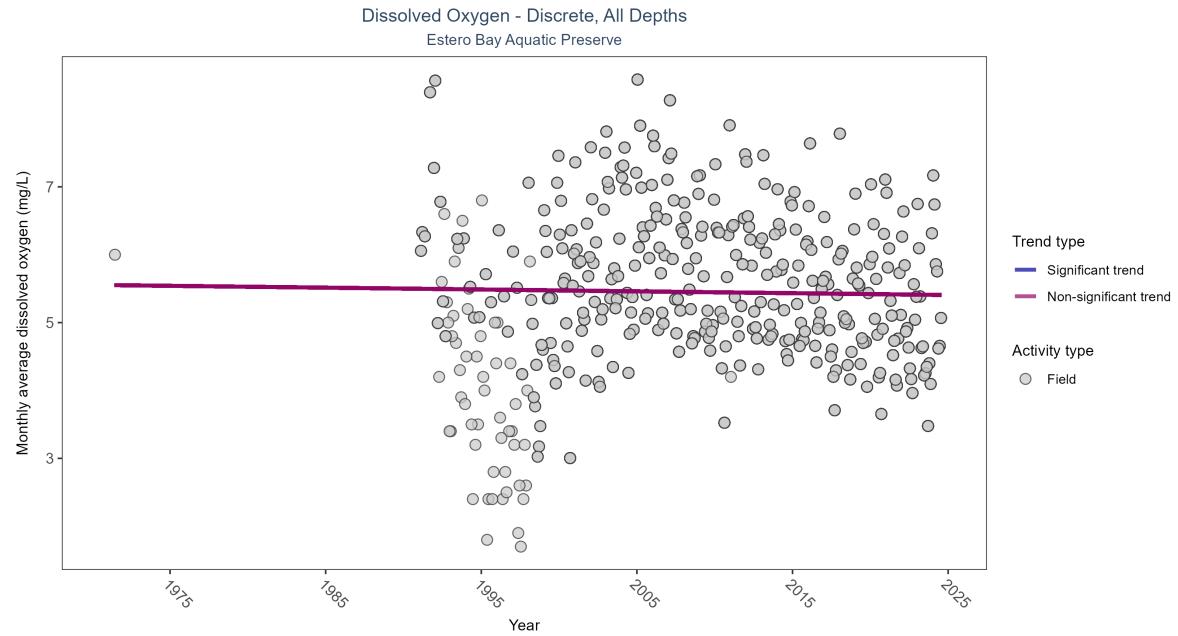
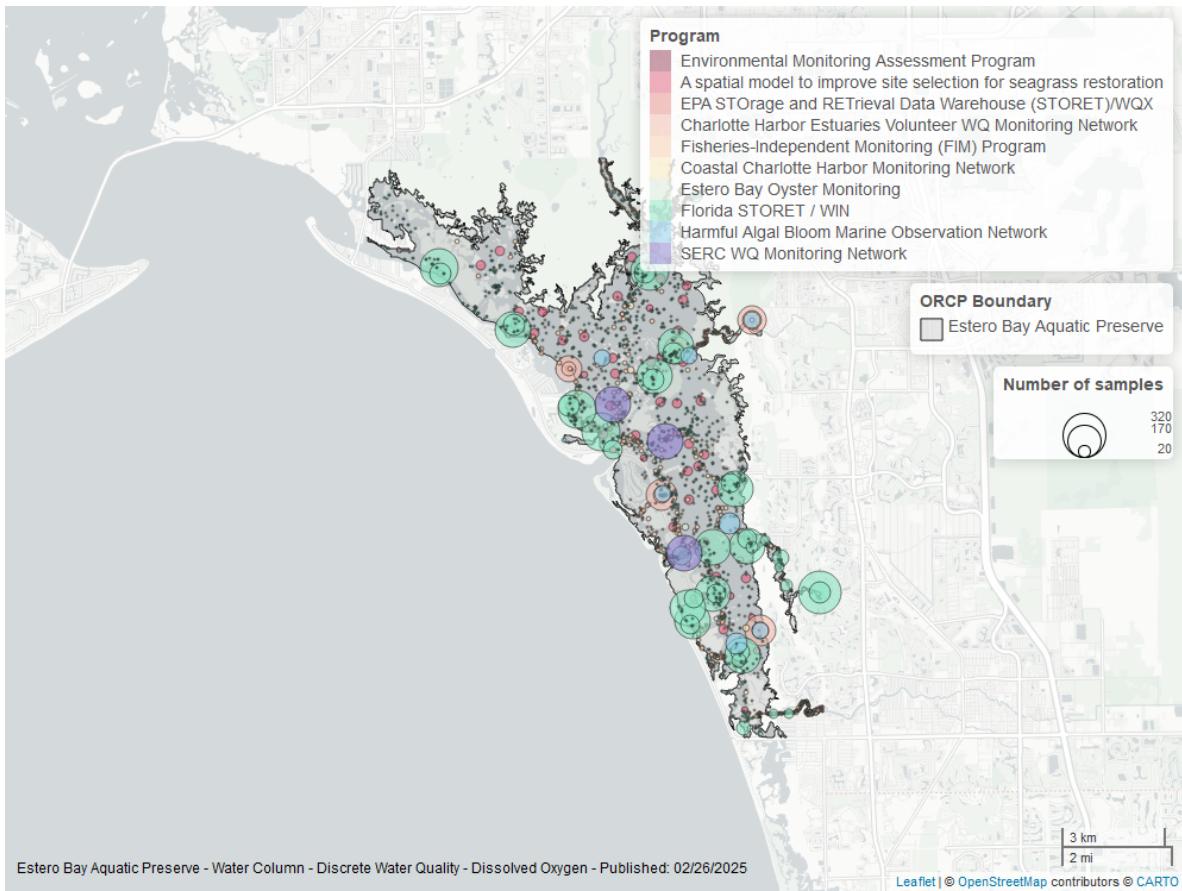


Table 3: Seasonal Kendall-Tau Results for - Dissolved Oxygen

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	11569	35	1971 - 2024	5.8	-0.024	5.55254	-0.00271	0.5125



Dissolved Oxygen - Continuous

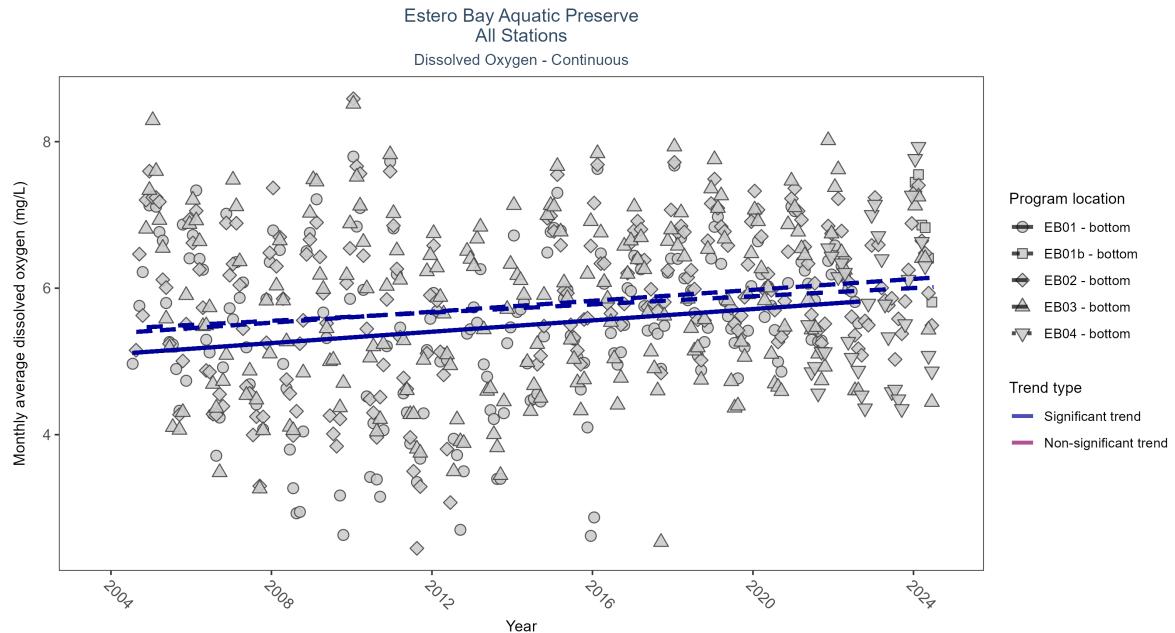
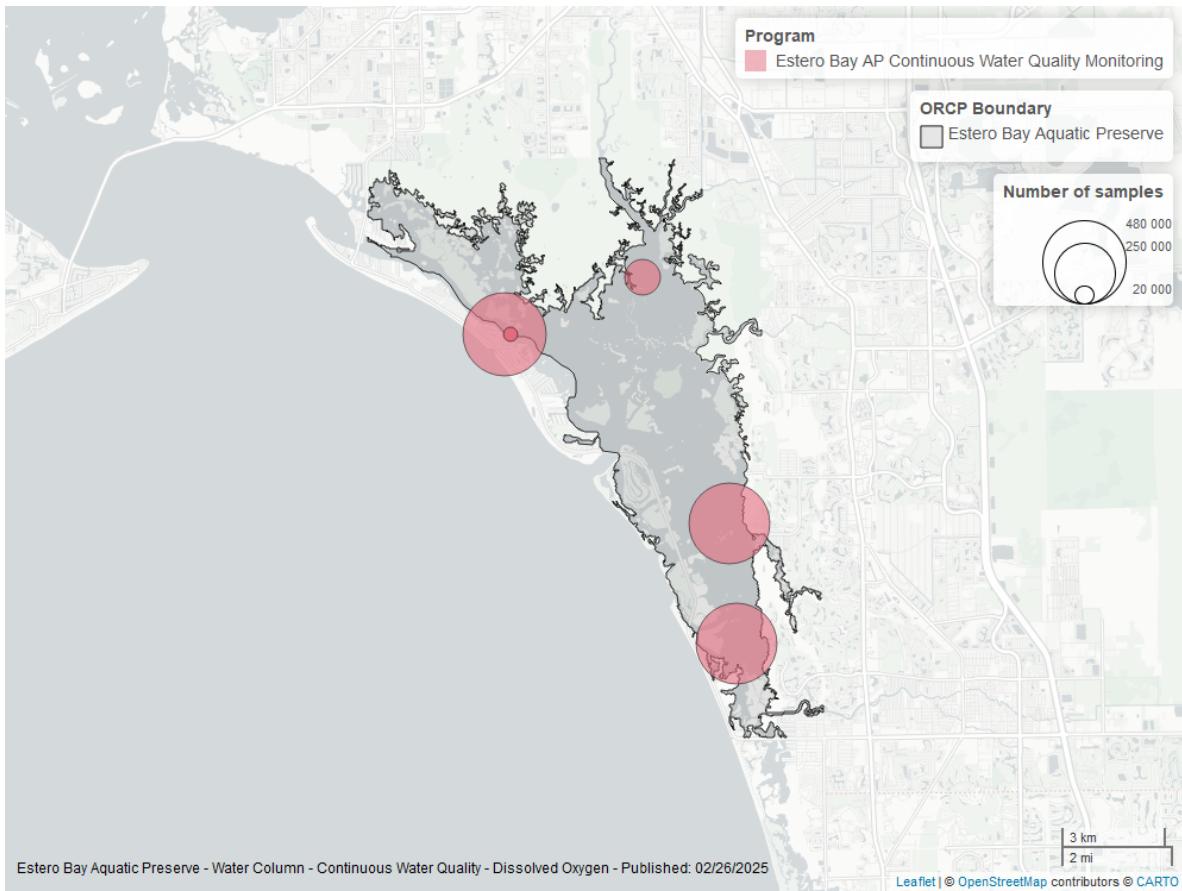


Table 4: Seasonal Kendall-Tau Results for All Stations - Dissolved Oxygen

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	0.0000
EB02	Significantly increasing trend	469426	20	2004 - 2024	6.1	0.25	5.38	0.04	0.0000
EB03	Significantly increasing trend	456247	20	2004 - 2024	5.9	0.18	5.44	0.03	0.0005
EB04	Insufficient data to calculate trend	92255	4	2021 - 2024	5.8	-	-	-	NA
EB01b	Insufficient data to calculate trend	14736	1	2024 - 2024	6.9	-	-	-	NA



Dissolved Oxygen Saturation - Discrete

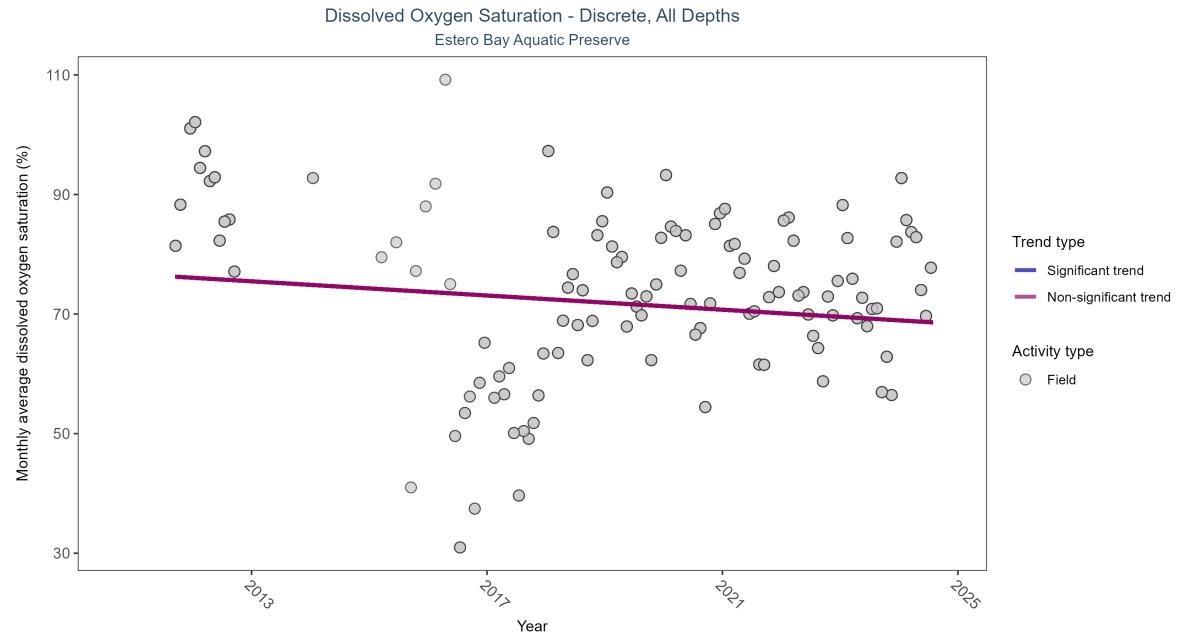
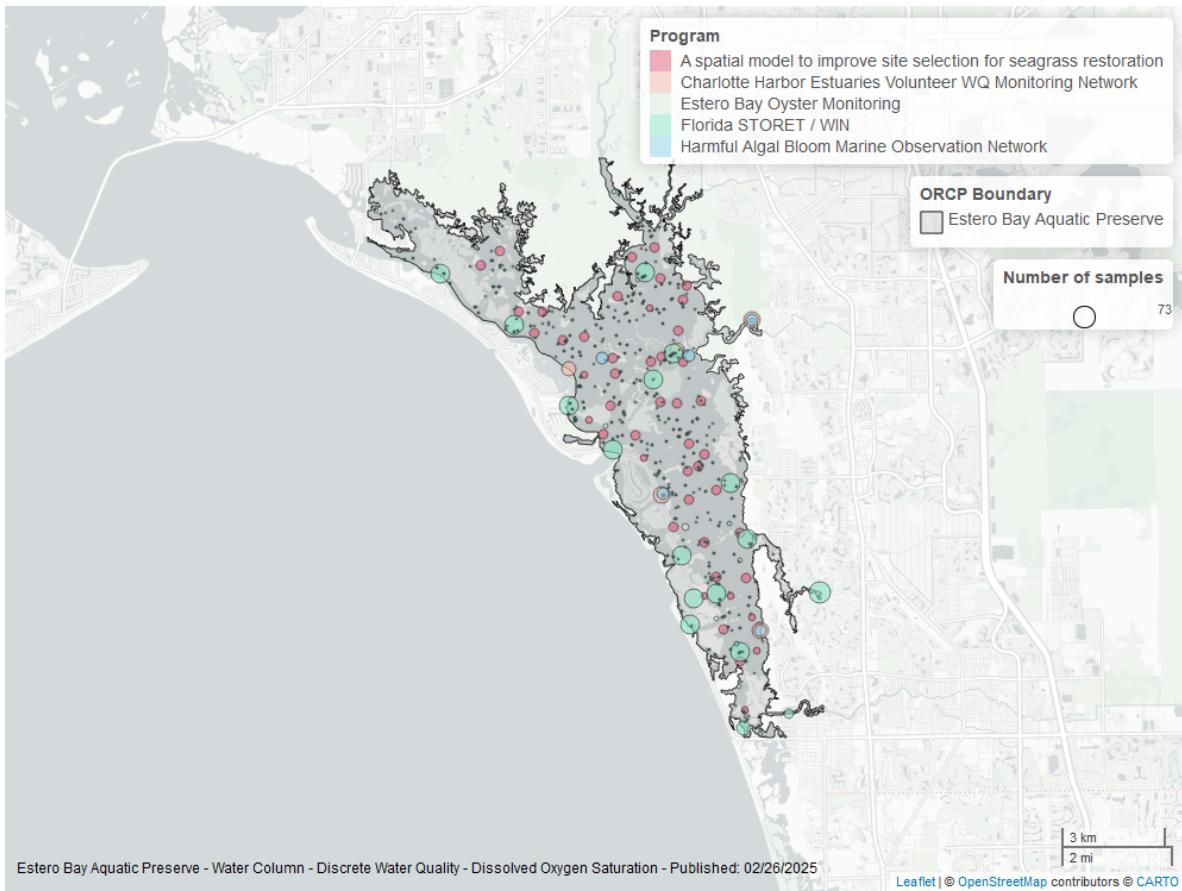


Table 5: Seasonal Kendall-Tau Results for - Dissolved Oxygen Saturation

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	2669	13	2011 - 2024	82.2014	-0.1211	76.66374	-0.59361	0.0933



Dissolved Oxygen Saturation - Continuous

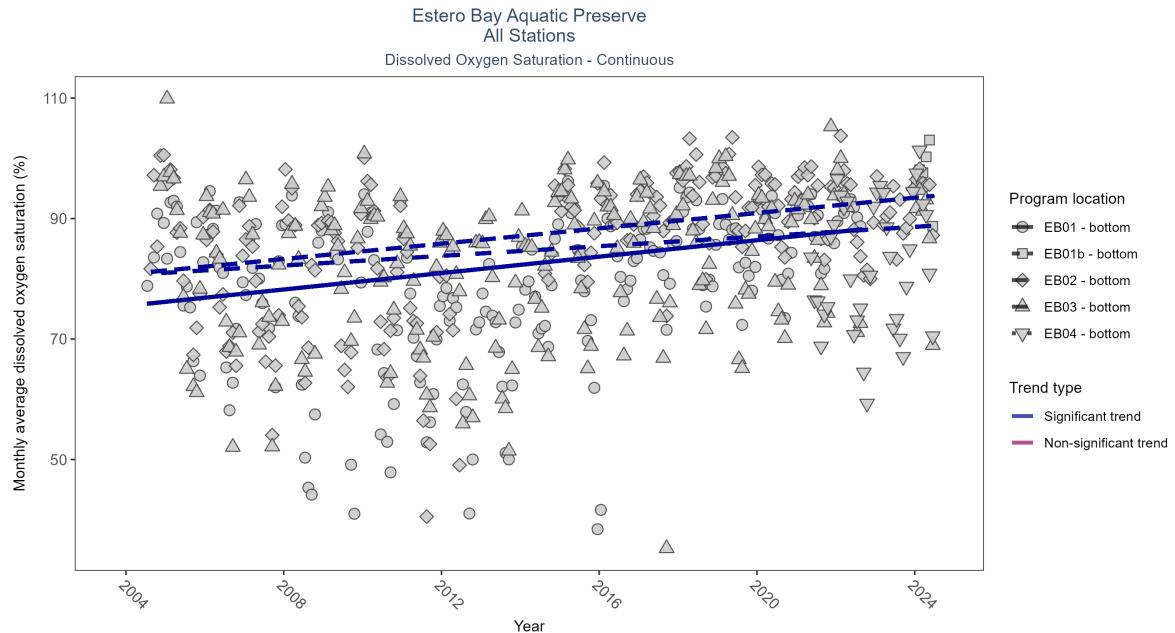
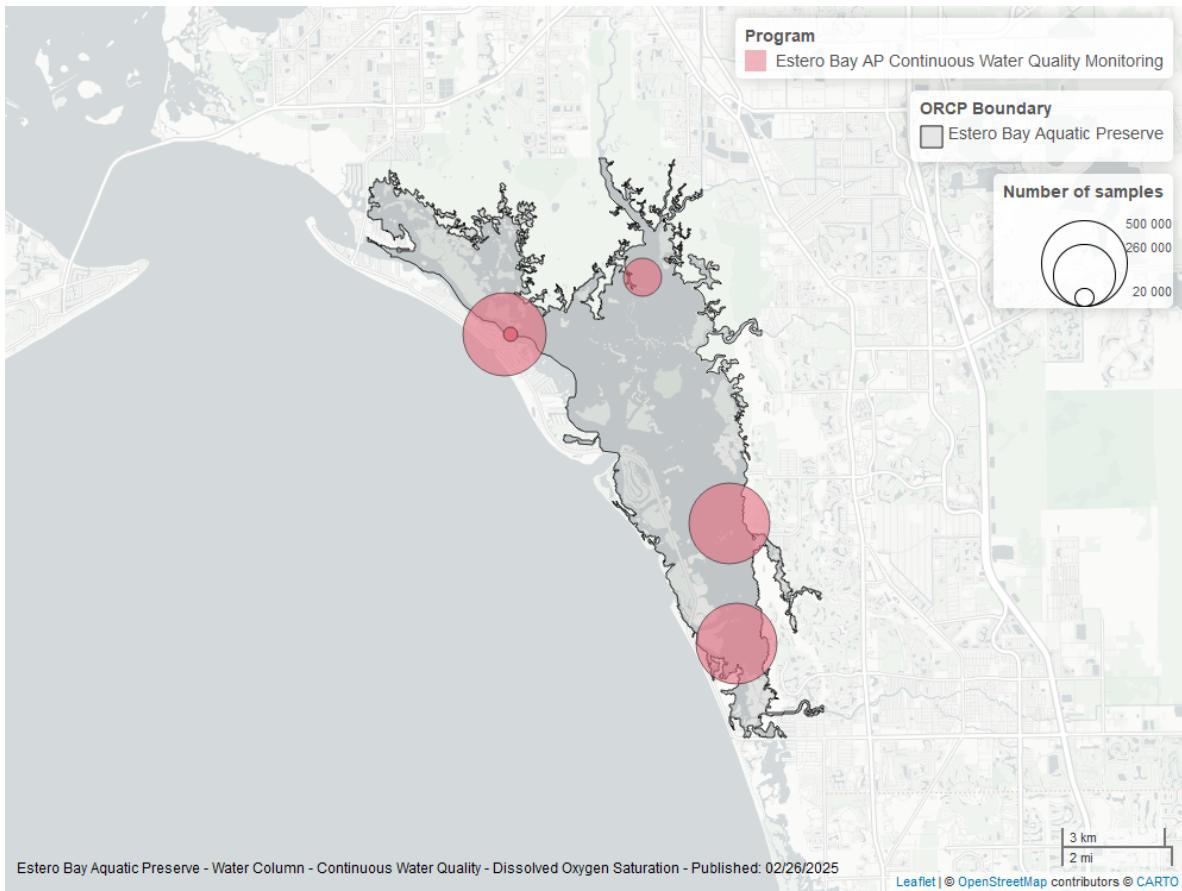


Table 6: Seasonal Kendall-Tau Results for All Stations - Dissolved Oxygen Saturation

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	0.0000
EB02	Significantly increasing trend	469663	20	2004 - 2024	87.9	0.38	80.74	0.64	0.0000
EB01b	Insufficient data to calculate trend	14737	1	2024 - 2024	95.9	-	-	-	NA
EB03	Significantly increasing trend	457773	20	2004 - 2024	83.9	0.24	80.59	0.4	0.0000
EB04	Insufficient data to calculate trend	102519	4	2021 - 2024	83.2	-	-	-	NA



Salinity - Discrete

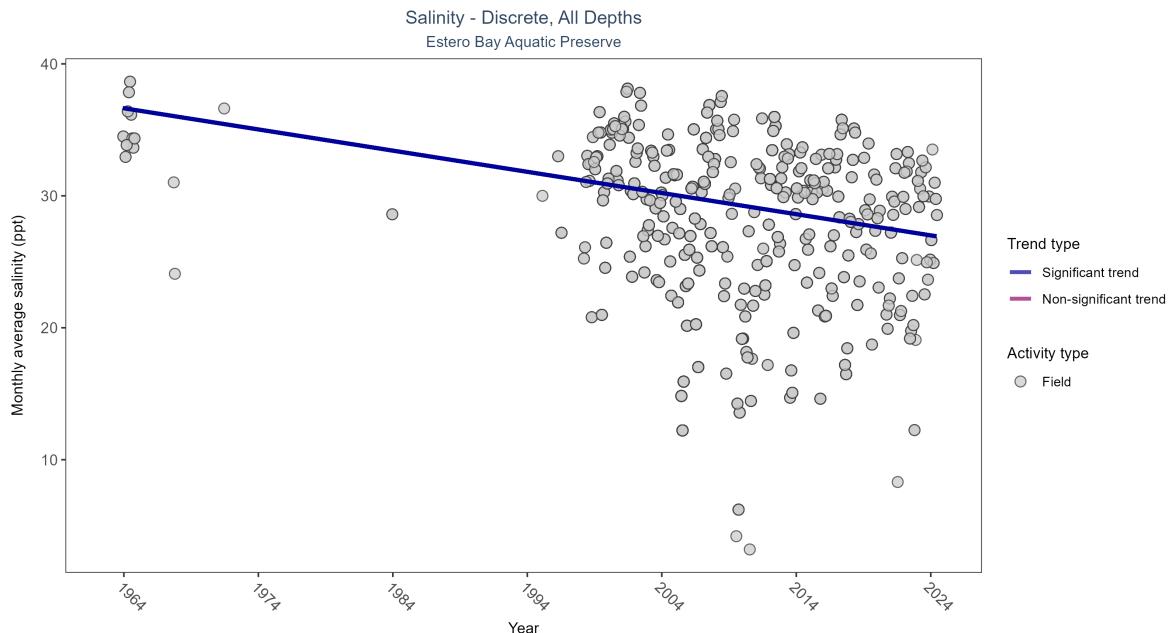
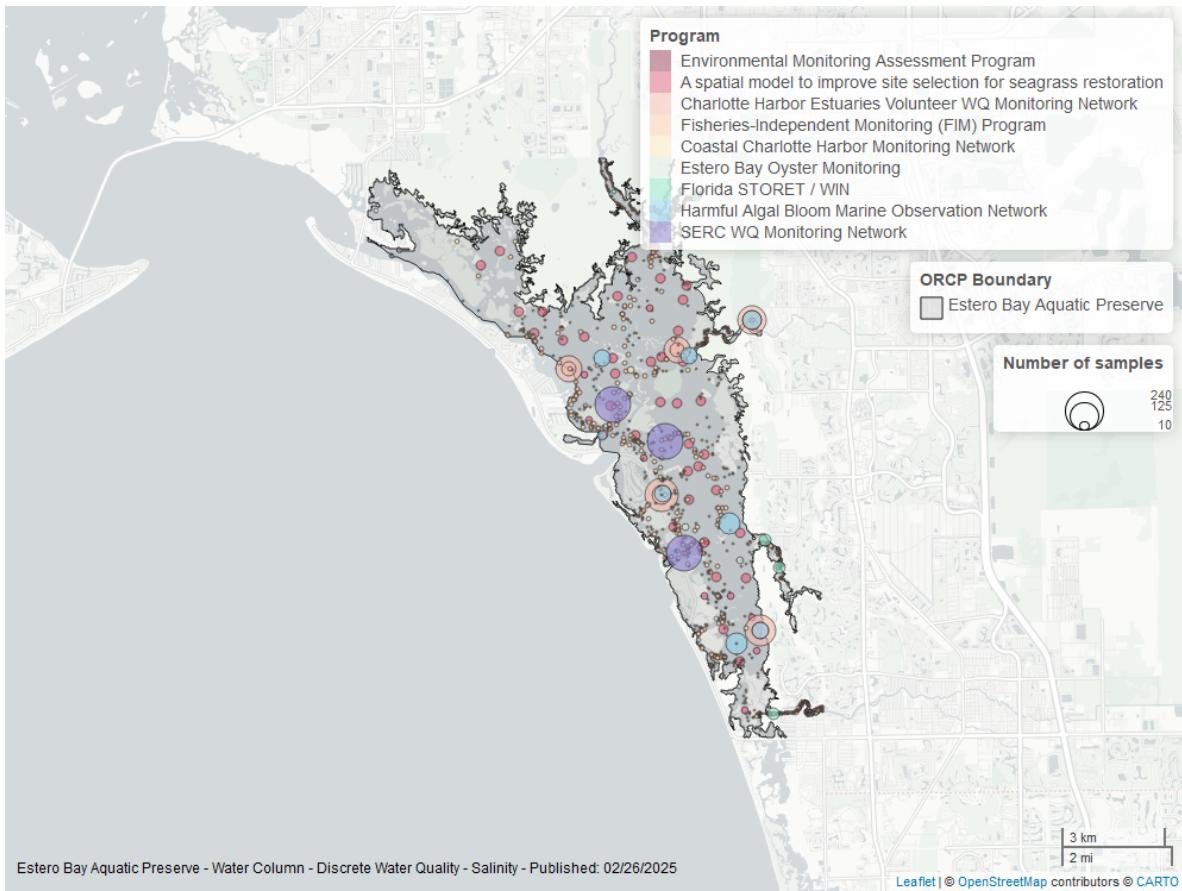


Table 7: Seasonal Kendall-Tau Results for - Salinity

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	5338	34	1963 - 2024	32.2	-0.2895	36.79879	-0.16061	0.0000



Salinity - Continuous

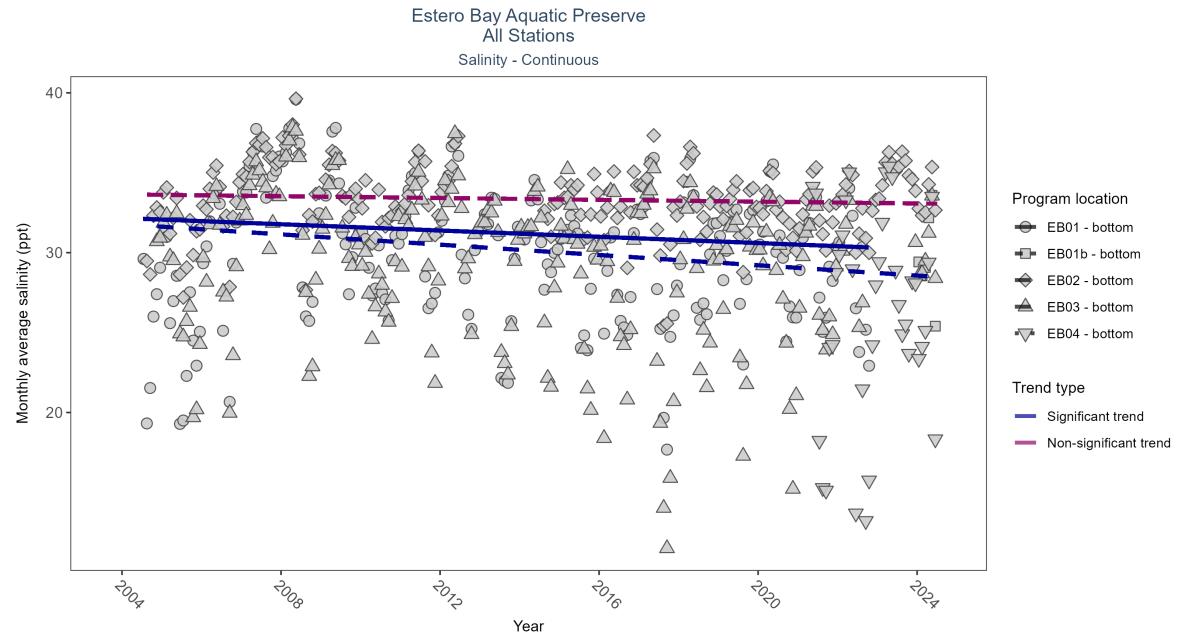
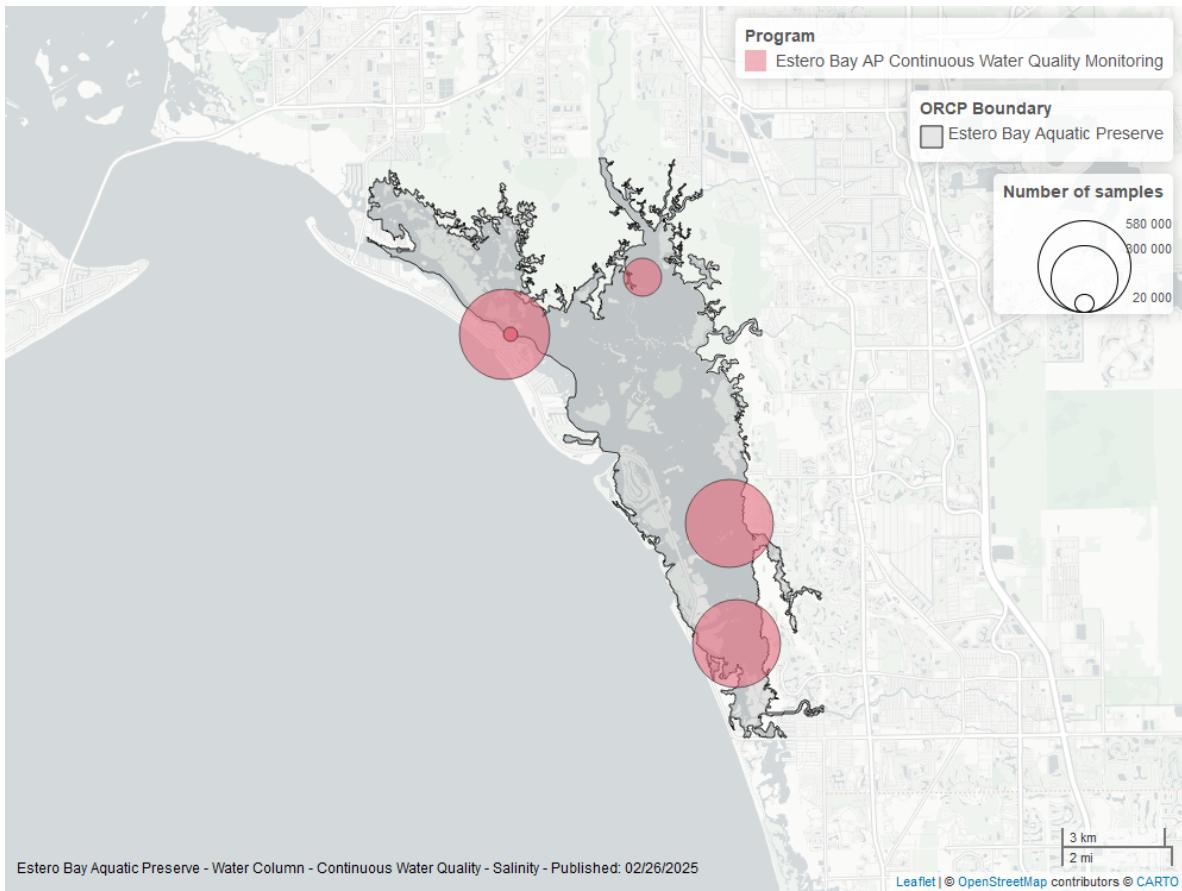


Table 8: Seasonal Kendall-Tau Results for All Stations - Salinity

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	0.0110
EB02	No significant trend	557324	20	2004 - 2024	33.6	-0.07	33.65	-0.03	0.1514
EB01b	Insufficient data to calculate trend	14734	1	2024 - 2024	30.3	-	-	-	NA
EB03	Significantly decreasing trend	552498	21	2004 - 2024	30.9	-0.23	31.79	-0.16	0.0000
EB04	Insufficient data to calculate trend	101947	4	2021 - 2024	28.0	-	-	-	NA



Water Temperature - Discrete

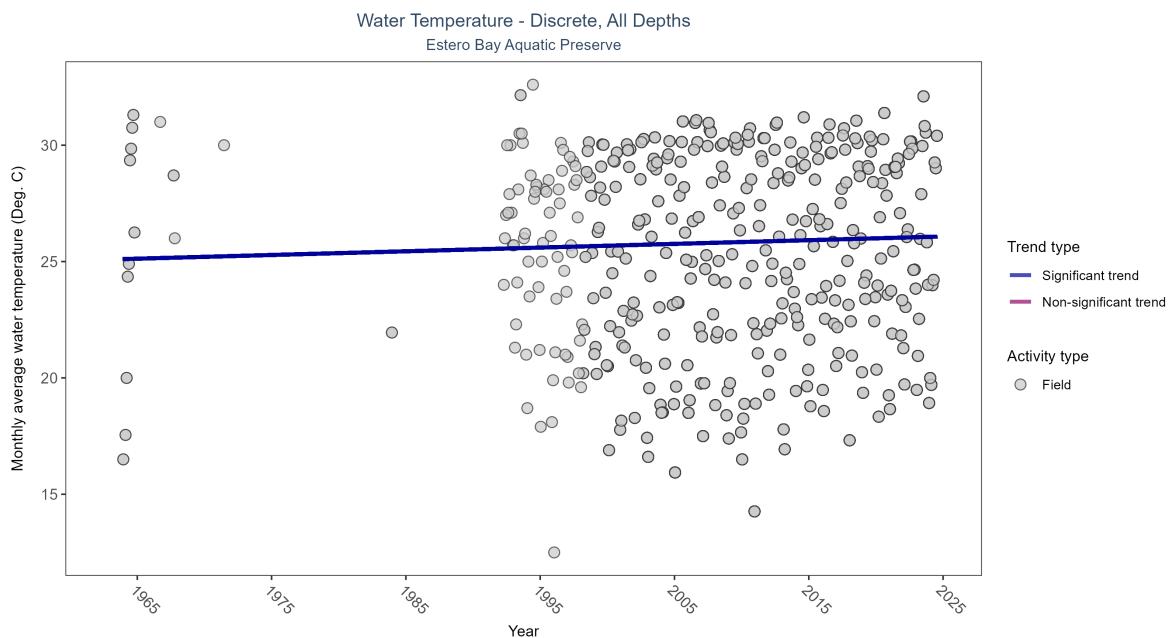
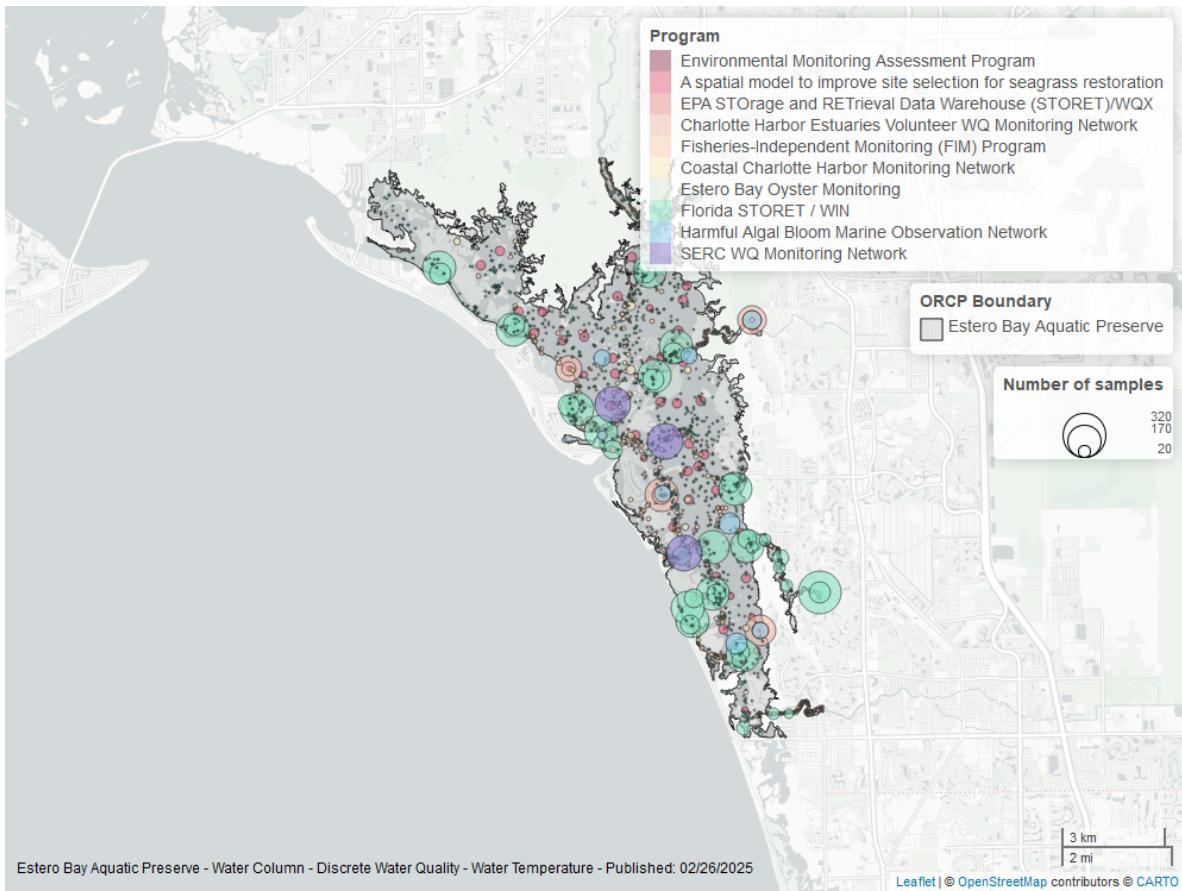


Table 9: Seasonal Kendall-Tau Results for - Water Temperature

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	11200	39	1963 - 2024	25.9	0.0919	25.09112	0.01591	0.0091



Water Temperature - Continuous

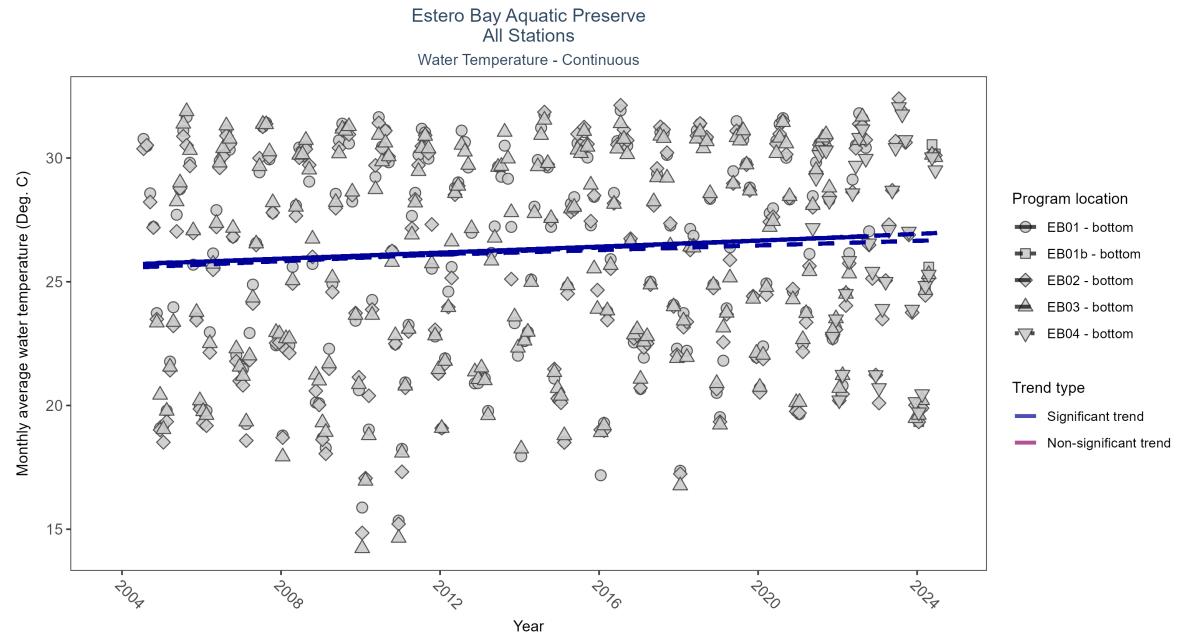
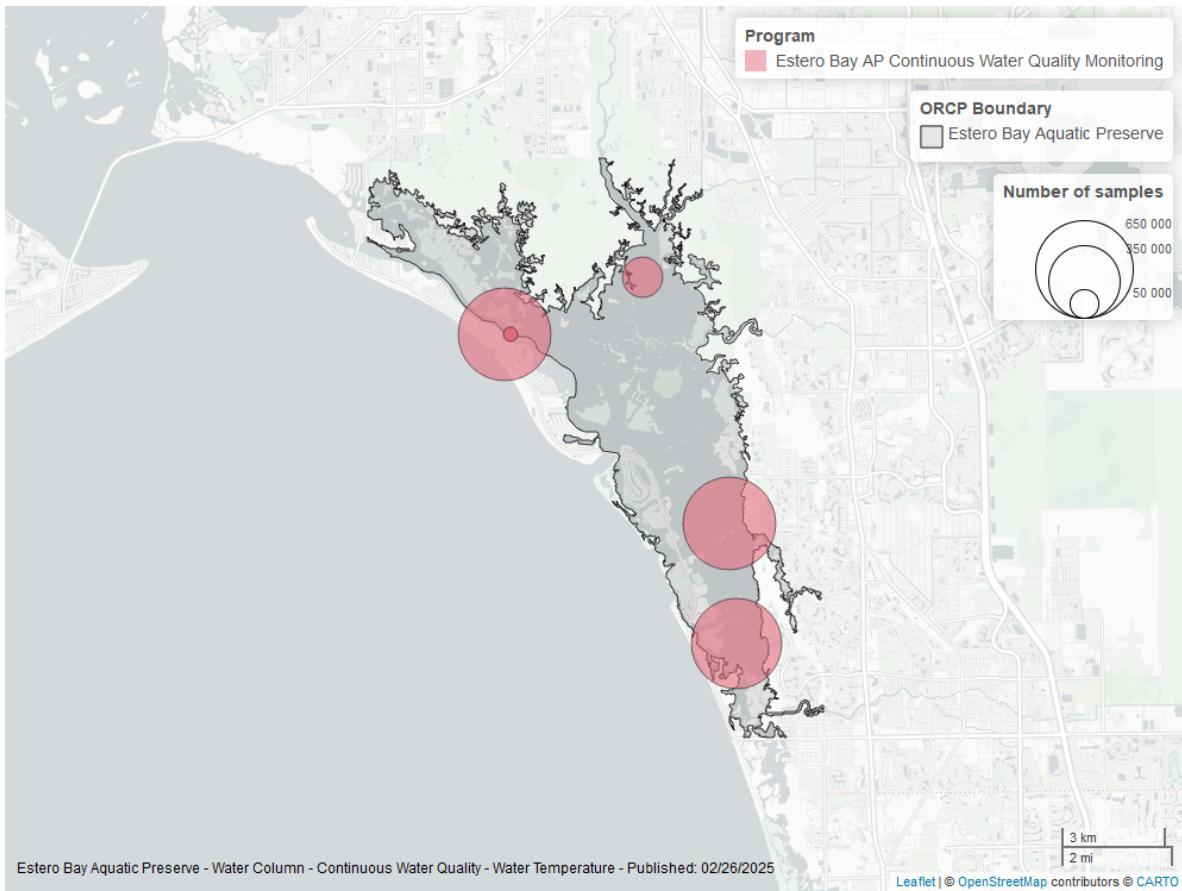


Table 10: Seasonal Kendall-Tau Results for All Stations - Water Temperature

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	0.0000
EB02	Significantly increasing trend	601013	21	2004 - 2024	26.5	0.32	25.55	0.07	0.0000
EB01b	Insufficient data to calculate trend	14735	1	2024 - 2024	25.5	-	-	-	NA
EB03	Significantly increasing trend	591414	21	2004 - 2024	26.4	0.17	25.72	0.05	0.0007
EB04	Insufficient data to calculate trend	110011	4	2021 - 2024	27.3	-	-	-	NA



pH - Discrete

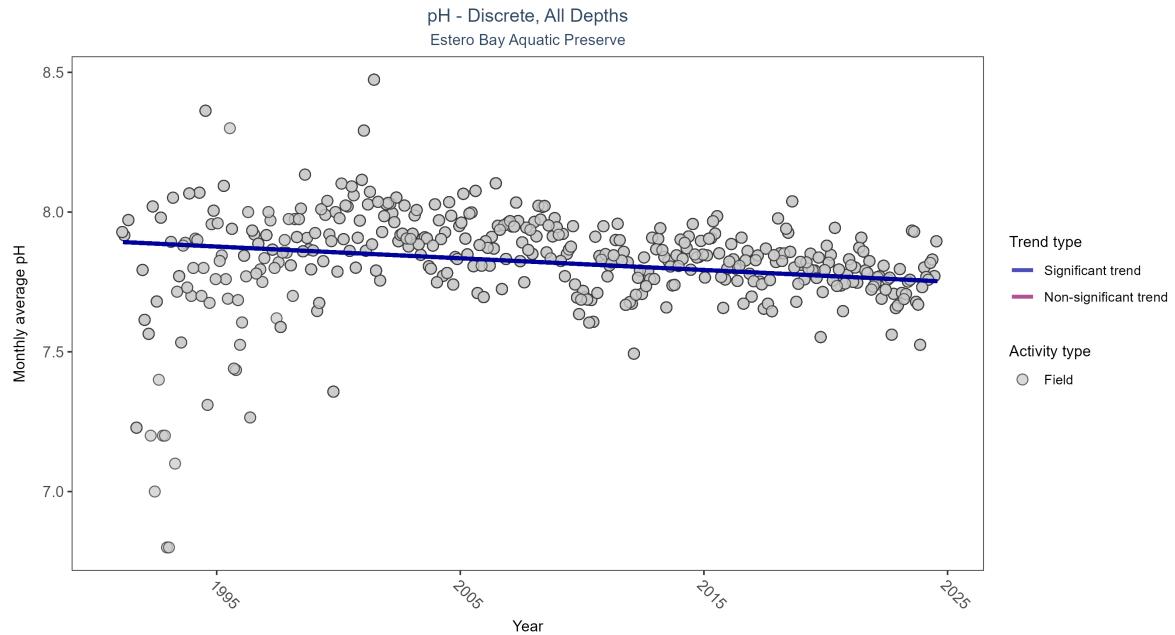
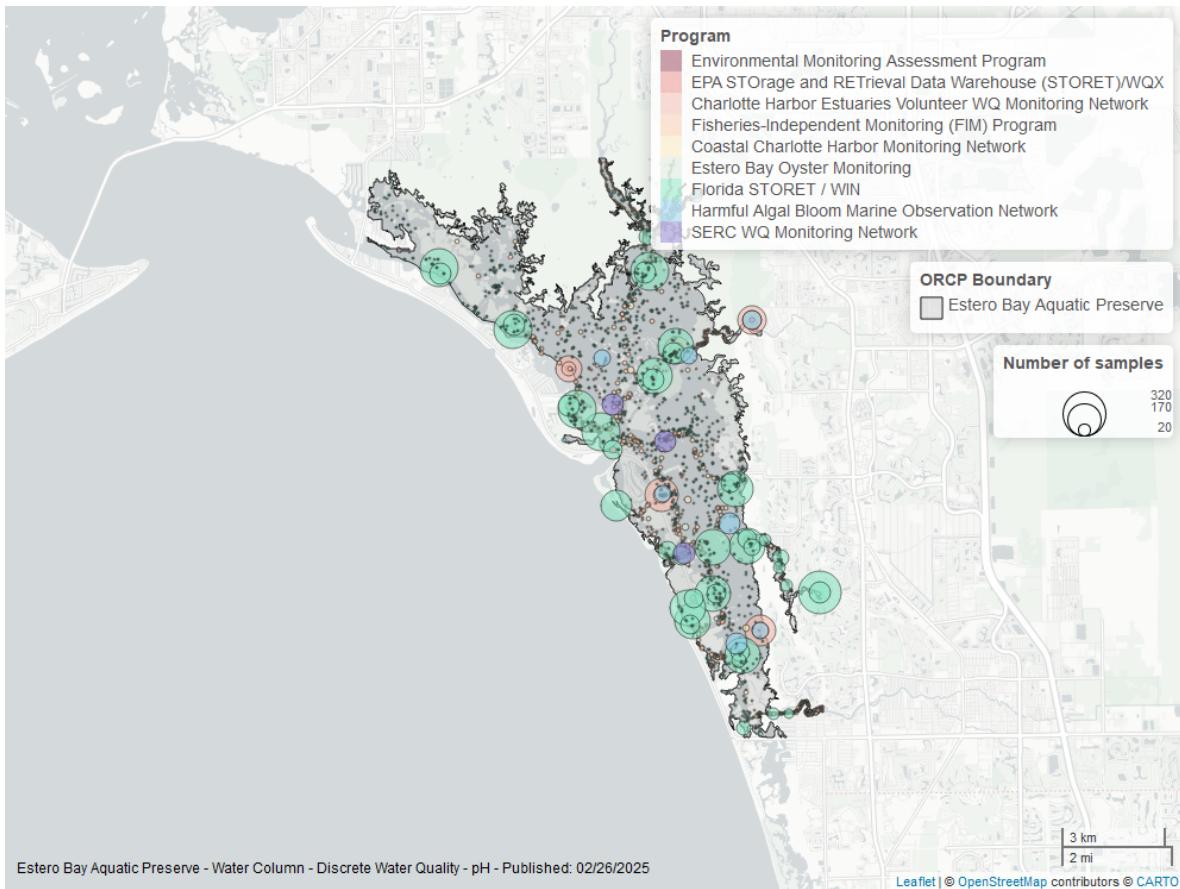


Table 11: Seasonal Kendall-Tau Results for - pH

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	10934	34	1991 - 2024	7.9	-0.1934	7.89332	-0.00419	0.0000



pH - Continuous

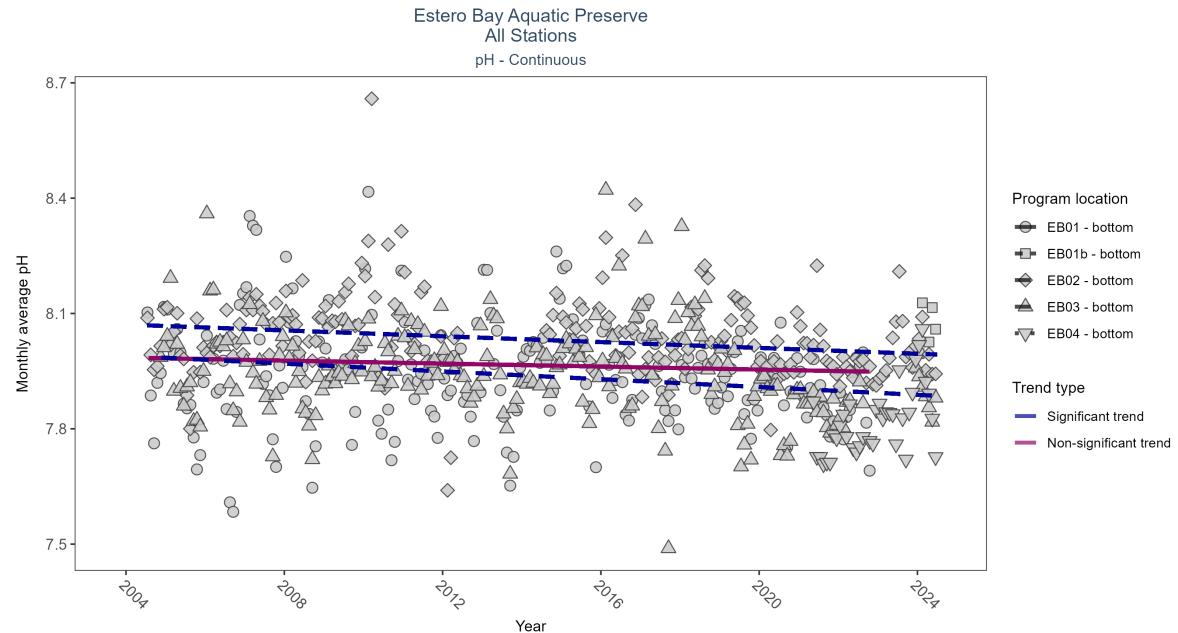
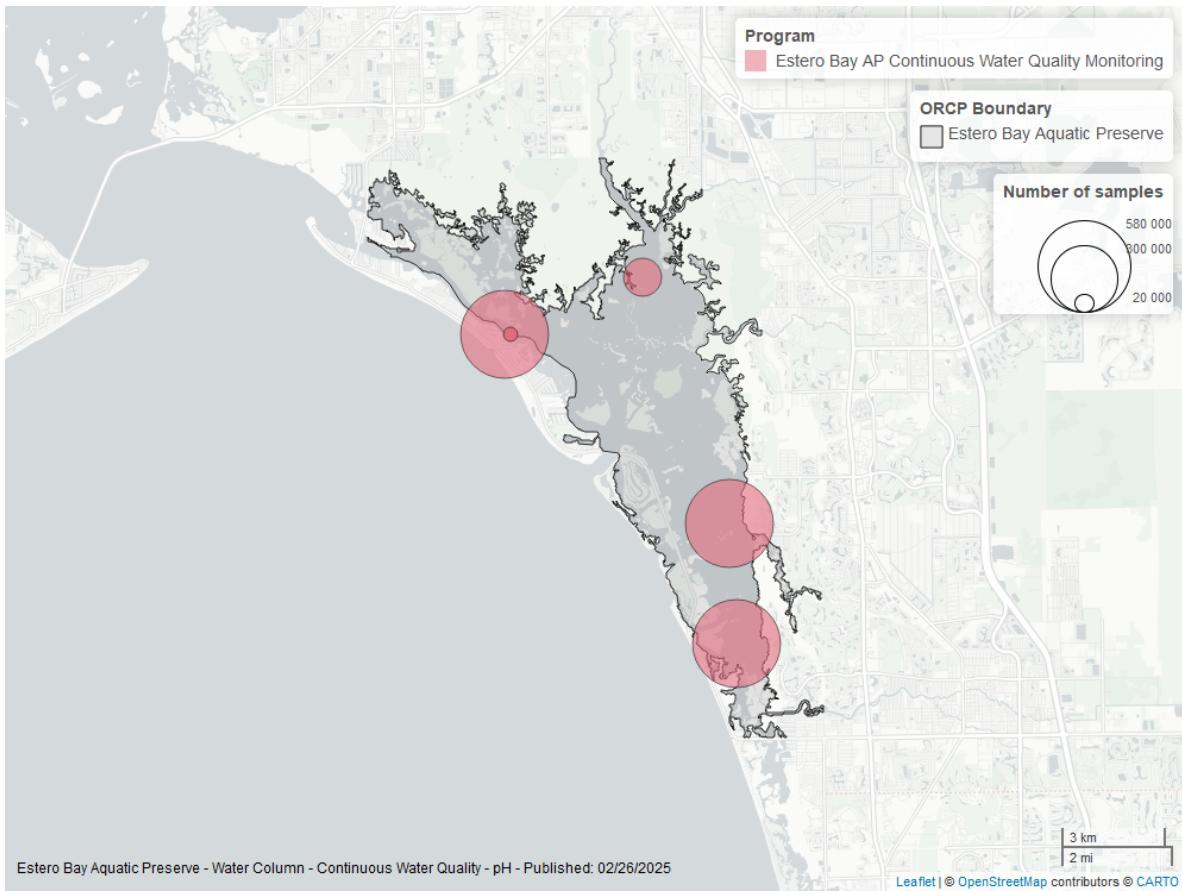


Table 12: Seasonal Kendall-Tau Results for All Stations - pH

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	0.1157
EB02	Significantly decreasing trend	538362	20	2004 - 2024	8.0	-0.18	8.07	0	0.0003
EB01b	Insufficient data to calculate trend	14737	1	2024 - 2024	8.1	-	-	-	NA
EB03	Significantly decreasing trend	544501	21	2004 - 2024	8.0	-0.2	7.99	-0.01	0.0000
EB04	Insufficient data to calculate trend	105017	4	2021 - 2024	7.8	-	-	-	NA



Water Clarity

Turbidity - Discrete

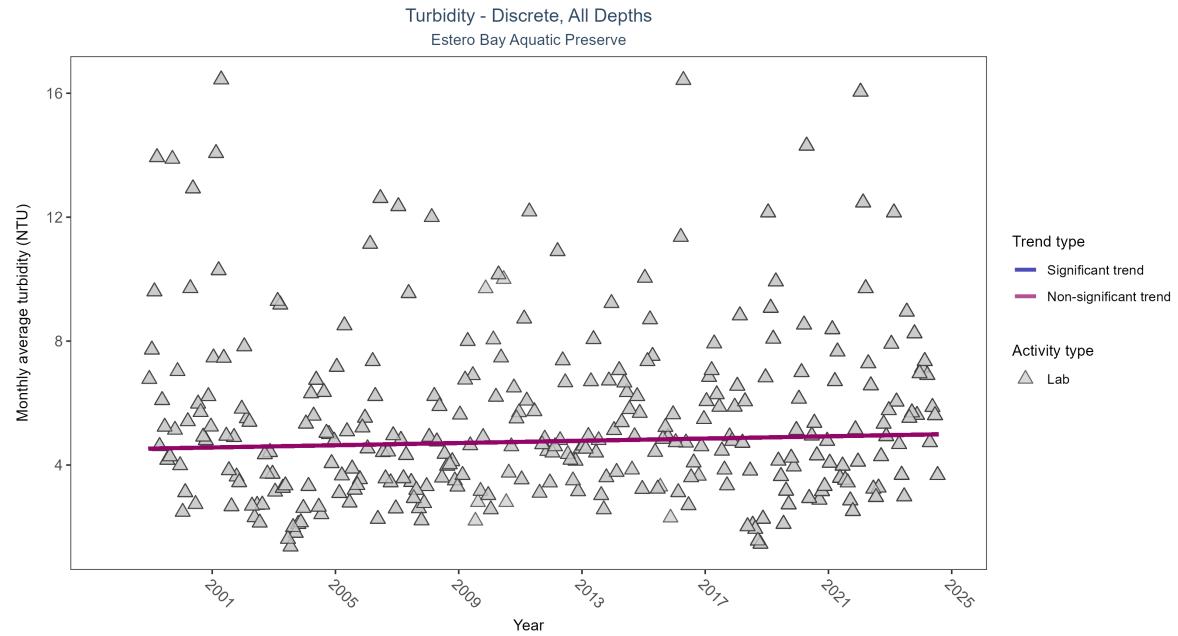
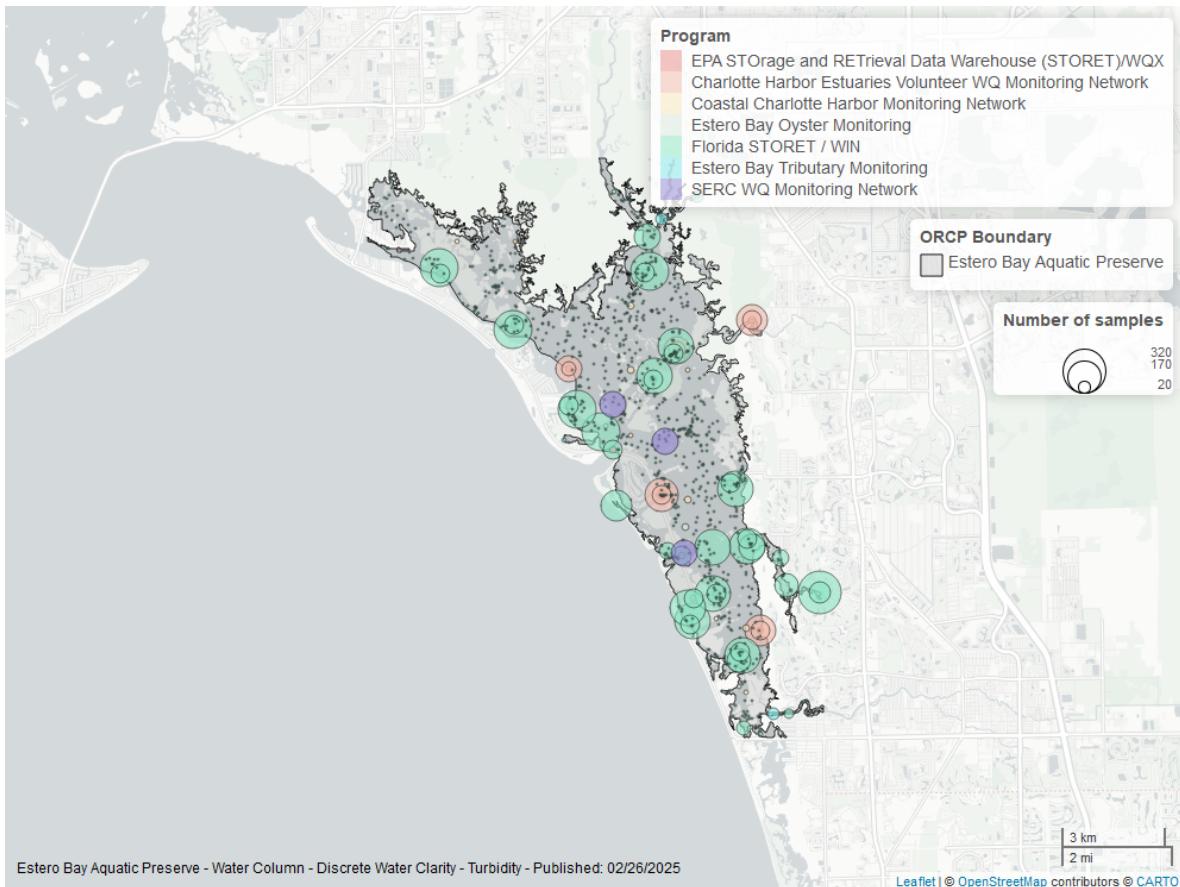


Table 13: Seasonal Kendall-Tau Results for - Turbidity

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	2977	27	1998 - 2024	4	0.0456	4.51203	0.01805	0.2446



Turbidity - Continuous

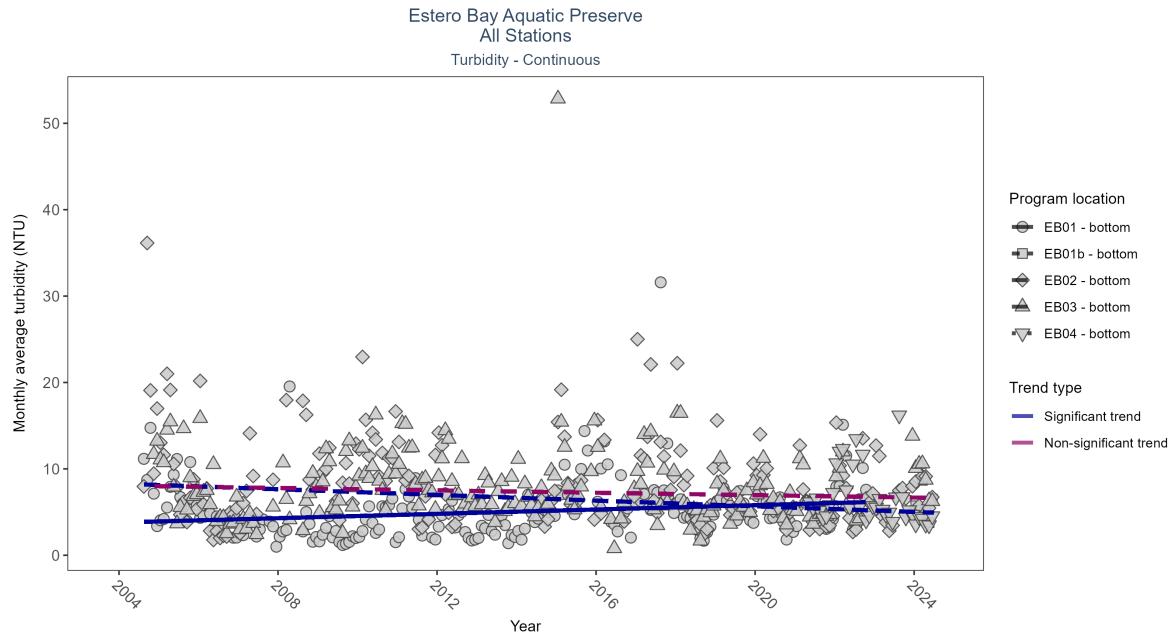
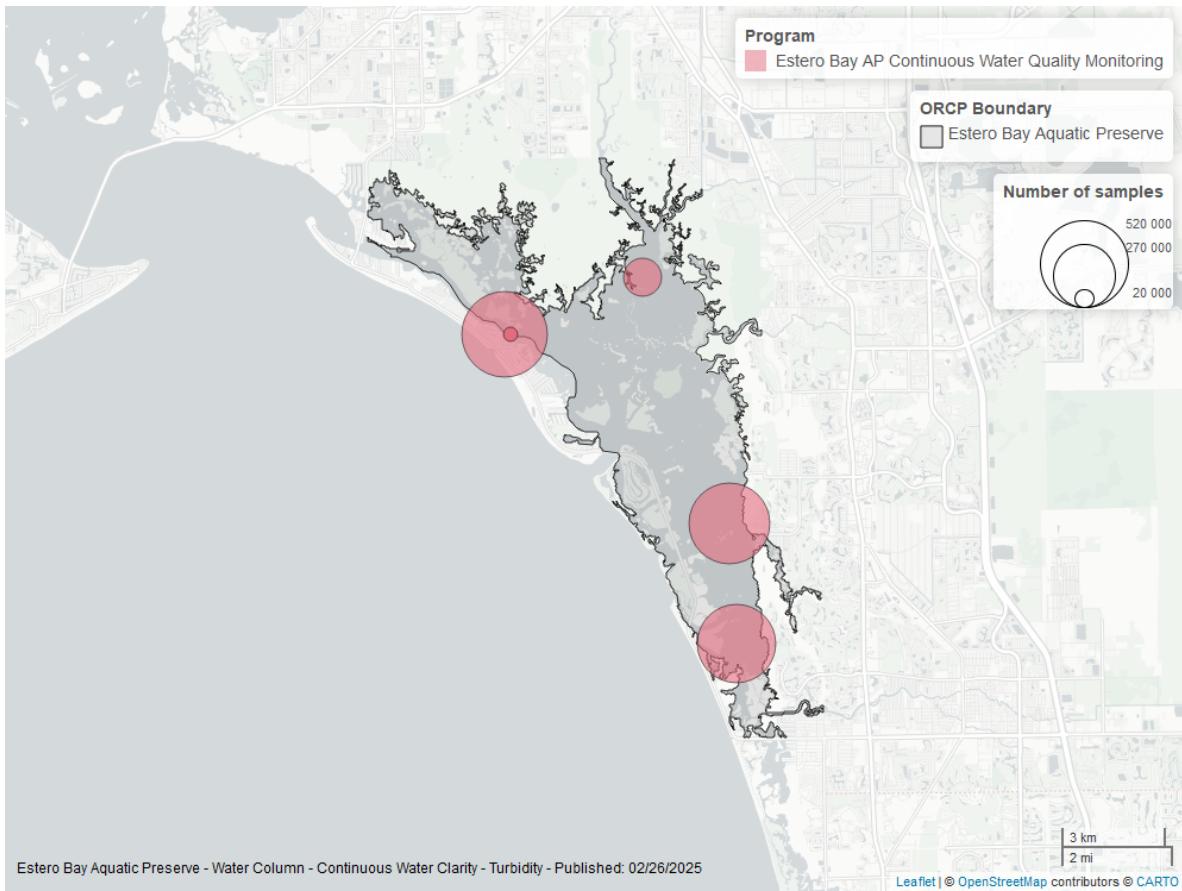


Table 14: Seasonal Kendall-Tau Results for All Stations - Turbidity

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	0.0005
EB02	Significantly decreasing trend	452116	20	2004 - 2024	5	-0.19	8.3	-0.16	0.0005
EB01b	Insufficient data to calculate trend	16558	1	2024 - 2024	5	-	-	-	NA
EB03	No significant trend	432918	21	2004 - 2024	5	-0.11	8.07	-0.07	0.0677
EB04	Insufficient data to calculate trend	99640	4	2021 - 2024	5	-	-	-	NA



Total Suspended Solids - Discrete

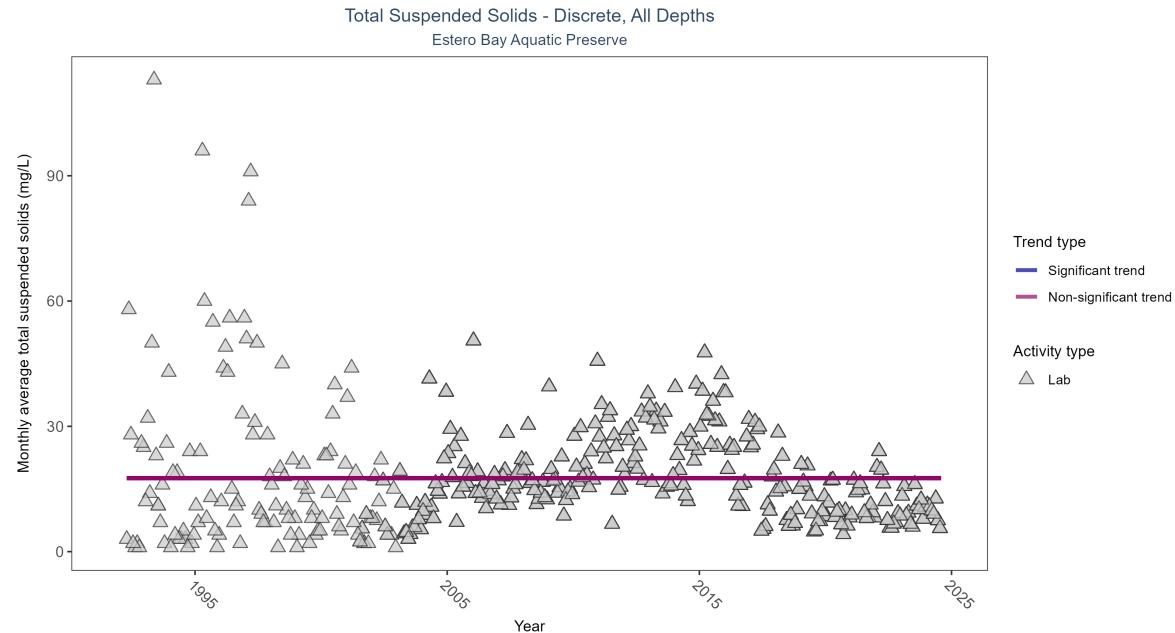
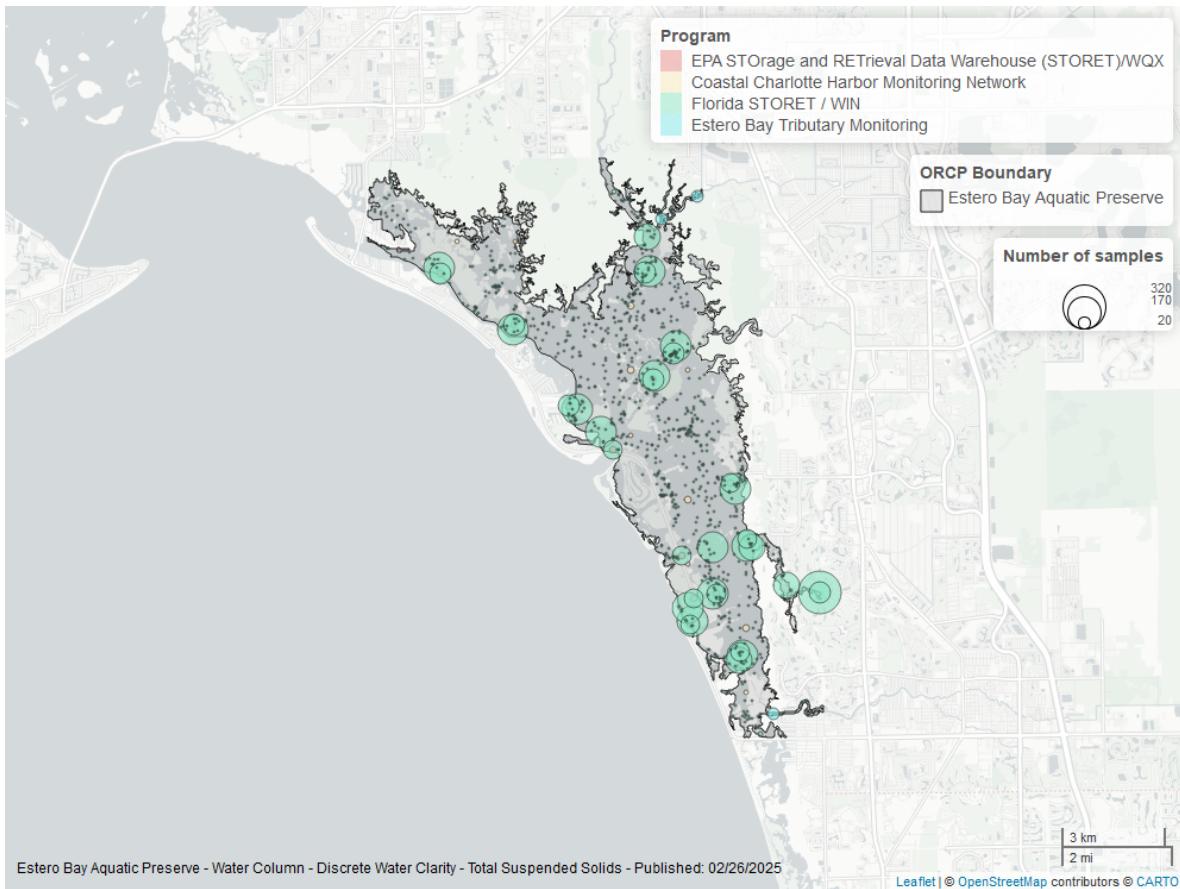


Table 15: Seasonal Kendall-Tau Results for - Total Suspended Solids

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	5412	33	1992 - 2024	14	-0.0004	17.57222	0	0.9517



Chlorophyll a, Uncorrected for Pheophytin - Discrete

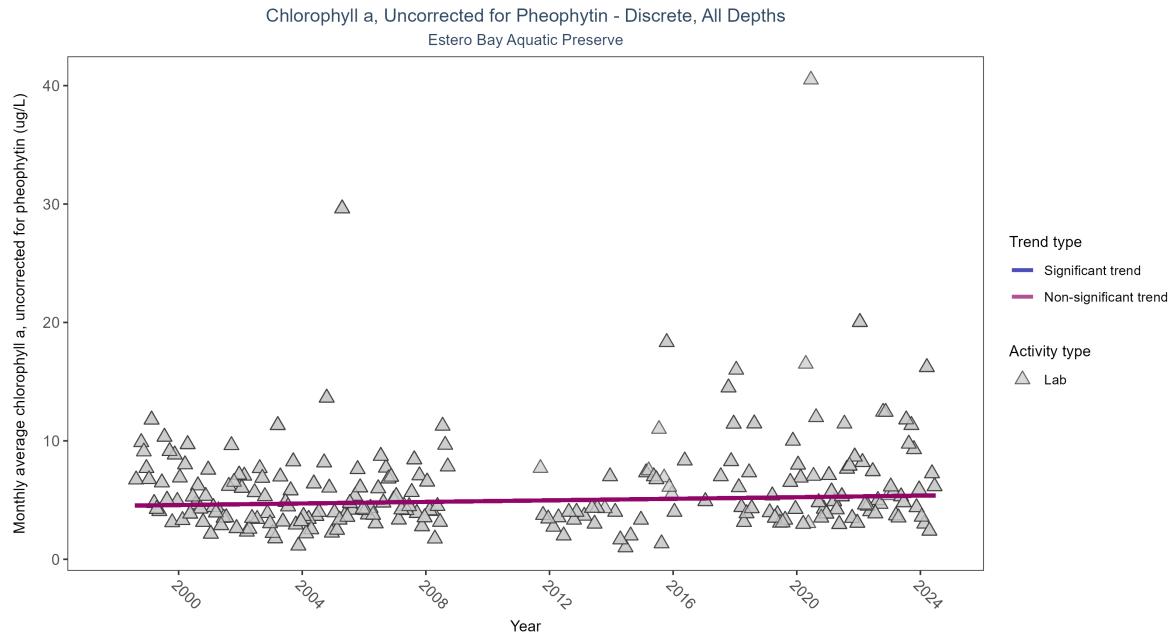
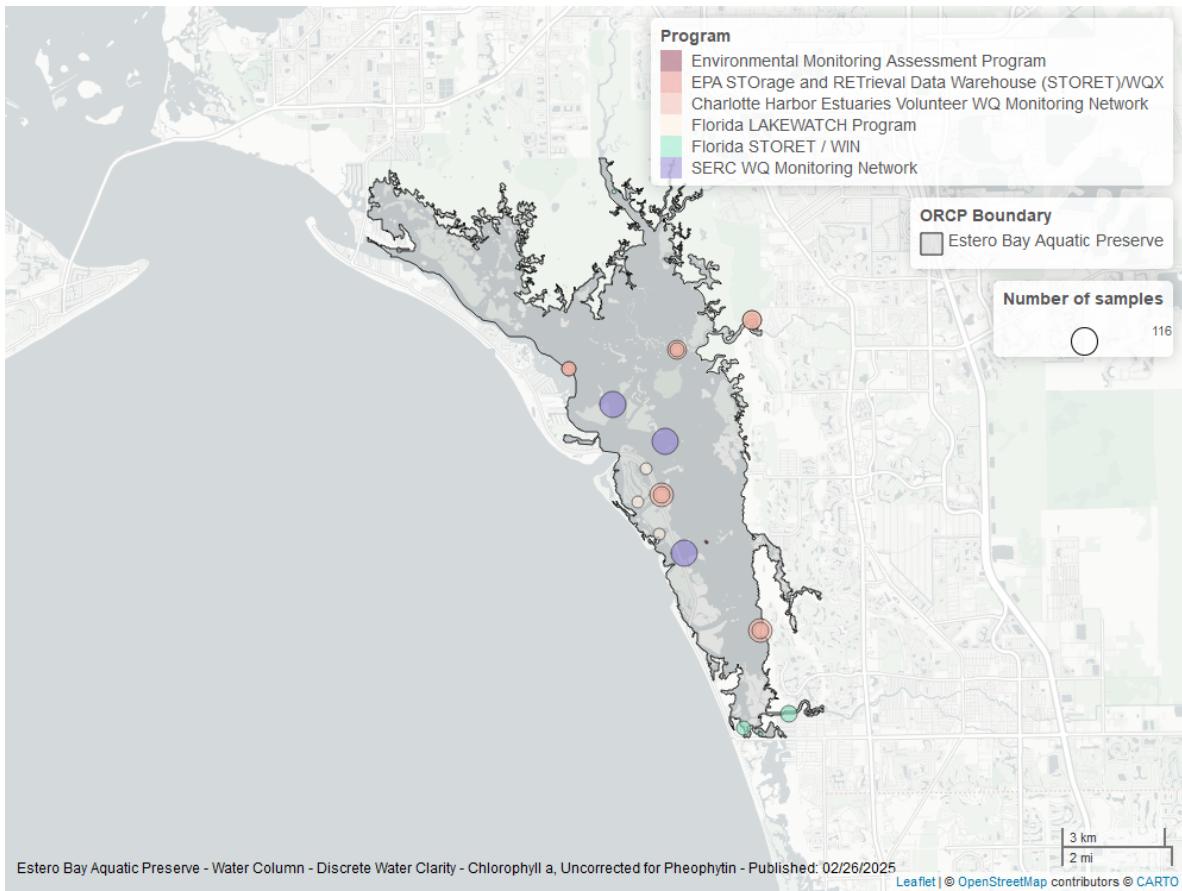


Table 16: Seasonal Kendall-Tau Results for - Chlorophyll a, Uncorrected for Pheophytin

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	1228	25	1998 - 2024	4.32	0.0898	4.51467	0.03299	0.0571



Chlorophyll a, Corrected for Pheophytin - Discrete

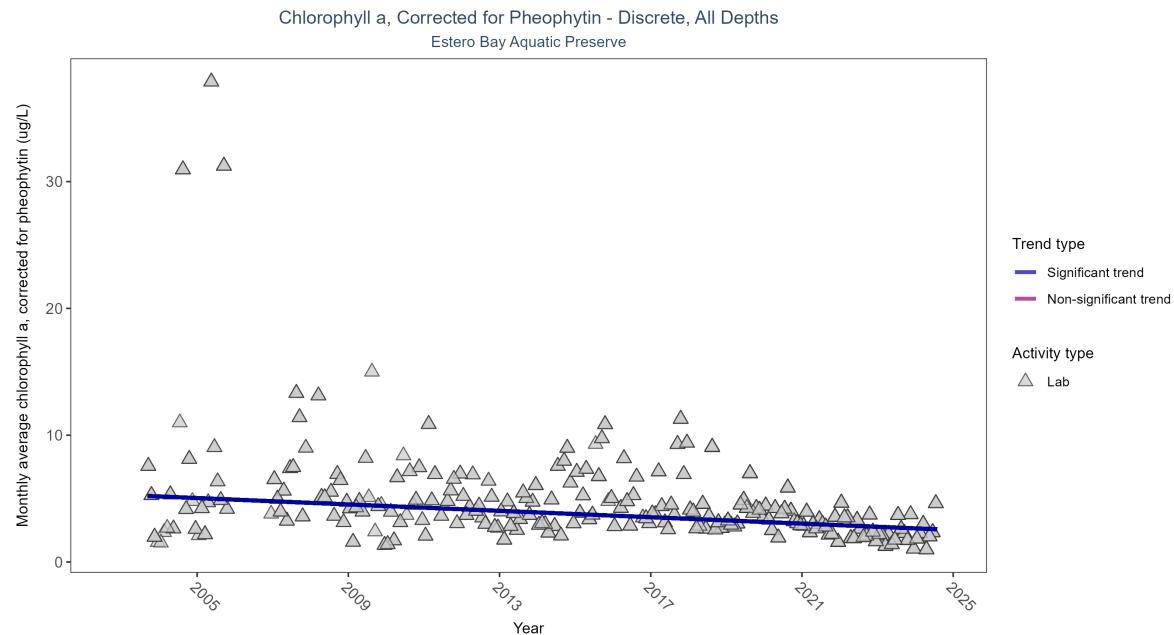
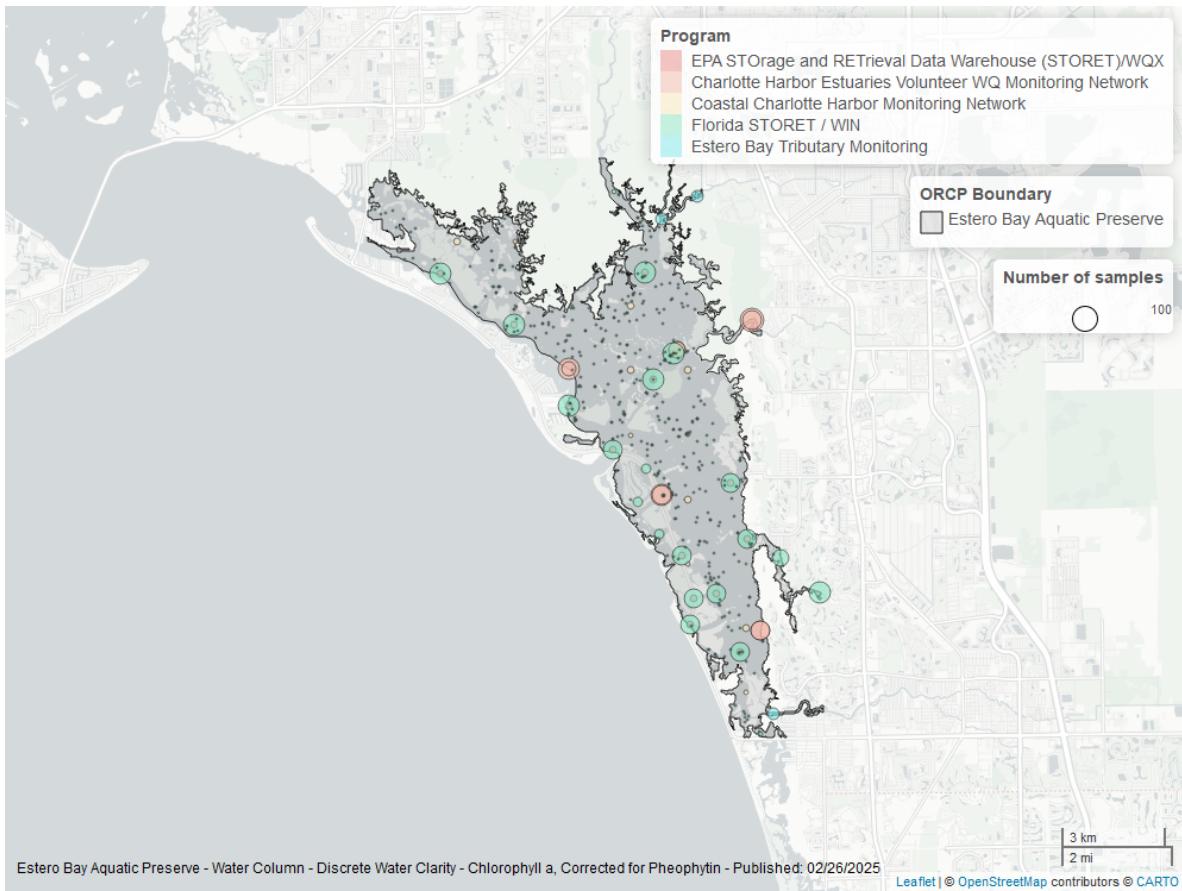


Table 17: Seasonal Kendall-Tau Results for - Chlorophyll a, Corrected for Pheophytin

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	2480	22	2003 - 2024	2.73	-0.2805	5.29387	-0.12588	0.0000



Secchi Depth - Discrete

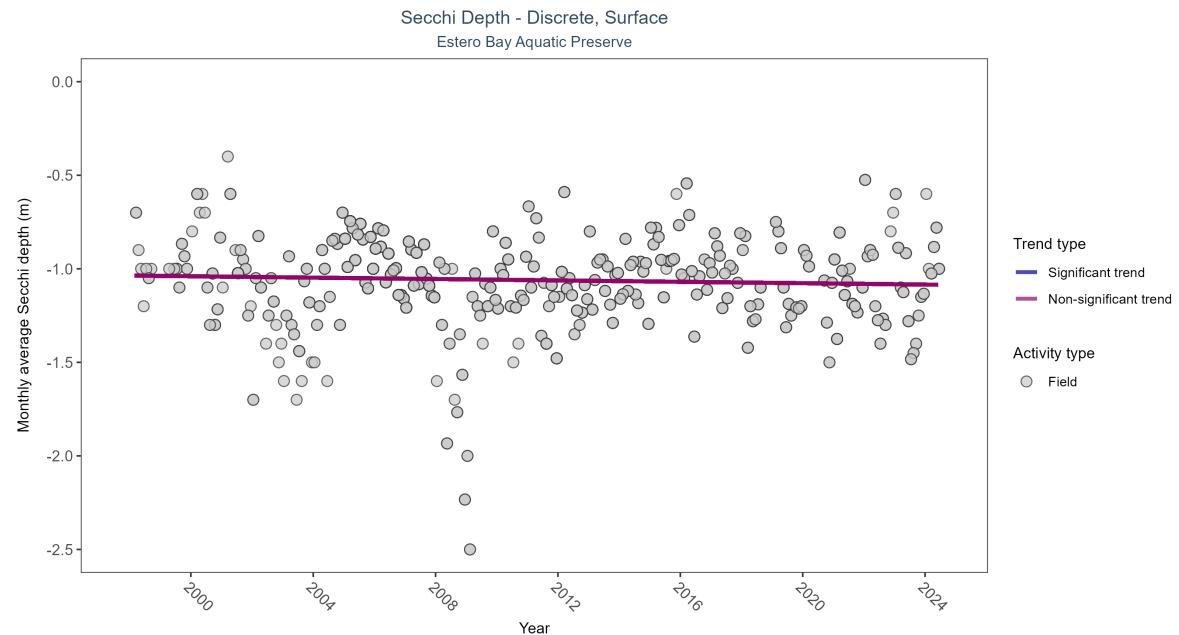
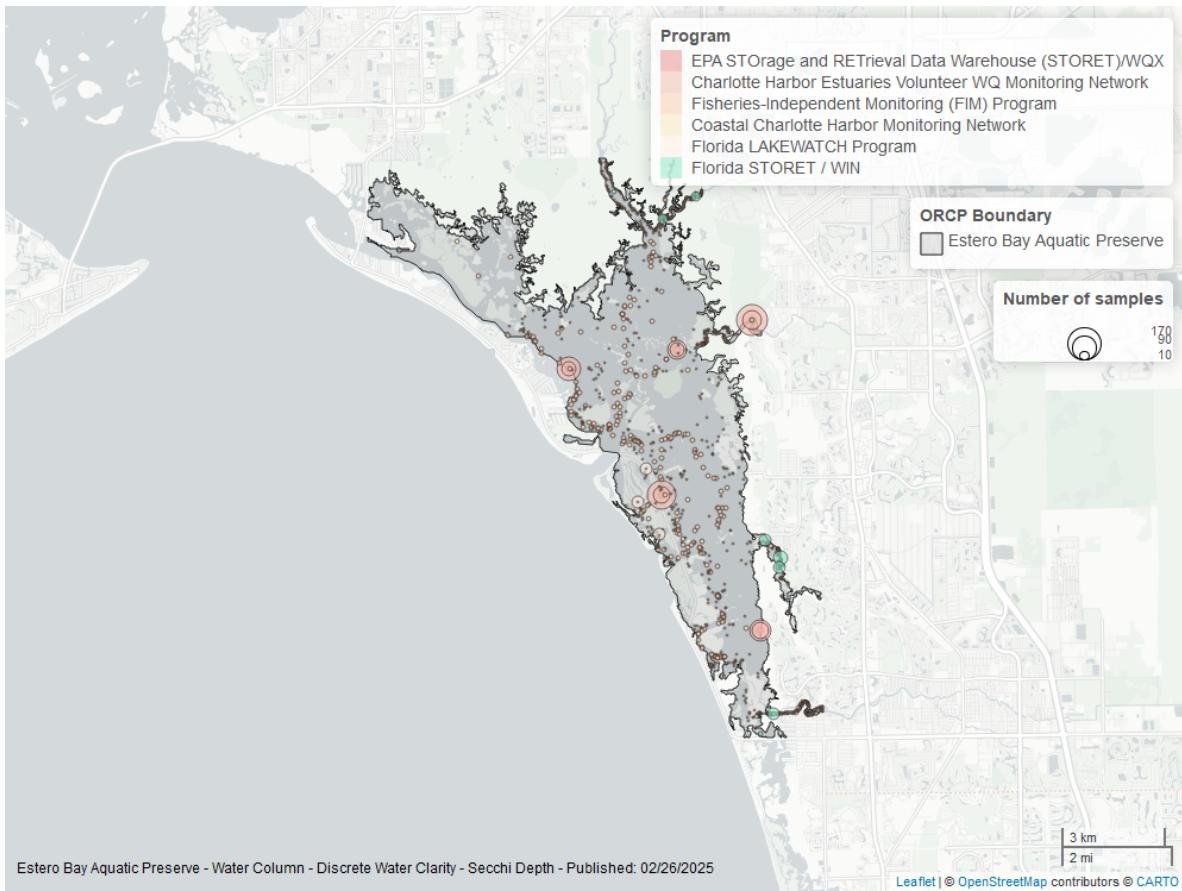


Table 18: Seasonal Kendall-Tau Results for - Secchi Depth

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	3379	27	1998 - 2024	-0.9	-0.0398	-1.03621	-0.00185	0.3033



Colored Dissolved Organic Matter - Discrete

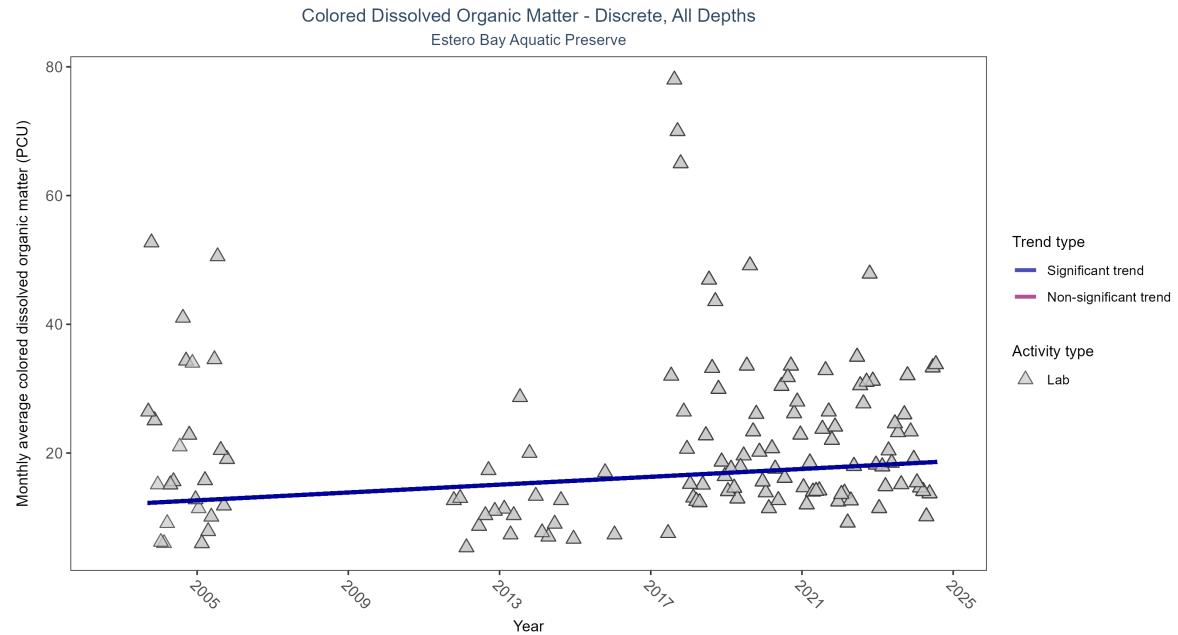


Table 19: Seasonal Kendall-Tau Results for - Colored Dissolved Organic Matter

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	1919	17	2003 - 2024	14	0.2171	12.03937	0.30487	0.0011

