

# Apalachicola Bay Aquatic Preserve

## SEACAR Water Quality Analysis

Last compiled on 18 March, 2025

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# Indicators

## Nutrients

### Total Nitrogen - Discrete

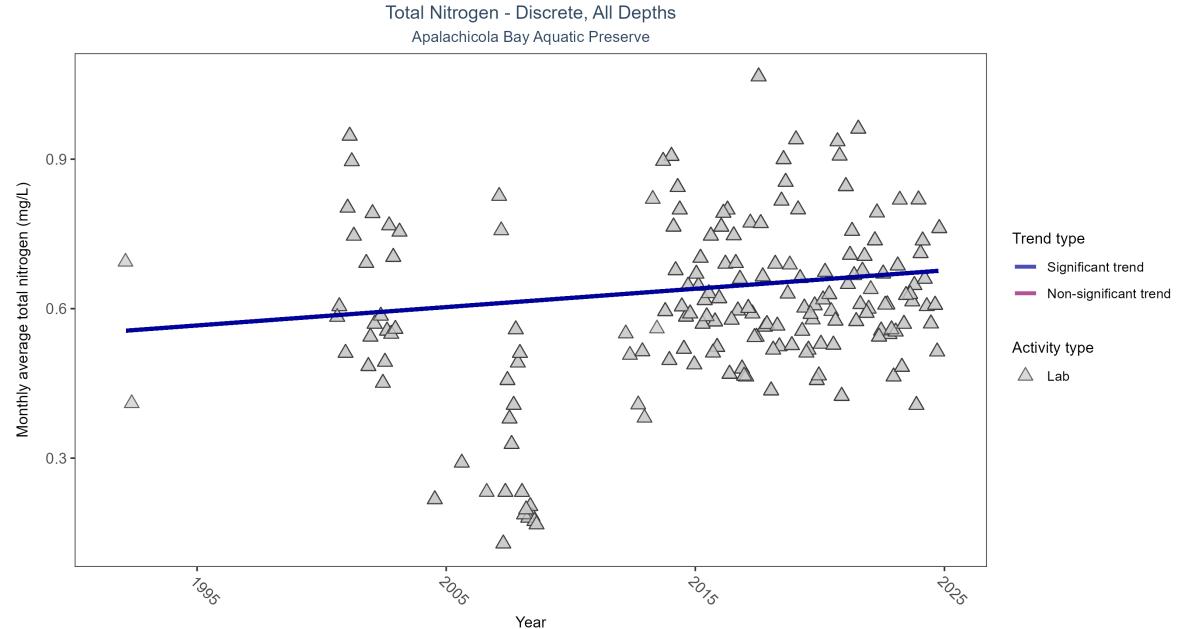
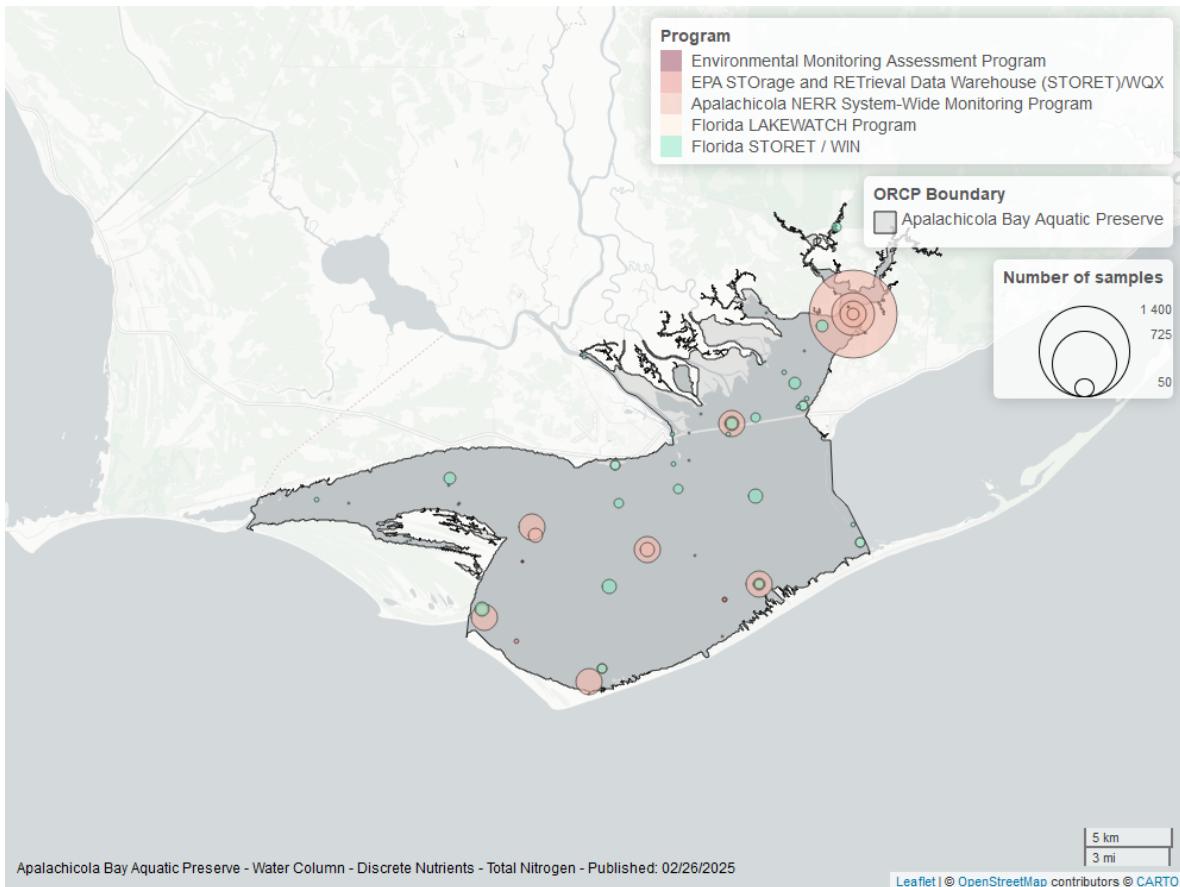


Table 1: Seasonal Kendall-Tau Results for - Total Nitrogen

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	3242	23	1992 - 2024	0.62	0.14009	0.55527	0.00368	0.0099401062897154311009506890



## Total Phosphorus - Discrete

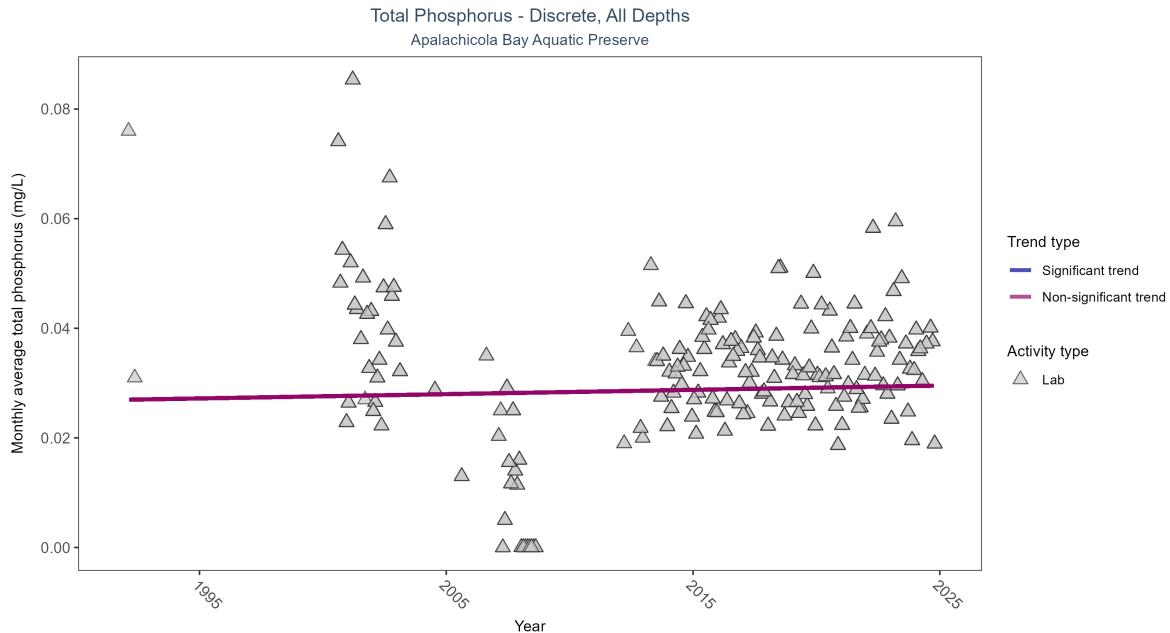
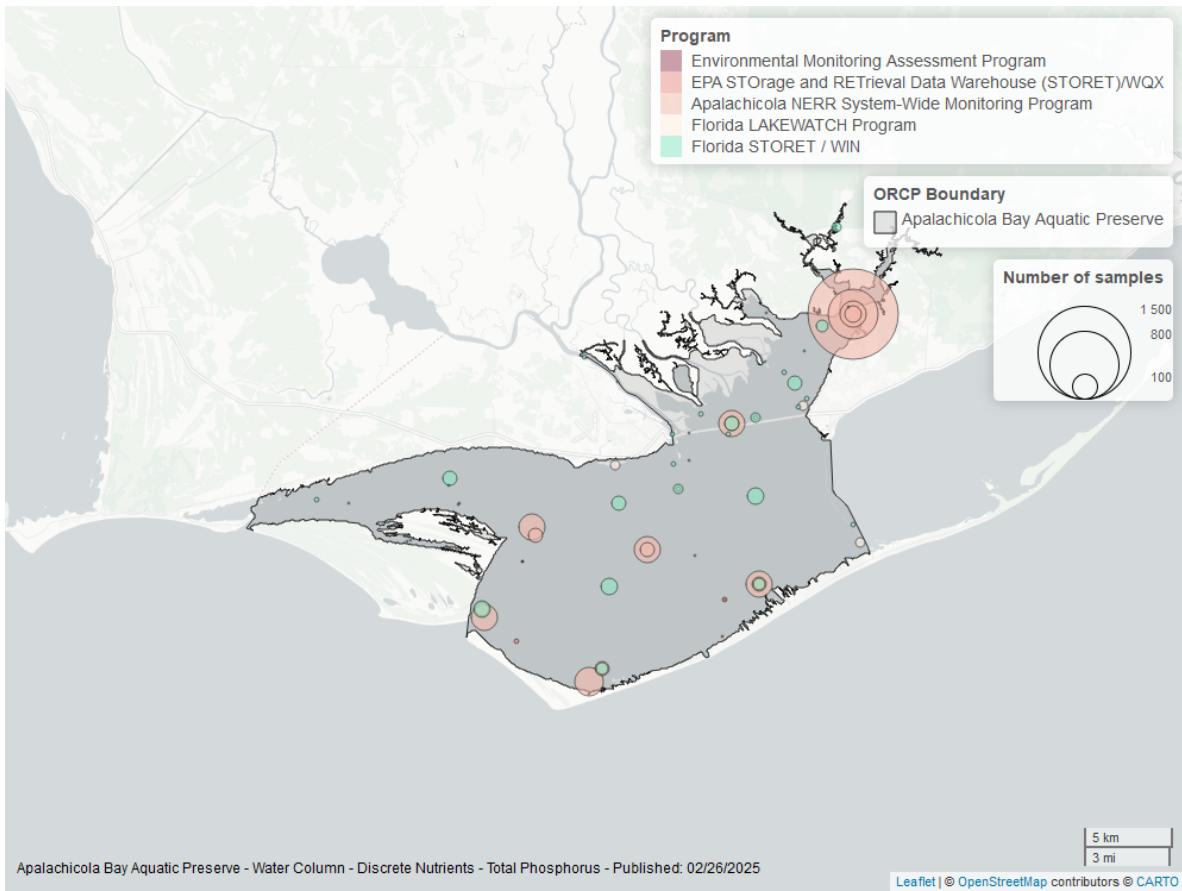


Table 2: Seasonal Kendall-Tau Results for - Total Phosphorus

Activity Type	Statistical Trend	Sample Count	Years with Data	Period of Record	Median Result Value	Tau	Sen Intercept	Sen Slope	P
Lab	No significant trend	3531	23	1992 - 2024	0.031	0.04602	0.02696	0.00008	0.4992335228329597973662146159767871722579002380371093750000000000



## Water Quality

### Dissolved Oxygen - Discrete

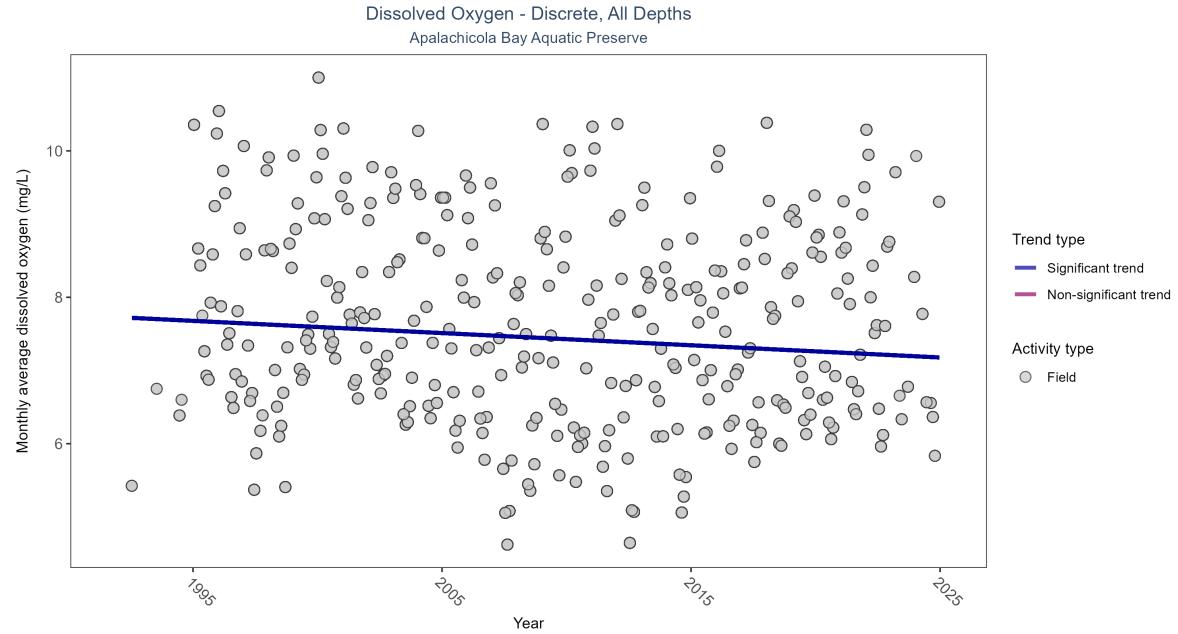
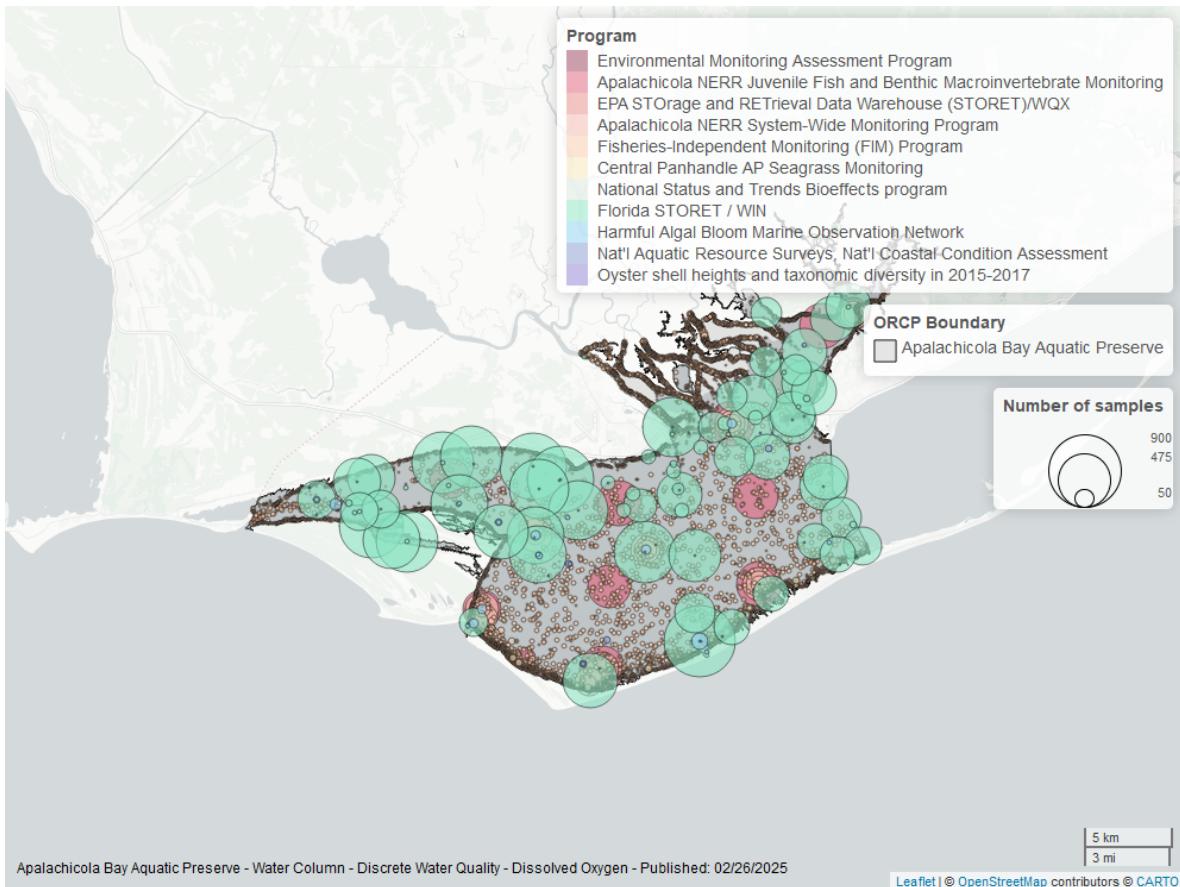


Table 3: Seasonal Kendall-Tau Results for - Dissolved Oxygen

Activity Type	Statistical Trend	Sample Count	Years with Data	Period of Record	Median Result Value	Tau	Sen Intercept	Sen Slope	P
Field	Significantly decreasing trend	52445	33	1992 - 2024	7.5	-0.13648	7.72796	-0.01668	0.00031804160556127



## Dissolved Oxygen - Continuous

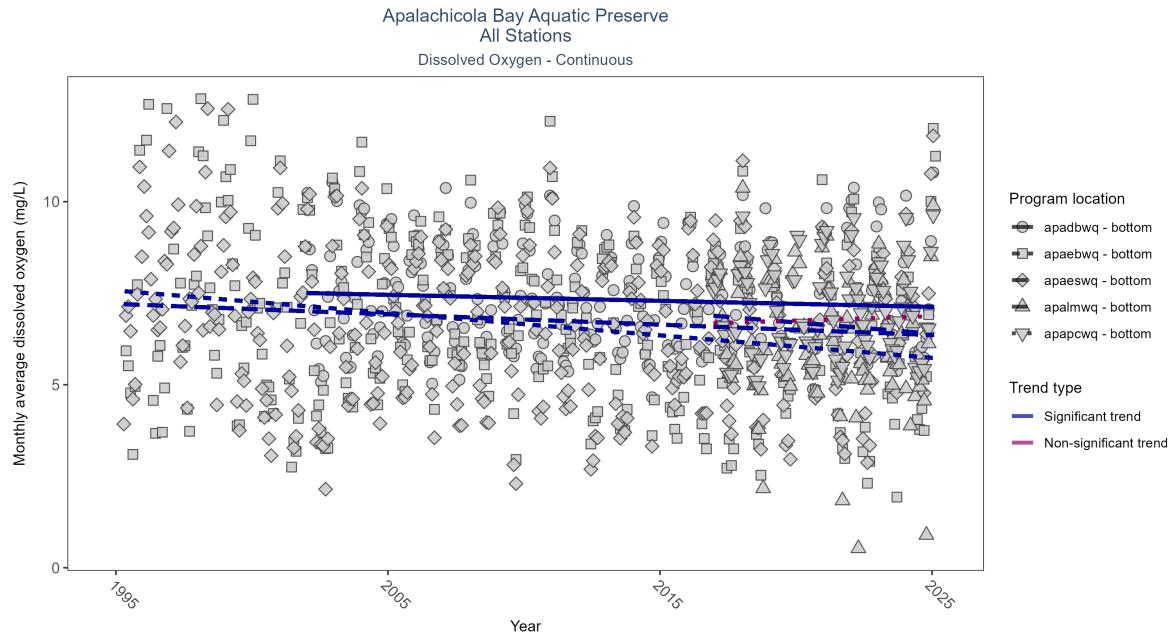
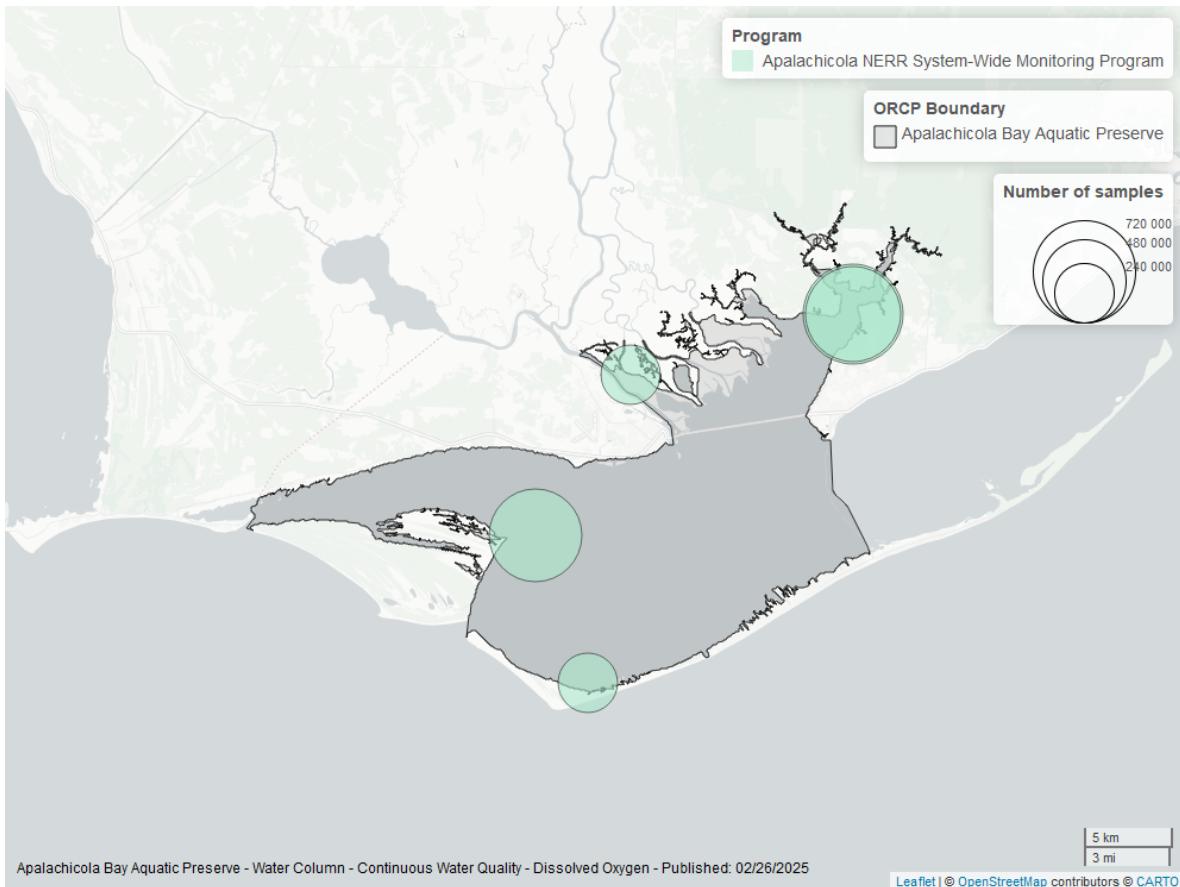


Table 4: Seasonal Kendall-Tau Results for All Stations - Dissolved Oxygen

Program Location	Statistical Trend	Sample Count	Years with Data	Period of Record	Median Result Value	Tau	Sen Intercept	Sen Slope	P
apaebwq	Significantly decreasing trend	665356	31	1995 - 2025	6.8	-0.28	7.57	-0.06	0.000000000003254452
apaeswq	Significantly decreasing trend	715193	31	1995 - 2025	6.8	-0.15	7.21	-0.03	0.0001022870936938433
apapcwq	No significant trend	267810	10	2016 - 2025	6.9	0.07	6.66	0.02	0.3507834416771971608
apadbwq	Significantly decreasing trend	621272	24	2002 - 2025	7.3	-0.15	7.50	-0.02	0.0006328747670497813
apalmwq	Significantly decreasing trend	255049	10	2016 - 2025	6.3	-0.22	6.94	-0.06	0.0095457724965874631



## Dissolved Oxygen Saturation - Discrete

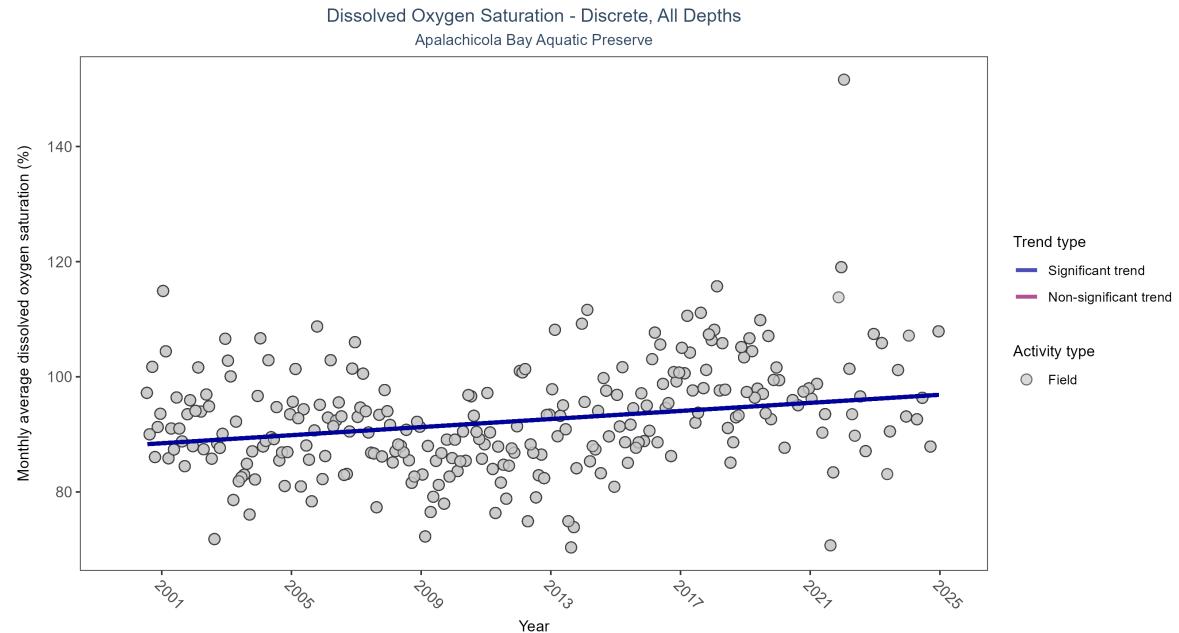
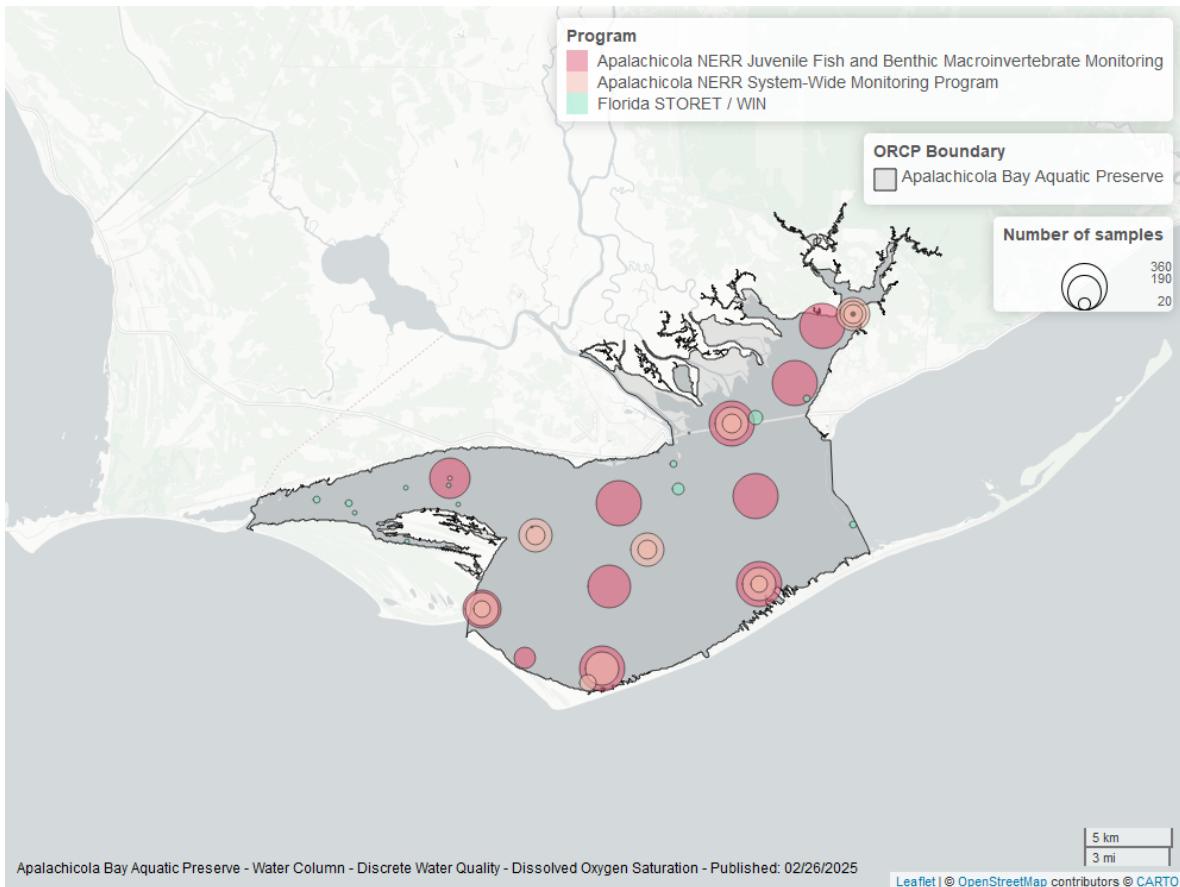


Table 5: Seasonal Kendall-Tau Results for - Dissolved Oxygen Saturation

Activity Type	Statistical Trend	Sample Count	Years with Data	Period of Record	Median Result Value	Tau	Sen Intercept	Sen Slope	P
Field	Significantly increasing trend	5540	25	2000 - 2024	92.75	0.21294	88.10573	0.35082	0.000001704014488054473692611387458661909022339386865496635437011718750000



## Dissolved Oxygen Saturation - Continuous

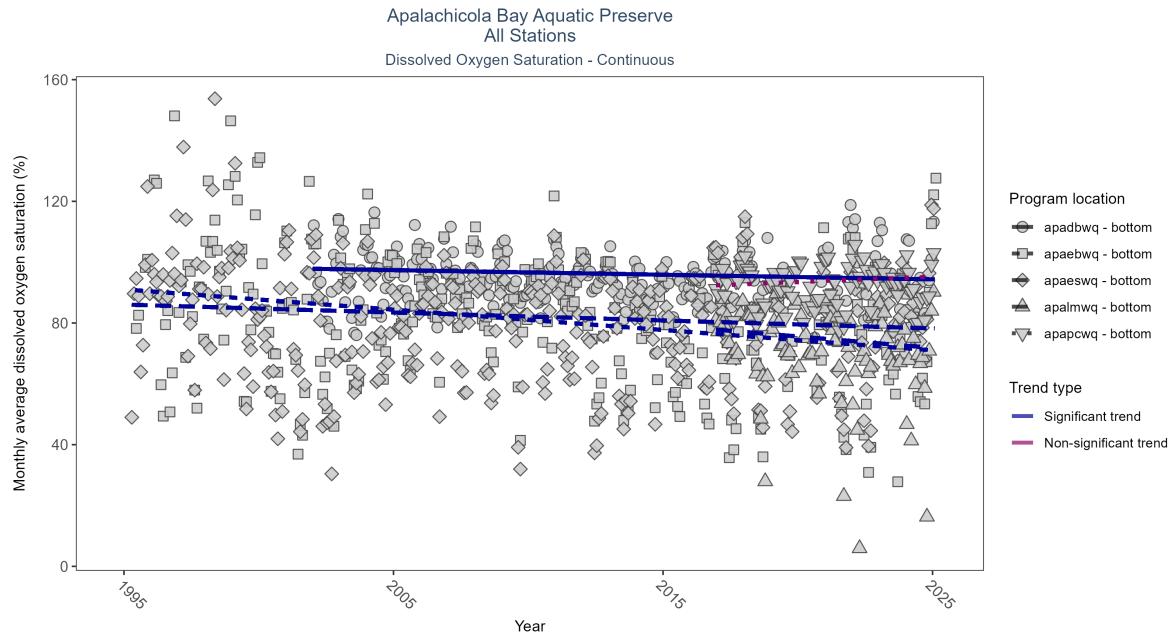
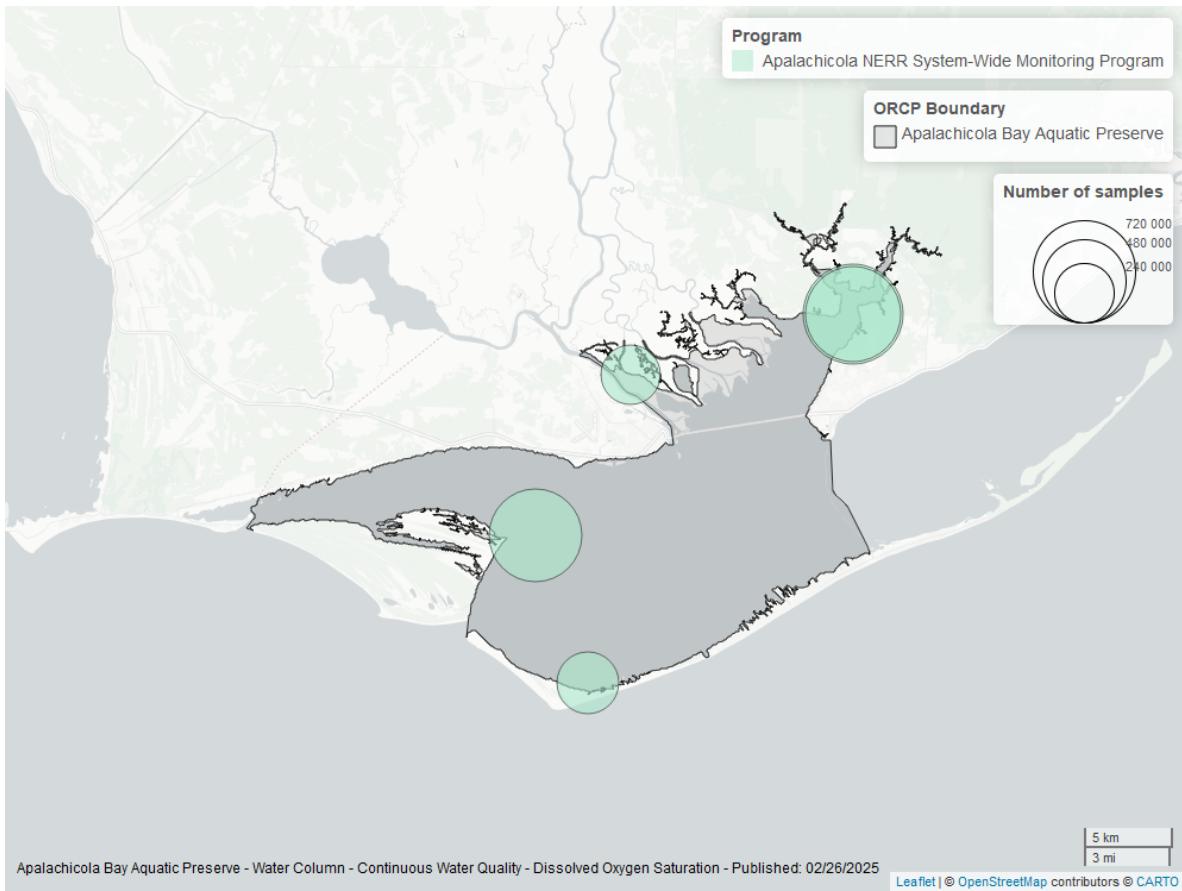


Table 6: Seasonal Kendall-Tau Results for All Stations - Dissolved Oxygen Saturation

Program Location	Statistical Trend	Sample Count	Years with Data	Period of Record	Median Result Value	Tau	Sen Intercept	Sen Slope	P
apadbwq	Significantly decreasing trend	624721	24	2002 - 2025	94.7	-0.10	97.83	-0.15	0.02473376191715601
apaeswq	Significantly decreasing trend	716357	31	1995 - 2025	84.2	-0.11	86.07	-0.26	0.00445566210914369
apaebwq	Significantly decreasing trend	661181	31	1995 - 2025	84.8	-0.25	91.06	-0.67	0.0000000007637786
apapcwq	No significant trend	271266	10	2016 - 2025	94.1	0.11	92.05	0.35	0.15651649174938898
apalmwq	Significantly decreasing trend	255585	10	2016 - 2025	74.7	-0.22	78.57	-0.75	0.00779136918673684



## Salinity - Discrete

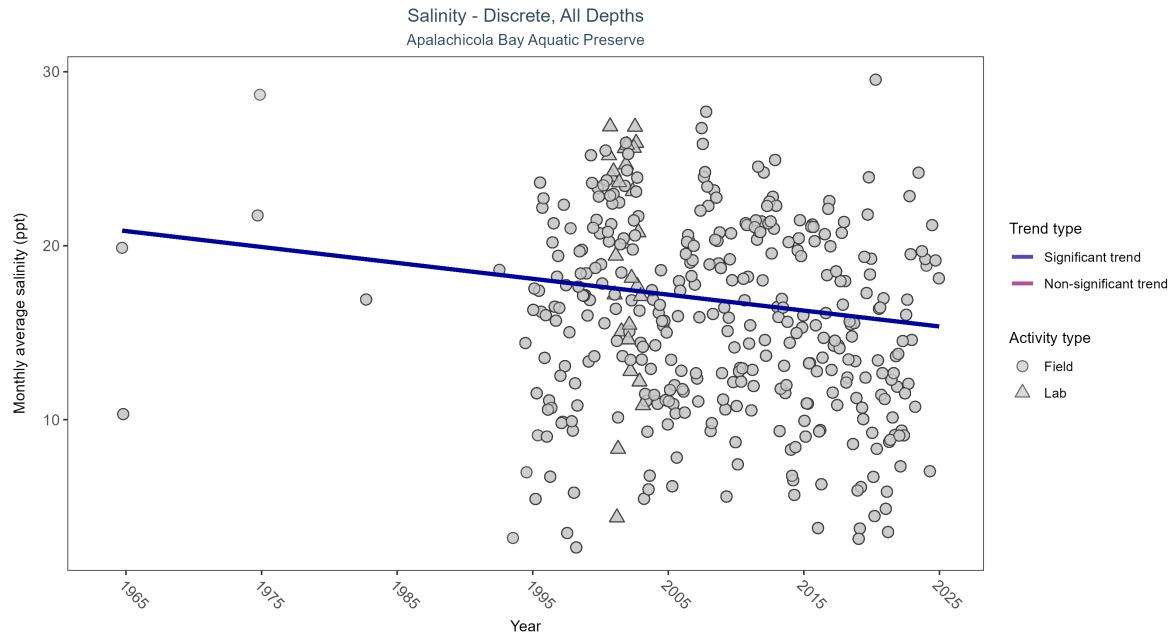
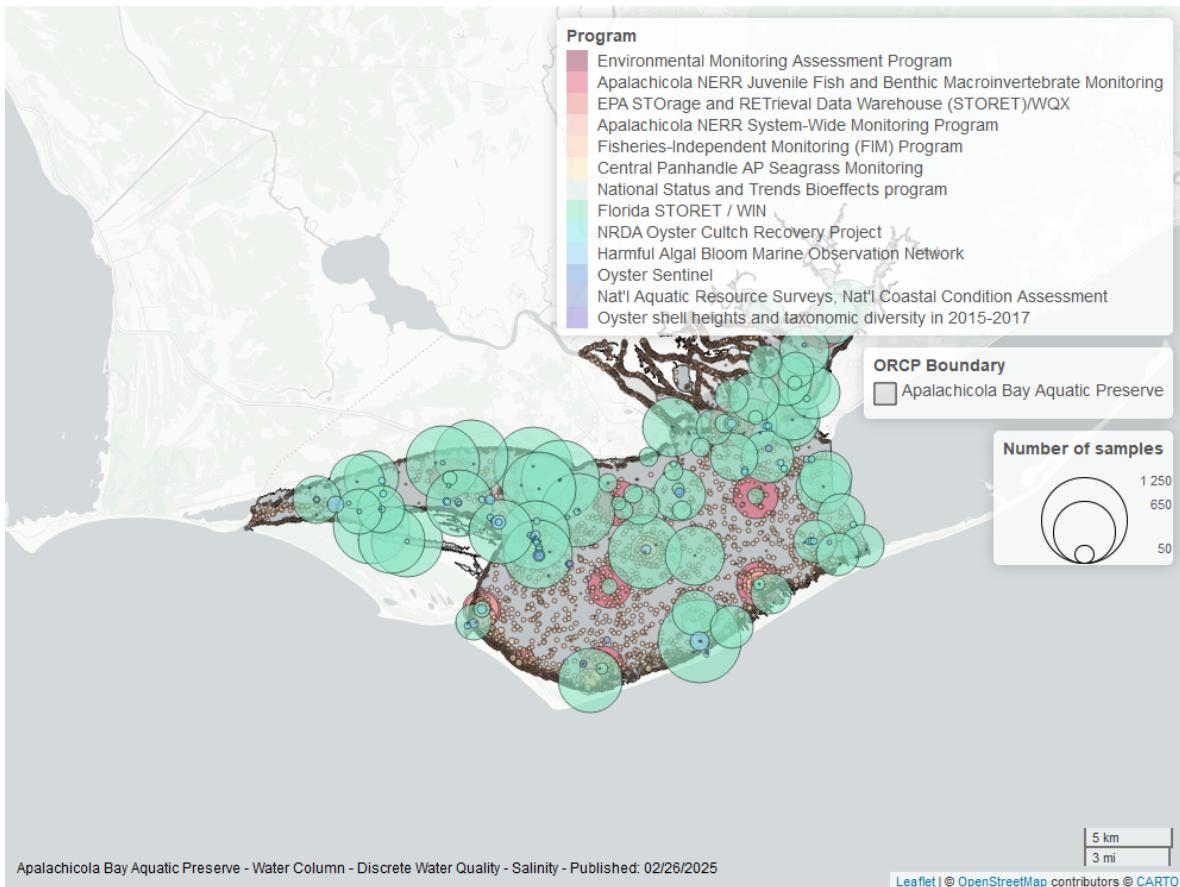


Table 7: Seasonal Kendall-Tau Results for - Salinity

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	61449	36	1964 - 2024	15.8	-0.11647	20.93299	-0.09139	0.00227543466645419760821522636717872956069186330



## Salinity - Continuous

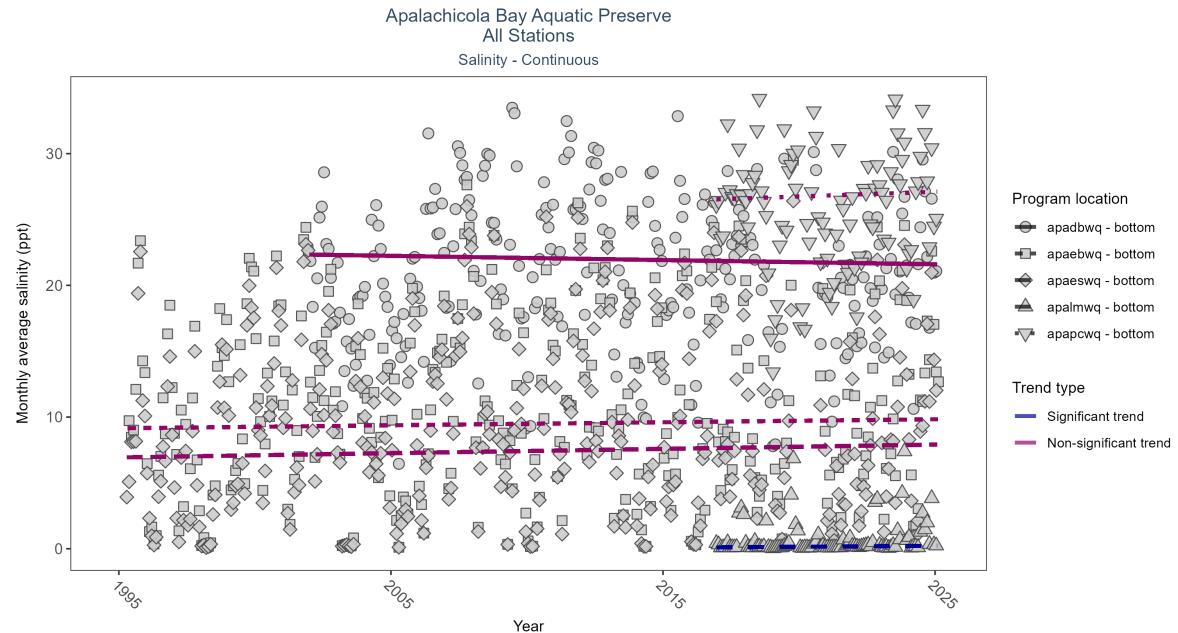
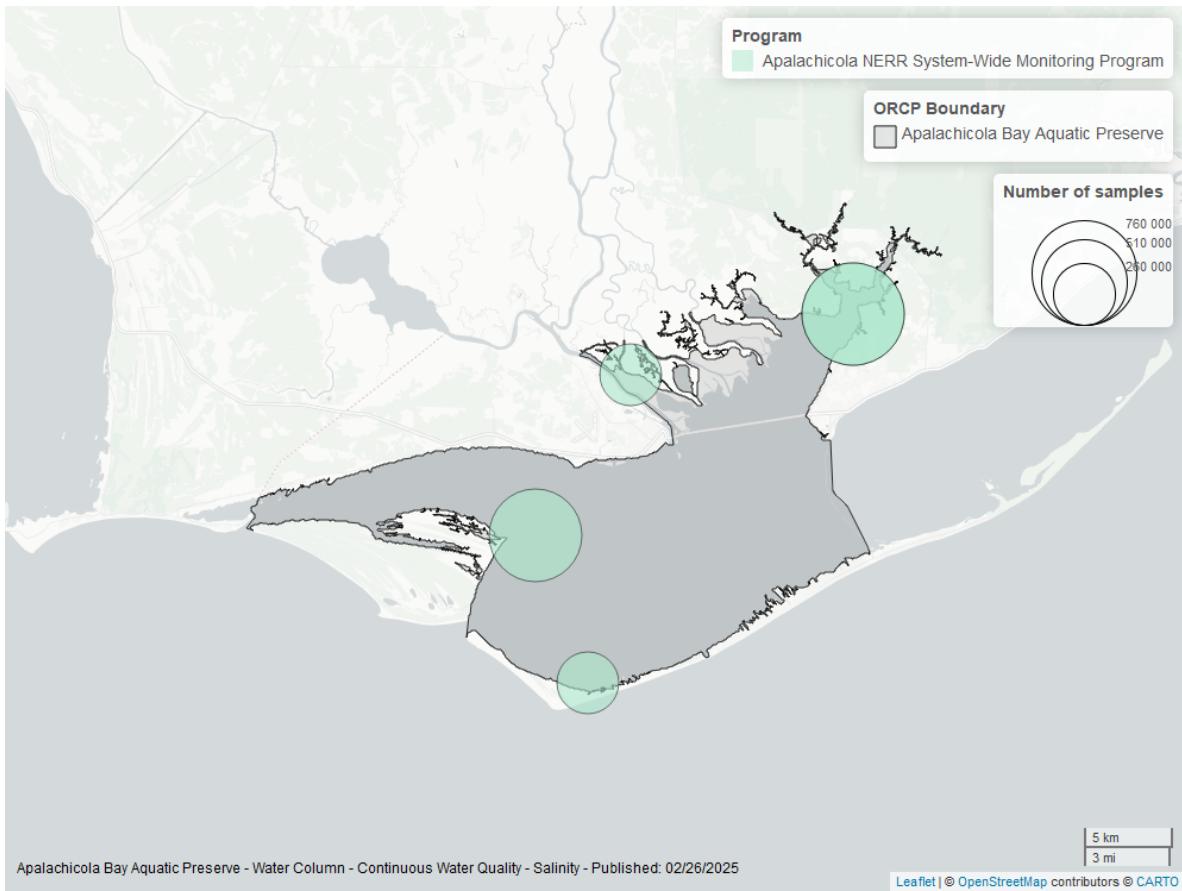


Table 8: Seasonal Kendall-Tau Results for All Stations - Salinity

Program Location	Statistical Trend	Sample Count	Years with Data	Period of Record	Median Result Value	Tau	Sen Intercept	Sen Slope	P
apaeswq	No significant trend	759370	31	1995 - 2025	7.6	0.05	6.93	0.03	0.172428086074580489
apaebwq	No significant trend	747149	31	1995 - 2025	9.9	0.04	9.14	0.02	0.305911126244353404
apadbwq	No significant trend	619355	24	2002 - 2025	22.1	-0.03	22.34	-0.03	0.437116444623261935
apalmwq	Significantly increasing trend	270761	10	2016 - 2025	0.1	0.23	0.09	0.01	0.006269134862473398
apapcwq	No significant trend	270115	10	2016 - 2025	26.8	0.03	26.46	0.07	0.703841543814700765



## Water Temperature - Discrete

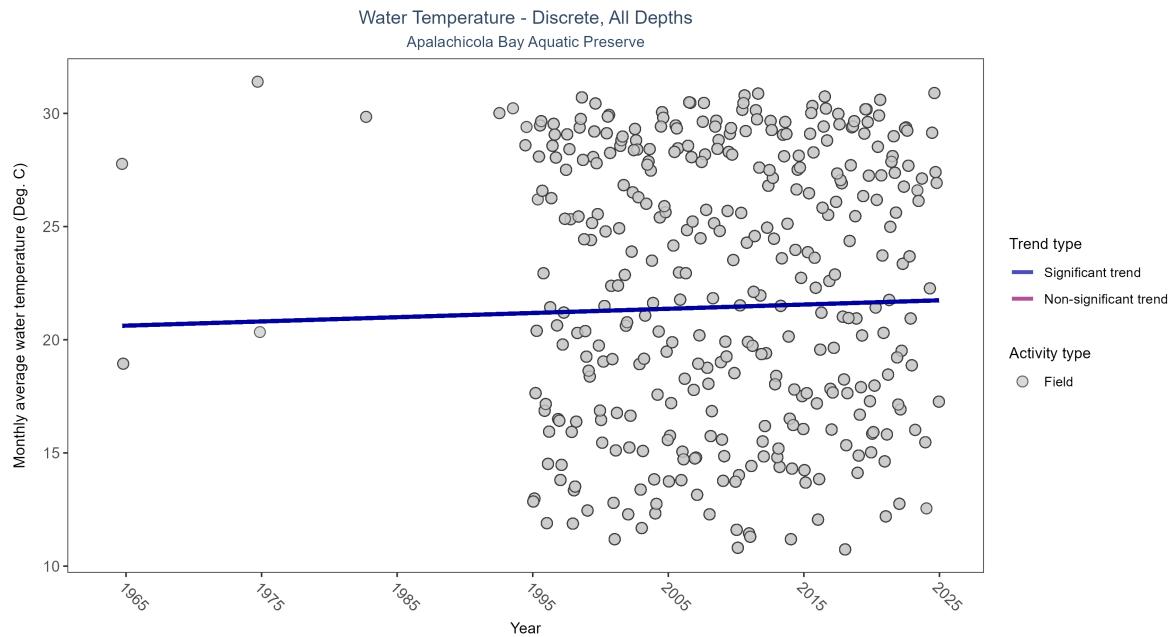
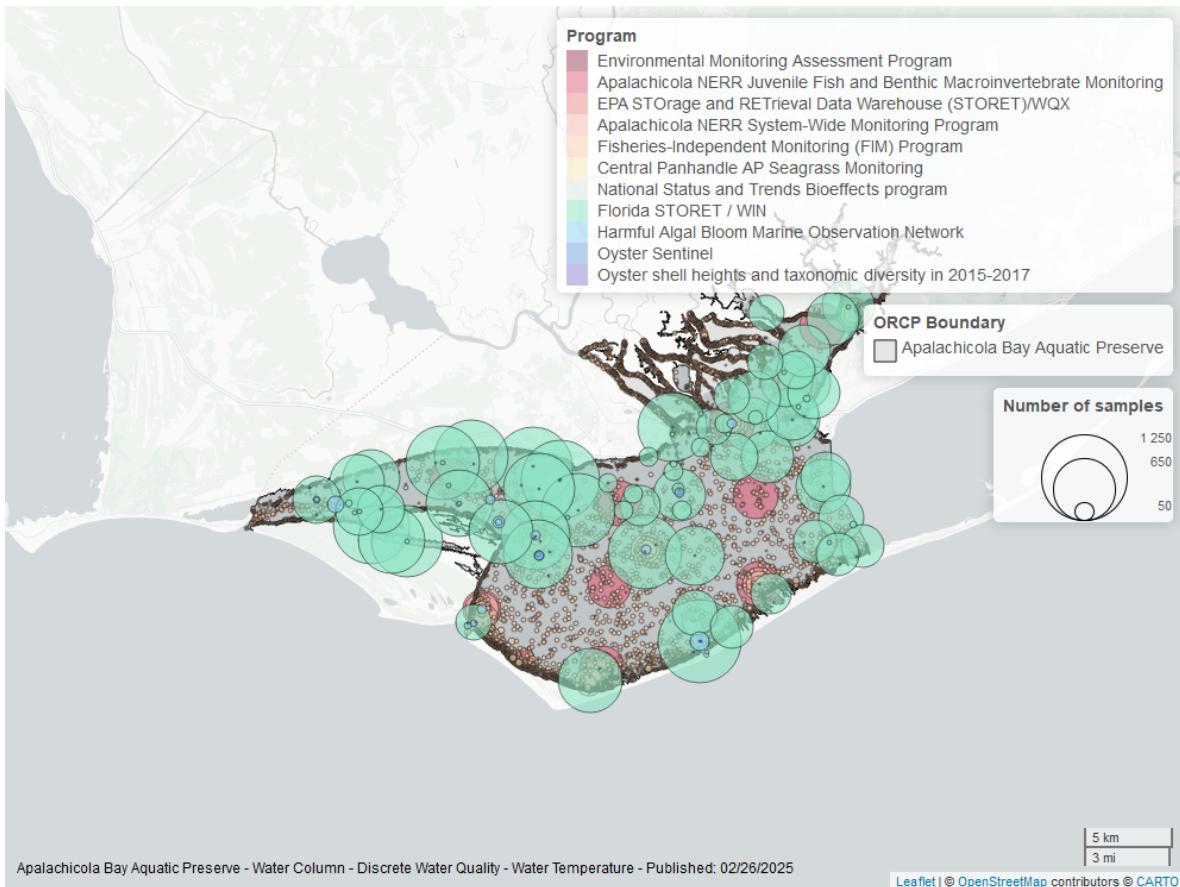


Table 9: Seasonal Kendall-Tau Results for - Water Temperature

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	61315	36	1964 - 2024	24	0.08861	20.60392	0.01865	0.022552294252378060



## Water Temperature - Continuous

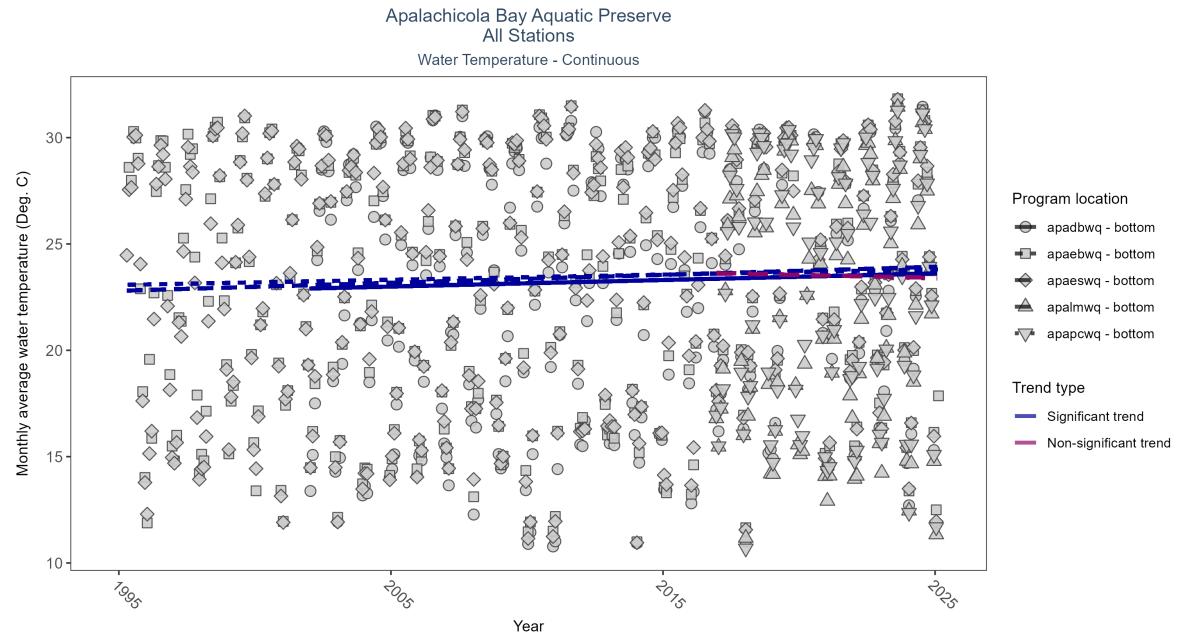
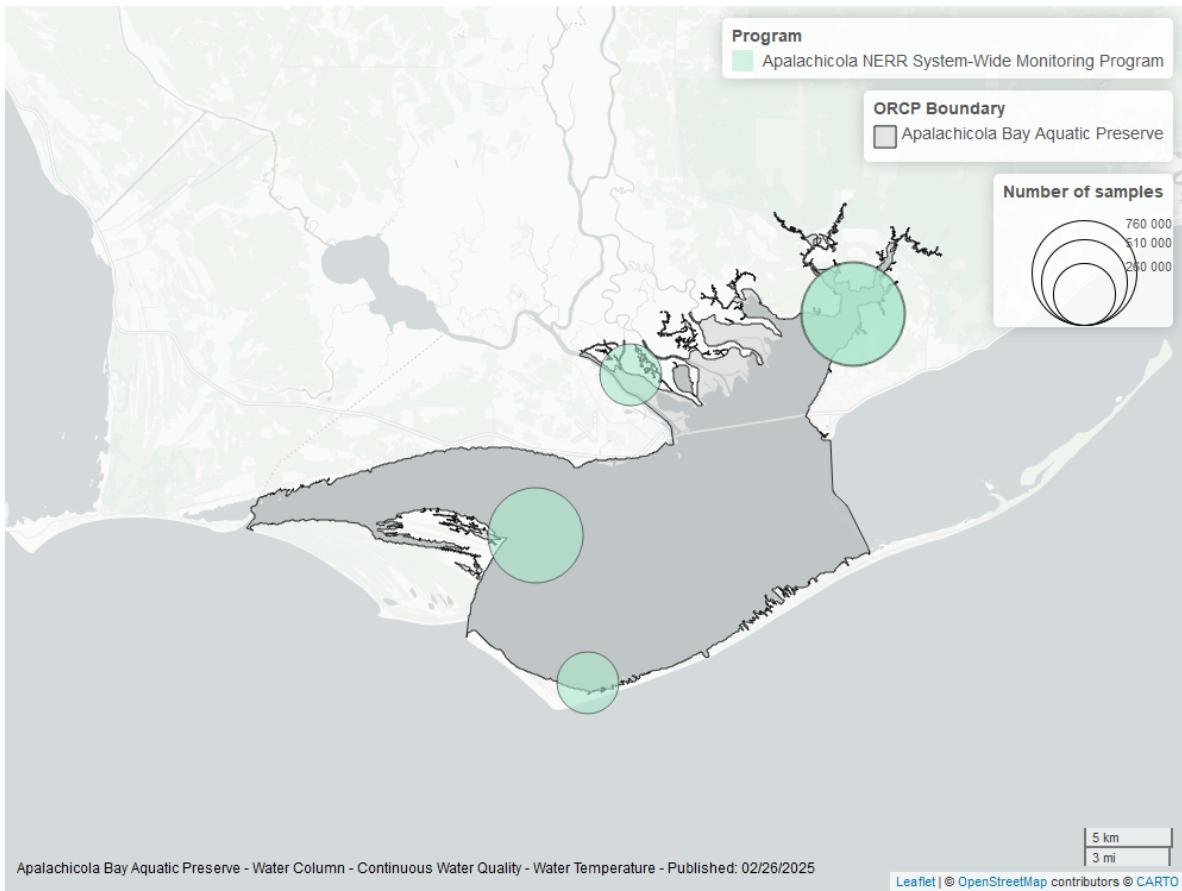


Table 10: Seasonal Kendall-Tau Results for All Stations - Water Temperature

Program Location	Statistical Trend	Sample Count	Years with Data	Period of Record	Median Result Value	Tau	Sen Intercept	Sen Slope	P
apadbwq	Significantly increasing trend	644531	24	2002 - 2025	23.3	0.14	22.90	0.03	0.0010729242965580232035960328573765
apaeswq	Significantly increasing trend	768616	31	1995 - 2025	24.2	0.19	22.80	0.04	0.000000838256971310900757000295832
apalmwq	No significant trend	273020	10	2016 - 2025	22.6	-0.03	23.64	-0.02	0.7038415438147007652247566511505283
apaebwq	Significantly increasing trend	762203	31	1995 - 2025	24.2	0.15	23.07	0.02	0.0001219612130893453564835574032266
apapcwq	No significant trend	273607	10	2016 - 2025	23.1	-0.06	23.68	-0.03	0.4680094008781411352160262140387204



## pH - Discrete

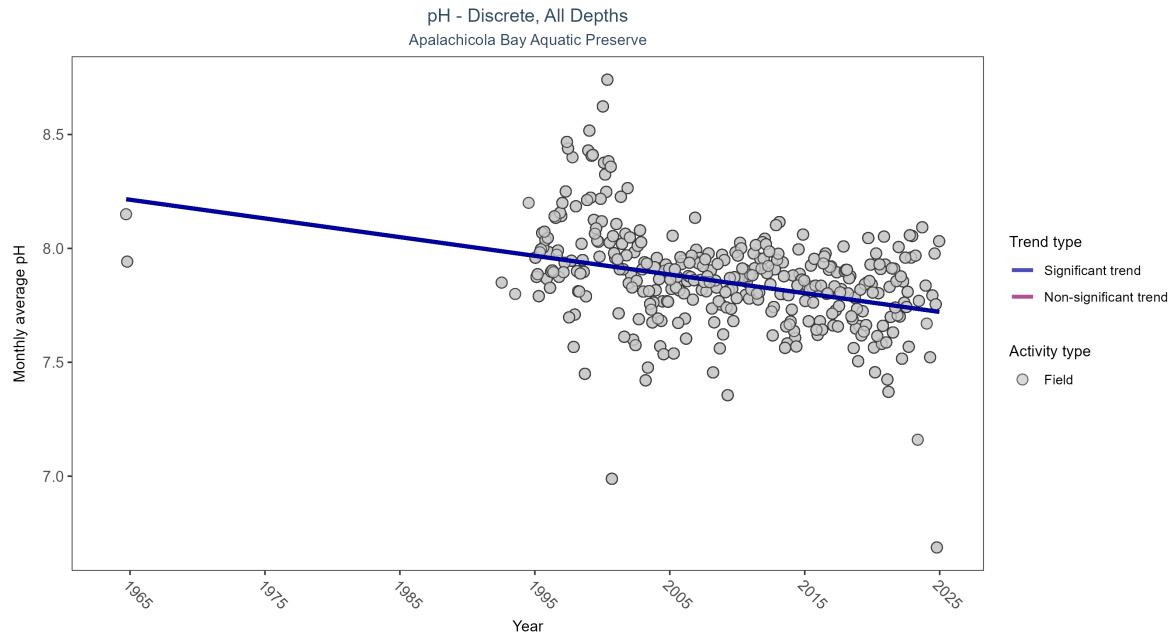
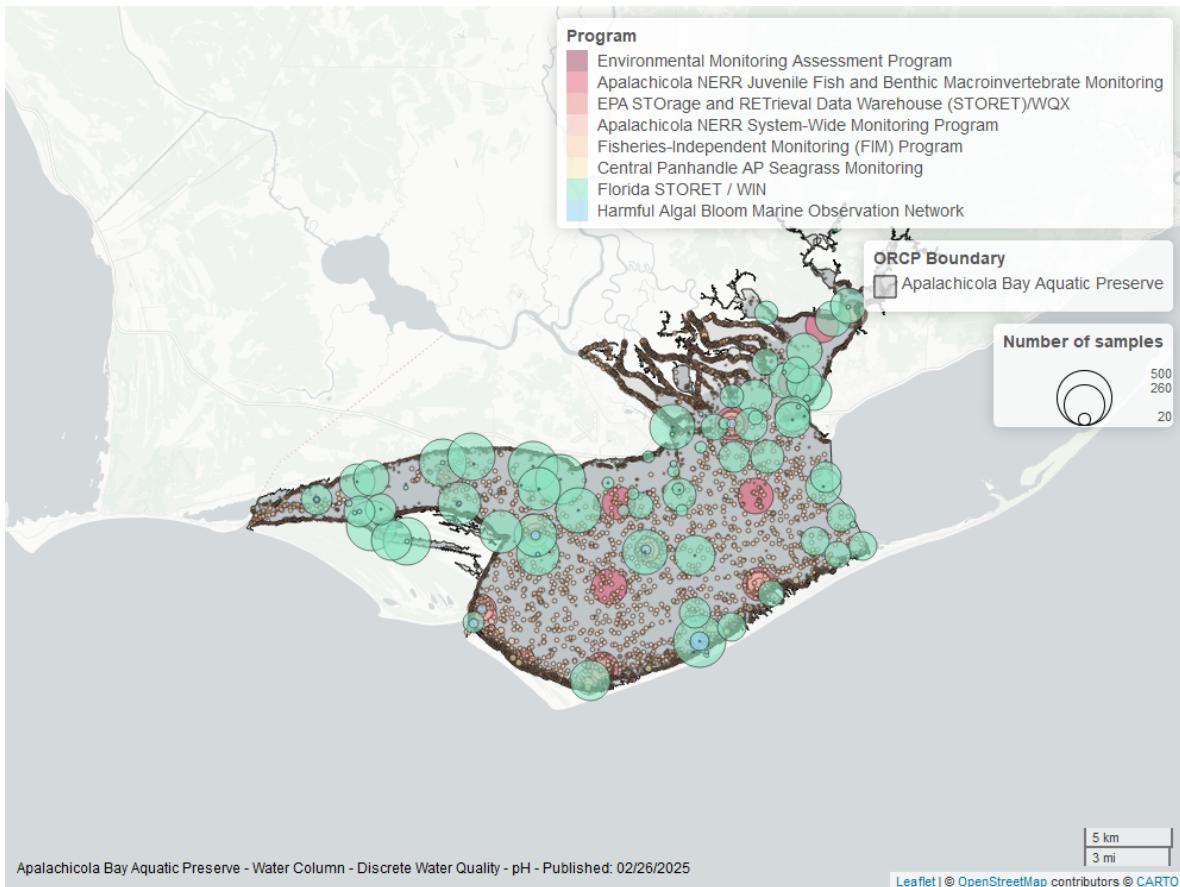


Table 11: Seasonal Kendall-Tau Results for - pH

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	40959	34	1964 - 2024	8	-0.27687	8.22181	-0.00821	0.00000000000020575130787096666395031424601



## pH - Continuous

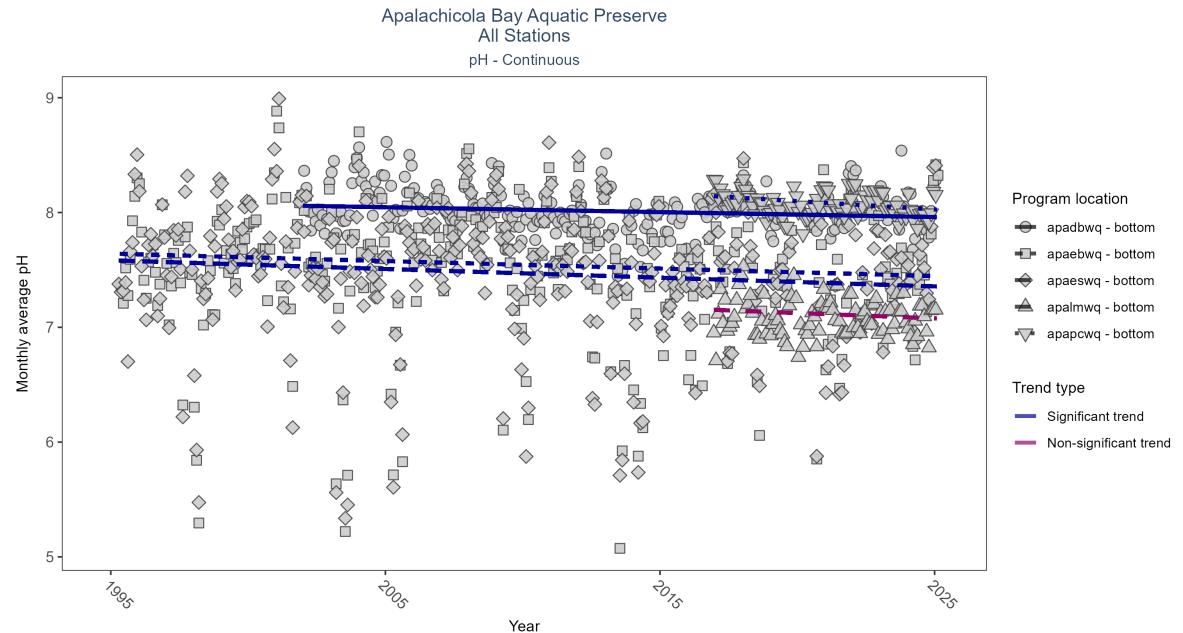
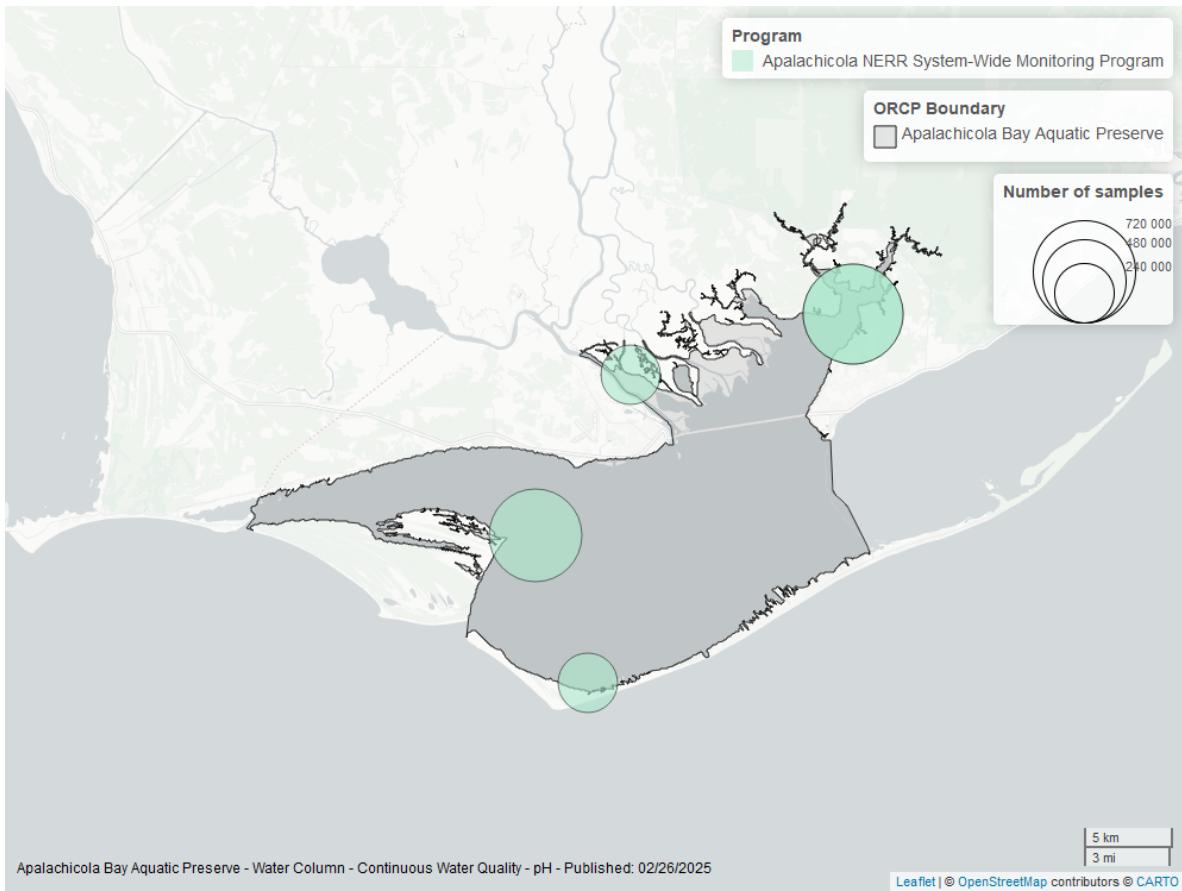


Table 12: Seasonal Kendall-Tau Results for All Stations - pH

Program Location	Statistical Trend	Sample Count	Years with Data	Period of Record	Median Result Value	Tau	Sen Intercept	Sen Slope	P
apadbwq	Significantly decreasing trend	602330	24	2002 - 2025	8.0	-0.14	8.06	0.00	0.00193450571
apalmwq	No significant trend	263183	10	2016 - 2025	7.1	-0.07	7.16	-0.01	0.42670771780
apaebwq	Significantly decreasing trend	717948	31	1995 - 2025	7.6	-0.11	7.64	-0.01	0.00293877308
apaeswq	Significantly decreasing trend	719429	31	1995 - 2025	7.5	-0.12	7.58	-0.01	0.00107025466
apapcwq	Significantly decreasing trend	267739	10	2016 - 2025	8.1	-0.28	8.16	-0.01	0.00062331848



## Water Clarity

### Turbidity - Discrete

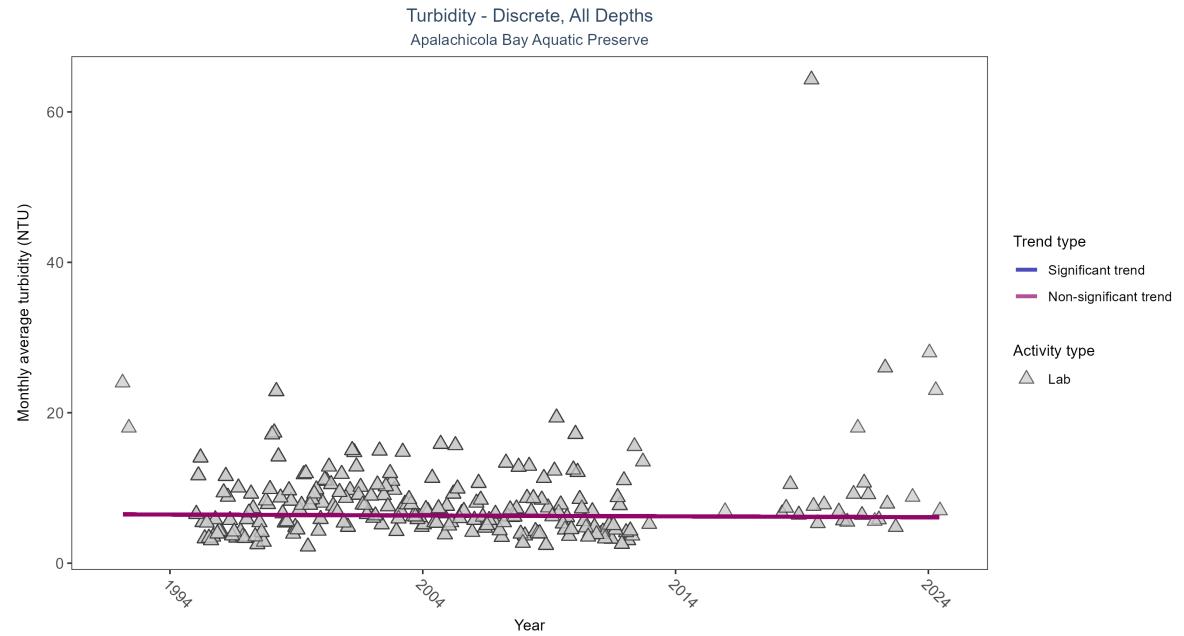
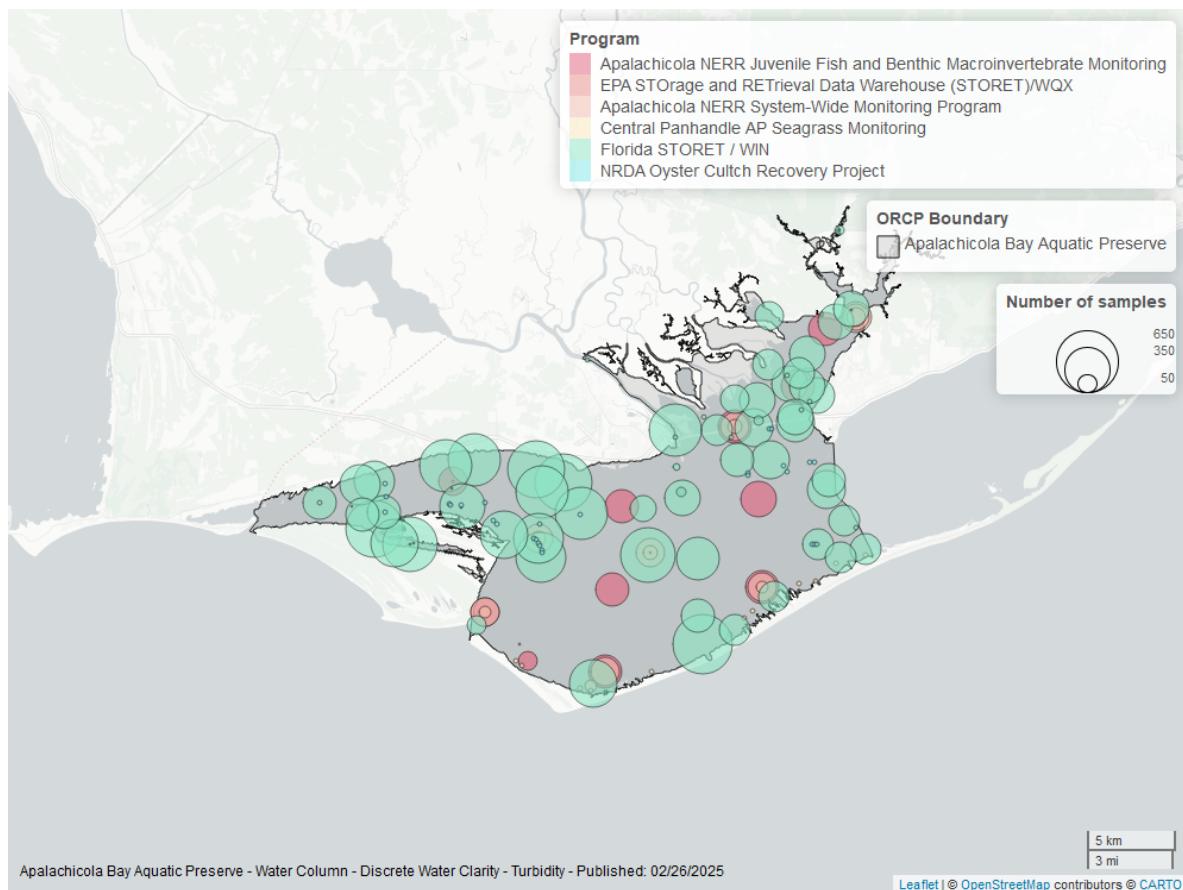


Table 13: Seasonal Kendall-Tau Results for - Turbidity

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	15518	27	1992 - 2024	5.6	-0.02593	6.48776	-0.01191	0.63385733654692766326



## Turbidity - Continuous

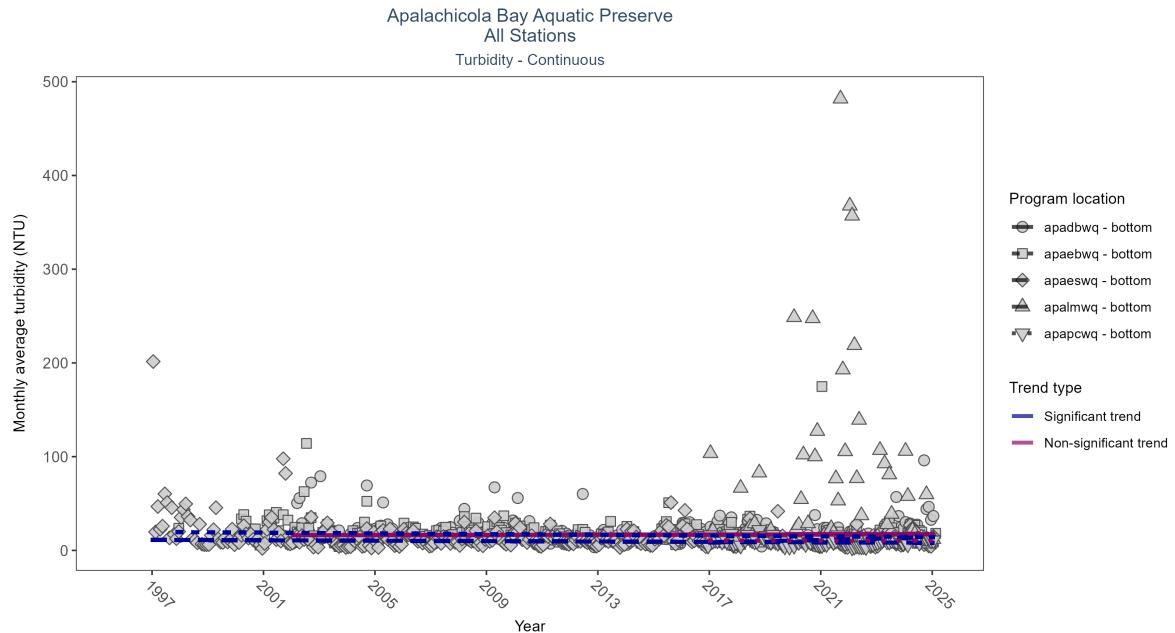
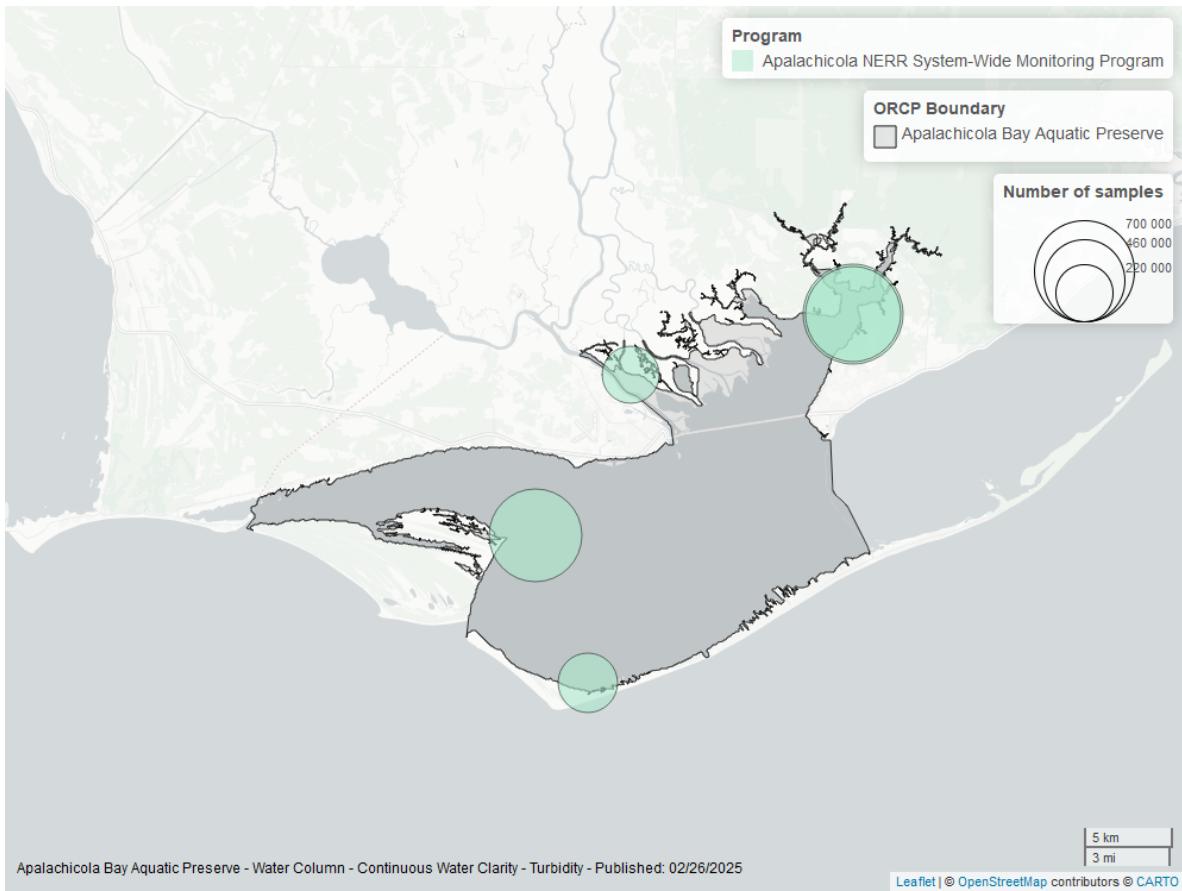


Table 14: Seasonal Kendall-Tau Results for All Stations - Turbidity

Program Location	Statistical Trend	Sample Count	Years with Data	Period of Record	Median Result Value	Tau	Sen Intercept	Sen Slope	P
apaeswq	Significantly decreasing trend	703229	30	1996 - 2025	9	-0.15	11.32	-0.11	0.0001793902946904
apapcwq	No significant trend	258576	10	2016 - 2025	7	-0.03	10.47	-0.03	0.779478399643059
apaebwq	Significantly decreasing trend	635704	27	1997 - 2025	13	-0.19	19.68	-0.19	0.0000055443408821
apadbwq	No significant trend	605643	24	2002 - 2025	10	0.04	16.11	0.05	0.3209088857261738
apalmwq	Significantly increasing trend	245206	10	2016 - 2025	12	0.20	7.63	0.70	0.0173131039581622



## Total Suspended Solids - Discrete

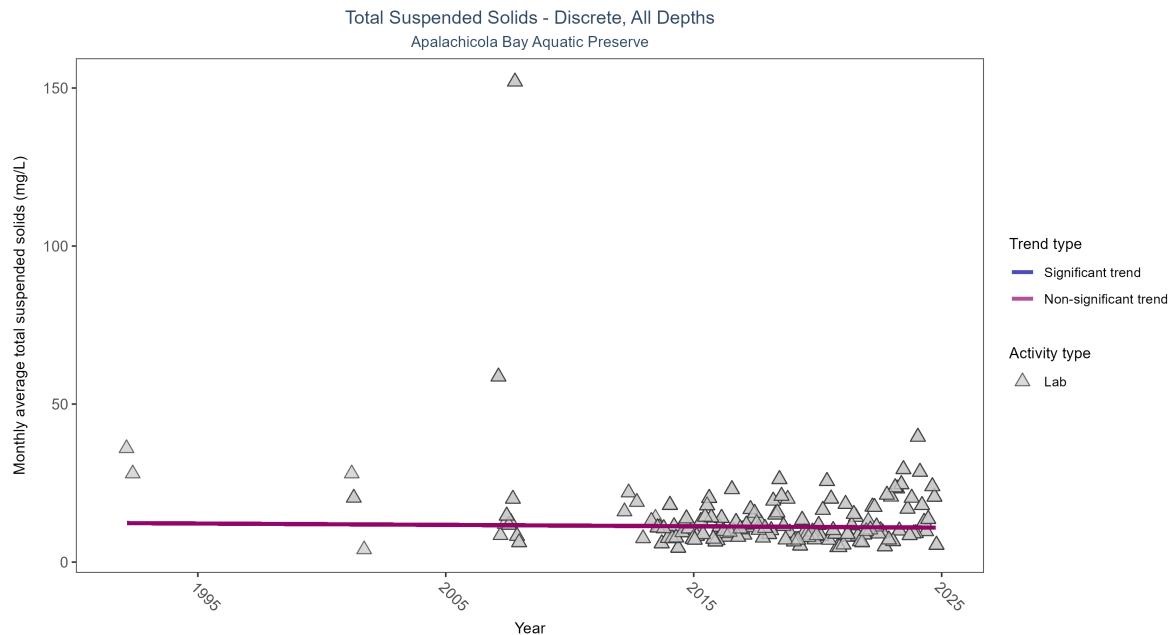
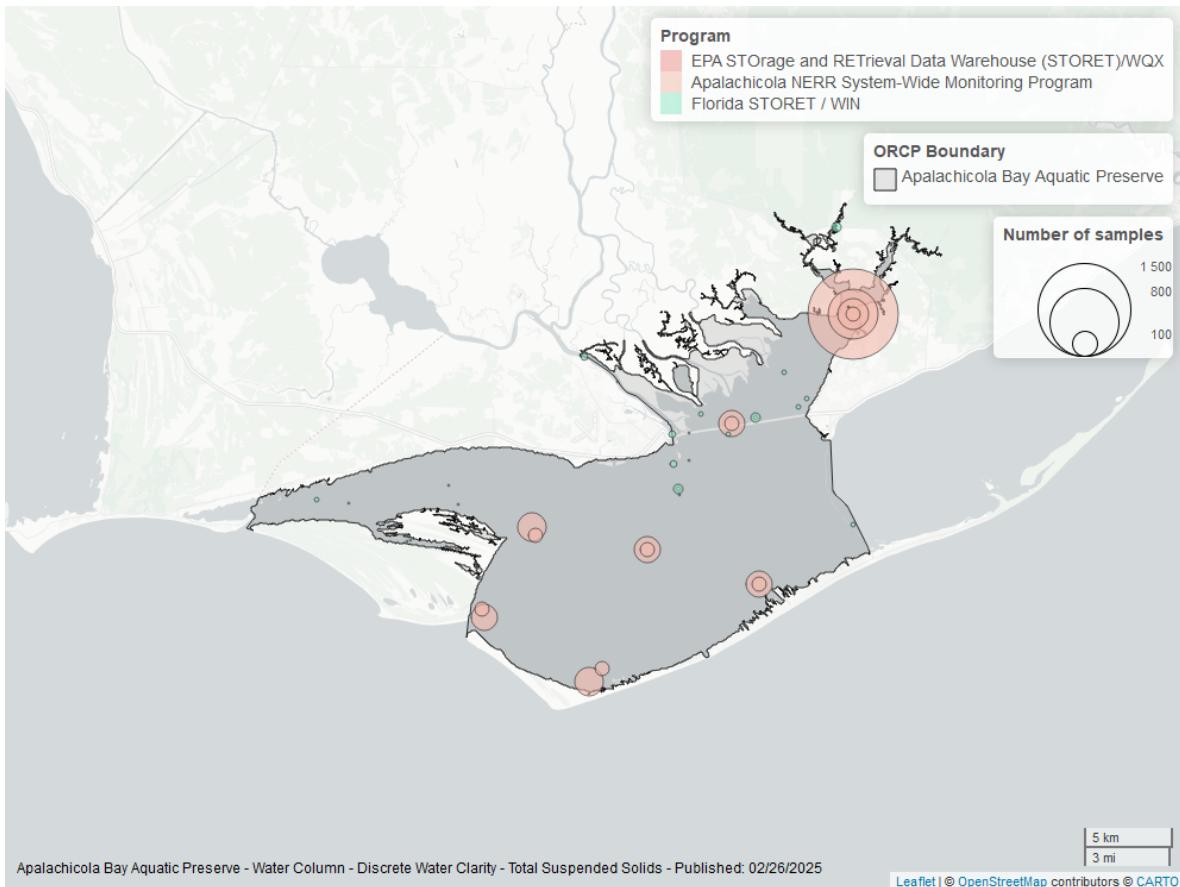


Table 15: Seasonal Kendall-Tau Results for - Total Suspended Solids

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	3102	16	1992 - 2024	9	-0.01119	12.33579	-0.04386	0.753961108397399382141657042666338



## Chlorophyll a, Uncorrected for Pheophytin - Discrete

Chlorophyll a, Uncorrected for Pheophytin - Discrete, All Depths  
Apalachicola Bay Aquatic Preserve

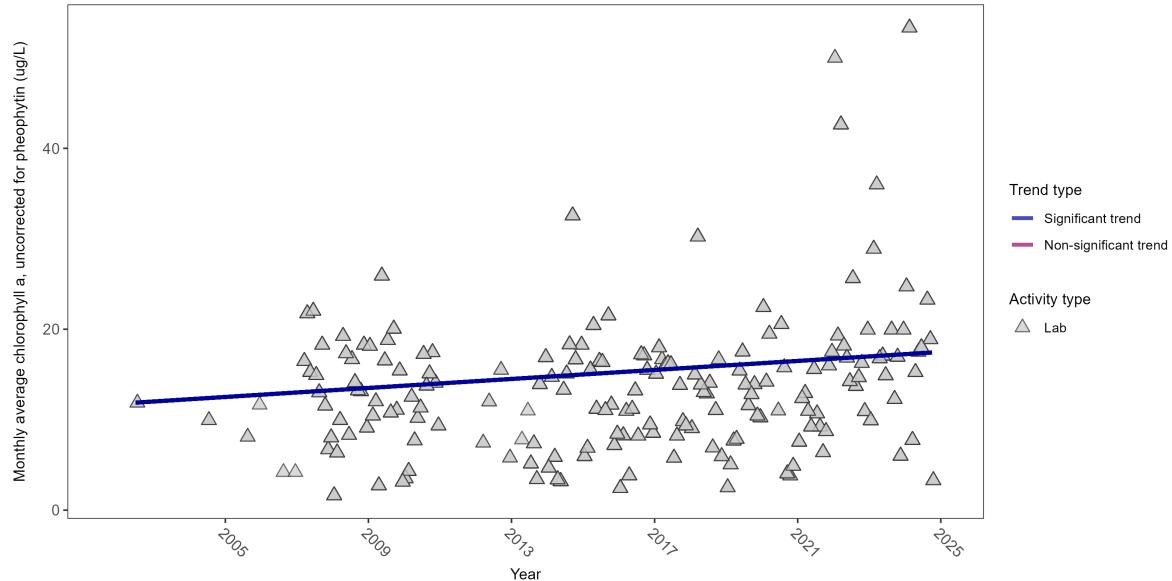
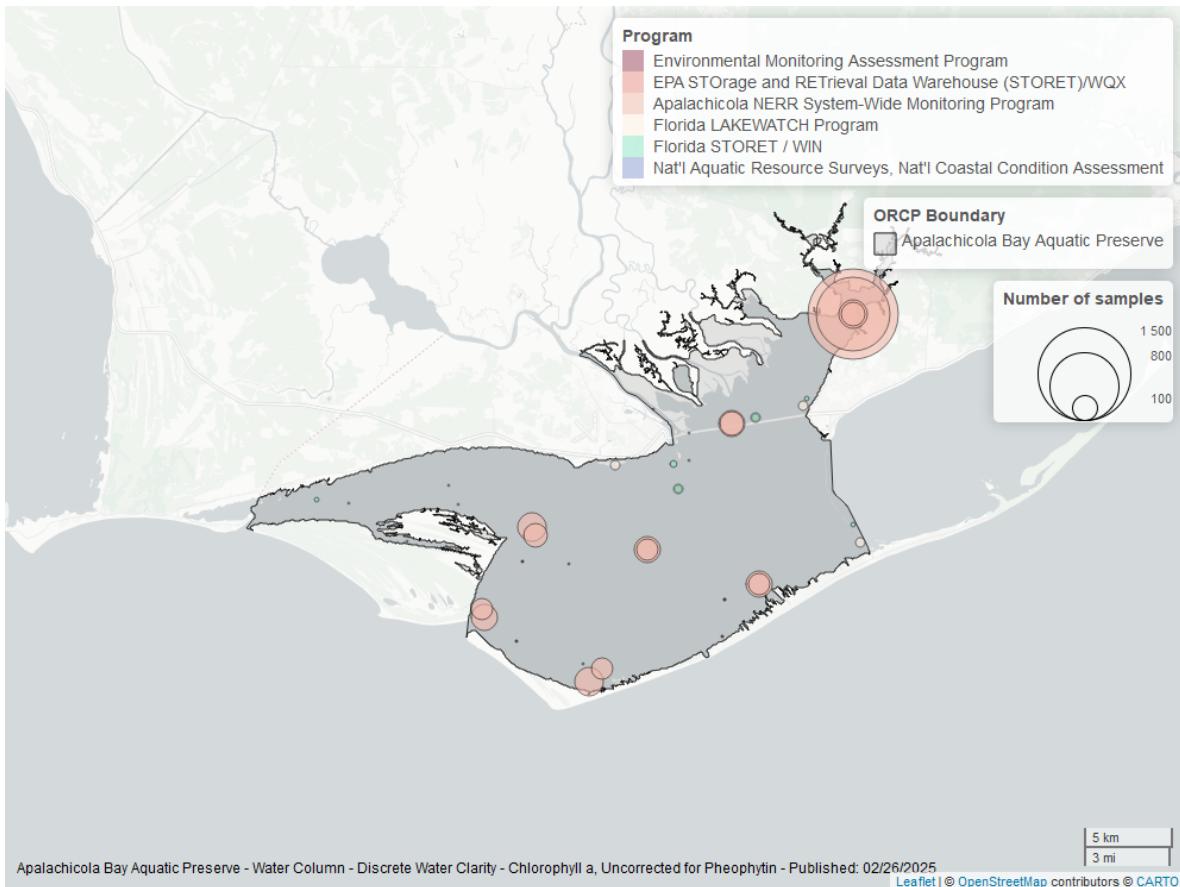


Table 16: Seasonal Kendall-Tau Results for - Chlorophyll a, Uncorrected for Pheophytin

Activity Type	Statistical Trend	Sample Count	Years with Data	Period of Record	Median Result Value	Tau	Sen Intercept	Sen Slope	P
Lab	Significantly increasing trend	3967	21	2002 - 2024	11.65	0.16846	11.76209	0.249	0.00267996847275138666902294



## Chlorophyll a, Corrected for Pheophytin - Discrete

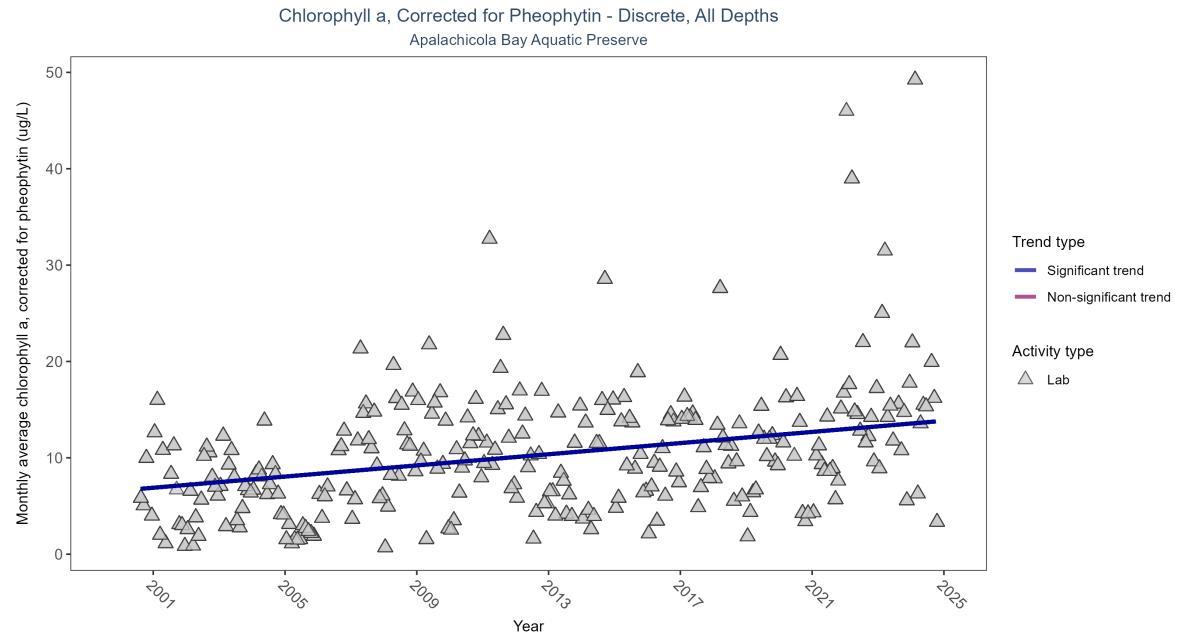
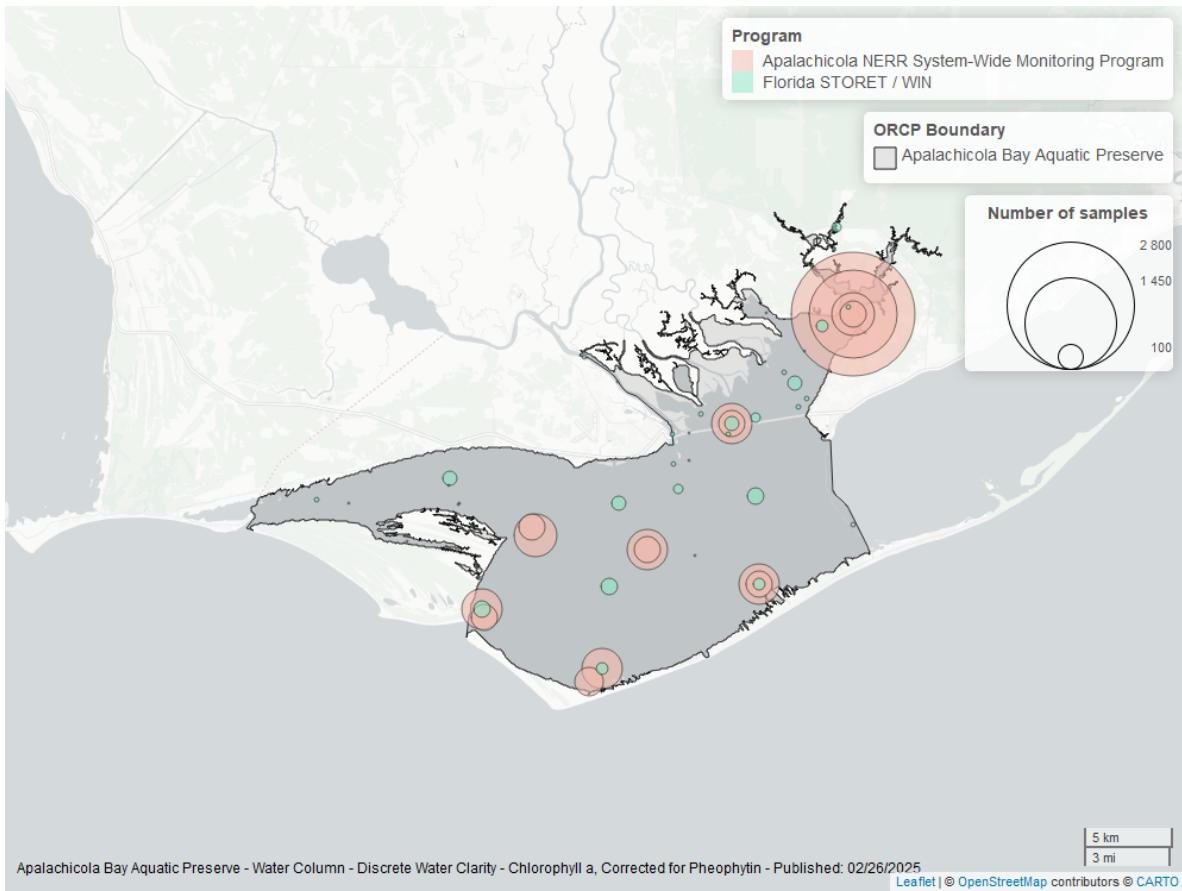


Table 17: Seasonal Kendall-Tau Results for - Chlorophyll a, Corrected for Pheophytin

Activity Type	Statistical Trend	Sample Count	Years with Data	Period of Record	Median Result Value	Tau	Sen Intercept	Sen Slope	P
Lab	Significantly increasing trend	7492	25	2000 - 2024	8.6	0.2849	6.60535	0.28968	0.0000000001131520619533449515



## Secchi Depth - Discrete

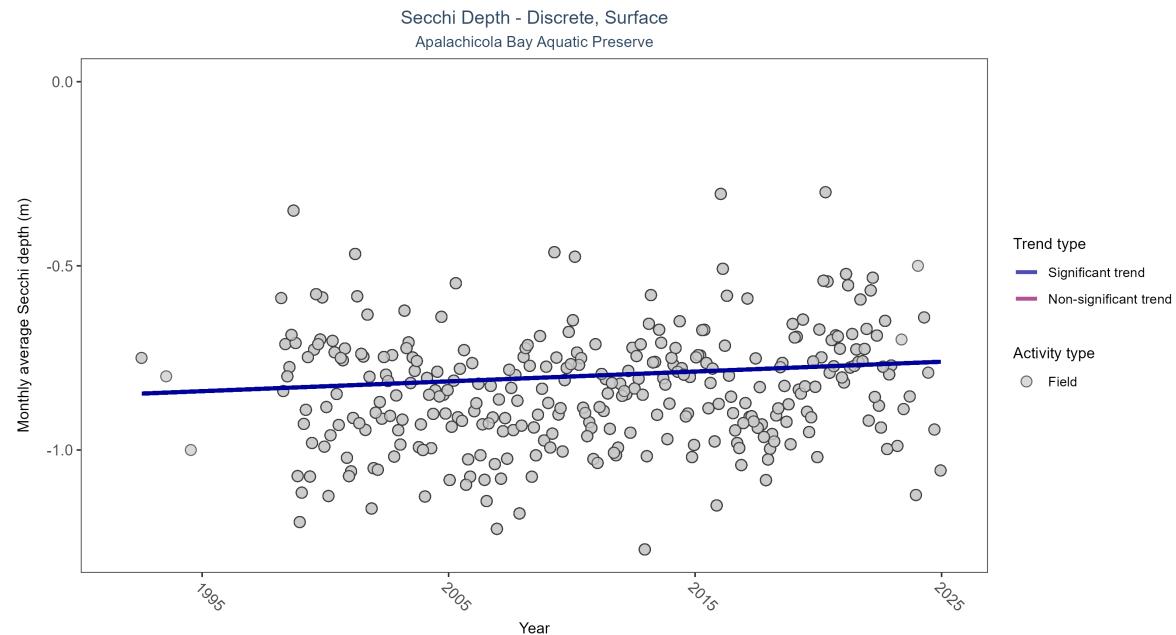
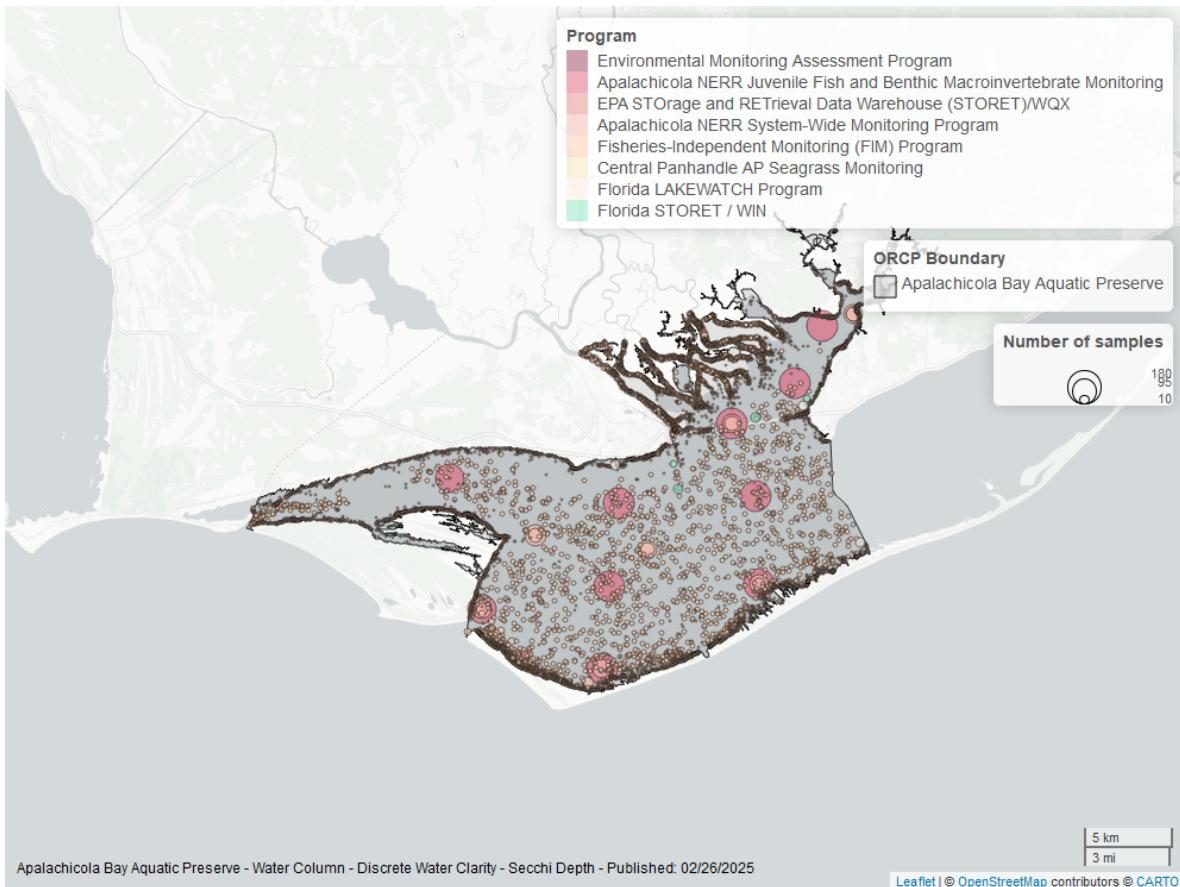


Table 18: Seasonal Kendall-Tau Results for - Secchi Depth

Activity Type	Statistical Trend	Sample Count	Years with Data	Period of Record	Median Result Value	Tau	Sen Intercept	Sen Slope	P
Field	Significantly increasing trend	27112	30	1992 - 2024	-0.8	0.10297	-0.84829	0.00266	0.0151308003520132274000165040206



## Colored Dissolved Organic Matter - Discrete

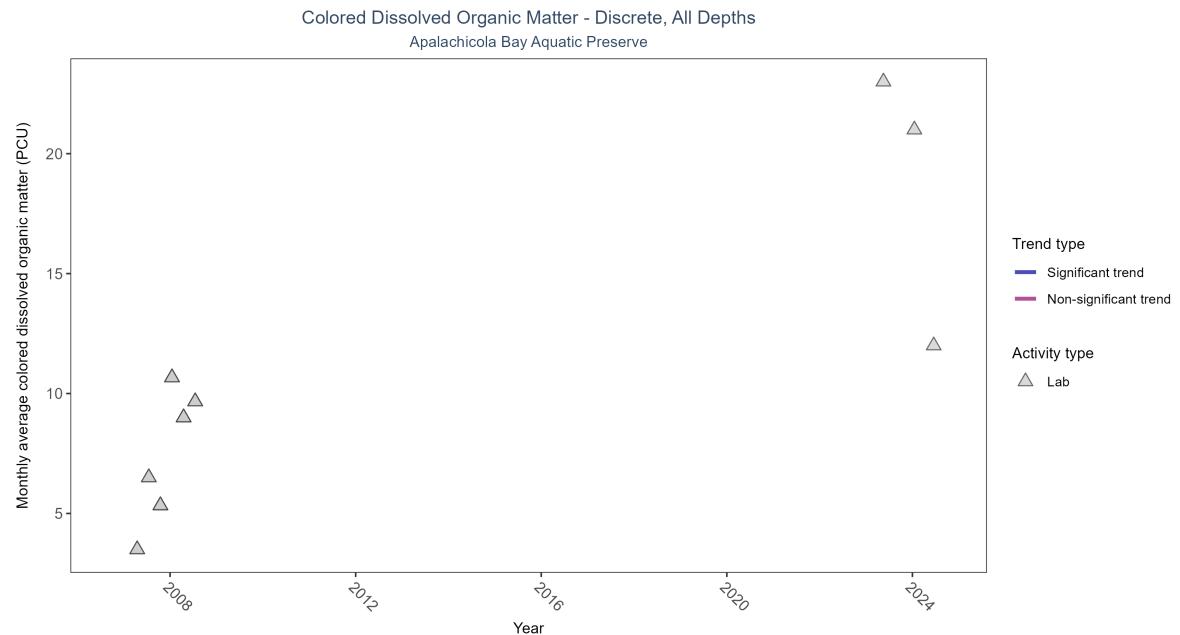


Table 19: Seasonal Kendall-Tau Results for - Colored Dissolved Organic Matter

Activity Type	Statistical Trend	Sample Count	Years with Data	Period of Record	Median Result Value	Tau	Sen Intercept	Sen Slope	P
Lab	Insufficient data to calculate trend	19	4	2007 - 2024		7	-	-	- NA

