

Nassau River-St. Johns River Marshes Aquatic Preserve

SEACAR Water Quality Analysis

Last compiled on 18 March, 2025

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Indicators

Nutrients

Total Nitrogen - Discrete

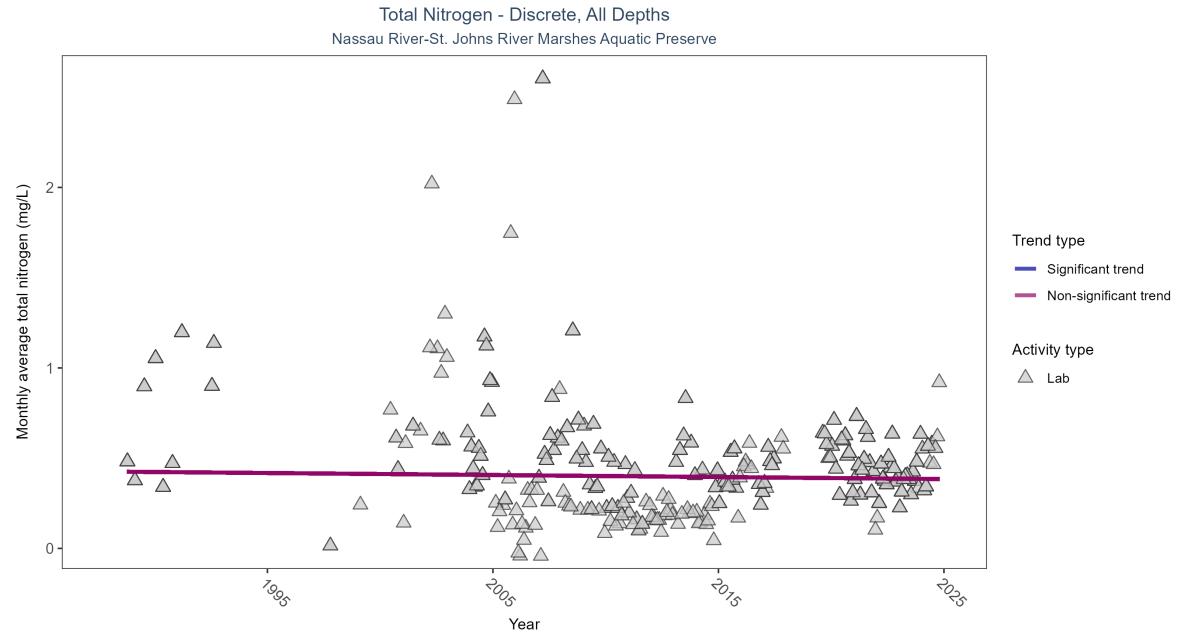
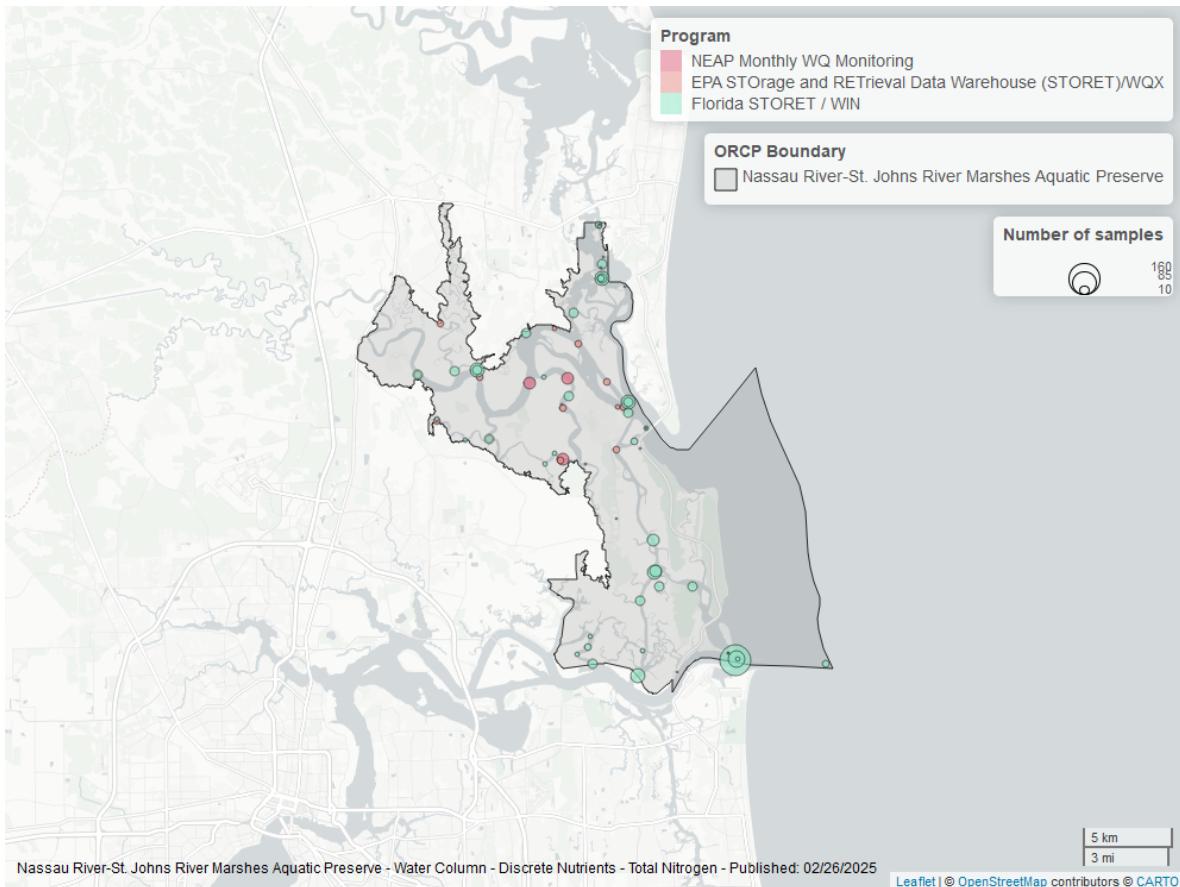


Table 1: Seasonal Kendall-Tau Results for - Total Nitrogen

Activity Type	Statistical Trend	Sample Count	Years with Data	Period of Record	Median Result Value	Tau	Sen Intercept	Sen Slope	P
Lab	No significant trend	984	31	1988 - 2024	0.415	-0.02053	0.42556	-0.00112	0.68524926991258983122179415659



Total Phosphorus - Discrete

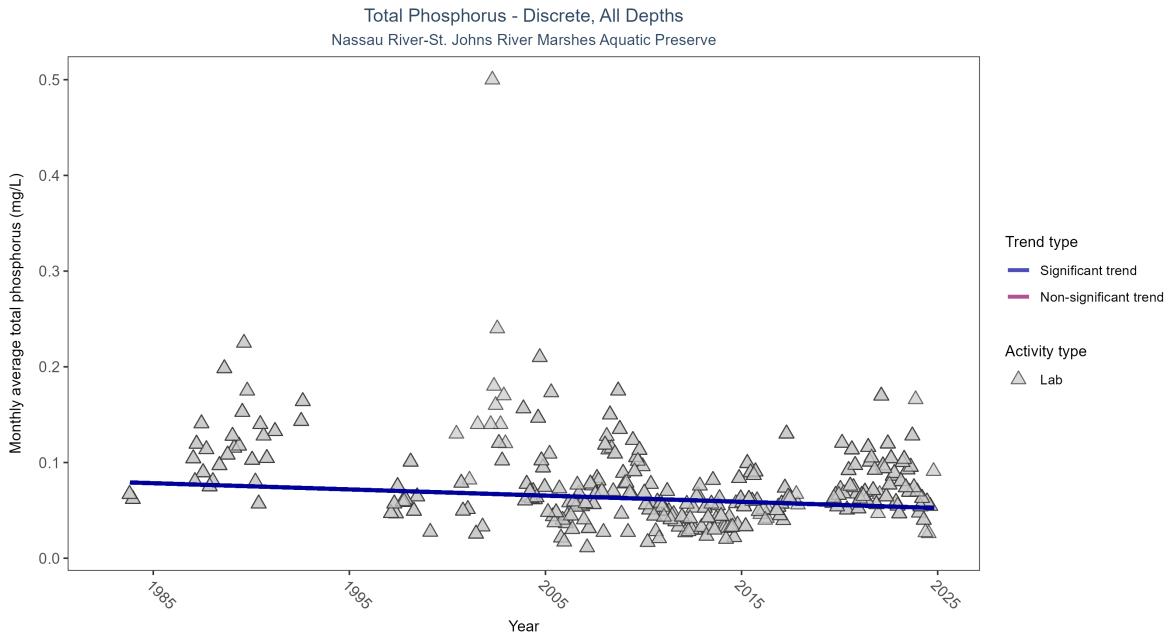
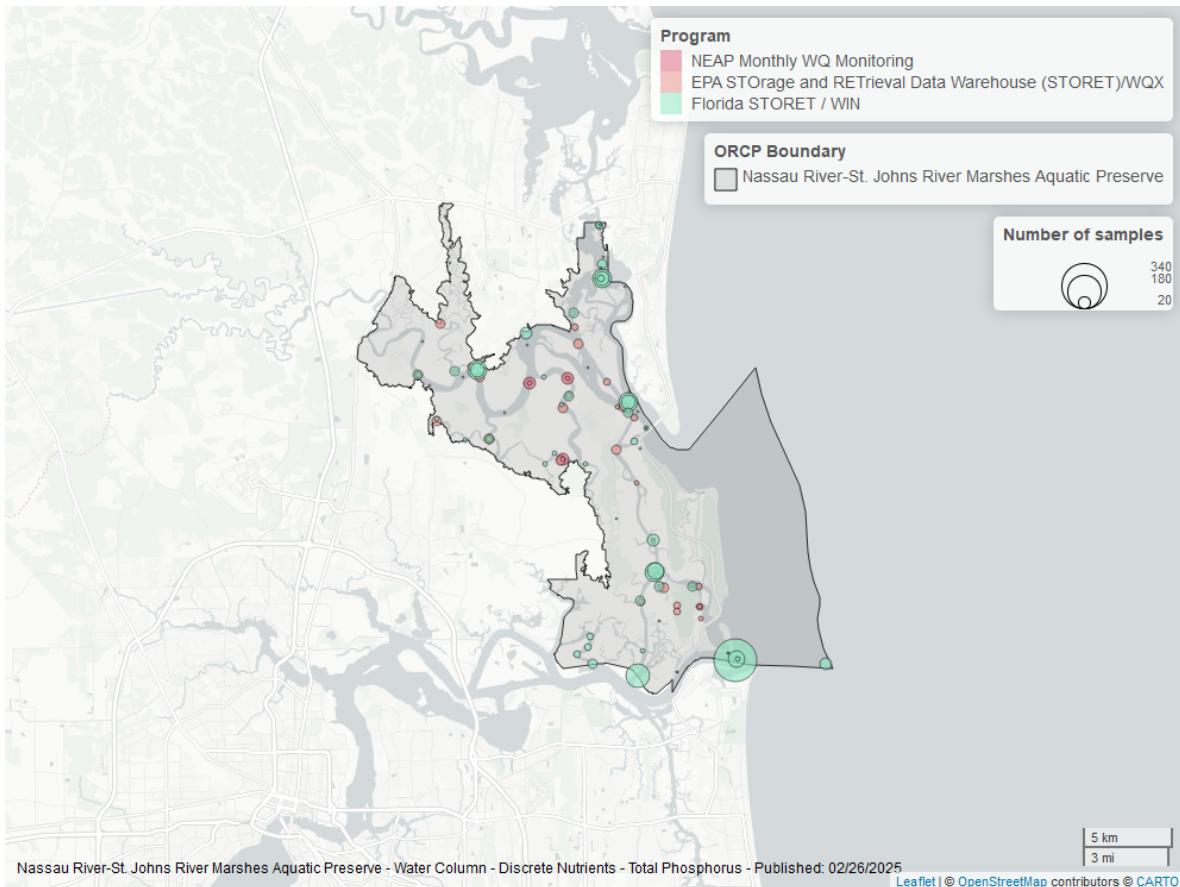


Table 2: Seasonal Kendall-Tau Results for - Total Phosphorus

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	1743	34	1983 - 2024	0.069	-0.14147	0.07969	-0.00065	0.0018160782912288459090490176350840556551702320575714111328125000



Water Quality

Dissolved Oxygen - Discrete

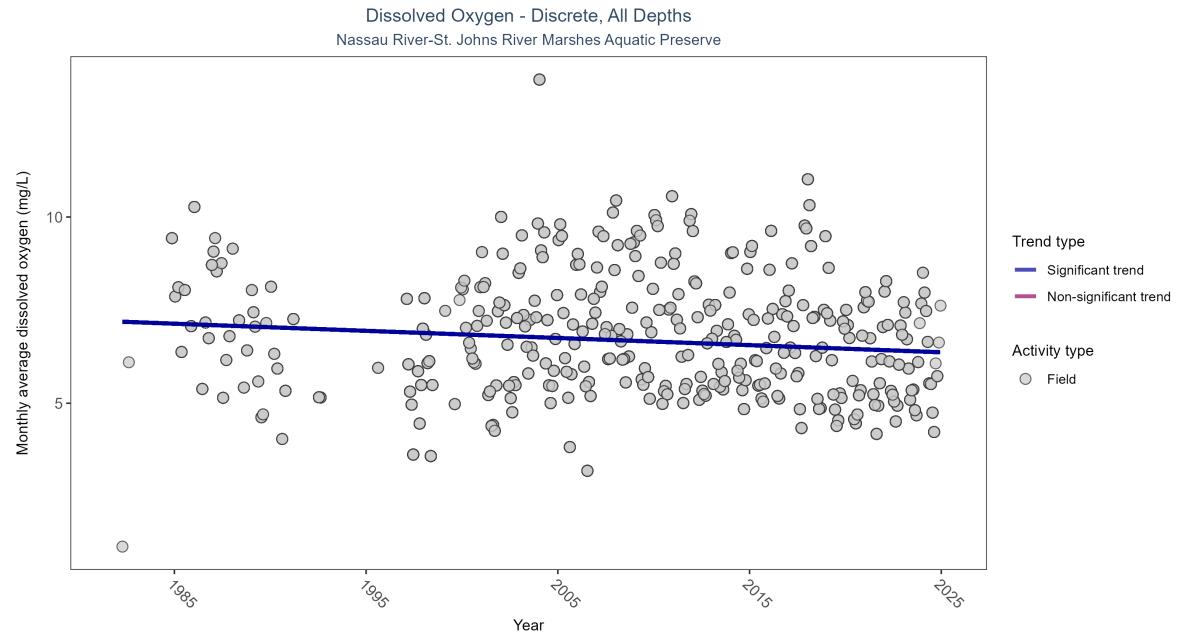
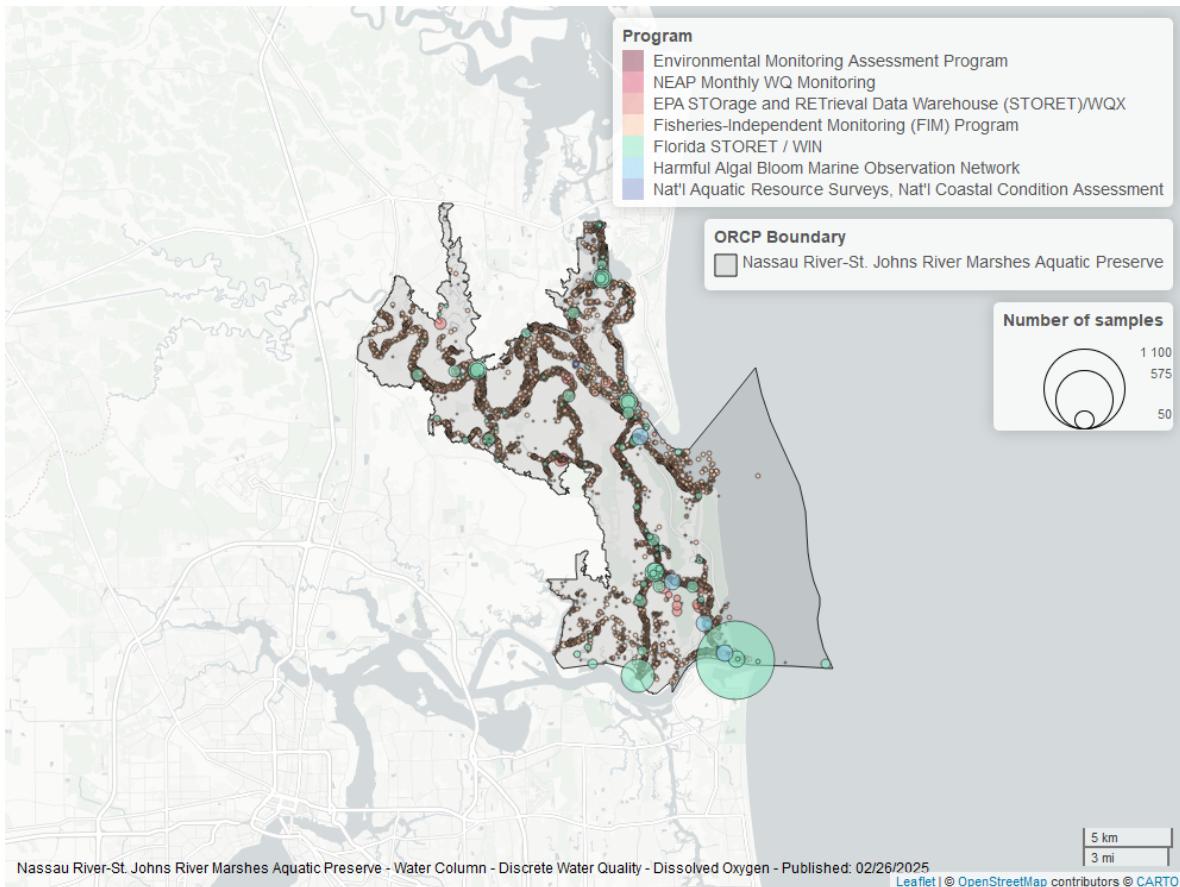


Table 3: Seasonal Kendall-Tau Results for - Dissolved Oxygen

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	39305	39	1982 - 2024	6.3	-0.15674	7.19343	-0.0192	0.00003407445461005



Dissolved Oxygen - Continuous

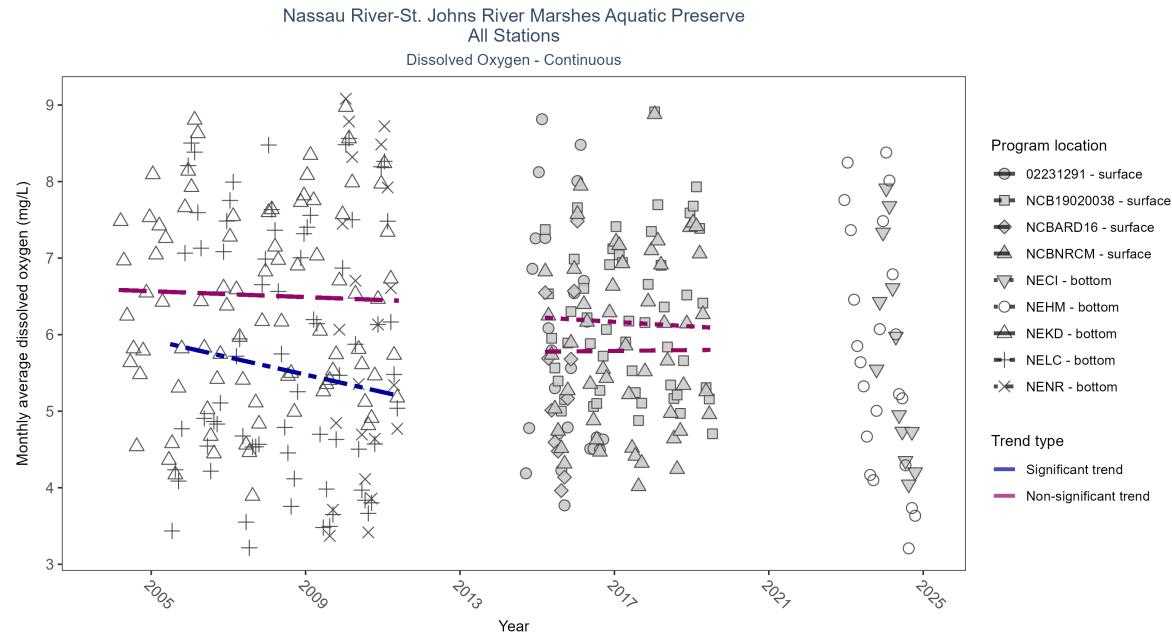
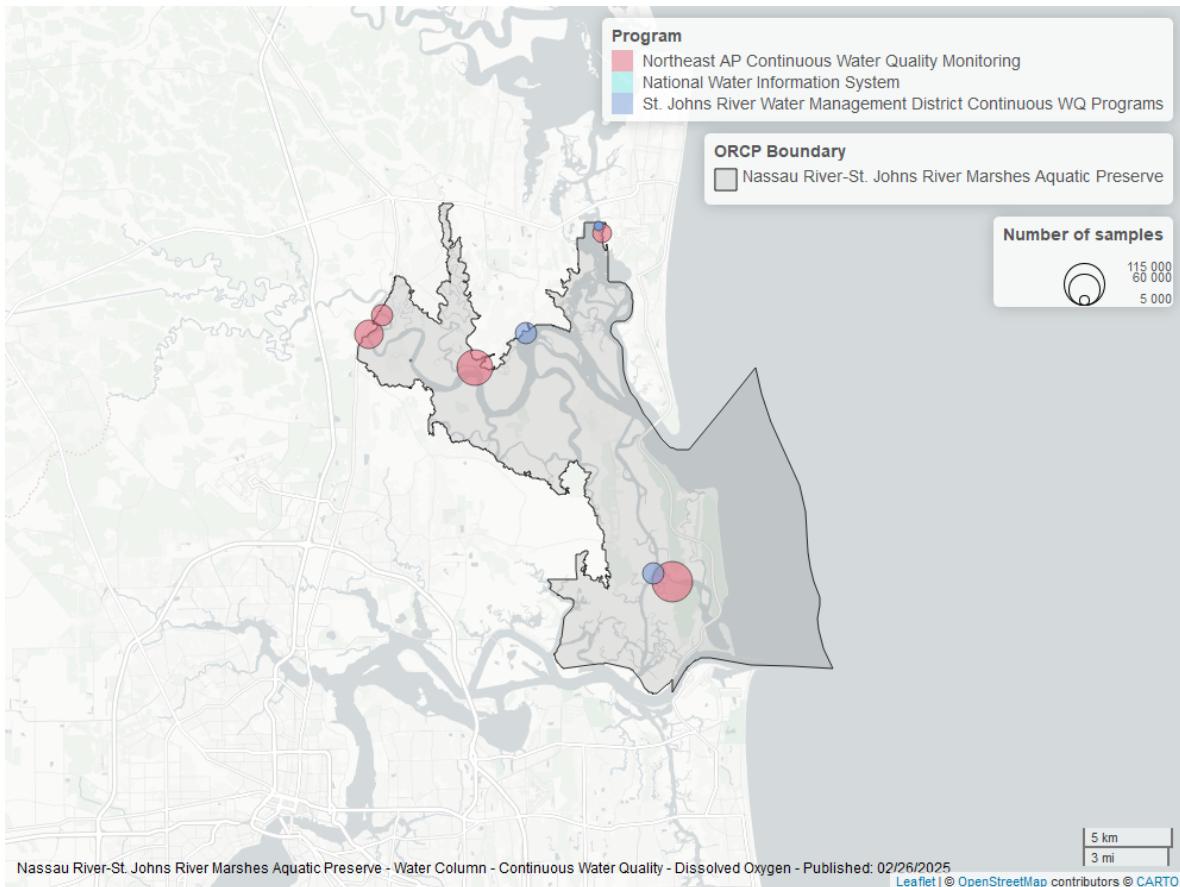


Table 4: Seasonal Kendall-Tau Results for All Stations - Dissolved Oxygen

Program Location	Statistical Trend	Sample Count	Years with Data	Period of Record	Median Result Value	Tau	Sen Intercept	Sen Slope	P
02231291	Insufficient data to calculate trend	689	3	2014 - 2016	5.70	-	-	-	NA
NELC	Significantly decreasing trend	95860	7	2005 - 2011	5.60	-0.34	5.93	-0.11	0.001370047
NEKD	No significant trend	110958	8	2004 - 2011	6.40	-0.04	6.59	-0.02	0.560687834
NENR	Insufficient data to calculate trend	31438	3	2009 - 2011	5.80	-	-	-	NA
NEHM	Insufficient data to calculate trend	60595	3	2022 - 2024	5.70	-	-	-	NA
NECI	Insufficient data to calculate trend	32935	2	2023 - 2024	5.80	-	-	-	NA
NCBNRCM	No significant trend	35477	5	2015 - 2019	5.79	0.05	5.78	0.01	0.796987426
NCB19020038	No significant trend	34476	5	2015 - 2019	6.16	-0.03	6.23	-0.03	0.610812957
NCBARD16	Insufficient data to calculate trend	7417	2	2015 - 2016	5.08	-	-	-	NA



Dissolved Oxygen Saturation - Discrete

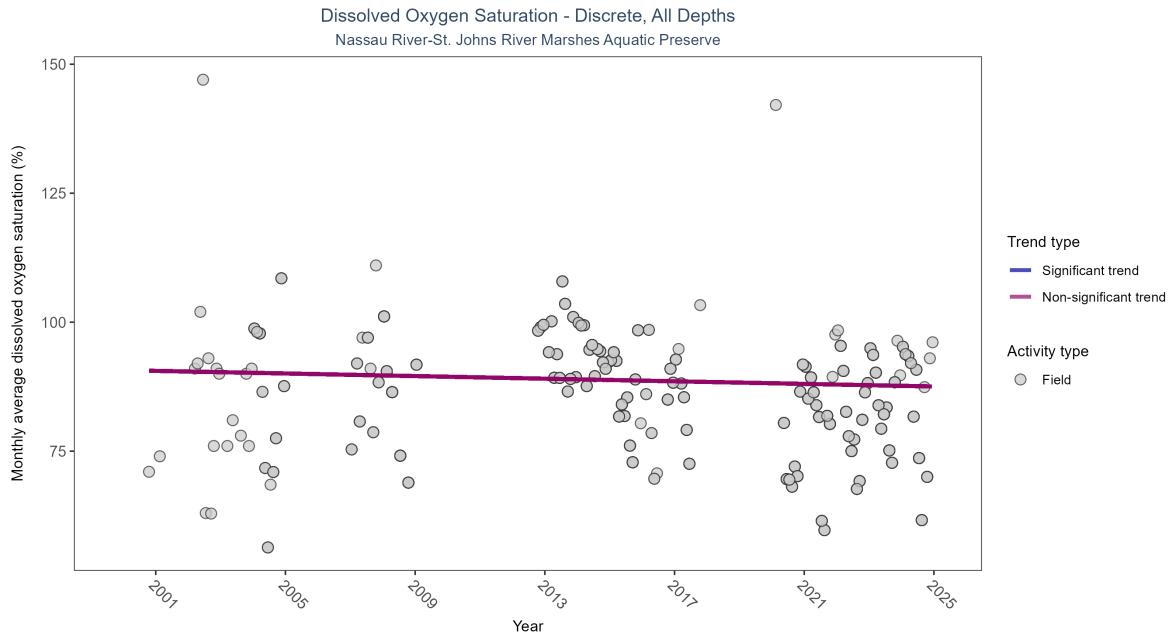
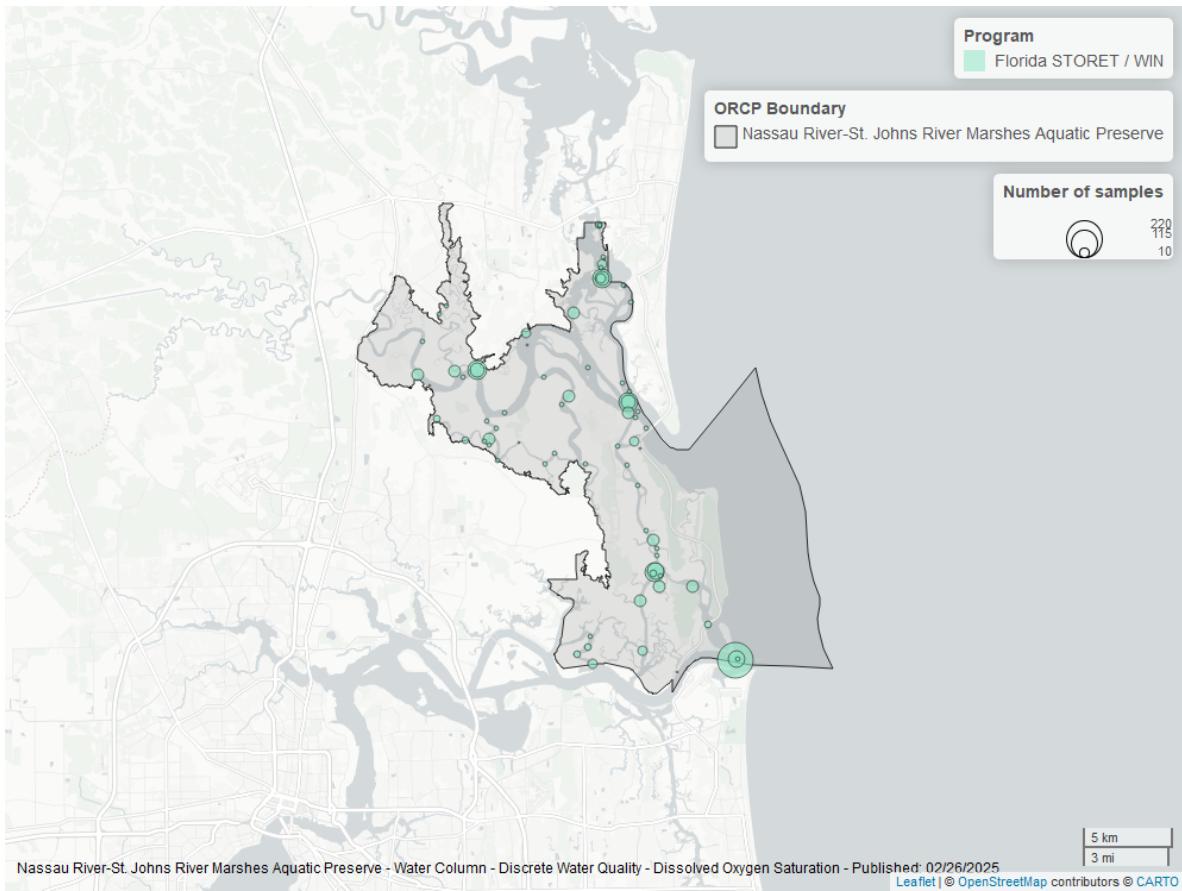


Table 5: Seasonal Kendall-Tau Results for - Dissolved Oxygen Saturation



Dissolved Oxygen Saturation - Continuous

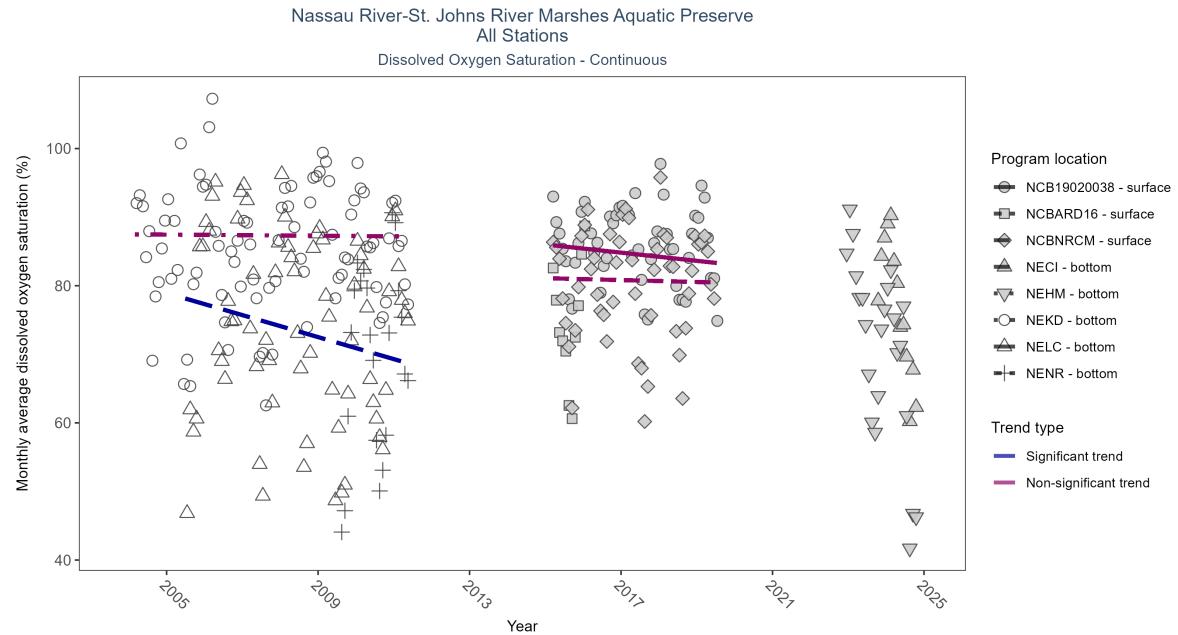
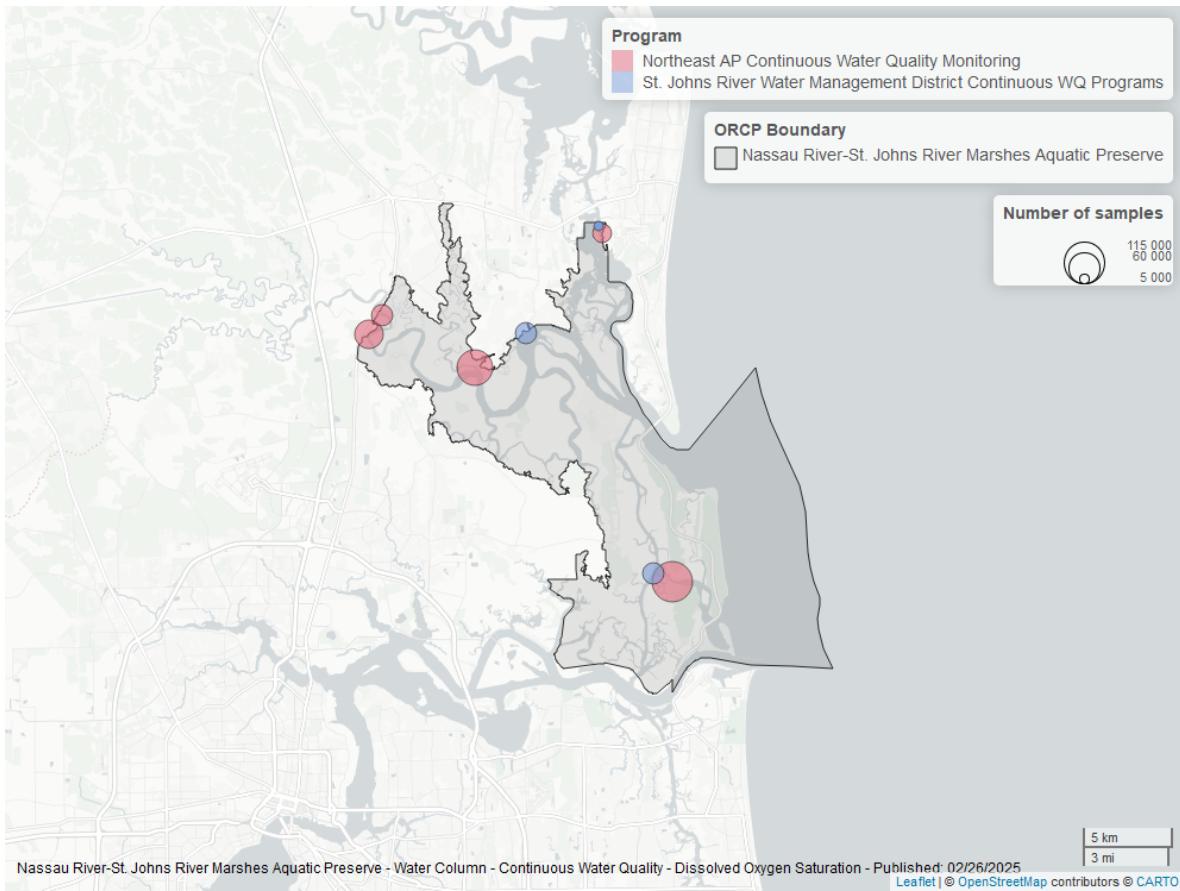


Table 6: Seasonal Kendall-Tau Results for All Stations - Dissolved Oxygen Saturation

Program Location	Statistical Trend	Sample Count	Years with Data	Period of Record	Median Result Value	Tau	Sen Intercept	Sen Slope	P
NELC	Significantly decreasing trend	95868	7	2005 - 2011	77.90	-0.27	78.93	-1.6	0.01112857089
NEKD	No significant trend	110983	8	2004 - 2011	89.10	0	87.49	-0.04	0.93375837857
NENR	Insufficient data to calculate trend	31438	3	2009 - 2011	73.20	-	-	-	NA
NEHM	Insufficient data to calculate trend	60595	3	2022 - 2024	73.80	-	-	-	NA
NECI	Insufficient data to calculate trend	32948	2	2023 - 2024	80.10	-	-	-	NA
NCB19020038	No significant trend	34438	5	2015 - 2019	87.06	-0.16	86.02	-0.6	0.12682565838
NCBNRCM	No significant trend	35240	5	2015 - 2019	82.06	-0.05	81.1	-0.14	0.79698742621
NCBARD16	Insufficient data to calculate trend	7417	2	2015 - 2016	74.44	-	-	-	NA



Salinity - Discrete

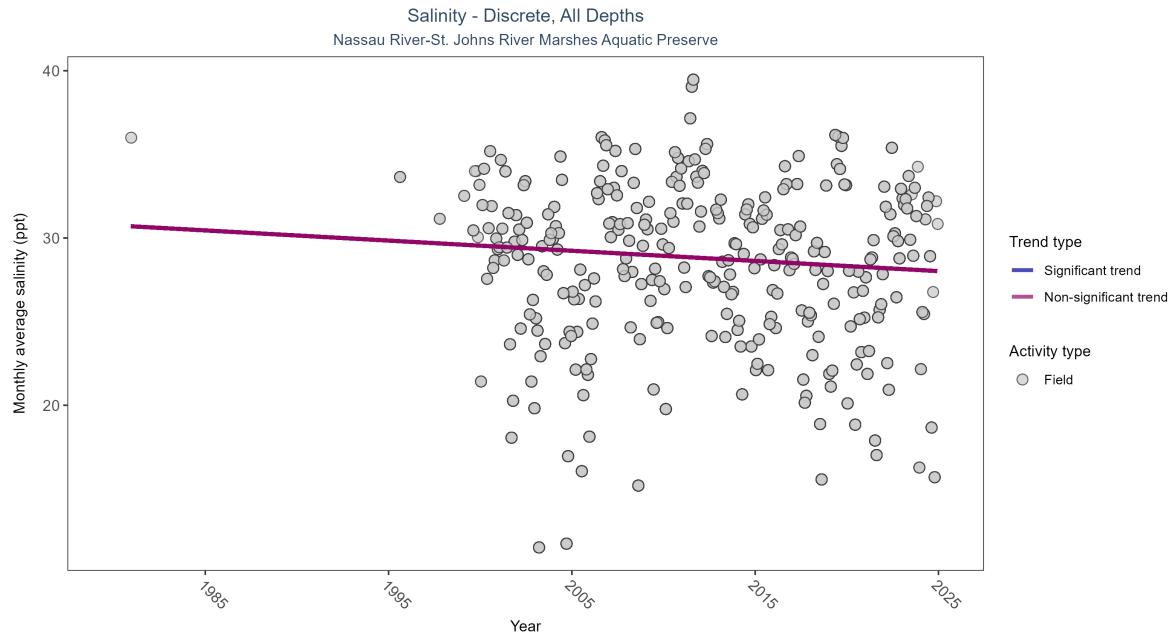
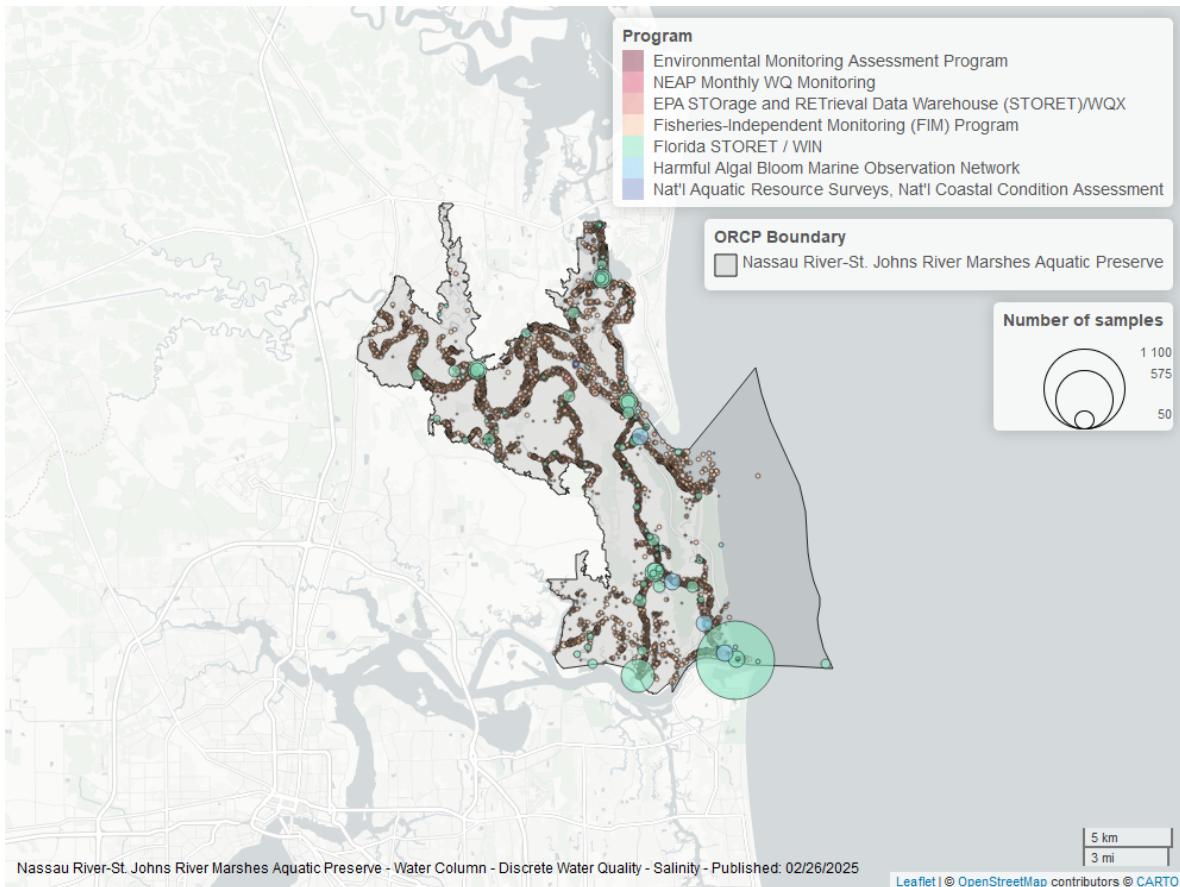


Table 7: Seasonal Kendall-Tau Results for - Salinity

Activity Type	Statistical Trend	Sample Count	Years with Data	Period of Record	Median Result Value	Tau	Sen Intercept	Sen Slope	P
All	No significant trend	21109	29	1980 - 2024	30.5	-0.05737	30.75849	-0.06084	0.14547504031410332658857953447295585647225379944



Salinity - Continuous

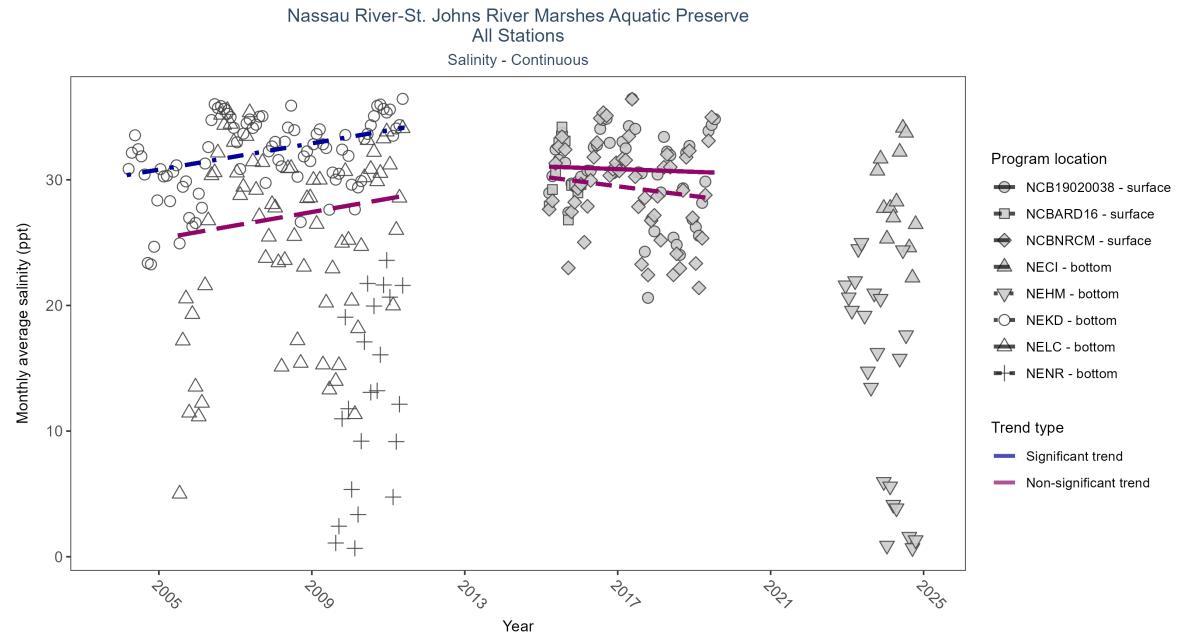
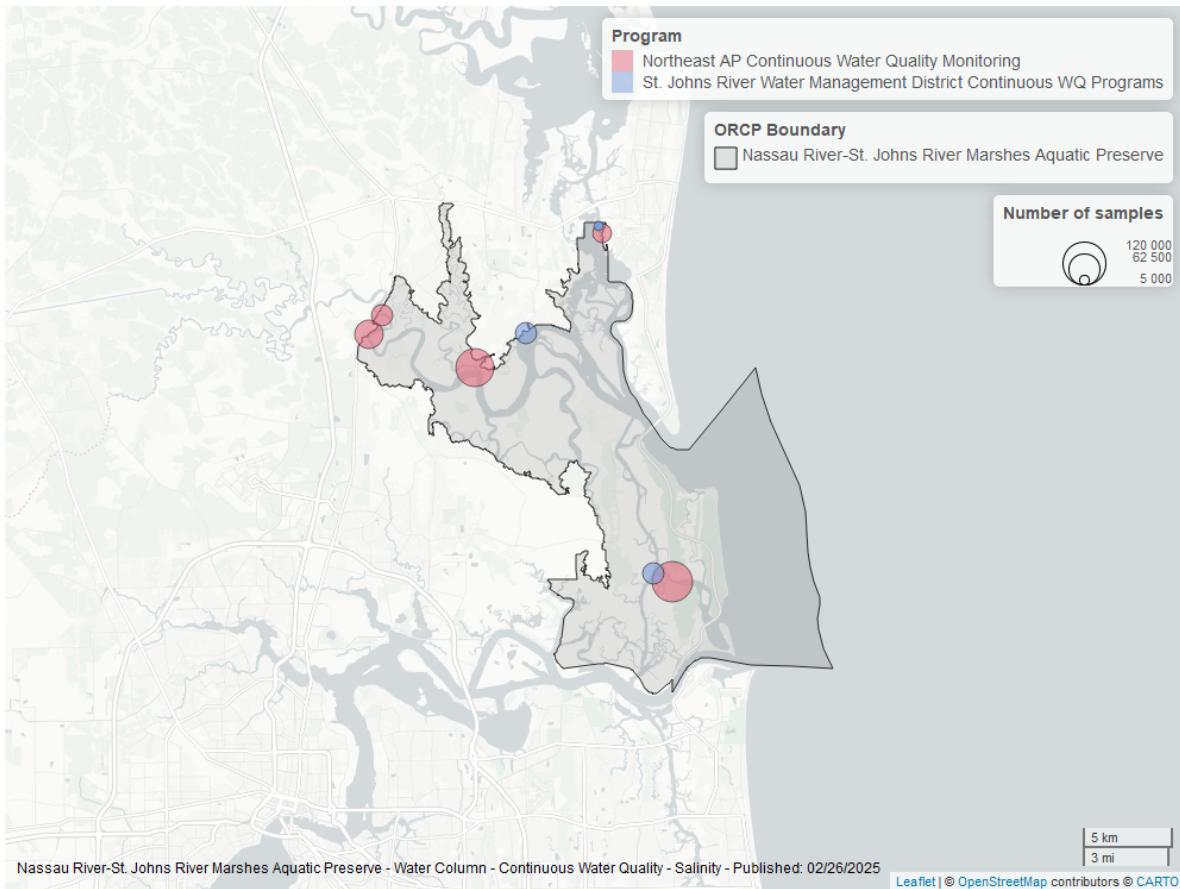


Table 8: Seasonal Kendall-Tau Results for All Stations - Salinity

Program Location	Statistical Trend	Sample Count	Years with Data	Period of Record	Median Result Value	Tau	Sen Intercept	Sen Slope	P
NELC	No significant trend	100339	7	2005 - 2011	27.90	0.09	25.3	0.53	0.4397424581853118
NEKD	Significantly increasing trend	118328	8	2004 - 2011	33.20	0.31	30.29	0.52	0.0005738878701998
NENR	Insufficient data to calculate trend	31438	3	2009 - 2011	12.40	-	-	-	NA
NEHM	Insufficient data to calculate trend	62743	3	2022 - 2024	16.20	-	-	-	NA
NECI	Insufficient data to calculate trend	32935	2	2023 - 2024	28.30	-	-	-	NA
NCB19020038	No significant trend	34438	5	2015 - 2019	31.75	-0.06	31.07	-0.11	1.0000000000000000
NCBNRCM	No significant trend	35411	5	2015 - 2019	30.29	-0.12	30.26	-0.39	0.5483429354628137
NCBARD16	Insufficient data to calculate trend	7418	2	2015 - 2016	30.07	-	-	-	NA



Water Temperature - Discrete

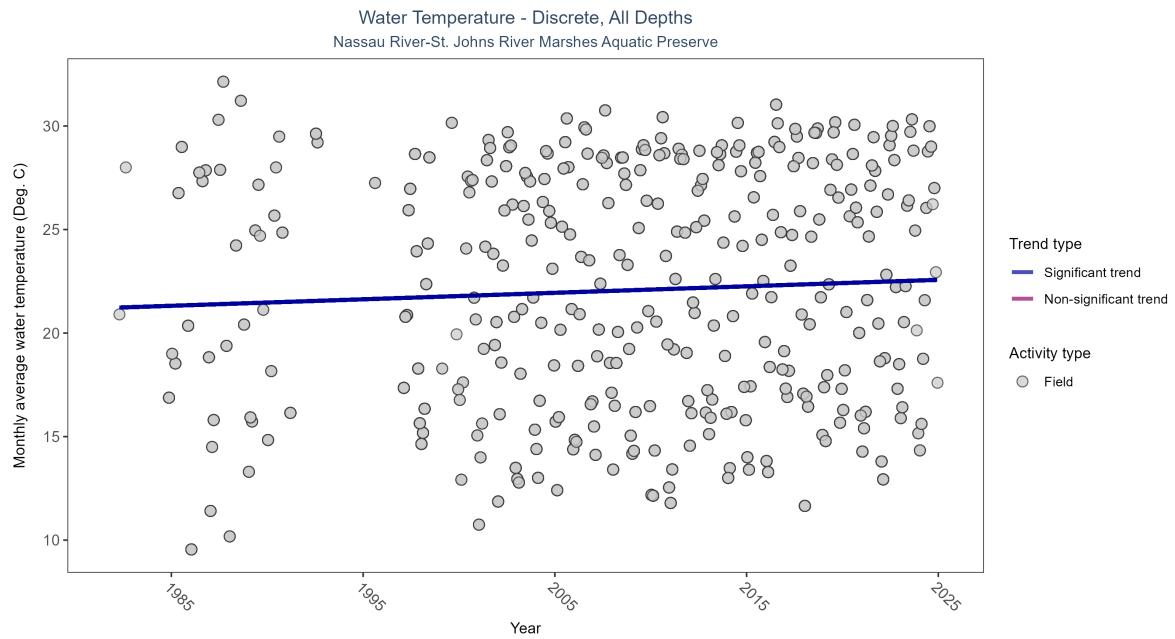
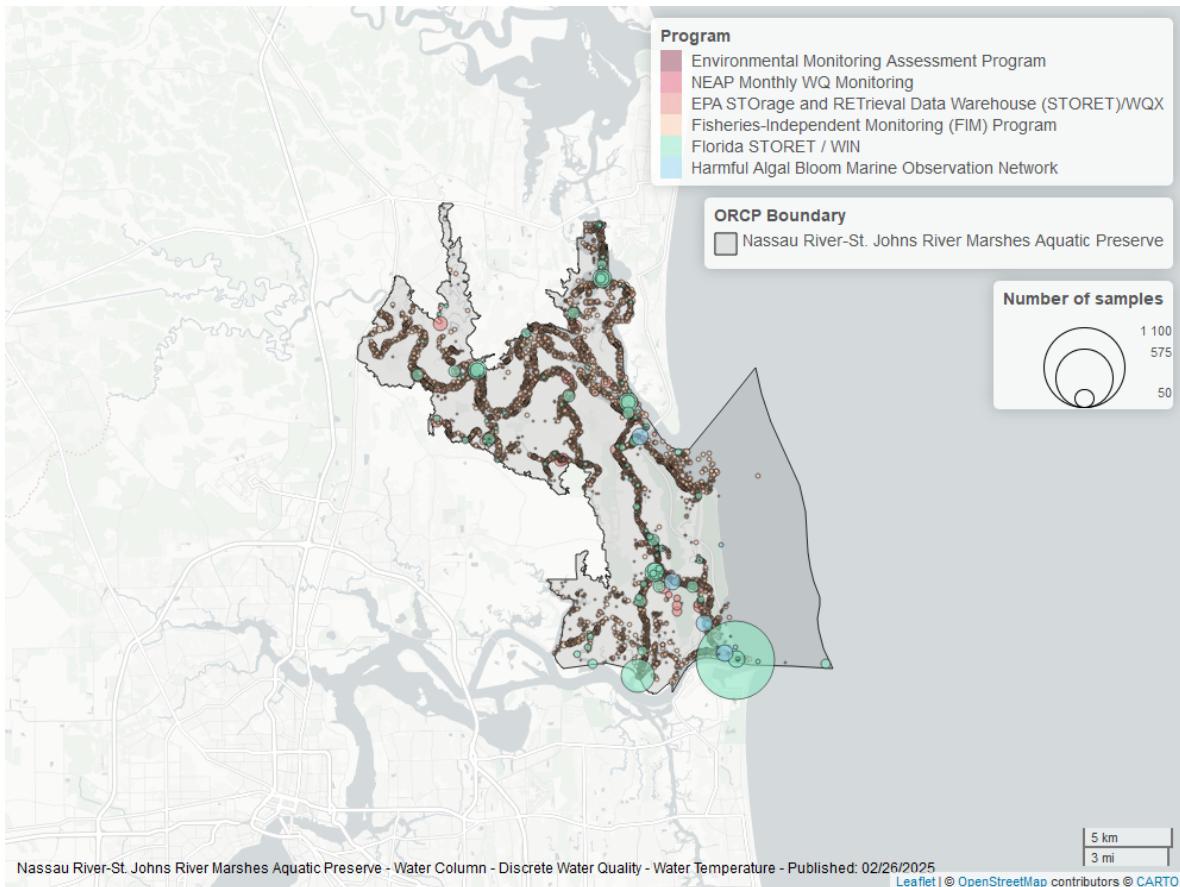


Table 9: Seasonal Kendall-Tau Results for - Water Temperature

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	40864	39	1982 - 2024	21.6	0.15246	21.2231	0.03134	0.000038311476622034



Water Temperature - Continuous

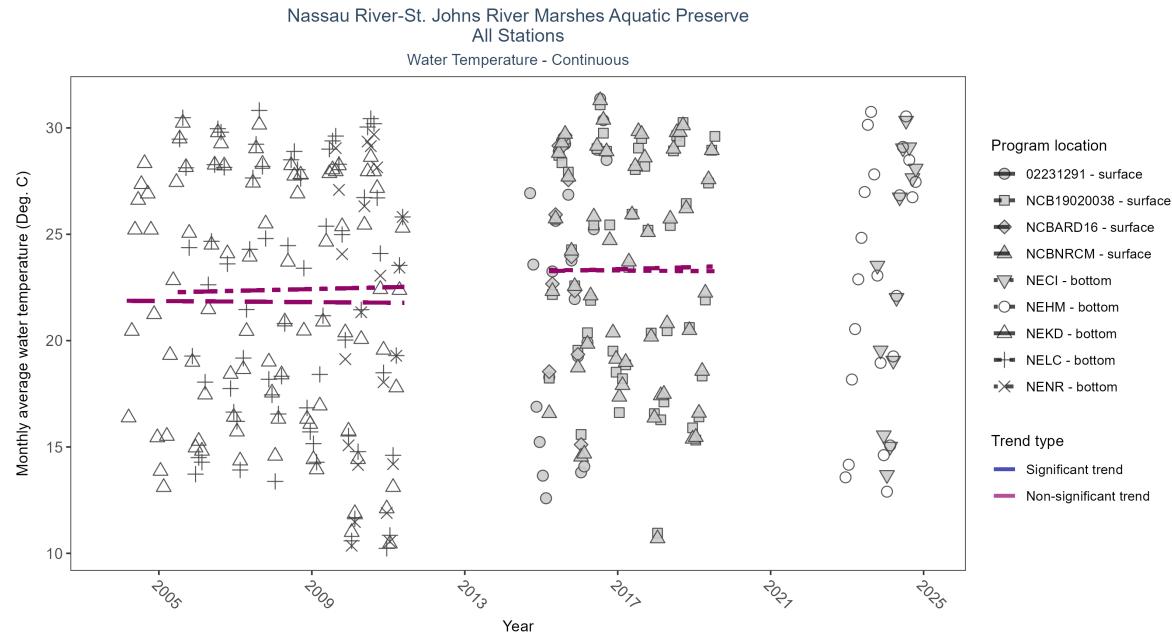
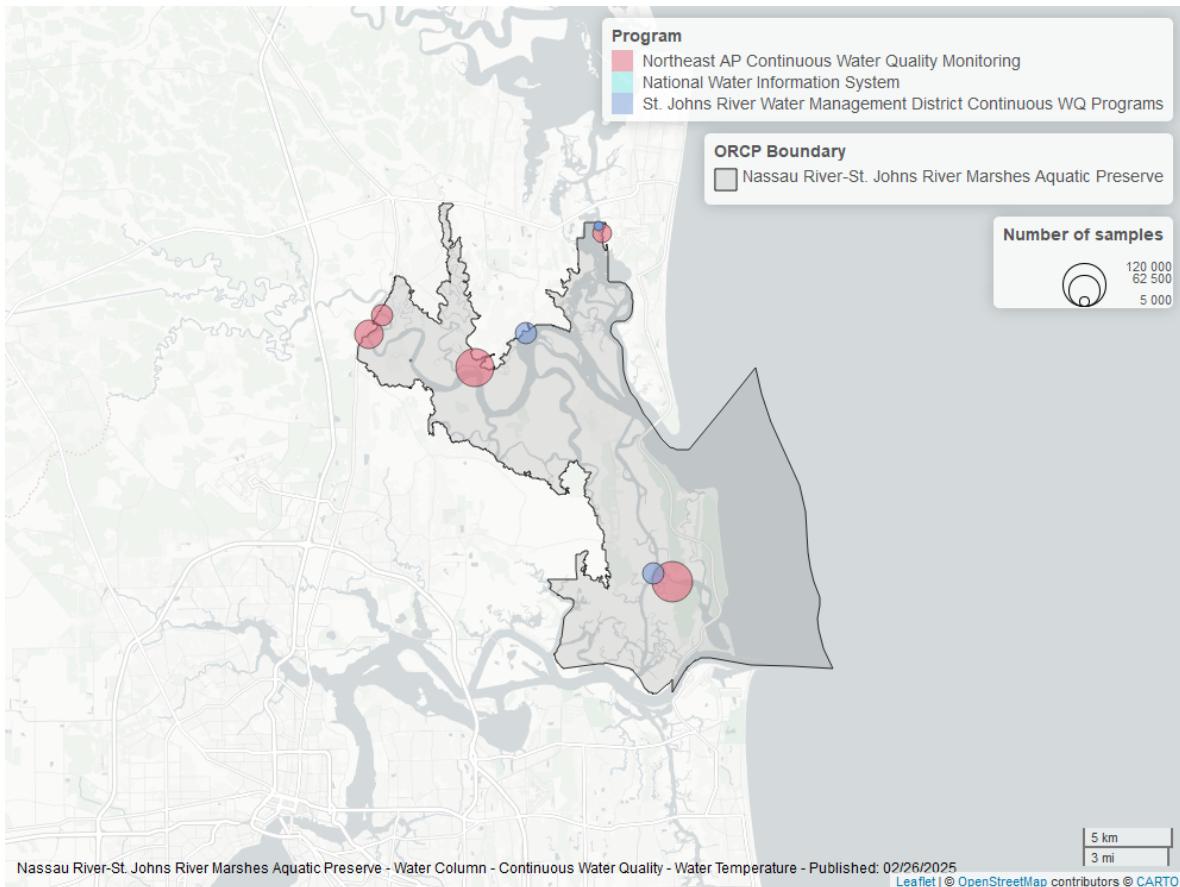


Table 10: Seasonal Kendall-Tau Results for All Stations - Water Temperature

Program Location	Statistical Trend	Sample Count	Years with Data	Period of Record	Median Result Value	Tau	Sen Intercept	Sen Slope	P
02231291	Insufficient data to calculate trend	710	3	2014 - 2016	23.50	-	-	-	NA
NELC	No significant trend	100343	7	2005 - 2011	22.70	0.05	22.26	0.04	0.740549037018659
NEKD	No significant trend	118328	8	2004 - 2011	22.10	-0.04	21.88	-0.01	0.805700796720207
NENR	Insufficient data to calculate trend	31438	3	2009 - 2011	22.00	-	-	-	NA
NEHM	Insufficient data to calculate trend	63151	3	2022 - 2024	23.40	-	-	-	NA
NECI	Insufficient data to calculate trend	32959	2	2023 - 2024	22.90	-	-	-	NA
NCBNRCM	No significant trend	35817	5	2015 - 2019	24.03	0.07	23.26	0.05	0.66810774376694
NCB19020038	No significant trend	34483	5	2015 - 2019	24.78	-0.03	23.32	-0.01	1.000000000000000
NCBARD16	Insufficient data to calculate trend	7419	2	2015 - 2016	25.08	-	-	-	NA



pH - Discrete

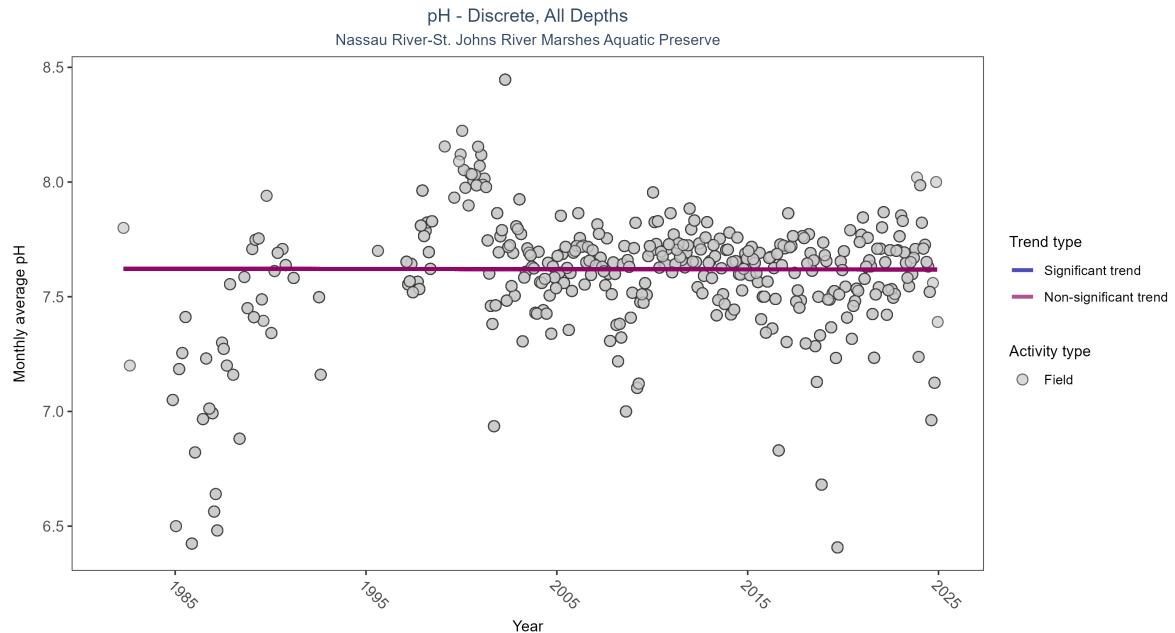
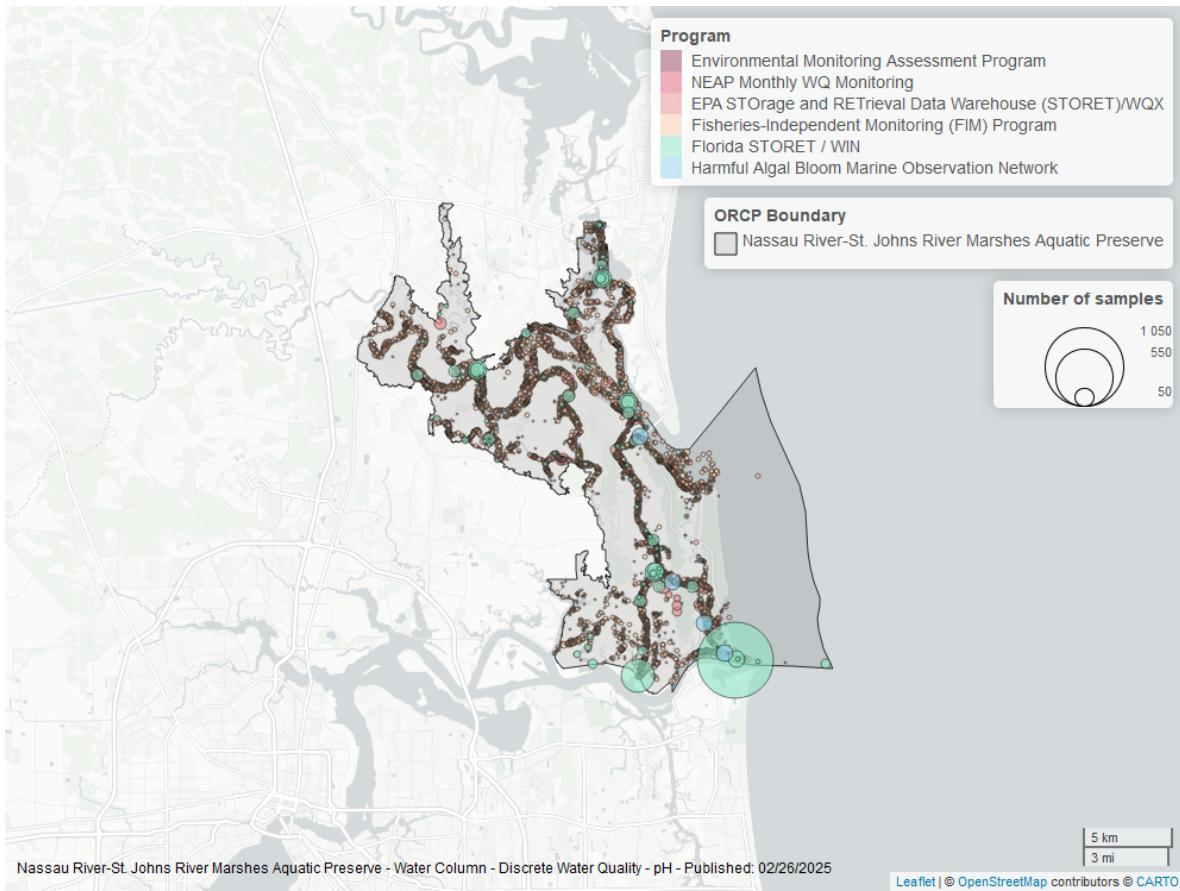


Table 11: Seasonal Kendall-Tau Results for - pH

Activity Type	Statistical Trend	Sample Count	Years with Data	Period of Record	Median Result Value	Tau	Sen Intercept	Sen Slope	P
Field	No significant trend	29665	39	1982 - 2024	7.66	-0.00471	7.62201	-0.00008	0.96694215023005480880158302170457318425179



pH - Continuous

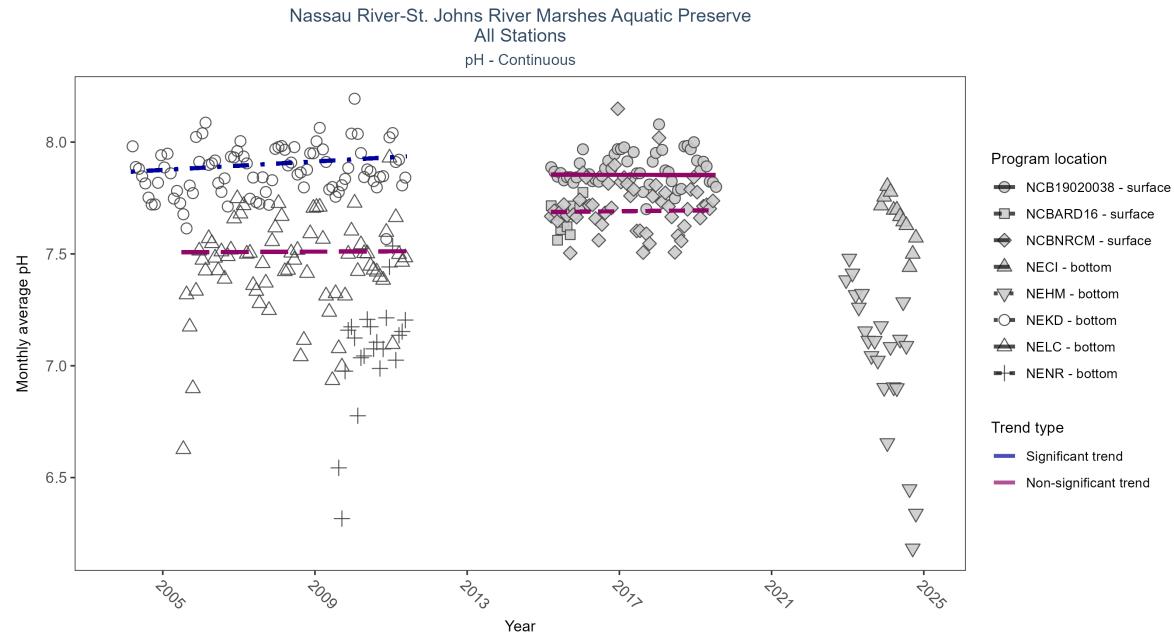
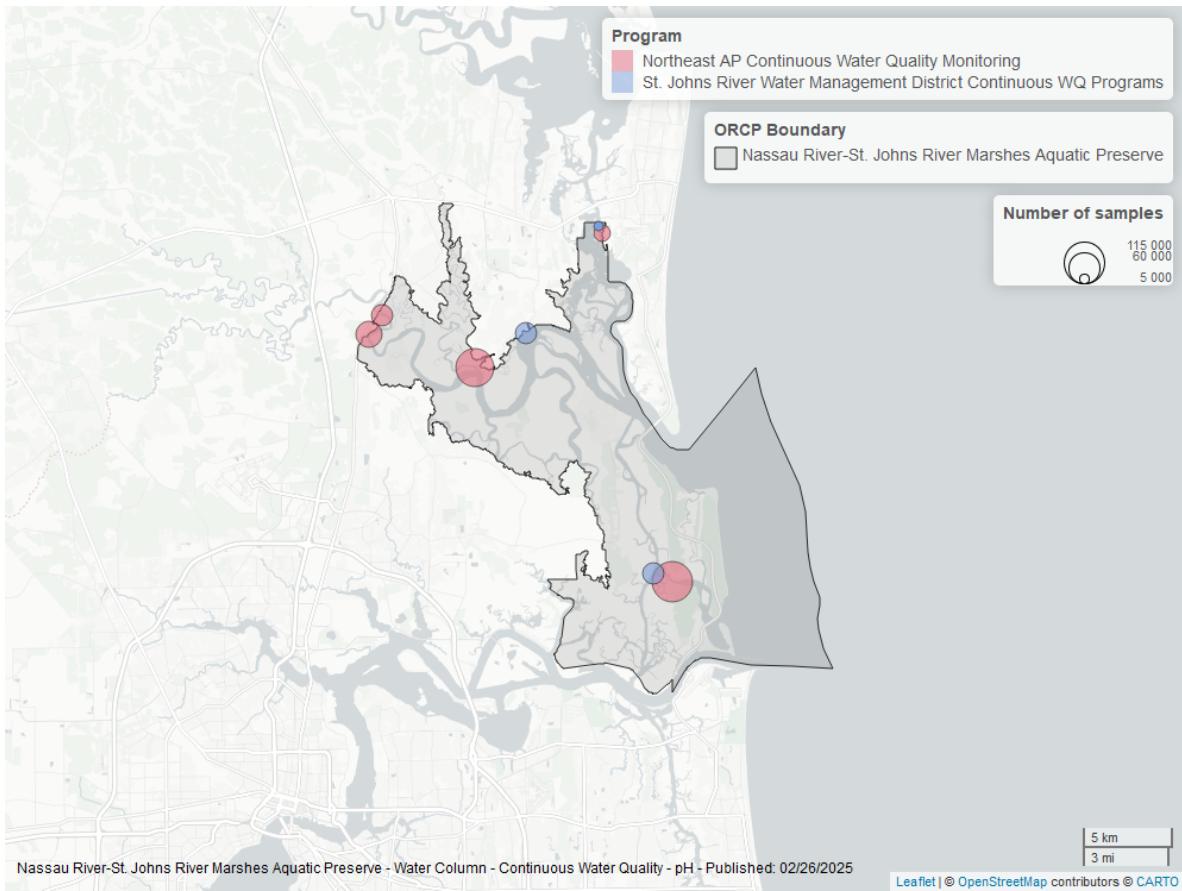


Table 12: Seasonal Kendall-Tau Results for All Stations - pH

Program Location	Statistical Trend	Sample Count	Years with Data	Period of Record	Median Result Value	Tau	Sen Intercept	Sen Slope	P
NEKD	Significantly increasing trend	113471	8	2004 - 2011	7.90	0.19	7.87	0.01	0.0490901163
NENR	Insufficient data to calculate trend	31438	3	2009 - 2011	7.10	-	-	-	NA
NELC	No significant trend	96488	7	2005 - 2011	7.50	0.02	7.51	0	0.9121116181
NEHM	Insufficient data to calculate trend	61214	3	2022 - 2024	7.10	-	-	-	NA
NECI	Insufficient data to calculate trend	30647	2	2023 - 2024	7.70	-	-	-	NA
NCBNRCM	No significant trend	35819	5	2015 - 2019	7.72	-0.01	7.69	0	0.9316657166
NCBARD16	Insufficient data to calculate trend	6952	2	2015 - 2016	7.66	-	-	-	NA
NCB19020038	No significant trend	34405	5	2015 - 2019	7.88	-0.01	7.85	0	1.0000000000



Water Clarity

Turbidity - Discrete

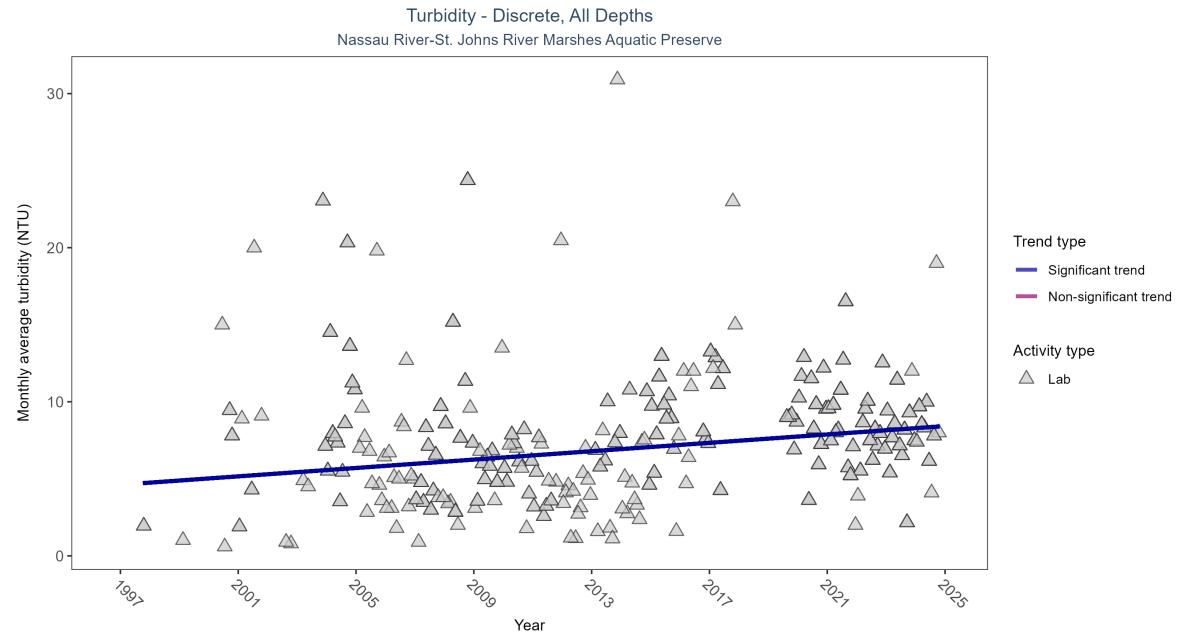
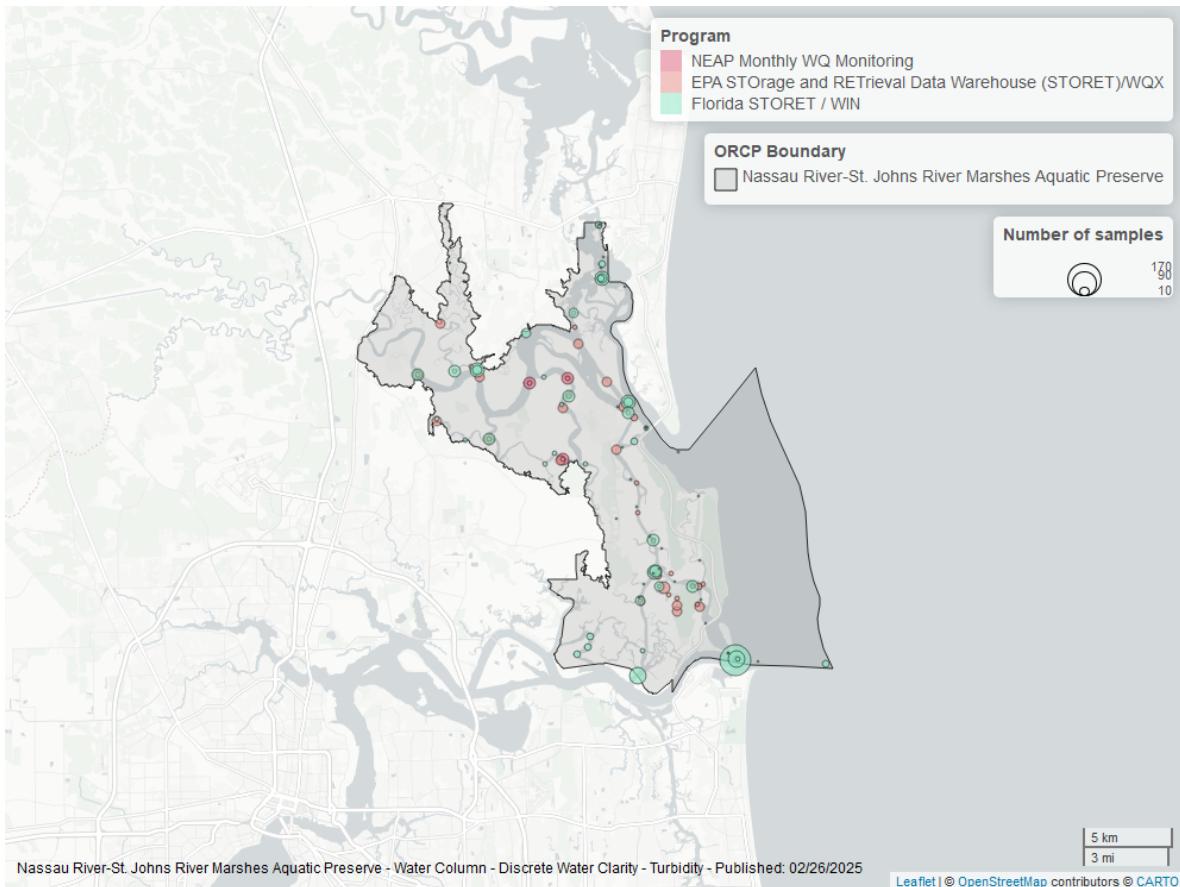


Table 13: Seasonal Kendall-Tau Results for - Turbidity

Activity Type	Statistical Trend	Sample Count	Years with Data	Period of Record	Median Result Value	Tau	Sen Intercept	Sen Slope	P
Lab	Significantly increasing trend	917	26	1997 - 2024	7	0.17504	4.61532	0.136	0.00016032526259692642



Turbidity - Continuous

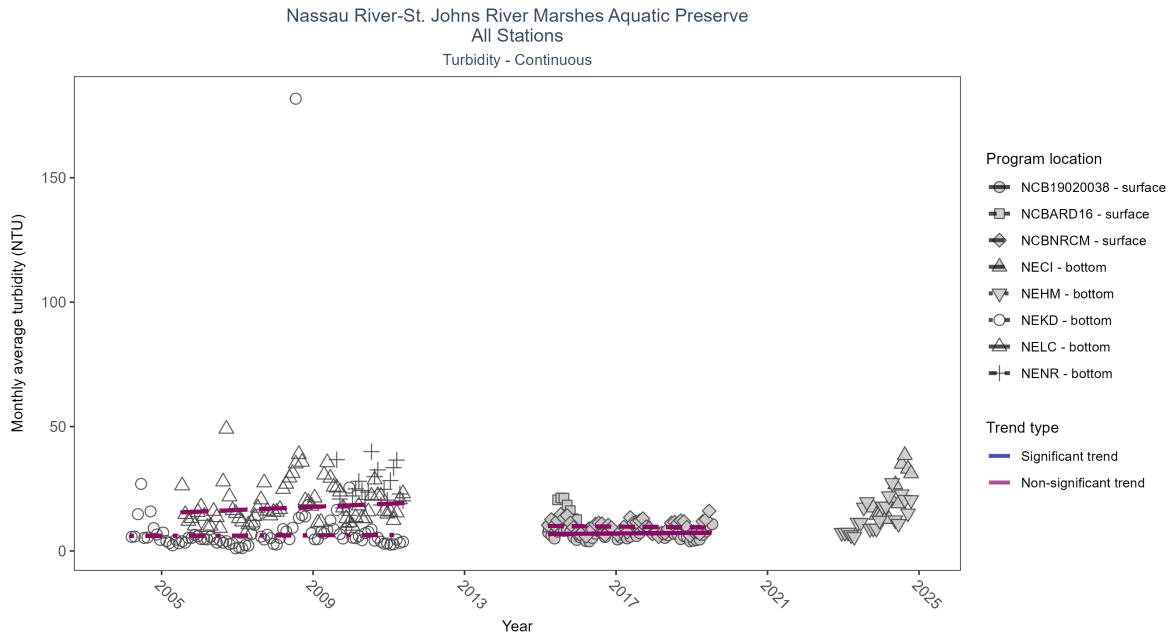
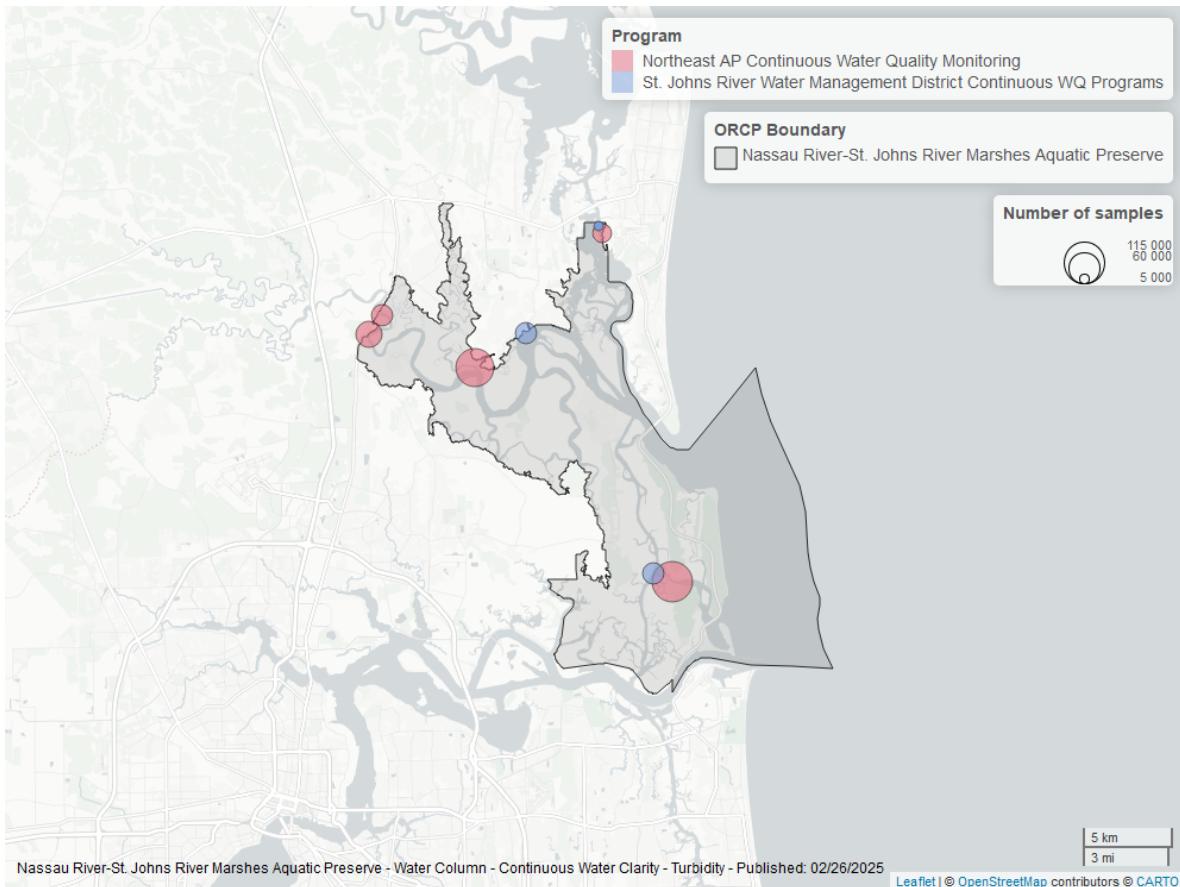


Table 14: Seasonal Kendall-Tau Results for All Stations - Turbidity

Program Location	Statistical Trend	Sample Count	Years with Data	Period of Record	Median Result Value	Tau	Sen Intercept	Sen Slope	P
NEKD	No significant trend	114181	8	2004 - 2011	4.00	0.02	6.06	0.05	0.8697437297375312237
NELC	No significant trend	96153	7	2005 - 2011	15.00	0.16	15.18	0.64	0.1513210342032438038
NENR	Insufficient data to calculate trend	31087	3	2009 - 2011	21.00	-	-	-	NA
NEHM	Insufficient data to calculate trend	59435	3	2022 - 2024	11.00	-	-	-	NA
NECI	Insufficient data to calculate trend	29449	2	2023 - 2024	15.00	-	-	-	NA
NCBNRCM	No significant trend	34696	5	2015 - 2019	8.64	-0.1	10.09	-0.14	0.6001238390869978456
NCB19020038	No significant trend	31407	5	2015 - 2019	5.77	-0.01	6.79	0.12	0.7876157667022055664
NCBARD16	Insufficient data to calculate trend	7385	2	2015 - 2016	12.89	-	-	-	NA



Total Suspended Solids - Discrete

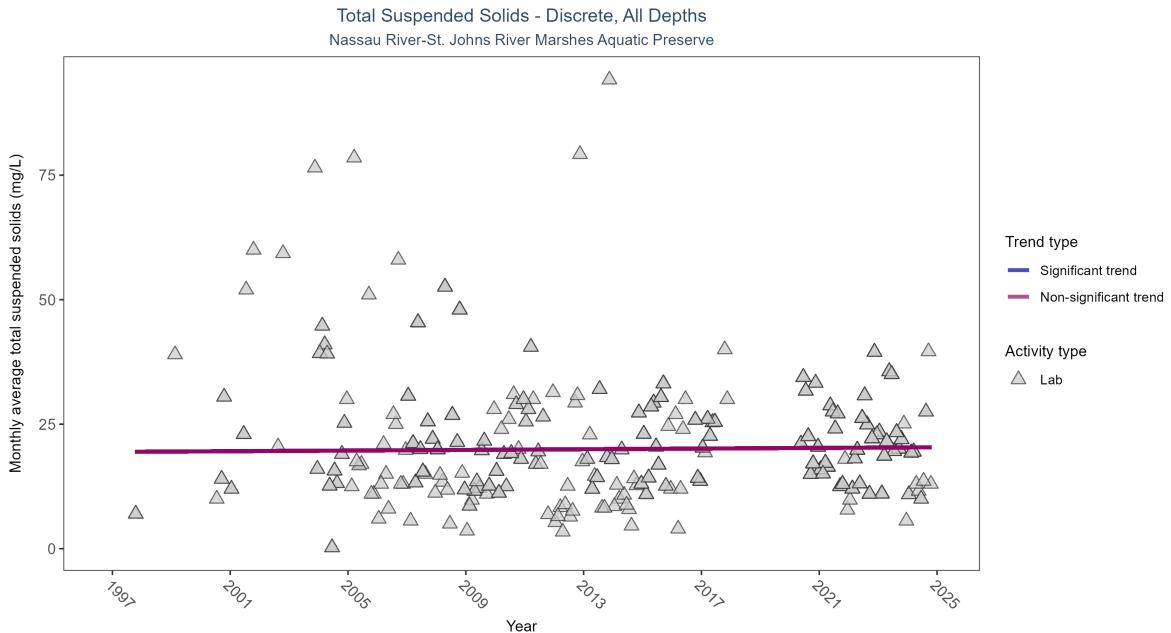
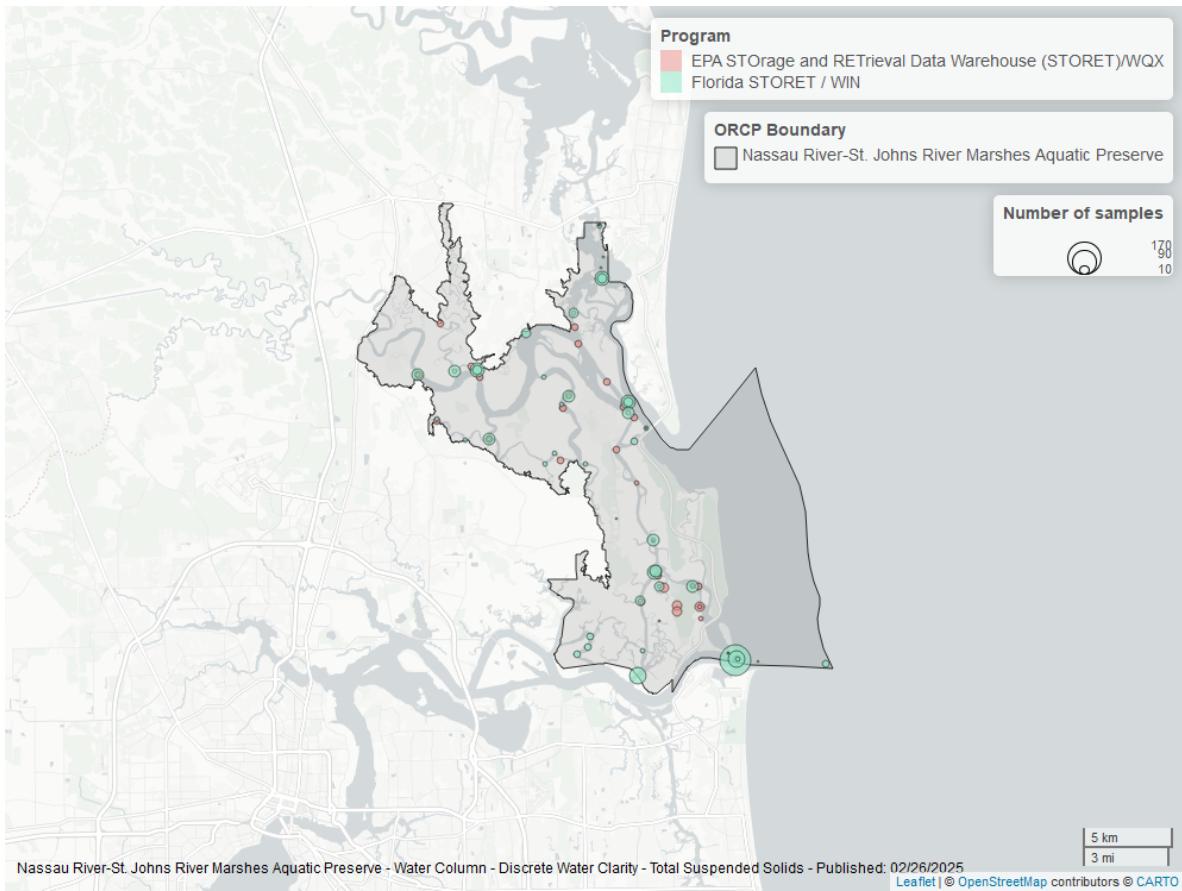


Table 15: Seasonal Kendall-Tau Results for - Total Suspended Solids

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	783	25	1997 - 2024	17.6	0.018	19.4343	0.03333	0.711549073273764598468460462754592



Chlorophyll a, Uncorrected for Pheophytin - Discrete

Chlorophyll a, Uncorrected for Pheophytin - Discrete, All Depths
Nassau River-St. Johns River Marshes Aquatic Preserve

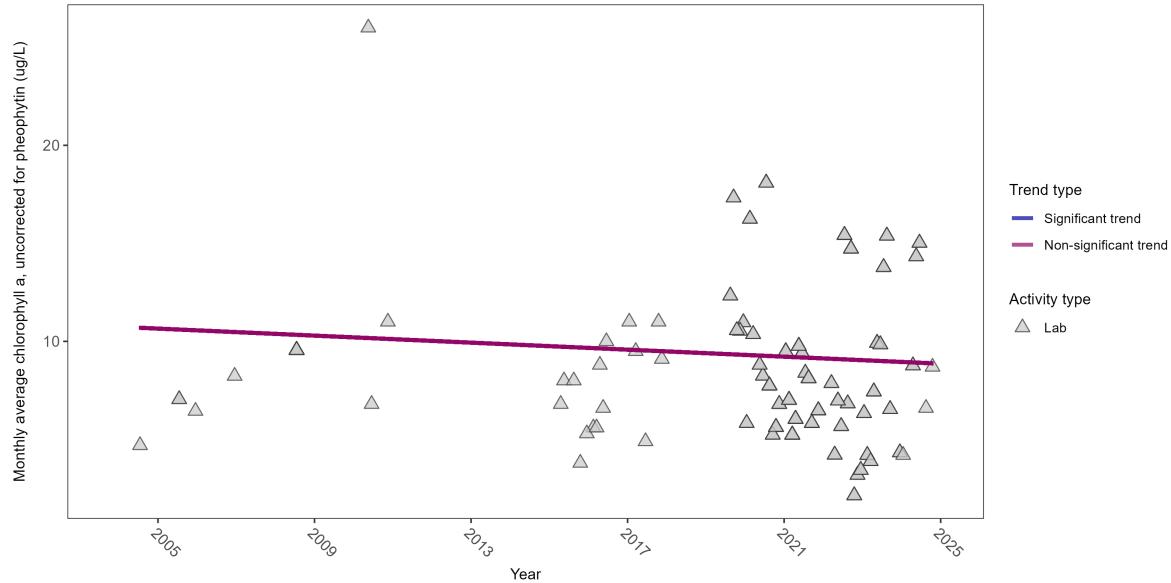
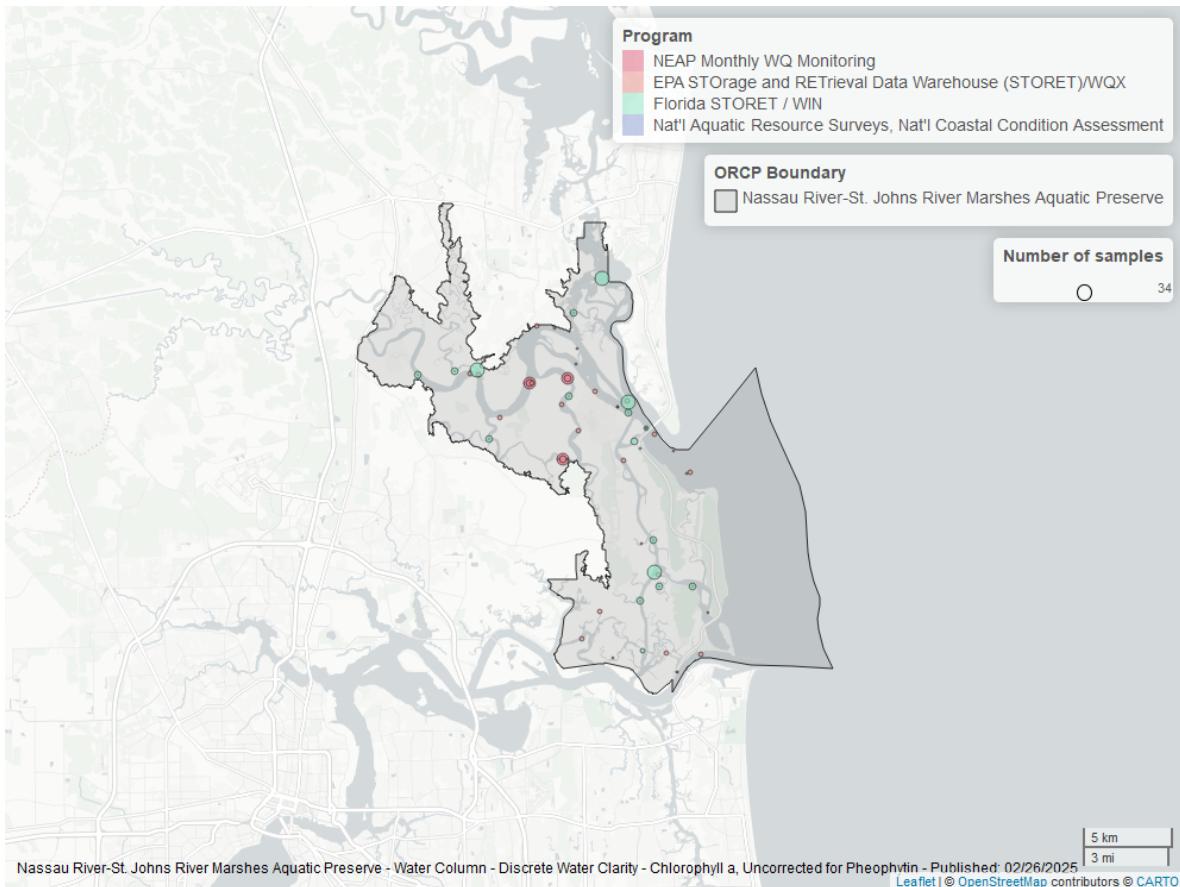


Table 16: Seasonal Kendall-Tau Results for - Chlorophyll a, Uncorrected for Pheophytin

Activity Type	Statistical Trend	Sample Count	Years with Data	Period of Record	Median Result Value	Tau	Sen Intercept	Sen Slope	P
Lab	No significant trend	438	14	2004 - 2024	7.76471	-0.10489	10.74049	-0.08946	0.61838855355583488560000660



Chlorophyll a, Corrected for Pheophytin - Discrete

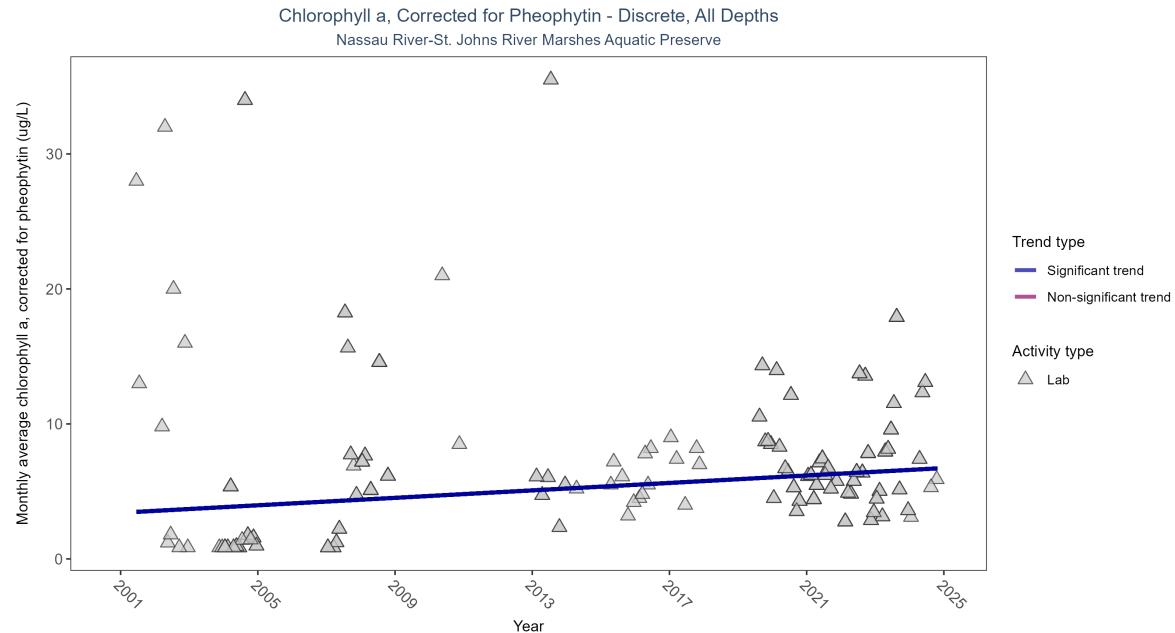
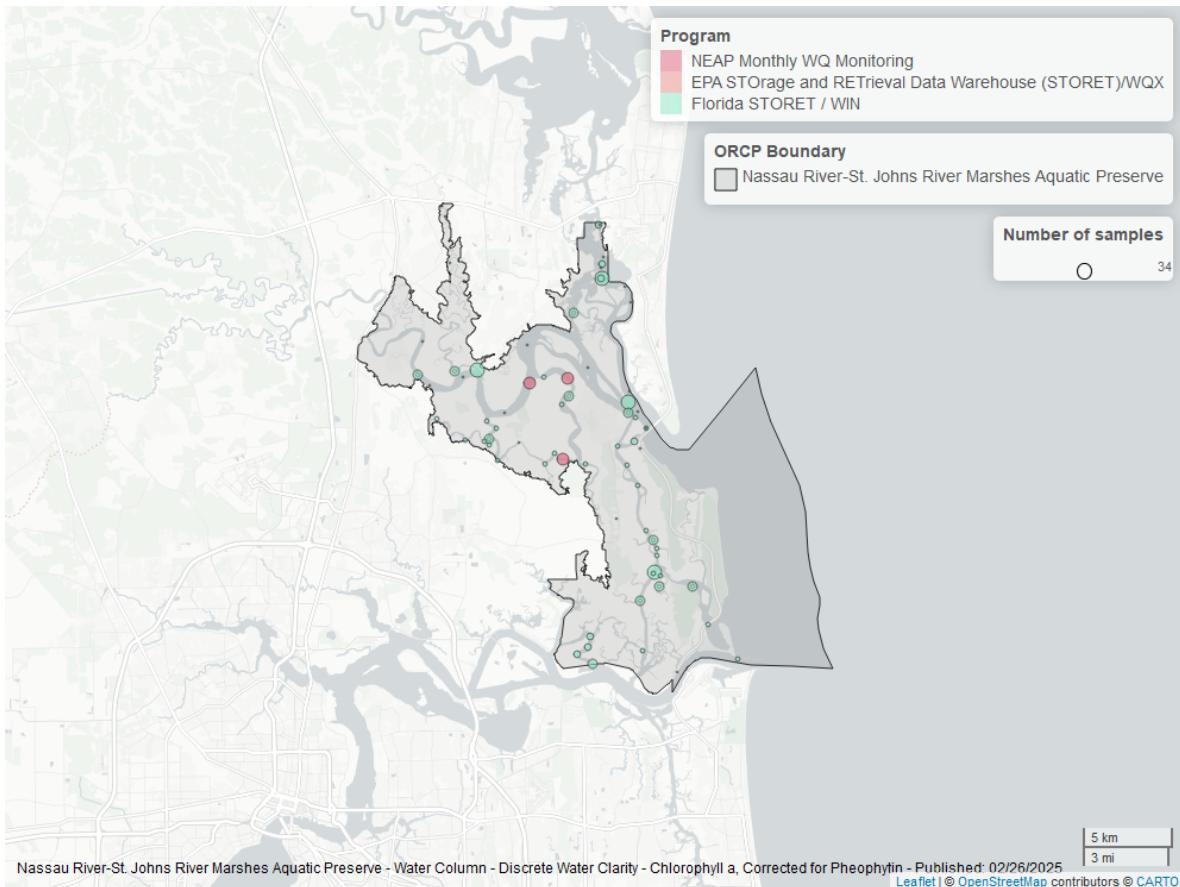


Table 17: Seasonal Kendall-Tau Results for - Chlorophyll a, Corrected for Pheophytin

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	604	18	2001 - 2024	5.8	0.14787	3.42086	0.13793	0.0301705475552782702297616169



Secchi Depth - Discrete

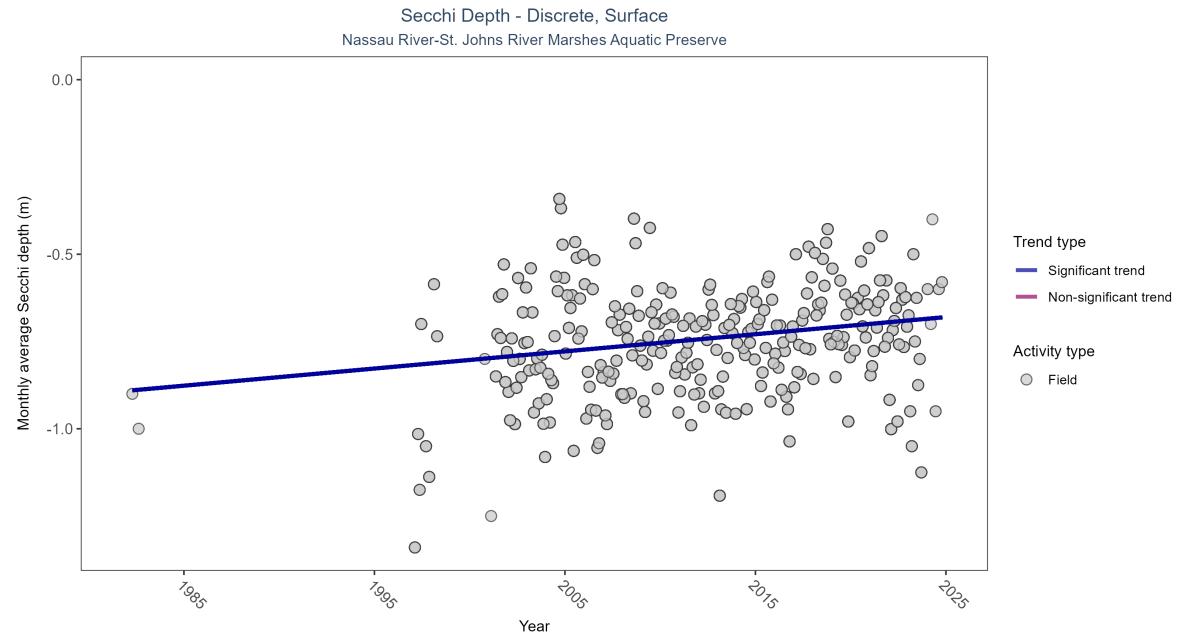
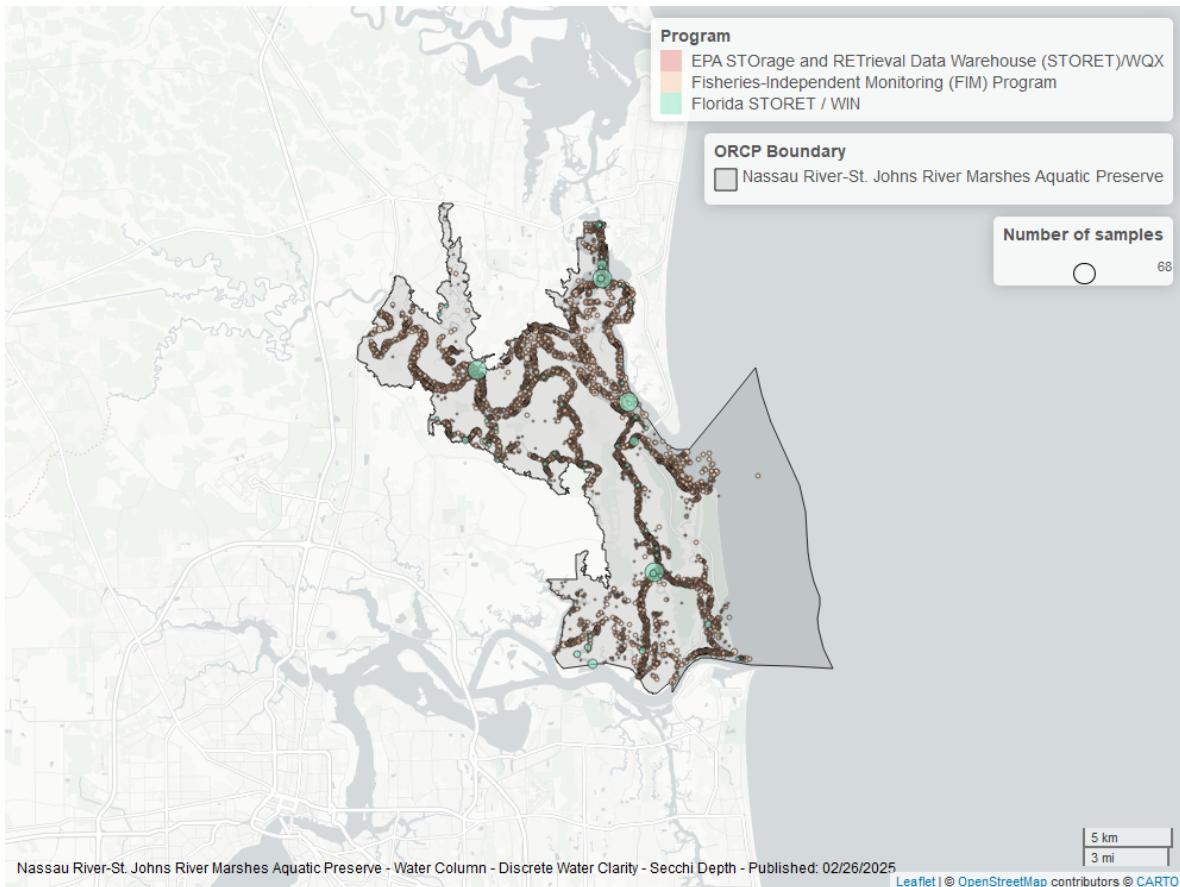


Table 18: Seasonal Kendall-Tau Results for - Secchi Depth

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	18755	28	1982 - 2024	-0.7	0.16733	-0.89136	0.00491	0.0000658329001629396872103186511



Colored Dissolved Organic Matter - Discrete

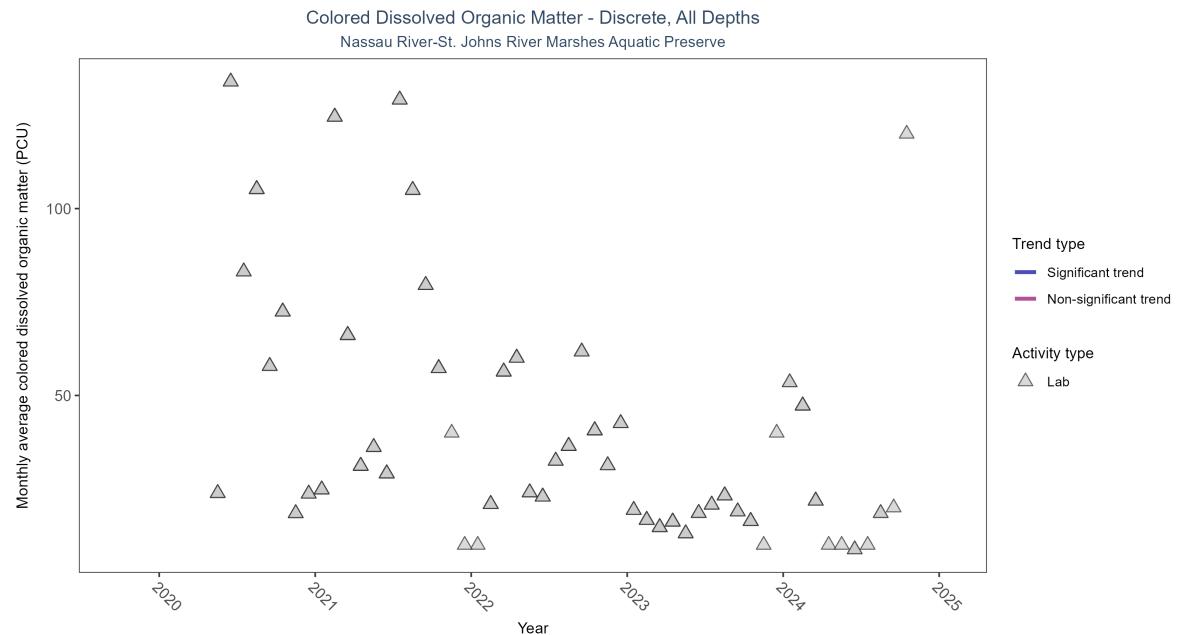


Table 19: Seasonal Kendall-Tau Results for - Colored Dissolved Organic Matter

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	386	5	2020 - 2024	27.31992	-	-	-	NA

