

Kristin Jacobs Coral Aquatic Preserve

SEACAR Water Quality Analysis

Last compiled on 20 May, 2025

Contents

Indicators	2
Nutrients	2
Total Nitrogen - Discrete	2
Total Phosphorus - Discrete	4
Water Quality	6
Dissolved Oxygen - Discrete	6
Dissolved Oxygen Saturation - Discrete	8
Salinity - Discrete	10
Water Temperature - Discrete	12
Water Temperature - Continuous	13
pH - Discrete	18
Water Clarity	20
Turbidity - Discrete	20
Total Suspended Solids - Discrete	22
Chlorophyll a, Uncorrected for Pheophytin - Discrete	24
Chlorophyll a, Corrected for Pheophytin - Discrete	26
Secchi Depth - Discrete	28
Colored Dissolved Organic Matter - Discrete	30

Indicators

Nutrients

Total Nitrogen - Discrete

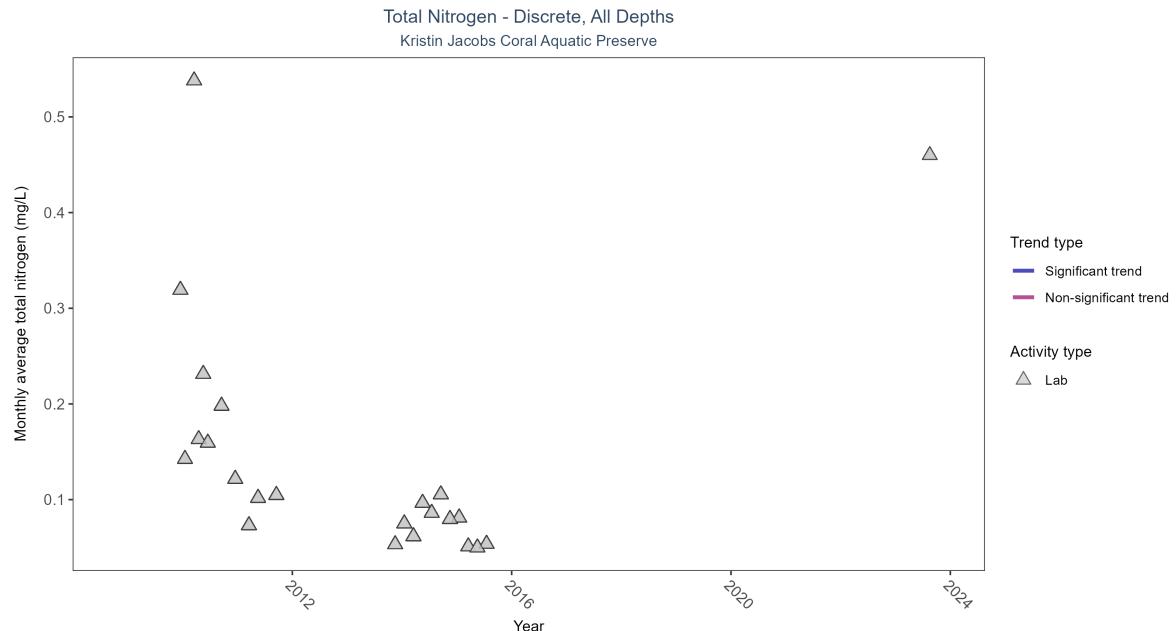
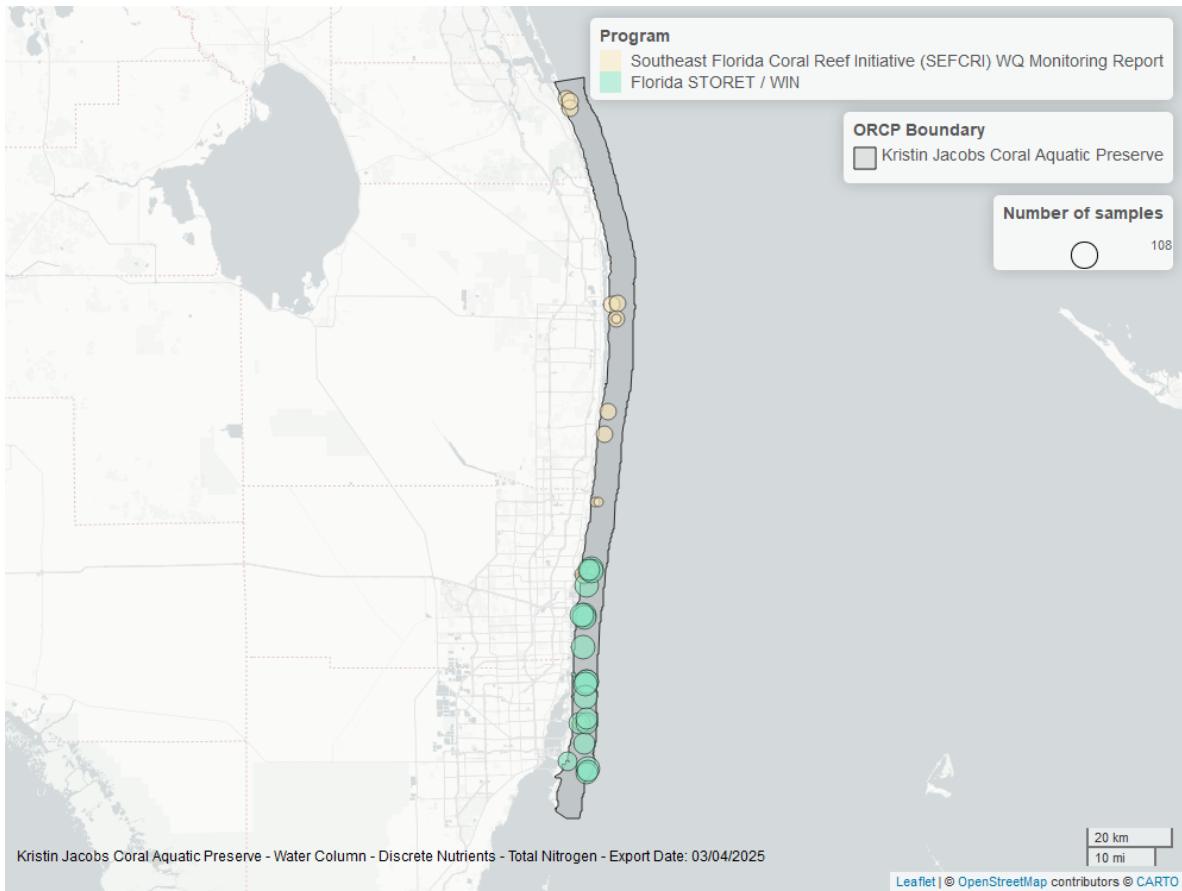


Table 1: Seasonal Kendall-Tau Results for - Total Nitrogen

Activity Type	Statistical Trend	Sample Count	Years with Data	Period of Record	Median Result Value	Tau	Sen Intercept	Sen Slope	P
Lab	Insufficient data to calculate trend	890	7	2009 - 2023	0.071	-	-	-	NA



Total Phosphorus - Discrete

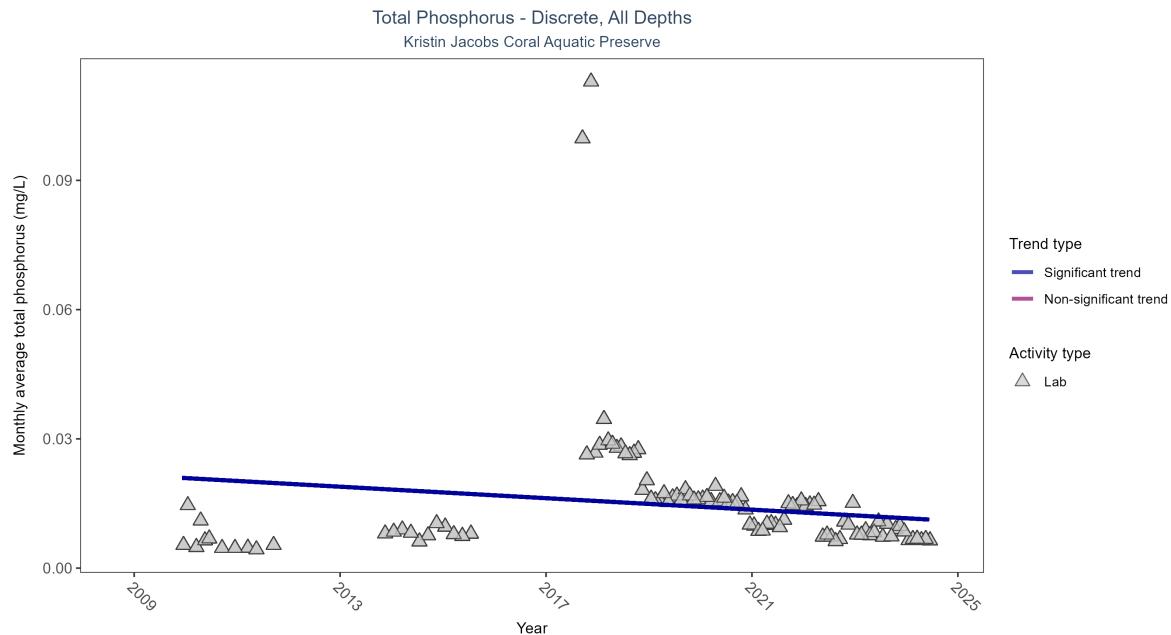
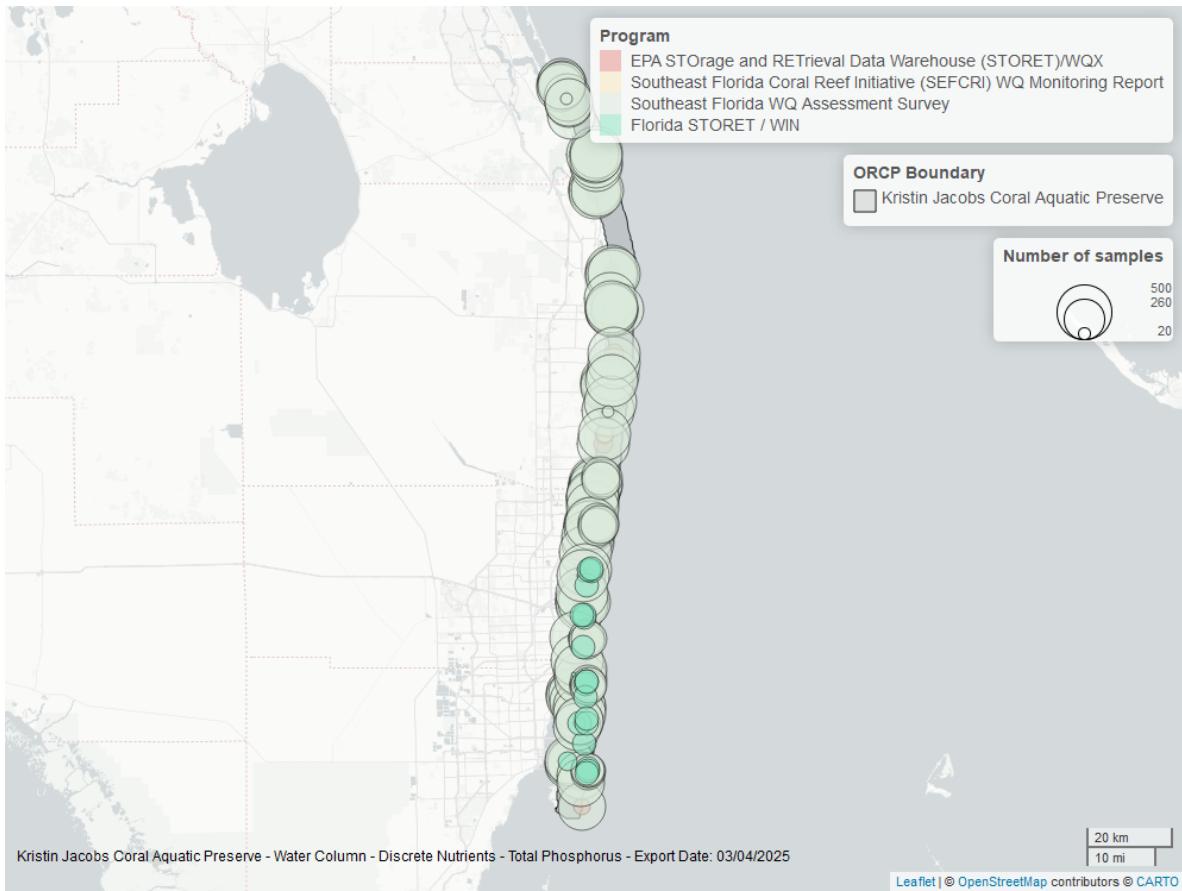


Table 2: Seasonal Kendall-Tau Results for - Total Phosphorus

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	17322	14	2009 - 2024	0.014	-0.29405	0.02156	-0.00067	0.00344176667784528399207655269265160313807427883148193359375000000



Water Quality

Dissolved Oxygen - Discrete

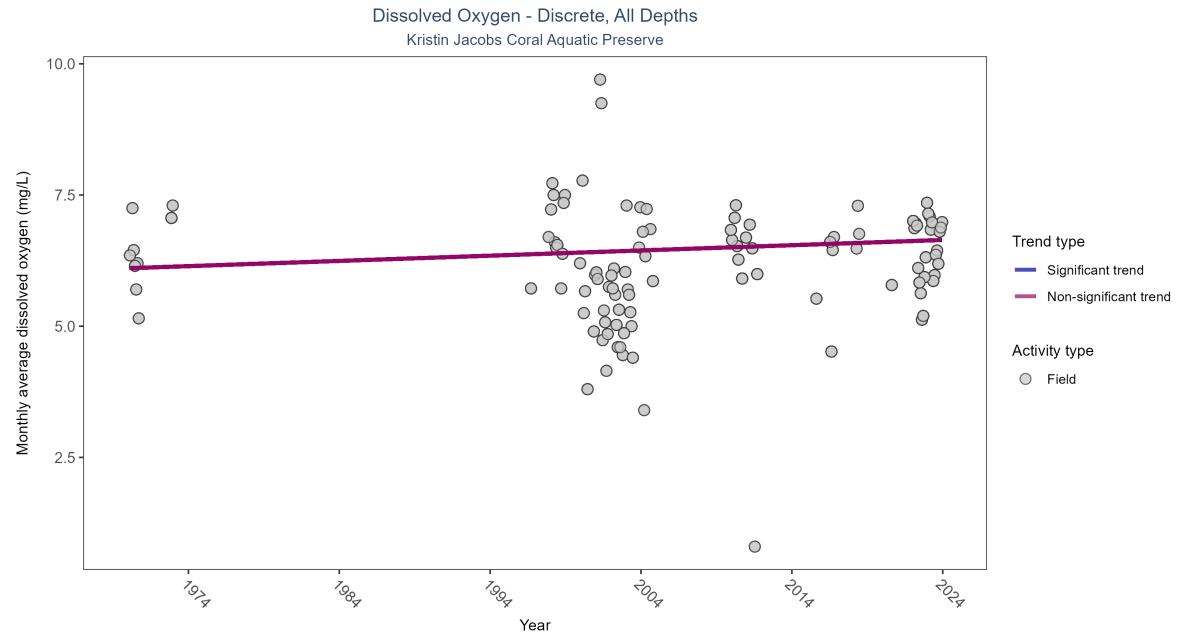
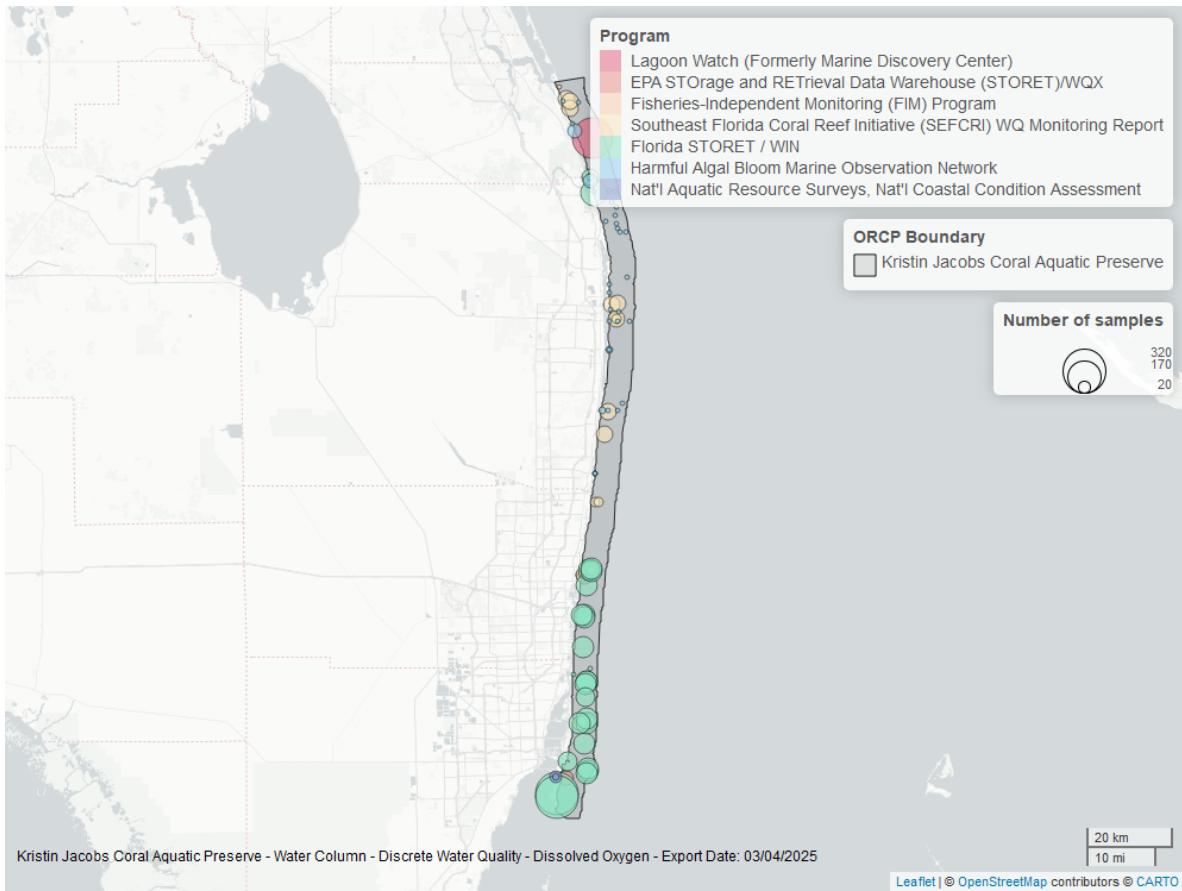


Table 3: Seasonal Kendall-Tau Results for - Dissolved Oxygen

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	742	20	1970 - 2023	6.49	0.09583	6.10456	0.00998	0.30661011155203571



Dissolved Oxygen Saturation - Discrete

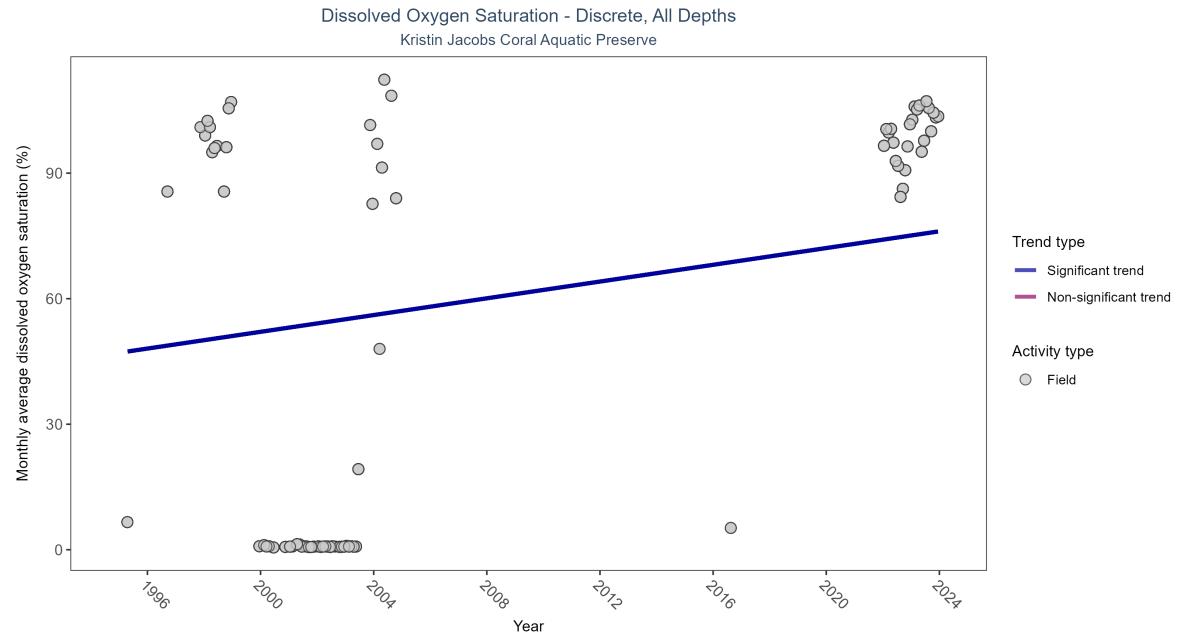
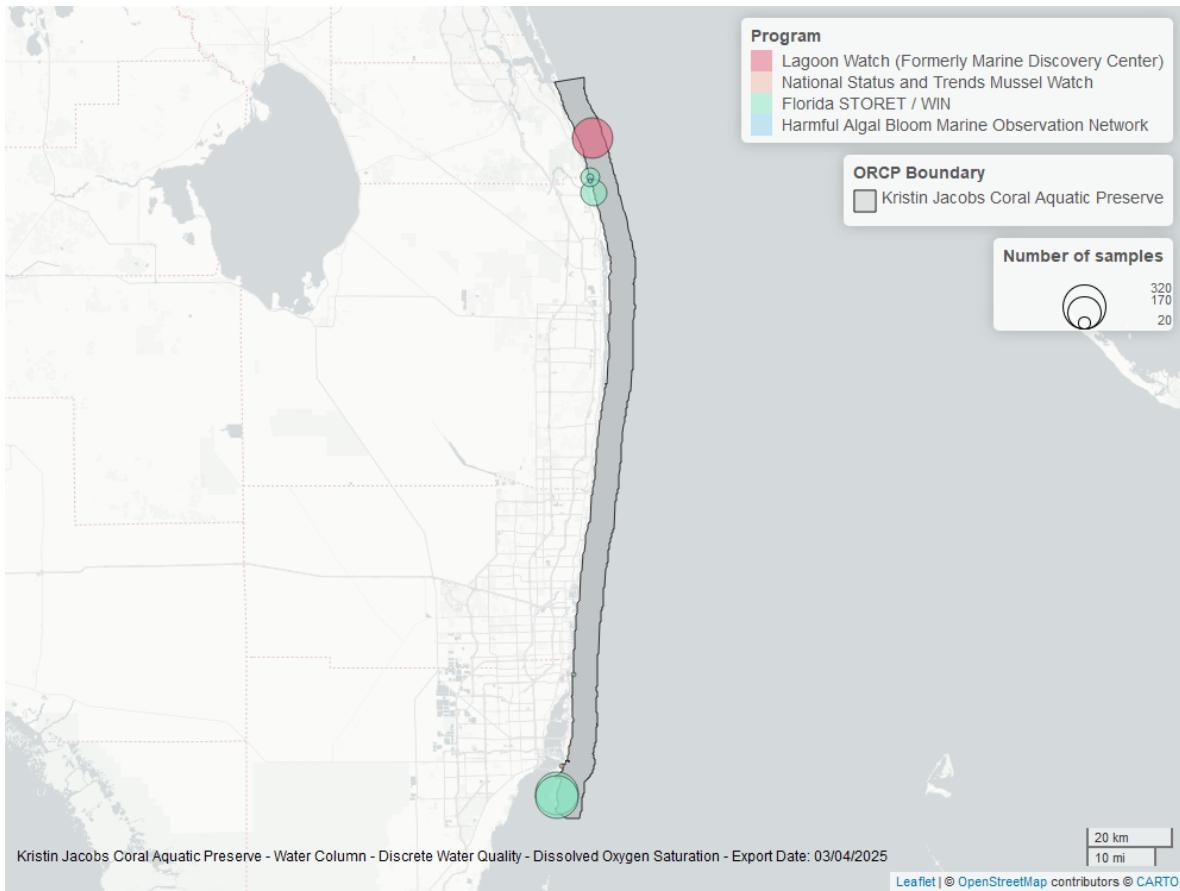


Table 4: Seasonal Kendall-Tau Results for - Dissolved Oxygen Saturation

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	378	13	1995 - 2023	97.85	0.32857	47.07696	1.00088	0.0018928194858824744575831466875115438597276806831359863281250000000000000



Salinity - Discrete

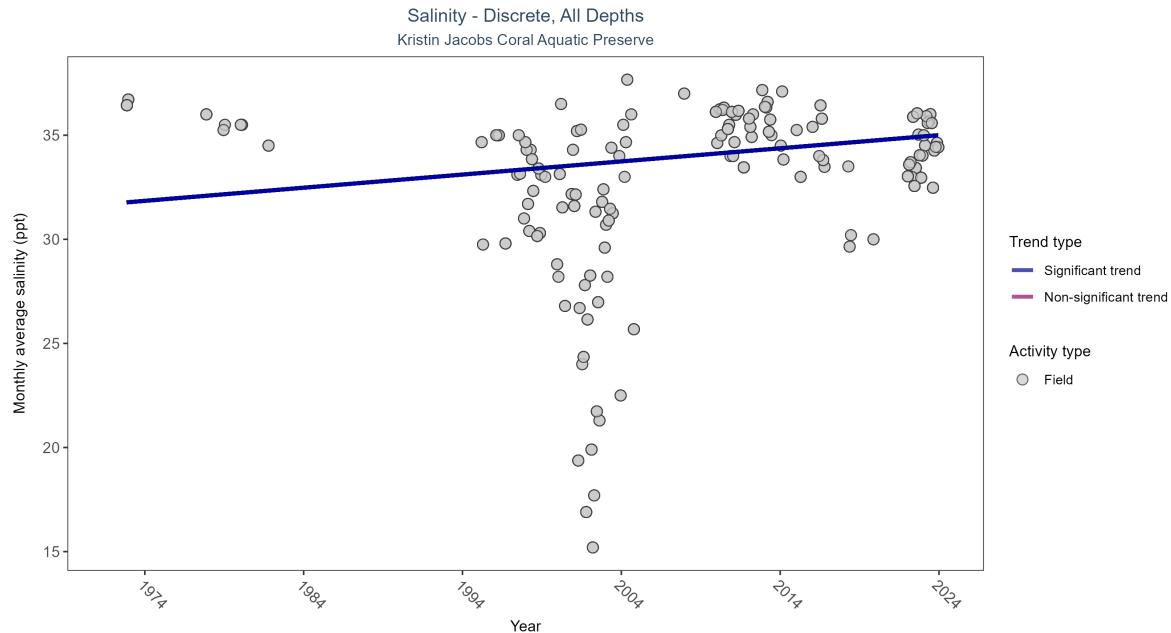
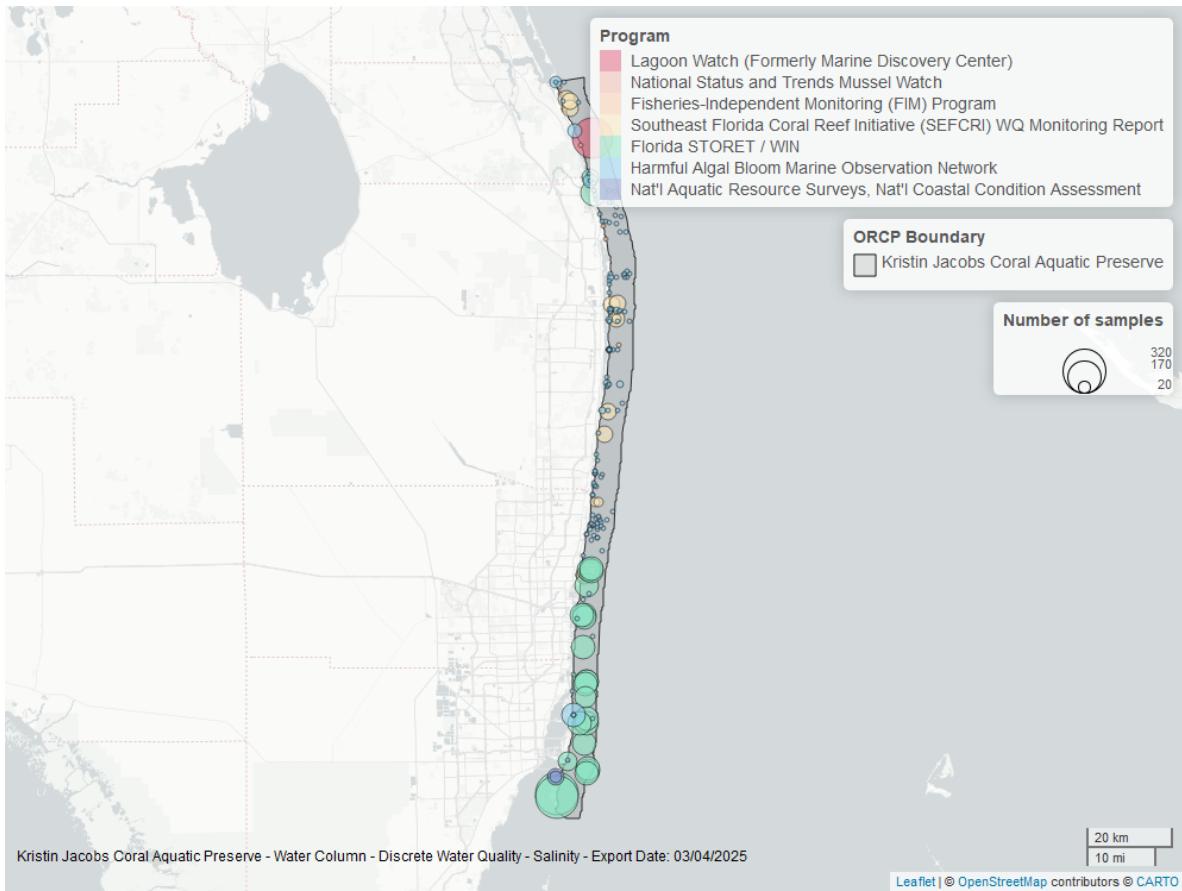


Table 5: Seasonal Kendall-Tau Results for - Salinity

Activity Type	Statistical Trend	Sample Count	Years with Data	Period of Record	Median Result Value	Tau	Sen Intercept	Sen Slope	P
All	Significantly increasing trend	908	30	1972 - 2023	35.5	0.17608	31.721	0.06312	0.01380106279398830328164482494912590482272207737



Water Temperature - Discrete

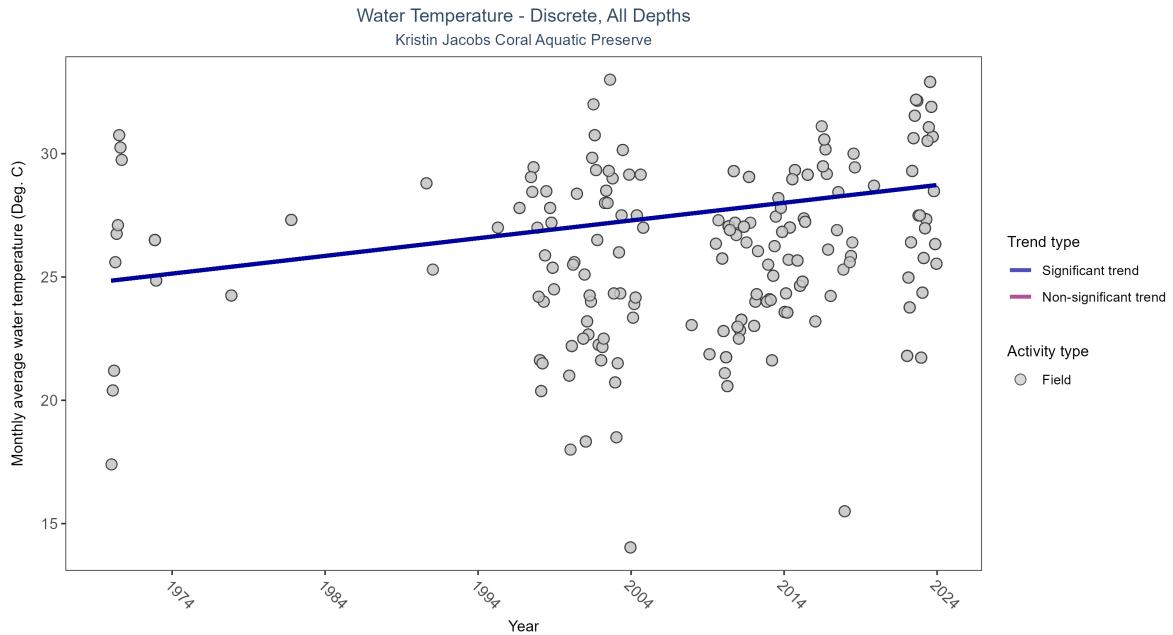
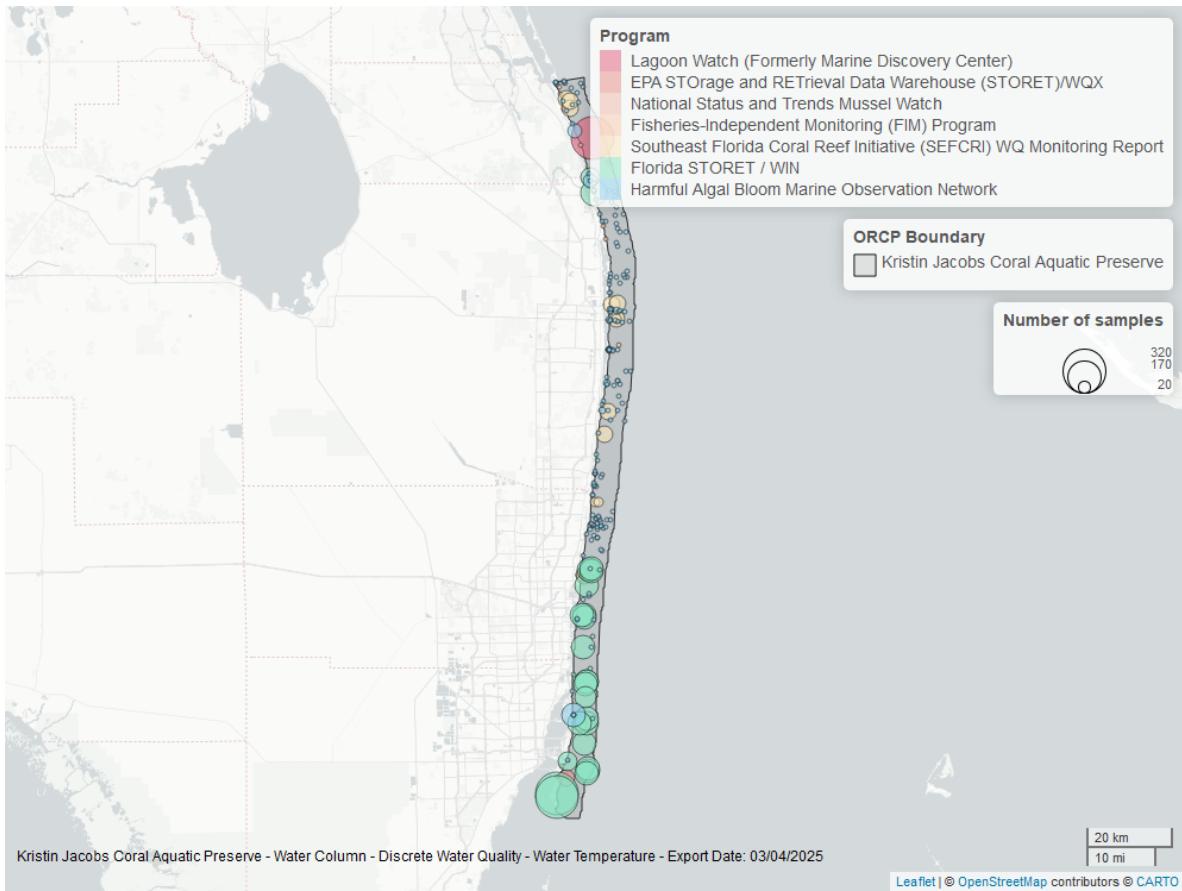


Table 6: Seasonal Kendall-Tau Results for - Water Temperature

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	1580	30	1970 - 2023	26.58235	0.28935	24.84913	0.07184	0.000000607570234152



Water Temperature - Continuous

National Data Buoy Center - 5

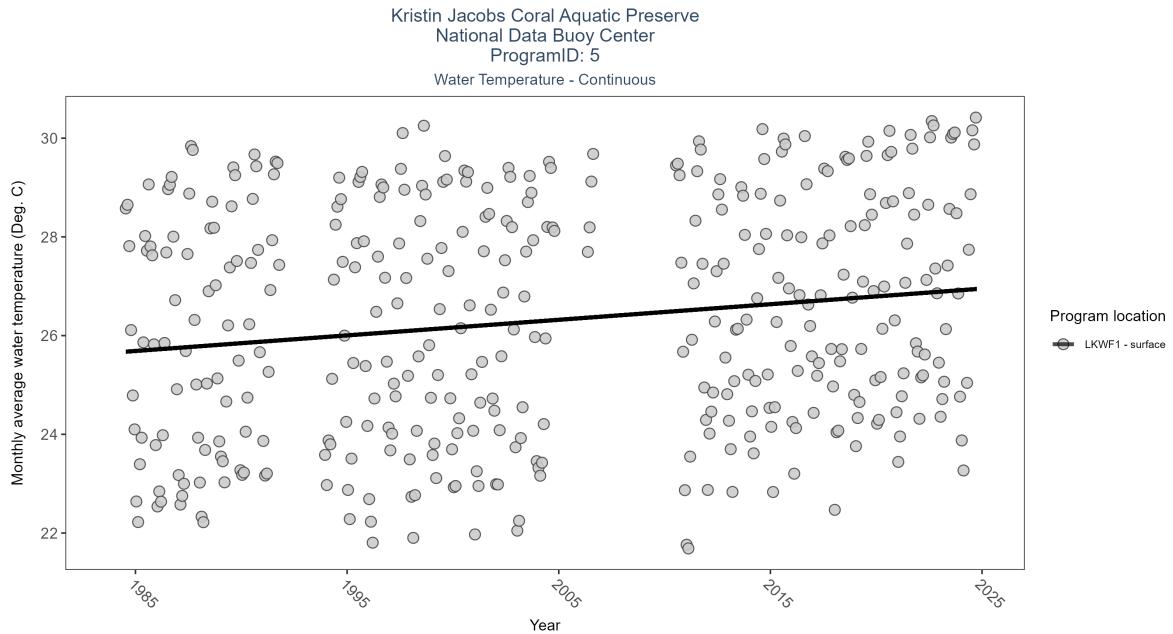
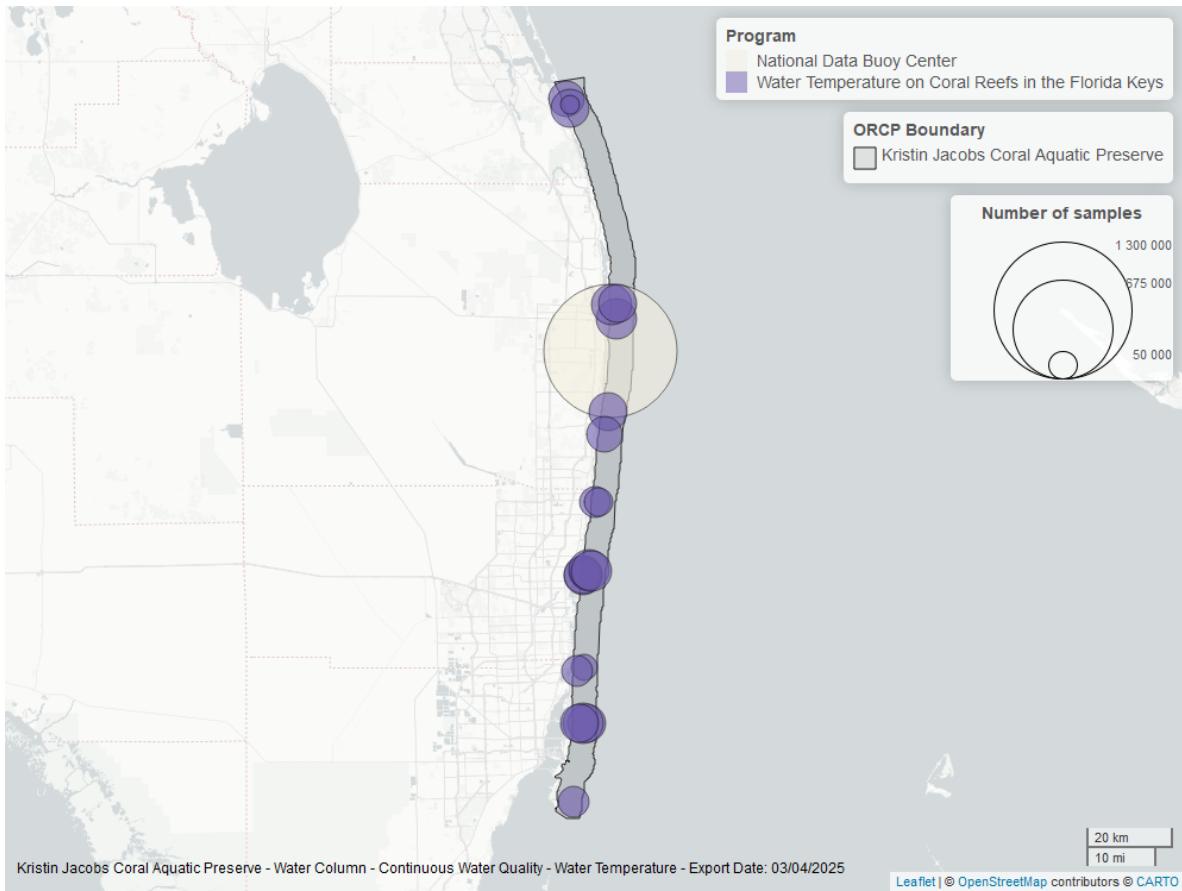


Table 7: Seasonal Kendall-Tau Results for All Stations - Water Temperature



Water Temperature on Coral Reefs in the Florida Keys - 986

Kristin Jacobs Coral Aquatic Preserve
Water Temperature on Coral Reefs in the Florida Keys
ProgramID: 986
Water Temperature - Continuous

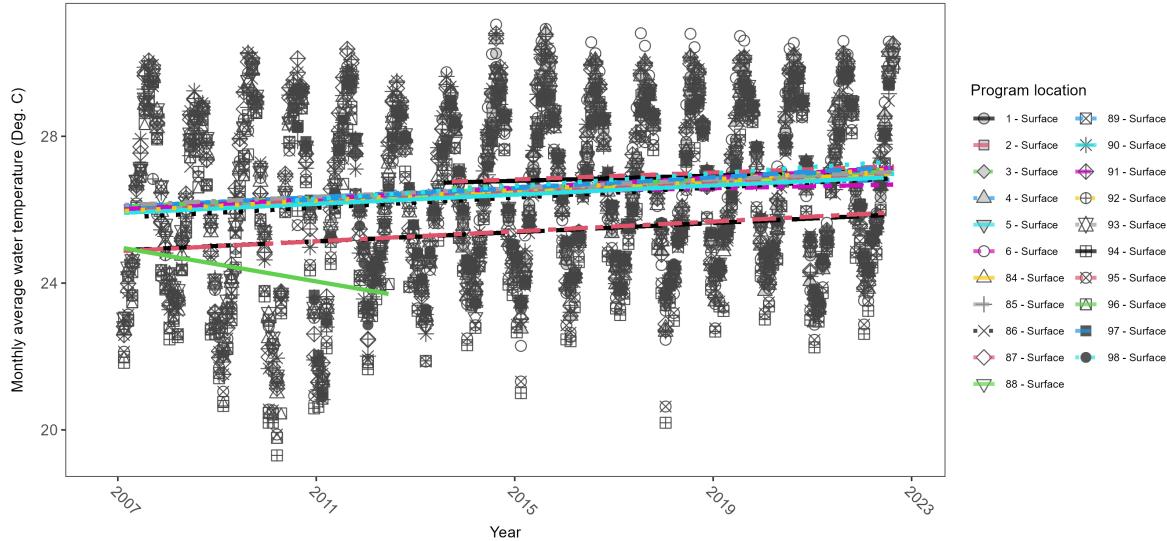
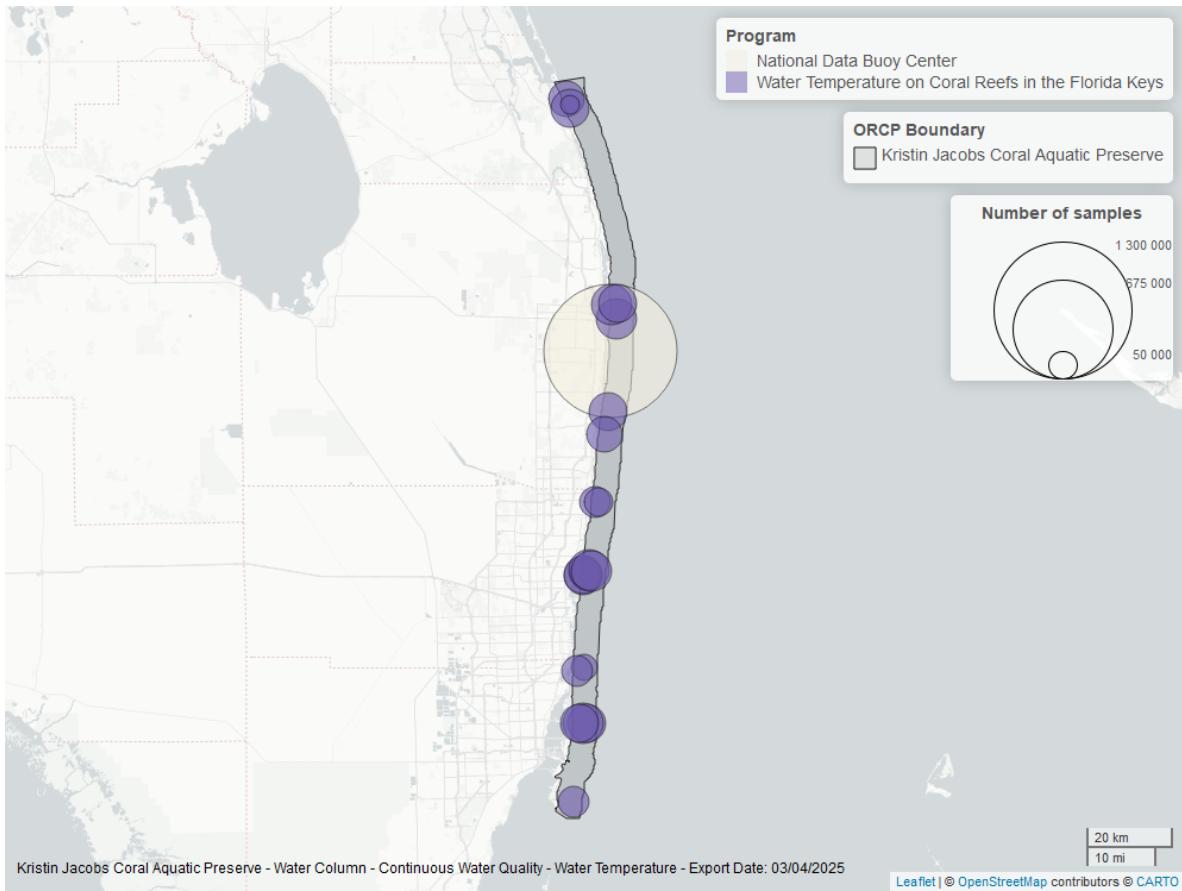


Table 8: Seasonal Kendall-Tau Results for All Stations - Water Temperature

Program Location	Statistical Trend	Sample Count	Years with Data	Period of Record	Median Result Value	Tau	Sen Intercept	Sen Slope	P
94	Significantly increasing trend	90265	16	2007 - 2022	25.55	0.28	24.89	0.06	0.0000003436163194397766379017261639817
87	Significantly increasing trend	108339	16	2007 - 2022	26.44	0.31	25.99	0.06	0.000000340240250699735572147268658494
85	Significantly increasing trend	114214	16	2007 - 2022	26.26	0.34	25.99	0.07	0.000000006606264165478439135369137514
1	No significant trend	65108	16	2013 - 2022	26.40	0.13	26.72	0.04	0.1157756031157596031661122037803579587
2	Significantly increasing trend	64486	16	2013 - 2022	26.72	0.26	26.73	0.05	0.000671643068108365823461921677981172
90	Significantly increasing trend	97006	16	2007 - 2022	26.43	0.33	25.91	0.06	0.000000011138119775567763049001906994
88	Significantly increasing trend	115305	16	2007 - 2022	26.35	0.34	26.08	0.06	0.000000002292268913606144310603535220
95	Significantly increasing trend	102279	16	2007 - 2022	25.58	0.30	24.87	0.07	0.000000042171164855629445157754464348
84	Significantly increasing trend	111153	16	2007 - 2022	26.32	0.36	25.94	0.07	0.00000000876578507331652389145820736
93	Significantly increasing trend	106903	16	2007 - 2022	26.47	0.35	26.12	0.06	0.00000000192332499594219253138902905
89	Significantly increasing trend	113809	16	2007 - 2022	26.28	0.35	26.08	0.07	0.00000000113124841179532329948316218
5	Significantly increasing trend	51977	10	2013 - 2022	26.62	0.21	26.46	0.05	0.006697293936396473463146250537674757
97	Significantly increasing trend	97533	13	2010 - 2022	26.45	0.38	26.21	0.08	0.000000029709037392913062489152586920
92	Significantly increasing trend	111826	16	2007 - 2022	26.45	0.37	25.96	0.07	0.00000000126974170953740996339864644
86	Significantly increasing trend	104767	16	2007 - 2022	26.16	0.36	25.78	0.07	0.0000000133464537154139998296250441113
91	Significantly increasing trend	102406	16	2007 - 2022	26.54	0.33	26.01	0.07	0.00000000767537598415137134228017679
3	Significantly increasing trend	60887	10	2013 - 2022	26.65	0.25	26.54	0.06	0.0010361793972367119767014065345733798
4	Significantly increasing trend	68937	10	2013 - 2022	26.59	0.17	26.46	0.04	0.0305309220394204793025405564321772545
98	Significantly increasing trend	87973	13	2010 - 2022	26.40	0.39	26.21	0.09	0.000000014422945542256620781330217484
96	No significant trend	25550	6	2007 - 2012	24.87	-0.25	24.98	-0.23	0.0801183137276341994503781052117119543
6	No significant trend	63582	10	2013 - 2022	26.77	0.09	26.42	0.03	0.2597650299559677855576467209175461903



pH - Discrete

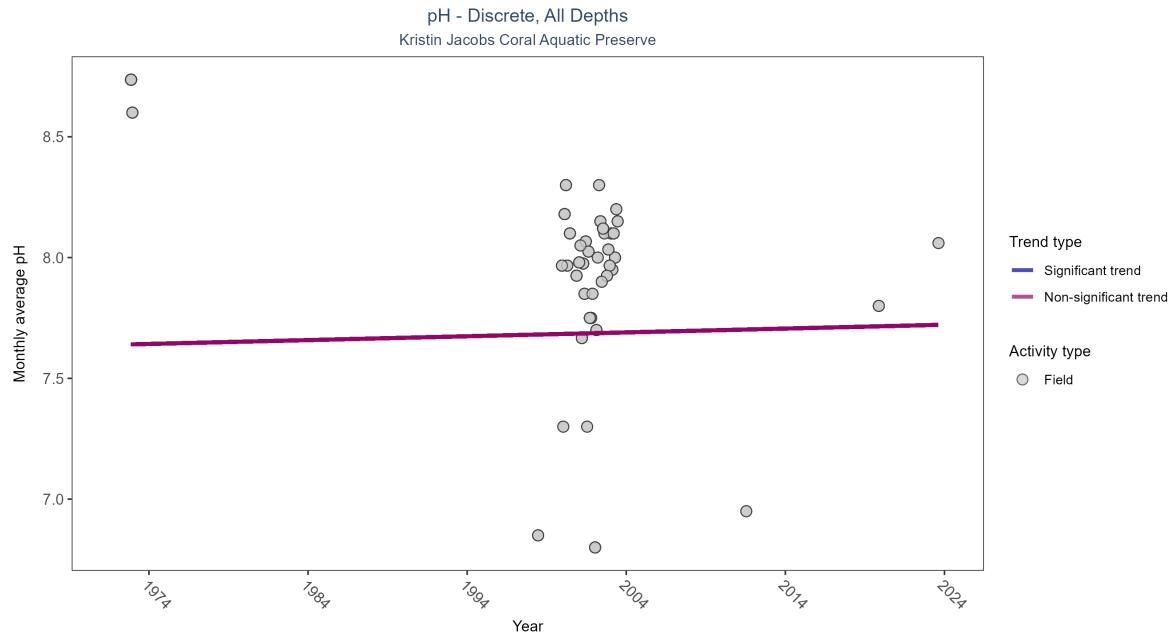
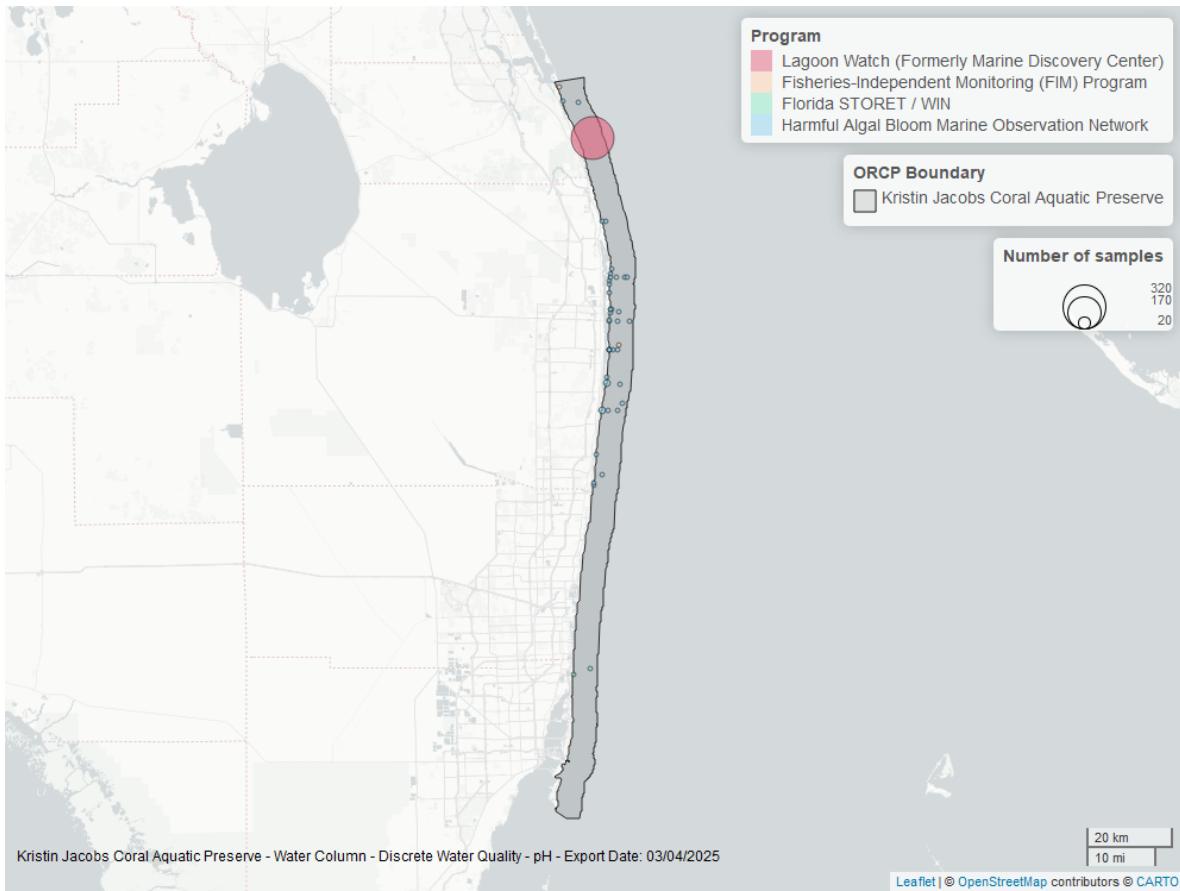


Table 9: Seasonal Kendall-Tau Results for - pH

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	172	10	1972 - 2023	8.2	0.08333	7.63924	0.00159	0.91242100432058836911863863861071877181530



Water Clarity

Turbidity - Discrete

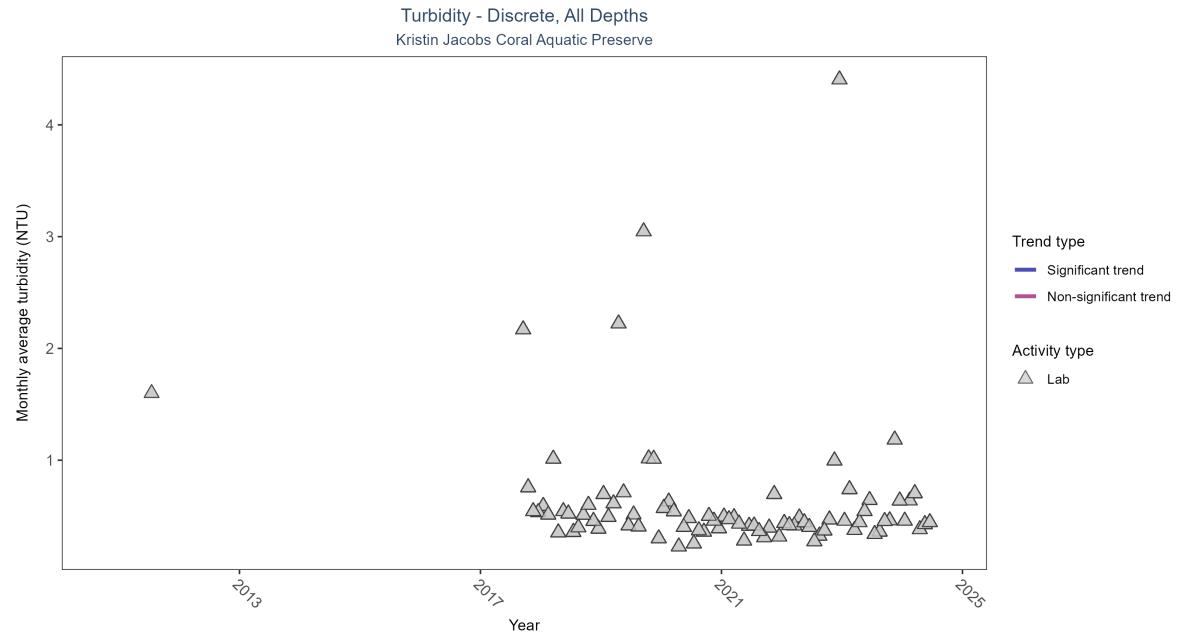
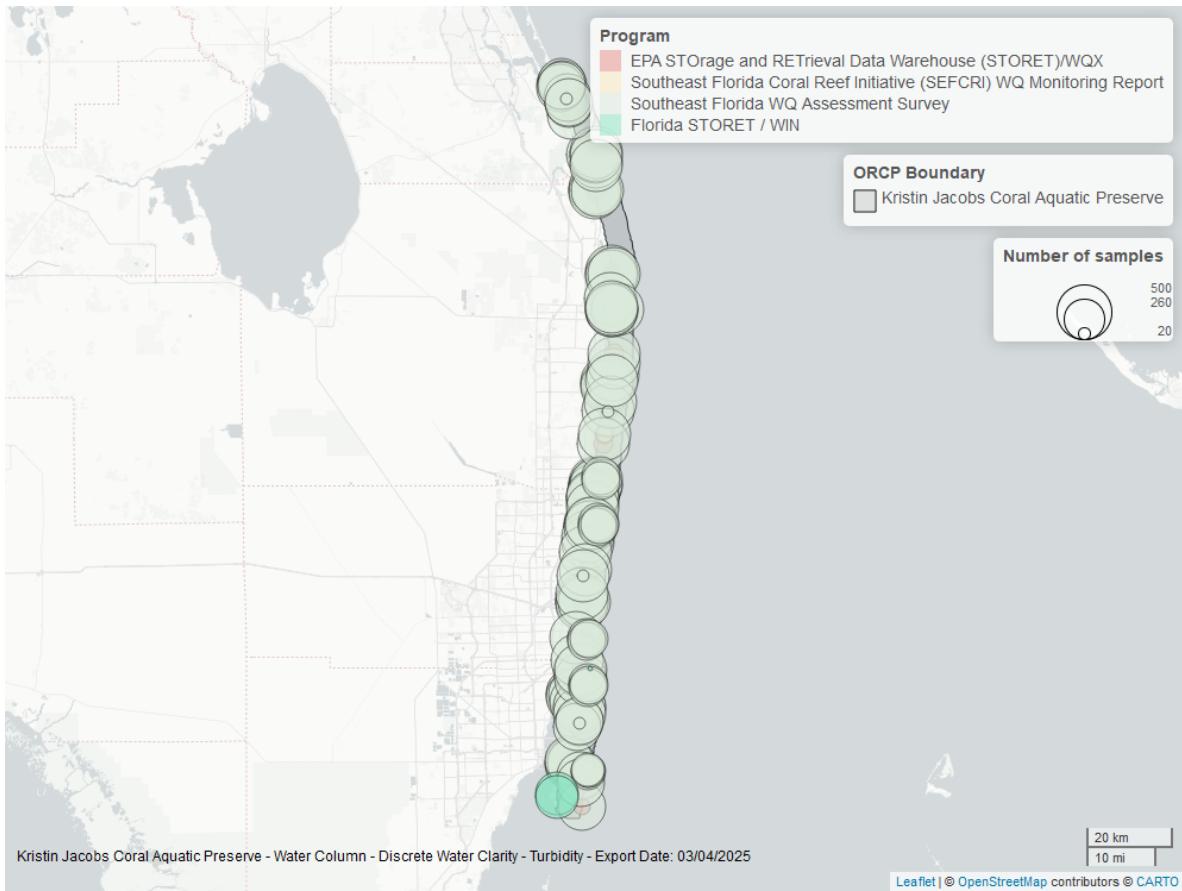


Table 10: Seasonal Kendall-Tau Results for - Turbidity

Activity Type	Statistical Trend	Sample Count	Years with Data	Period of Record	Median Result Value	Tau	Sen Intercept	Sen Slope	P
Lab	Insufficient data to calculate trend	15580	9	2011 - 2024	0.3	-	-	-	NA



Total Suspended Solids - Discrete

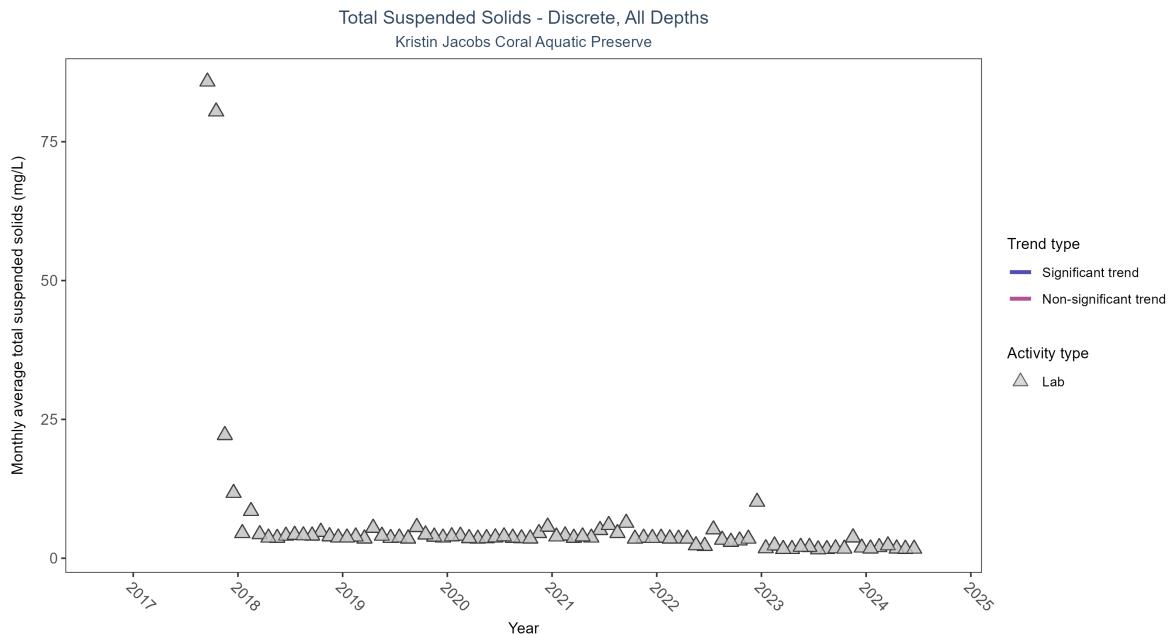
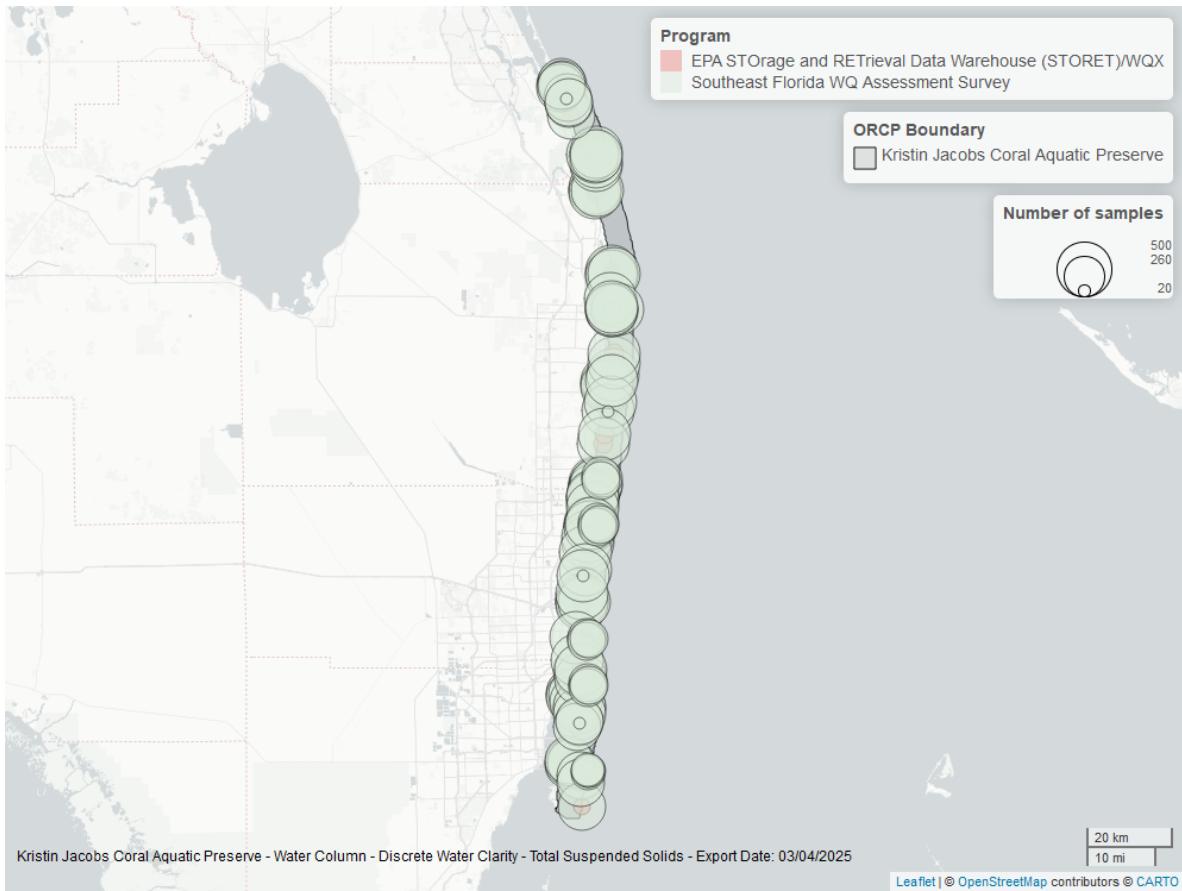


Table 11: Seasonal Kendall-Tau Results for - Total Suspended Solids

Activity Type	Statistical Trend	Sample Count	Years with Data	Period of Record	Median Result Value	Tau	Sen Intercept	Sen Slope	P
Lab	Insufficient data to calculate trend	15025	8	2017 - 2024	3.47	-	-	-	NA



Chlorophyll a, Uncorrected for Pheophytin - Discrete

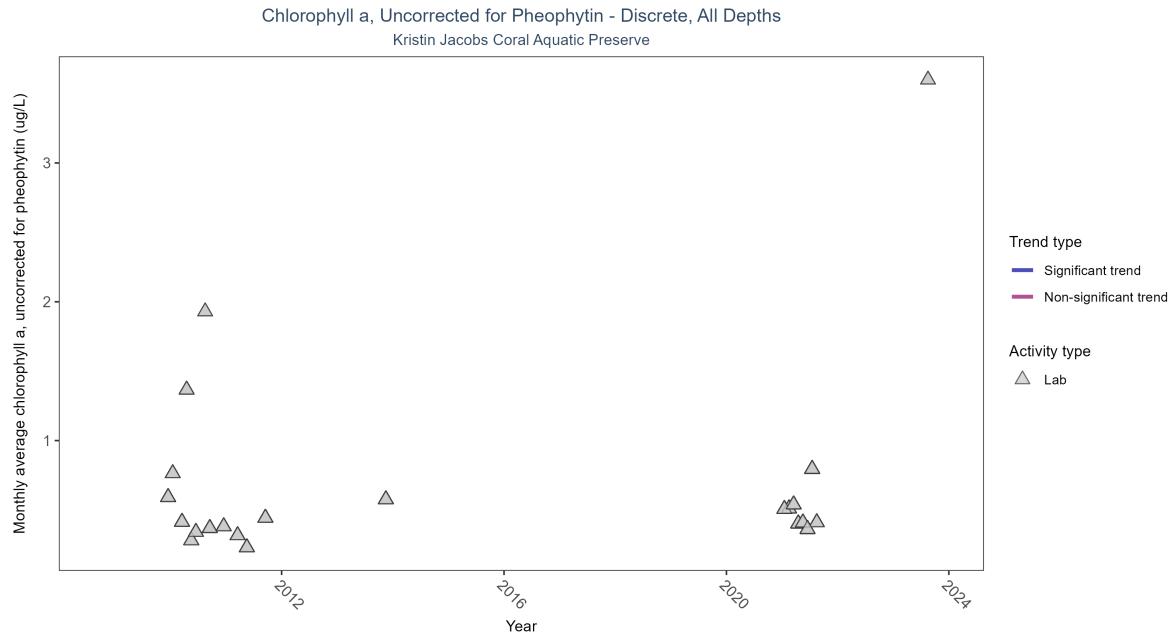
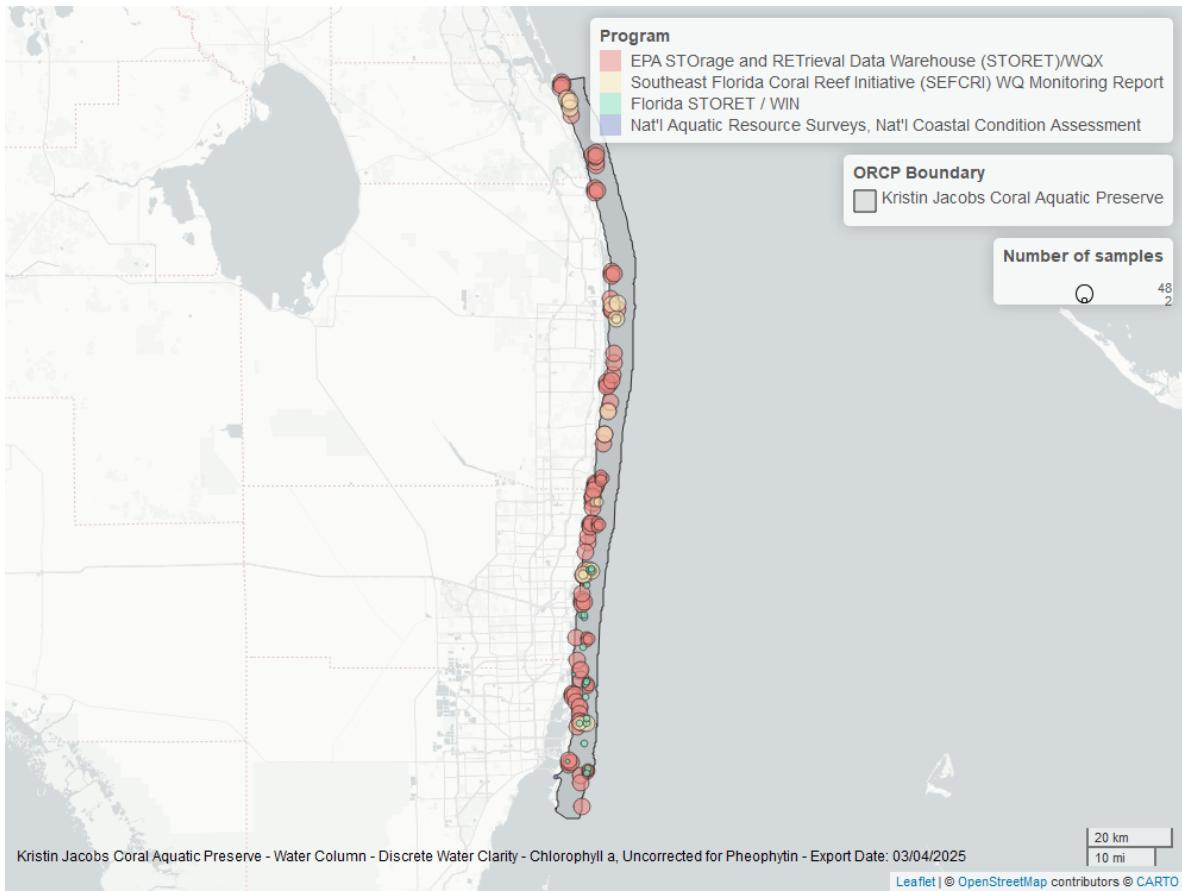


Table 12: Seasonal Kendall-Tau Results for - Chlorophyll a, Uncorrected for Pheophytin

Activity Type	Statistical Trend	Sample Count	Years with Data	Period of Record	Median Result Value	Tau	Sen Intercept	Sen Slope	P
Lab	Insufficient data to calculate trend	1930	6	2009 - 2023	0.3844	-	-	-	NA



Chlorophyll a, Corrected for Pheophytin - Discrete

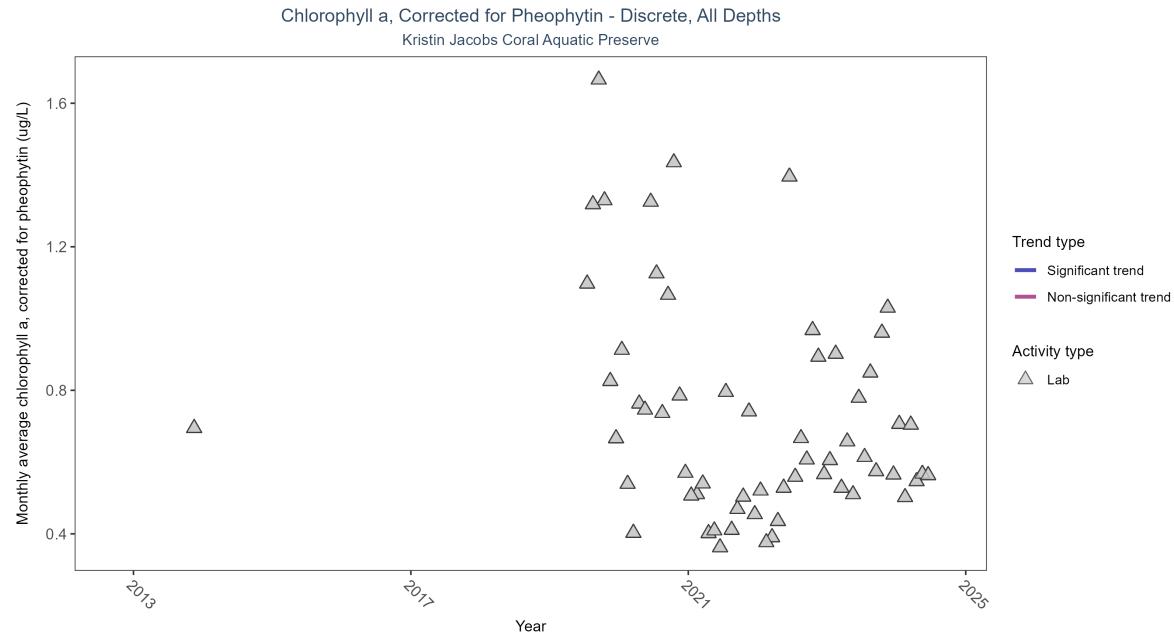
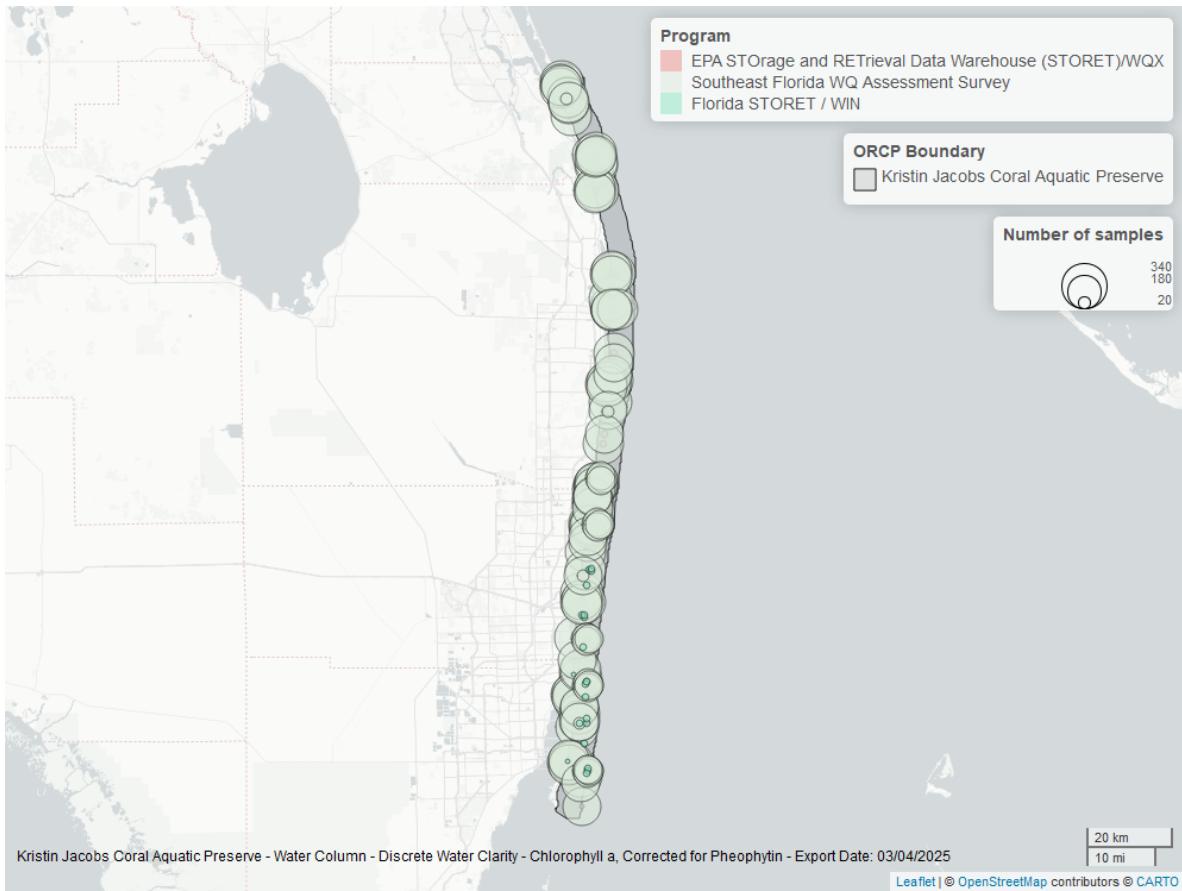


Table 13: Seasonal Kendall-Tau Results for - Chlorophyll a, Corrected for Pheophytin

Activity Type	Statistical Trend	Sample Count	Years with Data	Period of Record	Median Result Value	Tau	Sen Intercept	Sen Slope	P
Lab	Insufficient data to calculate trend	10009	7	2013 - 2024	0.464	-	-	-	NA



Secchi Depth - Discrete

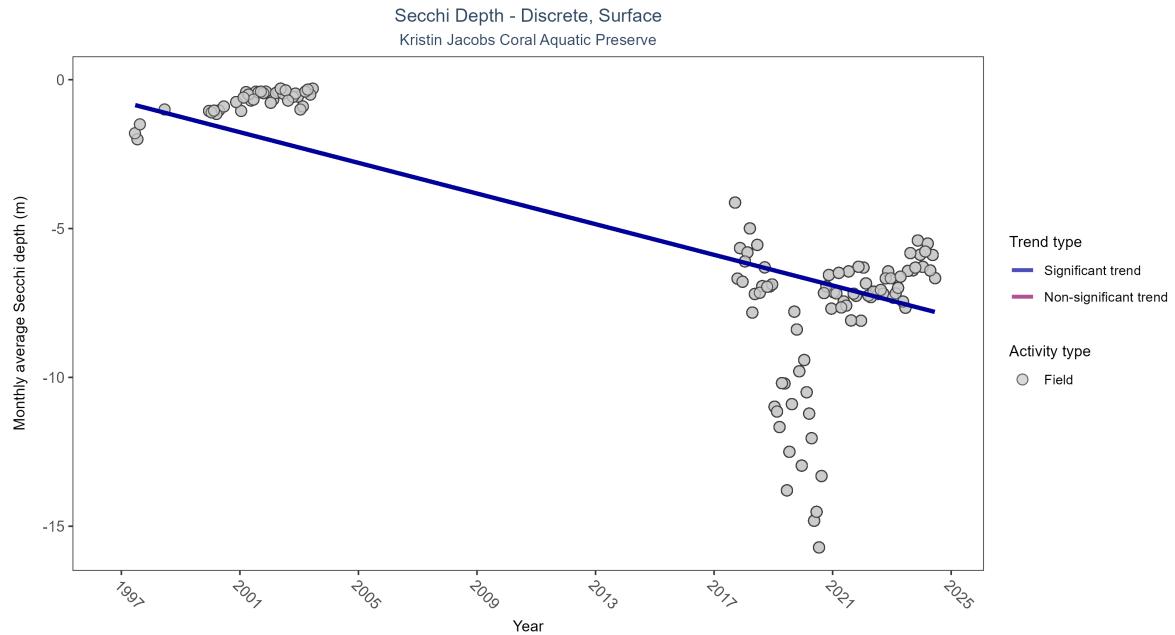
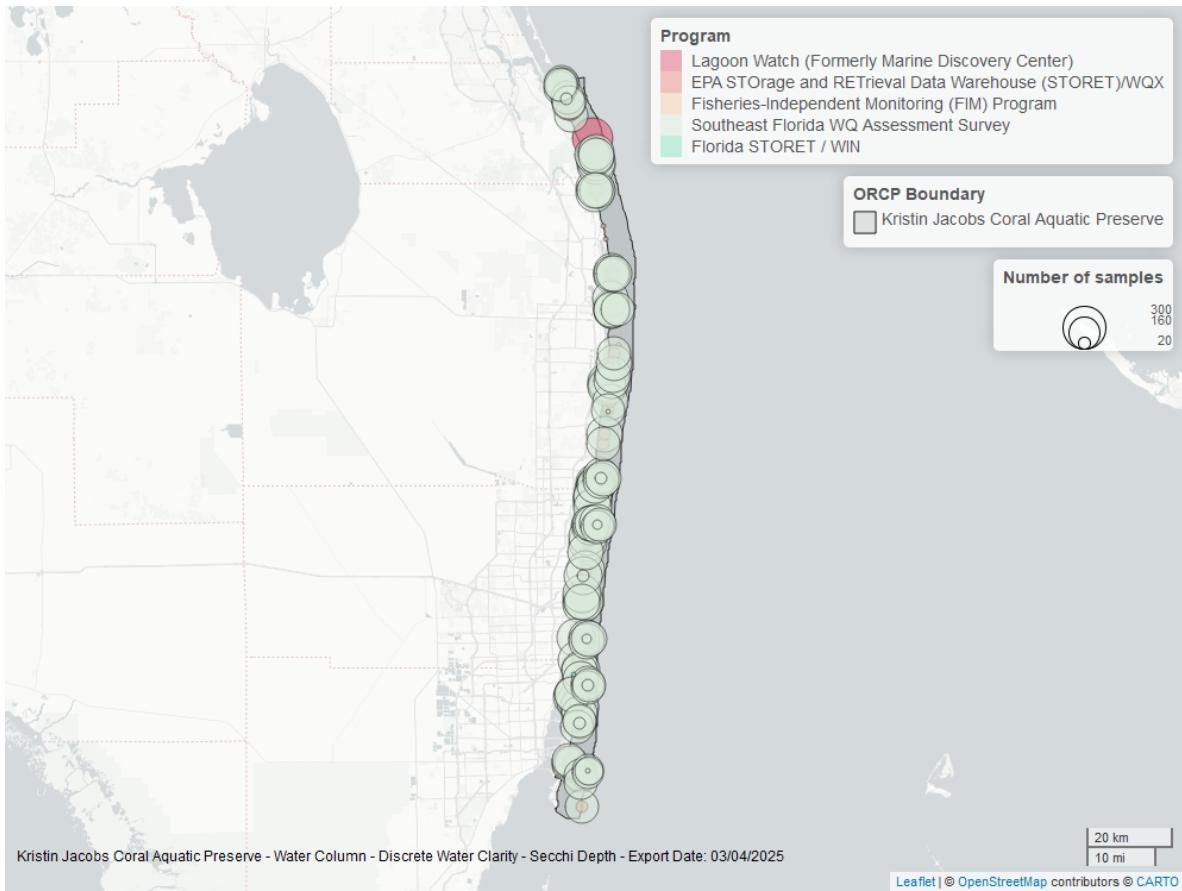


Table 14: Seasonal Kendall-Tau Results for - Secchi Depth

Activity Type	Statistical Trend	Sample Count	Years with Data	Period of Record	Median Result Value	Tau	Sen Intercept	Sen Slope	P
Field	Significantly decreasing trend	8962	15	1997 - 2024	-6.1	-0.29757	-0.73362	-0.25747	0.0000396314640919295528200677614



Colored Dissolved Organic Matter - Discrete

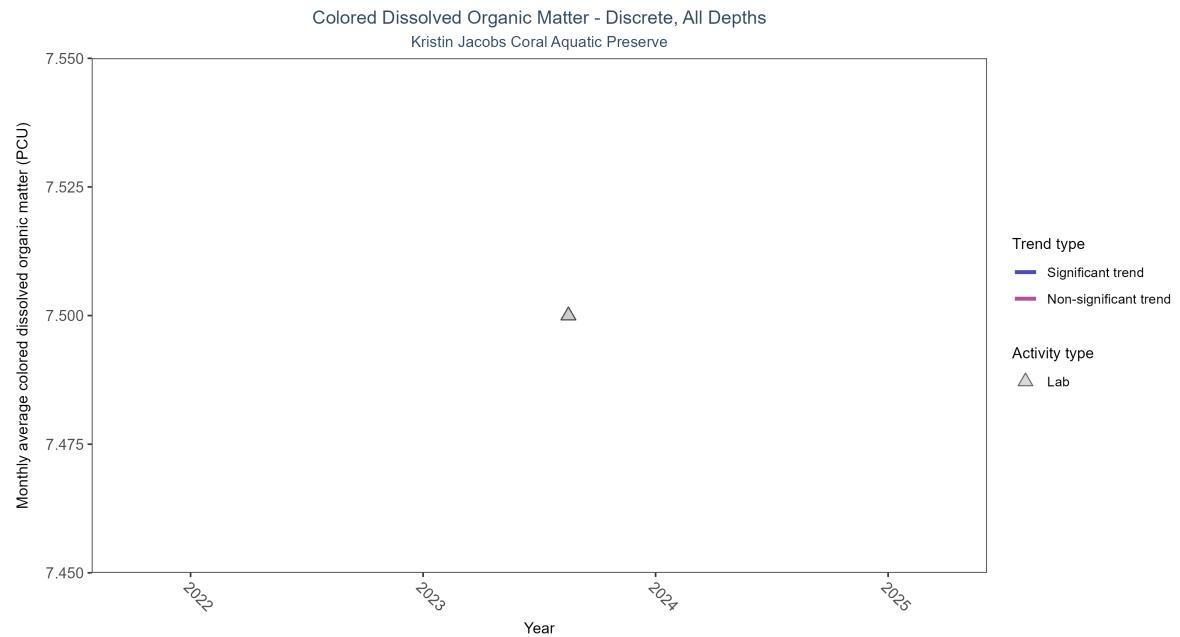


Table 15: Seasonal Kendall-Tau Results for - Colored Dissolved Organic Matter

