

# Nassau River-St. Johns River Marshes Aquatic Preserve

## SEACAR Discrete Water Quality Analysis

Last compiled on 26 June, 2024

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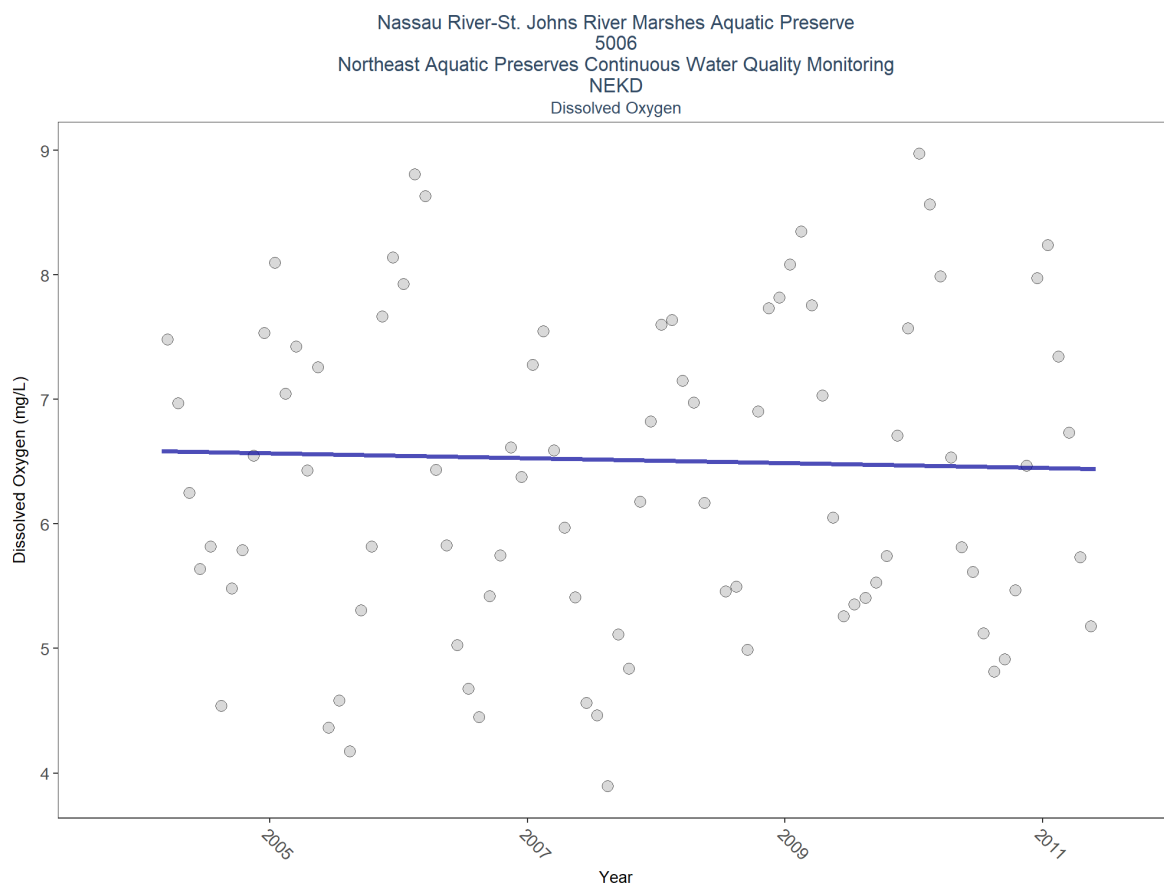
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## Parameters

# Dissolved Oxygen

## NEKD

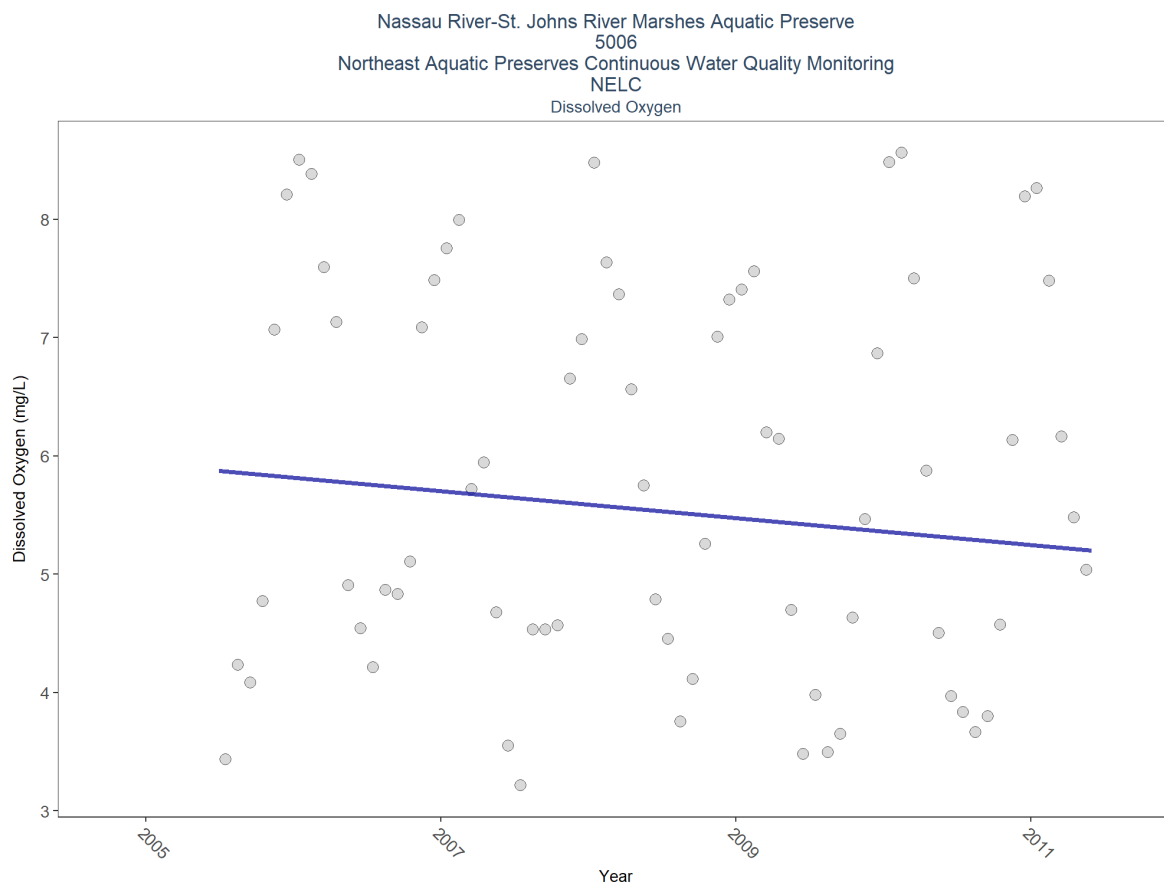


RelativeDepth	N_Data	N_Years	Median	Independent	tau	p	SennSlope	SennIntercept	ChiSquared	pChiSquared	Trend
bottom	110958	8	6.4	TRUE	-0.0447	0.5607	-0.01927373	6.586815	9.5559	0.5707	0

$p < 0.00005$  appear as 0 due to rounding.

*SennIntercept is intercept value at beginning of  
record for monitoring location*

## NELC



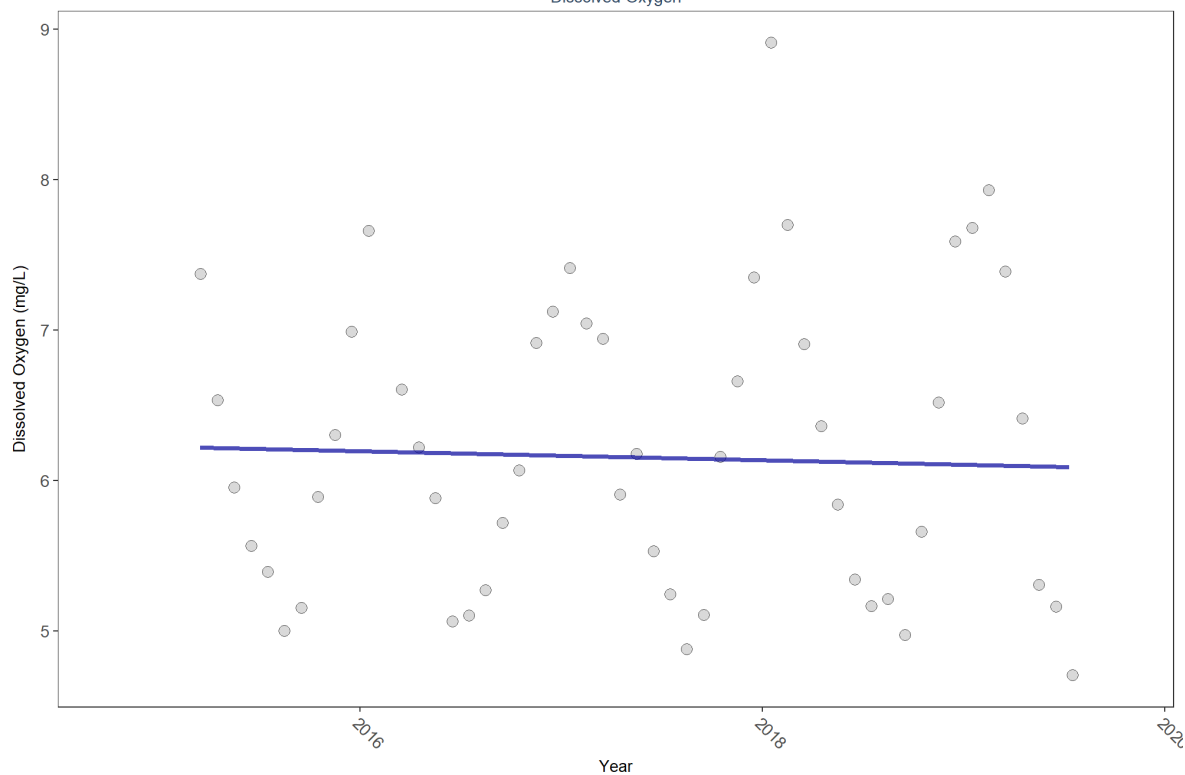
RelativeDepth	N_Data	N_Years	Median	Independent	tau	p	SennSlope	SennIntercept	ChiSquared	pChiSquared	Trend
bottom	95860	7	5.6	TRUE	-0.3352	0.0014	-0.1139401	5.932437	5.1427	0.9241	-1

$p < 0.00005$  appear as 0 due to rounding.

*SennIntercept* is intercept value at beginning of record for monitoring location

NCB19020038

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St. Johns River Water Management District Continuous Water Quality Programs  
NCB19020038  
Dissolved Oxygen

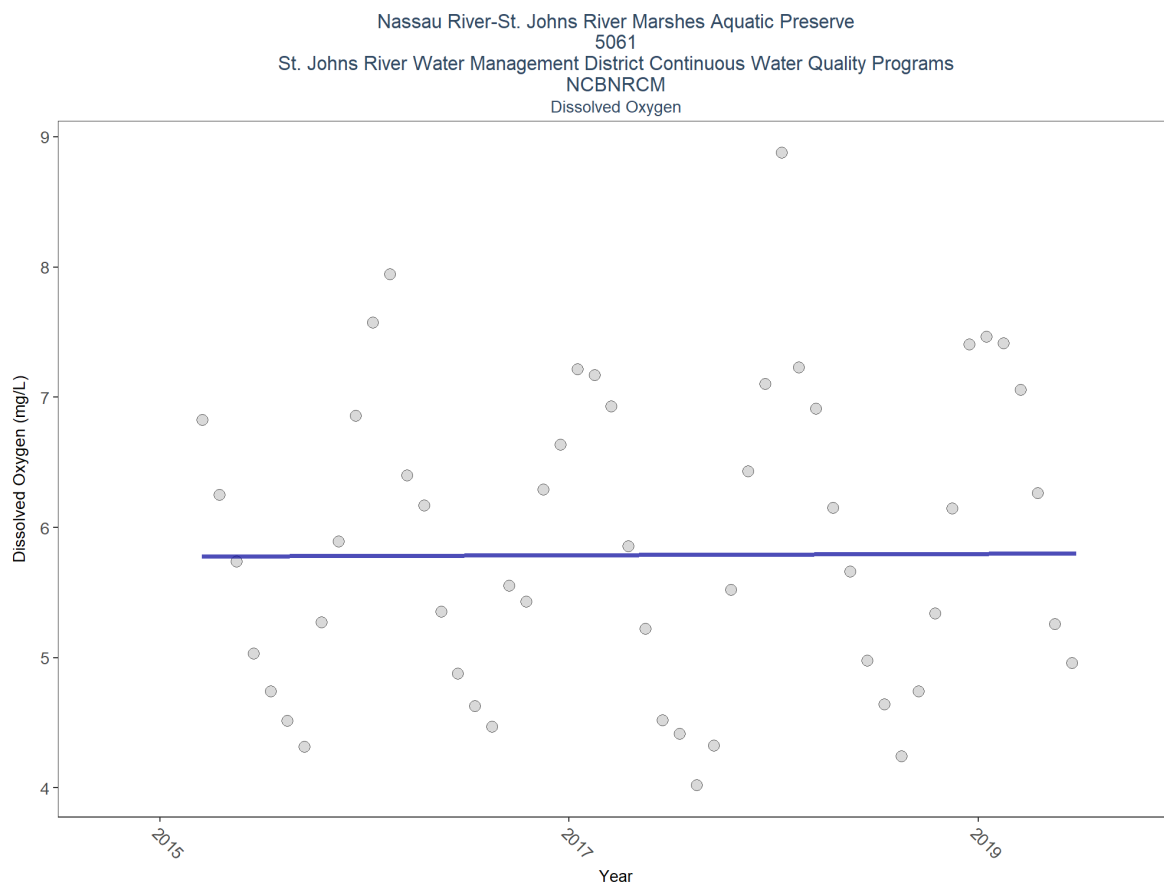


RelativeDepth	N_Data	N_Years	Median	Independent	tau	p	SennSlope	SennIntercept	ChiSquared	pChiSquared	Trend
surface	34476	5	6.16	TRUE	-0.0256	0.6108	-0.02995256	6.227101	14.4149	0.2109	0

$p < 0.00005$  appear as 0 due to rounding.

SennIntercept is intercept value at beginning of  
record for monitoring location

## NCBNRCM



RelativeDepth	N_Data	N_Years	Median	Independent	tau	p	SennSlope	SennIntercept	ChiSquared	pChiSquared	Trend
surface	35477	5	5.79	TRUE	0.0513	0.7970	0.005475297	5.776387	8.7446	0.6455	0

$p < 0.00005$  appear as 0 due to rounding.

SennIntercept is intercept value at beginning of  
record for monitoring location

## All Stations Combined

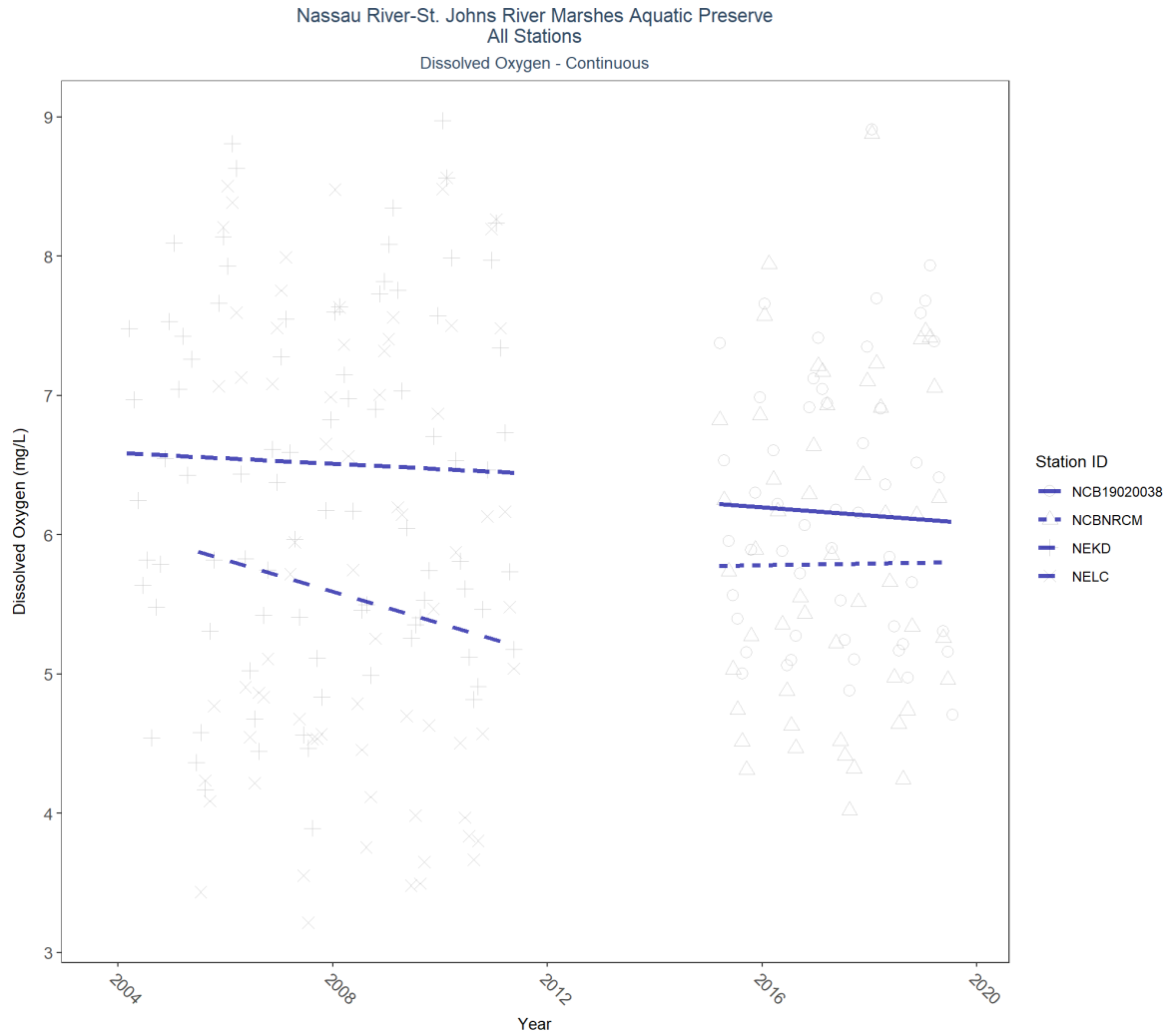


Table 1: Seasonal Kendall-Tau Results for All Stations - Dissolved Oxygen

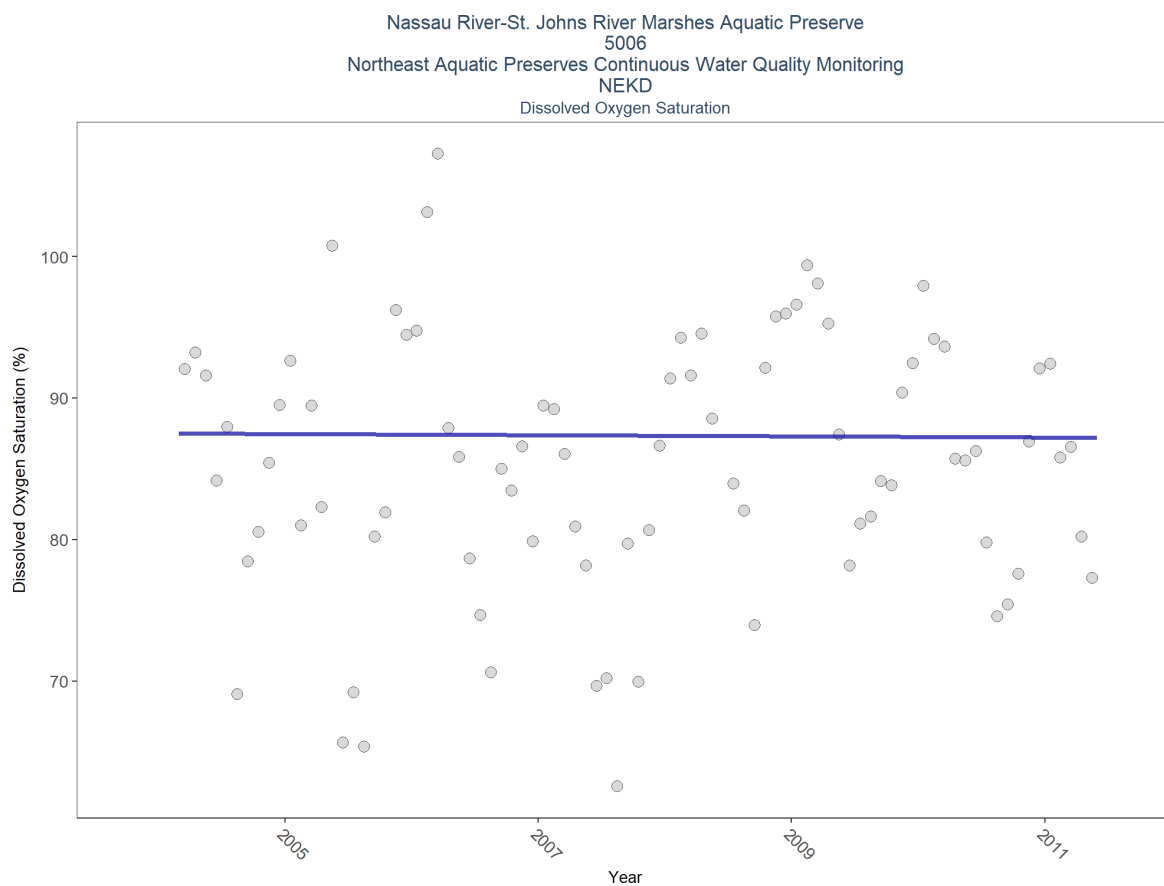
Station	N_Data	N_Years	Period of Record	Median	tau	SennIntercept	SennSlope	p
02231291	689	3	2014 - 2016	6.10	-	-	-	-
NEKD	110958	8	2004 - 2011	6.40	-0.04	6.59	-0.02	0.5607
NELC	95860	7	2005 - 2011	5.60	-0.34	5.93	-0.11	0.0014
NENR	31438	3	2009 - 2011	5.80	-	-	-	-
NELN	17020	1	2023 - 2023	4.80	-	-	-	-
NEHM	27804	2	2022 - 2023	5.70	-	-	-	-



Station	N_Data	N_Years	Period of Record	Median	tau	SennIntercept	SennSlope	p
NCB19020038	34476	5	2015 - 2019	6.16	-0.03	6.23	-0.03	0.6108
NCBARD16	7417	2	2015 - 2016	5.08	-	-	-	-
NCBNRCM	35477	5	2015 - 2019	5.79	0.05	5.78	0.01	0.7970

# Dissolved Oxygen Saturation

NEKD

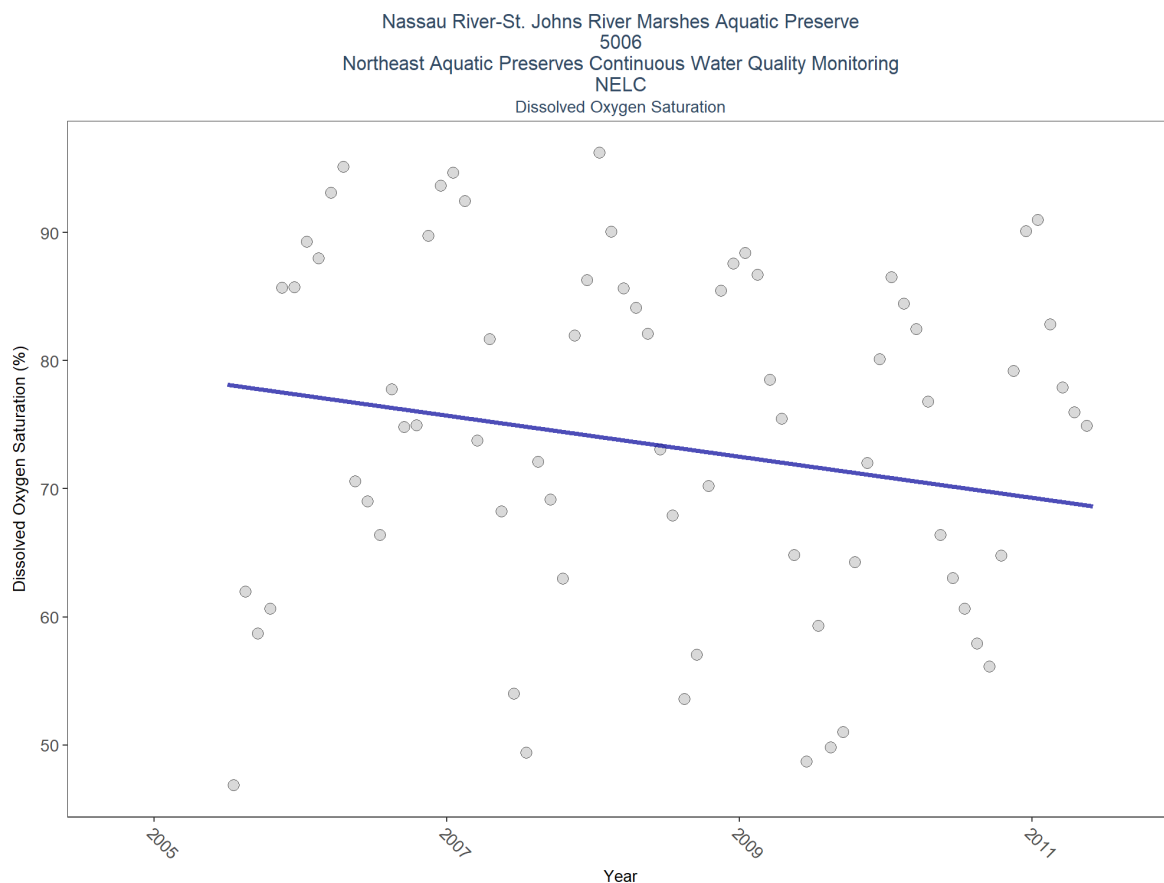


RelativeDepth	N_Data	N_Years	Median	Independent	tau	p	SennSlope	SennIntercept	ChiSquared	pChiSquared	Trend
bottom	110983	8	89.1	TRUE	0.0029	0.9338	-0.04101835	87.49355	6.883	0.8085	0

$p < 0.00005$  appear as 0 due to rounding.

*SennIntercept is intercept value at beginning of  
record for monitoring location*

## NELC

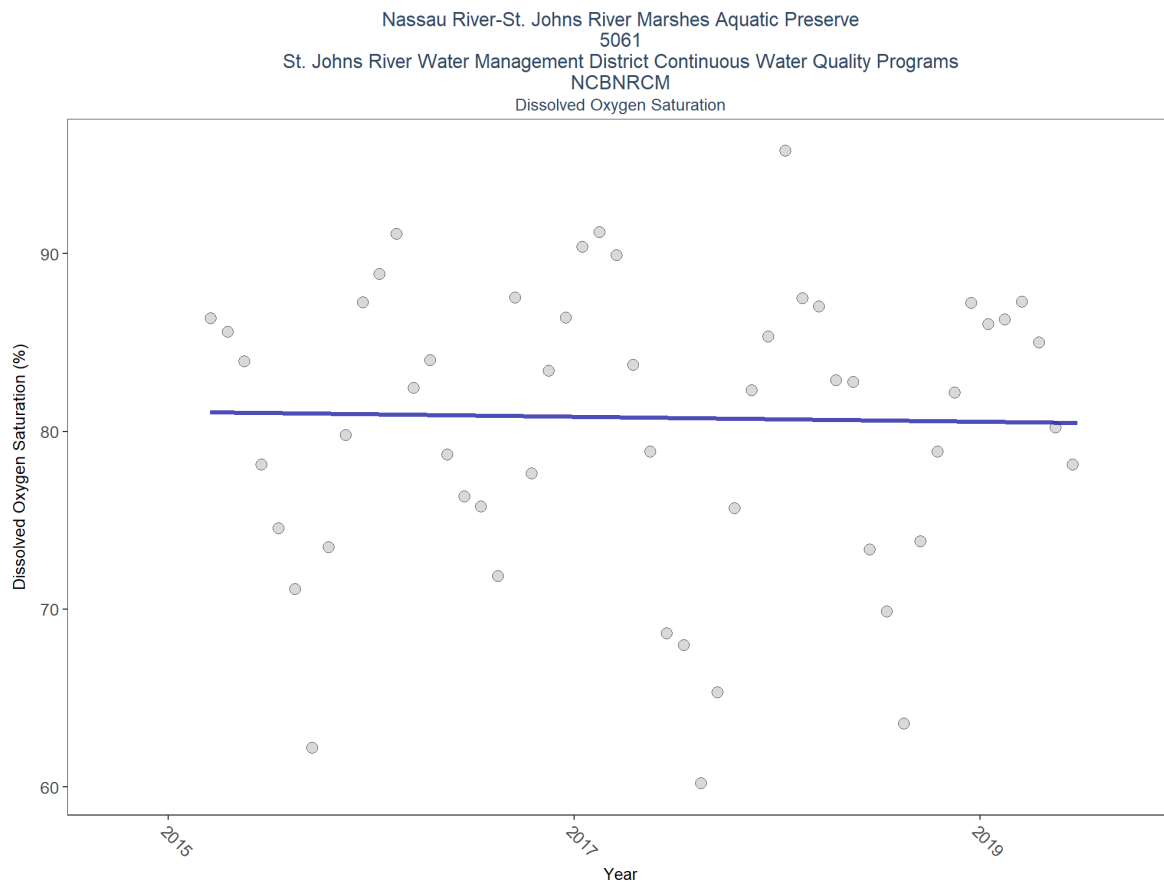


RelativeDepth	N_Data	N_Years	Median	Independent	tau	p	SennSlope	SennIntercept	ChiSquared	pChiSquared	Trend
bottom	95868	7	77.9	TRUE	-0.2676	0.0111	-1.604914	78.92834	10.6209	0.4755	-1

$p < 0.00005$  appear as 0 due to rounding.

*SennIntercept* is intercept value at beginning of record for monitoring location

# NCBNRCM



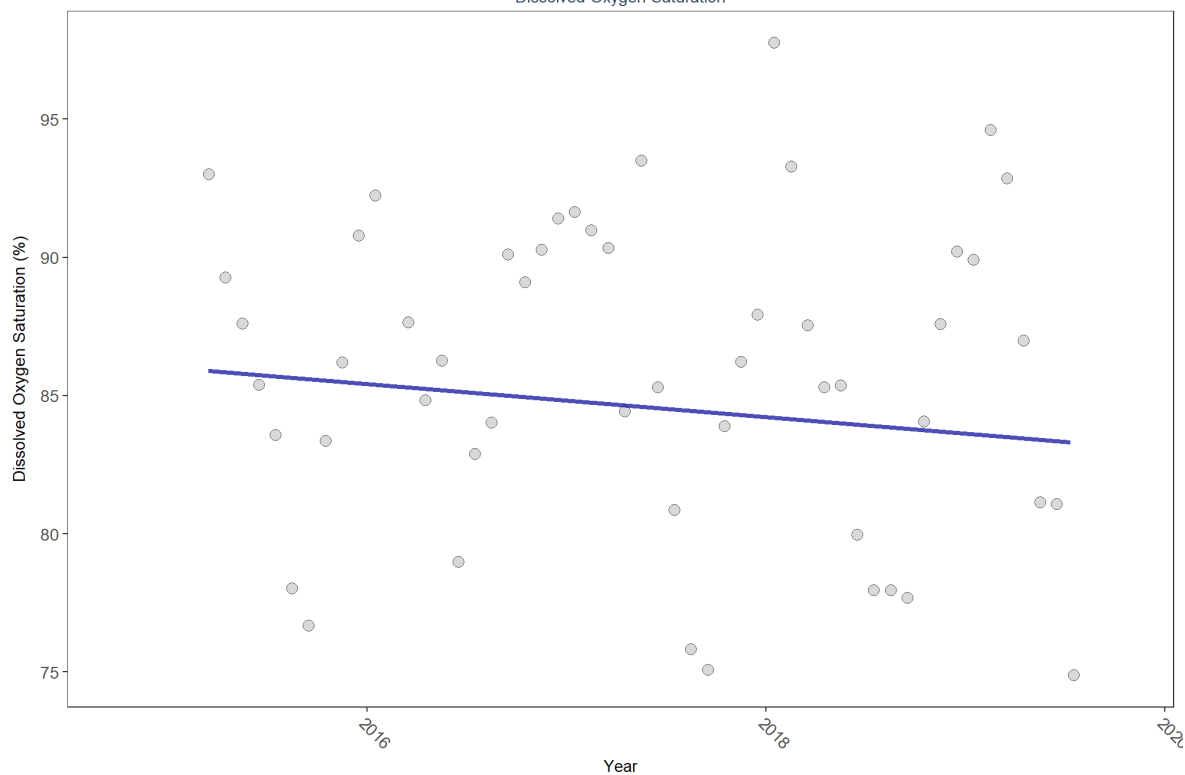
RelativeDepth	N_Data	N_Years	Median	Independent	tau	p	SennSlope	SennIntercept	ChiSquared	pChiSquared	Trend
surface	35240	5	82.06444	TRUE	-0.0513	0.7970	-0.1393041	81.10269	7.3046	0.7739	0

$p < 0.00005$  appear as 0 due to rounding.

*SennIntercept is intercept value at beginning of record for monitoring location*

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Dissolved Oxygen Saturation



RelativeDepth	N_Data	N_Years	Median	Independent	tau	p	SennSlope	SennIntercept	ChiSquared	pChiSquared	Trend
surface	34438	5	87.058	TRUE	-0.1603	0.1268	-0.5969938	86.01865	12.0611	0.3591	0

$p < 0.00005$  appear as 0 due to rounding.

SennIntercept is intercept value at beginning of  
record for monitoring location

## All Stations Combined

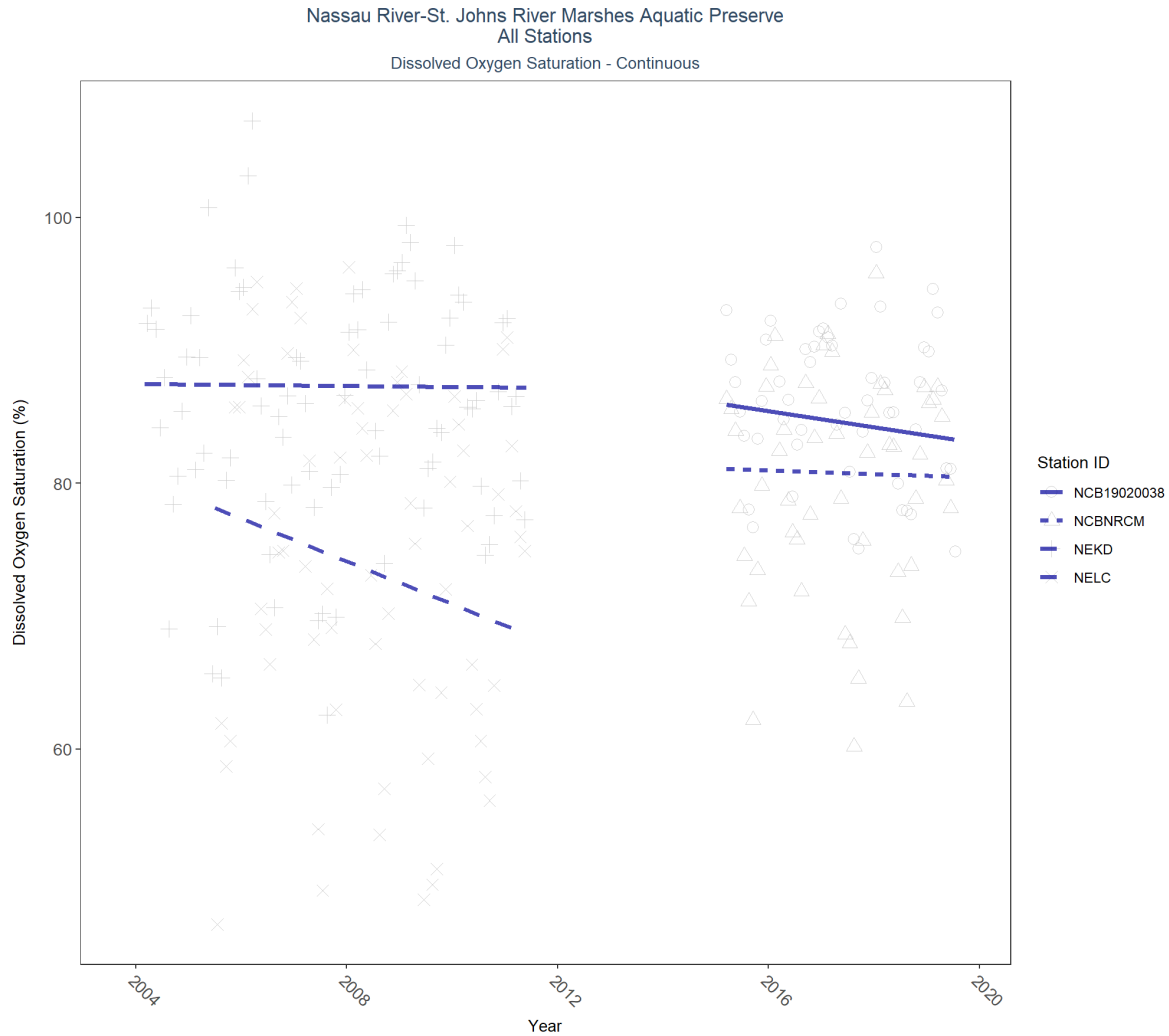
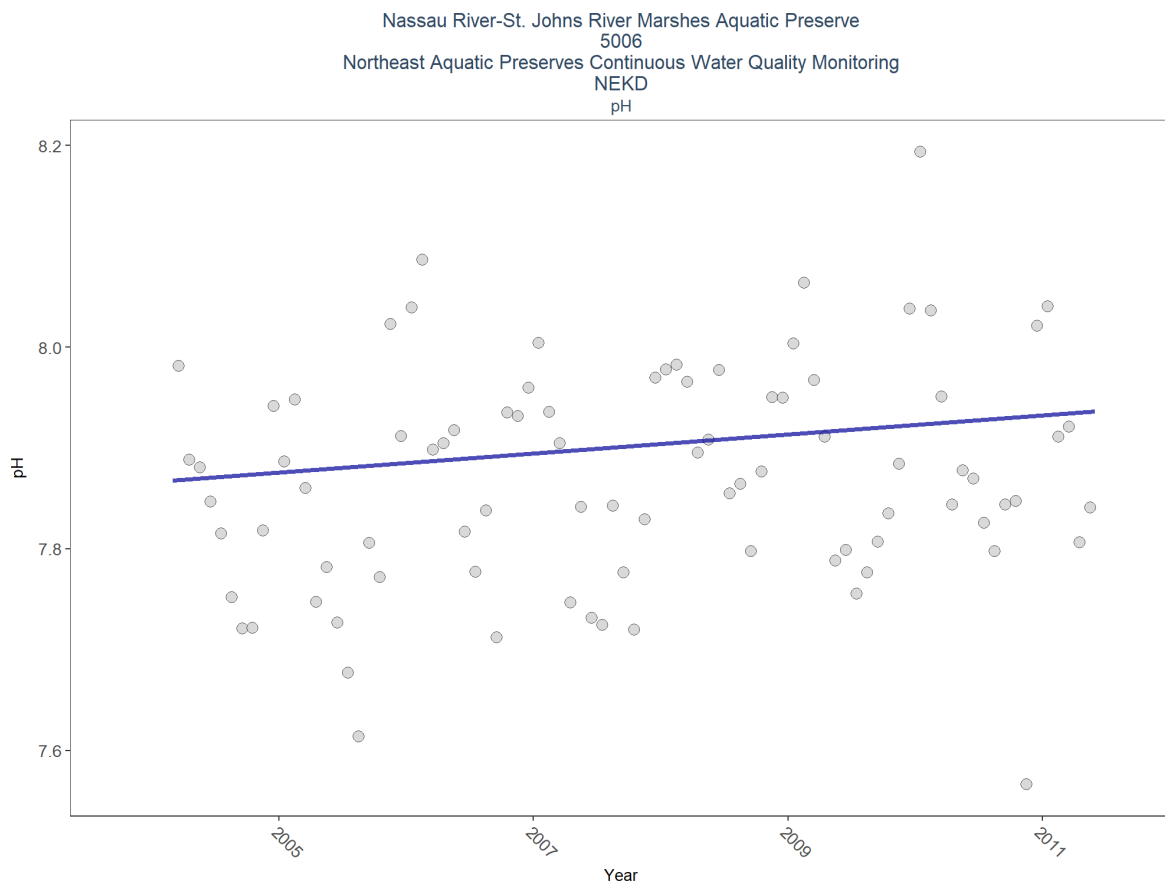


Table 2: Seasonal Kendall-Tau Results for All Stations - Dissolved Oxygen Saturation

Station	N_Data	N_Years	Period of Record	Median	tau	SennIntercept	SennSlope	p
NEKD	110983	8	2004 - 2011	89.10	0	87.49	-0.04	0.9338
NELC	95868	7	2005 - 2011	77.90	-0.27	78.93	-1.6	0.0111
NENR	31438	3	2009 - 2011	73.20	-	-	-	-
NELN	17020	1	2023 - 2023	62.50	-	-	-	-
NEHM	27804	2	2022 - 2023	77.70	-	-	-	-
NCBNRCM	35240	5	2015 - 2019	82.06	-0.05	81.1	-0.14	0.7970

Station	N_Data	N_Years	Period of Record	Median	tau	SennIntercept	SennSlope	p
NCBARD16	7417	2	2015 - 2016	74.44	-	-	-	-
NCB19020038	34438	5	2015 - 2019	87.06	-0.16	86.02	-0.6	0.1268

# pH NEKD



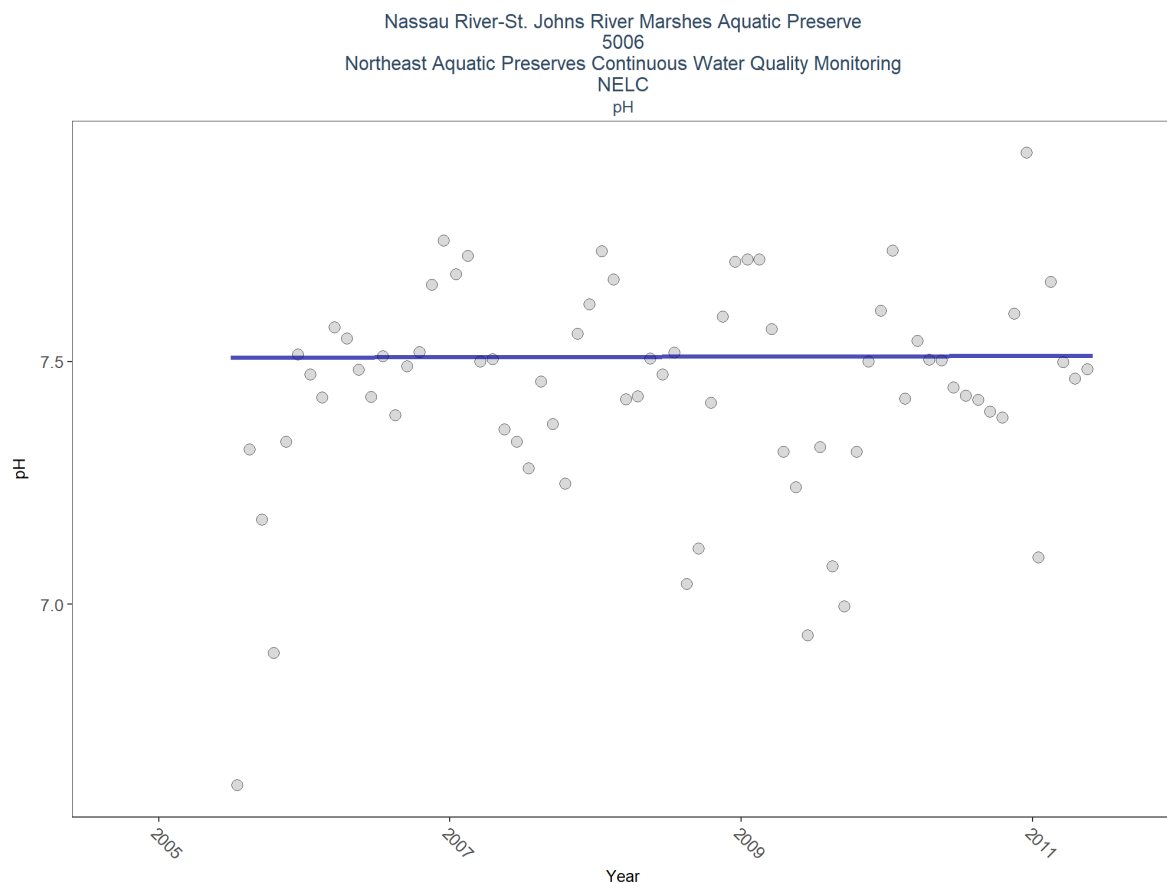
RelativeDepth	N_Data	N_Years	Median	Independent	tau	p	SennSlope	SennIntercept	ChiSquared	pChiSquared	Trend
bottom	113471	8	7.9	TRUE	0.1877	0.0491	0.009431004	7.866128	8.9917	0.6227	1

$p < 0.00005$  appear as 0 due to rounding.

SennIntercept is intercept value at beginning of  
record for monitoring location



## NELC



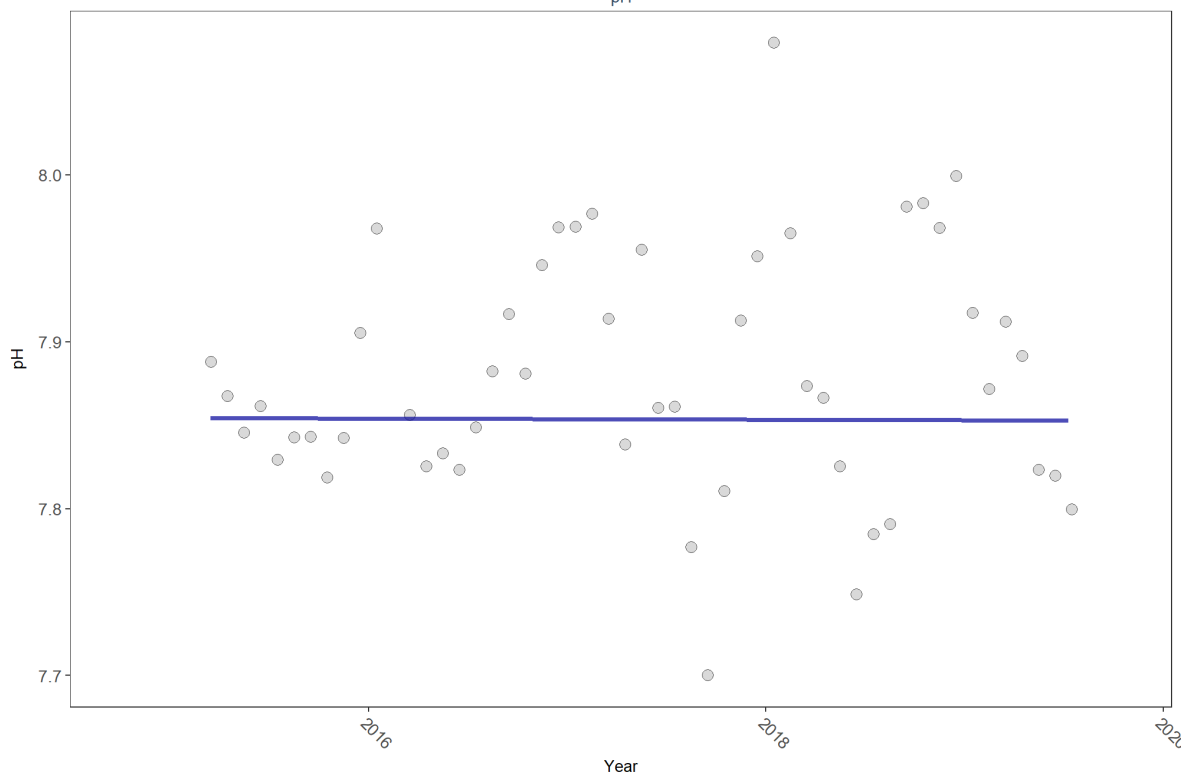
RelativeDepth	N_Data	N_Years	Median	Independent	tau	p	SennSlope	SennIntercept	ChiSquared	pChiSquared	Trend
bottom	96488	7	7.5	TRUE	0.0169	0.9121	0.0007435948	7.507162	6.0088	0.8728	0

$p < 0.00005$  appear as 0 due to rounding.

SennIntercept is intercept value at beginning of  
record for monitoring location

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pH

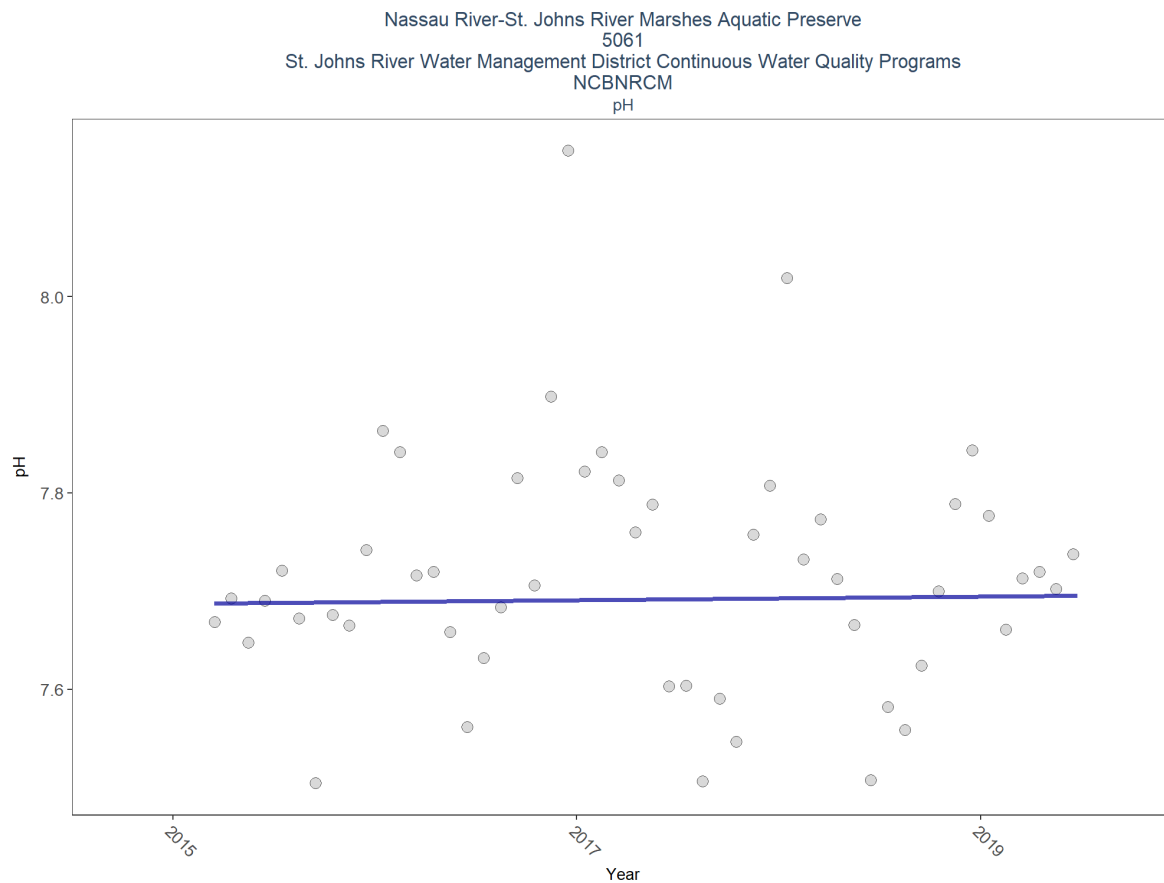


RelativeDepth	N_Data	N_Years	Median	Independent	tau	p	SennSlope	SennIntercept	ChiSquared	pChiSquared	Trend
surface	34405	5	7.88	TRUE	-0.0064	1.0000	-0.0003055556	7.854219	13.2901	0.2748	0

$p < 0.00005$  appear as 0 due to rounding.

*SennIntercept is intercept value at beginning of record for monitoring location*

## NCBNRCM



RelativeDepth	N_Data	N_Years	Median	Independent	tau	p	SennSlope	SennIntercept	ChiSquared	pChiSquared	Trend
surface	35819	5	7.72	TRUE	-0.0128	0.9317	0.001818175	7.687072	13.9579	0.2353	0

$p < 0.00005$  appear as 0 due to rounding.

*SennIntercept is intercept value at beginning of record for monitoring location*

## All Stations Combined

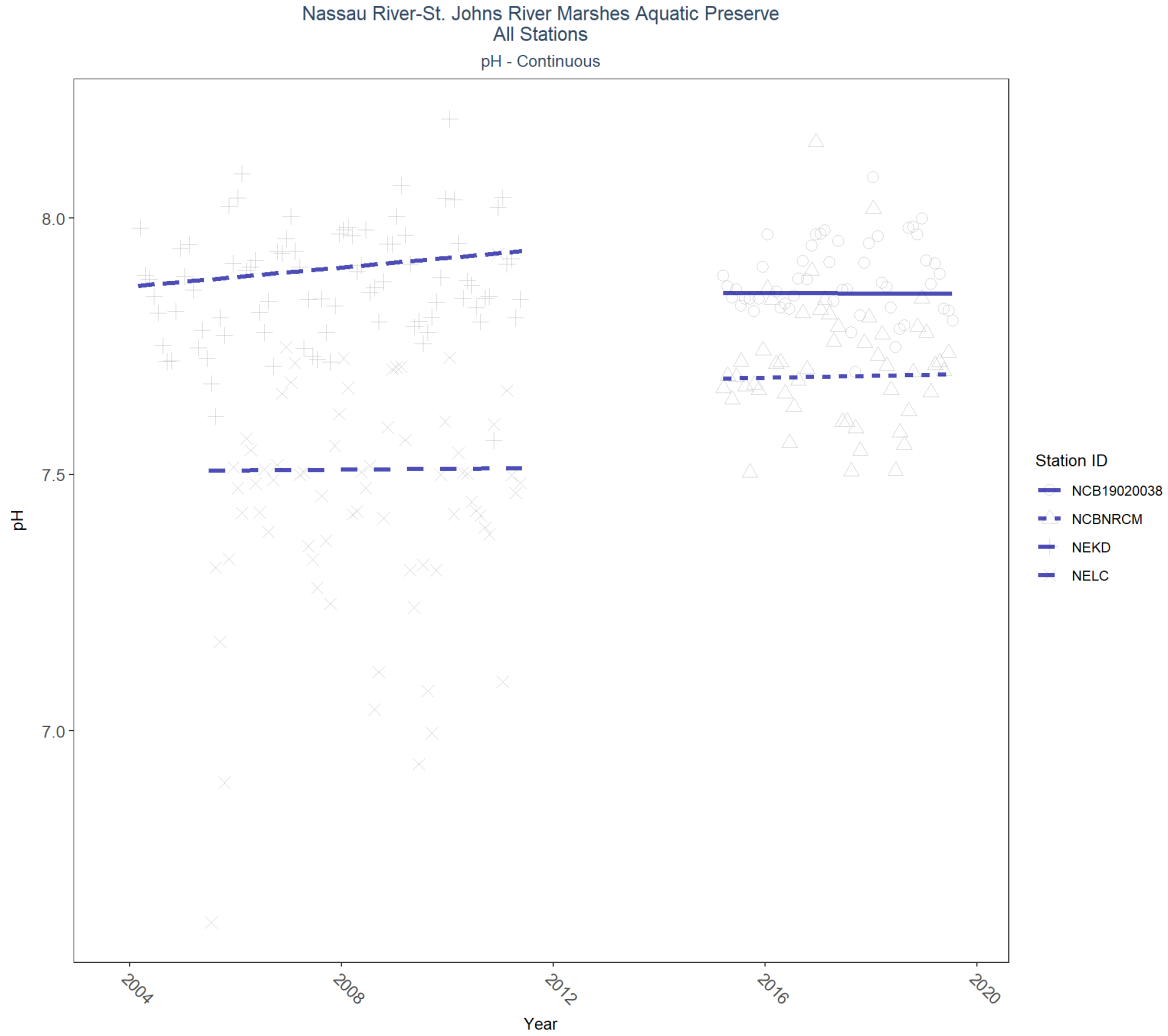


Table 3: Seasonal Kendall-Tau Results for All Stations - pH

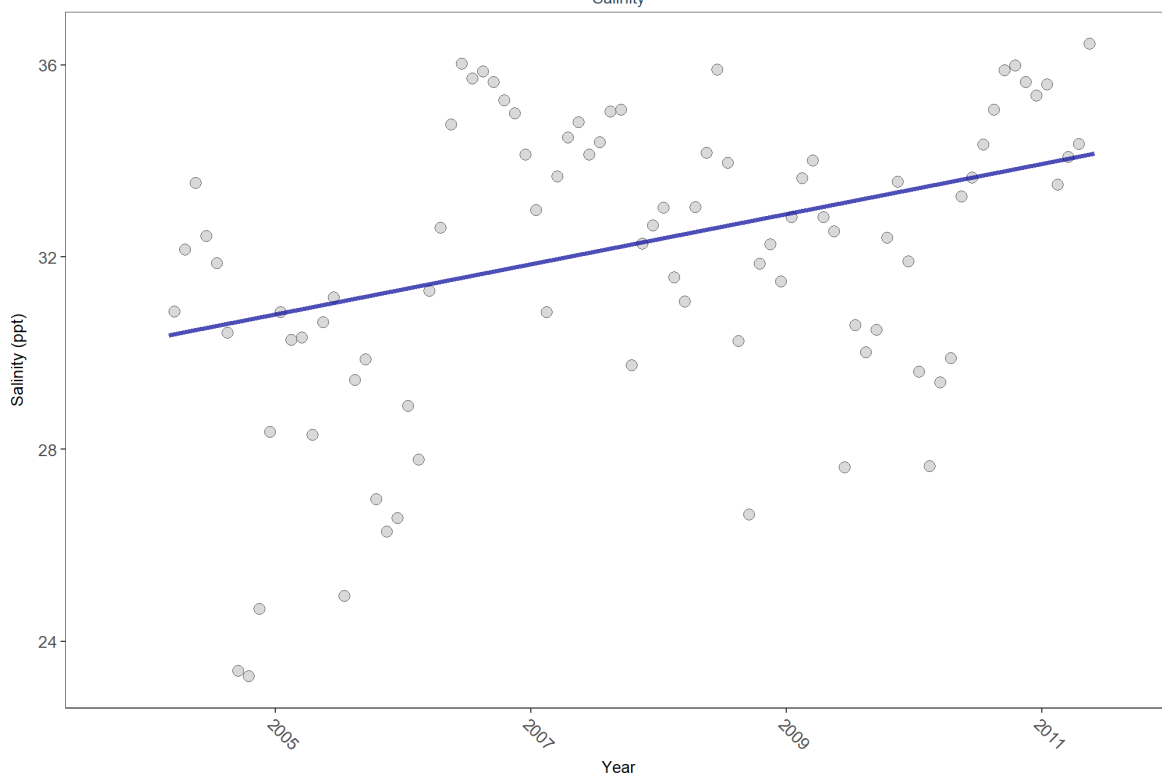
Station	N_Data	N_Years	Period of Record	Median	tau	SennIntercept	SennSlope	p
NEKD	113471	8	2004 - 2011	7.90	0.19	7.87	0.01	0.0491
NEHM	27812	2	2022 - 2023	7.30	-	-	-	-
NELC	96488	7	2005 - 2011	7.50	0.02	7.51	0	0.9121
NENR	31438	3	2009 - 2011	7.10	-	-	-	-
NELN	17025	1	2023 - 2023	6.90	-	-	-	-
NCB19020038	34405	5	2015 - 2019	7.88	-0.01	7.85	0	1.0000
NCBARD16	6952	2	2015 - 2016	7.66	-	-	-	-

Station	N_Data	N_Years	Period of Record	Median	tau	SennIntercept	SennSlope	p
NCBNRCM	35819	5	2015 - 2019	7.72	-0.01	7.69	0	0.9317

# Salinity

## NEKD

Nassau River-St. Johns River Marshes Aquatic Preserve  
5006  
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NEKD  
Salinity

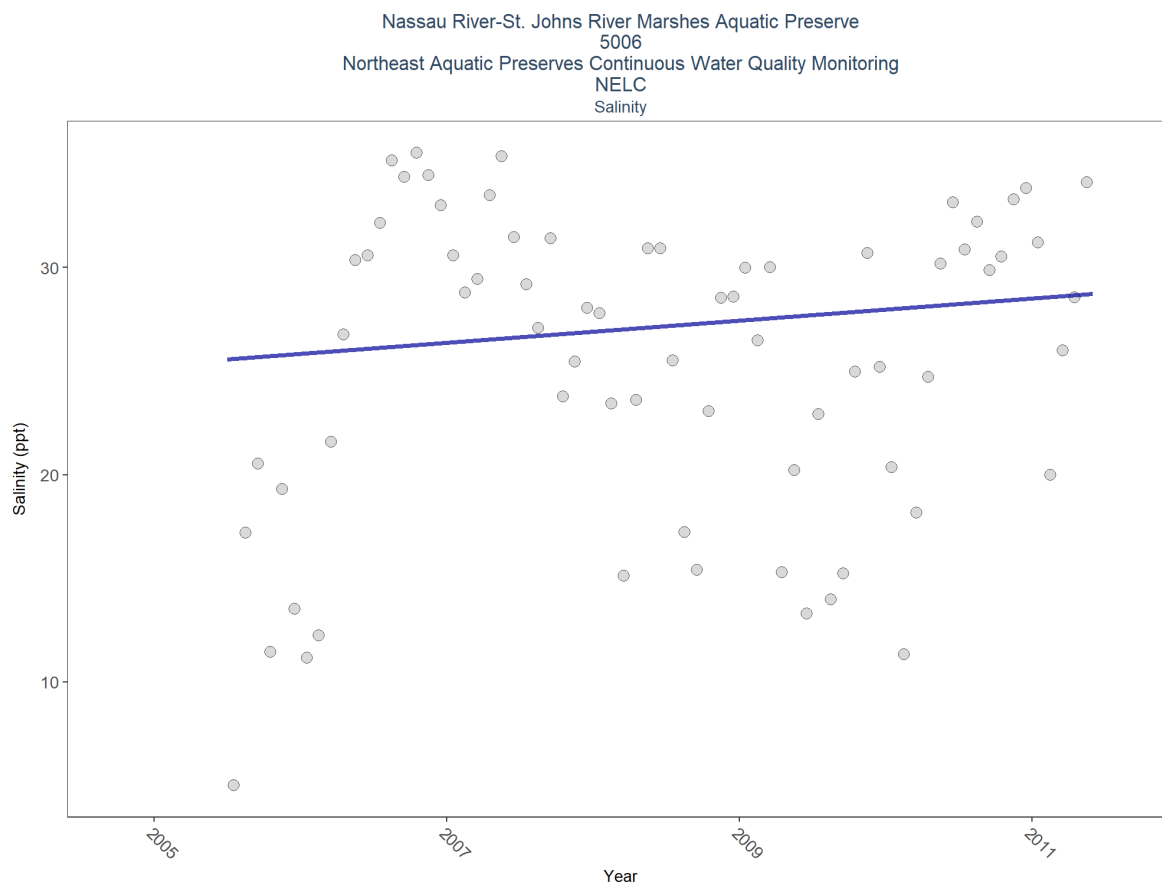


RelativeDepth	N_Data	N_Years	Median	Independent	tau	p	SennSlope	SennIntercept	ChiSquared	pChiSquared	Trend
bottom	118328	8	33.2	TRUE	0.3125	0.0006	0.5217568	30.28992	5.618	0.8976	1

$p < 0.00005$  appear as 0 due to rounding.

SennIntercept is intercept value at beginning of  
record for monitoring location

## NELC

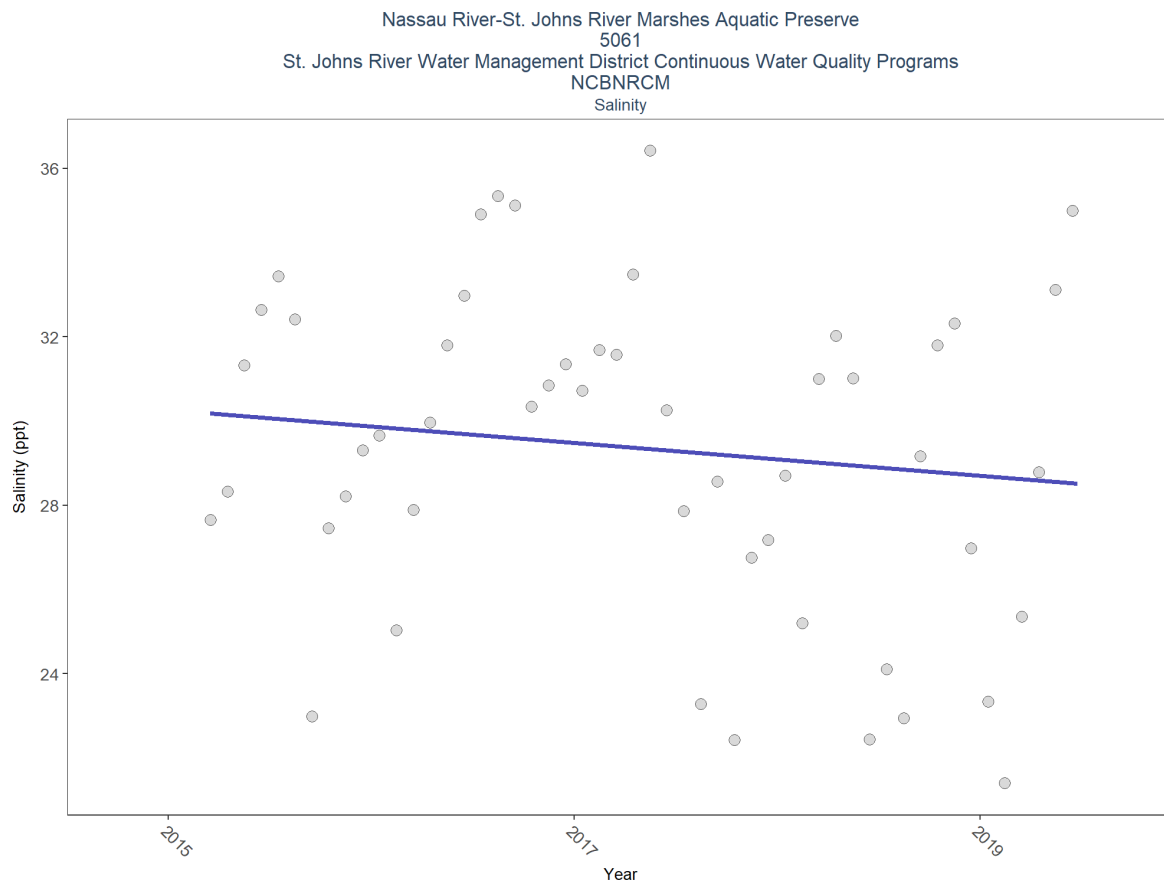


RelativeDepth	N_Data	N_Years	Median	Independent	tau	p	SennSlope	SennIntercept	ChiSquared	pChiSquared	Trend
bottom	100339	7	27.9	TRUE	0.0873	0.4397	0.5338517	25.29957	5.2765	0.917	0

$p < 0.00005$  appear as 0 due to rounding.

*SennIntercept* is intercept value at beginning of record for monitoring location

## NCBNRCM



RelativeDepth	N_Data	N_Years	Median	Independent	tau	p	SennSlope	SennIntercept	ChiSquared	pChiSquared	Trend
surface	35411	5	30.2857	TRUE	-0.1154	0.5483	-0.3904351	30.26491	8.9118	0.63	0

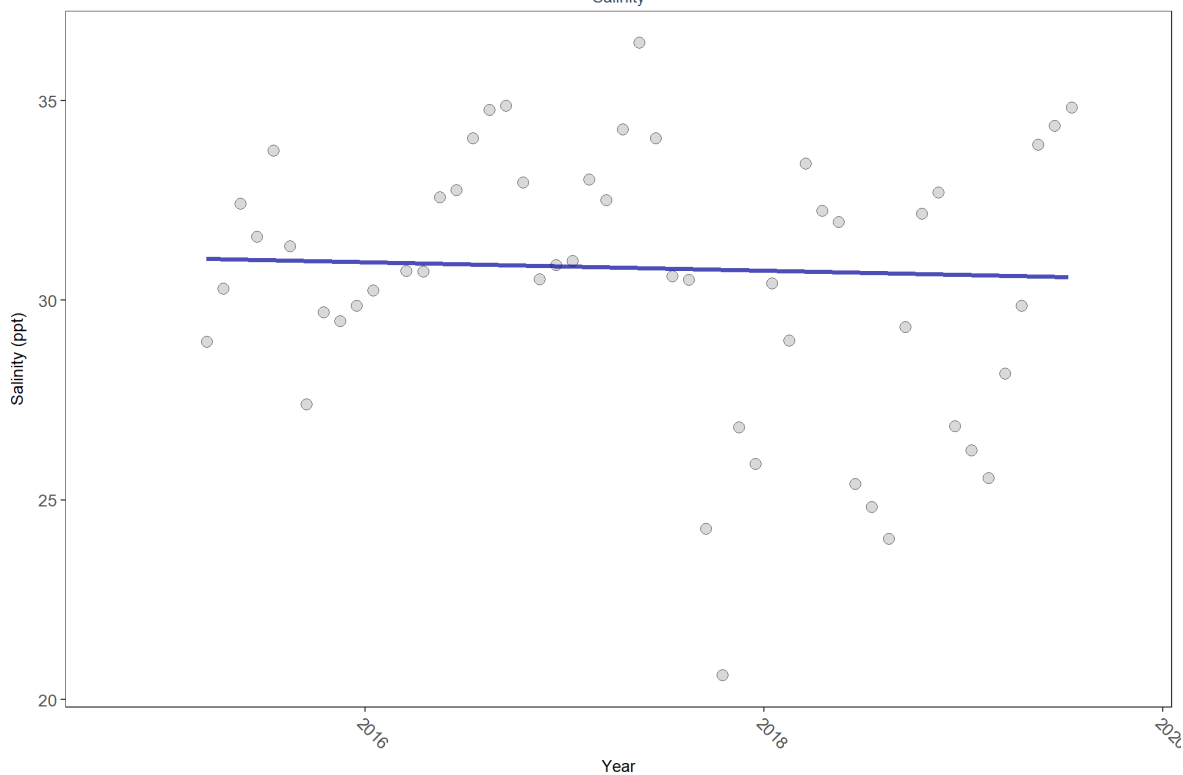
$p < 0.00005$  appear as 0 due to rounding.

*SennIntercept is intercept value at beginning of record for monitoring location*



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Salinity



RelativeDepth	N_Data	N_Years	Median	Independent	tau	p	SennSlope	SennIntercept	ChiSquared	pChiSquared	Trend
surface	34438	5	31.75222	TRUE	-0.0577	1.0000	-0.108309	31.06804	6.8998	0.8071	0

$p < 0.00005$  appear as 0 due to rounding.

SennIntercept is intercept value at beginning of record for monitoring location

## All Stations Combined

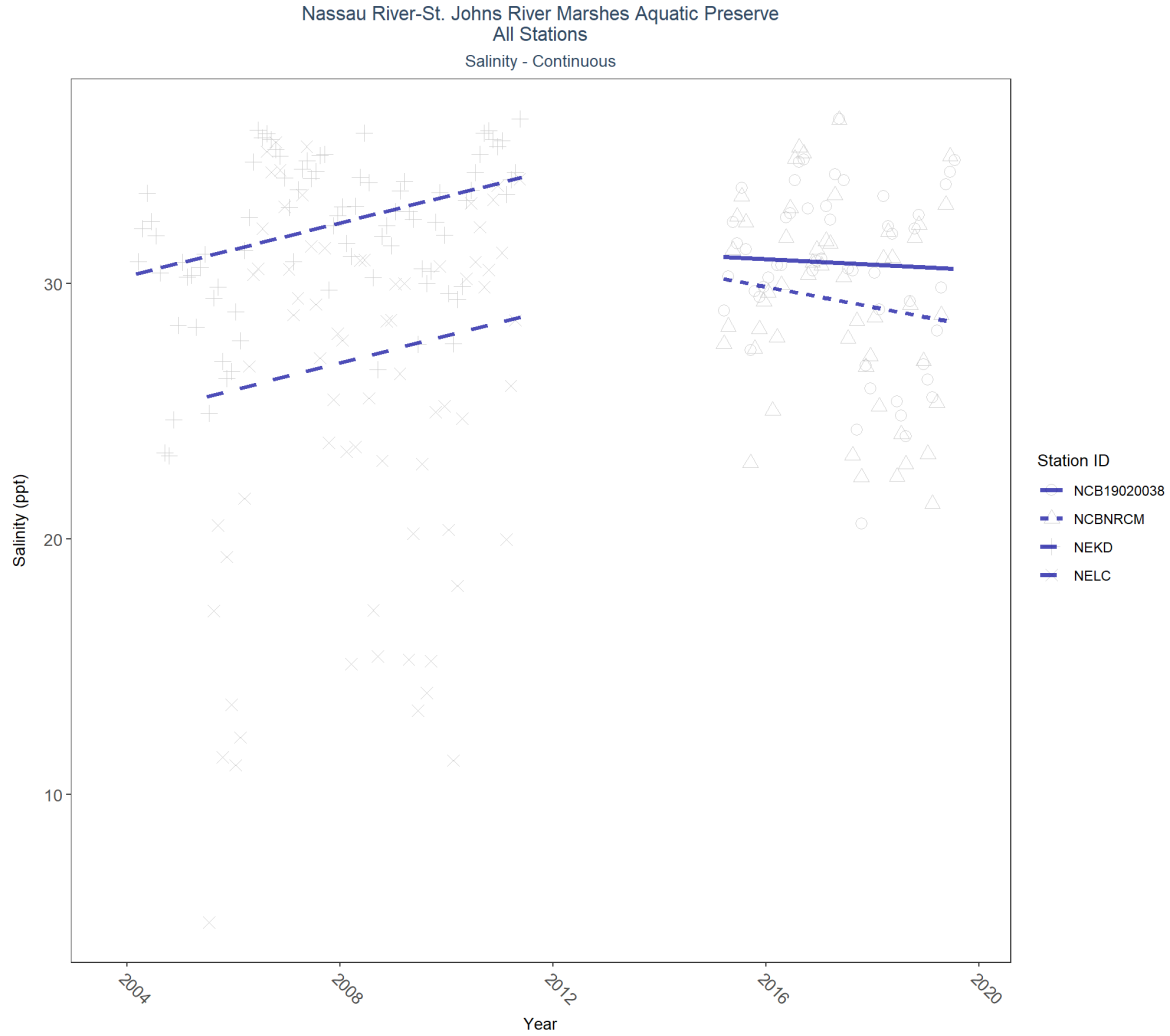


Table 4: Seasonal Kendall-Tau Results for All Stations - Salinity

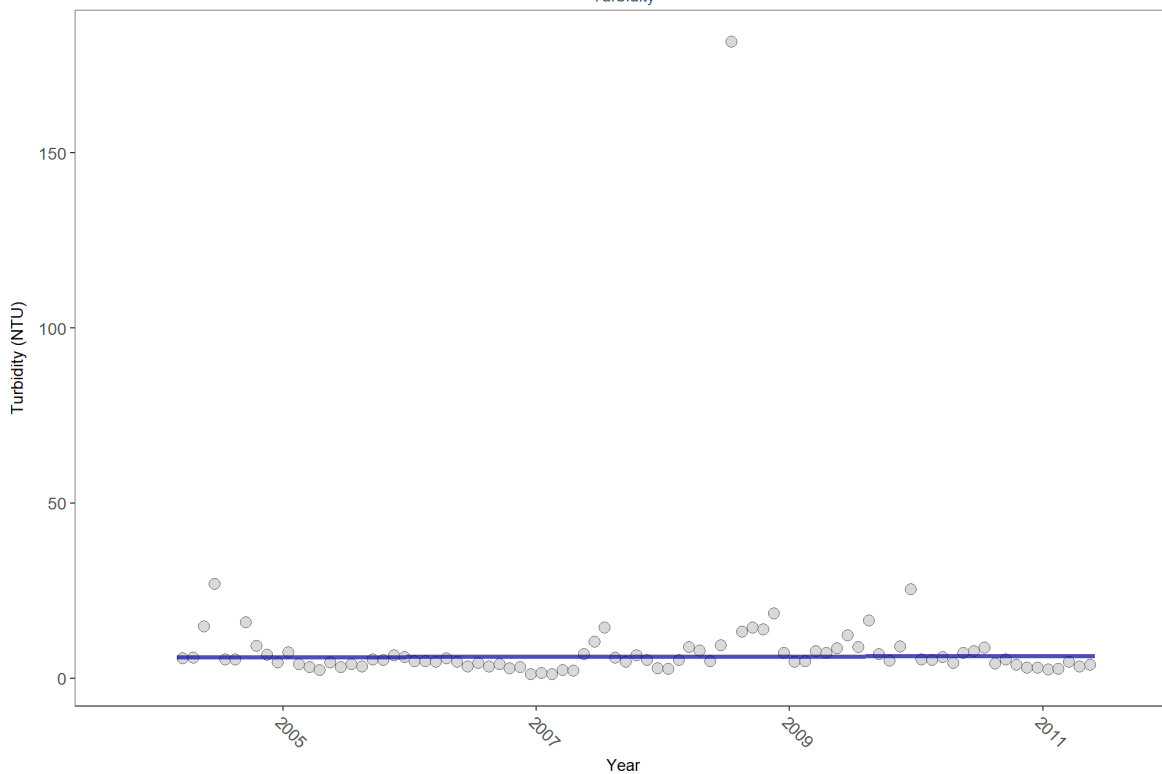
Station	N_Data	N_Years	Period of Record	Median	tau	SennIntercept	SennSlope	p
NEKD	118328	8	2004 - 2011	33.20	0.31	30.29	0.52	0.0006
NELC	100339	7	2005 - 2011	27.90	0.09	25.3	0.53	0.4397
NENR	31438	3	2009 - 2011	12.40	-	-	-	-
NELN	17025	1	2023 - 2023	5.20	-	-	-	-
NEHM	27811	2	2022 - 2023	20.60	-	-	-	-
NCBARD16	7418	2	2015 - 2016	30.07	-	-	-	-
NCBNRCM	35411	5	2015 - 2019	30.29	-0.12	30.26	-0.39	0.5483

Station	N_Data	N_Years	Period of Record	Median	tau	SennIntercept	SennSlope	p
NCB19020038	34438	5	2015 - 2019	31.75	-0.06	31.07	-0.11	1.0000

# Turbidity

## NEKD

Nassau River-St. Johns River Marshes Aquatic Preserve  
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NEKD  
Turbidity

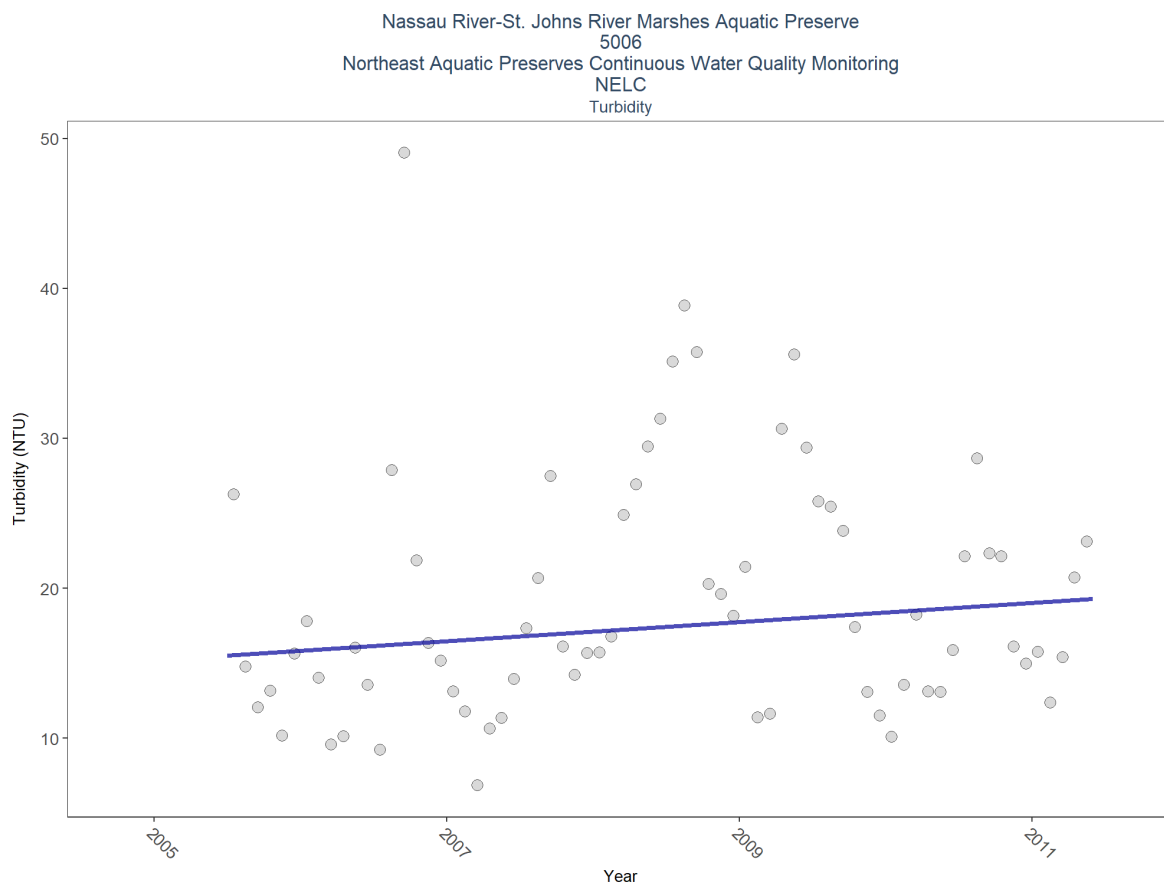


RelativeDepth	N_Data	N_Years	Median	Independent	tau	p	SennSlope	SennIntercept	ChiSquared	pChiSquared	Trend
bottom	114181	8	4	TRUE	0.0203	0.8697	0.04741014	6.06342	4.3028	0.9602	0

$p < 0.00005$  appear as 0 due to rounding.

SennIntercept is intercept value at beginning of  
record for monitoring location

## NELC



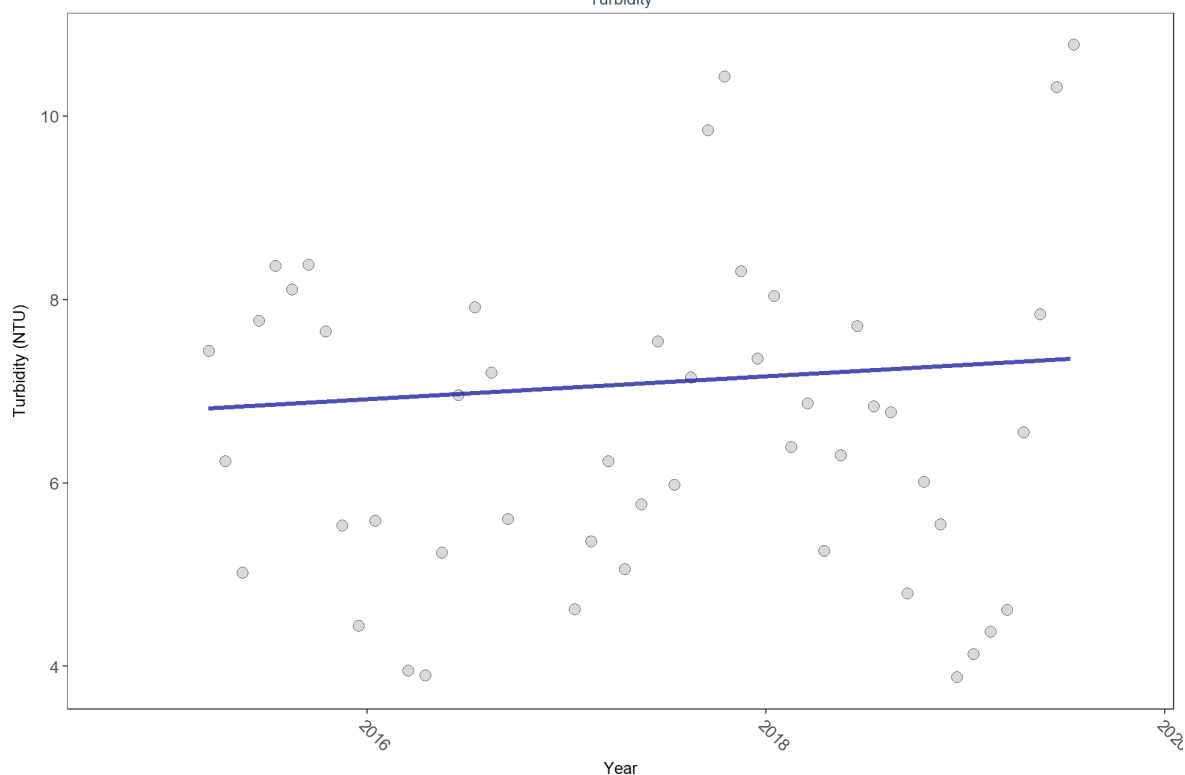
RelativeDepth	N_Data	N_Years	Median	Independent	tau	p	SennSlope	SennIntercept	ChiSquared	pChiSquared	Trend
bottom	96153	7	15	TRUE	0.1577	0.1513	0.6379887	15.18443	6.3479	0.8492	0

$p < 0.00005$  appear as 0 due to rounding.

*SennIntercept is intercept value at beginning of  
record for monitoring location*

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Turbidity

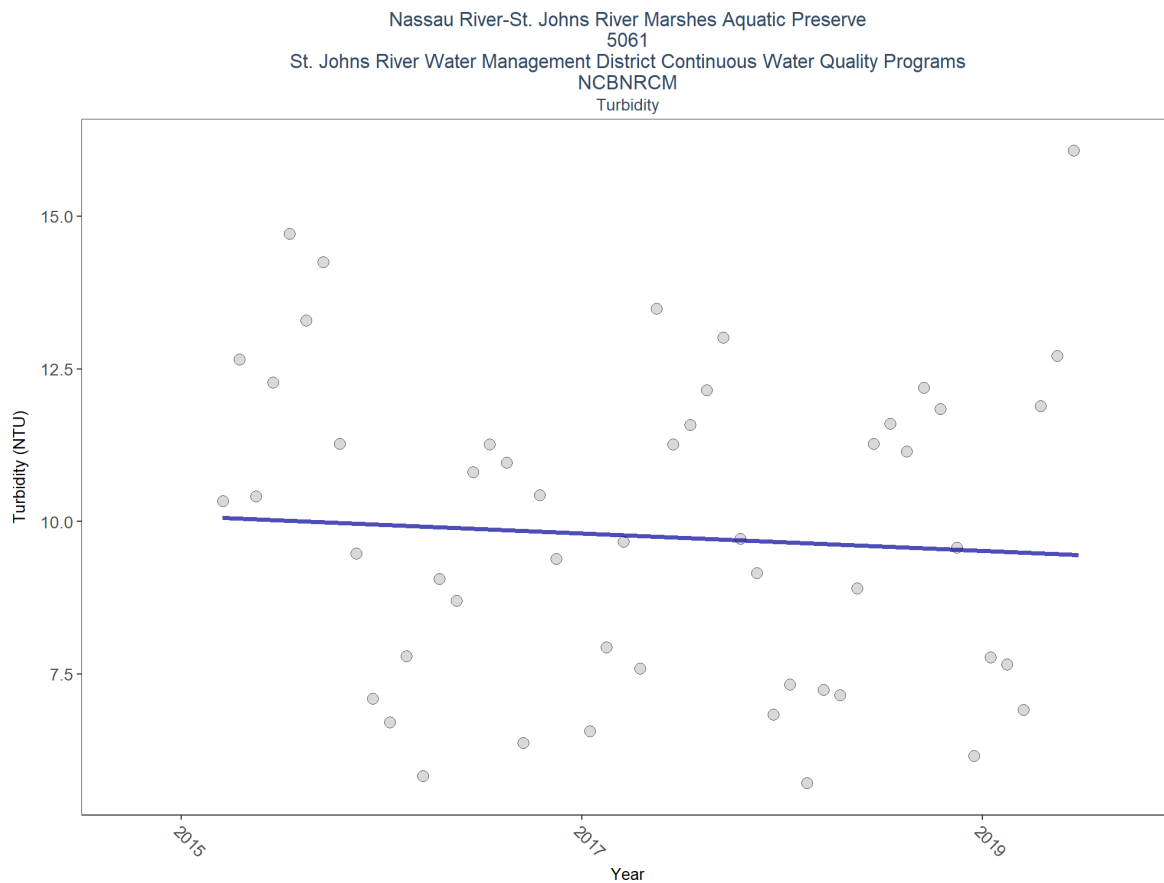


RelativeDepth	N_Data	N_Years	Median	Independent	tau	p	SennSlope	SennIntercept	ChiSquared	pChiSquared	Trend
surface	31407	5	5.77	TRUE	-0.0136	0.7876	0.1241474	6.789956	14.3051	0.2166	0

$p < 0.00005$  appear as 0 due to rounding.

SennIntercept is intercept value at beginning of  
record for monitoring location

## NCBNRCM



RelativeDepth	N_Data	N_Years	Median	Independent	tau	p	SennSlope	SennIntercept	ChiSquared	pChiSquared	Trend
surface	34696	5	8.64	TRUE	-0.1046	0.6001	-0.1419202	10.0869	8.1815	0.697	0

$p < 0.00005$  appear as 0 due to rounding.

*SennIntercept is intercept value at beginning of record for monitoring location*

## All Stations Combined

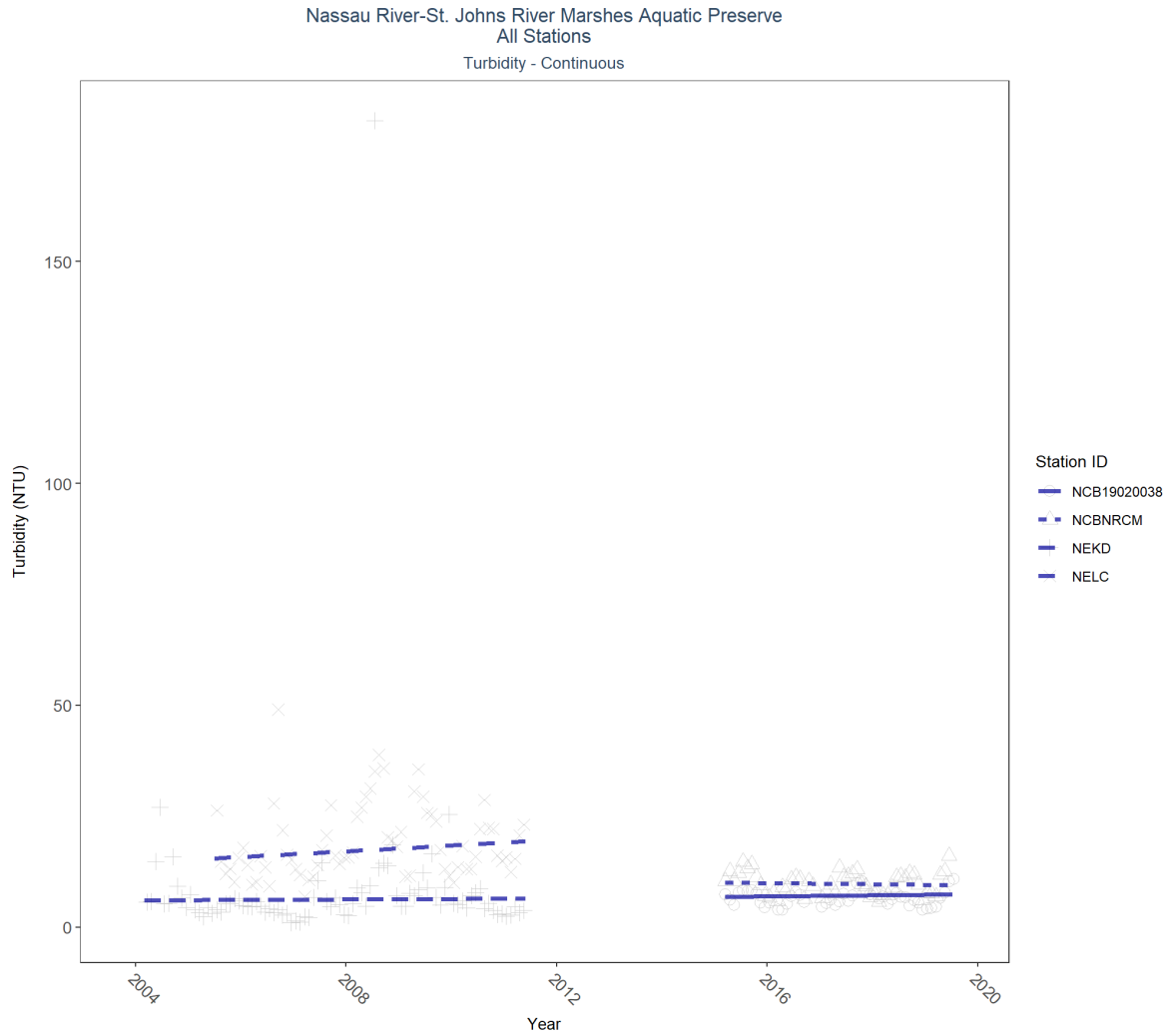


Table 5: Seasonal Kendall-Tau Results for All Stations - Turbidity

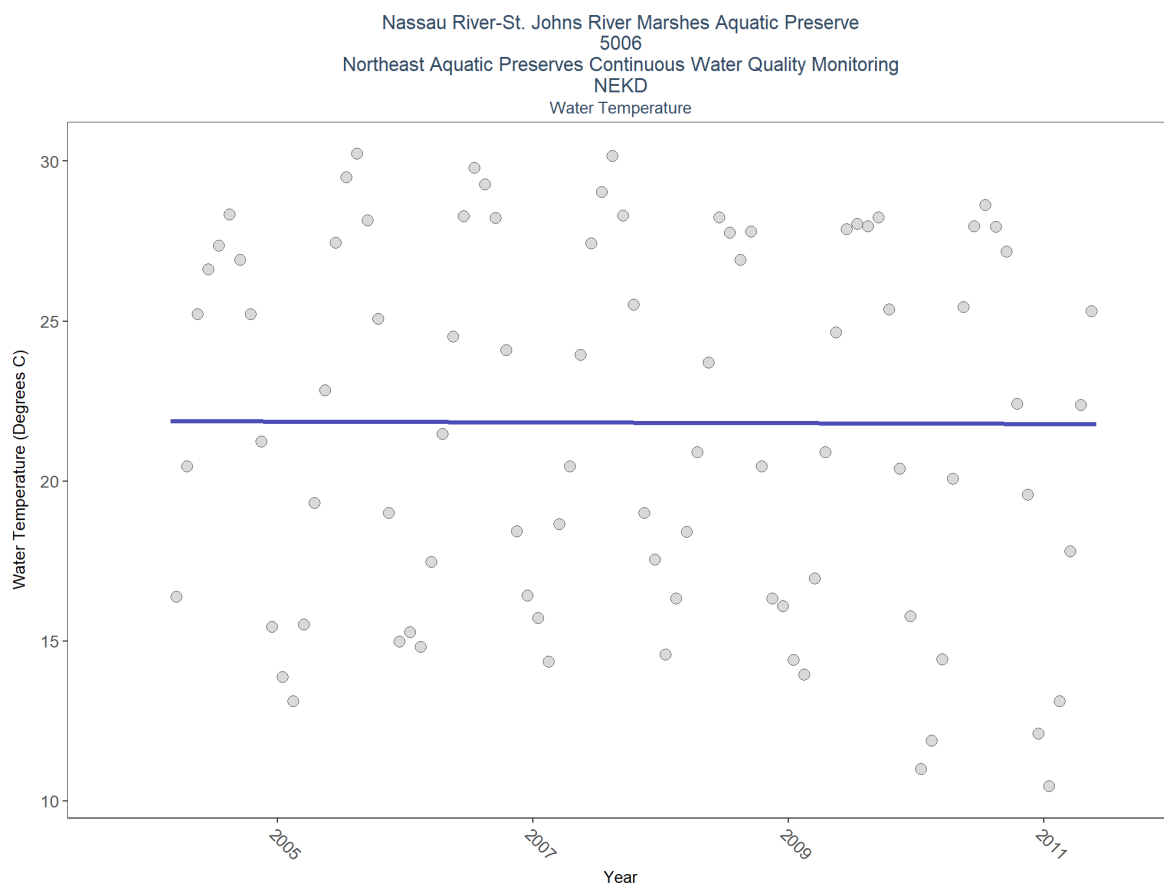
Station	N_Data	N_Years	Period of Record	Median	tau	SennIntercept	SennSlope	p
NEKD	114181	8	2004 - 2011	4.00	0.02	6.06	0.05	0.8697
NELC	96153	7	2005 - 2011	15.00	0.16	15.18	0.64	0.1513
NENR	31087	3	2009 - 2011	21.00	-	-	-	-
NELN	17016	1	2023 - 2023	9.00	-	-	-	-
NEHM	27767	2	2022 - 2023	8.00	-	-	-	-
NCBARD16	7385	2	2015 - 2016	12.89	-	-	-	-
NCB19020038	31407	5	2015 - 2019	5.77	-0.01	6.79	0.12	0.7876



Station	N_Data	N_Years	Period of Record	Median	tau	SennIntercept	SennSlope	p
NCBNRCM	34696	5	2015 - 2019	8.64	-0.1	10.09	-0.14	0.6001

# Water Temperature

NEKD

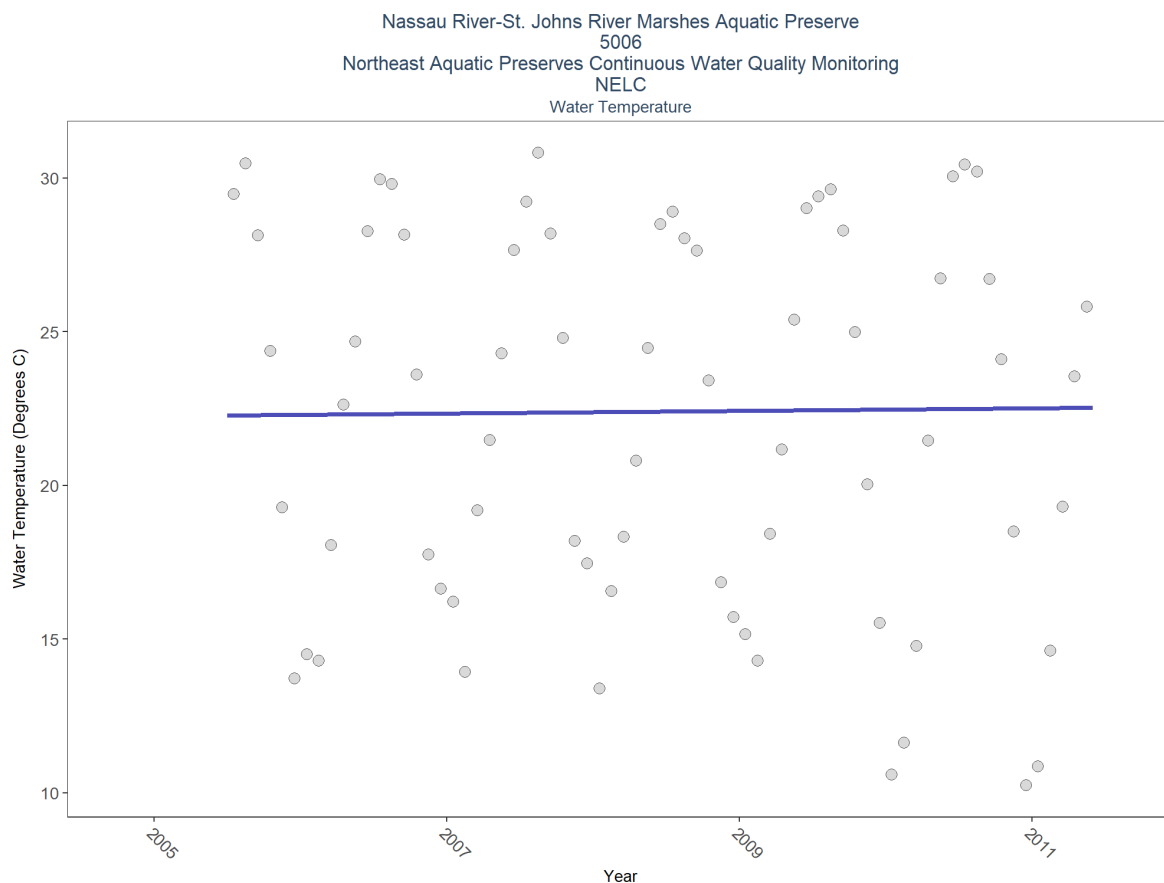


RelativeDepth	N_Data	N_Years	Median	Independent	tau	p	SennSlope	SennIntercept	ChiSquared	pChiSquared	Trend
bottom	118328	8	22.1	TRUE	-0.0367	0.8057	-0.01301241	21.87533	9.189	0.6045	0

$p < 0.00005$  appear as 0 due to rounding.

SennIntercept is intercept value at beginning of record for monitoring location

## NELC

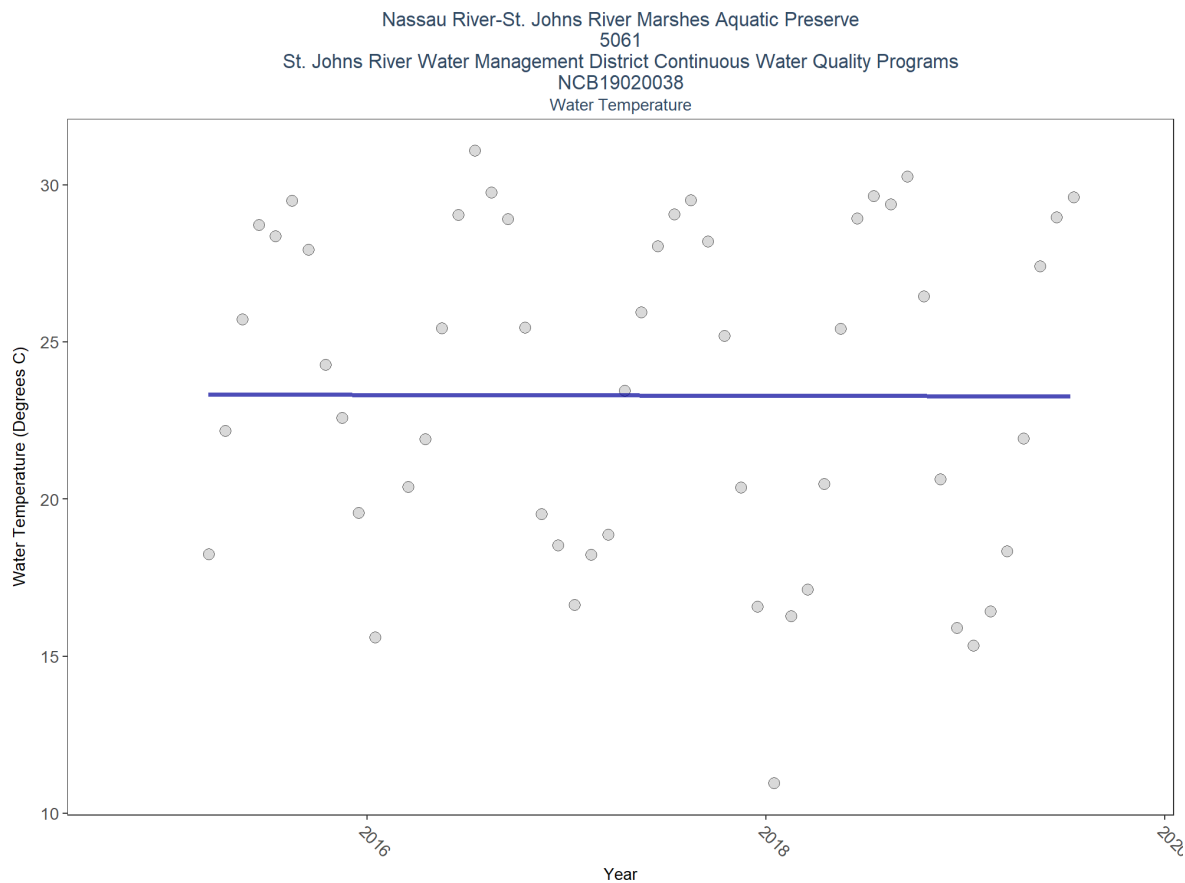


RelativeDepth	N_Data	N_Years	Median	Independent	tau	p	SennSlope	SennIntercept	ChiSquared	pChiSquared	Trend
bottom	100343	7	22.7	TRUE	0.0507	0.7405	0.041875	22.25686	9.8961	0.5398	0

$p < 0.00005$  appear as 0 due to rounding.

*SennIntercept is intercept value at beginning of record for monitoring location*

NCB19020038

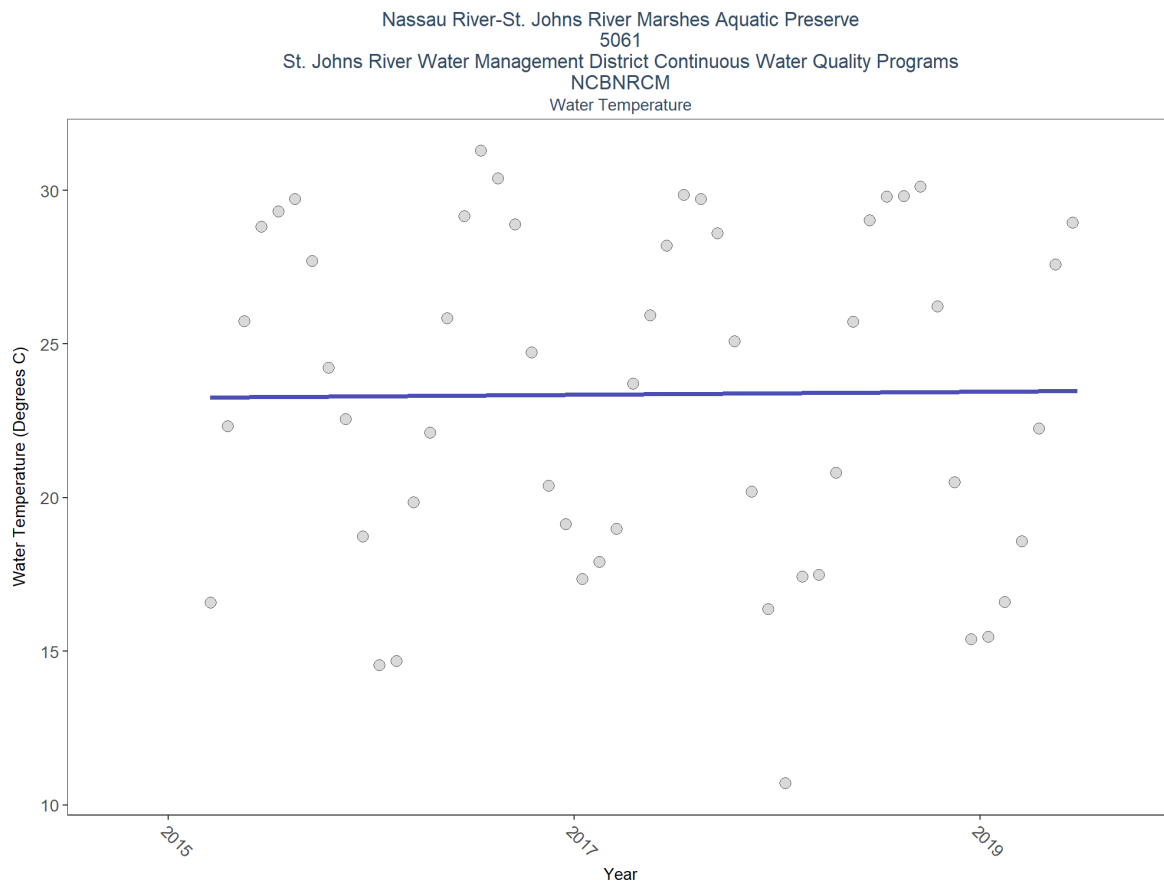


RelativeDepth	N_Data	N_Years	Median	Independent	tau	p	SennSlope	SennIntercept	ChiSquared	pChiSquared	Trend
surface	34483	5	24.78	TRUE	-0.0256	1.0000	-0.01292339	23.32298	10.1997	0.5125	0

$p < 0.00005$  appear as 0 due to rounding.

*SennIntercept is intercept value at beginning of record for monitoring location*

## NCBNRCM



RelativeDepth	N_Data	N_Years	Median	Independent	tau	p	SennSlope	SennIntercept	ChiSquared	pChiSquared	Trend
surface	35817	5	24.03	TRUE	0.0705	0.6681	0.05057755	23.25543	9.2229	0.6013	0

$p < 0.00005$  appear as 0 due to rounding.

*SennIntercept is intercept value at beginning of record for monitoring location*

## All Stations Combined

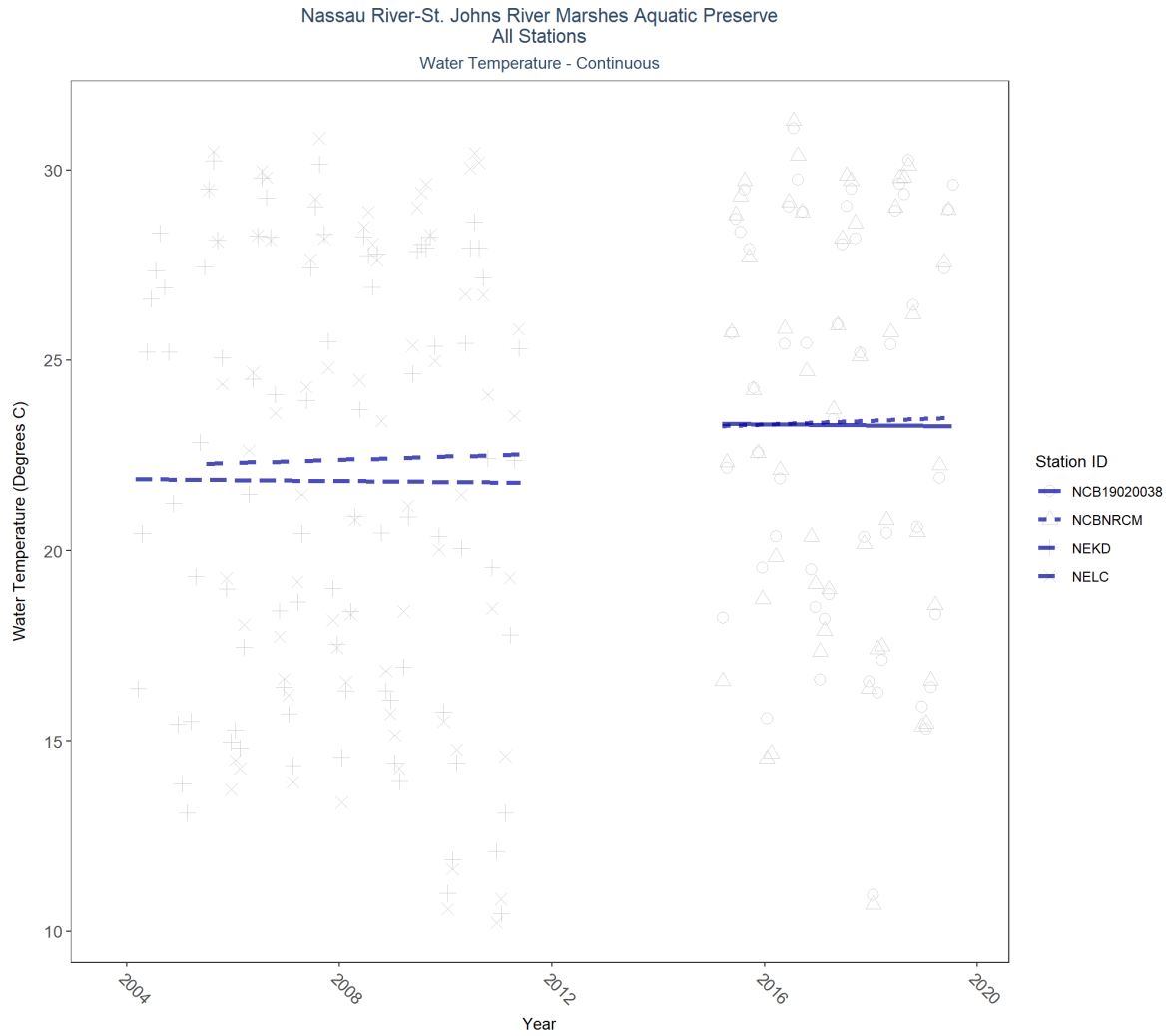


Table 6: Seasonal Kendall-Tau Results for All Stations - Water Temperature

Station	N_Data	N_Years	Period of Record	Median	tau	SennIntercept	SennSlope	p
02231291	710	3	2014 - 2016	24.50	-	-	-	-
NEKD	118328	8	2004 - 2011	22.10	-0.04	21.88	-0.01	0.8057
NELC	100343	7	2005 - 2011	22.70	0.05	22.26	0.04	0.7405
NENR	31438	3	2009 - 2011	22.00	-	-	-	-
NELN	17025	1	2023 - 2023	27.70	-	-	-	-
NEHM	27857	2	2022 - 2023	23.90	-	-	-	-

Station	N_Data	N_Years	Period of Record	Median	tau	SennIntercept	SennSlope	p
NCB19020038	34483	5	2015 - 2019	24.78	-0.03	23.32	-0.01	1.0000
NCBNRCM	35817	5	2015 - 2019	24.03	0.07	23.26	0.05	0.6681
NCBARD16	7419	2	2015 - 2016	25.08	-	-	-	-