

Water Column Indicator Quantile Report

SEACAR Analysis

Last compiled on 19 February, 2024

Contents

Overview	3
Purpose	3
Relevant file locations	3
Process steps	3
Summary	4
Summary Tables	6
Nekton	6
Discrete	6
Continuous	7
Nekton	8
Low Quantile	8
High Quantile	9
Count	9
Discrete	12
Discrete - Nutrients	12
Ammonia- Un-ionized (NH3)	12
NH4 Filtered	12
Nitrate (N)	12
Nitrite (N)	13
Nitrogen, organic	13
NO2+3 Filtered	13
PO4 Filtered	14
Total Kjeldahl Nitrogen TKN	14
Total Nitrogen (All)	15
Total Nitrogen (Measured)	15
Total Phosphorus	16
Discrete - Water Clarity	16
Chlorophyll a corrected for pheophytin	16
Chlorophyll a uncorrected for pheophytin	17
Colored dissolved organic matter, CDOM	18
Light Extinction Coefficient	18
Secchi Depth	18
Total Suspended Solids, TSS	19
Turbidity	20
Discrete - Water Quality	20
Dissolved Oxygen	20
Dissolved Oxygen Saturation	22

pH	22
Salinity	23
Specific Conductivity	24
Water Temperature	25
Continuous	27
Continuous - Water Quality	27
Dissolved Oxygen	27
Dissolved Oxygen Saturation	27
pH	28
Salinity	29
Water Temperature	29
Continuous - Water Clarity	30
Turbidity	30
QAQC Quantile Flag Check	31
Expected Values Check	37
Secchi Depth	37

Overview

Purpose

The purpose of the indicator quantiles is to flag records that are “unusual” relative to all of the data in the DDI for a given indicator in order to facilitate QA/QC. They are not used to filter any of the data for SEACAR analyses, and the presence of a LowerQuantile or UpperQuantile flag on a DDI record alone does not necessarily indicate there is any issue with the record (neither does the absence of a LowerQuantile or UpperQuantile flag necessarily mean that a data record is correct).

Relevant file locations

Current values can be found in the “LowQuantile” and “HighQuantile” columns of the “Ref_Parameters” worksheet.

The R script described below and the output file can be found in the *FloridaSEACAR IndicatorQuantiles* repository on GitHub:

- <https://github.com/FloridaSEACAR/IndicatorQuantiles>

Process steps

IQ_Report_Render.R & IQ_Report.Rmd

1. The *IQ_Report_Render.R* script lists all files in a given directory and filters it to a list of DDI exports to evaluate considering a list of parameters to skip (user-defined).
2. User sets the desired upper and lower quantile thresholds, as well as a number of standard deviations away from the mean to use for the calculations.
3. User sets the string value(s) in the DDI exports that should be considered as NA values.
4. The remainder of the script loops through the file list, returning the values listed below and binding them together by row into a single Excel spreadsheet that is saved to the User’s working directory.
5. For each habitat included in the User’s working directory a PDF report will be created in the “output” folder using *IQ_Report.Rmd*, which provides an overview of questionable / flagged values.
6. In addition to the PDF reports, each habitat will provide a .txt data output file in the “output/data” folder containing questionable values.

Summary

The following quantile thresholds are used for flagging “questionable” values:

- Lower quantile: **0.001**
- Upper quantile: **0.999**

The following parameters are being excluded from this analysis:

- *Standard Length*

The following Programs are managed by RCP and will be highlighted throughout the report:

129, 295, 354, 355, 467, 468, 469, 470, 471, 473, 474, 476, 512, 542, 557, 558, 560, 570, 571, 572, 627, 974, 997, 3004, 4000, 4016, 4017, 4019, 4042, 4043, 4044, 4045, 4054, 4063, 4065, 5005, 5006, 5007, 5008, 5009, 5010, 5014, 5015, 5016, 5017, 5021, 5026, 5027, 5028, 5030, 5033, 5034, 5035, 5040, 5042, 5045, 5046, 5058, 5077, 10003

Included Indicators and Parameters and the files used in this analysis:

Nekton

Indicator: Nekton - All_NEKTON_Parameters-2024-Jan-10.txt

- Presence/Absence
- Count

Discrete

Indicator: Nutrients

- Ammonia- Un-ionized (NH₃)
 - *Combined_WQ_WC_NUT_Ammonia_Un-ionized_NH3-2024-Jan-10.txt*
- NH₄ Filtered
 - *Combined_WQ_WC_NUT_NH4_Filtered-2024-Jan-10.txt*
- Nitrate (N)
 - *Combined_WQ_WC_NUT_Nitrate_N-2024-Jan-10.txt*
- Nitrite (N)
 - *Combined_WQ_WC_NUT_Nitrite_N-2024-Jan-10.txt*
- Nitrogen, organic
 - *Combined_WQ_WC_NUT_Nitrogen_organic-2024-Jan-10.txt*
- NO₂+3 Filtered
 - *Combined_WQ_WC_NUT_NO2_3_Filtered-2024-Jan-10.txt*
- PO₄ Filtered
 - *Combined_WQ_WC_NUT_PO4_Filtered-2024-Jan-10.txt*
- Total Kjeldahl Nitrogen TKN
 - *Combined_WQ_WC_NUT_Total_Kjeldahl_Nitrogen_TKN-2024-Jan-10.txt*
- Total Nitrogen (All)
 - *Combined_WQ_WC_NUT_Total_Nitrogen-2024-Jan-10.txt*
- Total Nitrogen (Measured)
 - *Combined_WQ_WC_NUT_Total_Nitrogen-2024-Jan-10.txt*
- Total Phosphorus
 - *Combined_WQ_WC_NUT_Total_Phosphorus-2024-Jan-10.txt*

Indicator: Water Clarity

- Chlorophyll a corrected for pheophytin
 - *Combined_WQ_WC_NUT_Chlorophyll_a_corrected_for_pheophytin-2024-Jan-10.txt*
- Chlorophyll a uncorrected for pheophytin
 - *Combined_WQ_WC_NUT_Chlorophyll_a_uncorrected_for_pheophytin-2024-Jan-10.txt*
- Colored dissolved organic matter, CDOM
 - *Combined_WQ_WC_NUT_Colored_dissolved_organic_matter_CDOM-2024-Jan-10.txt*

- Light Extinction Coefficient
 - *Combined_WQ_WC_NUT_Light_Extinction_Coefficient-2024-Jan-10.txt*
- Secchi Depth
 - *Combined_WQ_WC_NUT_Secchi_Depth-2024-Jan-10.txt*
- Total Suspended Solids, TSS
 - *Combined_WQ_WC_NUT_Total_Suspended_Solids_TSS-2024-Jan-10.txt*
- Turbidity
 - *Combined_WQ_WC_NUT_Turbidity-2024-Jan-10.txt*

Indicator: Water Quality

- Dissolved Oxygen
 - *Combined_WQ_WC_NUT_Dissolved_Oxygen-2024-Jan-10.txt*
- Dissolved Oxygen Saturation
 - *Combined_WQ_WC_NUT_Dissolved_Oxygen_Saturation-2024-Jan-10.txt*
- pH
 - *Combined_WQ_WC_NUT_pH-2024-Jan-10.txt*
- Salinity
 - *Combined_WQ_WC_NUT_Salinity-2024-Jan-10.txt*
- Specific Conductivity
 - *Combined_WQ_WC_NUT_Specific_Conductivity-2024-Jan-10.txt*
- Water Temperature
 - *Combined_WQ_WC_NUT_Water_Temperature-2024-Jan-10.txt*

Continuous

Indicator: Water Quality

- Dissolved Oxygen
 - *Combined_WQ_WC_NUT_cont_Dissolved_Oxygen_AllRegions-2024-Jan-10.txt*
- Dissolved Oxygen Saturation
 - *Combined_WQ_WC_NUT_cont_Dissolved_Oxygen_Saturation_AllRegions-2024-Jan-10.txt*
- pH
 - *Combined_WQ_WC_NUT_cont_pH_AllRegions-2024-Jan-10.txt*
- Salinity
 - *Combined_WQ_WC_NUT_cont_Salinity_AllRegions-2024-Jan-10.txt*
- Water Temperature
 - *Combined_WQ_WC_NUT_cont_Water_Temperature_AllRegions-2024-Jan-10.txt*

Indicator: Water Clarity

- Turbidity
 - *Combined_WQ_WC_NUT_cont_Turbidity_AllRegions-2024-Jan-10.txt*

Summary Tables

q_low: Value corresponding to the qval_low quantile for the parameter in the DDI export.

q_high: Value corresponding to the qval_high quantile for the parameter in the DDI export.

mean: Mean value for the parameter in the DDI export.

n_tot: Total number of records in the DDI export for the parameter.

n_q_low: Number of records in the DDI export that are below q_low for the parameter.

n_q_high: Number of records in the DDI export that are above q_high for the parameter.

%_flagged: Proportion of total records in the DDI export for the parameter which have been flagged as above q_high, or below q_low.

Nekton

Indicator: **Nekton**

Table 1: Indicator Quantile Overview

parameter	q_low	q_high	mean	n_tot	n_q_low	n_q_high	%_flagged
Count	1	1620.21	22.22	100789	0	101	0.1
Presence/Absence	0	1.00	0.40	250393	0	0	0.0

Discrete

Indicator: **Nutrients**

Table 2: Indicator Quantile Overview

parameter	q_low	q_high	mean	n_tot	n_q_low	n_q_high	%_flagged
Ammonia- Un-ionized (NH3)	0.00	0.48	0.03	523	1	1	0.38
NH4 Filtered	-0.03	5.73	0.09	120186	121	121	0.20
Nitrate (N)	0.00	0.79	0.02	19483	0	20	0.10
Nitrite (N)	0.00	0.07	0.00	28871	0	28	0.10
Nitrogen, organic	0.03	2.70	0.57	7121	6	7	0.18
NO2+3 Filtered	0.00	3.24	0.05	132587	133	133	0.20
PO4 Filtered	-0.01	0.77	0.04	57462	53	58	0.19
Total Kjeldahl Nitrogen TKN	0.00	5.22	5.70	90749	23	91	0.13
Total Nitrogen (All)	0.00	4.25	0.49	124070	120	125	0.20
Total Nitrogen (Measured)	0.00	2.66	0.35	79388	50	80	0.16
Total Phosphorus	0.00	0.74	0.18	133960	102	134	0.18

Indicator: **Water Clarity**

Table 3: Indicator Quantile Overview

parameter	q_low	q_high	mean	n_tot	n_q_low	n_q_high	%_flagged
Chlorophyll a corrected for pheophytin	0	112.00	6.27	41240	26	41	0.16
Chlorophyll a uncorrected for pheophytin	0	119.61	17.63	77234	26	78	0.13
Colored dissolved organic matter, CDOM	0	718.17	26.09	21184	0	22	0.10

parameter	q_low	q_high	mean	n_tot	n_q_low	n_q_high	%_flagged
Light Extinction Coefficient	0	7.94	0.56	15547	13	16	0.19
Secchi Depth	0	15.20	1.32	279196	0	274	0.10
Total Suspended Solids, TSS	0	185.78	14.36	69129	20	70	0.13
Turbidity	0	127.00	5.10	287544	67	287	0.12

Indicator: **Water Quality**

Table 4: Indicator Quantile Overview

parameter	q_low	q_high	mean	n_tot	n_q_low	n_q_high	%_flagged
Dissolved Oxygen	0.22	14.30	6.52	758329	734	755	0.20
Dissolved Oxygen Saturation	0.31	177.32	73.44	137947	138	138	0.20
pH	0.79	9.31	7.92	594250	478	594	0.18
Salinity	0.00	41.10	24.69	758020	2	741	0.10
Specific Conductivity	0.00	60.70	14.59	389724	0	390	0.10
Water Temperature	2.08	33.89	24.29	809837	804	808	0.20

Continuous

Indicator: **Water Quality**

Table 5: Indicator Quantile Overview

parameter	q_low	q_high	mean	n_tot	n_q_low	n_q_high	%_flagged
Dissolved Oxygen	0.1	13.4	6.11	12826259	4589	12494	0.13
Dissolved Oxygen Saturation	1.7	170.1	82.31	12910505	12476	12875	0.20
pH	5.0	9.0	7.80	13402868	12258	12987	0.19
Salinity	0.0	41.2	29.56	14248905	6041	13870	0.14
Water Temperature	7.9	33.8	25.59	36073434	35477	31375	0.19

Indicator: **Water Clarity**

Table 6: Indicator Quantile Overview

parameter	q_low	q_high	mean	n_tot	n_q_low	n_q_high	%_flagged
Turbidity	-1	533	11.48	12796786	12548	12783	0.2

Nekton

Low Quantile

There are no *Low* Quantile Flagged Values for Presence/Absence

There are no *Low* Quantile Flagged Values for Count

High Quantile

There are no *High* Quantile Flagged Values for Presence/Absence

Count

Table 7: Flagged Values - High Indicator Quantile: **1620.212**

RowID	ProgramID	ProgramLocationID	SampleDate	ResultValue
2156673	69	TBM2001020713	2001-02-05	1671
2175189	69	TBM2002080502	2002-08-05	1647
2097544	69	TBM2003021611	2003-02-19	6128
2273220	69	TBM2004100204	2004-10-01	2585
2283538	69	TBM2006111002	2006-11-09	4597
1989812	69	TBM2007110605	2007-11-06	1843
2234957	69	TBM2008011202	2008-01-10	3882
2291264	69	TBM2008040406	2008-04-14	2532
2260430	69	TBM2008050606	2008-05-08	2236
2262822	69	TBM2008061105	2008-06-05	2432
2271220	69	TBM2008080802	2008-08-20	1621
2299936	69	TBM2008081305	2008-08-26	2051
2324359	69	TBM2008111104	2008-11-19	1775
2320940	69	TBM2008120803	2008-12-05	2181
2291665	69	TBM2009011001	2009-01-26	1688
2290555	69	TBM2009051005	2009-05-07	2457
2330965	69	TBM2009051209	2009-05-12	1887
2602714	69	TBM2009100601	2009-10-06	2562
1958672	69	TBM2009111405	2009-11-18	2046
2625332	69	TBM2010051304	2010-05-19	2816
2563671	69	TBM2010051308	2010-05-19	2327
1992452	69	TBM2010060909	2010-06-03	1635
2633894	69	TBM2010070205	2010-07-01	1689
2246644	69	TBM2010070405	2010-07-08	2465
2245912	69	TBM2010091403	2010-09-20	2865
2574541	69	TBM2010091404	2010-09-20	1629
1932179	69	TBM2010100805	2010-10-07	1897
2482413	69	TBM2011110605	2011-11-02	1874
2608886	69	TBM2012010203	2012-01-04	2633
2638308	69	TBM2012100304	2012-10-22	2416
2763119	69	TBM2013050702	2013-05-21	2195
2505065	69	TBM2013060701	2013-06-11	1841
2511952	69	TBM2013070208	2013-07-03	2110
2643674	69	TBM2013080404	2013-08-13	1773
2502945	69	TBM2013091302	2013-09-23	2114
2643478	69	TBM2013110103	2013-11-04	2734
2502625	69	TBM2014050208	2014-05-06	1749
2682071	69	TBM2014070408	2014-07-07	2530
2675198	69	TBM2014100906	2014-10-06	1695
2683099	69	TBM2014110404	2014-11-12	3094
2715994	69	TBM2014111002	2014-11-13	1713
2658302	69	TBM2015071501	2015-07-09	2546
2732115	69	TBM2015090704	2015-09-03	2509
1965134	69	TBM2015110901	2015-11-12	2013
1966976	69	TBM2016091807	2016-09-08	1623

RowID	ProgramID	ProgramLocationID	SampleDate	ResultValue
1951315	69	TBM2017100502	2017-10-16	1626
2285757	69	TBM2017100804	2017-10-10	2535
1957790	69	TBM2018090905	2018-09-10	1793
2400601	69	TBM2019060106	2019-06-03	1628
2686000	69	TBM2019061203	2019-06-17	1816
2439734	69	TBM2019071503	2019-07-09	2024
2715694	69	TBM2019071504	2019-07-09	1729
2660361	69	TBM2019080306	2019-08-05	2215
2693186	69	TBM2019090402	2019-09-24	1755
2714283	69	TBM2019090501	2019-09-16	1923
2729822	69	TBM2019101105	2019-10-15	1757
2428737	69	TBM2019111306	2019-11-14	1759
2391555	69	TBM2020081206	2020-08-13	3017
2553112	69	TBM2020081207	2020-08-13	1767
2067558	129	1	2011-02-17	3920
2069469	129	1	2011-02-17	2152
2087938	129	1	2011-02-17	4719
2093677	129	1	2011-03-15	1686
3217905	129	10	2011-02-16	1737
3218657	129	10	2011-02-16	1916
3224394	129	10	2011-02-16	2304
3227319	129	10	2011-02-16	1792
3208766	129	10	2011-03-16	1687
3210854	129	10	2011-03-16	3208
3250049	129	10	2022-03-29	1672
3255904	129	10	2022-03-29	2316
3257158	129	10	2022-03-29	1775
2423863	129	2	2011-02-17	1680
2395224	129	3	2002-04-16	2541
3238469	129	4	2011-02-16	1790
3239567	129	4	2011-02-16	2229
3243590	129	4	2011-02-16	2315
3245536	129	4	2011-02-16	3742
3278883	129	5	2003-03-19	4825
3281657	129	5	2003-03-19	2802
3287852	129	5	2003-03-19	6147
3288452	129	5	2003-03-19	2083
2098710	129	5	2010-01-20	1889
2103310	129	5	2010-01-20	5068
2100724	129	5	2011-02-16	2876
2101567	129	5	2011-02-16	3924
2130344	129	5	2011-02-16	4690
3214260	129	8	2003-02-19	1709
3271705	129	8	2011-02-16	5772
3272810	129	8	2011-02-16	4436
3273368	129	8	2011-02-16	4888
3274449	129	8	2011-02-16	3584
3275515	129	8	2011-02-16	5260
3281456	129	8	2011-04-12	1917
3313639	129	9	2001-03-28	1784
2032057	129	9	2011-02-16	8224
2033127	129	9	2011-02-16	4292

RowID	ProgramID	ProgramLocationID	SampleDate	ResultValue
2034238	129	9	2011-02-16	5616
2034610	129	9	2011-02-16	5940
2024938	129	9	2011-03-16	4984
2035140	129	9	2011-03-16	5060

Programs containing flagged data:

69 - Fisheries-Independent Monitoring (FIM) Program

[129](#) - Apalachicola National Estuarine Research Reserve Juvenile Fish and Benthic Macroinvertebrate Monitoring

Discrete

Discrete - Nutrients

Ammonia- Un-ionized (NH3)

Quantile Values:

Low: **0.00304** *High:* **0.4778**

Total data for *Ammonia- Un-ionized (NH3)* across all programs: **523**

Table 8: Flagged data, overview by program for **Ammonia- Un-ionized (NH3)**

ProgramID	n_flagged	n_low	n_high	n_tot	pct_prog	pct_all
5028	2	1	1	523	0.382	0.382

Programs containing flagged data:

[5028](#) - Charlotte Harbor Aquatic Preserves Monthly Water Quality Program

NH4 Filtered

Quantile Values:

Low: **-0.02564** *High:* **5.73457**

Total data for *NH4 Filtered* across all programs: **120186**

Table 9: Flagged data, overview by program for **NH4 Filtered**

ProgramID	n_flagged	n_low	n_high	n_tot	pct_prog	pct_all
3	101	0	101	2780	3.633	0.084
5002	141	121	20	57032	0.247	0.117

Programs containing flagged data:

3 - Atlantic Oceanographic and Meteorological Laboratory (AOML) South Florida Program Synoptic Shipboard Surveys

5002 - Florida STORET / WIN

Nitrate (N)

Quantile Values:

Low: **0** *High:* **0.79036**

Total data for *Nitrate (N)* across all programs: **19483**

Table 10: Flagged data, overview by program for **Nitrate (N)**

ProgramID	n_flagged	n_low	n_high	n_tot	pct_prog	pct_all
5002	20	0	20	9235	0.217	0.103

Programs containing flagged data:

5002 - Florida STORET / WIN

Nitrite (N)

Quantile Values:

Low: **0** High: **0.074**

Total data for *Nitrite (N)* across all programs: **28871**

Table 11: Flagged data, overview by program for **Nitrite (N)**

ProgramID	n_flagged	n_low	n_high	n_tot	pct_prog	pct_all
4054	10	0	10	1646	0.608	0.035
5002	15	0	15	11536	0.13	0.052
5033	3	0	3	8373	0.036	0.010

Programs containing flagged data:

[4054](#) - Guana Tolomato Matanzas National Estuarine Research Reserve System-Wide Monitoring Program

5002 - Florida STORET / WIN

[5033](#) - Southeast Florida Water Quality Assessment Survey

Nitrogen, organic

Quantile Values:

Low: **0.029** High: **2.7**

Total data for *Nitrogen, organic* across all programs: **7121**

Table 12: Flagged data, overview by program for **Nitrogen, organic**

ProgramID	n_flagged	n_low	n_high	n_tot	pct_prog	pct_all
5002	13	6	7	7121	0.183	0.183

Programs containing flagged data:

5002 - Florida STORET / WIN

NO2+3 Filtered

Quantile Values:

Low: **-0.00244** High: **3.24035**

Total data for *NO2+3 Filtered* across all programs: **132587**

Table 13: Flagged data, overview by program for **NO2+3 Filtered**

ProgramID	n_flagged	n_low	n_high	n_tot	pct_prog	pct_all
3	129	0	129	2521	5.117	0.097
476	1	0	1	4118	0.024	0.001
4058	1	0	1	1859	0.054	0.001
5002	135	133	2	65022	0.208	0.102

Programs containing flagged data:

3 - Atlantic Oceanographic and Meteorological Laboratory (AOML) South Florida Program Synoptic Shipboard Surveys
 476 - Charlotte Harbor Estuaries Volunteer Water Quality Monitoring Network
 4058 - City of Miami Beach Water Monitoring
 5002 - Florida STORET / WIN

PO4 Filtered

Quantile Values:

Low: **-0.007** High: **0.76862**

Total data for *PO4 Filtered* across all programs: **57462**

Table 14: Flagged data, overview by program for **PO4 Filtered**

ProgramID	n_flagged	n_low	n_high	n_tot	pct_prog	pct_all
3	15	0	15	4006	0.374	0.026
355	7	0	7	3176	0.22	0.012
513	2	0	2	1624	0.123	0.003
5002	87	53	34	36205	0.24	0.151

Programs containing flagged data:

3 - Atlantic Oceanographic and Meteorological Laboratory (AOML) South Florida Program Synoptic Shipboard Surveys
 355 - Apalachicola National Estuarine Research Reserve System-Wide Monitoring Program
 513 - Coastal Charlotte Harbor Monitoring Network
 5002 - Florida STORET / WIN

Total Kjeldahl Nitrogen TKN

Quantile Values:

Low: **0** High: **5.21504**

Total data for *Total Kjeldahl Nitrogen TKN* across all programs: **90749**

Table 15: Flagged data, overview by program for **Total Kjeldahl Nitrogen TKN**

ProgramID	n_flagged	n_low	n_high	n_tot	pct_prog	pct_all
303	3	0	3	416	0.721	0.003
513	1	0	1	1029	0.097	0.001
5002	107	23	84	64911	0.165	0.118
5014	3	0	3	1201	0.25	0.003

Programs containing flagged data:

303 - River, Estuary and Coastal Observing Network
 513 - Coastal Charlotte Harbor Monitoring Network
 5002 - Florida STORET / WIN
 5014 - Guana River and Guana Lake Water Quality Monitoring

Total Nitrogen (All)

Quantile Values:

Low: **7e-05** High: **4.24607**

Total data for *Total Nitrogen (All)* across all programs: **124070**

Table 16: Flagged data, overview by program for **Total Nitrogen (All)**

ProgramID	n_flagged	n_low	n_high	n_tot	pct_prog	pct_all
103	9	9	0	532	1.692	0.007
297	1	1	0	25177	0.004	0.001
303	3	0	3	418	0.718	0.002
476	1	0	1	1369	0.073	0.001
479	2	0	2	8195	0.024	0.002
513	32	30	2	714	4.482	0.026
514	63	63	0	10392	0.606	0.051
4058	2	0	2	1831	0.109	0.002
5002	130	17	113	59396	0.219	0.105
5014	2	0	2	551	0.363	0.002

Programs containing flagged data:

103 - EPA STOrage and RETrieval Data Warehouse (STORET)

297 - Florida Keys National Marine Sanctuary Water Quality Monitoring Project

303 - River, Estuary and Coastal Observing Network

476 - Charlotte Harbor Estuaries Volunteer Water Quality Monitoring Network

479 - Southwest Florida Water Management District - Water Quality Monitoring

513 - Coastal Charlotte Harbor Monitoring Network

514 - Florida LAKEWATCH Program

4058 - City of Miami Beach Water Monitoring

5002 - Florida STORET / WIN

5014 - Guana River and Guana Lake Water Quality Monitoring

Total Nitrogen (Measured)

Quantile Values:

Low: **6e-05** High: **2.65613**

Total data for *Total Nitrogen (Measured)* across all programs: **79388**

Table 17: Flagged data, overview by program for **Total Nitrogen (Measured)**

ProgramID	n_flagged	n_low	n_high	n_tot	pct_prog	pct_all
103	9	9	0	532	1.692	0.011
297	2	1	1	25177	0.008	0.003
303	12	0	12	416	2.885	0.015
479	6	0	6	8145	0.074	0.008
509	1	0	1	6212	0.016	0.001
513	11	9	2	139	7.914	0.014
514	32	31	1	10392	0.308	0.040
5002	50	0	50	22232	0.225	0.063

ProgramID	n_flagged	n_low	n_high	n_tot	pct_prog	pct_all
5058	1	0	1	268	0.373	0.001
10000	6	0	6	2062	0.291	0.008

Programs containing flagged data:

103 - EPA STORage and RETrieval Data Warehouse (STORET)
 297 - Florida Keys National Marine Sanctuary Water Quality Monitoring Project
 303 - River, Estuary and Coastal Observing Network
 479 - Southwest Florida Water Management District - Water Quality Monitoring
 509 - SERC Water Quality Monitoring Network
 513 - Coastal Charlotte Harbor Monitoring Network
 514 - Florida LAKEWATCH Program
 5002 - Florida STORET / WIN
[5058](#) - Southeast Florida Coral Reef Initiative (SEFCRI) Water Quality Monitoring Report
 10000 - RiverKeeper

Total Phosphorus

Quantile Values:

Low: **0** High: **0.74004**

Total data for *Total Phosphorus* across all programs: **133960**

Table 18: Flagged data, overview by program for **Total Phosphorus**

ProgramID	n_flagged	n_low	n_high	n_tot	pct_prog	pct_all
103	7	0	7	5666	0.124	0.005
355	3	0	3	771	0.389	0.002
479	2	0	2	8183	0.024	0.001
513	6	0	6	1043	0.575	0.004
5002	198	85	113	52332	0.378	0.148
5014	3	0	3	603	0.498	0.002
5033	17	17	0	8365	0.203	0.013

Programs containing flagged data:

103 - EPA STORage and RETrieval Data Warehouse (STORET)
[355](#) - Apalachicola National Estuarine Research Reserve System-Wide Monitoring Program
 479 - Southwest Florida Water Management District - Water Quality Monitoring
 513 - Coastal Charlotte Harbor Monitoring Network
 5002 - Florida STORET / WIN
[5014](#) - Guana River and Guana Lake Water Quality Monitoring
[5033](#) - Southeast Florida Water Quality Assessment Survey

Discrete - Water Clarity

Chlorophyll a corrected for pheophytin

Quantile Values:

Low: **0** High: **112**

Total data for *Chlorophyll a corrected for pheophytin* across all programs: **41240**

Table 19: Flagged data, overview by program for **Chlorophyll a corrected for pheophytin**

ProgramID	n_flagged	n_low	n_high	n_tot	pct_prog	pct_all
103	3	0	3	1353	0.222	0.007
303	1	0	1	607	0.165	0.002
476	1	0	1	1326	0.075	0.002
514	29	25	4	1140	2.544	0.070
540	3	0	3	468	0.641	0.007
5002	26	1	25	17990	0.145	0.063
5014	3	0	3	602	0.498	0.007
10000	1	0	1	2179	0.046	0.002

Programs containing flagged data:

103 - EPA STORage and RETrieval Data Warehouse (STORET)
 303 - River, Estuary and Coastal Observing Network
 476 - Charlotte Harbor Estuaries Volunteer Water Quality Monitoring Network
 514 - Florida LAKEWATCH Program
 540 - Shellfish Harvest Area Classification Program
 5002 - Florida STORET / WIN
 5014 - Guana River and Guana Lake Water Quality Monitoring
 10000 - RiverKeeper

Chlorophyll a uncorrected for pheophytin

Quantile Values:

Low: 0 High: 119.6136

Total data for *Chlorophyll a uncorrected for pheophytin* across all programs: 77234

Table 20: Flagged data, overview by program for **Chlorophyll a uncorrected for pheophytin**

ProgramID	n_flagged	n_low	n_high	n_tot	pct_prog	pct_all
95	12	0	12	1888	0.636	0.016
103	26	26	0	4780	0.544	0.034
479	2	0	2	1835	0.109	0.003
514	16	0	16	3278	0.488	0.021
540	3	0	3	458	0.655	0.004
4054	1	0	1	4421	0.023	0.001
5002	39	0	39	22598	0.173	0.050
5014	4	0	4	660	0.606	0.005
10000	1	0	1	2783	0.036	0.001

Programs containing flagged data:

95 - Harmful Algal Bloom Marine Observation Network
 103 - EPA STORage and RETrieval Data Warehouse (STORET)
 479 - Southwest Florida Water Management District - Water Quality Monitoring
 514 - Florida LAKEWATCH Program
 540 - Shellfish Harvest Area Classification Program
 4054 - Guana Tolomato Matanzas National Estuarine Research Reserve System-Wide Monitoring Program

5002 - Florida STORET / WIN

5014 - Guana River and Guana Lake Water Quality Monitoring

10000 - RiverKeeper

Colored dissolved organic matter, CDOM

Quantile Values:

Low: 0 High: 718.17

Total data for *Colored dissolved organic matter, CDOM* across all programs: 21184

Table 21: Flagged data, overview by program for **Colored dissolved organic matter, CDOM**

ProgramID	n_flagged	n_low	n_high	n_tot	pct_prog	pct_all
4054	17	0	17	1328	1.28	0.080
5002	5	0	5	6656	0.075	0.024

Programs containing flagged data:

4054 - Guana Tolomato Matanzas National Estuarine Research Reserve System-Wide Monitoring Program

5002 - Florida STORET / WIN

Light Extinction Coefficient

Quantile Values:

Low: 0.001 High: 7.93948

Total data for *Light Extinction Coefficient* across all programs: 15547

Table 22: Flagged data, overview by program for **Light Extinction Coefficient**

ProgramID	n_flagged	n_low	n_high	n_tot	pct_prog	pct_all
297	24	11	13	10401	0.231	0.154
4064	1	1	0	619	0.162	0.006
5002	3	0	3	2328	0.129	0.019
5058	1	1	0	133	0.752	0.006

Programs containing flagged data:

297 - Florida Keys National Marine Sanctuary Water Quality Monitoring Project

4064 - A spatial model to improve site selection for seagrass restoration in shallow boating environments

5002 - Florida STORET / WIN

5058 - Southeast Florida Coral Reef Initiative (SEFCRI) Water Quality Monitoring Report

Secchi Depth

Quantile Values:

Low: 0 High: 15.2

Total data for *Secchi Depth* across all programs: 279196

Table 23: Flagged data, overview by program for **Secchi Depth**

ProgramID	n_flagged	n_low	n_high	n_tot	pct_prog	pct_all
60	20	0	20	54	37.037	0.007
103	60	0	60	2973	2.018	0.021
470	1	0	1	298	0.336	0.000
479	4	0	4	8546	0.047	0.001
514	1	0	1	9257	0.011	0.000
537	1	0	1	217	0.461	0.000
3013	7	0	7	2181	0.321	0.003
5002	2	0	2	15689	0.013	0.001
5026	1	0	1	426	0.235	0.000
5033	177	0	177	4797	3.69	0.063

Programs containing flagged data:

60 - Southeast Area Monitoring and Assessment Program (SEAMAP) - Gulf of Mexico Fall & Summer Shrimp/Groundfish Survey

103 - EPA STORage and RETrieval Data Warehouse (STORET)

470 - St. Andrews Aquatic Preserve Water Quality Monitoring

479 - Southwest Florida Water Management District - Water Quality Monitoring

514 - Florida LAKEWATCH Program

537 - Choctawhatchee Basin Alliance Living Shorelines Oyster Reef Monitoring

3013 - Seagrass (SJRWMD)

5002 - Florida STORET / WIN

5026 - North Biscayne Bay Seagrass Loss Water Quality Program

5033 - Southeast Florida Water Quality Assessment Survey

Total Suspended Solids, TSS

Quantile Values:

Low: 0 High: 185.7824

Total data for *Total Suspended Solids, TSS* across all programs: 69129

Table 24: Flagged data, overview by program for **Total Suspended Solids, TSS**

ProgramID	n_flagged	n_low	n_high	n_tot	pct_prog	pct_all
103	3	0	3	3614	0.083	0.004
513	3	0	3	997	0.301	0.004
4054	8	0	8	3551	0.225	0.012
5002	68	18	50	42388	0.16	0.098
5033	8	2	6	8993	0.089	0.012

Programs containing flagged data:

103 - EPA STORage and RETrieval Data Warehouse (STORET)

513 - Coastal Charlotte Harbor Monitoring Network

4054 - Guana Tolomato Matanzas National Estuarine Research Reserve System-Wide Monitoring Program

5002 - Florida STORET / WIN

5033 - Southeast Florida Water Quality Assessment Survey

Turbidity

Quantile Values:

Low: **0** High: **127**

Total data for *Turbidity* across all programs: **287544**

Table 25: Flagged data, overview by program for **Turbidity**

ProgramID	n_flagged	n_low	n_high	n_tot	pct_prog	pct_all
95	1	0	1	398	0.251	0.000
103	233	11	222	19539	1.192	0.081
297	29	29	0	25746	0.113	0.010
303	34	11	23	473	7.188	0.012
354	14	0	14	734	1.907	0.005
469	5	5	0	299	1.672	0.002
505	2	2	0	74	2.703	0.001
4058	1	0	1	1869	0.054	0.000
5002	25	0	25	201217	0.012	0.009
5026	10	9	1	410	2.439	0.003

Programs containing flagged data:

95 - Harmful Algal Bloom Marine Observation Network

103 - EPA STORage and RETrieval Data Warehouse (STORET)

297 - Florida Keys National Marine Sanctuary Water Quality Monitoring Project

303 - River, Estuary and Coastal Observing Network

354 - Rookery Bay National Estuarine Research Reserve System-Wide Monitoring Program

469 - Central Panhandle Aquatic Preserve WQ Monitoring

505 - Pensacola Bay Water Quality Monitoring Program

4058 - City of Miami Beach Water Monitoring

5002 - Florida STORET / WIN

5026 - North Biscayne Bay Seagrass Loss Water Quality Program

Discrete - Water Quality

Dissolved Oxygen

Quantile Values:

Low: **0.22** High: **14.3**

Total data for *Dissolved Oxygen* across all programs: **758329**

Table 26: Flagged data, overview by program for **Dissolved Oxygen**

ProgramID	n_flagged	n_low	n_high	n_tot	pct_prog	pct_all
69	402	42	360	224772	0.179	0.053
95	42	9	33	14463	0.29	0.006
103	1	0	1	23938	0.004	0.000
118	4	4	0	549	0.729	0.001
129	15	0	15	3884	0.386	0.002
297	3	1	2	31133	0.01	0.000
354	18	0	18	1242	1.449	0.002
355	2	2	0	2464	0.081	0.000

ProgramID	n_flagged	n_low	n_high	n_tot	pct_prog	pct_all
469	3	0	3	988	0.304	0.000
470	1	0	1	226	0.442	0.000
479	40	35	5	19874	0.201	0.005
509	2	1	1	12158	0.016	0.000
513	2	2	0	327	0.612	0.000
537	1	1	0	266	0.376	0.000
540	1	0	1	393	0.254	0.000
557	1	0	1	841	0.119	0.000
3000	8	8	0	386	2.073	0.001
3001	18	14	4	12380	0.145	0.002
3013	3	0	3	2193	0.137	0.000
4043	4	4	0	2972	0.135	0.001
4054	6	0	6	2794	0.215	0.001
4058	7	1	6	1837	0.381	0.001
4067	45	37	8	17489	0.257	0.006
5002	849	563	286	364841	0.233	0.112
5014	4	3	1	274	1.46	0.001
5058	2	2	0	266	0.752	0.000
10000	5	5	0	6074	0.082	0.001

Programs containing flagged data:

69 - Fisheries-Independent Monitoring (FIM) Program
 95 - Harmful Algal Bloom Marine Observation Network
 103 - EPA STOrage and RETrieval Data Warehouse (STORET)
 118 - National Aquatic Resource Surveys, National Coastal Condition Assessment
 129 - Apalachicola National Estuarine Research Reserve Juvenile Fish and Benthic Macroinvertebrate Monitoring
 297 - Florida Keys National Marine Sanctuary Water Quality Monitoring Project
 354 - Rookery Bay National Estuarine Research Reserve System-Wide Monitoring Program
 355 - Apalachicola National Estuarine Research Reserve System-Wide Monitoring Program
 469 - Central Panhandle Aquatic Preserve WQ Monitoring
 470 - St. Andrews Aquatic Preserve Water Quality Monitoring
 479 - Southwest Florida Water Management District - Water Quality Monitoring
 509 - SERC Water Quality Monitoring Network
 513 - Coastal Charlotte Harbor Monitoring Network
 537 - Choctawhatchee Basin Alliance Living Shorelines Oyster Reef Monitoring
 540 - Shellfish Harvest Area Classification Program
 557 - Central Panhandle Aquatic Preserves Seagrass Monitoring
 3000 - Florida Keys Water Watch
 3001 - Lagoon Watch (Formerly Marine Discovery Center)
 3013 - Seagrass (SJRWMD)
 4043 - RBNERR Fish Assessment
 4054 - Guana Tolomato Matanzas National Estuarine Research Reserve System-Wide Monitoring Program
 4058 - City of Miami Beach Water Monitoring
 4067 - Tampa Bay Benthic Monitoring
 5002 - Florida STORET / WIN
 5014 - Guana River and Guana Lake Water Quality Monitoring
 5058 - Southeast Florida Coral Reef Initiative (SEFCRI) Water Quality Monitoring Report
 10000 - RiverKeeper

Dissolved Oxygen Saturation

Quantile Values:

Low: **0.30633** High: **177.32268**

Total data for *Dissolved Oxygen Saturation* across all programs: **137947**

Table 27: Flagged data, overview by program for **Dissolved Oxygen Saturation**

ProgramID	n_flagged	n_low	n_high	n_tot	pct_prog	pct_all
95	2	1	1	1497	0.134	0.001
129	6	0	6	3874	0.155	0.004
297	12	0	12	25419	0.047	0.009
303	2	0	2	462	0.433	0.001
572	1	0	1	27	3.704	0.001
3001	127	109	18	12296	1.033	0.092
3013	3	0	3	1075	0.279	0.002
4064	1	0	1	619	0.162	0.001
4067	31	0	31	17033	0.182	0.022
5002	91	28	63	60424	0.151	0.066

Programs containing flagged data:

95 - Harmful Algal Bloom Marine Observation Network

129 - Apalachicola National Estuarine Research Reserve Juvenile Fish and Benthic Macroinvertebrate Monitoring

297 - Florida Keys National Marine Sanctuary Water Quality Monitoring Project

303 - River, Estuary and Coastal Observing Network

572 - Rookery Bay National Estuarine Research Reserve Seagrass Monitoring

3001 - Lagoon Watch (Formerly Marine Discovery Center)

3013 - Seagrass (SJRWMD)

4064 - A spatial model to improve site selection for seagrass restoration in shallow boating environments

4067 - Tampa Bay Benthic Monitoring

5002 - Florida STORET / WIN

pH

Quantile Values:

Low: **0.79** High: **9.31**

Total data for *pH* across all programs: **594250**

Table 28: Flagged data, overview by program for **pH**

ProgramID	n_flagged	n_low	n_high	n_tot	pct_prog	pct_all
69	215	2	213	223788	0.096	0.036
95	45	0	45	12206	0.369	0.008
103	1	0	1	13818	0.007	0.000
129	4	1	3	2138	0.187	0.001
303	18	0	18	404	4.455	0.003
354	13	0	13	887	1.466	0.002
355	7	0	7	1284	0.545	0.001
469	14	0	14	988	1.417	0.002

ProgramID	n_flagged	n_low	n_high	n_tot	pct_prog	pct_all
470	1	0	1	228	0.439	0.000
476	1	0	1	868	0.115	0.000
479	10	0	10	17482	0.057	0.002
557	64	5	59	757	8.454	0.011
3000	57	55	2	386	14.767	0.010
3001	3	1	2	11789	0.025	0.001
3013	1	0	1	2189	0.046	0.000
4058	2	0	2	1878	0.106	0.000
4065	1	0	1	266	0.376	0.000
4067	23	14	9	13670	0.168	0.004
5002	592	400	192	270074	0.219	0.100

Programs containing flagged data:

69 - Fisheries-Independent Monitoring (FIM) Program
 95 - Harmful Algal Bloom Marine Observation Network
 103 - EPA STORage and RETrieval Data Warehouse (STORET)
 129 - Apalachicola National Estuarine Research Reserve Juvenile Fish and Benthic Macroinvertebrate Monitoring
 303 - River, Estuary and Coastal Observing Network
 354 - Rookery Bay National Estuarine Research Reserve System-Wide Monitoring Program
 355 - Apalachicola National Estuarine Research Reserve System-Wide Monitoring Program
 469 - Central Panhandle Aquatic Preserve WQ Monitoring
 470 - St. Andrews Aquatic Preserve Water Quality Monitoring
 476 - Charlotte Harbor Estuaries Volunteer Water Quality Monitoring Network
 479 - Southwest Florida Water Management District - Water Quality Monitoring
 557 - Central Panhandle Aquatic Preserves Seagrass Monitoring
 3000 - Florida Keys Water Watch
 3001 - Lagoon Watch (Formerly Marine Discovery Center)
 3013 - Seagrass (SJRWMD)
 4058 - City of Miami Beach Water Monitoring
 4065 - Northwest Florida Aquatic Preserve Seagrass Survey
 4067 - Tampa Bay Benthic Monitoring
 5002 - Florida STORET / WIN

Salinity

Quantile Values:

Low: **0** High: **41.1**

Total data for *Salinity* across all programs: **758020**

Table 29: Flagged data, overview by program for **Salinity**

ProgramID	n_flagged	n_low	n_high	n_tot	pct_prog	pct_all
3	16	0	16	4287	0.373	0.002
69	110	0	110	226531	0.049	0.015
95	126	0	126	25921	0.486	0.017
115	2	0	2	327	0.612	0.000
118	16	0	16	535	2.991	0.002
297	33	0	33	30806	0.107	0.004
354	6	0	6	1282	0.468	0.001

ProgramID	n_flagged	n_low	n_high	n_tot	pct_prog	pct_all
456	6	0	6	134	4.478	0.001
476	1	0	1	893	0.112	0.000
479	1	0	1	19918	0.005	0.000
509	19	0	19	12034	0.158	0.003
557	2	0	2	866	0.231	0.000
965	8	0	8	4157	0.192	0.001
3000	4	0	4	388	1.031	0.001
3001	14	0	14	12345	0.113	0.002
3013	4	0	4	2248	0.178	0.001
4043	1	0	1	3042	0.033	0.000
4049	27	0	27	1291	2.091	0.004
4057	3	0	3	230	1.304	0.000
4058	3	0	3	1870	0.16	0.000
4067	51	0	51	12571	0.406	0.007
5002	290	2	288	372865	0.078	0.038

Programs containing flagged data:

3 - Atlantic Oceanographic and Meteorological Laboratory (AOML) South Florida Program Synoptic Shipboard Surveys
 69 - Fisheries-Independent Monitoring (FIM) Program
 95 - Harmful Algal Bloom Marine Observation Network
 115 - Environmental Monitoring Assessment Program
 118 - National Aquatic Resource Surveys, National Coastal Condition Assessment
 297 - Florida Keys National Marine Sanctuary Water Quality Monitoring Project
 354 - Rookery Bay National Estuarine Research Reserve System-Wide Monitoring Program
 456 - Oyster Sentinel
 476 - Charlotte Harbor Estuaries Volunteer Water Quality Monitoring Network
 479 - Southwest Florida Water Management District - Water Quality Monitoring
 509 - SERC Water Quality Monitoring Network
 557 - Central Panhandle Aquatic Preserves Seagrass Monitoring
 965 - South Florida Seagrass Fish and Invertebrate Assessment Network
 3000 - Florida Keys Water Watch
 3001 - Lagoon Watch (Formerly Marine Discovery Center)
 3013 - Seagrass (SJRWMD)
 4043 - RBNERR Fish Assessment
 4049 - The South Florida Fisheries Habitat Assessment Program (FHAP)
 4057 - Biscayne Bay Water Watch
 4058 - City of Miami Beach Water Monitoring
 4067 - Tampa Bay Benthic Monitoring
 5002 - Florida STORET / WIN

Specific Conductivity

Quantile Values:

Low: **0** High: **60.69928**

Total data for *Specific Conductivity* across all programs: **389724**

Table 30: Flagged data, overview by program for **Specific Conductivity**

ProgramID	n_flagged	n_low	n_high	n_tot	pct_prog	pct_all
103	1	0	1	10667	0.009	0.000
354	11	0	11	425	2.588	0.003
355	1	0	1	628	0.159	0.000
479	12	0	12	15154	0.079	0.003
572	1	0	1	27	3.704	0.000
3013	5	0	5	2211	0.226	0.001
4044	2	0	2	232	0.862	0.001
4058	13	0	13	1877	0.693	0.003
4067	4	0	4	13408	0.03	0.001
5002	339	0	339	103963	0.326	0.087
10000	1	0	1	6094	0.016	0.000

Programs containing flagged data:

103 - EPA STORage and RETrieval Data Warehouse (STORET)
354 - Rookery Bay National Estuarine Research Reserve System-Wide Monitoring Program
355 - Apalachicola National Estuarine Research Reserve System-Wide Monitoring Program
479 - Southwest Florida Water Management District - Water Quality Monitoring
572 - Rookery Bay National Estuarine Research Reserve Seagrass Monitoring
3013 - Seagrass (SJRWMD)
4044 - NRDA Oyster Cultch Recovery Project
4058 - City of Miami Beach Water Monitoring
4067 - Tampa Bay Benthic Monitoring
5002 - Florida STORET / WIN
10000 - RiverKeeper

Water Temperature

Quantile Values:

Low: **2.08** High: **33.89**

Total data for *Water Temperature* across all programs: **809837**

Table 31: Flagged data, overview by program for **Water Temperature**

ProgramID	n_flagged	n_low	n_high	n_tot	pct_prog	pct_all
69	289	1	288	226865	0.127	0.036
95	82	0	82	25145	0.326	0.010
103	5	0	5	25242	0.02	0.001
129	3	0	3	3825	0.078	0.000
297	32	1	31	30767	0.104	0.004
303	1	0	1	473	0.211	0.000
354	7	0	7	1281	0.546	0.001
456	1	1	0	134	0.746	0.000
479	6	0	6	18399	0.033	0.001
509	9	0	9	12044	0.075	0.001
537	1	0	1	266	0.376	0.000
540	2	0	2	435	0.46	0.000

ProgramID	n_flagged	n_low	n_high	n_tot	pct_prog	pct_all
557	1	0	1	866	0.115	0.000
558	2	0	2	417	0.48	0.000
965	6	0	6	4157	0.144	0.001
3000	16	3	13	383	4.178	0.002
3001	76	6	70	12412	0.612	0.009
3013	11	0	11	2238	0.492	0.001
3016	32	32	0	81	39.506	0.004
4043	3	0	3	3036	0.099	0.000
4044	1	1	0	226	0.442	0.000
4054	7	1	6	2878	0.243	0.001
4057	1	0	1	227	0.441	0.000
4058	2	0	2	1867	0.107	0.000
4064	4	0	4	619	0.646	0.000
4067	4	0	4	16093	0.025	0.000
5002	1005	756	249	400128	0.251	0.124
5008	1	0	1	1876	0.053	0.000
5058	2	2	0	266	0.752	0.000

Programs containing flagged data:

69 - Fisheries-Independent Monitoring (FIM) Program
 95 - Harmful Algal Bloom Marine Observation Network
 103 - EPA STorage and RETrieval Data Warehouse (STORET)
 129 - Apalachicola National Estuarine Research Reserve Juvenile Fish and Benthic Macroinvertebrate Monitoring
 297 - Florida Keys National Marine Sanctuary Water Quality Monitoring Project
 303 - River, Estuary and Coastal Observing Network
 354 - Rookery Bay National Estuarine Research Reserve System-Wide Monitoring Program
 456 - Oyster Sentinel
 479 - Southwest Florida Water Management District - Water Quality Monitoring
 509 - SERC Water Quality Monitoring Network
 537 - Choctawhatchee Basin Alliance Living Shorelines Oyster Reef Monitoring
 540 - Shellfish Harvest Area Classification Program
 557 - Central Panhandle Aquatic Preserves Seagrass Monitoring
 558 - Franklin County Coastal Waters Seagrass Monitoring
 965 - South Florida Seagrass Fish and Invertebrate Assessment Network
 3000 - Florida Keys Water Watch
 3001 - Lagoon Watch (Formerly Marine Discovery Center)
 3013 - Seagrass (SJRWMD)
 3016 - Lake Worth Lagoon Seagrass Mapping Project
 4043 - RBNERR Fish Assessment
 4044 - NRDA Oyster Cultch Recovery Project
 4054 - Guana Tolomato Matanzas National Estuarine Research Reserve System-Wide Monitoring Program
 4057 - Biscayne Bay Water Watch
 4058 - City of Miami Beach Water Monitoring
 4064 - A spatial model to improve site selection for seagrass restoration in shallow boating environments
 4067 - Tampa Bay Benthic Monitoring
 5002 - Florida STORET / WIN
 5008 - Project COAST (Coastal Assessment Team) - Springs Coast Ecosystem Region
 5058 - Southeast Florida Coral Reef Initiative (SEFCRI) Water Quality Monitoring Report

Continuous

Continuous - Water Quality

Dissolved Oxygen

Quantile Values:

Low: **0.1** High: **13.4**

Total data for *Dissolved Oxygen* across all programs: **12826259**

Table 32: Flagged data, overview by program for **Dissolved Oxygen**

ProgramID	n_flagged	n_low	n_high	n_tot	pct_prog	pct_all
7	2	0	2	5170	0.039	0.000
354	1795	578	1217	2502414	0.072	0.014
355	12537	2313	10224	2986109	0.42	0.098
467	118	76	42	197906	0.06	0.001
468	144	2	142	177846	0.081	0.001
471	78	1	77	726742	0.011	0.001
474	45	18	27	1382961	0.003	0.000
505	1	1	0	3794	0.026	0.000
512	851	446	405	1547117	0.055	0.007
4054	96	96	0	2345999	0.004	0.001
5006	17	17	0	238256	0.007	0.000
5061	143	38	105	161722	0.088	0.001
5077	1256	1003	253	461832	0.272	0.010

Programs containing flagged data:

7 - National Water Information System

354 - Rookery Bay National Estuarine Research Reserve System-Wide Monitoring Program

355 - Apalachicola National Estuarine Research Reserve System-Wide Monitoring Program

467 - Yellow River Marsh Aquatic Preserve Continuous Water Quality Monitoring

468 - Central Panhandle Aquatic Preserves Continuous Water Quality Monitoring

471 - Big Bend Seagrasses Aquatic Preserves Continuous Water Quality Monitoring

474 - Estero Bay Aquatic Preserve Continuous Water Quality Monitoring

505 - Pensacola Bay Water Quality Monitoring Program

512 - Charlotte Harbor Aquatic Preserves Continuous Water Quality Monitoring Program

4054 - Guana Tolomato Matanzas National Estuarine Research Reserve System-Wide Monitoring Program

5006 - Northeast Aquatic Preserves Continuous Water Quality Monitoring

5061 - St. Johns River Water Management District Continuous Water Quality Programs

5077 - Biscayne Bay Aquatic Preserves Continuous Water Quality Monitoring

Dissolved Oxygen Saturation

Quantile Values:

Low: **1.7** High: **170.1**

Total data for *Dissolved Oxygen Saturation* across all programs: **12910505**

Table 33: Flagged data, overview by program for **Dissolved Oxygen Saturation**

ProgramID	n_flagged	n_low	n_high	n_tot	pct_prog	pct_all
354	4511	2697	1814	2527189	0.178	0.035
355	10333	7690	2643	2988573	0.346	0.080
467	274	268	6	204174	0.134	0.002
468	316	2	314	193941	0.163	0.002
471	481	10	471	728739	0.066	0.004
474	891	179	712	1396806	0.064	0.007
505	1	1	0	3748	0.027	0.000
512	4254	1009	3245	1546077	0.275	0.033
4054	104	104	0	2364394	0.004	0.001
5006	60	60	0	238289	0.025	0.000
5061	233	43	190	169016	0.138	0.002
5077	3893	413	3480	461168	0.844	0.030

Programs containing flagged data:

[354](#) - Rookery Bay National Estuarine Research Reserve System-Wide Monitoring Program
[355](#) - Apalachicola National Estuarine Research Reserve System-Wide Monitoring Program
[467](#) - Yellow River Marsh Aquatic Preserve Continuous Water Quality Monitoring
[468](#) - Central Panhandle Aquatic Preserves Continuous Water Quality Monitoring
[471](#) - Big Bend Seagrasses Aquatic Preserves Continuous Water Quality Monitoring
[474](#) - Estero Bay Aquatic Preserve Continuous Water Quality Monitoring
[505](#) - Pensacola Bay Water Quality Monitoring Program
[512](#) - Charlotte Harbor Aquatic Preserves Continuous Water Quality Monitoring Program
[4054](#) - Guana Tolomato Matanzas National Estuarine Research Reserve System-Wide Monitoring Program
[5006](#) - Northeast Aquatic Preserves Continuous Water Quality Monitoring
[5061](#) - St. Johns River Water Management District Continuous Water Quality Programs
[5077](#) - Biscayne Bay Aquatic Preserves Continuous Water Quality Monitoring

pH

Quantile Values:

Low: **5** High: **9**

Total data for *pH* across all programs: **13402868**

Table 34: Flagged data, overview by program for **pH**

ProgramID	n_flagged	n_low	n_high	n_tot	pct_prog	pct_all
7	8	0	8	4675	0.171	0.000
355	15013	12183	2830	3024220	0.496	0.112
468	277	2	275	199162	0.139	0.002
471	4572	0	4572	887321	0.515	0.034
474	367	13	354	1625756	0.023	0.003
512	377	60	317	1447612	0.026	0.003
4054	97	0	97	2294634	0.004	0.001
5061	4534	0	4534	161484	2.808	0.034

Programs containing flagged data:

7 - National Water Information System
 355 - Apalachicola National Estuarine Research Reserve System-Wide Monitoring Program
 468 - Central Panhandle Aquatic Preserves Continuous Water Quality Monitoring
 471 - Big Bend Seagrasses Aquatic Preserves Continuous Water Quality Monitoring
 474 - Estero Bay Aquatic Preserve Continuous Water Quality Monitoring
 512 - Charlotte Harbor Aquatic Preserves Continuous Water Quality Monitoring Program
 4054 - Guana Tolomato Matanzas National Estuarine Research Reserve System-Wide Monitoring Program
 5061 - St. Johns River Water Management District Continuous Water Quality Programs

Salinity

Quantile Values:

Low: 0 High: 41.2

Total data for *Salinity* across all programs: 14248905

Table 35: Flagged data, overview by program for **Salinity**

ProgramID	n_flagged	n_low	n_high	n_tot	pct_prog	pct_all
7	74	0	74	10138	0.73	0.001
354	8965	0	8965	2863398	0.313	0.063
355	208	0	208	3138431	0.007	0.001
474	1000	0	1000	1659989	0.06	0.007
4054	13	1	12	2331461	0.001	0.000
5006	9	0	9	250105	0.004	0.000
5061	3602	0	3602	159886	2.253	0.025
5062	6040	6040	0	40958	14.747	0.042

Programs containing flagged data:

7 - National Water Information System
 354 - Rookery Bay National Estuarine Research Reserve System-Wide Monitoring Program
 355 - Apalachicola National Estuarine Research Reserve System-Wide Monitoring Program
 474 - Estero Bay Aquatic Preserve Continuous Water Quality Monitoring
 4054 - Guana Tolomato Matanzas National Estuarine Research Reserve System-Wide Monitoring Program
 5006 - Northeast Aquatic Preserves Continuous Water Quality Monitoring
 5061 - St. Johns River Water Management District Continuous Water Quality Programs
 5062 - FDEP Bureau of Survey and Mapping Continuous Water Quality Program

Water Temperature

Quantile Values:

Low: 7.9 High: 33.8

Total data for *Water Temperature* across all programs: 36073434

Table 36: Flagged data, overview by program for **Water Temperature**

ProgramID	n_flagged	n_low	n_high	n_tot	pct_prog	pct_all
2	5	0	5	86204	0.006	0.000
5	8661	2436	6225	5807520	0.149	0.024
7	46	0	46	17244	0.267	0.000
296	2954	0	2954	3987025	0.074	0.008

ProgramID	n_flagged	n_low	n_high	n_tot	pct_prog	pct_all
354	9754	50	9704	2947856	0.331	0.027
355	10668	10333	335	3226341	0.331	0.030
467	1089	1089	0	236813	0.46	0.003
468	2676	2005	671	217594	1.23	0.007
471	11143	10054	1089	1163533	0.958	0.031
474	5420	160	5260	1795754	0.302	0.015
505	9	8	1	3870	0.233	0.000
512	1200	249	951	1653946	0.073	0.003
986	306	0	306	8692018	0.004	0.001
989	104	1	103	1824357	0.006	0.000
4054	5158	2143	3015	2455571	0.21	0.014
5005	294	0	294	43791	0.671	0.001
5006	1317	1316	1	250109	0.527	0.004
5061	151	148	3	162181	0.093	0.000
5062	5485	5485	0	40958	13.392	0.015
5077	361	0	361	488333	0.074	0.001
10003	51	0	51	41374	0.123	0.000

Programs containing flagged data:

2 - Atlantic Oceanographic and Meteorological Laboratory (AOML) South Florida Program Moored Instrument Array
 5 - National Data Buoy Center
 7 - National Water Information System
 296 - Florida Keys National Marine Sanctuary Seagrass Monitoring Project
 354 - Rookery Bay National Estuarine Research Reserve System-Wide Monitoring Program
 355 - Apalachicola National Estuarine Research Reserve System-Wide Monitoring Program
 467 - Yellow River Marsh Aquatic Preserve Continuous Water Quality Monitoring
 468 - Central Panhandle Aquatic Preserves Continuous Water Quality Monitoring
 471 - Big Bend Seagrasses Aquatic Preserves Continuous Water Quality Monitoring
 474 - Estero Bay Aquatic Preserve Continuous Water Quality Monitoring
 505 - Pensacola Bay Water Quality Monitoring Program
 512 - Charlotte Harbor Aquatic Preserves Continuous Water Quality Monitoring Program
 986 - Water Temperature on Coral Reefs in the Florida Keys
 989 - Continuous Bottom Temperature Measurements along the Florida Reef Tract
 4054 - Guana Tolomato Matanzas National Estuarine Research Reserve System-Wide Monitoring Program
 5005 - Indian River Lagoon Aquatic Preserves Continuous Water Quality Monitoring
 5006 - Northeast Aquatic Preserves Continuous Water Quality Monitoring
 5061 - St. Johns River Water Management District Continuous Water Quality Programs
 5062 - FDEP Bureau of Survey and Mapping Continuous Water Quality Program
 5077 - Biscayne Bay Aquatic Preserves Continuous Water Quality Monitoring
 10003 - Tomoka Marsh Aquatic Preserve Continuous Water Quality Monitoring

Continuous - Water Clarity

Turbidity

Quantile Values:

Low: -1 High: 533

Total data for *Turbidity* across all programs: 12796786

Table 37: Flagged data, overview by program for **Turbidity**

ProgramID	n_flagged	n_low	n_high	n_tot	pct_prog	pct_all
354	3364	2006	1358	2701119	0.125	0.026
355	11257	5895	5362	2928053	0.384	0.088
467	88	0	88	224149	0.039	0.001
468	84	0	84	156660	0.054	0.001
471	376	0	376	829999	0.045	0.003
473	25	0	25	8263	0.303	0.000
474	36	0	36	1377225	0.003	0.000
512	4035	0	4035	1353309	0.298	0.032
4054	5808	4647	1161	2280645	0.255	0.045
5006	223	0	223	241421	0.092	0.002
10003	35	0	35	41169	0.085	0.000

Programs containing flagged data:

[354](#) - Rookery Bay National Estuarine Research Reserve System-Wide Monitoring Program
[355](#) - Apalachicola National Estuarine Research Reserve System-Wide Monitoring Program
[467](#) - Yellow River Marsh Aquatic Preserve Continuous Water Quality Monitoring
[468](#) - Central Panhandle Aquatic Preserves Continuous Water Quality Monitoring
[471](#) - Big Bend Seagrasses Aquatic Preserves Continuous Water Quality Monitoring
[473](#) - Terra Ceia Aquatic Preserve Continuous Water Quality Monitoring
[474](#) - Estero Bay Aquatic Preserve Continuous Water Quality Monitoring
[512](#) - Charlotte Harbor Aquatic Preserves Continuous Water Quality Monitoring Program
[4054](#) - Guana Tolomato Matanzas National Estuarine Research Reserve System-Wide Monitoring Program
[5006](#) - Northeast Aquatic Preserves Continuous Water Quality Monitoring
[10003](#) - Tomoka Marsh Aquatic Preserve Continuous Water Quality Monitoring

QAQC Quantile Flag Check

- n_high is the amount of data above the quantile value.
- n_high_flagged is the amount of data above the quantile value AND containing proper SEACAR-QAQCFlag of 17Q (ResultValue above quantile value).
- n_low is the amount of data below the quantile value.
- n_low_flagged is the amount of data below the quantile value AND containing proper SEACAR-QAQCFlag of 16Q (ResultValue below quantile value).
- If everything is in order, these values should be the same. Any discrepancies therein should be fastidiously noted.

ParameterName	type name	n high	n high flagged	n low	n low flagged	indicator
Count	Nekton	101	101	0	0	Nekton
Ammonia- Un-ionized (NH3)	Discrete	1	1	1	1	Nutrients
NH4 Filtered	Discrete	121	117	121	121	Nutrients
Nitrate (N)	Discrete	20	18	0	0	Nutrients
Nitrite (N)	Discrete	28	25	0	0	Nutrients
Nitrogen, organic	Discrete	7	7	6	6	Nutrients
NO2+3 Filtered	Discrete	133	132	133	133	Nutrients
PO4 Filtered	Discrete	58	56	53	53	Nutrients
Total Kjeldahl Nitrogen TKN	Discrete	91	89	23	23	Nutrients
Total Nitrogen (All)	Discrete	125	124	120	27	Nutrients
Total Nitrogen (Measured)	Discrete	80	79	50	10	Nutrients
Total Phosphorus	Discrete	134	132	102	102	Nutrients
Chlorophyll a corrected for pheophytin	Discrete	41	29	26	26	Water Clarity
Chlorophyll a uncorrected for pheophytin	Discrete	78	78	26	26	Water Clarity
Colored dissolved organic matter, CDOM	Discrete	22	22	0	0	Water Clarity
Light Extinction Coefficient	Discrete	16	16	13	13	Water Clarity
Secchi Depth	Discrete	274	274	0	0	Water Clarity
Total Suspended Solids, TSS	Discrete	70	70	20	20	Water Clarity
Turbidity	Discrete	287	287	67	67	Water Clarity
Dissolved Oxygen	Discrete	755	755	734	734	Water Quality
Dissolved Oxygen Saturation	Discrete	138	138	138	138	Water Quality
pH	Discrete	594	594	478	478	Water Quality
Salinity	Discrete	741	741	2	2	Water Quality
Specific Conductivity	Discrete	390	386	0	0	Water Quality
Water Temperature	Discrete	808	808	804	804	Water Quality
Dissolved Oxygen	Continuous	12494	12494	4589	4589	Water Quality
Dissolved Oxygen Saturation	Continuous	12875	12875	12476	12470	Water Quality
pH	Continuous	12987	12987	12258	12258	Water Quality
Salinity	Continuous	13870	13870	6041	6041	Water Quality
Water Temperature	Continuous	31375	31375	35477	35477	Water Quality
Turbidity	Continuous	12783	12744	12548	12548	Water Clarity

Entries where ResultValue is above or below quantile, but expected SEACAR_QAQCFlagCode is not being applied

Table 38: SEACAR QAQC Flag Code discrepancies

RowID	ProgramID	ParameterName	ResultValue	SEACAR_QAQCFlagCode	q_subset
1747440	3	NH4 Filtered	5.8000	7Q	high
1748551	3	NH4 Filtered	5.7440	7Q	high
1748942	3	NH4 Filtered	5.8000	7Q	high
1782022	3	NH4 Filtered	5.7710	7Q	high
1772127	3	NO2+3 Filtered	3.2550	7Q	high
1968733	103	Total Phosphorus	0.7410	7Q	high
3446474	354	Specific Conductivity	60.7100	6Q	high
3454670	354	Specific Conductivity	60.7100	6Q	high
32275484	354	Turbidity	534.0000	6Q	high
40329506	354	Turbidity	534.0000	6Q	high
42287567	354	Turbidity	534.0000	6Q	high
47508534	355	Turbidity	534.0000	6Q	high
45527241	355	Turbidity	534.0000	6Q	high
44332260	355	Turbidity	534.0000	6Q	high
49959609	355	Turbidity	534.0000	6Q	high
52135931	355	Turbidity	534.0000	6Q	high
56112797	355	Turbidity	534.0000	6Q	high
62547014	355	Turbidity	534.0000	6Q	high

Table 38: SEACAR QAQC Flag Code discrepancies (*continued*)

RowID	ProgramID	ParameterName	Result Value	SEACAR_QAQCFlagCode	q_subset
61058802	355	Turbidity	534.0000	6Q	high
65449104	355	Turbidity	534.0000	6Q	high
65754424	355	Turbidity	534.0000	6Q	high
67862053	355	Turbidity	534.0000	6Q	high
80123685	471	Turbidity	534.0000	6Q	high
93607479	512	Turbidity	534.0000	6Q	high
95500511	512	Turbidity	534.0000	6Q	high
95571568	512	Turbidity	534.0000	6Q	high
95665783	512	Turbidity	534.0000	6Q	high
95759861	512	Turbidity	534.0000	6Q	high
95897534	512	Turbidity	534.0000	6Q	high
96501889	512	Turbidity	534.0000	6Q	high
97077306	512	Turbidity	534.0000	6Q	high
97270186	512	Turbidity	534.0000	6Q	high
97396676	512	Turbidity	534.0000	6Q	high
97643192	512	Turbidity	534.0000	6Q	high
98065364	512	Turbidity	534.0000	6Q	high
98248070	512	Turbidity	534.0000	6Q	high
98000927	512	Turbidity	534.0000	6Q	high
98815554	512	Turbidity	534.0000	6Q	high
100082184	512	Turbidity	534.0000	6Q	high
100316212	512	Turbidity	534.0000	6Q	high
100719857	512	Turbidity	534.0000	6Q	high
101398179	512	Turbidity	534.0000	6Q	high
101564743	512	Turbidity	534.0000	6Q	high
2549973	513	Total Nitrogen (All)	0.0001	7Q	low
2549991	513	Total Nitrogen (All)	0.0001	7Q/9Q	low
2550051	513	Total Nitrogen (All)	0.0000	7Q/9Q	low
2550280	513	Total Nitrogen (All)	0.0000	7Q/9Q	low
2550677	513	Total Nitrogen (All)	0.0000	7Q/9Q	low
2550862	513	Total Nitrogen (All)	0.0001	7Q/9Q	low
2550900	513	Total Nitrogen (All)	0.0001	7Q/9Q	low
2553892	513	Total Nitrogen (All)	0.0001	7Q/9Q	low
2554028	513	Total Nitrogen (All)	0.0001	7Q/9Q	low
2550985	513	Total Nitrogen (All)	0.0001	7Q	low
2550989	513	Total Nitrogen (All)	0.0001	7Q/9Q	low
2551113	513	Total Nitrogen (All)	0.0001	7Q/9Q	low
2551257	513	Total Nitrogen (All)	0.0000	7Q/9Q	low
2554799	513	Total Nitrogen (All)	0.0001	7Q/9Q	low
2552646	513	Total Nitrogen (All)	0.0000	7Q/9Q	low
2552808	513	Total Nitrogen (All)	0.0001	7Q/9Q	low
2552831	513	Total Nitrogen (All)	0.0001	7Q/9Q	low
2552832	513	Total Nitrogen (All)	0.0001	7Q/9Q	low
2552889	513	Total Nitrogen (All)	0.0001	7Q/9Q	low
2553553	513	Total Nitrogen (All)	0.0001	7Q/9Q	low
2553558	513	Total Nitrogen (All)	0.0001	7Q/9Q	low
2553564	513	Total Nitrogen (All)	0.0000	7Q/9Q	low
2548854	513	Total Nitrogen (All)	0.0001	7Q/9Q	low
2548865	513	Total Nitrogen (All)	0.0001	7Q/9Q	low
2549120	513	Total Nitrogen (All)	0.0001	7Q/9Q	low
2549549	513	Total Nitrogen (All)	0.0001	7Q	low
2549688	513	Total Nitrogen (All)	0.0001	7Q/9Q	low
2549832	513	Total Nitrogen (All)	0.0000	7Q/9Q	low
3600752	513	Total Nitrogen (All)	0.0000	7Q/9Q	low
3603142	513	Total Nitrogen (All)	0.0000	7Q	low
2550051	513	Total Nitrogen (Measured)	0.0000	7Q/9Q	low

Table 38: SEACAR QAQC Flag Code discrepancies (*continued*)

RowID	ProgramID	ParameterName	ResultValue	SEACAR_QAQCFlagCode	q_subset
2550280	513	Total Nitrogen (Measured)	0.0000	7Q/9Q	low
2550677	513	Total Nitrogen (Measured)	0.0000	7Q/9Q	low
2551257	513	Total Nitrogen (Measured)	0.0000	7Q/9Q	low
2552646	513	Total Nitrogen (Measured)	0.0000	7Q/9Q	low
2553564	513	Total Nitrogen (Measured)	0.0000	7Q/9Q	low
2549832	513	Total Nitrogen (Measured)	0.0000	7Q/9Q	low
3600752	513	Total Nitrogen (Measured)	0.0000	7Q/9Q	low
3603142	513	Total Nitrogen (Measured)	0.0000	7Q	low
2532708	514	Total Nitrogen (All)	0.0000	7Q	low
2532709	514	Total Nitrogen (All)	0.0001	7Q	low
2533015	514	Total Nitrogen (All)	0.0000	7Q	low
2537252	514	Total Nitrogen (All)	0.0001	7Q	low
2537553	514	Total Nitrogen (All)	0.0001	7Q	low
2537556	514	Total Nitrogen (All)	0.0000	7Q	low
2537558	514	Total Nitrogen (All)	0.0000	7Q	low
2533155	514	Total Nitrogen (All)	0.0000	7Q	low
2537690	514	Total Nitrogen (All)	0.0001	7Q	low
2533219	514	Total Nitrogen (All)	0.0001	7Q	low
2537695	514	Total Nitrogen (All)	0.0000	7Q	low
2537765	514	Total Nitrogen (All)	0.0001	7Q	low
2533343	514	Total Nitrogen (All)	0.0000	7Q	low
2533345	514	Total Nitrogen (All)	0.0000	7Q	low
2533466	514	Total Nitrogen (All)	0.0000	7Q	low
2533470	514	Total Nitrogen (All)	0.0000	7Q	low
2533683	514	Total Nitrogen (All)	0.0001	7Q	low
2533684	514	Total Nitrogen (All)	0.0000	7Q	low
2533685	514	Total Nitrogen (All)	0.0000	7Q	low
2533686	514	Total Nitrogen (All)	0.0000	7Q	low
2533738	514	Total Nitrogen (All)	0.0001	7Q	low
2533739	514	Total Nitrogen (All)	0.0001	7Q	low
2533740	514	Total Nitrogen (All)	0.0000	7Q	low
2533741	514	Total Nitrogen (All)	0.0001	7Q	low
2533744	514	Total Nitrogen (All)	0.0000	7Q	low
2533745	514	Total Nitrogen (All)	0.0000	7Q	low
2534108	514	Total Nitrogen (All)	0.0000	7Q	low
2530284	514	Total Nitrogen (All)	0.0001	7Q	low
2530763	514	Total Nitrogen (All)	0.0000	7Q	low
2530764	514	Total Nitrogen (All)	0.0000	7Q	low
2530765	514	Total Nitrogen (All)	0.0001	7Q	low
2530766	514	Total Nitrogen (All)	0.0001	7Q	low
2530824	514	Total Nitrogen (All)	0.0001	7Q	low
2530859	514	Total Nitrogen (All)	0.0001	7Q	low
2530912	514	Total Nitrogen (All)	0.0000	7Q	low
2530913	514	Total Nitrogen (All)	0.0001	7Q	low
2530992	514	Total Nitrogen (All)	0.0001	7Q	low
2531092	514	Total Nitrogen (All)	0.0000	7Q	low
2531093	514	Total Nitrogen (All)	0.0001	7Q	low
2531603	514	Total Nitrogen (All)	0.0000	7Q	low
2531606	514	Total Nitrogen (All)	0.0001	7Q	low
2531648	514	Total Nitrogen (All)	0.0001	7Q	low
2531649	514	Total Nitrogen (All)	0.0001	7Q	low
2531651	514	Total Nitrogen (All)	0.0000	7Q	low
2531652	514	Total Nitrogen (All)	0.0001	7Q	low
2531683	514	Total Nitrogen (All)	0.0000	7Q	low
2531712	514	Total Nitrogen (All)	0.0000	7Q	low
2539831	514	Total Nitrogen (All)	0.0001	7Q	low

Table 38: SEACAR QAQC Flag Code discrepancies (*continued*)

RowID	ProgramID	ParameterName	Result Value	SEACAR_QAQCFlagCode	q_subset
2535237	514	Total Nitrogen (All)	0.0001	7Q	low
2535329	514	Total Nitrogen (All)	0.0001	7Q	low
2535424	514	Total Nitrogen (All)	0.0000	7Q	low
2535458	514	Total Nitrogen (All)	0.0000	7Q	low
2535517	514	Total Nitrogen (All)	0.0000	7Q	low
2536375	514	Total Nitrogen (All)	0.0001	7Q	low
2536484	514	Total Nitrogen (All)	0.0001	7Q	low
2536554	514	Total Nitrogen (All)	0.0000	7Q	low
2536632	514	Total Nitrogen (All)	0.0001	7Q	low
2536633	514	Total Nitrogen (All)	0.0001	7Q	low
2536634	514	Total Nitrogen (All)	0.0001	7Q	low
2536784	514	Total Nitrogen (All)	0.0001	7Q	low
2536786	514	Total Nitrogen (All)	0.0000	7Q	low
2536787	514	Total Nitrogen (All)	0.0001	7Q	low
2536824	514	Total Nitrogen (All)	0.0000	7Q	low
2532708	514	Total Nitrogen (Measured)	0.0000	7Q	low
2533015	514	Total Nitrogen (Measured)	0.0000	7Q	low
2537556	514	Total Nitrogen (Measured)	0.0000	7Q	low
2537558	514	Total Nitrogen (Measured)	0.0000	7Q	low
2533155	514	Total Nitrogen (Measured)	0.0000	7Q	low
2537695	514	Total Nitrogen (Measured)	0.0000	7Q	low
2533343	514	Total Nitrogen (Measured)	0.0000	7Q	low
2533345	514	Total Nitrogen (Measured)	0.0000	7Q	low
2533466	514	Total Nitrogen (Measured)	0.0000	7Q	low
2533470	514	Total Nitrogen (Measured)	0.0000	7Q	low
2533684	514	Total Nitrogen (Measured)	0.0000	7Q	low
2533685	514	Total Nitrogen (Measured)	0.0000	7Q	low
2533686	514	Total Nitrogen (Measured)	0.0000	7Q	low
2533740	514	Total Nitrogen (Measured)	0.0000	7Q	low
2533744	514	Total Nitrogen (Measured)	0.0000	7Q	low
2533745	514	Total Nitrogen (Measured)	0.0000	7Q	low
2534108	514	Total Nitrogen (Measured)	0.0000	7Q	low
2530763	514	Total Nitrogen (Measured)	0.0000	7Q	low
2530764	514	Total Nitrogen (Measured)	0.0000	7Q	low
2530912	514	Total Nitrogen (Measured)	0.0000	7Q	low
2531092	514	Total Nitrogen (Measured)	0.0000	7Q	low
2531603	514	Total Nitrogen (Measured)	0.0000	7Q	low
2531651	514	Total Nitrogen (Measured)	0.0000	7Q	low
2531683	514	Total Nitrogen (Measured)	0.0000	7Q	low
2531712	514	Total Nitrogen (Measured)	0.0000	7Q	low
2535424	514	Total Nitrogen (Measured)	0.0000	7Q	low
2535458	514	Total Nitrogen (Measured)	0.0000	7Q	low
2535517	514	Total Nitrogen (Measured)	0.0000	7Q	low
2536554	514	Total Nitrogen (Measured)	0.0000	7Q	low
2536786	514	Total Nitrogen (Measured)	0.0000	7Q	low
2536824	514	Total Nitrogen (Measured)	0.0000	7Q	low
3712732	514	Chlorophyll a corrected for pheophytin	120.0000	9Q/7Q	high
3735806	540	Chlorophyll a corrected for pheophytin	120.0000	9Q/7Q	high
3907147	540	Chlorophyll a corrected for pheophytin	120.0000	9Q/7Q	high
3935066	540	Chlorophyll a corrected for pheophytin	120.0000	7Q/9Q	high
3766713	4054	Nitrite (N)	0.0800	7Q	high
3767035	4054	Nitrite (N)	0.0810	7Q	high
3767196	4054	Nitrite (N)	0.0800	7Q	high
124064924	4054	Turbidity	534.0000	6Q	high
124819023	4054	Turbidity	534.0000	6Q	high

Table 38: SEACAR QAQC Flag Code discrepancies (*continued*)

RowID	ProgramID	ParameterName	ResultValue	SEACAR_QAQCFlagCode	q_subset
131632499	4054	Turbidity	534.0000	6Q	high
2878229	4058	Total Nitrogen (All)	4.2480	7Q/1Q	high
5022680	5002	Nitrate (N)	0.8000	7Q	high
5023571	5002	Nitrate (N)	0.8100	7Q	high
4973556	5002	PO4 Filtered	0.7700	7Q	high
5020612	5002	PO4 Filtered	0.7790	7Q/9Q	high
4848550	5002	Total Kjeldahl Nitrogen TKN	5.2300	9Q/7Q	high
4854042	5002	Total Kjeldahl Nitrogen TKN	5.3500	7Q/9Q	high
4837728	5002	Total Nitrogen (Measured)	2.6600	7Q/9Q	high
5001249	5002	Total Phosphorus	0.7440	7Q/9Q	high
4822833	5002	Chlorophyll a corrected for pheophytin	120.0000	7Q/9Q	high
4823858	5002	Chlorophyll a corrected for pheophytin	120.0000	9Q/7Q	high
4826155	5002	Chlorophyll a corrected for pheophytin	120.0000	7Q/9Q	high
5009497	5002	Chlorophyll a corrected for pheophytin	120.0000	7Q/9Q	high
5434500	5002	Chlorophyll a corrected for pheophytin	115.0000	7Q/9Q	high
5442255	5002	Chlorophyll a corrected for pheophytin	120.0000	9Q/7Q	high
5606880	5002	Chlorophyll a corrected for pheophytin	114.0000	9Q/7Q	high
4459760	5002	Specific Conductivity	60.7000	6Q/9Q	high
135794107	5006	Turbidity	534.0000	6Q	high
5471920	5014	Chlorophyll a corrected for pheophytin	116.0000	7Q/9Q	high
136628313	5061	Dissolved Oxygen Saturation	1.6019	6Q	low
136673575	5061	Dissolved Oxygen Saturation	1.6019	6Q	low
136675952	5061	Dissolved Oxygen Saturation	1.6008	6Q	low
136675959	5061	Dissolved Oxygen Saturation	1.6026	6Q	low
136694120	5061	Dissolved Oxygen Saturation	1.6009	6Q	low
136728553	5061	Dissolved Oxygen Saturation	1.6019	6Q	low
5481342	10000	Specific Conductivity	60.7110	9Q/6Q	high

- 7Q - No defined thresholds for this parameter
- 7Q - No defined thresholds for this parameter/9Q - Surface Analysis: Activity_Depth <= 1 meter
- 9Q - Surface Analysis: Activity_Depth <= 1 meter/7Q - No defined thresholds for this parameter
- 7Q - No defined thresholds for this parameter/1Q - SEACAR Calculated
- 6Q - Within threshold tolerance
- 6Q - Within threshold tolerance/9Q - Surface Analysis: Activity_Depth <= 1 meter
- 9Q - Surface Analysis: Activity_Depth <= 1 meter/6Q - Within threshold tolerance

Expected Values Check

Attempts to uncover any unexpected ResultValues. Highlights any values that are not expected and compares them with the intended SEACAR_QAQCFlagCode of **15Q** - *Unexpected Value: Outside expected parameter values* or ValueQualifier of **S** for Secchi Depth (visible on Bottom)

- n is the amount of entries containing unexpected values
- n flagged is the amount of entries containing the intended SEACAR_QAQCFlagCode of **15Q**
- The following Parameters are checked and their results will be listed below if there are any unexpected values:
 - Presence/Absence
 - Secchi Depth Visible on Bottom
 - Braun Blanquet
 - Modified Braun Blanquet
 - Percent Cover
 - Percent Live Tissue
 - Total/Canopy Percent Cover

Number of **Secchi Depth** readings with *SEACAR_QAQCFlagCode* of *8Q* (Original Value = 'ON BOTTOM'. Replaced with Total Depth)

ParameterName	n	n flagged
Secchi Depth	5406	0

Secchi Depth

ProgramID	ProgramName	n data
476	Charlotte Harbor Estuaries Volunteer Water Quality Monitoring Network	373
477	Suwannee River Water Management District Water Resource Monitoring Program	64
479	Southwest Florida Water Management District - Water Quality Monitoring	173
513	Coastal Charlotte Harbor Monitoring Network	76
514	Florida LAKEWATCH Program	1042
5002	Florida STORET / WIN	3642
5014	Guana River and Guana Lake Water Quality Monitoring	9
5028	Charlotte Harbor Aquatic Preserves Monthly Water Quality Program	27