

Submerged Aquatic Vegetation Indicator Quantile Report

SEACAR Analysis

Last compiled on 21 September, 2023

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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**

Potential Included Parameters:

- Braun Blanquet Score
- Modified Braun Blanquet Score
- Percent Cover
- Percent Occurrence
- Presence/Absence
- Shoot Count

The data file used for the analysis: **All_SAV_Parameters-2023-Jun-05.txt**

Table 1: Indicator Quantile Overview

parameter	q_low	q_high	mean	n_tot	n_q_low	n_q_high	%_flagged
Braun Blanquet Score	0	6	0.34	1195747	1	9	0.00
Modified Braun Blanquet Score	0	5	2.19	30211	0	1	0.00
Percent Cover	0	100	4.07	498831	0	44	0.01
Percent Occurrence	0	400	11.15	598071	0	0	0.00
Presence/Absence	0	1	0.22	1904927	0	0	0.00
Shoot Count	0	5000	136.85	126614	0	125	0.10

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.

Low Quantile

Braun Blanquet Score

Table 2: Flagged Values - Low Indicator Quantile: **0**

RowID	ProgramID	ProgramLocationID	SampleDate	CommonIdentifier	ResultValue
1041731	296	276	2020-12-13	Thalassia testudinum	-0.69

Programs containing flagged data:

296 - Florida Keys National Marine Sanctuary Seagrass Monitoring Project

High Quantile

Braun Blanquet Score

Table 3: Flagged Values - High Indicator Quantile: **6**

RowID	ProgramID	ProgramLocationID	SampleDate	CommonIdentifier	ResultValue
4631919	5027	BH14	2022-09-20	Halimeda discoidea	20
4642494	5027	DM08	2019-12-11	Halimeda discoidea	80
4645359	5027	DM08	2019-12-11	Halimeda spp.	80
4644272	5027	JT125	2022-05-16	Halimeda discoidea	13
4604751	5027	JT61	2019-06-07	Thalassia testudinum	15
4653337	5027	JT61	2019-06-07	Thalassia testudinum	15
4652260	5027	VR11	2019-05-28	Laurencia spp.	10
4629738	5027	VR11	2019-12-02	Halimeda discoidea	70
4636351	5027	VR11	2019-12-02	Halimeda spp.	70

Programs containing flagged data:

5027 - North Biscayne Bay Seagrass Loss Monitoring Program

Percent Cover

Table 4: Flagged Values - High Indicator Quantile: **100**

RowID	ProgramID	ProgramLocationID	SampleDate	CommonIdentifier	ResultValue
902224	564	W1-06-12	2012-09-26	Total_SAV	105
905579	564	W1-12-11	2011-10-05	Total_SAV	105
851919	564	W1-16-17	2017-10-06	Total_SAV	101
885597	564	W1-17-11	2011-09-30	Total_SAV	105
899899	564	W1-18-14	2014-10-10	Total_SAV	101
862957	564	W1-22-19	2019-11-10	Total_SAV	104
885820	564	W1-22-19	2019-11-10	Total_SAV	150
905302	564	W1-23-11	2011-10-03	Total_SAV	101
904574	564	W1-24-11	2011-10-05	Total_SAV	105
877686	564	W1-25-15	2015-10-02	Total_SAV	105
897172	564	W1-26-12	2012-09-26	Total_SAV	101
900264	564	W1-27-11	2011-10-04	Total_SAV	101
902597	564	W1-27-11	2011-10-04	Total_SAV	140
910854	564	W1-27-16	2016-09-30	Drift algae	590
881534	564	W1-28-12	2012-09-26	Total_SAV	105
889463	564	W1-28-12	2012-09-26	Total_SAV	105
888266	564	W1-28-19	2019-12-31	Total_SAV	101
871433	564	W1-31-15	2015-10-07	Total_SAV	110
876105	564	W1-31-15	2015-10-07	Total_SAV	110
891859	564	W1-31-15	2015-10-07	Total_SAV	110
879834	564	W1-31-19	2019-12-31	Total_SAV	180
870742	564	W1-34-15	2015-10-02	Total_SAV	125
860575	564	W1-35-19	2019-12-31	Total_SAV	105
863969	564	W1-35-19	2019-12-31	Total_SAV	110
889163	564	W1-35-19	2019-12-31	Total_SAV	110
891385	564	W1-35-19	2019-12-31	Total_SAV	105
898777	564	W1-35-19	2019-12-31	Total_SAV	105
899898	564	W1-35-19	2019-12-31	Total_SAV	105
881055	564	W1-40-19	2019-12-31	Total_SAV	120
919482	564	W2-01-12	2012-09-14	Total_SAV	105
868235	564	W2-04-11	2011-09-29	Total_SAV	120
903495	564	W2-04-12	2012-09-13	Total_SAV	140
905303	564	W2-04-15	2015-10-21	Total_SAV	120
859202	564	W2-2-19	2019-03-10	Total_SAV	110
875693	564	W2-2-19	2019-03-10	Total_SAV	130
850185	564	W2-5-19	2019-12-31	Total_SAV	120
867362	564	W2-5-19	2019-12-31	Total_SAV	180
875703	564	W2-9-19	2019-03-10	Total_SAV	122
860940	564	W2-ALT-01-17	2017-09-29	Total_SAV	105
871614	564	W3-03-15	2015-10-05	Total_SAV	110
874968	564	W3-03-15	2015-10-05	Total_SAV	135
876110	564	W3-03-15	2015-10-05	Total_SAV	106
878339	564	W3-03-15	2015-10-05	Total_SAV	115
879857	564	W3-03-15	2015-10-05	Total_SAV	125

Programs containing flagged data:

564 - Western Pinellas County Seagrass Monitoring

Modified Braun Blanquet Score

Table 5: Flagged Values - High Indicator Quantile: **5**

RowID	ProgramID	ProgramLocationID	SampleDate	CommonIdentifier	ResultValue
863763	559	KB06-2016	2016-06-30	Laurencia spp.	5.3

Programs containing flagged data:

559 - Northern Big Bend Seagrass Monitoring

Shoot Count

Table 6: Flagged Values - High Indicator Quantile: **5000**

RowID	ProgramID	ProgramLocationID	SampleDate	CommonIdentifier	ResultValue
868919	564	SG-W3-03-13	2013-09-13 00:00:00	Halodule wrightii	5170.00
889746	564	W1-10-17	2017-10-11 00:00:00	Halodule wrightii	7970.00
945882	564	W1-10-17	2017-10-11 00:00:00	Halodule wrightii	5600.00
999442	564	W1-10-17	2017-10-11 00:00:00	Halodule wrightii	5830.00
935036	564	W1-11-11	2011-10-14 00:00:00	Halodule wrightii	5570.00
997745	564	W1-11-11	2011-10-14 00:00:00	Halodule wrightii	5300.00
937210	564	W2-03-12	2012-09-13 00:00:00	Halodule wrightii	6330.00
997929	564	W2-05-17	2017-09-01 00:00:00	Halodule wrightii	5100.00
864977	564	W3-06-15	2015-10-05 00:00:00	Halodule wrightii	5170.00
867588	564	W3-06-15	2015-10-05 00:00:00	Halodule wrightii	5170.00
2859414	565	S1T17	2015-10-13 00:00:00	Halodule wrightii	5333.30
2888834	565	S3T1	2003-11-05 14:55:00	Syringodium filiforme	9200.00
2886853	565	S3T1	2004-10-28 14:20:00	Syringodium filiforme	7233.00
2888603	565	S3T1	2004-10-28 14:59:00	Syringodium filiforme	7400.00
2888464	565	S3T1	2004-10-28 15:08:00	Syringodium filiforme	5533.00
2857390	565	S3T1	2010-10-11 00:00:00	Halodule wrightii	5400.00
2853010	565	S3T1	2011-10-17 10:21:00	Halodule wrightii	5066.70
2880751	565	S3T1	2011-10-17 10:42:00	Syringodium filiforme	6766.70
2878342	565	S3T1	2011-10-17 11:46:00	Syringodium filiforme	5700.00
2856686	565	S3T1	2012-09-20 11:35:00	Halodule wrightii	6400.00
2884653	565	S3T1	2022-08-16 11:22:00	Syringodium filiforme	6766.70
2855611	565	S3T7	2003-11-06 11:07:00	Halodule wrightii	7733.00
2884356	565	S3T7	2003-11-06 11:10:00	Halodule wrightii	6800.00
2882072	565	S3T7	2004-11-01 11:20:00	Halodule wrightii	10333.00
2856349	565	S3T7	2004-11-01 11:30:00	Syringodium filiforme	5100.00
2866946	565	S3T7	2004-11-01 11:40:00	Syringodium filiforme	5633.00
2855787	565	S3T7	2008-10-08 12:08:00	Halodule wrightii	5400.00
2874428	565	S3T7	2011-10-17 14:42:00	Syringodium filiforme	5233.30
2868719	565	S3T7	2011-10-17 15:34:00	Syringodium filiforme	7966.70
2876835	565	S3T7	2011-10-17 15:38:00	Syringodium filiforme	7000.00
2887690	565	S3T7	2022-08-16 15:12:00	Syringodium filiforme	7200.00
2858076	565	S3T8	2010-10-11 15:31:00	Halodule wrightii	8267.00
2891048	565	S3T8	2012-09-20 12:46:00	Halodule wrightii	5833.30
2861432	565	S3T8	2012-09-20 13:19:00	Syringodium filiforme	6433.30
2882473	565	S4T15	2001-10-18 09:15:00	Halodule wrightii	5500.00
2889339	565	S4T2	2004-10-25 13:42:00	Halodule wrightii	5533.00
2884114	565	S5T5	2006-10-02 14:15:00	Halodule wrightii	5167.00
2885045	565	S5T6	2006-10-03 15:34:00	Halodule wrightii	6833.00
2885720	565	S5T6	2010-09-27 00:00:00	Halodule wrightii	5367.00
2885046	565	S5T6	2022-08-22 10:20:00	Halodule wrightii	5100.00
2770721	570	GAS01	2006-10-05 00:00:00	Halodule wrightii	6140.00
2782176	570	GAS01	2009-08-17 00:00:00	Halodule wrightii	5620.00
2802084	570	GAS01	2010-08-20 00:00:00	Halodule wrightii	5260.00
2789250	570	GAS01	2011-08-08 00:00:00	Halodule wrightii	7960.00
2802081	570	GAS01	2012-10-12 00:00:00	Halodule wrightii	7500.00
2804679	570	GAS01	2013-09-05 00:00:00	Halodule wrightii	7020.00
2802166	570	GAS01	2014-08-20 00:00:00	Halodule wrightii	6340.00
2819180	570	GAS01	2015-09-04 00:00:00	Halodule wrightii	7380.00

RowID	ProgramID	ProgramLocationID	SampleDate	CommonIdentifier	ResultValue
2824990	570	GAS01	2017-08-16 00:00:00	Halodule wrightii	5960.00
2192685	570	GAS01	2021-09-21 00:00:00	Halodule wrightii	6580.00
2192838	570	GAS01	2021-09-21 00:00:00	Halodule wrightii	5500.00
2772682	570	GAS03	2008-10-10 00:00:00	Halodule wrightii	5280.00
2791104	570	GAS03	2010-08-03 00:00:00	Halodule wrightii	7520.00
2797001	570	GAS03	2011-09-16 00:00:00	Halodule wrightii	7980.00
2796999	570	GAS03	2012-09-07 00:00:00	Halodule wrightii	6600.00
2806164	570	GAS03	2012-09-07 00:00:00	Halodule wrightii	7460.00
2807470	570	GAS03	2013-09-12 00:00:00	Halodule wrightii	11580.00
2809275	570	GAS03	2013-09-12 00:00:00	Halodule wrightii	6100.00
2809270	570	GAS03	2014-08-20 00:00:00	Halodule wrightii	11780.00
2813448	570	GAS03	2015-09-23 00:00:00	Halodule wrightii	10440.00
2833321	570	GAS03	2016-08-12 00:00:00	Halodule wrightii	5260.00
2141464	570	GAS03	2017-08-16 00:00:00	Halodule wrightii	5280.00
2833061	570	GAS03	2017-08-16 00:00:00	Halodule wrightii	5580.00
2173920	570	GAS03	2021-10-05 00:00:00	Halodule wrightii	5200.00
2167048	570	GAS03	2022-08-25 00:00:00	Halodule wrightii	5160.00
2791064	570	GAS04	2010-09-14 00:00:00	Halodule wrightii	5300.00
2804782	570	ICW02	2009-10-01 00:00:00	Halodule wrightii	5100.00
2802637	570	ICW02	2011-09-27 00:00:00	Halodule wrightii	5080.00
2806916	570	ICW02	2013-10-21 00:00:00	Halodule wrightii	5240.00
2808255	570	ICW02	2014-08-11 00:00:00	Halodule wrightii	8780.00
2825991	570	ICW02	2017-08-21 00:00:00	Halodule wrightii	6120.00
2789463	570	ICW04	2011-10-20 00:00:00	Syringodium filiforme	6320.00
2822756	570	MC02	2015-09-29 00:00:00	Halodule wrightii	5260.00
2820203	570	MC02	2016-09-09 00:00:00	Halodule wrightii	7020.00
2996400	570	MC02	2017-10-10 00:00:00	Halodule wrightii	5900.00
2818801	570	MC07	2013-09-06 00:00:00	Halodule wrightii	8186.67
2802344	570	PI01	2009-09-04 00:00:00	Halodule wrightii	5060.00
2132651	570	PI09	2018-10-15 00:00:00	Halodule wrightii	5580.00
2160548	570	PIS02	2019-08-23 00:00:00	Halodule wrightii	5660.00
2798359	570	PIS06	2011-10-12 00:00:00	Halodule wrightii	5820.00
2139408	570	PIS06	2015-08-05 00:00:00	Halodule wrightii	5360.00
2790730	570	PIS07	2009-08-25 00:00:00	Halodule wrightii	8020.00
2825200	570	SC01	2013-09-10 00:00:00	Halodule wrightii	9140.00
2130758	570	SC01	2014-09-16 00:00:00	Halodule wrightii	5080.00
2831775	570	SC01	2014-09-16 00:00:00	Halodule wrightii	5120.00
1967756	3013	IRLSG014	1996-02-22 12:00:00	Halodule wrightii	5732.76
1953526	3013	IRLSG015	1996-02-22 13:50:00	Halodule wrightii	5010.00
1182156	3013	IRLSG015	2010-07-21 09:30:00	Halodule wrightii	5512.50
1525966	3013	IRLSG034	2003-07-29 09:30:00	Halodule wrightii	5500.00
1232335	3013	IRLSG041	2010-06-01 09:15:00	Halodule wrightii	7550.00
1616402	3013	IRLSG045	2000-06-06 12:00:00	Halophila decipiens	5680.00
1229090	3013	IRLSG069	2010-07-13 11:40:00	Halophila johnsonii	5250.00
1237292	3013	IRLSG069	2010-07-13 11:40:00	Halophila johnsonii	5462.50
1246788	3013	IRLSG069	2010-07-13 11:40:00	Halophila johnsonii	5250.00
1384641	3013	IRLSG069	2019-08-01 10:55:00	Halophila decipiens	5500.00
2012558	3013	IRLSG069	2019-08-01 10:55:00	Halophila decipiens	6462.50
2026406	3013	IRLSG069	2019-08-01 10:55:00	Halophila decipiens	5100.00
2026412	3013	IRLSG069	2019-08-01 10:55:00	Halophila decipiens	5300.00
2801666	3015	PISCntrl_1	2013-08-28 00:00:00	Halodule wrightii	7900.00
2801660	3015	PISCntrl_1	2016-09-20 00:00:00	Halodule wrightii	6100.00

RowID	ProgramID	ProgramLocationID	SampleDate	CommonIdentifier	ResultValue
2792576	3015	PISCntrl_1	2017-06-26 00:00:00	Halodule wrightii	5250.00
2787958	3015	PISCntrl_1	2017-09-25 00:00:00	Halodule wrightii	5085.00
2789608	3015	PISCntrl_1	2018-06-08 00:00:00	Halodule wrightii	5250.00
2788795	3015	PISCntrl_1	2018-09-17 00:00:00	Halodule wrightii	8100.00
2997515	3015	PISCntrl_1	2019-07-25 00:00:00	Halodule wrightii	21400.00
2804084	3015	PISCntrl_1	2020-06-17 00:00:00	Halodule wrightii	8900.00
2801680	3015	PISCntrl_1	2020-09-24 00:00:00	Halodule wrightii	9200.00
2997516	3015	PISCntrl_1	2021-06-29 00:00:00	Halodule wrightii	7200.00
2801674	3015	PISCntrl_1	2022-06-17 00:00:00	Halodule wrightii	6500.00
2789566	3015	PISCntrl_2	2013-06-25 00:00:00	Halodule wrightii	5400.00
2794189	3015	PISCntrl_2	2014-07-30 00:00:00	Halodule wrightii	7550.00
2789568	3015	PISCntrl_2	2014-09-29 00:00:00	Halodule wrightii	7700.00
2789567	3015	PISCntrl_2	2017-09-25 00:00:00	Halodule wrightii	5900.00
2795992	3015	PISCntrl_2	2018-06-08 00:00:00	Halodule wrightii	5200.00
2800766	3015	PISCntrl_2	2018-09-17 00:00:00	Halodule wrightii	6800.00
2789573	3015	PISCntrl_2	2019-07-25 00:00:00	Halodule wrightii	12500.00
2797447	3015	PISCntrl_2	2019-09-06 00:00:00	Halodule wrightii	5800.00
2794195	3015	PISCntrl_2	2020-09-24 00:00:00	Halodule wrightii	7000.00
2804871	3015	PISCntrl_2	2021-06-29 00:00:00	Halodule wrightii	5500.00
2803016	3015	PISCntrl_2	2022-06-17 00:00:00	Halodule wrightii	6400.00
1474237	3017	NB	2017-06-16 00:00:00	Halodule wrightii	6063.00
1477256	3017	NB	2017-06-16 00:00:00	Halophila johnsonii	5088.00
1472592	3017	SB	2017-06-23 00:00:00	Halodule wrightii	9075.00
1478839	3017	SB	2017-06-23 00:00:00	Halodule wrightii	7150.00
2794382	4018	BH29	1995-06-08 00:00:00	Halodule wrightii	10525.00

Programs containing flagged data:

564 - Western Pinellas County Seagrass Monitoring

565 - Tampa Bay Seagrass Monitoring

570 - Charlotte Harbor Seagrass Monitoring

3013 - Seagrass (SJRWMD)

3015 - SCCF Seagrass Surveys

3017 - Loxahatchee River District Bi-Monthly Seagrass Monitoring

4018 - Miami-Dade County DERM Benthic Habitat Monitoring Program