Submerged Aquatic Vegetation Indicator Quantile Report

SEACAR Analysis

Last compiled on 12 June, 2025

Contents

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**

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

All_SAV_Parameters-2025-Jun-06.txt

Indicator: Percent Cover

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

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.

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

Indicator: **Percent Cover**

Table 1: Indicator Quantile Overview

ParameterName	q low	q high	mean	n tot	n q low	n q high	pct flagged
Braun Blanquet Score	0	5	0.29	4991690	4	5	0
Modified Braun Blanquet Score	0	5	1.96	52493	0	1	0
Percent Cover	0	100	4.04	1019630	0	44	0
Percent Cover	0	100	4.23	895519	0	43	0
Percent Occurrence	0	100	9.36	1193687	0	3	0
Percent Occurrence	0	100	9.76	966429	0	3	0
Presence/Absence	0	1	0.19	6346707	0	0	0

Low Quantile

Indicator: Percent Cover

Braun Blanquet Score

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

RowID	ProgramID	ProgramLocationID	SampleDate	CommonIdentifier	ResultValue
1256	296	276	2020-12-13	Thalassia testudinum	-0.69
1250	296	505	2020-08-14	Thalassia testudinum	-0.30
28754	296	DRTO12	2020-07-30	Syringodium filiforme	-1.00
148069	296	DRTO12	2020-07-30	Calcareous green algae	-1.56

Programs containing flagged data:

296 - Florida Keys National Marine Sanctuary Seagrass Monitoring Project

There are no *Low* Quantile Flagged Values for Modified Braun Blanquet Score

There are no *Low* Quantile Flagged Values for Percent Cover

There are no *Low* Quantile Flagged Values for Percent Occurrence

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

There are no *Low* Quantile Flagged Values for Shoot Count

High Quantile

Indicator: Percent Cover

Braun Blanquet Score

Table 3: Flagged Values - High Indicator Quantile: **5**

RowID	ProgramID	ProgramLocationID	SampleDate	CommonIdentifier	ResultValue
10110644	4018	13M	2018-07-19	Anadyomene stellata	10
10264033	4018	13M	2018-07-19	Anadyomene stellata	15
10590304	4018	13M	2018-07-19	Anadyomene stellata	7
10478478	4018	68K	2018-06-28	Anadyomene stellata	6
10590379	4018	9P	2018-07-23	Anadyomene stellata	6

Programs containing flagged data:

4018 - Miami-Dade County DERM Benthic Habitat Monitoring Program

Modified Braun Blanquet Score

Table 4: Flagged Values - High Indicator Quantile: **5**

RowID	ProgramID	ProgramLocationID	SampleDate	CommonIdentifier	ResultValue
1956056	559	KB06-2016	2016-06-30	Laurencia spp.	5.3

Programs containing flagged data:

559 - Northern Big Bend Seagrass Monitoring

Percent Cover

Table 5: Flagged Values - High Indicator Quantile: **100**

RowID	ProgramID	ProgramLocationID	SampleDate	CommonIdentifier	ResultValue
1775180	564	W1-06-12	2012-09-26	Total SAV	105
1772304	564	W1-12-11	2011-10-05	Total SAV	105
1472348	564	W1-16-17	2017-10-06	Total SAV	101
1554721	564	W1-17-11	2011-09-30	Total SAV	105
1965618	564	W1-18-14	2014-10-10	Total SAV	101
1430373	564	W1-22-19	2019-11-10	Total SAV	104
1477278	564	W1-22-19	2019-11-10	Total SAV	150
1554719	564	W1-23-11	2011-10-03	Total SAV	101
1554546	564	W1-24-11	2011-10-05	Total SAV	105
1965629	564	W1-25-15	2015-10-02	Total SAV	105
1964855	564	W1-26-12	2012-09-26	Total SAV	101
1630123	564	W1-27-11	2011-10-04	Total SAV	101
1964255	564	W1-27-11	2011-10-04	Total SAV	140
1476943	564	W1-28-12	2012-09-26	Total SAV	105
1487402	564	W1-28-12	2012-09-26	Total SAV	105
1518515	564	W1-28-19	2019-12-31	Total SAV	101
1482314	564	W1-31-15	2015-10-07	Total SAV	110
1482315	564	W1-31-15	2015-10-07	Total SAV	110
1493320	564	W1-31-15	2015-10-07	Total SAV	110
1599821	564	W1-31-19	2019-12-31	Total SAV	180
1493312	564	W1-34-15	2015-10-02	Total SAV	125
1518520	564	W1-35-19	2019-12-31	Total SAV	110
1599822	564	W1-35-19	2019-12-31	Total SAV	105
1599823	564	W1-35-19	2019-12-31	Total SAV	105
1743818	564	W1-35-19	2019-12-31	Total SAV	105
1743819	564	W1-35-19	2019-12-31	Total SAV	105
1958016	564	W1-35-19	2019-12-31	Total SAV	110
1430598	564	W1-40-19	2019-12-31	Total SAV	120
1524107	564	W2-01-12	2012-09-14	Total SAV	105
1521419	564	W2-04-11	2011-09-29	Total SAV	120
1523964	564	W2-04-12	2012-09-13	Total SAV	140
1493339	564	W2-04-15	2015-10-21	Total SAV	120
1472989	564	W2-2-19	2019-03-10	Total SAV	130
1472990	564	W2-2-19	2019-03-10	Total SAV	110
1518482	564	W2-5-19	2019-12-31	Total SAV	120
1743768	564	W2-5-19	2019-12-31	Total SAV	180
1440252	564	W2-9-19	2019-03-10	Total SAV	122
1957896	564	W2-ALT-01-17	2017-09-29	Total SAV	105
1482308	564	W3-03-15	2015-10-05	Total SAV	125
1482309	564	W3-03-15	2015-10-05	Total SAV	135
1560334	564	W3-03-15	2015-10-05	Total SAV	110
1636154	564	W3-03-15	2015-10-05	Total SAV	106
1777751	564	W3-03-15	2015-10-05	Total SAV	115

Programs containing flagged data:

564 - Western Pinellas County Seagrass Monitoring

Percent Occurrence

Table 6: Flagged Values - High Indicator Quantile: **100**

RowID	ProgramID	ProgramLocationID	SampleDate	CommonIdentifier	ResultValue
7664948	3013	IRLSG045	2021-08-12 09:15:00	Total seagrass	161
8271609	3013	IRLSG045	2021-08-12 09:15:00	Total seagrass	139
10146968	3015	LC7	2011-11-29 00:00:00	Thalassia testudinum	460

Programs containing flagged data:

3013 - Seagrass (SJRWMD)
3015 - SCCF Seagrass Surveys

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

There are no *High* Quantile Flagged Values for Shoot Count