

Submerged Aquatic Vegetation Indicator Quantile Report

SEACAR Analysis

Last compiled on 09 April, 2025

Contents

| | |
|---|----------|
| Overview | 2 |
| Purpose | 2 |
| Relevant file locations | 2 |
| Process steps | 2 |
| Summary | 3 |
| Summary Tables | 4 |
| Low Quantile | 5 |
| Indicator: Percent Cover | 5 |
| Braun Blanquet Score | 5 |
| High Quantile | 7 |
| Indicator: Percent Cover | 7 |
| Braun Blanquet Score | 7 |
| Modified Braun Blanquet Score | 8 |
| Percent Cover | 9 |
| Percent Occurrence | 10 |

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-Mar-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 | 0.36 | 1137345 | 1 | 4 | 0.00 |
| Modified Braun Blanquet Score | 0 | 5 | 1.97 | 51649 | 0 | 1 | 0.00 |
| Percent Cover | 0 | 100 | 4.50 | 532568 | 0 | 44 | 0.01 |
| Percent Cover | 0 | 100 | 4.81 | 456537 | 0 | 43 | 0.01 |
| Percent Occurrence | 0 | 100 | 10.30 | 623477 | 0 | 2 | 0.00 |
| Percent Occurrence | 0 | 100 | 10.83 | 507954 | 0 | 2 | 0.00 |
| Presence/Absence | 0 | 1 | 0.24 | 1876501 | 0 | 0 | 0.00 |

Low Quantile

Indicator: Percent Cover

Braun Blanquet Score

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

| RowID | ProgramID | ProgramLocationID | SampleDate | CommonIdentifier | ResultValue |
|-------|-----------|-------------------|------------|----------------------|-------------|
| 34001 | 296 | 276 | 2020-12-13 | Thalassia testudinum | -0.69 |

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 |
|---------|-----------|-------------------|------------|---------------------|-------------|
| 3145915 | 4018 | 13M | 2018-07-19 | Anadyomene stellata | 15 |
| 3378232 | 4018 | 13M | 2018-07-19 | Anadyomene stellata | 7 |
| 3565376 | 4018 | 13M | 2018-07-19 | Anadyomene stellata | 10 |
| 3492368 | 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 |
|--------|-----------|-------------------|------------|------------------|-------------|
| 548778 | 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 |
|---------|-----------|-------------------|------------|------------------|-------------|
| 430724 | 564 | W1-06-12 | 2012-09-26 | Total SAV | 105 |
| 431404 | 564 | W1-12-11 | 2011-10-05 | Total SAV | 105 |
| 1646518 | 564 | W1-16-17 | 2017-10-06 | Total SAV | 101 |
| 479125 | 564 | W1-17-11 | 2011-09-30 | Total SAV | 105 |
| 513767 | 564 | W1-18-14 | 2014-10-10 | Total SAV | 101 |
| 472999 | 564 | W1-22-19 | 2019-11-10 | Total SAV | 104 |
| 519911 | 564 | W1-22-19 | 2019-11-10 | Total SAV | 150 |
| 430685 | 564 | W1-23-11 | 2011-10-03 | Total SAV | 101 |
| 430678 | 564 | W1-24-11 | 2011-10-05 | Total SAV | 105 |
| 494723 | 564 | W1-25-15 | 2015-10-02 | Total SAV | 105 |
| 457750 | 564 | W1-26-12 | 2012-09-26 | Total SAV | 101 |
| 445022 | 564 | W1-27-11 | 2011-10-04 | Total SAV | 101 |
| 453325 | 564 | W1-27-11 | 2011-10-04 | Total SAV | 140 |
| 479141 | 564 | W1-28-12 | 2012-09-26 | Total SAV | 105 |
| 479142 | 564 | W1-28-12 | 2012-09-26 | Total SAV | 105 |
| 1704703 | 564 | W1-28-19 | 2019-12-31 | Total SAV | 101 |
| 486940 | 564 | W1-31-15 | 2015-10-07 | Total SAV | 110 |
| 486941 | 564 | W1-31-15 | 2015-10-07 | Total SAV | 110 |
| 494752 | 564 | W1-31-15 | 2015-10-07 | Total SAV | 110 |
| 496859 | 564 | W1-31-19 | 2019-12-31 | Total SAV | 180 |
| 479288 | 564 | W1-34-15 | 2015-10-02 | Total SAV | 125 |
| 466769 | 564 | W1-35-19 | 2019-12-31 | Total SAV | 110 |
| 490846 | 564 | W1-35-19 | 2019-12-31 | Total SAV | 105 |
| 496860 | 564 | W1-35-19 | 2019-12-31 | Total SAV | 105 |
| 499815 | 564 | W1-35-19 | 2019-12-31 | Total SAV | 105 |
| 499816 | 564 | W1-35-19 | 2019-12-31 | Total SAV | 105 |
| 1704708 | 564 | W1-35-19 | 2019-12-31 | Total SAV | 110 |
| 474011 | 564 | W1-40-19 | 2019-12-31 | Total SAV | 120 |
| 1639947 | 564 | W2-01-12 | 2012-09-14 | Total SAV | 105 |
| 1676121 | 564 | W2-04-11 | 2011-09-29 | Total SAV | 120 |
| 457219 | 564 | W2-04-12 | 2012-09-13 | Total SAV | 140 |
| 494782 | 564 | W2-04-15 | 2015-10-21 | Total SAV | 120 |
| 472981 | 564 | W2-2-19 | 2019-03-10 | Total SAV | 130 |
| 1704681 | 564 | W2-2-19 | 2019-03-10 | Total SAV | 110 |
| 490381 | 564 | W2-5-19 | 2019-12-31 | Total SAV | 120 |
| 499742 | 564 | W2-5-19 | 2019-12-31 | Total SAV | 180 |
| 499754 | 564 | W2-9-19 | 2019-03-10 | Total SAV | 122 |
| 490295 | 564 | W2-ALT-01-17 | 2017-09-29 | Total SAV | 105 |
| 465918 | 564 | W3-03-15 | 2015-10-05 | Total SAV | 106 |
| 479291 | 564 | W3-03-15 | 2015-10-05 | Total SAV | 115 |
| 486932 | 564 | W3-03-15 | 2015-10-05 | Total SAV | 125 |
| 486933 | 564 | W3-03-15 | 2015-10-05 | Total SAV | 135 |
| 494733 | 564 | W3-03-15 | 2015-10-05 | Total SAV | 110 |

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 |
|---------|-----------|-------------------|---------------------|------------------|-------------|
| 2140457 | 3013 | IRLSG045 | 2021-08-12 09:15:00 | Total seagrass | 161 |
| 2157687 | 3013 | IRLSG045 | 2021-08-12 09:15:00 | Total seagrass | 139 |

Programs containing flagged data:

3013 - Seagrass (SJRWMD)

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

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