Sediment Trap Summary

2024-12-11

This report provides summary tables and figures for the sediment trap data collected at Caloosahatchee River estuary and Tampa Bay estuary stations from December 2022 through November 2024. Monthly data is standardized to a 28-day month unless otherwise noted. When possible, data is extrapolated to the entire sample collected based on crucible sub-sample information.

## Sedimentation rates

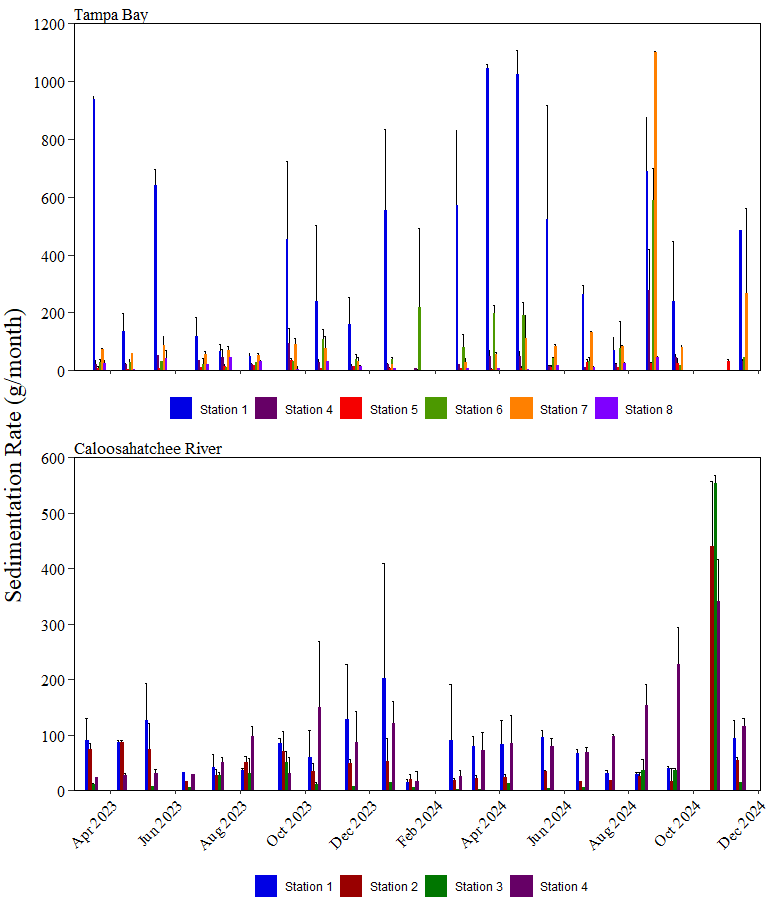
Oyster reefs in the Caloosahatchee River estuary averaged sedimentation rates of 68.9 g/month (Table 1, Figure 1). The lowest sedimentation rate occurred at station 3 (mean: 45.5 g/month) and the highest occurred at station 4 (mean: 93.7 g/month). Overall, the lowest single month sedimentation rate (2.8 g/month) occurred in March 2024 at station 3 while the highest (553.5 g/month) occurred in October 2024 at station 3 (Table 2).  
Oyster reefs in the Tampa Bay estuary had an average sedimentation rate of 126 g/month (Table 1, Figure 1). The lowest sedimentation rate occurred at station 5 (mean: 15.5 g/month) and the highest occurred at station 1 (mean: 93.7 g/month). The lowest single station sedimentation rate (2.4 g/month) occurred in January 2024 at station 8 while the highest (1099.7 g/month) occurred in August 2024 at station 7 (Table 2).

Table 1. Sedimentation rates (g/month) by station and overall during the project. Rates are standardized to 28-day months.

| **Estuary** | **Station** | **MeanRate** | **sdRate** | **MinRate** | **MaxRate** |
| --- | --- | --- | --- | --- | --- |
| CR |  |  |  |  |  |
|  | 1 | 75.85 | 61.83 | 12.45 | 348.70 |
|  | 2 | 58.46 | 91.70 | 0.66 | 522.68 |
|  | 3 | 45.52 | 124.07 | 2.80 | 563.52 |
|  | 4 | 93.72 | 82.98 | 3.41 | 393.91 |
|  |  | 68.85 | 93.01 | 0.66 | 563.52 |
| TB |  |  |  |  |  |
|  | 1 | 433.70 | 347.56 | 40.41 | 1,081.46 |
|  | 4 | 44.70 | 63.70 | 7.84 | 376.96 |
|  | 5 | 15.47 | 10.80 | 2.90 | 40.37 |
|  | 6 | 98.93 | 144.48 | 9.65 | 665.19 |
|  | 7 | 137.27 | 244.55 | 19.40 | 1,100.90 |
|  | 8 | 18.95 | 15.80 | 0.32 | 63.95 |
|  |  | 126.03 | 234.50 | 0.32 | 1,100.90 |

Table 2. Minimum and maximum sedimentation rates per station and the Month and Year in which the minimum or maximum occurred.

| **Measure** | **Estuary** | **Station** | **Type** | **Year** | **Month** | **Value** |
| --- | --- | --- | --- | --- | --- | --- |
| Sedimentation | CR | 1 | Min Rate | 2024 | 01 | 15.49 |
| Max Rate | 2023 | 12 | 202.14 |
| 2 | Min Rate | 2024 | 06 | 15.94 |
| Max Rate | 2024 | 10 | 438.89 |
| 3 | Min Rate | 2024 | 03 | 2.85 |
| Max Rate | 2024 | 10 | 553.50 |
| 4 | Min Rate | 2024 | 01 | 16.56 |
| Max Rate | 2024 | 10 | 341.23 |
| TB | 1 | Min Rate | 2023 | 08 | 49.52 |
| Max Rate | 2024 | 03 | 1,041.99 |
| 4 | Min Rate | 2024 | 01 | 8.07 |
| Max Rate | 2024 | 08 | 278.98 |
| 5 | Min Rate | 2024 | 01 | 3.11 |
| Max Rate | 2023 | 09 | 35.33 |
| 6 | Min Rate | 2023 | 07 | 11.11 |
| Max Rate | 2024 | 08 | 586.78 |
| 7 | Min Rate | 2023 | 12 | 23.13 |
| Max Rate | 2024 | 08 | 1,099.68 |
| 8 | Min Rate | 2024 | 01 | 2.43 |
| Max Rate | 2023 | 07 | 46.95 |



**Figure 1.** Mean monthly sedimentation rate (± S.D.) at stations in Tampa Bay and Caloosahatchee River. Asterisks indicate when no samples were collected from a station. Please note differences in magnitude between the y-axes.

Table 5. Analysis of sedimentation rates (g/month) by estuary and station. Permutation ANOVA using 10,000 permutations.

| **Factors** | **df** | **SS** | **MS** | **F** | **Pr** |
| --- | --- | --- | --- | --- | --- |
| Estuary | 1 | 1.57 | 1.57 | 11.72 | 0.001 |
| Station\_code | 8 | 29.56 | 3.70 | 27.55 | 0.000 |
| Residuals | 187 | 25.08 | 0.13 |  |  |

Table 6. Mean sedimentation rates (g/month) per estuary. Letters are determined based on pairwise permutation two-sample independence analysis.

| **Estuary** | **n** | **mean** | **sd** | **lower** | **upper** | **Letters** |
| --- | --- | --- | --- | --- | --- | --- |
| CR | 81 | 68.22 | 88.31 | -20.09 | 156.52 | a |
| TB | 116 | 123.06 | 223.64 | -100.57 | 346.70 | a |

Table 7. Pairwise two-sample permutation post-hoc comparisons of sedimentation rates (g/month) per estuary.

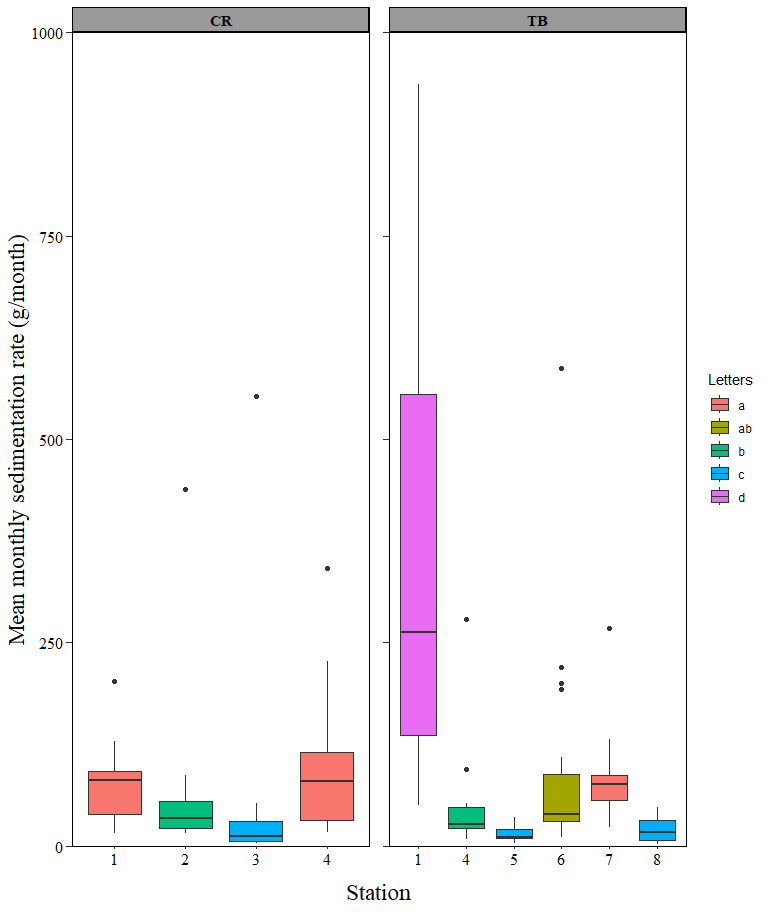
| **Comparison** | **Stat** | **p.value** | **p.adjust** |
| --- | --- | --- | --- |
| CR - TB = 0 | -0.6052 | 0.545 | 0.545 |

Table 8. Mean sedimentation rates (g/month) per station. Letters are determined based on pairwise permutation two-sample independence analysis.

| **Station\_code** | **n** | **mean** | **sd** | **lower** | **upper** | **Letters** |
| --- | --- | --- | --- | --- | --- | --- |
| CR1 | 20 | 75.85 | 44.15 | 31.70 | 120.01 | a |
| CR2 | 21 | 58.46 | 90.02 | -31.56 | 148.47 | b |
| CR3 | 19 | 44.49 | 124.06 | -79.57 | 168.55 | c |
| CR4 | 21 | 92.17 | 78.03 | 14.14 | 170.21 | a |
| TB1 | 19 | 435.04 | 325.10 | 109.94 | 760.14 | d |
| TB4 | 20 | 44.89 | 58.51 | -13.62 | 103.39 | b |
| TB5 | 20 | 15.06 | 9.77 | 5.29 | 24.83 | c |
| TB6 | 20 | 93.80 | 132.20 | -38.40 | 226.00 | ab |
| TB7 | 19 | 135.25 | 239.38 | -104.13 | 374.62 | a |
| TB8 | 18 | 20.27 | 15.32 | 4.95 | 35.60 | c |

Table 9. Pairwise two-sample permutation post-hoc comparisons of sedimentation rates (g/month) per station.

| **Comparison** | **Stat** | **p.value** | **p.adjust** |
| --- | --- | --- | --- |
| CR1 - CR2 = 0 | 2.192 | 0.03 | 0.04 |
| CR1 - CR3 = 0 | 3.845 | 0.00 | 0.00 |
| CR1 - CR4 = 0 | -0.2791 | 0.78 | 0.80 |
| CR1 - TB4 = 0 | 2.901 | 0.00 | 0.01 |
| CR1 - TB1 = 0 | -4.347 | 0.00 | 0.00 |
| CR1 - TB5 = 0 | 4.987 | 0.00 | 0.00 |
| CR1 - TB6 = 0 | 0.6286 | 0.53 | 0.57 |
| CR1 - TB7 = 0 | -0.9909 | 0.32 | 0.39 |
| CR1 - TB8 = 0 | 4.282 | 0.00 | 0.00 |
| CR2 - CR3 = 0 | 2.733 | 0.01 | 0.01 |
| CR2 - CR4 = 0 | -2.223 | 0.03 | 0.04 |
| CR2 - TB4 = 0 | 0.8161 | 0.41 | 0.49 |
| CR2 - TB1 = 0 | -4.821 | 0.00 | 0.00 |
| CR2 - TB5 = 0 | 3.887 | 0.00 | 0.00 |
| CR2 - TB6 = 0 | -1.268 | 0.20 | 0.26 |
| CR2 - TB7 = 0 | -2.662 | 0.01 | 0.01 |
| CR2 - TB8 = 0 | 3.068 | 0.00 | 0.00 |
| CR3 - CR4 = 0 | -3.833 | 0.00 | 0.00 |
| CR3 - TB4 = 0 | -2.233 | 0.03 | 0.04 |
| CR3 - TB1 = 0 | -4.994 | 0.00 | 0.00 |
| CR3 - TB5 = 0 | 0.4221 | 0.67 | 0.70 |
| CR3 - TB6 = 0 | -3.235 | 0.00 | 0.00 |
| CR3 - TB7 = 0 | -3.935 | 0.00 | 0.00 |
| CR3 - TB8 = 0 | -0.07882 | 0.94 | 0.94 |
| CR4 - TB4 = 0 | 2.852 | 0.00 | 0.01 |
| CR4 - TB1 = 0 | -4.099 | 0.00 | 0.00 |
| CR4 - TB5 = 0 | 4.828 | 0.00 | 0.00 |
| CR4 - TB6 = 0 | 0.8056 | 0.42 | 0.49 |
| CR4 - TB7 = 0 | -0.6625 | 0.51 | 0.57 |
| CR4 - TB8 = 0 | 4.182 | 0.00 | 0.00 |
| TB4 - TB1 = 0 | -4.952 | 0.00 | 0.00 |
| TB4 - TB5 = 0 | 3.416 | 0.00 | 0.00 |
| TB4 - TB6 = 0 | -1.918 | 0.06 | 0.07 |
| TB4 - TB7 = 0 | -3.197 | 0.00 | 0.00 |
| TB4 - TB8 = 0 | 2.54 | 0.01 | 0.02 |
| TB1 - TB5 = 0 | 5.526 | 0.00 | 0.00 |
| TB1 - TB6 = 0 | 4.158 | 0.00 | 0.00 |
| TB1 - TB7 = 0 | 3.672 | 0.00 | 0.00 |
| TB1 - TB8 = 0 | 5.161 | 0.00 | 0.00 |
| TB5 - TB6 = 0 | -4.183 | 0.00 | 0.00 |
| TB5 - TB7 = 0 | -4.864 | 0.00 | 0.00 |
| TB5 - TB8 = 0 | -0.6397 | 0.52 | 0.57 |
| TB6 - TB7 = 0 | -1.339 | 0.18 | 0.23 |
| TB6 - TB8 = 0 | 3.521 | 0.00 | 0.00 |
| TB7 - TB8 = 0 | 4.268 | 0.00 | 0.00 |



## Percent organic content

Table 2. Percent organic content (%) by station and overall during the project.

| **Estuary** | **Station** | **MeanPct** | **sdPct** | **MinPct** | **MaxPct** |
| --- | --- | --- | --- | --- | --- |
| CR |  |  |  |  |  |
|  | 1 | 19.28 | 21.52 | 0.00 | 97.11 |
|  | 2 | 14.18 | 15.84 | 0.00 | 54.78 |
|  | 3 | 12.94 | 9.78 | 2.11 | 32.13 |
|  | 4 | 13.58 | 13.32 | 0.00 | 44.00 |
|  |  | 15.02 | 15.84 | 0.00 | 97.11 |
| TB |  |  |  |  |  |
|  | 1 | 23.25 | 24.81 | 0.00 | 80.83 |
|  | 4 | 23.47 | 18.98 | 0.00 | 78.91 |
|  | 5 | 23.40 | 18.79 | 0.00 | 56.18 |
|  | 6 | 22.92 | 20.59 | 0.00 | 77.83 |
|  | 7 | 14.92 | 17.35 | 0.00 | 78.82 |
|  | 8 | 39.50 | 20.39 | 0.13 | 76.20 |
|  |  | 24.28 | 21.24 | 0.00 | 80.83 |

Table 3. Organic weight (g/day) of sediment by station and overall during the project. Sample columns use crucible level data while other columns extrapolate measurements to the entire sample based on estimated or calculated proportions. Values are standardized to 28-day months.

| **Estuary** | **Station** | **MeanWt** | **sdWt** | **MinWt** | **MaxWt** | **MeanSample** | **sdSample** | **MinSample** | **MaxSample** |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| CR |  |  |  |  |  |  |  |  |  |
|  | 1 | 14.73 | 23.15 | 0.00 | 95.72 | 4.32 | 5.50 | 0.00 | 22.28 |
|  | 2 | 6.90 | 12.75 | 0.00 | 59.26 | 3.43 | 5.70 | 0.00 | 29.63 |
|  | 3 | 3.16 | 5.53 | 0.19 | 21.82 | 1.40 | 1.68 | 0.19 | 6.69 |
|  | 4 | 12.24 | 18.58 | 0.00 | 102.62 | 3.86 | 5.53 | 0.00 | 29.00 |
|  |  | 9.37 | 16.94 | 0.00 | 102.62 | 3.29 | 5.03 | 0.00 | 29.63 |
| TB |  |  |  |  |  |  |  |  |  |
|  | 1 | 102.46 | 191.97 | 0.00 | 825.86 | 11.03 | 18.84 | 0.00 | 82.59 |
|  | 4 | 8.55 | 9.96 | 0.00 | 51.63 | 3.78 | 4.33 | 0.00 | 25.82 |
|  | 5 | 3.10 | 3.44 | 0.00 | 18.38 | 2.27 | 2.22 | 0.00 | 9.93 |
|  | 6 | 16.67 | 24.09 | 0.00 | 100.21 | 4.90 | 6.43 | 0.00 | 30.30 |
|  | 7 | 11.22 | 13.30 | 0.00 | 48.09 | 3.87 | 5.75 | 0.00 | 24.04 |
|  | 8 | 7.19 | 9.38 | 0.02 | 38.18 | 3.51 | 3.63 | 0.02 | 17.89 |
|  |  | 25.05 | 86.28 | 0.00 | 825.86 | 4.91 | 9.20 | 0.00 | 82.59 |

Table 4. Minimum and maximum sedimentation rates, percent organic content, and organic weight per station and the Month and Year in which the minimum or maximum occurred.

| **Measure** | **Estuary** | **Station** | **Type** | **Year** | **Month** | **Value** |
| --- | --- | --- | --- | --- | --- | --- |
| Organic Weight | CR | 1 | Min Daily Org Wt | 2023 | 12 | 0.00 |
| Max Daily Org Wt | 2023 | 05 | 62.51 |
| 2 | Min Daily Org Wt | 2023 | 09 | 0.00 |
| Max Daily Org Wt | 2023 | 04 | 42.19 |
| 3 | Min Daily Org Wt | 2024 | 04 | 0.36 |
| Max Daily Org Wt | 2024 | 10 | 21.62 |
| 4 | Min Daily Org Wt | 2023 | 08 | 0.24 |
| Max Daily Org Wt | 2023 | 10 | 58.22 |
| TB | 1 | Min Daily Org Wt | 2024 | 05 | 2.57 |
| Max Daily Org Wt | 2024 | 04 | 769.84 |
| 4 | Min Daily Org Wt | 2024 | 05 | 0.00 |
| Max Daily Org Wt | 2023 | 07 | 31.04 |
| 5 | Min Daily Org Wt | 2023 | 05 | 0.00 |
| Min Daily Org Wt | 2024 | 05 | 0.00 |
| Max Daily Org Wt | 2023 | 09 | 10.72 |
| 6 | Min Daily Org Wt | 2023 | 05 | 0.00 |
| Max Daily Org Wt | 2023 | 10 | 66.79 |
| 7 | Min Daily Org Wt | 2024 | 05 | 0.00 |
| Max Daily Org Wt | 2023 | 04 | 47.72 |
| 8 | Min Daily Org Wt | 2024 | 05 | 0.06 |
| Max Daily Org Wt | 2023 | 07 | 35.78 |
| Percent Organic | CR | 1 | Min Percent | 2023 | 12 | 0.00 |
| Max Percent | 2023 | 09 | 50.56 |
| 2 | Min Percent | 2023 | 09 | 0.00 |
| Max Percent | 2023 | 05 | 50.65 |
| 3 | Min Percent | 2024 | 08 | 2.20 |
| Max Percent | 2023 | 08 | 26.63 |
| 4 | Min Percent | 2023 | 08 | 0.21 |
| Max Percent | 2023 | 05 | 40.01 |
| TB | 1 | Min Percent | 2024 | 05 | 0.39 |
| Max Percent | 2024 | 04 | 75.11 |
| 4 | Min Percent | 2024 | 05 | 0.00 |
| Max Percent | 2023 | 07 | 58.88 |
| 5 | Min Percent | 2023 | 05 | 0.00 |
| Min Percent | 2024 | 05 | 0.00 |
| Max Percent | 2023 | 06 | 54.13 |
| 6 | Min Percent | 2023 | 05 | 0.00 |
| Max Percent | 2023 | 10 | 62.90 |
| 7 | Min Percent | 2024 | 05 | 0.00 |
| Max Percent | 2023 | 04 | 78.82 |
| 8 | Min Percent | 2024 | 05 | 0.30 |
| Max Percent | 2023 | 07 | 76.20 |
| Sedimentation | CR | 1 | Min Rate | 2024 | 01 | 15.49 |
| Max Rate | 2023 | 12 | 202.14 |
| 2 | Min Rate | 2024 | 06 | 15.94 |
| Max Rate | 2024 | 10 | 438.89 |
| 3 | Min Rate | 2024 | 03 | 2.85 |
| Max Rate | 2024 | 10 | 553.50 |
| 4 | Min Rate | 2024 | 01 | 16.56 |
| Max Rate | 2024 | 10 | 341.23 |
| TB | 1 | Min Rate | 2023 | 08 | 49.52 |
| Max Rate | 2024 | 03 | 1,041.99 |
| 4 | Min Rate | 2024 | 01 | 8.07 |
| Max Rate | 2024 | 08 | 278.98 |
| 5 | Min Rate | 2024 | 01 | 3.11 |
| Max Rate | 2023 | 09 | 35.33 |
| 6 | Min Rate | 2023 | 07 | 11.11 |
| Max Rate | 2024 | 08 | 586.78 |
| 7 | Min Rate | 2023 | 12 | 23.13 |
| Max Rate | 2024 | 08 | 1,099.68 |
| 8 | Min Rate | 2024 | 01 | 2.43 |
| Max Rate | 2023 | 07 | 46.95 |

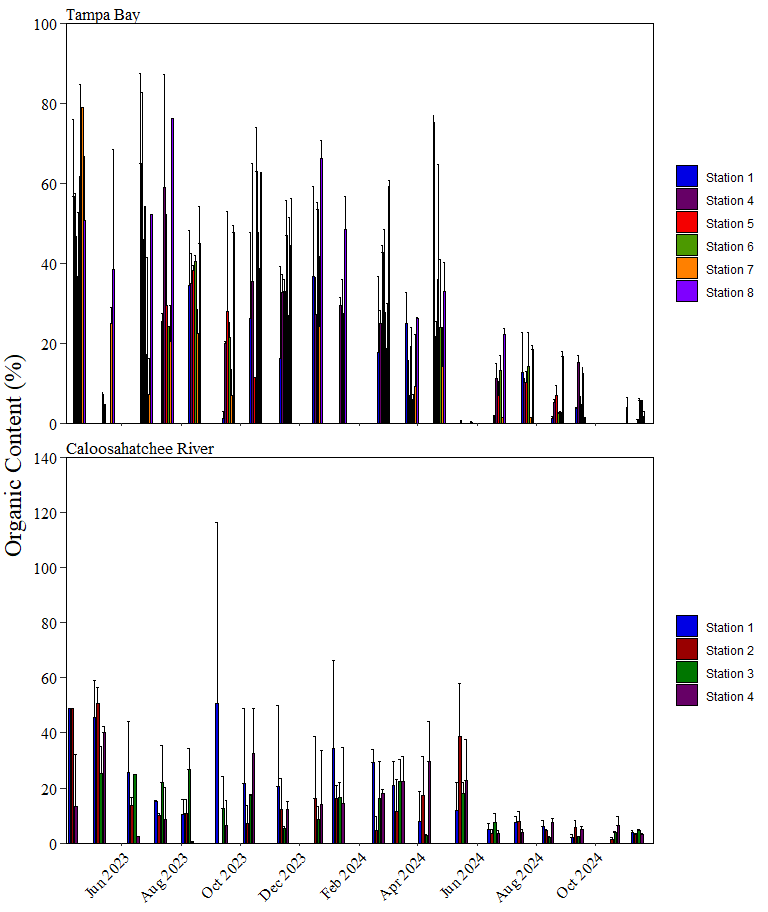


Table 10. Analysis of organic content (%) by estuary and station. Permutation ANOVA using 10,000 permutations.

| **Factors** | **df** | **SS** | **MS** | **F** | **Pr** |
| --- | --- | --- | --- | --- | --- |
| Estuary | 1 | 356.81 | 356.81 | 1.23 | 0.269 |
| Station\_code | 8 | 6,819.73 | 852.47 | 2.94 | 0.004 |
| Residuals | 177 | 51,383.35 | 290.30 |  |  |

Table 13. Mean organic content (%) per station. Letters are determined based on pairwise permutation two-sample independence analysis.

| **Station\_code** | **n** | **mean** | **sd** | **lower** | **upper** | **Letters** |
| --- | --- | --- | --- | --- | --- | --- |
| CR1 | 19 | 19.28 | 16.06 | 3.22 | 35.34 | a |
| CR2 | 20 | 14.18 | 14.74 | -0.57 | 28.92 | a |
| CR3 | 18 | 13.27 | 8.74 | 4.52 | 22.01 | a |
| CR4 | 20 | 13.30 | 11.12 | 2.18 | 24.42 | a |
| TB1 | 18 | 22.63 | 23.21 | -0.58 | 45.84 | ab |
| TB4 | 19 | 22.98 | 16.59 | 6.39 | 39.57 | a |
| TB5 | 19 | 23.28 | 17.69 | 5.59 | 40.97 | a |
| TB6 | 19 | 21.90 | 19.04 | 2.86 | 40.94 | a |
| TB7 | 18 | 16.70 | 19.23 | -2.53 | 35.92 | a |
| TB8 | 17 | 41.63 | 20.02 | 21.62 | 61.65 | b |

Table 14. Pairwise two-sample permutation post-hoc comparisons of organic content (%) per station.

| **Comparison** | **Stat** | **p.value** | **p.adjust** |
| --- | --- | --- | --- |
| CR1 - CR2 = 0 | 1.034 | 0.30 | 0.52 |
| CR1 - CR3 = 0 | 1.385 | 0.17 | 0.35 |
| CR1 - CR4 = 0 | 1.344 | 0.18 | 0.35 |
| CR1 - TB4 = 0 | -0.7026 | 0.48 | 0.70 |
| CR1 - TB1 = 0 | -0.5177 | 0.60 | 0.82 |
| CR1 - TB5 = 0 | -0.7332 | 0.46 | 0.70 |
| CR1 - TB6 = 0 | -0.4629 | 0.64 | 0.82 |
| CR1 - TB7 = 0 | 0.4499 | 0.65 | 0.82 |
| CR1 - TB8 = 0 | -3.177 | 0.00 | 0.01 |
| CR2 - CR3 = 0 | 0.2306 | 0.82 | 0.96 |
| CR2 - CR4 = 0 | 0.2153 | 0.83 | 0.96 |
| CR2 - TB4 = 0 | -1.708 | 0.09 | 0.24 |
| CR2 - TB1 = 0 | -1.339 | 0.18 | 0.35 |
| CR2 - TB5 = 0 | -1.703 | 0.09 | 0.24 |
| CR2 - TB6 = 0 | -1.402 | 0.16 | 0.35 |
| CR2 - TB7 = 0 | -0.4614 | 0.64 | 0.82 |
| CR2 - TB8 = 0 | -3.778 | 0.00 | 0.00 |
| CR3 - CR4 = 0 | -0.009278 | 0.99 | 0.99 |
| CR3 - TB4 = 0 | -2.099 | 0.04 | 0.15 |
| CR3 - TB1 = 0 | -1.567 | 0.12 | 0.28 |
| CR3 - TB5 = 0 | -2.059 | 0.04 | 0.15 |
| CR3 - TB6 = 0 | -1.707 | 0.09 | 0.24 |
| CR3 - TB7 = 0 | -0.6943 | 0.49 | 0.70 |
| CR3 - TB8 = 0 | -4.027 | 0.00 | 0.00 |
| CR4 - TB4 = 0 | -2.055 | 0.04 | 0.15 |
| CR4 - TB1 = 0 | -1.573 | 0.12 | 0.28 |
| CR4 - TB5 = 0 | -2.029 | 0.04 | 0.15 |
| CR4 - TB6 = 0 | -1.69 | 0.09 | 0.24 |
| CR4 - TB7 = 0 | -0.6809 | 0.50 | 0.70 |
| CR4 - TB8 = 0 | -4.057 | 0.00 | 0.00 |
| TB4 - TB1 = 0 | 0.05351 | 0.96 | 0.98 |
| TB4 - TB5 = 0 | -0.05428 | 0.96 | 0.98 |
| TB4 - TB6 = 0 | 0.1887 | 0.85 | 0.96 |
| TB4 - TB7 = 0 | 1.064 | 0.29 | 0.52 |
| TB4 - TB8 = 0 | -2.746 | 0.01 | 0.04 |
| TB1 - TB5 = 0 | -0.09692 | 0.92 | 0.98 |
| TB1 - TB6 = 0 | 0.1064 | 0.92 | 0.98 |
| TB1 - TB7 = 0 | 0.8386 | 0.40 | 0.65 |
| TB1 - TB8 = 0 | -2.394 | 0.02 | 0.08 |
| TB5 - TB6 = 0 | 0.2339 | 0.81 | 0.96 |
| TB5 - TB7 = 0 | 1.081 | 0.28 | 0.52 |
| TB5 - TB8 = 0 | -2.65 | 0.01 | 0.05 |
| TB6 - TB7 = 0 | 0.8304 | 0.41 | 0.65 |
| TB6 - TB8 = 0 | -2.728 | 0.01 | 0.04 |
| TB7 - TB8 = 0 | -3.193 | 0.00 | 0.01 |

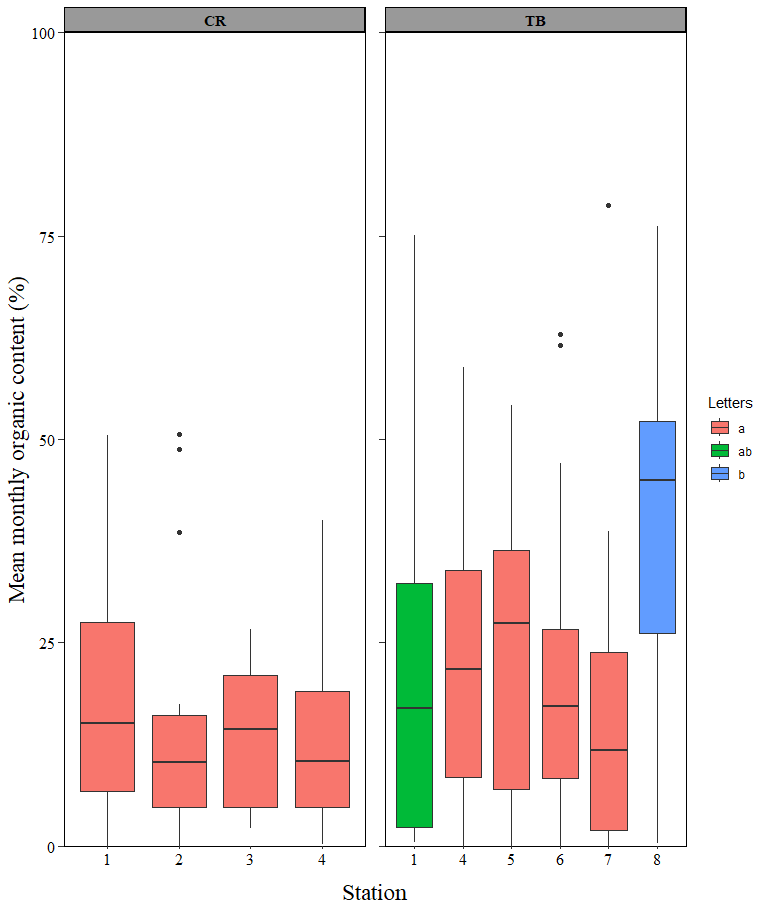


Table 10. Analysis of organic content (g/day) by estuary and station. Permutation ANOVA using 10,000 permutations.

| **Factors** | **df** | **SS** | **MS** | **F** | **Pr** |
| --- | --- | --- | --- | --- | --- |
| Estuary | 1 | 0.09 | 0.09 | 0.41 | 0.521 |
| Station\_code | 8 | 12.76 | 1.59 | 7.50 | 0.000 |
| Residuals | 177 | 37.61 | 0.21 |  |  |

Table 13. Mean organic content (g/day) per station. Letters are determined based on pairwise permutation two-sample independence analysis.

| **Station\_code** | **n** | **mean** | **sd** | **lower** | **upper** | **Letters** |
| --- | --- | --- | --- | --- | --- | --- |
| CR1 | 19 | 14.73 | 17.81 | -3.08 | 32.54 | a |
| CR2 | 20 | 6.90 | 11.91 | -5.01 | 18.82 | a |
| CR3 | 18 | 3.11 | 5.22 | -2.11 | 8.33 | a |
| CR4 | 20 | 11.95 | 13.68 | -1.73 | 25.63 | a |
| TB1 | 18 | 99.73 | 184.22 | -84.49 | 283.95 | a |
| TB4 | 19 | 8.39 | 7.71 | 0.67 | 16.10 | a |
| TB5 | 19 | 3.05 | 2.80 | 0.25 | 5.85 | a |
| TB6 | 19 | 15.49 | 19.58 | -4.09 | 35.08 | a |
| TB7 | 18 | 12.23 | 13.13 | -0.90 | 25.37 | a |
| TB8 | 17 | 8.60 | 9.66 | -1.06 | 18.26 | a |

Table 14. Pairwise two-sample permutation post-hoc comparisons of organic content (g/day) per station.

| **Comparison** | **Stat** | **p.value** | **p.adjust** |
| --- | --- | --- | --- |
| CR1 - CR2 = 0 | 1.586 | 0.11 | 0.22 |
| CR1 - CR3 = 0 | 2.459 | 0.01 | 0.08 |
| CR1 - CR4 = 0 | 0.5532 | 0.58 | 0.69 |
| CR1 - TB4 = 0 | 1.404 | 0.16 | 0.29 |
| CR1 - TB1 = 0 | -1.924 | 0.05 | 0.12 |
| CR1 - TB5 = 0 | 2.589 | 0.01 | 0.08 |
| CR1 - TB6 = 0 | -0.1278 | 0.90 | 0.96 |
| CR1 - TB7 = 0 | 0.4879 | 0.63 | 0.71 |
| CR1 - TB8 = 0 | 1.25 | 0.21 | 0.32 |
| CR2 - CR3 = 0 | 1.236 | 0.22 | 0.32 |
| CR2 - CR4 = 0 | -1.235 | 0.22 | 0.32 |
| CR2 - TB4 = 0 | -0.4638 | 0.64 | 0.71 |
| CR2 - TB1 = 0 | -2.137 | 0.03 | 0.11 |
| CR2 - TB5 = 0 | 1.357 | 0.17 | 0.30 |
| CR2 - TB6 = 0 | -1.627 | 0.10 | 0.21 |
| CR2 - TB7 = 0 | -1.299 | 0.19 | 0.31 |
| CR2 - TB8 = 0 | -0.4753 | 0.63 | 0.71 |
| CR3 - CR4 = 0 | -2.397 | 0.02 | 0.08 |
| CR3 - TB4 = 0 | -2.273 | 0.02 | 0.10 |
| CR3 - TB1 = 0 | -2.109 | 0.03 | 0.11 |
| CR3 - TB5 = 0 | 0.04565 | 0.96 | 0.96 |
| CR3 - TB6 = 0 | -2.409 | 0.02 | 0.08 |
| CR3 - TB7 = 0 | -2.514 | 0.01 | 0.08 |
| CR3 - TB8 = 0 | -2.008 | 0.04 | 0.12 |
| CR4 - TB4 = 0 | 0.9938 | 0.32 | 0.44 |
| CR4 - TB1 = 0 | -2.033 | 0.04 | 0.12 |
| CR4 - TB5 = 0 | 2.56 | 0.01 | 0.08 |
| CR4 - TB6 = 0 | -0.6629 | 0.51 | 0.63 |
| CR4 - TB7 = 0 | -0.06595 | 0.95 | 0.96 |
| CR4 - TB8 = 0 | 0.8481 | 0.40 | 0.51 |
| TB4 - TB1 = 0 | -2.059 | 0.04 | 0.12 |
| TB4 - TB5 = 0 | 2.598 | 0.01 | 0.08 |
| TB4 - TB6 = 0 | -1.449 | 0.15 | 0.28 |
| TB4 - TB7 = 0 | -1.09 | 0.28 | 0.39 |
| TB4 - TB8 = 0 | -0.07459 | 0.94 | 0.96 |
| TB1 - TB5 = 0 | 2.165 | 0.03 | 0.11 |
| TB1 - TB6 = 0 | 1.907 | 0.06 | 0.12 |
| TB1 - TB7 = 0 | 1.928 | 0.05 | 0.12 |
| TB1 - TB8 = 0 | 1.947 | 0.05 | 0.12 |
| TB5 - TB6 = 0 | -2.528 | 0.01 | 0.08 |
| TB5 - TB7 = 0 | -2.698 | 0.01 | 0.08 |
| TB5 - TB8 = 0 | -2.25 | 0.02 | 0.10 |
| TB6 - TB7 = 0 | 0.5967 | 0.55 | 0.67 |
| TB6 - TB8 = 0 | 1.3 | 0.19 | 0.31 |
| TB7 - TB8 = 0 | 0.929 | 0.35 | 0.47 |

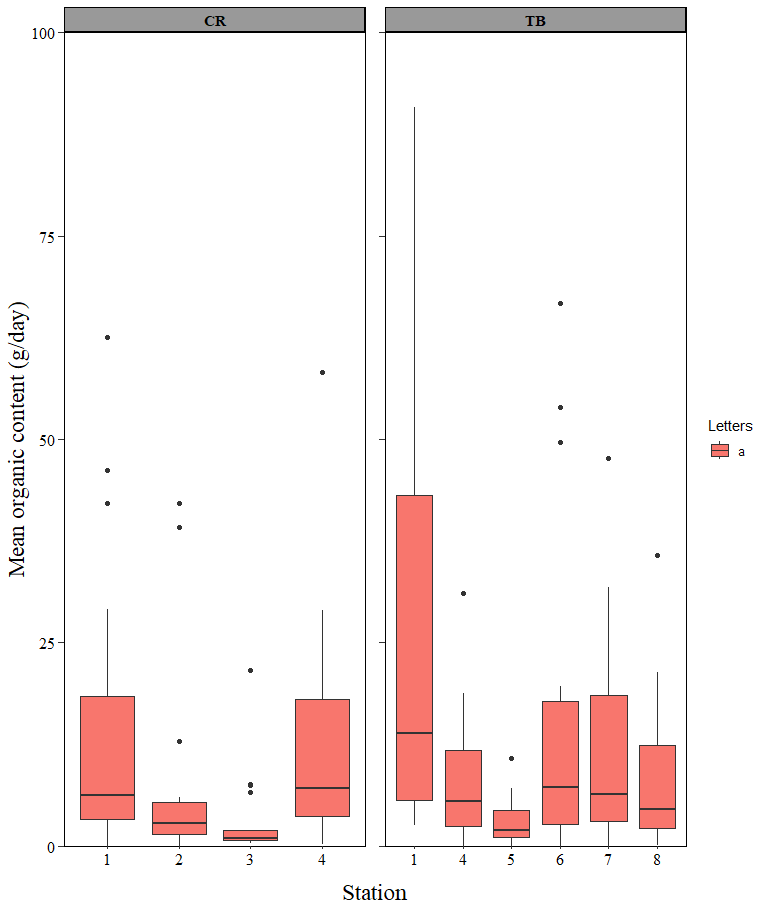


Table 10. Analysis of organic content (g/day) in crucible samples by estuary and station. Permutation ANOVA using 10,000 permutations.

| **Factors** | **df** | **SS** | **MS** | **F** | **Pr** |
| --- | --- | --- | --- | --- | --- |
| Estuary | 1 | 0.09 | 0.09 | 0.41 | 0.521 |
| Station\_code | 8 | 12.76 | 1.59 | 7.50 | 0.000 |
| Residuals | 177 | 37.61 | 0.21 |  |  |

