



# Morphometrics for South Padre Island, Texas

## Metrics Alongshore

The morphometrics used to analyze and interpret changes to the beach system at South Padre Island (SPI) include dune crest and toe, beach width, and profile volume (onshore, offshore, and total). The metrics were extracted from 10 profile surveys ranging from 1995 to 2021, using a variety of methods developed by Integral.

- The SPI building line was used as the landward cut-off for the volume calculations. Therefore, volumes were not calculated for CB-01, CB-02, CB-24 or CB-25 as these transects do not intersect the building line.
- There is no data for the beach at profile CBI-22 in June 2021 due lack of access because of the active nourishment that was taking place at the time of the survey.

Each tab shows a metric alongshore. The metric measurements are on the y-axis and alongshore is on the x-axis, represented by the CBI survey number (1-25). Points and lines are colored by date of the survey. Some features for these interactive plots:

- Double click on a legend item to isolate a survey line. Then single click additional legend items to view a selected set of surveys. To view all surveys again, double click anywhere in the legend.
- View data values when cursor is hovered over a line or data point.
- Click and drag a rectangle to define a plot area for zooming. Click the "Home" icon to zoom out to the plot's original view.
- Use the toolbar on the upper right of the plot to download an image, zoom in and out, and reset the image to initial view. Additional explanations of the toolbar options can be found here (<https://plotly.com/chart-studio-help/getting-to-know-the-plotly-modebar/>).

Crest Z (ft)

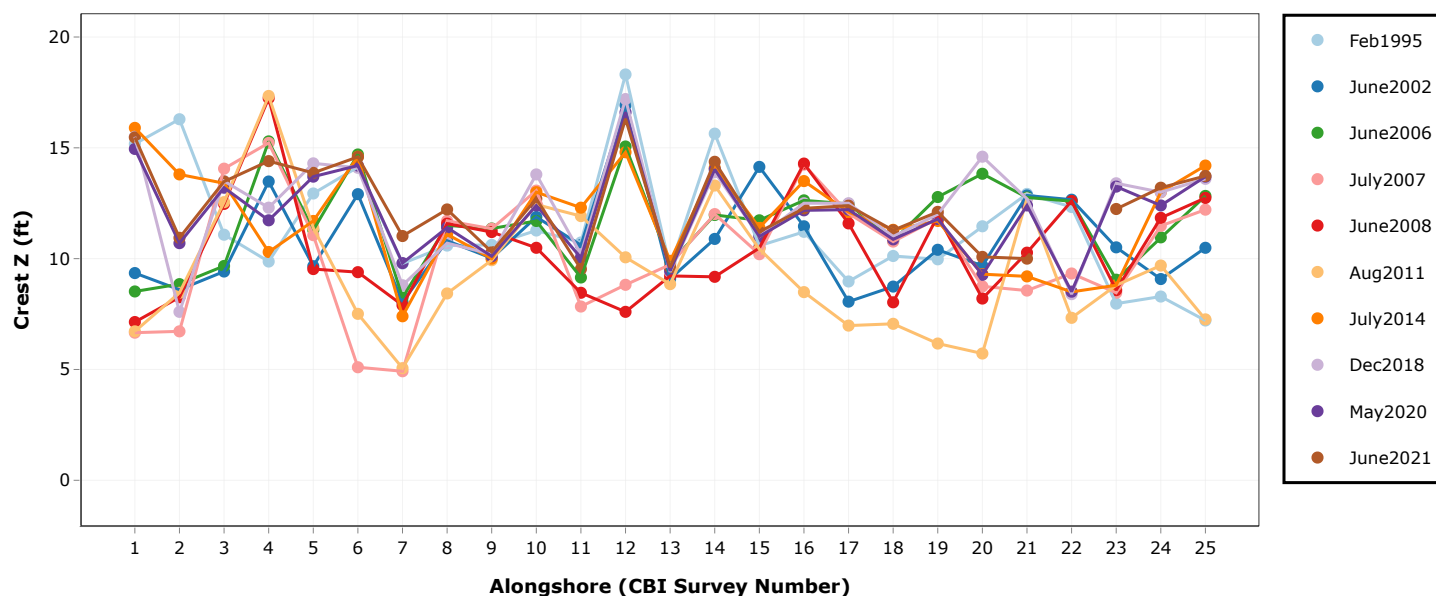
Toe Z (ft)

Beach Width (ft)

Onshore Volume (yd3)

Offshore Volume (yd3)

Total Volume (yd3)



## Summary Statistics

Crest Z (ft)

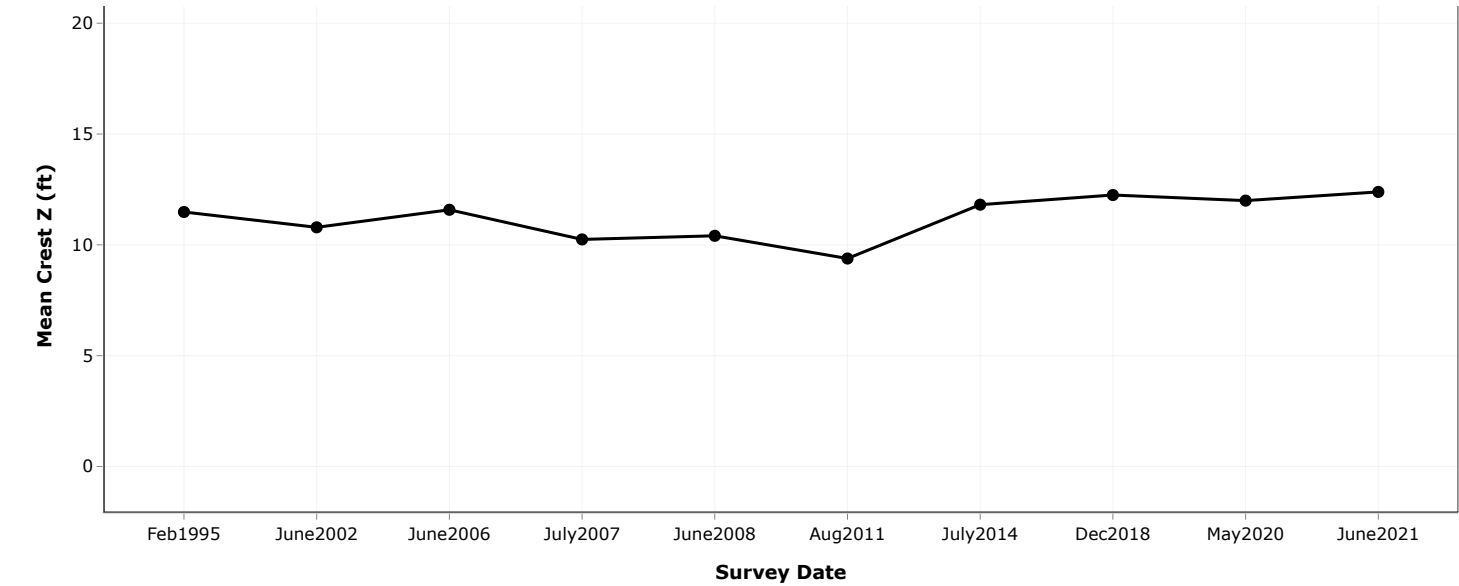
Toe Z (ft)

Beach Width (ft)

Onshore Volume (yd3)

Offshore Volume (yd3)

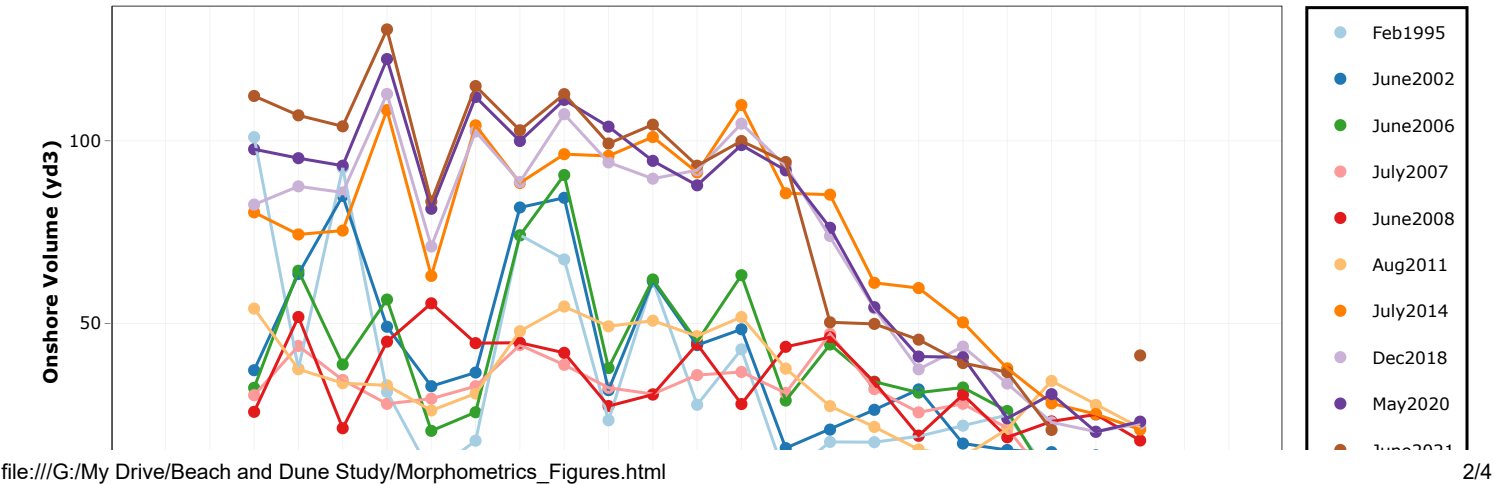
Total Volume (yd3)

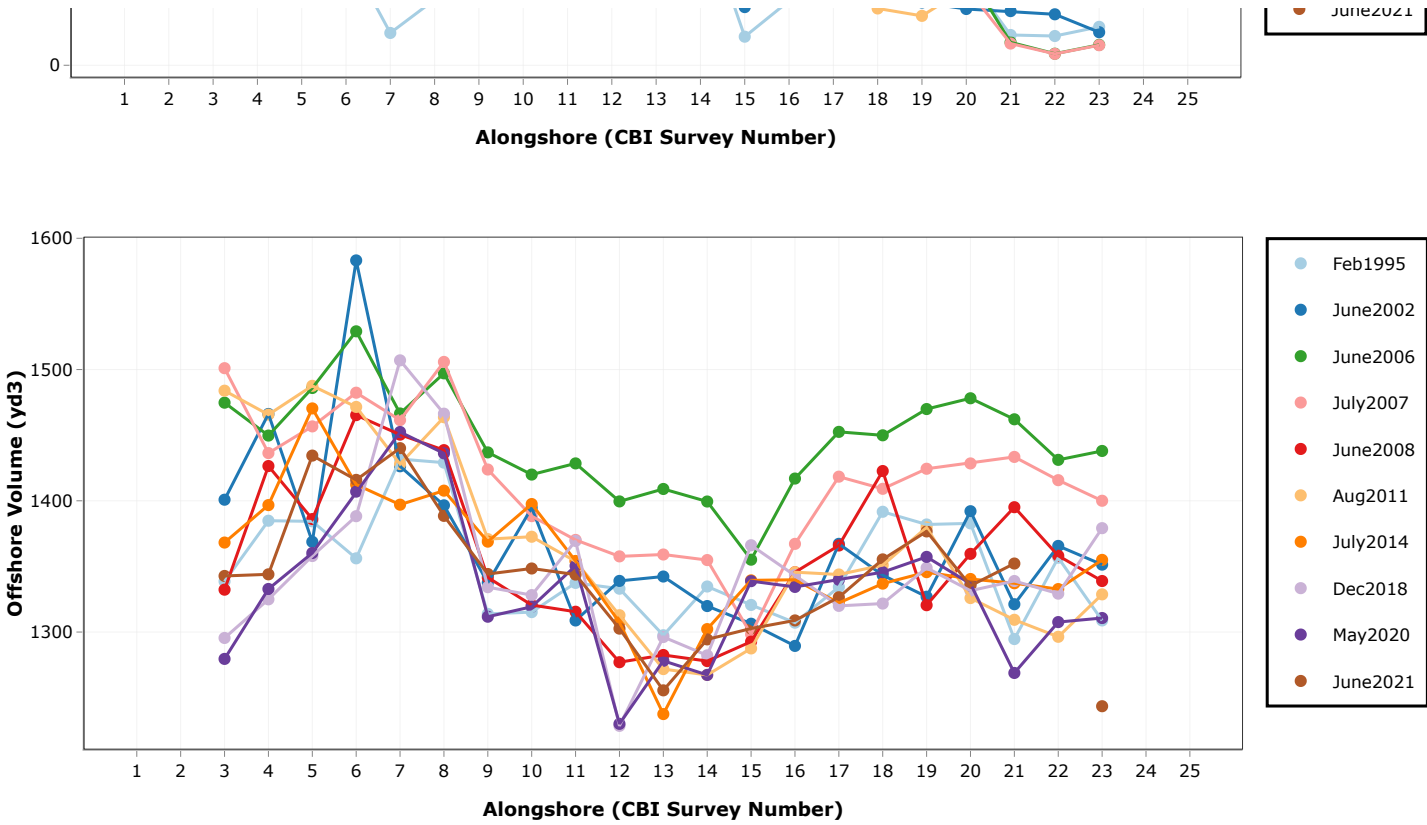


Summary Statistics

Date	No. Surveys	Mean	Median	Std. Dev.	Minimum	Maximum
Feb1995	25	11.48	10.73	2.71	7.21	18.31
June2002	25	10.79	10.49	2.11	8.04	16.93
June2006	25	11.58	11.70	2.00	8.24	15.29
July2007	25	10.25	10.77	2.73	4.92	15.22
June2008	25	10.41	10.27	2.38	7.14	17.24
Aug2011	25	9.38	8.80	2.87	5.06	17.34
July2014	25	11.81	11.70	2.23	7.40	15.90
Dec2018	25	12.25	12.50	2.32	7.60	17.20
May2020	25	12.00	12.18	1.95	8.51	16.60
June2021	24	12.39	12.25	1.88	9.53	16.31

Onshore vs. Offshore Volumes





# Site Map

