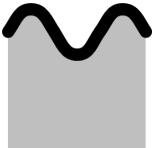# Tide

In this section (Generic data – Tide) you can define the tidal characteristics which can be used in all tools.
The generic tide data consists of 2 types: the 'vertical tide' and the 'horizontal tide'.

Vertical tide

The vertical tide consists of 2 parts: tidal components and a tidal classification. The tidal components can used to generate the tidal classification.

The tidal components can be obtained by loading a *.csv file with a time series, clicking a location on the map, manually filling in the table or from an earlier saved CoDeS tidal components file.

The tidal components can be loaded from a *.csv of CoDeS tidal components file by clicking the ( ) button. An additional window is displayed in which a *.csv file can be selected. Fill in the number of header rows. These rows will be skipped when reading the file. Enter a field delimiter which separates the Tidal component name, the amplitude (m) and the phase (degrees) columns in the *.csv file. Make sure that the column order corresponds to this list, and that the values have the correct dimensions. Click get tidal components to copy the components into to CoDeS.

It is also possible to obtain the tidal components by clicking the ( ) button and selecting a location on the map. This method uses the TPXO8 global tide database to obtain the tidal components. An inverse distance transformation is applied between the TPXO8 grid cells which are closest to the selected point.

Apart from generating the tidal classification from the tidal components, it is also possible to fill (or adjust) the table manually.

When tidal components are available in CoDeS, they can be visualized as a timeseries by clicking on the ( ) button.
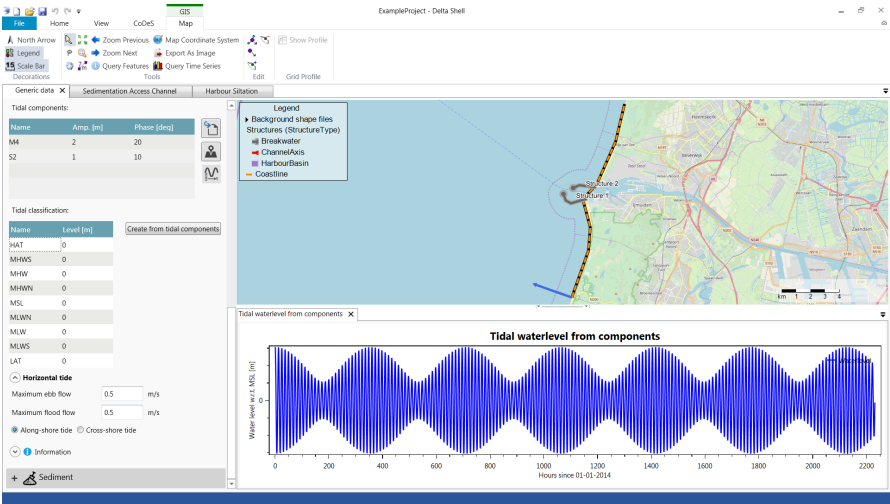
After the tidal components are available, the tidal signal can be classified in terms of Highest Astronomical Tide (HAT) up to Lowest Astronomical Tide (LAT). The definition can be found here. Click the Create from tidal components button to classify the tidal components.

Horizontal tide

The horizontal tide consists of 2 components (maximum flood and ebb flow) and can be defined as alongshore or perpendicular to the coast.