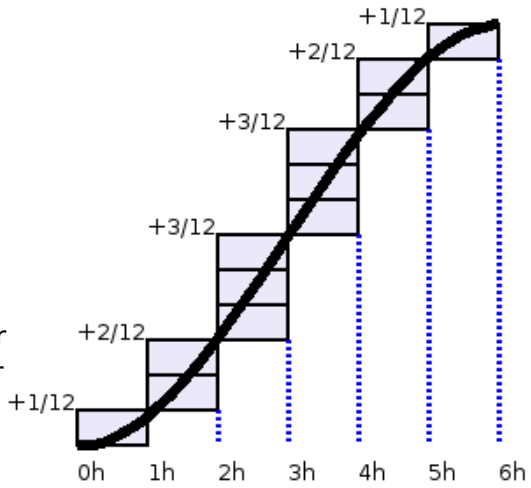
Tidal Calculations, Wind, Waves

Rule of 12ths

The Rule of 12ths relates to the **height** of the water over the chart datum during the tidal cycle.

In the six-hour period that separates the low and the high waters, the overall level will rise/fall 1/12th of the tidal range in the first hour, an additional 2/12ths in the second hour, an additional 3/12ths in the third hour, another 3/12th in the forth hour, 2/12th in the fifth hour and 1/12th in the sixth hour.

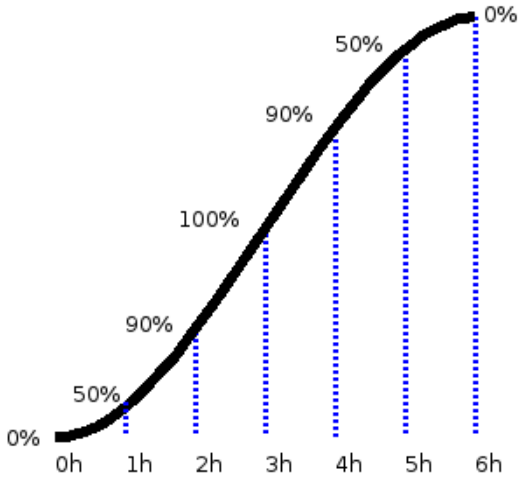


50/90 Rule

The 50/90 Rule relates to the relative **speed** of the tidal current during the tidal cycle.

After 1 hour the tidal flow has reached 50% of its maximum, after 2hours 90%, and after 3 hours, at half-tide, 100%.

After 4 hours it slows back to 90%, after 5 hours back to 50% and after 6 hours we have again slack tide with 0%.



Fetch

The length of water over which a given **wind** has blown

Funnelling Effect

Increased wind speeds when pressed through a narrow opening (mountains, harbour entrance)

Beaufort Scale

Scale for describing wind speeds, ranging from 0 – 12 (**4 moderate**: 11-16kts; **5 fresh**: 17-21kts; **6 strong**: 22-27kts).

Spilling Waves / Dumping Waves

Crest spilling down the face of the wave (shallow gradual slope of beach); crest curling over and plunging down the face of the wave (steep beach or sudden change of depth like a sandbar)

Rebound

Wave reflection on cliffs or harbour walls