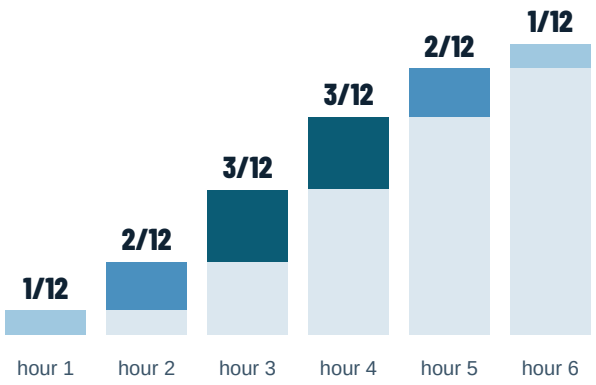
ZULU MARINER DATA CARD

11 TIDES AND CHART DATUM

Heights, depths and the rule of twelfths.

RULE OF TWELFTHS

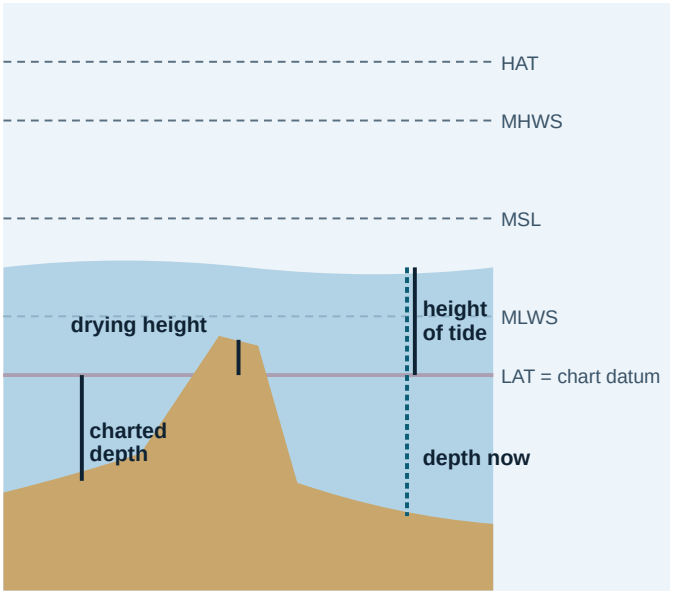


For a tide of about 6 hours, the rise or fall each hour is 1, 2, 3, 3, 2, 1 twelfths of the range. Half the range moves in the middle two hours, so that is when streams run hardest.

SPRINGS AND NEAPS

- **Springs**: biggest range, a day or two after new and full moon. Higher highs, lower lows, stronger streams.
- **Neaps**: smallest range, near the half moons.
- Gladstone and much of Queensland have two tides a day, unequal in height.

CHART DATUM AND HEIGHTS

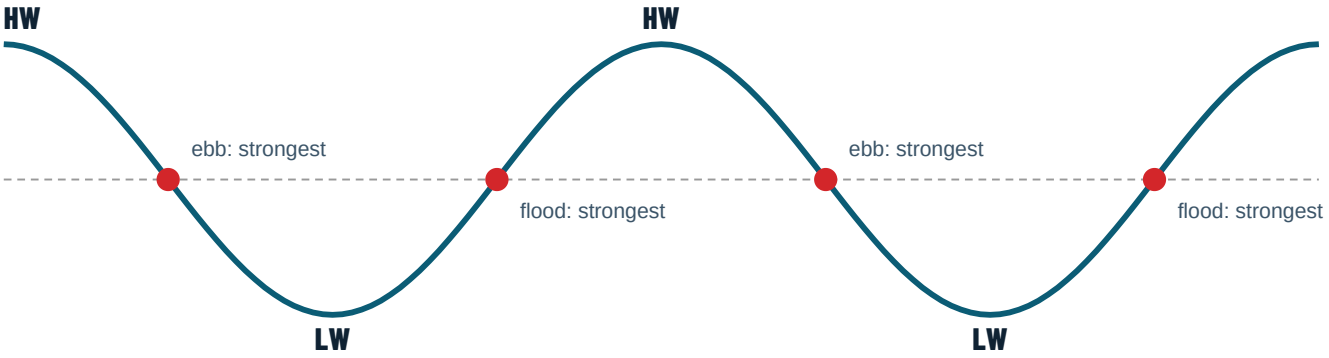


Depth now	charted depth + height of tide
Drying height	above chart datum: subtract it from the height of tide
Under keel clearance	depth now – draft (– squat underway)
Heights of lights and bridges	above MHWS (or HAT on newer charts)

RULES OF THUMB

- Chart datum in Australia is LAT, the lowest tide you can expect in normal weather. Strong offshore wind and high pressure can make it lower.
- High pressure lowers sea level: about 1 cm for each hPa above 1013.
- Use the official tide tables for your port. Times and heights elsewhere differ.

A DAY OF TIDE: ABOUT 6 H 12 MIN FROM HIGH TO LOW



Streams run hardest at mid-tide and go slack near high and low water.

Study aid only. Not for navigation.
Check the current official rules. Card 11 · v1.7 · © Nautical Bridge