



WATER DEPTHS AND TIDES



Each year, around 30,000 sea-going vessels call at the port of Rotterdam. In a complex environment like maritime transport, miscommunication can quickly cause disruptions. Clear communication is essential. Under the banner 'Port Call Optimisation', the Port of Rotterdam Authority is therefore committed to working with shipping and ports to achieve shared standards and improve the quality and availability of data pertaining to vessels and port calls.

Berths are the pivots of our joint processes: are we talking about the same berth? And what about the depth at the berth: will the ship fit? Most chain parties use depths to plan their activities. In the past, however, there was no uniformity in naming of the depths and tides: the standards used by the port were different from the standards used by shipping. This resulted in miscommunication between parties and systems relating to navigating, ordering and planning a port call. The Port Authority is committed to implementing the International Hydrographic Organisation's (IHO) international nautical standards for depths and tides, which is based on the publications used by shipping to navigate berth to berth worldwide. This ensures that the quality of depth information will improve for all chain partners.

We measure and publish these data for you

The publications used by shipping are produced by the Hydrographic Service of the Royal Navy. These are long-term publications and therefore less up to date. The Hydrographic Service of the Port of Rotterdam also publishes charts and tides, now based on the same standards, but with a shorter time frame and more up to date. This makes it much easier for a ship's captain to use both publications as sources for depths and tides.

ADVANTAGES

- The terminal, charterer, captain or ship agent no longer needs to translate the depths from a local chart datum into an international chart datum. Allowing them to better assess whether a vessel can berth at its intended berth. They also have a better understanding of how these depths are maintained, and thus how reliable they are.
- The Hydrographic Service of the Royal Navy publishes the maintained depths in the nautical charts based on the same source.
- Draught optimisation may reduce CO2 emissions by up to 6.4% per carried container (based on a draught increase of 0.5 metre of a 16,000 TEU vessel, sailing 200 nautical miles with an average speed of 15 knots, and provided the extra cargo is available).

Publication of depths and tides

- The port of Rotterdam Authority publishes depths and tides on the website <https://www.portofrotterdam.com/en/up-to-date-information/weather-tides-and-water-depth>.
- These depths and tides are published within 24 hours of completing the hydrographic survey.
- The date of the latest sounding is indicated for each area. Please zoom into the particular area until the soundings appear. Left click with your mouse to find the results at "SUREND" (yyymmdd).

Use of the data by shipping

- Soundings are included in the Electronic Navigational Chart for Pilots within 24 hours on working days, allowing them to navigate with the latest data and advise the Master accordingly.
- Soundings and maintained depths are accessible to Chartering and Marine Assurance departments as well as the Master for ship-berth compatibility checks and calculating the maximum draught.
- Only maintained depths should be used for passage planning of vessels and cargoes. Soundings should be used only after consultation with the harbour coordination centre because they are affected by siltation and dredging operations.

Use of the data by terminals

- Soundings can be used for a Marine Terminal Management Self-Assessment (MTMSA).
- During a third-party audit, the website can be used, or a screen dump of the aforementioned website.

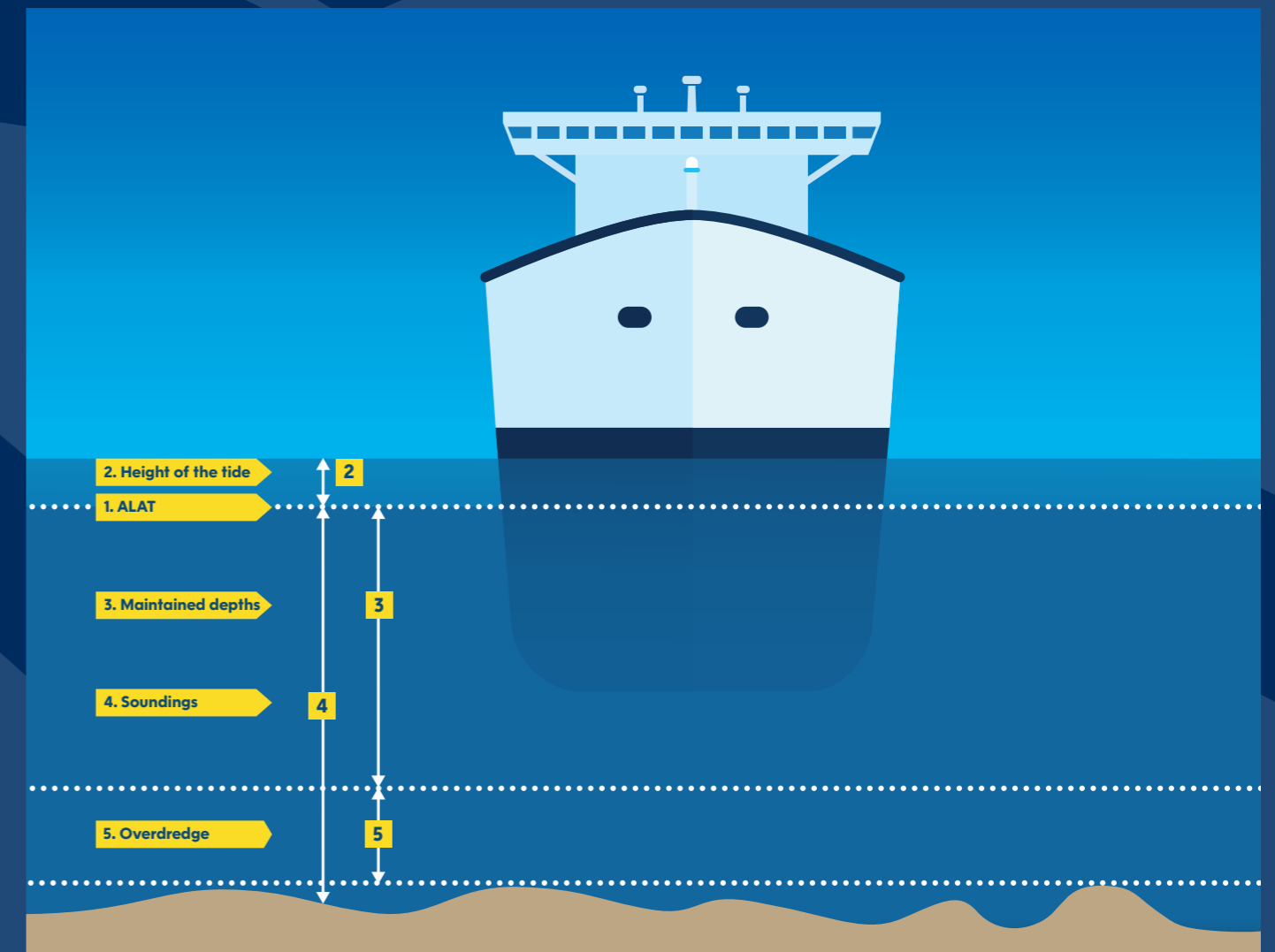
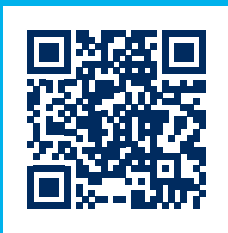


Image explanation:

- 1. ALAT:** Approximate Lowest Astronomical Tide; the lowest tidal level which can be predicted to occur under average meteorological conditions and under any combination of astronomical conditions.
- 2. Height of tide:** the vertical distance from the chart datum (ALAT) to the level of the water at a particular time.
- 3. Maintained depths:** the depth at which a channel is kept through human intervention, usually by dredging.
- 4. Soundings:** measured or charted depth of water or the measurement of such a depth.
- 5. Overdredge:** an additional depth margin provided by a dredging operation to ensure that the depth at a specific location is never less than the pre-determined maintained depth over the interval between programmed dredging operations.

This is how the port of Rotterdam Authority performs the sounding and dredging operations:

- Soundings are performed by hydrographic survey vessels with multi-beam echosounders.
- In line with NL Norm A, based on IHO S-44 ed 6 (hydrographic survey standard by the International Hydrographic Organization).
- On average, port sections are surveyed every 6 weeks. Depending on siltation rate, the frequency can be higher or lower.
- The overdredge policy is 0.50 metres, allowing siltation without exceeding the maintained depth.
- If the latest sounding chart shows soundings which are less than the maintained depth, and a vessel requires maximum draught with 24 hours' notice, the dredging department executes within 24 hours a dredging operation as soon as the berth is available.



For more information?

www.portofrotterdam.com/wtwd