



Getting to grips: charts and tides

In this article we look at the basics of charts and tides and give you a few 'tricks of the trade' to help you make your boating even more fun. **Words: Paul Glatzel**

Whether it is a trip to the beach, a run along the coast or a blast with a wakeboarder towed behind you, getting afloat should be fun and relaxing.

Most of the time it is, but sometimes paying to fix the prop you twanged as you hit the power and pulled the wakeboarder out of the water only to find it was shallower than you thought, or perhaps arriving at the slipway to find someone has pulled the plug out and there is not enough water to launch, or returning round that headland that was flat calm earlier to find the tide ripping around it kicking up some big seas that the kids don't like, all spoil what was a great day out. This is where a bit of knowledge about charts and tides comes in.

Charts are the nautical equivalent of the maps we use when in our cars. They are

available in electronic or paper versions and from various manufacturers. Think of a chart as a photo of an area when the tide is at its lowest – it shows the 'worst case' you are ever likely to see in that area.

The chart contains a huge amount of information. (see right)

The chart shown above is a paper-style chart. Electronic charts show just the same information and can either look exactly like a paper chart or be digital versions. Digital versions are most common and allow you to switch 'layers' of information off and on – be careful not to hide useful/critical information, though! Electronic charts are found in the chartplotter you have on board – and your smartphone and tablet computer if you buy the apps. Using a smartphone or tablet afloat can work well, but there's a



need to waterproof the units and appreciate their limitations.

Quite bizarrely, when you log on to electronic charts you have to agree to the fact that they should not be used for navigation! With paper charts the manufacturers are required to ensure their accuracy, but this is not so with electronic charts, so there is a higher chance of an error. The best solution is to use the electronic charts for navigation but use them alongside paper charts as a backup.

If you choose a paper chart, make sure it will withstand the conditions in a smaller open boat. Some are designed to get wet and dry out with no lasting damage.

A chart, whether electronic or paper based, will ensure that you have more fun afloat: you will go to places that you otherwise would have avoided and you will stay clear of areas that could present a danger. Buy a chart and explore!

You need to combine an understanding of charts with a knowledge of tides. Simply, the sun, moon and earth interact to create tides. During the day the water level rises and falls; to create this rise and fall the water moves into and out of an area giving the horizontal movement of water we experience up and down the coast.

Twice a month we get very high high tides and very low low tides – ‘spring tides’. Between these times the high tides are not quite as high and the low tides not quite as low – ‘neap tides’. There’s a seven-day cycle and if we get a spring tide on, say, a Tuesday, the next Tuesday it will be a neap, then seven days later a spring and so on. Between the spring and neap there is a gradual change from one to the other. If we see a full or a new moon in the sky it’s a spring tide.

So how does this impact on you?

Depending on where you launch or the depth of the channel you navigate to get to your destination, you may not have enough water beneath you except at certain ‘states of the tide’. When you anchor, if the tide ‘goes out’ you may go aground.

The horizontal movement of water (‘stream’) pushes you around too. Behind you it speeds you up; towards you it slows you; from one side it may push you off course.



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The speed of the water varies too. With spring tides the rate may be twice that of neaps, as about twice the volume of water moves.

So we need to know where to get tidal information from. Smartphone and tablet apps are a great source.

Some locations have little tidal booklets, while websites like Easytide offer a great free service.

Remember: to work out the depth of water in a location, we take the tidal height and add it to the figures from our chart.

23 means 2.3m minimum depth of water at the lowest likely tide. If we have 3.1m of tide, we will have 3.1 + 2.3 overall depth (5.4m). If the number is 14, this means we have 1.4m of ground exposed above the lowest level the water goes down to (known as ‘chart datum’). With the same 3.1m tide we will have 3.1 - 1.4 of water (1.7m).

We said the tide movement pushes us around – this can sometimes create a danger. Tide running fast around a headland or through a constriction creates choppy water and, if wind is blowing in the opposite direction to tide, can create potentially dangerous conditions. To see what the tide is doing near a headland, check out a tidal diamond. Look up the time of high water, which gives

you the direction and strength of the tide at each hour before or after high water. Now time your passage around that headland for when there’s little or no flow.

There’s lots to know about charts and tides but we hope that this brief introduction has whetted your appetite for more. The RYA Essential Navigation and Seamanship course can be undertaken

online and is a great way to learn more. **Paul Glatzel**

Paul Glatzel is an RYA Powerboat Trainer and is author of the RYA Powerboat Handbook. He runs Powerboat Training UK in Poole, Dorset.

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July 2013

Day	Mon 22	Tue 23	Wed 24	Thu 25	Fri 26	Sat 27	Sun 28
Phase	Full Moon						
Tide Height (m)	2.0	1.0	2.0	1.0	2.0	1.0	2.0

Page 39 PREDICTED TIDE-HEIGHT IN METRES. Copyrights: Design - Tony Maskell 1990/2012; Data - Proudman 2012; Publication - Neil Glatwell 1996/2012