



Southampton tide tables for 2014

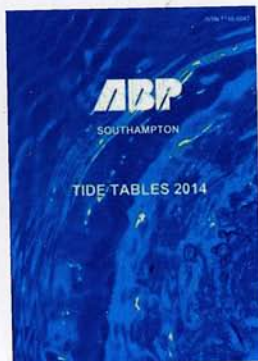
Your quick guide to using a tide table



About this guide

In St Denys, the type of flooding most likely to occur is tidal; from the River Itchen. Therefore understanding the tidal patterns can help you keep an eye out for conditions that could contribute to the risk of flooding.

This leaflet is a supporting guide to the ABP Tide Tables 2014 book that you have been sent as part of the Belsize Flood Resilience Project. It is a quick summary of how to use the tables, dates to look out for, and the conditions that could lead to a flood.



What is a tide table?

For those who are not familiar with a tide table, it is a book containing the predicted times and heights of both the first and second high waters, and the corresponding low water for the tidal cycle each day. Predictions are based on the positions of the sun and moon in the lunar cycle.

The tide table for Southampton is produced annually by Associated British Ports (ABP), the harbour authority for Southampton and the central Solent area. It is useful to people who use the water for activities such as sailing, and can also be used to help predict when flooding may occur.

How to use a tide table

A tide table should be read like a calendar. Simply look up the date you are interested in and read across to find out the time and height of the first high water, second high water and low water. For example, on 1 January 2014, the first high water is predicted to be at 10.25am at a height of 4.8 metres above Chart Datum (please see table opposite).

If you only wanted to know the time of the tide and how high it is likely to be on a particular day, you only need to look at the information under the column 'First high water'. On most days there are two high tides about 12 hours apart, but on one or two days each month (for example 3 January) the second high tide is predicted to occur just after midnight so it is listed for the next day.

Southampton is unusual because for each tide there is a "second high water" occurring between two and three hours after the first high water. On most days the second high water is slightly lower than the first so generally you don't need to worry too much about it. If you do want to check the time and height of the second high water, look at the two columns underneath 'Second high water'.

Unfortunately sometimes the first and second high water times for a particular tide appear on different rows of the table, which can be confusing. For example on 1 January, the second high water shown at 23 minutes past midnight (00:23) corresponds to a first high water which was late on 31 December. The second high water after the tide at 10.25am on 1 January is shown on the next line, at 12.52pm that day. After 3 January, the times are back in step.

Below is an extract from the Southampton ABP Tide Tables 2014, explaining the key features

January 2014

Time in Hours and minutes (24-hour)

Height of water in metres above Chart Datum

These columns are used by people on boats and ships to find the water depths at times other than at high or low water - you don't need to worry about these

Date		First high water		Second high water		Low water		Letter		Range	% Mean sp
		Time	Height	Time	Height	Time	Height	Ebb	Flood		
		H.M	Metres	H.M	Metres	H.M	Metres				
1	We	10.25 22.50	4.8 4.8	00.23 12.52	4.4 4.4	03.48 16.14	4.4 4.4	Q S	S V	S V	100 115
2	Th	11.06 23.36	4.9 4.8	01.03 13.26	4.6 4.6	04.37 17.02	0.6 0.3	S V	V X	V X	115 125
3	Fr	11.25 -	4.9 -	02.01 14.22	4.7 4.8	05.24 17.48	0.5 0.2	V W	W X	W X	120 130
4	Sa	00.22 12.40	4.8 4.8	02.50 15.11	4.8 4.8	06.11 18.34	0.5 0.5	V V	V W	V W	115 120

On this day the next high tide arrives after midnight (on Saturday 4 January at 00.22)

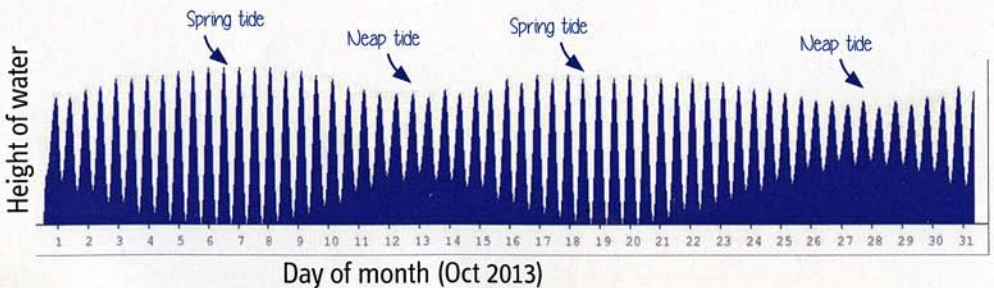
Spring and neap tides

Tides change in height as part of a monthly cycle affected by the gravitational pull of the moon and sun. Tides reach a maximum (spring tide) and fall to a minimum (neap tide) twice a month.

What is a spring tide?

Spring tides refer to tides where the difference between high and low water is at its greatest in the cycle. Spring tides are not related to seasons but occur 36-48 hours after the full or new moon - when the gravitational effect is strongest.

Example tide cycle



What is a neap tide?

Neap tides refer to tides with the smallest difference between high and low water. Neap tides occur when the moon is in its first or third quarter of the lunar cycle - when the gravitational effect on the Earth is lowest.

Flooding is most likely to occur during spring tides when tide levels are approaching maximum level, especially if weather conditions are poor.

Tips on forecasting

Each month check the tide table for days when the predicted tide height is more than 4.5m. Tide heights nearing 5m cause the most concern – they occur around the time of a new or full moon, near midday or midnight.

One or two days before a very high tide is predicted, check the weather forecast, as the weather can influence the height of the tide. Look out for low air pressure as the tide will be approximately 1cm higher for every 1mb below 1020mb. For example 970mb will add approximately 50cm to the tide table height prediction. You can look up the correction value in Table (A) on page 39 of the tide table book.

You can also check the Portsmouth Surge Forecast (the link is available at www.itchentides.org.uk) which shows by how much the tide is expected to differ from the predicted tide table value. This is available one or two days in advance and you can expect the value for Southampton to be slightly higher than what is forecast for Portsmouth.

On the day or evening before a very high tide, re-check both the weather and Portsmouth Surge forecasts, listen out for flood alerts or warnings, and if necessary implement any property protection measures to protect your home.

Dates to keep an eye on in 2014

Over the next year lots of tides are predicted to be 4.6m (above Chart Datum) or greater. Should these tides occur at the same time as a low pressure system or bad weather, it's possible flooding may occur. Very large tides of 4.9m are predicted on the following dates, so keep an eye on the weather conditions and take action when necessary:

2 and 3 January 2014

1 February 2014

12 and 13 August 2014

9, 10 and 11 September 2014

8 and 9 October 2014

24 December 2014

If you have any questions about this document or the Belsize Flood Resilience Project please contact us.

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