## National Oceanography Centre Marine Data Products

## Dee and Mersey River Bores

In most tidal rivers the change from ebb to flood is a gradual process. The ebb current downstream slows, there is a period of slack water and then very slowly the flood tide starts flowing upstream. However, in a few rivers the behaviour is remarkably different. The onset of the flood tide is marked by a distinct and sometimes very vigorous wave called a bore.

Two rivers that produce bores are the Dee and the Mersey. They are at their best when very high tides (above 10 metres) are expected at Liverpool, which occurs on only a few days each year. However lower tides can produce good bores if other factors are favourable such as a period of dry weather reducing fresh water flow in the rivers.

The Dee bore may be seen at the old road bridge at Queensferry about 2hrs before high water (HW) Liverpool. It arrives at the Saltney Ferry footbridge approximately 1 hr 30 minutes before HW Liverpool and then takes a further half-hour to arrive, somewhat reduced, at Chester.

The Mersey bore may be seen in the lower estuary opposite Hale Point about 2hr 25 min before HW Liverpool. From the park at Widnes West Bank it may be seen passing under the Runcorn road and rail bridges about 1 hr 50 min before HW Liverpool. Under good conditions the



bore may be seen as far as Warrington passing under the rail bridge south of Bank Quay station about 20 min before HW Liverpool. It passes rapidly through the town centre and arrives at Howley Weir just before HW Liverpool.

## Tips for observers

Arrive early. Due to rainfall, wind and other factors the time of arrival of the bore or its appearance cannot be predicted with certainty. It is better to arrive half an hour too early that one minute too late.

Tidal predictions for Liverpool and other ports can be found on the National Tidal and Sea Level Facility (NTSLF) website:

http://www.ntslf.org/tides/predictions

(The times shown are GMT, during British Summer Time add one hour to the time)

Bores can disappoint, because of various factors, even if the predicted tide is very high. If you can go a number of times you will have a better chance of seeing something quite awe inspiring.





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