

Chapter 9.7.1 (Tidal curves)

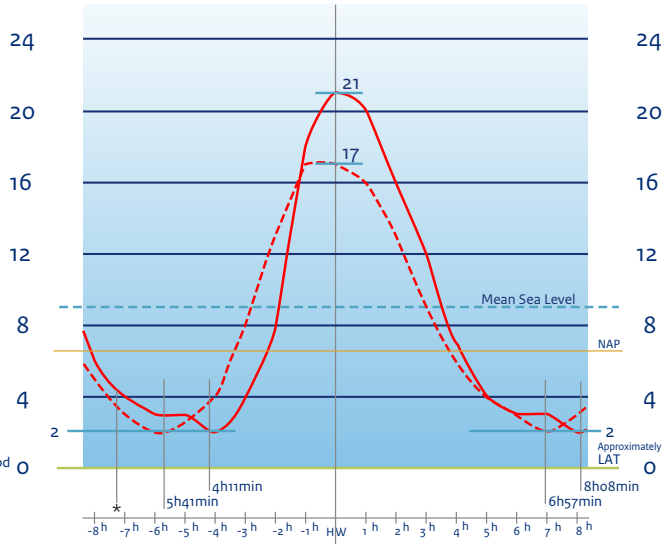
Delete tidal curve Rotterdam and replace by new illustration

Rotterdam

TIDAL HEIGHT in dm
Approximately LAT
51°55'N-04°30'E

— Springs
- - - Neaps

OLW lies 9 dm below Mean Sea Level
NAP lies 2.4 dm below Mean Sea Level
OLW = Approximately LAT
* = predicted LW at the begin of LW-period



Chapter 9.7.2 (Tidal streams)

Delete tidal stream tables and replace by new tables

Noord (N entrance)		51°52.6'N	04°37.7'E
Time	Direction	Spring Rate	Neap Rate
-06	336°	2.5 kn	2.2 kn
-05	336°	2.6 kn	2.3 kn
-04	336°	2.1 kn	2.1 kn
-03	336°	2.0 kn	1.9 kn
-02	336°	2.1 kn	1.6 kn
-01	336°	1.9 kn	0.7 kn
HW	337°	0.7 kn	0.6 kn
+01	155°	2.2 kn	1.7 kn
+02	155°	2.8 kn	1.8 kn
+03	155°	2.0 kn	1.2 kn
+04	155°	1.3 kn	0.2 kn
+05	346°	0.1 kn	1.0 kn
+06	337°	1.4 kn	1.9 kn

Noord (S entrance)		51°49.6'N	04°40.1'E
Time	Direction	Spring Rate	Neap Rate
-06	353°	1.9 kn	1.8 kn
-05	353°	2.2 kn	1.9 kn
-04	353°	1.9 kn	1.8 kn
-03	353°	1.7 kn	1.7 kn
-02	353°	1.8 kn	1.5 kn
-01	353°	1.7 kn	1.0 kn
HW	353°	1.3 kn	0.3 kn
+01	172°	1.7 kn	1.7 kn
+02	174°	2.8 kn	1.8 kn
+03	174°	2.1 kn	1.3 kn
+04	174°	1.4 kn	0.3 kn
+05	176°	0.2 kn	0.8 kn
+06	354°	1.2 kn	1.5 kn

Dordtsche Kil (N entrance)		51°47.5'N	04°37.4'E
Time	Direction	Spring Rate	Neap Rate
-06	344°	2.6 kn	2.3 kn
-05	345°	3.0 kn	2.5 kn
-04	345°	2.7 kn	2.5 kn
-03	345°	2.4 kn	2.3 kn
-02	345°	2.4 kn	1.9 kn
-01	345°	2.2 kn	1.1 kn
HW	345°	1.3 kn	0.7 kn
+01	165°	2.6 kn	2.4 kn
+02	164°	3.7 kn	2.6 kn
+03	164°	3.1 kn	2.2 kn
+04	164°	2.5 kn	1.2 kn
+05	164°	1.1 kn	0.4 kn
+06	344°	1.1 kn	1.8 kn

Dordtsche Kil (S entrance)		51°44.2'N	04°37.8'E
Time	Direction	Spring Rate	Neap Rate
-06	016°	1.9 kn	1.7 kn
-05	016°	2.2 kn	1.9 kn
-04	016°	2.0 kn	1.8 kn
-03	016°	1.8 kn	1.7 kn
-02	016°	1.8 kn	1.5 kn
-01	016°	1.7 kn	1.0 kn
HW	017°	1.1 kn	0.6 kn
+01	195°	2.0 kn	1.9 kn
+02	196°	3.1 kn	2.1 kn
+03	196°	2.6 kn	1.8 kn
+04	196°	2.0 kn	1.0 kn
+05	198°	0.9 kn	0.3 kn
+06	015°	0.8 kn	1.3 kn

Chapter 9.7.2 (Tidal streams)

Delete tidal stream tables and replace by new tables

9.7.2 Tidal streams

The predictions in the tables refers to HW Hoek van Holland

Hoek van Holland		52°00.0'N	04°01.0'E
Time	Direction	Spring Rate	Neap Rate
-06	270°	1.2 kn	1.2 kn
-05	268°	1.2 kn	0.9 kn
-04	284°	0.9 kn	0.6 kn
-03	283°	0.6 kn	0.1 kn
-02	335°	0.2 kn	0.5 kn
-01	086°	1.5 kn	1.0 kn
HW	087°	1.7 kn	1.1 kn
+01	091°	1.2 kn	0.4 kn
+02	093°	0.8 kn	0.2 kn
+03	287°	0.2 kn	0.2 kn
+04	290°	0.7 kn	0.6 kn
+05	271°	1.1 kn	1.2 kn
+06	273°	1.2 kn	1.3 kn

Beerkanaal		51°57.7'N	04°05.1'E
Time	Direction	Spring Rate	Neap Rate
-06	226°	0.1 kn	0.2 kn
-05	052°	0.2 kn	0.0 kn
-04	023°	0.0 kn	0.1 kn
-03	316°	0.0 kn	0.2 kn
-02	221°	0.3 kn	0.3 kn
-01	208°	0.7 kn	0.4 kn
HW	214°	0.7 kn	0.2 kn
+01	152°	0.1 kn	0.0 kn
+02	120°	0.0 kn	0.2 kn
+03	060°	0.3 kn	0.2 kn
+04	041°	0.4 kn	0.2 kn
+05	042°	0.3 kn	0.3 kn
+06	334°	0.1 kn	0.3 kn

Calandkanaal		51°57.2'N	04°07.9'E
Time	Direction	Spring Rate	Neap Rate
-06	203°	0.1 kn	0.1 kn
-05	289°	0.1 kn	0.1 kn
-04	308°	0.1 kn	0.0 kn
-03	341°	0.0 kn	0.1 kn
-02	104°	0.1 kn	0.1 kn
-01	130°	0.5 kn	0.1 kn
HW	301°	0.1 kn	0.0 kn
+01	303°	0.3 kn	0.2 kn
+02	272°	0.1 kn	0.2 kn
+03	308°	0.3 kn	0.2 kn
+04	312°	0.3 kn	0.3 kn
+05	308°	0.2 kn	0.3 kn
+06	223°	0.1 kn	0.2 kn

Oude Maas (N entrance)		51°53.0'N	04°19.5'E
Time	Direction	Spring Rate	Neap Rate
-06	348°	2.3 kn	1.9 kn
-05	348°	1.9 kn	1.8 kn
-04	348°	1.7 kn	1.6 kn
-03	348°	1.6 kn	1.3 kn
-02	348°	1.5 kn	0.7 kn
-01	349°	0.7 kn	0.1 kn
HW	167°	0.6 kn	0.6 kn
+01	167°	1.5 kn	1.2 kn
+02	168°	1.8 kn	1.1 kn
+03	175°	1.2 kn	0.7 kn
+04	173°	0.6 kn	0.1 kn
+05	355°	0.3 kn	0.9 kn
+06	352°	1.4 kn	1.7 kn

Chapter 9.7.2.1 (Cautions)

Delete all cautions and replace by:

9.7.2.1

Cautions

- It is strongly emphasized that stream atlases show averages, in direction and rate, of the tidal streams. There is so much diversity in the manifold circumstances which may cause deviations from averages, that tidal streams can never be predicted with absolute certainty;
- Depending on position and local bottom properties (e.g., channels, sand waves etc.), deviations in both direction and rate of the tidal stream may occur, especially at greater depths. This may have a notable effect on deep draught vessels. Unlike general expectations, the mean neap rates may be higher than the mean spring rates in some channels; this depends on the cross-section in intertidal areas;
- In areas with banks, the tidal stream pulls through the channels; the direction of the stream fits the bearings of the banks; after sufficient flooding the tidal stream will cross the banks;
- During extremely high Rhine-discharges of more than 6000 m³/s at Lobith, the Haringvliet sluices are fully opened; in that case, it is impossible to keep the discharge through the Nieuwe Waterweg at a constant level. During sluicing, strong currents may occur in the vicinity of the Haringvliet sluices;
- Construction of Maasvlakte 2
Because of the construction of Maasvlakte 2, current patterns in and near the Maasgeul have changed. Changes are most noticeable during flood tide. The flood current follows the new coastal line in a northern direction and diverts, in the vicinity of buoy MV-N, in an easterly direction. In the Maasgeul, the cross current during flood tide decreases near buoy MV-N. The rate of decrease is more gradual than in the old situation. During flood tide, the depth averaged streamrates are comparable to the old situation until one hour after high water at Hoek van Holland. After that time, streamrates and directions differ from the old situation, north of Maasvlakte 2. The turn of the flood tide near the harbour entrance starts slightly earlier than in the old situation. A remarkable change is a counter stream, which occurs after high water, between buoy MV-N and the port entrance and just north of the new coastline of Maasvlakte 2. Seaward of the port entrance, the east going flood stream partly bears off in a southern direction and continues in a western direction, directly under the new coastline of Maasvlakte 2. In the vicinity of buoy MV-N, the counter stream merges with the north going flood stream. The strength of the counter stream varies with tide, wind and river discharge. Effects of the counter stream may be encountered until the Maasgeul. The counter stream is most dominant during spring tide. During ebb tide, the tidal stream bears off in a western direction in the vicinity of the port entrance and follows the new coastal line. No further changes of any significance have been reported during ebb tide.

■ **Rules | Regulations**

See Chapter 2 - Navigation | Traffic safety, section 2.17 'Shipping regulations'.