

Introduction

Within Building with Nature, project HK 3.2, Deltares has developed a wave look-up table. This table transforms offshore wave data to an arbitrary location nearshore (in green box), proving wave time series.

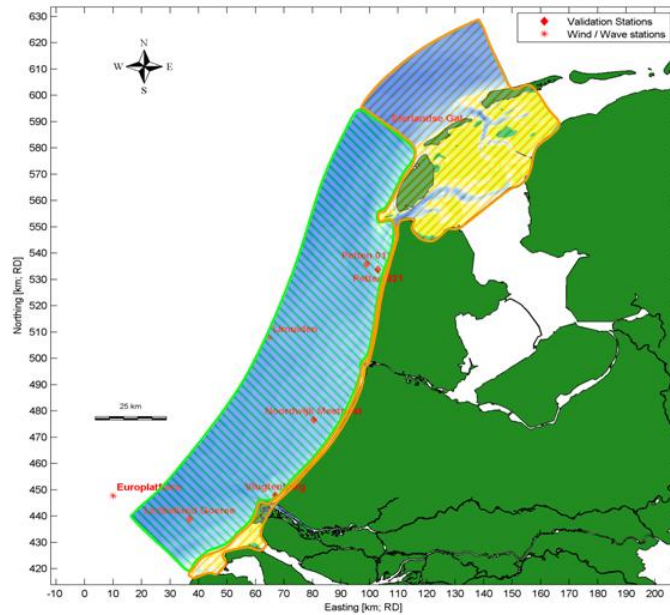


Figure 1: Overview model domain.

Input

The wave lookup table is using Matlab to do the transformation. The program will generate an ASCII-file (see appendix) which contains the nearshore wave time series.

The input of the user is limited to

- XY location (RD-coordinate system) of the output location nearshore. The position of this station needs to be located in the model domain (see Figure 1).
- Time period for the transformation, which needs to be specified by begin time and end time.
- Name of output file

Result

The wave parameters at the arbitrary location will be provided in the form of an ASCII table (see below), containing:

- Significant wave height (Hm0 [m])
- Mean wave direction [deg N]
- Wave period (Tp [s])

Example ASCII output file:

```
Transformed wave data from the offshore platforms YM6 and EUR to nearshore
NaN values mean that the wave direction is between 30-200 deg, so no transformation is done
* Output Location X: 80443 [m; RD]
* Output Location Y: 476683 [m; RD]
* column 1 = Date
* column 2 = Time
* column 3 = Hm0 (m)
* column 4 = Hdir (deg N)
* column 5 = Tp (s)
20010101 010000 NaN NaN NaN
20010101 040000 NaN NaN NaN
20010101 070000 1.072 237.200 4.842
20010101 100000 1.038 248.200 5.568
```

For additional information on the wave lookup table, it is recommended to read the memo with reference: 1002337-002-ZKS-0001, which describes the wave transformation by using the wave look-up table in detail.