



Supplement of

Metocean study for the planning of the FSRU terminal: a case study at the Estonian coast of the Gulf of Finland

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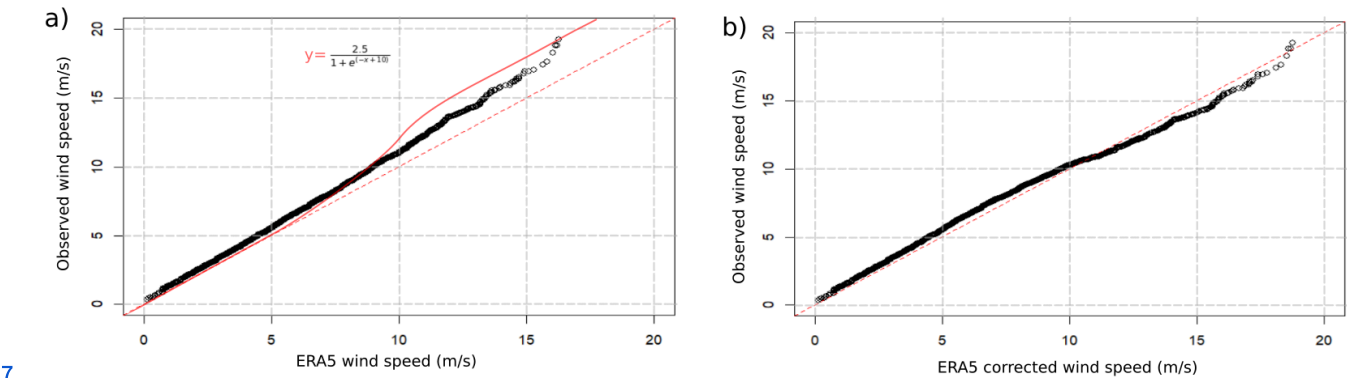
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1 **S1 Wind correction**

2 Using ASCAT wind speed measurements and ERA5 wind speed values a corrective function based on sigmoid [S1] was
3 developed and applied for ERA5 wind speeds to reflect better measured open sea values in the region. Based on the analysis
4 of binned biases and taking into account wind speed distribution maxima, sigmoid were added to ERA5 wind speeds to
5 apply maximum 2.5 m/s correction starting around 10 m/s with sigmoid as

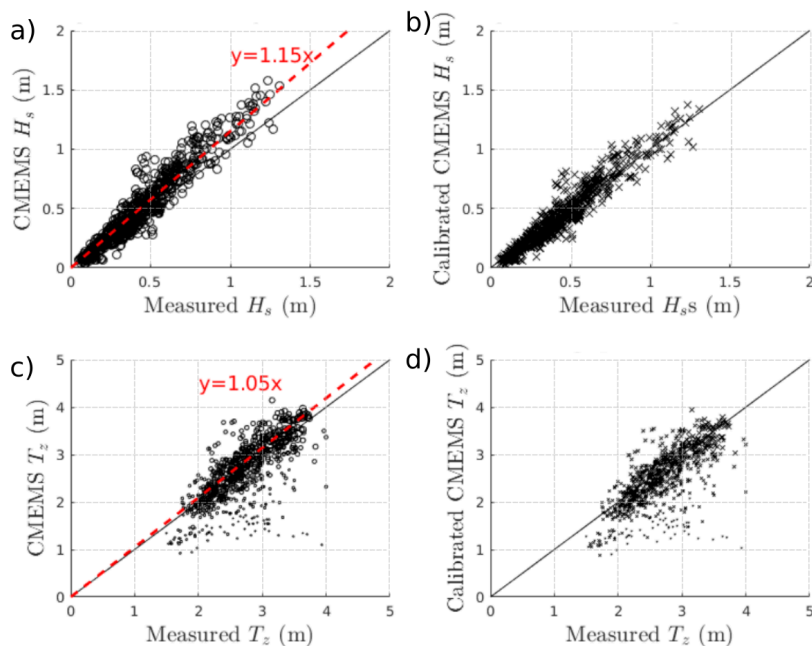
6
$$y = \frac{2.5}{1+e^{-(x+10)}} \cdot [S1]$$



8 **Figure S1.** Quantile-Quantile plots of ASCAT wind speeds vs ERA5 wind speeds a) before and b) after application of
9 sigmoid correction function. Dashed red line represents an ideal match. The time series covers the 2012-2021 period.

13 S2 Wave correction

14 The CMEMS forecast was compared against in situ wave measurements at the terminal (Figure S2). Both the significant
15 wave height and average wave period are well captured by the forecast, although slightly overestimated. Linear
16 multiplication coefficients (1.15 for wave height and 1.05 for wave period) were determined and applied to the CMEMS
17 hindcast, since no measurements at the terminal are available for directly calibrating the hindcast product. The linear fit for
18 the average period is only done for $H_s > 0.5$ m.



19

20 **Figure S2.** Calibration of the CMEMS significant wave height (H_s) a,b) and average wave period (T_z) b,c) against in situ
21 wave measurements at the terminal. In the lower panels (c, d) the size of the markers correspond to the significant wave
22 height.