Netherlands Enterprise Agency

Webinar January 17, 2017
Metocean Study HKZ

Questions: from the audience
Answers given by: Maziar Golestani (DHI), Patrick Dich Grode (DHI), Hans Fabricius Hansen (DHI), Marco Westra (Primo Marine), Ben de Sonneville (BLIX), Frank van Erp (Netherlands Enterprise Agency)

Question: Has DHI looked at the influence of wind-wave misalignment on the wind speed - wave height relationship (and the wave height - wave period relationship) in the HK Metocean Study?
Answer: Yes, see Section 9.4.5 (Misalignment of wind and wave directions) in the Metocean Study report for further details.

Question: Has DHI looked at Hm0-wind speed ratio as function of wind-wave misalignment in the HK Metocean Study ?
Answer: No, but such an analysis would be possible with the data in the database.

Question: Why does DHI run fully spectral boundary conditions in the HK Metocean Study?
Answer: DHI always runs fully spectral for this type of application, where conditions are non-stationary and wave spectra are complex with swell and wind sea from different directions.

Question: Did DHI find much swells to arrive from the Northern North Sea in the HK WFZ?
Answer: Yes, but not much. The contribution of swells are quite limited but depending on the application, they should be considered. Directional-frequency spectra are available in the HK Metocean database so that interested parties can perform their desired analysis.

Question: Referring to Figure 9.51 (monthly exceedance plots of the omni-directional significant wave height) of the Metocean Desk Study; do you have any idea what the driver is for the high waves observed in July (up to 4m)?
Answer: It is the high wind speed, but we have not looked specifically at this event. Time series data will be available in the database for further inspections.

Question: Have you performed a joint distribution analysis for total design water level in the HK Metocean Study? If so, which components you have considered?
Answer: This joint distribution analysis is presented in Paragraph 11 of the Metocean Desk study report. Density contours are presented in given for design in Paragraph 11.

Question: Has the HK Metocean database being verified for nearshore points?
Answer: The HK Metocean database has not been verified at the shallow waters near the coast. Only the data within the Wind Farm Zones has been checked.

Question: Where can the software and/or metocean database be found?
Answer: The metocean database has not been published yet. It will be published beginning of February 2017 on offshorewind.rvo.nl
Update 23-02-2017: the metocean database can be found at: http://offshorewind.rvo.nl/windwaterzh

Question: Would it be possible to briefly describe the Markov Chain Monte Carlo method applied in the Metocean Study for finding rare extremes?
Answer: There is a brief description in paragraph 10.4.4. It is a Bayesian approach, meaning that priors can be specified for the model parameters. DHI specifically has specified that Hm0 cannot exceed 0.6 times the water depth. That is generally accepted as an absolute maximum for Hm0 on reasonably flat seabed. The model also incorporates threshold uncertainty.

Question: Is it correct that the text in the left upper part of the Metocean database does not change when using start date 1-1-2015?
Answer: That is correct, that text is fixed to the coverage of the database.
Addition 23-02-2017: However, this text would not appear if the user saves the output as an image or copy it to the clipboard. If it's a rose plot, you can add more info to the pallet by right clicking and going to properties and data classes.

Question: If you download a picture from the metocean database, how is it denoted what is the period covered in the rose?
Answer:
Rephrased 23-02-2017 into: DHI suggests to state this in the filename which will be saved by the user or state this information in the pallet (please see above answer).

Question: Please let DHI check the data base results from the astronomical tide table. The demonstrated version says e.g. MSL = 1.07 mMSL which does not seem correct.
Answer: This will be corrected to mLAT in the version to be issued at offshorewind.rvo.nl
Update 23-02-2017: corrected. Please see 9.2.2 Astronomical tide levels.