The exceptional Baltic storm surge from October 2023 - operational forecasts and climate information at BSH

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In October 2023, the German and Danish Baltic Sea coast experienced a severe storm surge, with long duration and exceptionally high water levels, which were a centennial event in many places. The towns of Schleswig, Flensburg and Eckernförde, for example, were faced with water levels that had not been reached since 1872. Such storm surges can cause large damage to the environment and pose a danger to the coastal population, e.g. through coastal erosion, breaking dikes, flooding of houses, etc. The Federal Maritime and Hydrographic Agency of Germany (BSH) is providing operational forecasts of storm surges at the German coast. Additionally, the BSH also runs a climate information service for the public. We will use the exceptional Baltic storm surge from October 2023 as an example to show how good our forecast models performed in that case. Furthermore, we will show a sensitivity study where we initialised our circulation forecast model with a higher mean sea level to see possible effects of climatic sea level rise on such a severe storm surge.