

Climate evaluation of storminess at the German Bight and at the southwestern coast of Baltic Sea

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The expansion of knowledge of historical, current and future change of the storminess in North Europe plays an important role with regard to possible storm surges at the coasts of the German Bight and the southwestern Baltic Sea. Therefore, the detection of trends in storminess from wind observations is almost impossible because of insufficient length and homogeneity of wind data. Hence, pressure data allow deriving proxy data for wind statistics (Bärring and v. Storch, 2004). For the period from 1923 to 2012 the calculation of new time series of the geostrophic wind from sea level pressure data will be done for offshore areas of the North- and southern Baltic Sea. An established method for calculating the geostrophic wind is the triangle method by Schmidt and v. Storch (1993). To verify the results from observations, model data of different reanalysis will be used. Possible Reanalysis for the validation are the data of CoastDat-2 (HZG), the 20th Century Reanalysis (NOAA) and the ERA-Interim Reanalysis (ECMWF). Climate models should give an evidence of future trends in storminess. To deduce a conclusion about a possible change of storm surge at the German Bight and the southern coast of the Baltic Sea, the change of continuing real winds, lead to maximal water levels raised by wind, will be shown by statistical analysis.