



Producing an atlas of the wind at a height of 100 m.

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New rules for the financial support of wind energy production in the Netherlands are based on the 10-year averaged windspeed at 100m height: areas with a lower climatological windspeed receive a higher subsidy per kWh, to stimulate the use of windturbines all over the country.

We determined the climatological windspeed from a rerun using the operational weathermodel HARMONIE and produced a 35-year database of hourly wind data on a horizontal resolution of 2.5km. We compare this database with observed wind speeds from 5 masts, including the 213 meter high meteorological tower located in the centre of the Netherlands at Cabauw. We show that the output of HARMONIE compares well with these measurements.

We investigate the shape factor of the Weibull distribution as a function of location (land, coastal, and marine) and height. Our database allows us to investigate year-to-year variations and decadal variations in windspeeds, and we will discuss the results of this investigation and of the construction of a wind farm in the vicinity of one of our comparison masts.