

AWIS (ONLINE ACCESS)

The anemos wind information system **awis** is a web tool for online access to data and products of the anemos wind, production, market value and revenue atlases. In combination with anemos maps it is used for:

- Siting through wind maps
- Long-term correlation for wind measurements and turbine production data
- Provision of forcing data for microscale models
- Estimation of losses due to time dependent operation modes (wake effects)
- Preliminary energy yield estimations
- Persistence analysis
- Maps of icing probability, extreme values, site quality and many more parameters

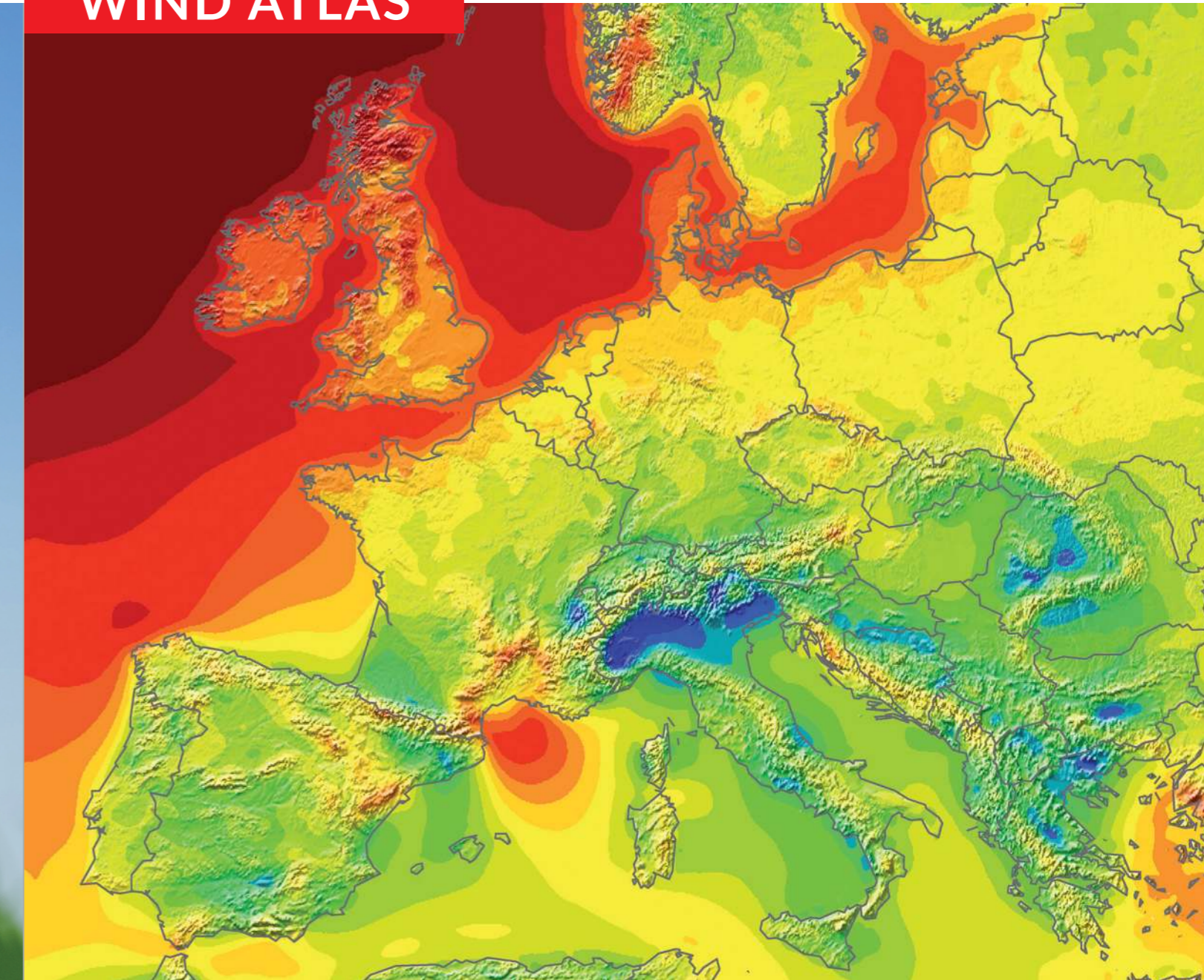
The anemos wind atlases form a proven indispensable data set for any investigation into wind conditions on all temporal and spatial scales from small-scale turbulence to decadal wind variations and from continental-scale wind maps to site-specific time series.

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WIND ATLAS



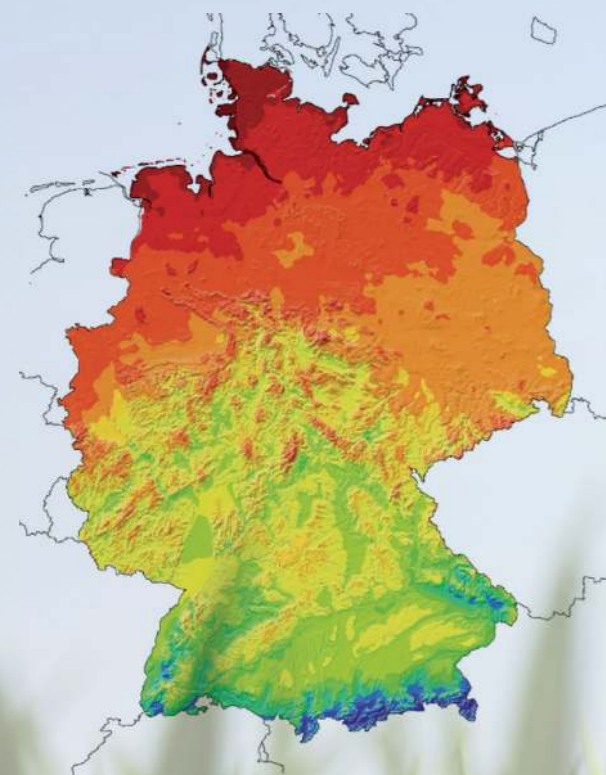
RESEARCH

To keep the highest standard in resource assessment we regularly participate in research projects with leading industry pioneers and research institutions.

- VERIMA** Verification of a wind- and market value atlas for wind power (anemos, supported by NBank)
- Standortertrag** Estimation of the site quality based on SCADA data analysis (FGW and several consultants, supported by BMWi)
- Wind energy onshore** Formulation of a roadmap for wind atlases (anemos, IWES, enervis, BBH, supported by BMWi)
- WinBin II** Wind power onshore II, "onshore wind atlas for Germany" (anemos, IWES, ENERCON, ABO Wind, juwi Wind, OSTWIND, supported by BMWi)
- SOPCAWIND** Software for the Optimal Place Calculation for WIND farms (Universidad Del Pais Vasco, anemos, 3E, Eurohelp, GEOX, supported by EU)
- Windprofil 300** Validation of two chains of atmospheric numerical models for the simulation of the vertical wind profile (anemos, AI-Pro, Wind&Regen, WindSim, supported by Deutsche Bundesstiftung Umwelt (DBU))

Who we are

With over 30 years of experience in wind power meteorology anemos as a private independent consulting firm provides its services to wind farm developers, private and institutional investors, financing institutions and public authorities. They all benefit from our longtime experience, research, continuous education and meanwhile more than 3500 expert reports worldwide. We have built an expert team of meteorologists, geographers and technicians as well as the computational infrastructure that allow us to operate complex atmospheric simulation models and statistical analyses. anemos is accredited according to DIN EN ISO/IEC 17025.

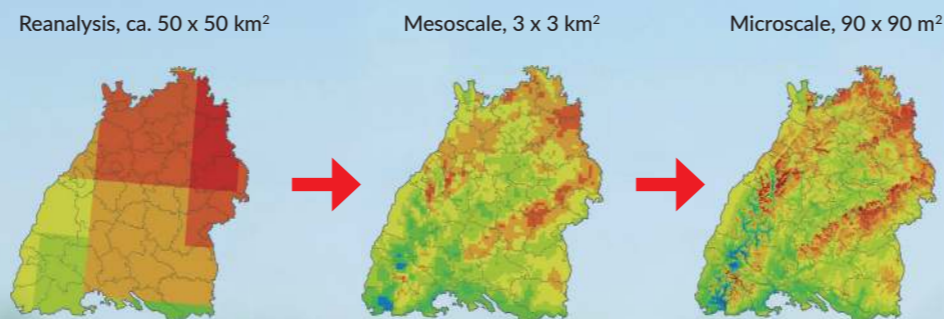


WIND ATLAS

The model chain of the coupled mesoscale model WRF (Weather Research and Forecasting) and the microscale model meteodyn WT provides a consistent three-dimensional picture of the atmospheric state over decades with time series of high temporal and horizontal resolution. The anemos wind atlases are under continuous development with regard to spatial resolution, country, model structure and verification. Please see our website for recent news.

region / domain	resolution	time period
Germany	3 km* / 10 min	1997 - up-to-date
France, Belgium, Switzerland	3 km* / 10 min	2007 - up-to-date
Poland	5 km / 10 min	1990 - up-to-date
Scandinavia	10 km / 10 min	2008 - up-to-date
Europe	20 km / 10 min	1990 - up-to-date

* site-specific time series available



Time Series / Maps

- Wind speed
- Wind direction
- Pressure
- Temperature
- Humidity
- Air density
- Radiation
- Precipitation

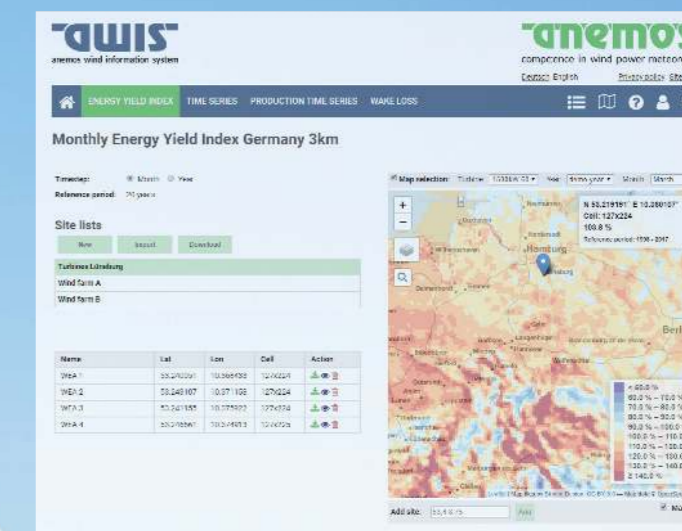
Statistics

- Frequency distribution
- Mean, Max, Min
- Extreme values
- Diurnal and annual cycles
- Weibull parameter
- .tab and .lib files
- Wind and production index

PRODUCTION ATLAS

- Need a quick estimation of the production of a special wind turbine at a given hub height?
- Need to know the losses due to wake effects?

The production atlas combines time series of wind speed with turbine power curves and allows an estimation of the mean energy production including losses as well as the corresponding temporal variability.



MARKET VALUE ATLAS

The market value atlas combines the hourly energy production of any wind turbine at any hub height and location with the electricity price at stock markets and shows the historic deviations between wind farm revenues and the wholesale price in Germany and France, respectively.

ENERGY YIELD INDEX

Variations in the wind potential from month to month and from year to year can be large.

- Need to estimate the long-term mean wind conditions based on short-term wind measurements?
- Need to verify the performance of wind turbines and to calculate the long-term production from a few months of operation?

With the mean of a revolving 20 year period being defined as the 100 % reference the monthly energy yield index shows the temporal variation in the wind potential and production for any location and height and for any turbine type.

