



Wind & Hydropower Technologies Program

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Wind Energy Resource Potential

The United States has enough wind resources to generate electricity for every home and business in the nation. But not all areas are suitable for wind energy development. The Wind Energy Program measures the potential wind energy resources of areas across the United States in order to identify ideal areas for project development.

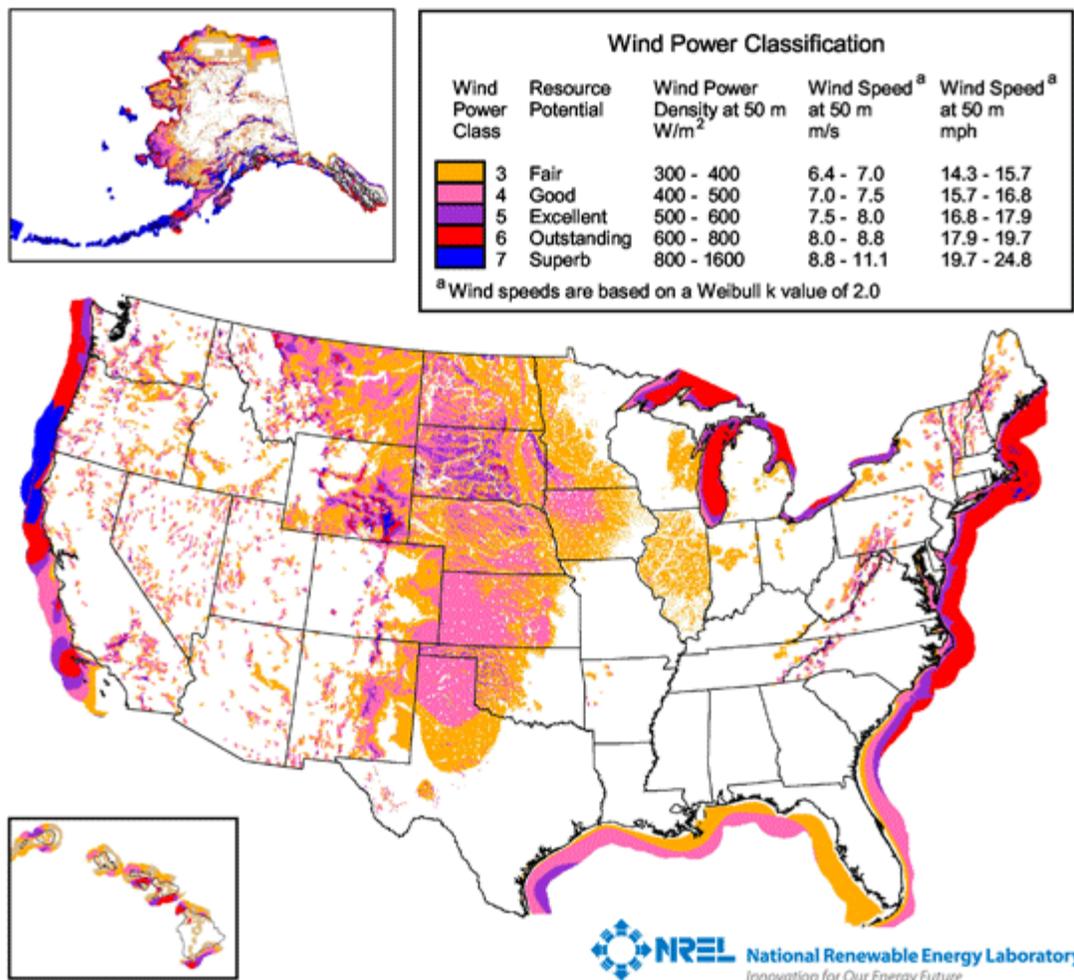
For information on the program's mapping activities and individual state maps, visit the [Wind Powering America Web site](#).

Wind Energy Resource Potential and Wind Energy Projects

One of the first steps to developing a wind energy project is to assess the area's wind resources and estimate the available energy. Correct estimation of the energy available in the wind can make or break the economics of a project.

To help the wind industry identify the areas best suited for development, the Wind Energy Program works with the National Renewable Energy Laboratory (NREL) and other organizations to measure, characterize, and map wind resources 50 meters (m) to 100 m above ground.

This map shows the annual average wind power estimates at 50 m above ground. It combines high and low resolution datasets that have been screened to eliminate land-based areas unlikely to be developed due to land use or environmental issues. In many states, the wind resource has been visually enhanced to better show the distribution on ridge crests and other features.



Estimates of the wind resource are expressed in wind power classes ranging from Class 1 to Class 7, with each class representing a range of mean wind power density or equivalent mean speed at specified heights above the ground. This map does not show Classes 1 and 2 as Class 2 areas are marginal and Class 1 areas are unsuitable for utility-scale wind energy development.

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