

The Power of Wind

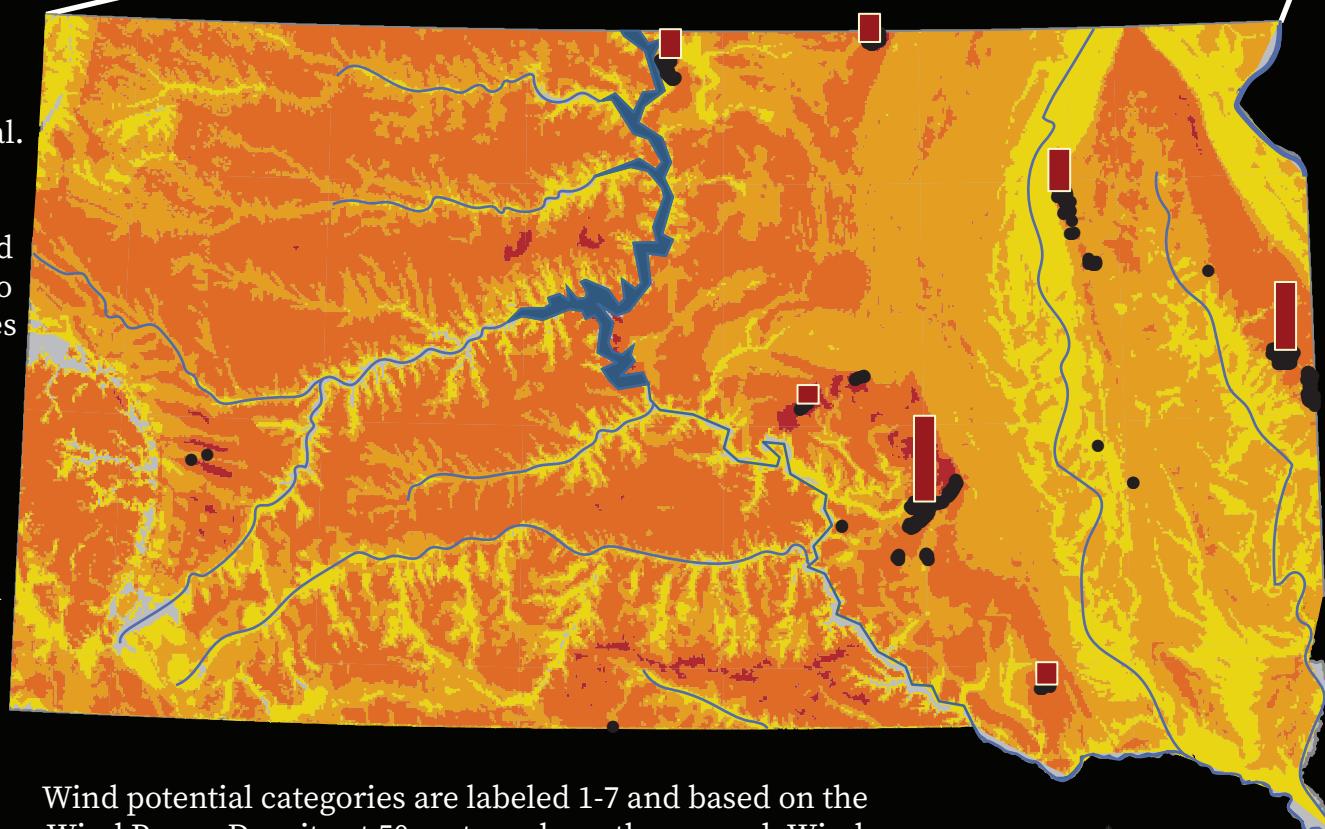
Is South Dakota Wasting Their Potential?

South Dakota has a large amount of unused wind potential.

The majority of the state falls into categories 3, 4, 5, and 6, which correlates to Wind Power Densities of $400-799\text{W/m}^2$. These categories present a great opportunity for an increased amount of wind energy systems to be implemented in South Dakota. Wind potential is low near rivers and elevation peaks.



Cartographer:
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Data Source:
usgs.gov, nrel.gov &
opendata.arcgis.com



Wind potential categories are labeled 1-7 and based on the Wind Power Density at 50 meters above the ground. Wind Power Density is defined as how much energy can be extracted from wind resources per square meter and has the units watts/square meter. Categories 1, 2, and 7 are not shown because South Dakota does not have any category 7 areas, and categories 1 and 2 have very low potential.



South Dakota is already home to 558 wind turbines, but the potential vastly outnumbers the current utilization.

The bar graphs depict the relative number of current wind turbines in locations around South Dakota. These bar graphs are only available for locations with more than 3 wind turbines.

Wind Potential Category	Wind Power Density (W/m^2)
6	600-799
5	500-599
4	400-499
3	300-399

*Grey areas show locations of categories 1, 2, 7, and areas with no wind