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Where Is It Windy?

The purpose of this project was to find the optimal location for wind farms based on topography and wind speeds from different directions. The hypothesis was tested with different elevations and a model of different land forms. The 6x6 ft model was set up by using different household items to create a landscape including: mountains, hills, plateaus, plains, and valleys. Twenty flags were then placed at various locations throughout the replica to test which position received the most wind. A fan was set up and tested at each direction North, South, East, and West of the model. The flags were monitored by using a number scale by how it was moving in the wind: 1 = little or no movement, 2 = some movement, and 3 = moving a lot. The numbers were then calculated for each flag and the averages taken from each direction. The flag with the highest numbers was the best place for a wind farm. It was found that the highest elevation on top of the model mountain, was the flag that received the most wind, which was flag #11. The flag with the next best results was flag #19 which was in an open area next to a plateau.