

## Wind resource assessment over Mutsu Bay

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Wind energy technology is rapidly developing and, above all, offshore wind energy is becoming a center of renewable energy in the world. In northern Japan, to examine the possibility of the offshore wind energy and to promote the development, detailed wind observations, examination for zoning, and plans to build offshore wind turbines are ongoing. In Aomori, offshore wind resource over Mutsu Bay is one of the current interests. Although Mutsu Bay is an inland bay, annual mean wind speed at a height of 100 m reached up to 8.5 m/s, according to the latest offshore wind map NeoWins ([http://app10.infoc.nedo.go.jp/Nedo\\_Webgis/top.html](http://app10.infoc.nedo.go.jp/Nedo_Webgis/top.html)). Previous studies indicated frequent occurrences of strong winds in east-west direction in the bay. However, a understanding of the strong winds over the bay is not enough. Therefore, this study investigates the strong wind over Mutsu Bay to show the three-dimensional structure of the winds and variability of the winds. These results would lead to better understanding of the current offshore wind maps.

Keywords: wind resource assessment, wind energy, satellite observations, meteorological simulation