

Impact of orographically-induced winds to the offshore wind resource around northern Japan

*Teruhisa Shimada¹

1. Graduate School of Science and Technology, Hirosaki University

Wind resource assessments have shown high potential for wind energy in northern Japan. In regions where large wind resources are estimated, previous studies suggest that orographically-induced winds often occur. However, more observational studies are necessary to obtain detailed pictures of the orographically-induced winds and understanding of generation mechanism is required. With an increase in development of offshore wind energy and installation of offshore wind power plants, meteorological studies are increasingly required to estimate offshore wind resource, to understand the variation in the wind energy, and to predict the wind power output. Therefore, this study presents the orographically-induced winds around northern Japan and their occurrence mechanisms, and discusses contribution of the orographically-induced winds to regional wind resource.

Keywords: offshore wind, wind energy, northern Japan, satellite observation