

## *Project Overview*

# **Assessment of the Variability of the Energy Resource for Wind and Solar Power on Oahu**

*Anticipated Completion: September 2017*

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The University of Hawaii at Manoa, Department of Meteorology is analyzing the variability of solar and wind energy resources on Oahu over multiple timescales to support operational forecasting needs. Current models are based on limited wind and solar resource data of only one or two years. The objective of this project is to quantify the variability of solar and wind resources over periods of days, months, years, and the longer term (20 year), to aid in optimizing the location and mix of renewable energy sources. In-situ surface and observational satellite data over a period of 20 years is being used, along with regional high-resolution, Weather Research and Forecasting model runs to obtain results in areas where observational data (particularly wind data) may be lacking. A clearer understanding of the actual variability of these resources over multiple timescales is critical for both accurate forecasting and planning.

This project is jointly funded by the U.S. Department of Energy, Office of Electricity Delivery and Energy Reliability under the Hawai'i Energy Sustainability Program, and the Hawaii Natural Energy Institute via the State of Hawaii, Energy Systems Development Special Fund.

The final technical report, *Assessment of the Variability of the Energy Resource for Wind and Solar Power on Oahu* will be posted online at <http://www.hnei.hawaii.edu/publications/project-reports#HESP>, anticipated for September 2017.