

EUROPEAN-AMERICAN COLLABORATION IN WIND ENERGY

MONTHLY WEBINAR SERIES

Project Overview and Initial Results from the Third Wind Forecast Improvement Project (WFIP-3)

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ABSTRACT The U.S. Department of Energy's Third Wind Forecast Improvement Project (WFIP-3) focuses on the offshore wind regime along the U.S. East Coast. WFIP-3 seeks to improve the physical understanding of mesoscale and smaller meteorological and oceanographic processes that directly affect wind resource characterization in the offshore environment. A key challenge to improving wind resource prediction is to improve understanding of the atmospheric and oceanic boundary layers and their interactions through the wave-mediated surface. Towards this project goal, a team composed of research institutions and national laboratories of the U.S. Department of Energy and National Oceanic and Atmospheric Administration are operating a 3-D multiscale sensor array within the Northeast U.S. outer continental shelf to highly resolve vertical and horizontal structure of the marine boundary layer in and around active and planned offshore wind energy lease areas. The data collected will be used to develop and validate foundational numerical weather forecasting models, boundary layer parameterizations, and wake parameterizations to improve wind energy forecasts over short and long time scales. With field work ongoing, initial results from the first set of intensive measurement periods will be presented here. [Learn more](#)

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BIO Anthony Kirincich is a coastal oceanographer at the Woods Hole Oceanographic Institution (WHOI) and lead Scientist of the Martha's Vineyard Coastal Observatory. Anthony has a Bachelor of Engineering in Civil and Environmental Engineering from Vanderbilt University, a Masters in Oceanography from the University of Rhode Island, and a PhD in Physical Oceanography from Oregon State University. He is an expert in coastal ocean and atmospheric circulation, the role of ocean mixing in coastal dynamics, and has developed new methods of sensing the ocean and atmosphere using both in situ and remote instruments. He serves as the non-federal lead of the U.S. Department of Energy's Offshore Wind Forecast Improvement Project (WFIP3) focused on the US East Coast and runs WHOI's Metocean Reference Station. Over the past 8 years, Anthony has been working with research and industry partners to establish Ocean Test Beds for ocean technology adaptation and integration into the emerging U.S. offshore wind energy industry.