

Date: October 5th

Time: 11:00 AM

Location: Maryland Hall 110

Speaker: Dr. Rob Scott

University of Texas at Austin

Title: *"Large Scale oceanic turbulence explored with satellite observations and numerical models"*

Abstract

Using global satellite scatterometer winds and altimeter geostrophic currents, we show that ignoring the ocean current dependence in the wind stress artificially increases global wind power input to the oceanic general circulation by about 32%, and more than doubles the input in the regions of strong ocean current systems. Scatterometer-derived wind stress naturally accounts for the moving ocean that is not included in traditional wind stress product. However, forcing an ocean model with a scatterometer-derived wind stress cannot actually account for the ocean current effect on the wind power input. The difference between the real and modeled surface eddy fields can reduce the damping associated with the ocean current dependence in wind stress, leading to a positive bias in global wind power input of about 23%. Most of this energy flux goes directly to the fluctuation eddy field and is several times larger than the energy flux to real-ocean eddies.