

**Date:**       **October 31<sup>st</sup>**

**Time:**       **11:00 AM**

**Location:**   **Ames 234**

**Speaker:**   **Dr. Baylor Fox-Kemper**  
                  **Princeton University**

**Title:**       **“Eddies, Waves, and Friction: Understanding the Mean Circulation  
in a Barotropic Ocean Model”**

### **Abstract**

I will present and discuss a number of numerical results from a barotropic ocean model, similar to Munk's model, except including the effects of inertia. Once inertia is introduced, the transport and removal of vorticity becomes quite complicated, and the determination of even simple properties, such as the mean circulation strength, becomes challenging. I will compare and contrast a single-gyre model (with only negative vorticity input) and multiple-gyre models, with a particular emphasis on the dynamics at high Reynolds number. A number of new results will be presented, including: methods for preventing 'inertial runaway', a revised role for mixing of vorticity in the multiple-gyre vorticity budget, and nonlocal effects of resonating basin modes.