Fluctuations in surface pressure associated with circulations of Earth’s fluid envelopes cause the shape of the solid Earth to distort on timescales ranging from sub-daily to inter-annual. The manner of distortion can shed light on important Earth-system processes, including the distribution of valuable freshwater resources in both surface and subsurface reservoirs. For well-known loads, such as the ocean tides, studying Earth distortion from surface loading can also place key constraints on allowable models for the mechanical and density properties of Earth’s crust and mantle. This presentation will explore state-of-the-art methods for measuring and modeling Earth deformation caused by the redistribution of surface fluids in the oceans, atmosphere, and over land areas. Applications range from quantifying groundwater loss during periods of extreme drought to advancing understanding of geodynamics.

Professor Hilary Martens, Department of Geosciences, University of Montana

Colloquium Seminar Series
Wednesday, October 27, 2021
Join us on Zoom at 3:10pm
https://utoronto.zoom.us/j/84409166490