**Natali Kragh: Earth Sciences**
**Mentor: Jean Dixon -- Earth Sciences**
***Examining Isotope Scavenging Efficiency of Various Wet Depositional Processes in the Rocky Mountains***

In the study of geomorphology, it is critical to understand how sediment moves and deposits within a landscape. The transfer of mass can speak volumes about landscape formation and degradation over time, along with the agents of change driving that movement. Some of the most effective tracers used to record these transfers are radiogenic isotopes delivered to earth's surface by precipitation. These nuclides include naturally occurring Be-7, meteoric Be-10, Pb-210, as well as Cs-137, a by-product of nuclear testing. These isotopes are all delivered to earth's surfaces via wet and dry deposition (i.e. rainfall/snow and dust.) However, few studies have been conducted concerning which types of precipitation are most efficient at scavenging these isotopes and bringing them to surface. Previous studies have also not addressed how proportionate isotope delivery is against precipitation amounts. Since September 2016, precipitation samples have been collected, filtered with a cation exchange resin, and analyzed in a germanium crystal gamma spectrometer to identify isotopic signatures. Testing the ratios of Pb-210 in varying precipitation types has given an insight into the scavenging efficiency for fallout nuclides in wet deposition processes. These results will give future insight to current erosion and deposition regimes, and be potentially applicable to future studies concerning paleoclimate and erosion in the Rocky Mountains.