

# REGOLITH EROSION FROM YEARS TO MILLIONS OF YEARS; DRY VALLEYS, ANTARCTICA

Putkonen, J.<sup>1</sup>, Morgan, D.<sup>2</sup>, and Balco, G.<sup>3</sup>

<sup>1</sup>Department of Geology and Geological Engineering, University of North Dakota, Grand Forks,  
ND, USA

<sup>2</sup>Department of Earth and Environmental Sciences, Vanderbilt University, Station B 35-  
1805, Nashville, TN, USA

<sup>3</sup>Berkeley Geochronology Center, 2455 Ridge Rd., Berkeley, CA, USA

**Jaakko.putkonen@und.edu**

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Dry Valleys of Antarctica are among the driest and coldest areas in the world where the landscape retains the scars and landforms of ancient geological events such as landslides and glacial advances. However, our recent analyses of soil traps and repeat photography has shown that a small fraction of the surficial pebbles and sand move intermittently at an annual time scale. It is conceivable that such movement would translate into net regolith transport that would slowly erode landforms and surfaces. Cosmogenic isotopes record the surface stability at much longer timescales of millions of years. Our analyses of the cosmogenic isotope depth profiles at the same field area have shown a net regolith erosion of 1-2 m/Ma. Collectively these observations paint a picture of an area that has experienced a slow but steady rate of regolith erosion for the past approximately 1 million years.