

CHEMICAL WEATHERING IN THE BEAVERDAM CREEK WATERSHED, SOUTH CAROLINA

Lauren A. Smith (C. Brannon Andersen, Sandra K. Wheeler, Ken Sargent) Department of Earth and Environmental Science, Furman University, Greenville SC 29613

The Beaverdam Creek Watershed (25km²) has oxisols as the dominant soil type. Oxisols produced by the weathering of feldspar to kaolinite typically produce stream waters with a H₄SiO₄:Na+K of 2:1. The stream waters of Beaverdam Creek have a ratio far lower than 2:1, with the lowest ratio (highest Na+K) associated with the tributary that drains the smallest area. Furthermore, all but three of the sample localities are saturated with respect to quartz. This suggests that chemical weathering in the watershed does not reflect chemical equilibrium by formation of kaolinite, although quartz saturation is reached relatively rapidly.