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**GEOCHEMISTRY OF SEDIMENT FROM THE AKSUMITE EMPIRE ON THE  
TIGRAY PLATEAU, ETHIOPIA**

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**Abstract**

The horn of Africa has a long history of human-environment interactions that span the rise and fall of ancient societies. This research aims to explore the potential long-term human impacts to soils in the highlands of northern Ethiopia. Of all the physical, chemical, and biological realms of the environment, soils are most directly influenced through agricultural practices, land use activities, and intentional burning. The overall soil quality is a critical component that has been linked to the rise and fall of past civilizations, including the Aksumite Empire of approximately 2000-3000 years ago in what is now northern Ethiopia and Eritrea. This research interrogates sediment samples from early occupation sites of the pre-Aksumite and Aksumite people to explore anthropogenic impacts from millennia of dry-land agriculture. By examining the organic versus non-organic components of ancient soils, this study will test the idea that anthropogenic soils, including soils formed during the time of the Aksumite Empire, will have greater organic content and higher potential productivity (e.g. high soil carbon and nitrogen) during periods of more intense human occupation, than subsequent periods of abandonment, when soil organic content is expected to decrease.