By: Marie White

In January and February, Assistant Professor Dr. Gary Stinchcomb accompanied graduate student Kevin Takashita-Bynum and undergraduate student Marie White of the Earth and Environmental Sciences department to the Gona paleoanthropological site in the Afar region of Ethiopia. The Gona project has been operating for over twenty years and has yielded hominin fossils and archaeological sites spanning six million years of geologic time. Stinchcomb, Takashita-Bynum, and White work to provide ages for archaeological sites, as well as help reconstruct past environmental conditions using fossilized soils (paleosols).

This year, much of the field season was focused on Late Pleistocene (126,000-11,700 years ago) through Holocene (11,700 years ago to present) sediments. Evidence of year-round water and complex stream networks are present in some areas of different ages. In others, there is evidence of arid conditions with significantly fewer natural resources suggesting dynamic, constantly fluctuating patterns of climate in the form of wet-dry cycles. The climate and context of sites falling within the Late Pleistocene and Early Holocene are important keys to understanding early human migration and resource use, as well as their interactions with the environment, which is a specific focus of the Stinchcomb Lab group.

While large-scale climatic patterns are important to understand, so are smaller events. About 75,000 years ago, the Toba supereruption spewed massive amounts of ash into the atmosphere. Near the source in Indonesia, there is evidence for devastating effects on local ecology. Only two studies have found the ash in East Africa, in a lake in Tanzania, which yielded results suggesting minimal effects on East African climate. In three days, Takashita-Bynum and White dug a trench measuring eight meters in height, sampling every ten centimeters, to try to capture the ash. If they find it, they will analyze the associated sediments to see if populations at Gona could have been disrupted by the Toba eruption.

When the group wasn't digging or hiking through the desert, the پ . rt R the پ kin

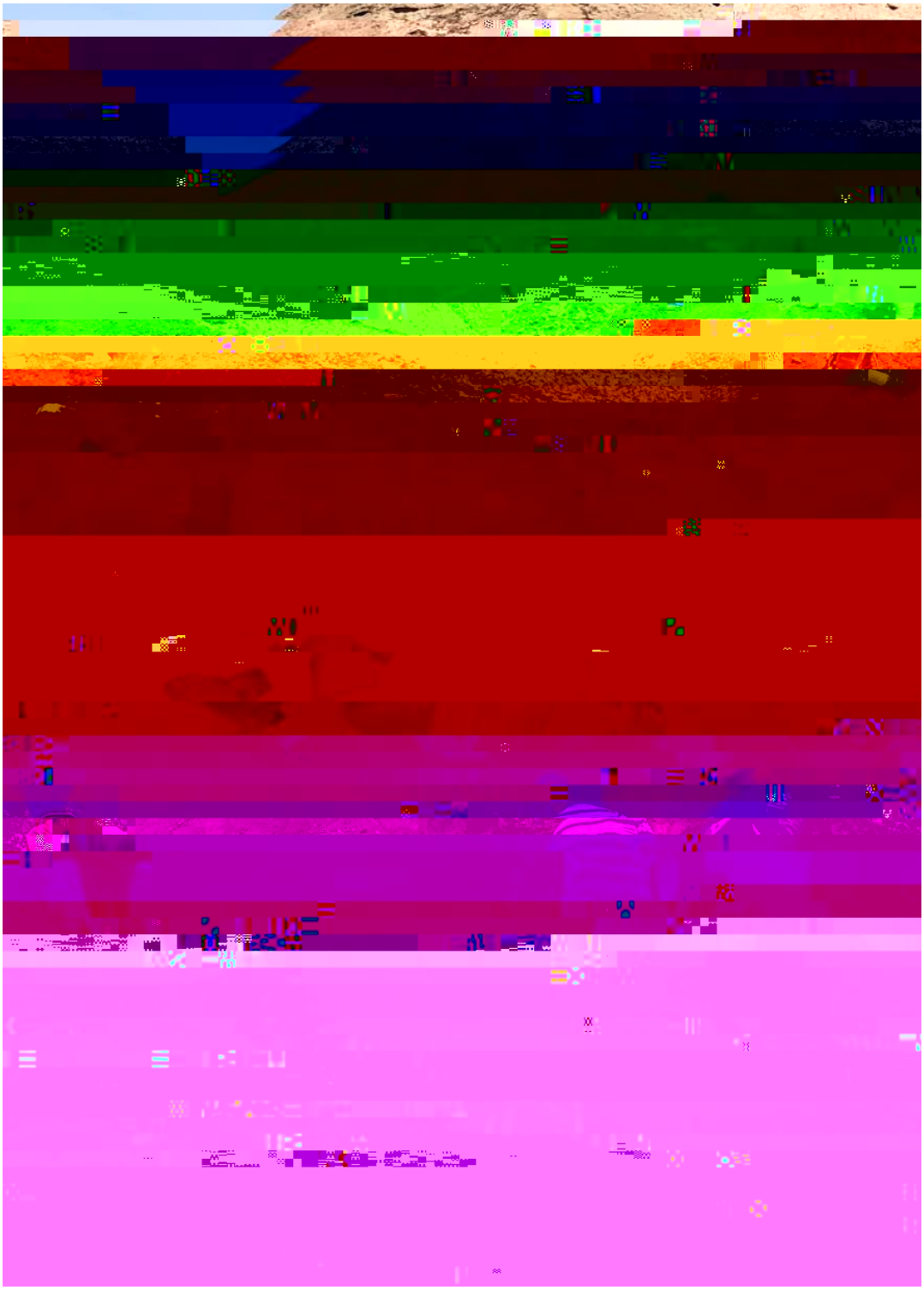

Photo: Simultaneously digging, sampling, and measuring the “megatrench” in search for the Toba ash. Photo courtesy of G. Stinchcomb

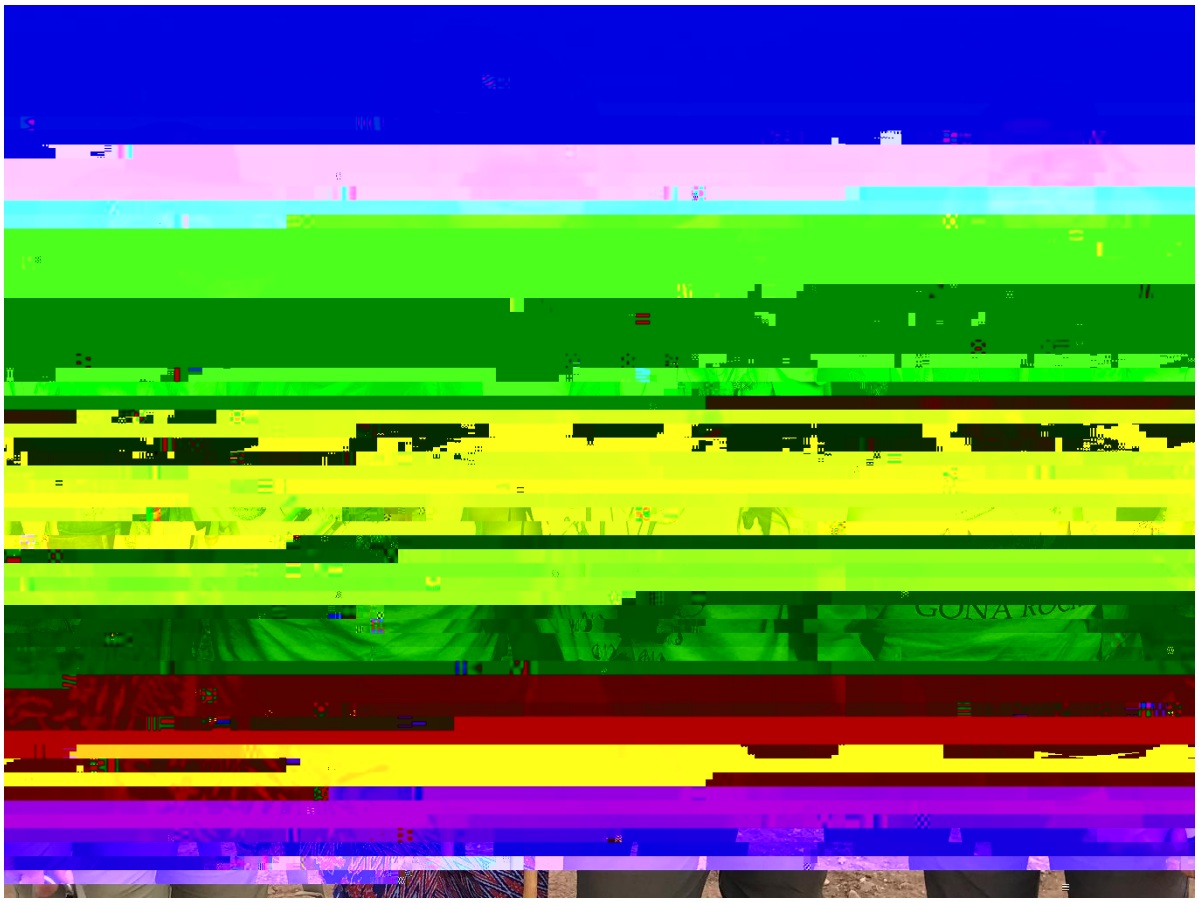

Photo: A day in the field looking for ochre, an ancient pigment. Pictured (left to right) are Amanda Leiss (Yale University), local Afar Hussein, Marie White (Murray State University), and Brady Kelsey (recent University of Florida graduate). Photo courtesy of G. Stinchcomb.