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Characterizing weathering intensity and trends of geological materials in the Gilgel Gibe catchment, southwestern Ethiopia

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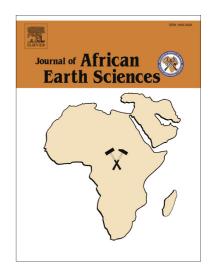
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## **ACCEPTED MANUSCRIPT**

1 Characterizing weathering intensity and trends of geological materials in the Gilgel Gibe catchment, southwestern Ethiopia 2 3 Alemayehu Regassa<sup>a, b</sup>, K. Van Daele<sup>a</sup>, P. De Paepe<sup>a</sup>, M. Dumon<sup>a</sup>, J. Deckers<sup>c</sup>, Asfawossen 4 Asrat<sup>d,\*</sup>, E. Van Ranst<sup>a</sup> 5 6 7 <sup>a</sup>Department of Geology and Soil Science (WE13), Ghent University, Krijgslaan 281/S8, B-9000 Gent, Belgium 8  $^{b}$ Department of Natural Resources Management, Jimma University College of Agriculture and 9 Veterinary Medicine, Ethiopia 10 <sup>c</sup>Department of Earth and Environmental Sciences, KU Leuven University, Celestijnenlaan 11 200E, B-3001 Heverlee, Belgium 12 <sup>d</sup>School of Earth Sciences, Addis Ababa University, P. O. Box 1176, Addis Ababa, Ethiopia 13 \*Corresponding author: Dr. Asfawossen Asrat (E-mail: asfawossen.asrat@aau.edu.et; 14 *Tel.*: +251-91-1407553; *Fax*: +251-11-1239462) 15 16 **Abstract** 17 18 Detailed geological and geochemical characterization is crucial to support soil studies in such 19 geologically and topographically complex systems as the Gilgel Gibe catchment in southwestern 20 Ethiopia. Field studies, as well as mineralogical, petrological and geochemical analyses on 21 selected rock samples and their weathering products revealed that the catchment is dominantly 22

underlain by rhyolites and trachytes, which occur as both lava flows and pyroclastic associations.

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