

## A new harmonised soil map of Africa at the continental scale

Olivier Dewitte (1), Arwyn Jones (2), Otto Spaargaren (3), Henrik Breuning-Madsen (4), Michel Brossard (5), Almami Dampha (6), Jozef Deckers (7), Tahar Gallali (8), Stephen Hallett (9), Robert Jones (9), Method Kilasara (10), Pieter Le Roux (11), Erika Michéli (12), Luca Montanarella (2), Lamourdia Thiombiano (13), Eric Van Ranst (14), Martin Yemefack (15), and Robert Zougmore (16)

(1) Royal Museum for Central Africa, Department of Earth Sciences, Belgium (olivier.dewitte@africamuseum.be), (2) European Commission, Joint Research Centre, Institute for Environment and Sustainability, Ispra, Italy (arwyn.jones@jrc.ec.europa.eu), (3) ISRIC - World Soil Information, Wageningen, The Netherlands, (4) University of Copenhagen, Department of Geography and Geology, Copenhagen, Denmark, (5) Institut de Recherche pour le Développement (IRD), UMR Eco&Sols, Montpellier, France, (6) African Union Commission, Department of Rural Economy and Agriculture, Addis Ababa, Ethiopia, (7) University of Leuven, Department of Earth and Environmental Sciences, Heverlee, Belgium, (8) University of Tunis El Manar, Department of Geology, Tunis, Tunisia, (9) Cranfield University, National Soil Resources Institute, Cranfield, United Kingdom, (10) Sokoine University of Agriculture, Department of Soil Science, Morogoro, Tanzania, (11) University of the Free State, Department Soil-, Crop- and Climate Sciences, Bloemfontein, South Africa, (12) Szent István University, Department of Soil Science and Agricultural Chemistry, Godollo, Hungary, (13) Food and Agriculture Organization of the United Nations, Subregional Office for Central Africa, Libreville, Gabon, (14) Ghent University, Department of Soil Science, Ghent, Belgium, (15) Institute of Agricultural Research for Development (IRAD), Department of Soil Water and Atmosphere Sciences, Yaoundé, Cameroon, (16) CGIAR Research Program on Climate Change, Agriculture and Food Security (CCAFS), West Africa, Bamako, Mali

Problem and statement: In the context of major global environmental challenges such as food security, climate change, fresh water scarcity and biodiversity loss, the protection and the sustainable management of soil resources in Africa are of paramount importance. To raise the awareness of the general public, stakeholders, policy makers and the science community to the importance of soil in Africa, the Joint Research Centre of the European Commission has produced the Soil Atlas of Africa. Aim: To that end, a new harmonised soil map at the continental scale has been produced. Method: The steps of the construction of the new area-class map are presented, the basic information being derived from the Harmonized World Soil Database (HWSD). We show how the original data were updated and modified according to the World Reference Base for Soil Resources classification system. The corrections concerned boundary issues, areas with no information, soil patterns, river and drainage networks, and dynamic features such as sand dunes, water bodies and coastlines. Results and discussion: In comparison to the initial map derived from HWSD, the new map represents a correction of 13% of the soil data for the continent. The soil map and associated database also have the potential to enhance global studies on climate change, food production and land degradation for example. The explanation of the decisions that were made to produce the map will be useful to others who are attempting to harmonise legacy soil data sources to provide a usable information base. The map is available for downloading.