



SCALE 1:3 000 000
 1 CENTIMETRE = 30 KILOMETRES; 1 INCH = 47.3 MILES
 0 100 200 km
 0 50 100 miles
 PROJECTION: Lambert Azimuthal

This map shows the soils of southern Sudan, north South Sudan, western Ethiopia and southern Eritrea. While the pattern of soil distribution on the western part of the map reflects the transition from desert conditions in the north to a more humid climate in the south, the influence of parent material is much more significant. The major feature of the map is the enormous expanse of Vertisols that characterise the western branch of the Great Rift Valley. The Blue and White Niles meet at Khartoum.

The soils of the north-western quadrant (Sudan) reflect arid and semi-arid conditions and generally flat terrain. Daily temperatures are high (30-40°C) with rainfall ranging from 50-700mm a year. Extensive sand deposits (Arenosols) dominate higher ground and the exposure of hard rock. Fluvisols demarcate alluvial soils of desert deltas and terraces of the Nile Valley. Many soils display significant calcium carbonate levels (Calcisols).

The soils of the south-western corner of the map reflect the weathering processes on the rocks of the Congo Craton, a stable rock formation more than 3 billion years old. Deeply weathered sediments give rise to clay-rich Lixisols, Ferralsols and Plinthosols under grasslands and savannah vegetation.

The dominant feature on this map is the expanse of dark, cracking Vertisols of the Central and Southern Clay Plains of Sudan and South Sudan. These heavy, alkaline soils, containing a high proportion of swelling clays, reflect the long-term flooding of the area by the Nile over thousands of years. When dry, deep cracks appear in the soil which close on subsequent rewetting. The high clay content makes Vertisols sticky when wet and difficult to work. However, Vertisols account for almost all of the cultivated land in South Sudan and about one third in Sudan. Organic-rich Histosols and Gleysols indicate marshy conditions in the floodplains of the Blue and White Nile, grading into stratified Fluvisols.

To the east, the land rises to the Ethiopian Plateau and highlands of Eritrea which are characterised by Leptosols and Cambisols. Lake Tana in Ethiopia, the source of the Blue Nile, sits in a pocket of clay-rich Luvisols and Nitisols that have developed on basaltic rocks and tuffs. Vertisols occupy valley floors while extensive Nitisols define outcrops of metamorphic rocks to the south. The rich coffee-growing regions of Ethiopia are found on the Nitisols of the Western Highlands.

The line of Andosols just south of Addis Ababa marks volcanic activity associated with the Great Rift Valley. Most of the lakes in this area occupy collapsed volcanic cones (calderas). The Dendi Caldera is 8 km wide.

In the arid north, drought and desertification are persistent concerns. Gully and sheet erosion are serious problems in northern Ethiopia while nutrient management, sticky and heavy conditions and a limited cultivation window can cause difficulties on Vertisols.