



**Soil Biodiversity And Ecoregions –  
Tropical And Subtropical Grassland**

**Grassy, dry and burnt**

Tropical and subtropical grasslands, also known as savannahs, are distinguished by a warm and dry climate compared to temperate grasslands, as well as the occurrence of seasonal droughts. Savannahs are amongst the most complex and variable biomes on Earth and are difficult to define precisely. Nevertheless, a number of characteristics define savannahs throughout the world.

1. A continuous or near-complete cover of a mostly grassy herbaceous stratum, with tree and shrub strata varying from a total canopy cover (savannah woodland) to open grassland;
2. Marked seasonal contrasts with periodic or annual fires typical of dry seasons, lasting anything from two to nine months;
3. Underlain by mostly nutrient-poor soils, prone to desiccation in the dry season and inundated in the rainy season.

The vegetation consists of mixtures of trees, shrubs, grasses and ground plants, but the proportion of these components can change rapidly from place to place and over time. Animal life above- and below ground may show equal diversity. Savannahs are globally distributed almost entirely within the Tropical Belt. There are significant continental differences, with the Australian savannahs generally having the driest and the South American the wettest climatic environments. The African savannah is the most well-known, characterized by grassy landscapes and mixed communities of trees, shrubs and grasses with large grazing mammals.

**Soil biodiversity of African savannahs**

About 40 % of the arable lands south of the Sahara Desert are savannahs, characterized by two very contrasting seasons: dry and wet, with a variable average annual rainfall. The African savannah is a thornbush savannah, which has many different kinds of plants, such as Acacia trees, Candelabra trees, Jackalberry trees, Umbrella Thorn Acacias, Whistling Thorns, Bermuda grass, Baobab trees and Elephant grass. The soils (Cambisols, Ferralsols and Lixisols) are usually well drained and contain little organic matter. In West Africa, soil is managed by alternating crops, such as millet, sorghum and groundnuts, and fallow. This practice affects the activity and diversity of soil organisms.

A large variation in the total density of macrofauna (ants, termites and earthworms) is possible, the most abundant groups being ants and termites. The density of termites increases with the age of the fallow. The abundance of functional groups within the various taxonomic groups is even more variable. For example, endogeic earthworms appear to be most abundant in 10-year-old fallow, although they tend to be less abundant in fallows older than 30 years. However, epigeic earthworms that live in and feed mainly on litter are more abundant in older than in the younger fallows. Fungus-growing termites are most abundant in short-term fallows, whereas humivorous (feeding on humus) species are found more frequently in long-term fallows. Regarding microfauna, various studies carried out in Senegal have shown that there is no significant difference between the total number of nematodes in cultivated and fallow land. However, the diversity of species increases with the age of the fallow.

***Soil Lovers say: Did You Know That Your Soil Diversity Is Closely Linked to Its Flora And Fauna***

Ref: A Global Atlas of Soil Biodiversity p82

Gold Nugget S10#20 – [www.farmingsecrets.com](http://www.farmingsecrets.com)