

SOIL ORGANIC MATTER IN FYNBOS AND SUCCULENT KAROO BIOMES OF SOUTH AFRICA

Arnoud Boom¹

¹Profesor Titular de Biogeoquímica, Universidad de Leicester, Reino Unido

The amount of organic matter (SOM) in soil is a simple yet important parameter in soil science. What is far more difficult to determine is the chemical composition of the SOM. SOM is an undefined complex mixture of a range of organic molecular structures; this makes it difficult to determine the exact chemical composition. Often SOM is sub-divided in broad classes of which most are based on extraction procedures rather than chemical compound classes. Arid and semi-arid soils are notorious for having an extremely low SOM content. Yet the sheer area that these environments occupy on the earth surface turns semi-arid SOM one of the most important SOM stocks on earth. But SOM are biased towards the wetter climates which SOM rich soils dominate. Here I present a pyrolysis GC/MS approach to elucidate the structure of the SOM in a semi quantitative manner. These results demonstrate that there is a correlation between the SOM composition, land-use and vegetation cover over some of the most plant biodiverse ecosystems in the world.