

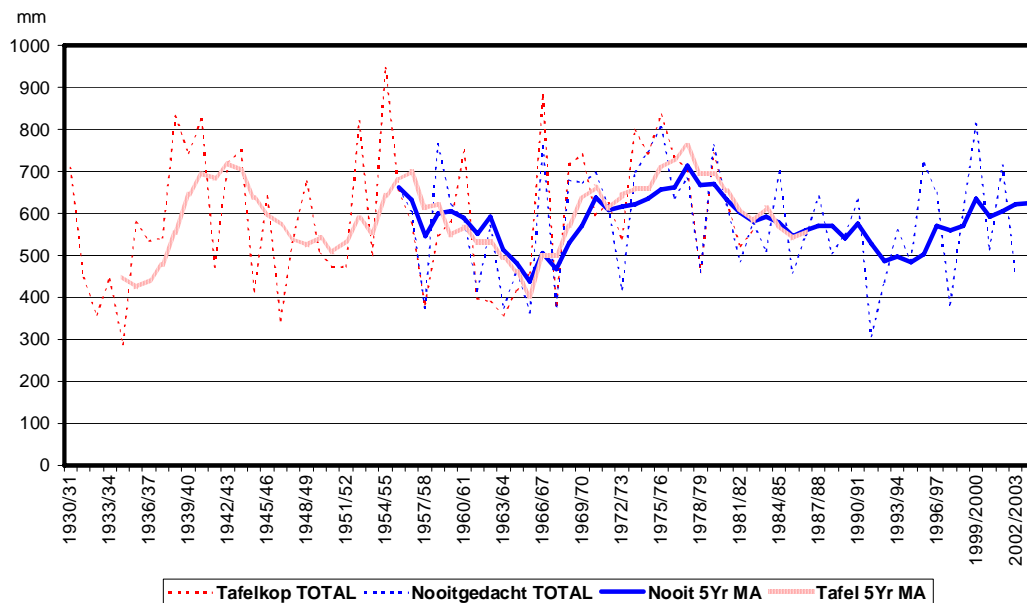
Moletadikgwa – Climate and Vegetation

Moletadikgwa is located at an altitude of between 1 300 and 1 500 metres above sea level; it enjoys warm summers (28-35°C) and mild winters (5-20°C). It comprises a mixture of grassy plains, low, wooded rocky hills and steep cliffs, with soil cover being quite sandy and thin apart from a few areas. On the Waterberg plateau, “Waterberg” is a misnomer, for subterranean water resources consist of numerous but small reservoirs, which deliver only modest borehole yields and need to be managed carefully if they are to survive prolonged dry seasons.

Rainfall, mainly in the form of thundershowers, occurs predominantly during the summer months of November to March. Records gathered from neighbouring farms show that over the last 75 years, annual rainfall has averaged about 600mm, but has varied widely, from a low of only 300mm in the 1991/92 season, to a high of almost 1 000mm in 1954/55. The records support the observations of Tyson & Preston-Whyte (2000), who identified a cycle of rainfall variability with a period of about 18 years that has affected all the summer rainfall areas of South Africa over at least the last hundred years.

Since 1930, the “wet spells” at Moletadikgwa have been during the periods 1937-44; 1951-60; 1969-79; and 1996-2002. Particularly dry spells occurred in 1932-35; 1945-48; 1962-67; and 1991-92. On the assumption that Tyson’s macro-cycles continue, we can expect that Moletadikgwa will receive mainly below-average rainfall during the next few years. Accordingly, we are deliberately maintaining game-stocking levels below the theoretical carrying capacity of the property, creating additional surface storage catchment dams, planting grasses to stabilise thin soil covered areas and generally following water conservation principles.

Tafelkop/Nooitgedacht Long Term Rainfall Trends



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The combination of climate, elevation and soil type determines the type of vegetation to be found on the property. It was categorised by Acocks (1988), as “Type 20, Sour Bushveld...*the veld of the bushveld [Waterberg] mountains. It is an open savanna of tall straight Faurea saligna trees in a tall, tufted, wiry, sour grassveld in the less rocky parts, a dense mixed bushveld in the rugged parts. It is beautiful country, but hot in spite of its altitude. The soil is of a sandy, rubbly nature, very poor and sour.*” (Acocks, 1988 p.55).

Low & Rebelo (1998), in their description to accompany a vegetation map of the region, defined the vegetation type as “Waterberg Moist Mountain Bushveld (Type 12)”, a member of the Savanna Biome. Although the Savanna Biome is the largest biome in the sub-continent, occupying 46% of its area, this vegetation type covers only about 12 000km² (1%) of the region and only 9% of that is under conservation.

Savanna is described by Bothma (2002) as characterised by a well-developed grassy layer and a distinct upper layer of scattered to dense shrubs and trees. The trees are mainly deciduous; termitaria, with their associated clumps of dense bush, are conspicuous. Savannas occur in the more tropical and summer rainfall areas of southern Africa, where rainfall is seasonal, relatively low and unreliable and where high summer temperatures are experienced. The dry season and its accompanying dry grass stratum create favourable conditions for bush fires. Fire plays an important role in the development and maintenance of savannas and almost all plant species found there are adapted to survive such fires. There is a potential for woody vegetation to develop in the absence of fire, so that, in its absence, most savanna would be replaced by scrub or forest (Tainton, 1999).

From a utilisation point of view, two kinds of savanna veld can be distinguished: *sweetveld* areas consist mainly of grasses that have a low fibre content, maintain their nutrient content in the leaves during winter and are palatable to livestock. The Springbok Flats area between Hammanskraal and Modimolle is sweetveld savanna. *Sourveld* areas, in contrast, consist of grasses with a higher fibre content and which tend to translocate their nutrients to their roots during winter. They are therefore less palatable, have a lower level of winter nutrition and a lower carrying capacity. The Waterberg Biosphere Reserve, (which includes Moletadikgwa), the Soutpansberg and parts of the Magaliesberg are areas defined as sour bushveld, although sourveld grasses extend over a much wider area of South Africa.

The Sappi Tree Spotting guide for the Bushveld, a copy of which is at Mokabi Lodge, describes the vegetation type as “(C), Central Mountains” and includes on pages 46-47, a useful guide to the principal vegetation. Dominant tree species are the red (or wild) seringa, *Burkea africana*; Transvaal beech, or boekenhout, *Faurea saligna*; highveld protea, *Protea caffra*; silver clusterleaf, *Terminalia sericea*; stamvrug, *Englerophytum magaliesmontanum*; common hook thorn, *Acacia caffra*; and various species of the genus *Combretum*. The grass layer consists of a mixture of more and less palatable species which, together with the presence of the poison-leaf or gifblaar, *Dichapetalum cymosum* and tick-borne diseases, makes the region sub-optimal for cattle production, but well-suited to game farming.

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We have identified over 120 species of trees/shrubs and 30 species of grasses on the farm so far, although there are undoubtedly more to be recognised. In the southern part of the farm, the current vegetation is a consequence of areas having been cleared for crop farming in the past, or of overgrazing by cattle, with the result that pioneer species of trees, shrubs and grasses are better represented than would be the case in undisturbed veld. Some exotic (e.g. jacaranda, eucalyptus, prickly pear) or invader species (e.g. *Stoebe vulgaris*, *lopholaena*) had established themselves on the property, but have now largely been eradicated through systematic excavation.

References

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