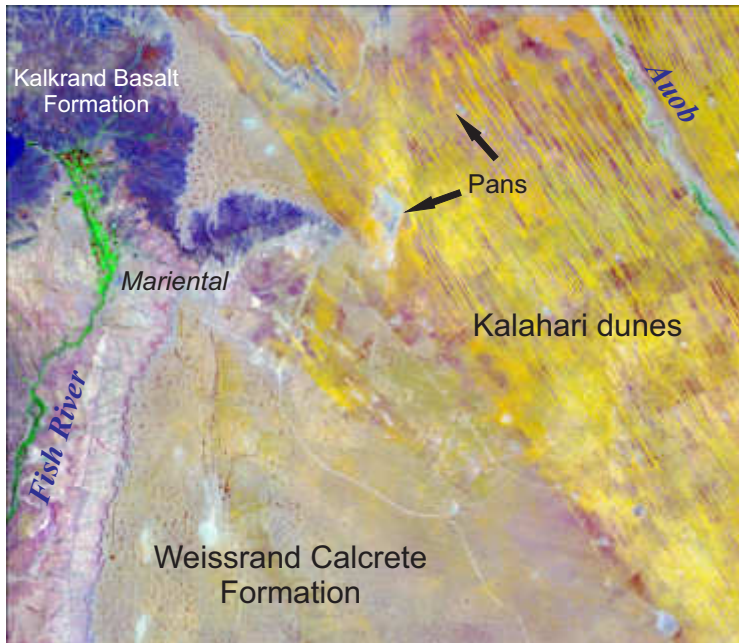


KALAHARI



Source: *Roadside Geology of Namibia*

In contrast to the Namib, the Kalahari is no true but a fossil desert - encompassing a range of vegetations types from dornbush savannah in the south to open woodland in the north. Surface water is rare for most of the year, but only the southwest with annual rainfall of less than 175 mm is really dry. The characteristic 5 to 25 m high red dunes are covered with a stabilizing cover of drought resistant grasses and low shrubs; other adapted species include the *Tsamma melon*. National parks host a variety of wildlife, including hyena, lion, meerkat, giraffe, warthog, jackal, various antelope and many species of birds and reptiles. The huge nests of weaver bird colonies are a frequent sight, and seasonal wetlands like the Makgadikgadi Pans of Botswana, are visited by tens of thousands of flamingos during the rainy season. Humans - as represented by the San people - have lived in this harsh environment for some 20000 years as hunter-gatherers, frequently recording their everyday life in the form of rock paintings or engravings.



Satellite image of the Kalahari southwest of Mariental

The Kalahari is the most recent large-scale geological landform of the southern African subcontinent. Overlying ~ 280 - 180 million year old sediments and volcanics of the Karoo era, it is characterised by dunes, pans and dry "river valleys" (*omurambas*), by which the area is drained after erratic rainfalls. The Kalahari sediments, which consist of variably consolidated sands, clays and gravels, vary greatly in thickness, reaching up to 600 m in the Owambo Basin of northern Namibia. Often the soft sediment is cemented by microcrystalline calcite into calcrete, which forms in regions where evaporation exceeds precipitation.



Lightly vegetated red Kalahari dunes

As rocky outcrops are restricted to river cuttings and pans, most geological knowledge of the area derives from water and a few exploration boreholes. While the oldest sediments probably date back to the late Cretaceous (~65 m. y. ago), pans only formed much later (~ 2 m. y.) and the Kalahari dune field is believed to have developed only after the last glacial period, between 16000 to 20000 years ago.



The Kalahari was once a much wetter place, when it was dominated by ancient Lake Makgadikgadi. In its hey-day, about 20000 years ago, this inland sea was ~30 m deep and covered as much as 80000 km², but when the Zambezi was diverted it began to decline. A drier climatic period caused increased evaporation and a decrease in the inflow from the Chobe, Okavango and Cuando Rivers. Today all that remains of it are the Okavango Delta, Nxai Pan, Lake Ngami, Lake Xau, the Mababe Depression and the Makgadikgadi Pans themselves.