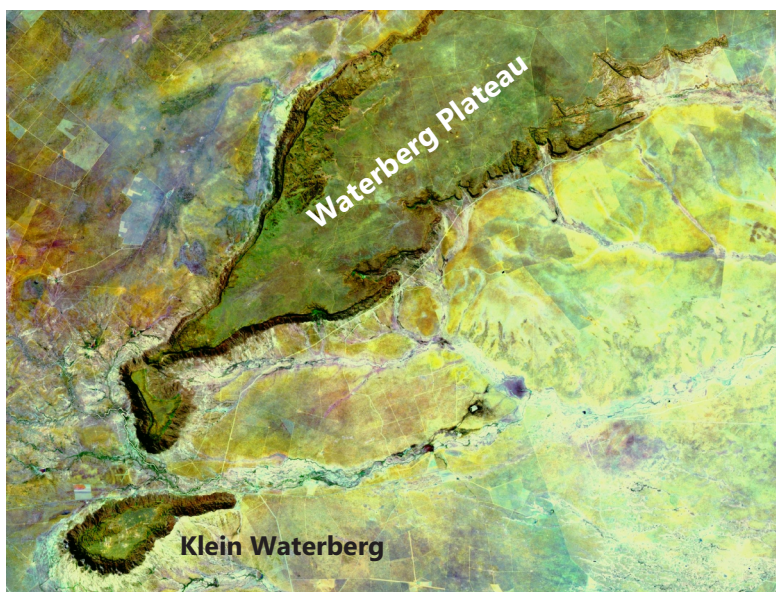


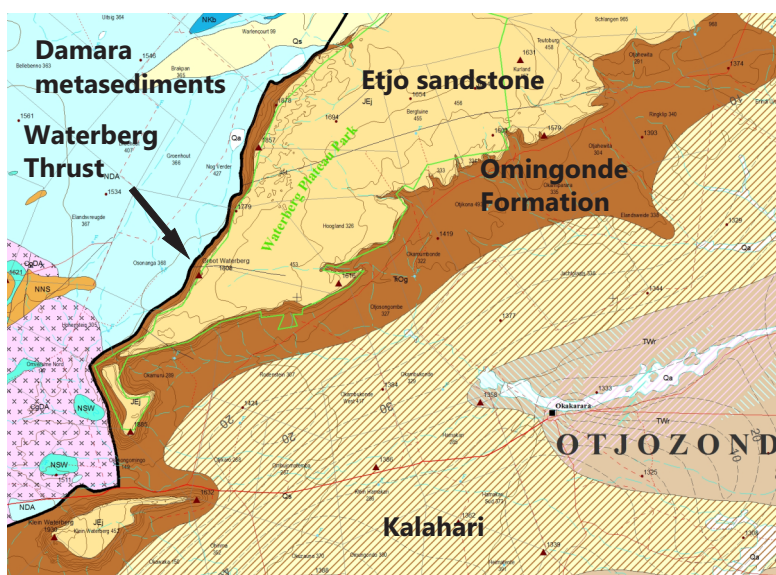
## WATERBERG & MOUNT ETJO

Source: Roadside Geology of Namibia

Situated on the western edge of the Kalahari Sandveld, the flat-topped Waterberg (with its smaller appendix, Klein Waterberg) and Mount Etjo are striking topographic features that some 150 million years ago, during the Jurassic period, formed part of a much more extensive plateau. Both consist of sandstone underlain by shales and mudstones, and rise 1930 m and 2082 m, respectively, out of the surrounding thornbush savannah. While the Waterberg Plateau is a popular National Park, which apart from its geological interest, hosts a diverse fauna and flora, the dinosaur footprints at Otjihaenamaparero among the foothills of "Klein Etjo" enjoy National Monument status.



Satellite image (above) and geological map (below) of the Waterberg Plateau and Klein Waterberg



Mount Etjo and Waterberg are the largest of a number of Karoo-age inselbergs occurring south of the Waterberg Thrust - a 250 km-long fault line extending from Grootfontein to Omaruru, along which older Damara rocks (~600 m. y.) were pushed over younger Karoo sediments, with a vertical displacement of at least 700 m. They consist of rocks deposited in the Omingonde Basin of northern Namibia between 220 and 180 million years ago, where under semi-arid conditions some 700 m of conglomerates, sandstones and mudstones accumulated, and were topped by the aeolian Etjo sandstones, which bear witness of a true desert climate. Apart from a variety of dune forms, the Etjo Formation also contains deposits of periodically wet interdune flats and valleys. Rainwater seeping into the porous Etjo sandstone reappears in numerous springs at the boundary between the sandstone and the dense mudstones, which gave the Waterberg its name.



Fossilized dunes at Waterberg

Herbivores of various size as well as the carnivorous *Erythrosuchus africanus* frequented lake shores and river flats during the Triassic (ca. 220 million years ago), while *Massospondylus*, a herbivore of 3-5 m length and 1.5 m height, lived in the interdune valleys of the early Etjo period some 200 m. y. ago. When climatic conditions became increasingly arid (similar to those of the modern Namib), life converged upon the remaining water holes, small lakes and rivers, where imprints in the wet sediment at the water's edge have survived to this day. At Otjihaenamaparero one track can be followed for 28 m, clearly showing a three-toed, clawed foot. Size, depth and arrangement indicate that it was made by the hind legs of a bipedal medium-sized dinosaur. Preserved skeletal parts are on display at the National Earth Science Museum in Windhoek.



Dinosaur footprints at Otjihaenamaparero and reconstruction of their author (Drawing by C. Marais)

