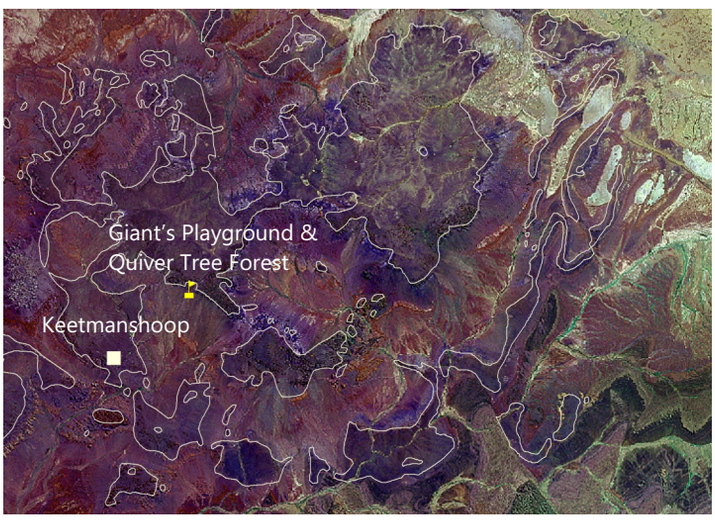
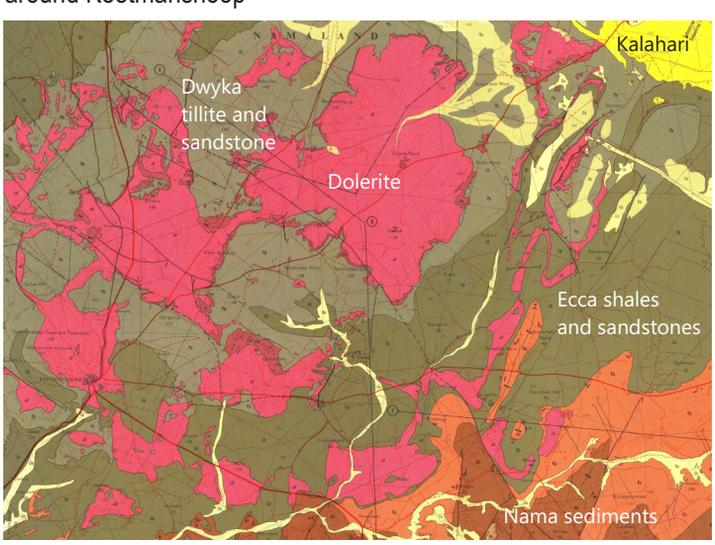
The surroundings of Keetmanshoop in southern Namibia are characterized by the bizarre rock formations of the 180 million years old Keetmanshoop Dolerite Complex, which is allied to the incipient break-up of the Gondwana supercontinent that united the landmassses of the southern hemisphere between 550 to 150 million years ago. Interspersed with sedimentary rocks of the Karoo Supergroup (~320 to 200 million years), which demonstrate a major climate change from glacial to subtropical, the dolerite covers an area of more than 18000 km^2, verging on the Kalahari sandveld. In addition, the area is known for various important fossil sites of the aquatic reptile Mesosaurus tenuidens*, which - having been found both in southern Africa and South America - proves the erstwhile connection between the two continents, as well as the antediluvian-looking quiver trees that thrive in the soil derived from the weathered dolerite.*



Satellite image (above) and geological map (below) of the area around Keetmanshoop



Continental break-up was accompanied by gigantic volcanic eruptions and magma movements within the Earth's crust. The Keetmanshoop Dolerite Complex consists of two major intrusive sills, which intruded along bedding planes of the Karoo sediments, thus causing uplift of the overlying rocks; these sheets of volcanic material were fed by a number of dykes - vertical to near vertical fissures, resulting from tension in the Earth's crust, through which the magma (molten rock) ascended.

The 150 m thick lower sill intruded the glacial Dwyka sediments (> 300 million years), which originated when this part of Gondwana was situated near the south pole; the upper, ~120 m thick sill was emplaced within the overlying Ecca shales of a more temperate to subtropical period, as Gondwana moved towards equatorial regions. These mudstones formed in a huge inland sea surrounded by extensive conifer forests, which was home to the alligator-like reptile *Mesosaurus tenuidens* and extended across parts of modern Brasil and southern Africa. Thus Mesosaurus finds can be used to correlate rock strata across the two continents.

Erosion of the overlying sediments widely exposed the two sills around Keetmanshoop. The dolerite sills and dykes display spheroidal weathering, typical of intrusive rocks, which led to the formation of rounded boulders of all sizes and shapes strewn over the hilly surface. One of the best places to see these works of the great sculptor Erosion is the *Giant's Playground* on Farm Gariganus some 25 km northeast of Keetmanshoop, which is also the site of the Quiver Tree Forest, which is one of Namibia's national monuments. This iconic tree, which has adapted to the arid climate by storing water under its rough bark, grows nine to ten metres tall and can attain an age in excess of 500 years. Its trunk and branches are easily hollowed out, and were made into quivers by the local Bushmen - a practice that gave the tree its popular name.