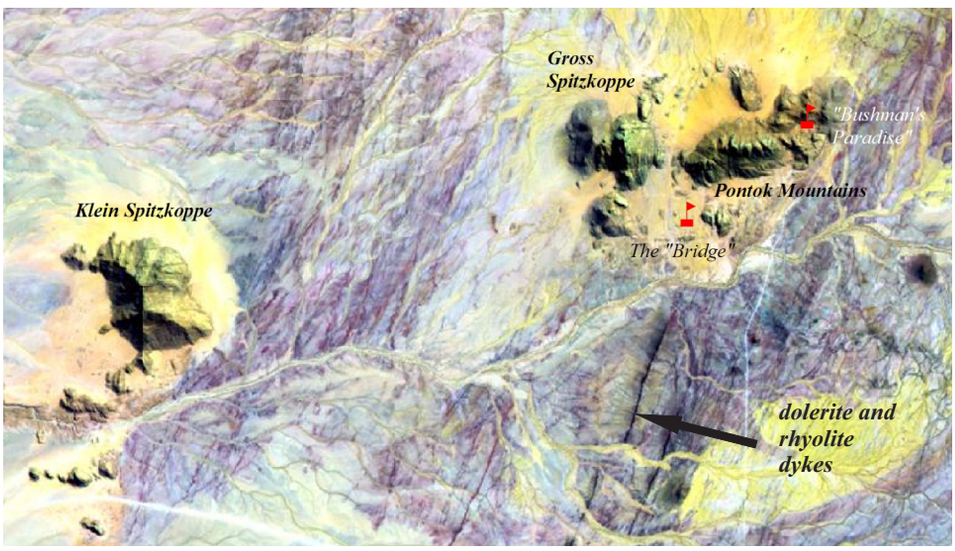
SPITZKOPPE AND PONTOK MOUNTAINS

Source: Roadside Geology of Namibia

Towering 600 to 700 m above the Namib Plains, the rocky fastnesses of Gross and Klein Spitzkoppe and the Pontok Mountains are prominent landmarks north of the of Usakos - Henties Bay road. Like Brandberg and Erongo, these spectacular granite stocks formed as a result of tectonic and magmatic activity some135 million years ago, which eventually led to the opening of the South Atlantic Ocean and the separation of Africa and South America. While Klein Spitzkoppe is well known among mineral collectors for the occurrence of gem-quality topaz, aquamarine and other semi-precious stones, the sheer granite faces of the Gross Spitzkoppe attract many rock climbing enthusiasts, causing it to be dubbed the „Matterhorn of Africa". „Bushman's Paradise" at the eastern end of the nearby Pontok Mountains is one of several rock art sites in Namibia that enjoy National Monument status.

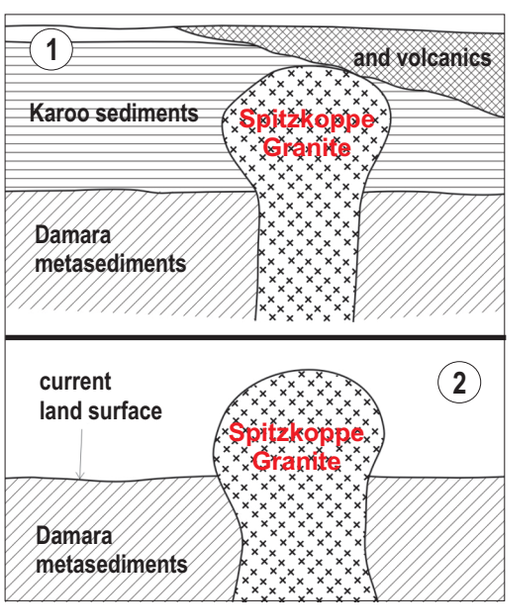


Satellite image of Klein & Gross Spitzkoppe and the Pontok Mountains west of Usakos

The Spitzkoppe granites display some interesting erosional forms, sculpted by the persistent west wind and extreme temperature differentials between night and day. Perhaps the best-known of these is the spectacular rocky „Bridge", while the rounded shapes of the neighbouring Pontok Mountains reminded early explorers of the huts built by the local people ("pontoks"). Also typical of granitic rocks in subtropical regions is a feature known as "onion-skin weathering" - following concentric joints formed in the cooling and solidifying magma, layer after layer of weathered rock „peels" away, producing characteristic rounded boulders.

Klein Spitzkoppe is one of the best known mineral localities in Namibia. For more than a hundred years semi-precious stones such as topaz, aquamarine and green fluorite have been mined from pegmatites and their erosional products in small diggings by the local population.

Emplacement of the Spitzkoppe and Pontok granites in metamorphic schists and marbles of the ca. 650 million year old Damara Supergroup overlain by the much younger Karoo sediments during break-up of the Gondwana supercontinent was preceded by a period of increased basaltic-rhyolitic magmatism. Numerous predominantly north-north-east trending dyke swarms bear witness of these events and are easily recognisable on air photos and satellite images as prominent dark ridges. Over millions of years erosion patiently and inexorably wore away the Karoo and Damara country rocks, and chiselled the exposed granite intrusive rocks into the striking topographic features visitors see today.



Spitzkoppe Granite at the time of intrusion (1) and today (2)