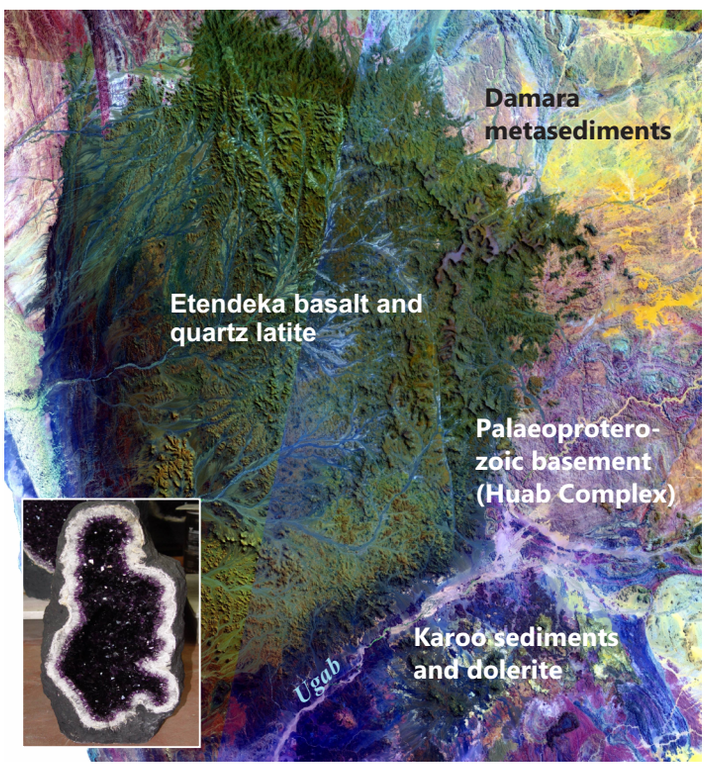
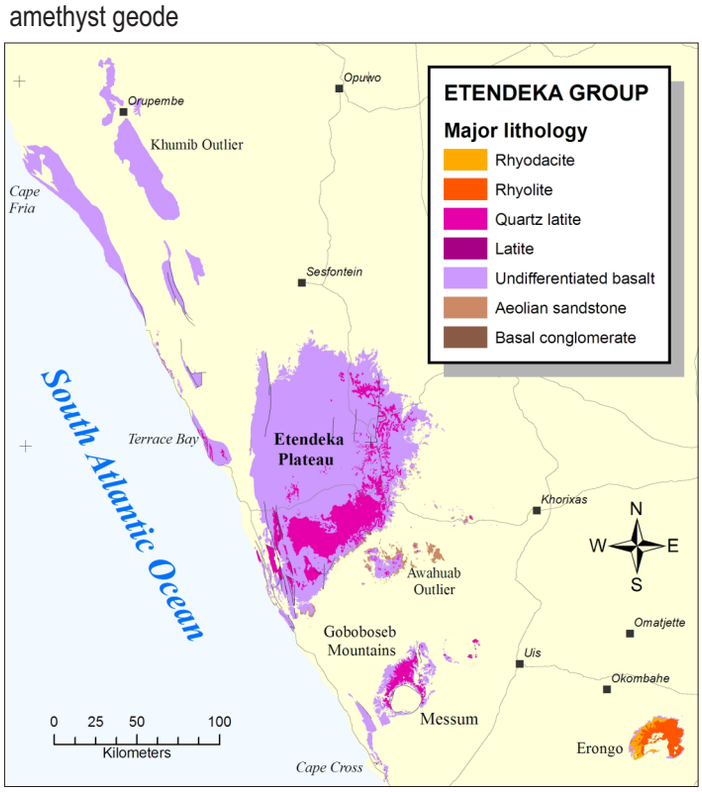
A unique and in its desolation hauntingly beautiful landscape, the Etendeka Plateau of northwestern Namibia consists of volcanic rocks of the Cretaceous period. The name Etendeka in the language of the local Himba people means 'place of flat-topped mountains', and refers to the characteristic table-topped hillocks dotting the plateau. Covering ca. 78 000 km² between the Huab River in the south and the Hoanib River in the north, it towers some 700 to 800 metres above the deeply eroded gneisses and metasedimentary rocks of the ca. 1.6 million year old Huab Metamorphic Complex to the east, while rising gradually out of the coastal plain in the west. Alteration zone within the basalt are commonly mineralized with quartz, agate, zeolite and/or calcite. Especially geodes of amethyst are famous both from Namibia and Brazil, and highly sought after by collectors.



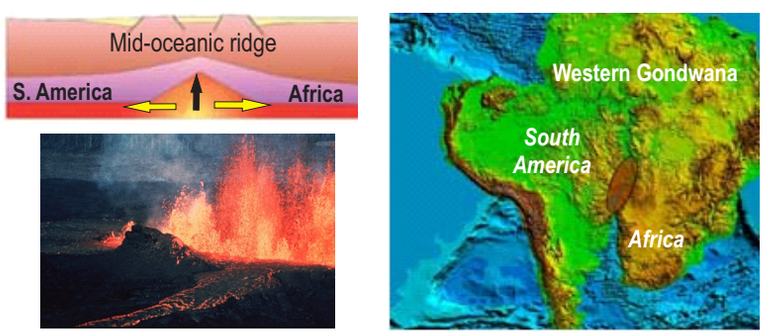
Satellite image of the Etendeka Plateau and surroundings; inset: amethyst geode



Regional distribution of the Etendeka volcanic rocks

The Etendeka lavas and the alkaline intrusions of the Damaraland Suite (e.g. Brandberg, Erongo) result from the magmatic and tectonic events leading to the break-up of the Gondwana Supercontinent, which united the landmasses of the southern hemisphere between 550 and 130 million years ago. Together with the Paraná volcanics of Brazil the Etendeka basalts and quartz latites represent one of the largest known continental volcanic provinces in the world past and present - compared to the estimated extruded volume of ca. 1.3 million km³, the historic Krakatoa eruption (1883), which produced only 18 km³, appears negligible!

However, this enormous amount of lava and pyroclastic material was not erupted by a single or even several volcanoes. Rather, the Etendeka/Paraná landscape of the early Cretaceous was riddled with volcanic fissures steadily bringing forth rivers of molten rock, among which life could not be sustained. Nevertheless, the volcanic rocks exposed today on both sides of the Atlantic are but a fraction of the volume of magma extruded onto the sea floor from the mid-Atlantic ridge, which eventually "pushed" Africa and South America into their present positions.



Break-up of Gondwana; lower left: modern fissure eruption on Hawaii

Basaltic lavas with less than 60% SiO_2 make up about 80% of the Etendeka volcanics, the remainder consisting of interbedded quartz latites and minor latites. In contrast to the flood basalts, the latter, more siliceous rocks rocks represent individual flows with considerable lateral extent, thus facilitating the correlation of volcanic units across their area of distribution. At Tafelberg, in the southeastern part of the plateau, the preserved thickness of the volcanic rocks is 880 m, but the original maximum stratigraphic thickness probably exceeded 1000 m. The Etendeka lavas overlie the aeolian sandstones (fossil dunes) of the Twyfelfontein Formation, and locally the earliest flows interfinger with sandstone layers and lenses, the latter forming conspicuous yellowish bodies within the darker red-brown lavas.