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The Danakil Depression: An exceptional place where different types of extreme environments coexist



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The Afar Depression is an extensive, tectonically and volcanically active lowland located in north-eastem Ethiopia, at the junction of three actively propagating rift zones: (i) the southern Red Sea rift, which extends from the north down through the Gulf of Zula into the northern Afar Depression; (ii) the Gulf of Aden rift, which propagates through the Gulf of Tajura into the eastern Afar Depression; and (iii) the Main Ethiopian Rift forming the northernmost part of the bigger East African Rift System extending to the southwest.

The Danakil Depression is the northern extreme of the Afar Depression, characterized by manifestations of the currently active tectonic movement: the Ert'ale active lava lake, and the Dallol active volcano, with variously coloured heated brines on its top. The Danakil Depression presents an amazing combination of geological features, which are of unique beauty. The salt flats in the Danakil Depression, along the borderline between Ethiopia and Eritrea, are located 100 m below sea level. For ages past, the inhabitants of Afar have mined salt, which is transported by camel and donkey caravans to markets on the highlands of northern Ethiopia.

This contribution will describe the Danakil Depression in general and the Ert'ale active lava lake, the Dallol volcano, the salt lakes, and salt formations, all of them in terms of their geoheritage and geotourism significance.