# THE SALT OF ASSAL LAKE DJIBOUTI

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| **ABSTRACT**  Lake Assal is a crater lake located in the central west of Djibouti and approximately 120 km west of Djibouti City. Lake Assal is the deepest point on land in Africa and the third deepest point on Earth, at 153 m below sea level. There are hot springs around Lake Assal, it is surrounded by inactive volcanoes and dense dark black colored lava deposits. It increases the salinity level of its waters due to high evaporation. Lake Assal is the world's largest salt reserve. The northern and northwestern part consists of a large salt flat and the eastern side consists of a basin of approximately 900 km2 consisting of a high density salt water mass. Assal lake is an oval lake with a length of 19 km and a width of 6.5 km. Located in the north-northeast, the crystal salt surface is 68 km2 and the dense brine area is 54 km2. The crystallized salt zone extends to a depth of more than 60 m, with an estimated resource of approximately 300 million tonnes. The maximum depth of the water part of the lake is 40 m, and the average depth is 7.4 m, which means a water volume of 400 million cubic meters. Located in the hot desert, the lake experiences summer temperatures as high as 52 °C from May to September. From October to April, winter temperatures are not as low as 34 °C and there are rare rains in the coastal area. The chemical composition of the lake water is 300 g/L NaCl and it is evaluated with potential reserves ranging from 4 to 8 million tons. The hot spring, which feeds Lake Assal from the gulf, has the same salinity level as sea water. The salinity concentration in the lake causes an average annual evaporation rate of 460 million m3 due to the effects of wind and sun. Dissolved salts include NaCl, KCl, MgCl2, CaCl2, CaSO4 and MgBr2.  **References:**  [1] <https://www2.opic.gov/environasp/eia/lakeassal/Lake_Assal_Salt_Project_EIA_Report_Nov08.pdf> Government of Djibouti:Salt Investment S.A.Z.F. November 2008. pp. 1–xii, 29. Archived from the original (PDF) on 24 March 2012. Retrieved 25 May 2011.  [2] <http://www.environnement.dj/Etudes%20d%27impact/Djibouti_Environmental_Management_Plan%2008%2011%2021.pdf>. "Geothermal Development in the Assal Area in Djibouti" (PDF). Djibouti Environmental Management Plan. pp. i–xi, 26, 29–30. Archived from the original (PDF) on 15 February 2010. Retrieved 25 May 2011. |

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