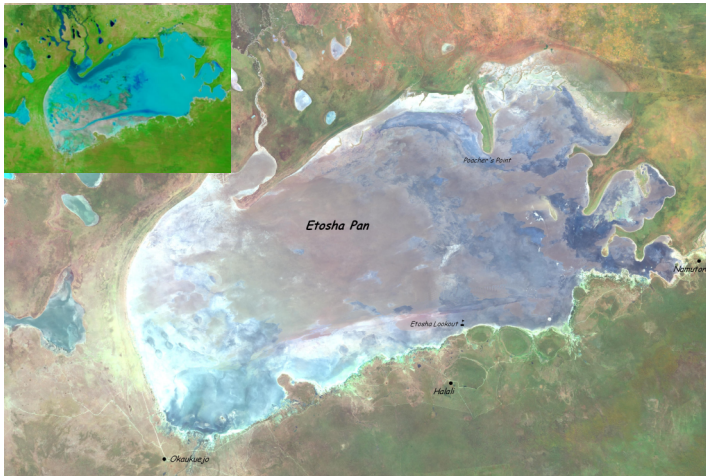


ETOSHA PAN



Source: Roadside Geology of Namibia

Although Etosha is most famous for its diverse wildlife, which includes almost the entire spectrum of African big game as well as more than 300 bird species, the 4760 km² large salt pan, with its eerie atmosphere of desolation, attracts a great number of visitors, too. Most of the time a dry, flat expanse of glistening white, after strong rains it still reminds of its former glory, when the area was covered by a lake that, if it existed today, would be the third largest in the world. A number of springs occur along the southern margin of Etosha Pan, which provide water for the Park's wildlife during the long dry season, and make for great game viewing during the hours of dawn and dusk. The life-sustaining water originates from the dolomites of the Otavi Mountainland to the south, where karst structures like Lake Otjikoto provide ample mobility for groundwater; where the saturated carbonate rocks are in contact with the clay-rich and impermeable sediments of the younger Kalahari Group, the water rises to the surface to form springs.



Satellite image of the Etosha Pan; inset: after heavy rainfalls

“Lake Etosha” was formed 5 to 7 million years ago by a drainage system involving the upper Kunene and Okavango Rivers. At the time of its maximum extent it covered an area of 55000 km². When a westward flowing river captured the headwaters of the Kunene ca. 2 m. y. ago, “Lake Etosha” was cut off and began to die. As it shrank through continued evaporation under increasingly dry climatic conditions, the Cuvelai System with its oshanas (small seasonal rivers) developed in its place. Stromatolites, formed by carbonate precipitation through the activity of micro-organisms, are indicative of a lacustrine environment supersaturated with carbonates, as is typical for an evaporating inland waterbody. Eventually a pan formed which only seasonally holds water. Erosion set in, with fluvio-lacustrine processes in the rainy season and aeolian deflation during the dry season, the latter creating the prominent dunes north-west of the pan.

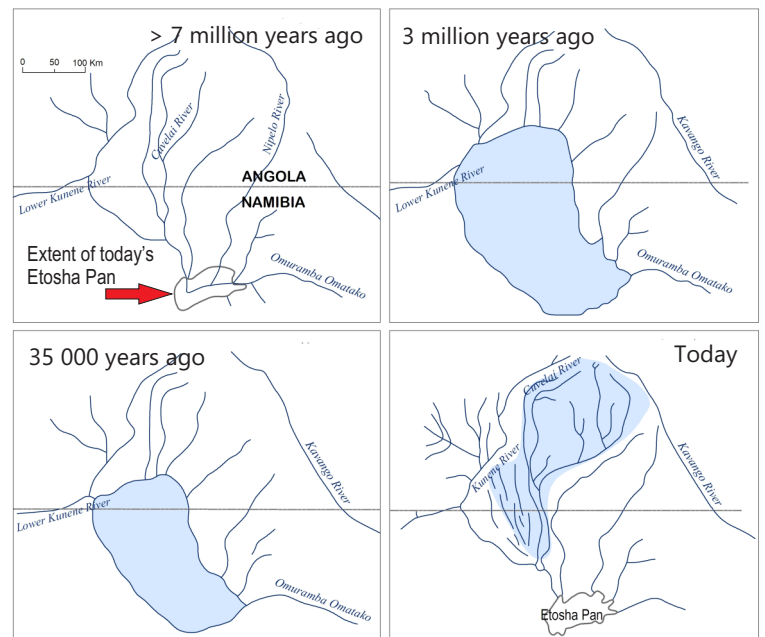


Mud cracks characterize the fine-grained pan sediments

Lying some 1100 m above sea level, the Etosha Pan, which is surrounded by extensive grass and thornbush savannah, forms the lowest point of the Owambo Basin - a large intracontinental depression floored by more than 1000 million year old rocks of the Congo Craton and containing some 8000 m of sediments. The immediate bedrock of the pan consists of silts and sands of the Andoni Formation and Etosha limestone, which belong to the young (< 65 million years) Kalahari Group. Only the uppermost layers of this pile are subjected to alteration by recent flood waters, and exhibit a mineral assemblage characteristic of saline-alkaline environments (similar to the East African salt lakes), including analcime, K-feldspar, sepiolite, saponite, calcite, dolomite, strontianite and various salts. Although shades of off-white are the predominant “colours”, large parts of the pan surface display a distinct green-gray hue, which is caused by the micaceous mineral glauconite.



Zebras grazing along the fringe of the Etosha Pan



From Lake Etosha to Etosha Pan