

SOUTH SUDAN



Source: esri

General

South Sudan - officially known as the Republic of South Sudan - is a landlocked country in East-Central Africa that gained its independence in 2011. South Sudan is bordered by Sudan in the North, Ethiopia in the East, Kenya in the Southeast, Uganda in the South, the Democratic Republic of the Congo in the Southwest, and the Central African Republic in the West. The country has an area of 62 Mha (million hectares) with in 2020 a population of 11.2 million, or 0.18 persons per ha (Wikipedia and United Nations, 2019).

Climate and geography

South Sudan has a climate similar to an equatorial or tropical climate, characterized by a rainy season of high humidity and large amounts of rainfall followed by a drier season. The temperature on average is always high with July being the coolest month with average temperatures falling between 20 and 30 °C and March being the warmest month with average temperatures ranging from 23 to 37 °C. Most rainfall occurs between May and October, but the rainy season can commence in April and extend until November. On average May is the wettest month. The season is influenced by the annual shift of the Inter-Tropical Zone and the shift to southerly and southwesterly winds leading to slightly lower temperatures, higher humidity, and more cloud coverage (source: Wikipedia).

Several ecoregions extend across South Sudan: the East Sudanian savanna, Northern Congolian forest-savanna mosaic, Saharan flooded grasslands (Sudd Marshes), Sahelian Acacia savanna, East African montane forests and the Northern Acacia-Commiphora bushlands and thickets. The Boma-Jonglei Landscape region encompasses Boma National Park, broad pasturelands and floodplains and Bandingilo National Park. It also includes the Sudd Marshes formed by the White Nile, locally known as the *Bahr al Jabal*, a vast area of swamps and seasonally flooded grasslands that includes the Zeraf Wildlife Reserve.

Existing polder

At the initiative of the Dutch embassy in Juba, a polder has been constructed at the largest refugee camp in South Sudan (Klaassen, 2014; Netherlands Ministry of Foreign Affairs, 2017). Bentiu is a refugee camp that was completely flooded during the monsoon season. Originally a Dutch initiative brought mobile pumps to Bentiu. The Dutch company Sweco Nederland (former Grontmij) prepared a detailed plan to build a dike around the camp, effectively placing it in a polder. The plan included canals, roads and culverts to ensure good drainage. The construction of the ring dike, drains, roads and larger pumps was completed in 2016).

General characteristics of the existing polder in South Sudan are shown in Table I.

Proposed polder

Impoldering of parts of the Sudd Marshes has been investigated in connection with the construction of the Jonglei Canal. The Jonglei Canal was a canal project to divert water through the Sudd Marshes so as to deliver more water downstream to Sudan and Egypt for use in agriculture. The construction was started, but never completed.

References

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Table I. General characteristics of existing polder in South Sudan

| Name | Reclamation | Area in ha | Type *) | Latitudes | Longitudes | Elevation in m+MSL | Land use |
|---------------|-------------|------------|---------|-----------|------------|--------------------|--------------|
| Bentiu Polder | 2016 | 150 | RLL | 9° 16' N | 29° 48' E | 399 | Refugee camp |
| Total | | 150 | | | | | |

*) RLL = reclaimed low-lying land; LGS = land gained on the sea; DL = drained lake