

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 2024, a population of 11.9 million, or 0.19 persons per ha (Wikipedia and United Nations, 2024).

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. 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 temperature is generally high with July being the coolest month with average temperatures between 20 and 30 °C and March being the warmest month with average temperatures ranging from 23 to 37 °C. 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 (source: Wikipedia).

Existing polder

At the initiative of the Netherlands embassy in Juba, a polder has been constructed for 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 pumps was completed in 2016.

General characteristics of the 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.

Location of the polders in South Sudan as shown on the World polder map

The location of the polders in South Sudan is shown in Figure 1.



Figure 7. Location of the polder in South Sudan (source: esri – Batavialand)

References

- Elp, L. van, 2015. Welkom in Bentiu, het paradijs van Zuid-Soedan. *One World*. (in Dutch)
- Group Polder Development, Department of Civil Engineering, Delft University of Technology, 1982. *Polders of the World. Compendium of polder projects*. Delft, the Netherlands.
- Klaassen, W., 2014. *Polder oplossing voor waterproblemen in vluchtelingenkamp Zuid-Soedan*. Web site Netherlands Water Partnership (NWP). (in Dutch).
- Netherlands Ministry of Foreign Affairs, 2017. A Dutch polder in South Sudan. Web page: <https://magazines.government.nl/fa/for-the-netherlands-worldwide/2017/01/16>.
- Richard, J., 2022. *Reclaiming Bentiu from floods*. International Organization for Migration. <https://southsudan.iom.int/stories/reclaiming-bentiu-floods>
- United Nations, Department of Economic and Social Affairs, Population Division. 2024. *World population prospects, medium prognosis. The 2024 revision*. New York, USA.

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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