

Senegal

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Location and area

Senegal is a republic in western Africa, bordered on the north by Mauritania, on the east by Mali, on the south by Guinea and Guinea-Bissau, and on the west by the Atlantic Ocean. The Gambia, a small, narrow country, forms an enclave in southern Senegal, extending inland along the River Gambia. The republic's total area is 196,722 km². (Microsoft Encarta Encyclopedia 2002).

Topography

Most of Senegal is an undulating plain lying below about 100 m. Elevations rise above 500 m only in the extreme south-east, in the foothills of the Fouta Djallon.

The main rivers are the Sénégal, which forms the northern boundary with Mauritania, and the Saloum, Gambia, and Casamance. (Microsoft Encarta Encyclopedia 2002).

Climate

Senegal has a tropical climate, with a dry season from November to June, and a wet season from July to October. The average daily temperature is 23° C in January and 28° C in July. The annual rainfall is greatest in the south, averaging about 1,400 mm, and decreases steadily northwards, to less than 380 mm. (Microsoft Encarta Encyclopedia 2002).

Land use

The northern section of Senegal is part of the Sahel, a transition zone between the Sahara to the north and the wetter regions to the south. Vegetation here consists largely of savannah grasses with scattered clumps of trees and spiny shrubs. Farther south, in the region of the River Gambia, trees become more common. In the extreme south are mangrove swamps and dense forests of oil palms, mahogany, teak, and bamboo. About 12 % of the land area is arable (Microsoft Encarta Encyclopedia 2002).

Peatlands

Bord na Mona (1985) and Shrier (1985), based on an unpublished report of Socomine Paris 1982, mention 15 km² of "peatland" resp. "mire area" to occur as lacustrine peat deposits in interdune depressions in the Niayes region. In this region (that stretches along the coast from Dakar to St. Louis) several hundred small (1 - 10 ha, mean 5.7 ha) peatlands with peat depths varying between 1 and 10 m are found. A maximum depth of 10 m is also mentioned by Lezine & Chateaufneuf (1991).

Andriess (1988) uses the same figure of 15 km² for the extent of organic soils, as do Schneider & Schneider (1990) and Pfadenhauer et al. (1993) for the peatland area.

UNDP/Worldbank (1983) mention – next to the Niayes area – also mangrove peat deposits in the river deltas of western Senegal. These appear unsuitable for use as fuel, because of the high ash and salt content. The total estimated resources are 46 Mm³.

Markov et al. (1988) estimate the area of „peat resources“ (peat thickness not mentioned) in Senegal as being 100 km². They refer to mangroves and some peatland along the rivers, the peatlands usually not being larger than 10 ha, with a peat depth up to 3 meters.

Some peatlands might occur in the floodplain of the Senegal River (4,560 km² in the wet season, 500 km² in the dry season) or its delta (7,970 km²) on the border of Senegal and Mauretania, and around the shallow Lake Guiers (170 km²) (cf. Howard-Williams & Thompson 1985).

Marshes with a very acid and peaty soil are also reported from the Niokolo-Koba National Park (www.wcmc.org.uk/wh/reviews/wetlands/a3.htm) and scattered grass-herb swamps near Oussouye (Cole 1973).

The World Bank Africa (1994) estimated the geological reserves at 39 Mm³, whereas the Compagnie des Tourbières du Senegal estimates the volume on 52 Mm³ (www.energie.gouv.sn/DMG/cts.htm). According to Mines '98 the geological resources are 52 Mm³, the minable reserves 39 Mm³ and the proven reserves 32 Mm³ (www.mines98.com/projects/85.htm).

Korpijaakko & Korpijaakko (1996), based on Cartier Monenco Ltd (1983) and Korpijaakko (1985) estimate the „peatland“ area on 66 km², consisting of 51 km² of mangroves and the 15 km² of the already mentioned Niayes peats. The mangrove peatlands contain 0.6 Mm³ of peat reserves. The peat thickness in surficial (“recent”) deposits is on average 0.1-0.4 m with a maximum of 1 m. The major part of the mangrove peat is buried with an average thickness of 0.9-1.2 m and a maximum of 2.9 m. The Niayes peats contain 55 Mm³ of peat. According to the interpreted World Soil Map (Van Engelen & Huting 2002) no histosols exist in xxxx and 3,800 km² of gley soils.

Mire and peatland losses

Parts of the Niayes peatlands are used for agriculture and for local small scale fuel peat extraction (Korpijaakko & Korpijaakko (1996).

Areas close to villages are used for crop production and the deposits have been intensively surveyed (1980-1984) to assess their potential for fuel production (Shrier 1985).

The implementation of a peat power plant has been recommended (UNDP/Worldbank 1984b) but as yet not been realized. The installation of a pilot plant with 0.5 T/H production of peat coal and of 5 industrial units with 6,000 T/H capacity, each under private investment, is planned (www.mines98.com/projects/85.htm).

Still to be checked:

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Lézine A.M., Turon J.L., G. Buchet. 1995. Pollen analyses off Senegal: evolution of the coastal palaeoenvironment during the last deglaciation. *Journal of Quaternary* 10,2: Science, 10,2:95-105.

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30 Niayes (15oN-16oN, 16oW-17oW), ca 5 m, Senegal. Pollen.

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