BRAZIL

Source: esri

General

Brazil - officially the Federative Republic of Brazil - is bounded by the Atlantic Ocean in the East, with a coastline of 7,491 km. It borders all other South American countries except Ecuador and Chile and covers 47.3% of the continent's land area. The country has an area of 850 Mha (million hectares) with in 2022 a population of 215 million, or 0.25 persons per ha. This makes Brazil the world's fifth-largest country by area and the sixth-most populous (Wikipedia and United Nations, 2022).

Climate and geography

The climate of Brazil comprises a wide range of weather conditions across a large area and varied topography, but most of the country is tropical. According to the Köppen system, Brazil hosts six major climatic subtypes: desert, equatorial, tropical, semi-arid, oceanic and subtropical. Many regions have different micro-climates. An equatorial climate characterizes much of northern Brazil. There is no real dry season, but there are some variations in the period of the year when most rain falls. Temperatures average 25 °C, with more significant temperature variation between night and day than between seasons. Over Central Brazil rainfall is more seasonal, characteristic of a savanna climate. This region is as extensive as the Amazon River Basin, but has a very different climate as it lies farther south at a higher altitude. In the interior Northeast, seasonal rainfall is even more extreme. The semi-arid climatic region generally receives less than 800 mm of rain, most of which generally falls in a period of three to five months and occasionally less than this, creating long periods of drought (source: Wikipedia).

The different climatic conditions produce environments ranging from equatorial rainforests in the North and semi-arid deserts in the Northeast, to temperate forests in the South and tropical savannas in Central Brazil.

Existing polders

The World Bank (1975) has published an appraisal report and a project performance audit report (1985) for the Lower São Francisco Polders Project (Figure 1). Based on these reports it can be concluded that this project includes flood protection for an area of 32,000 ha. This implies six large so-called *varzeas*: Marituba (6,650 ha), Betume (8,100 ha), Boacica (7,200 ha), Brejo Grande (4,800 ha), Cotinguiba (1,600 ha), Pindoba (1,150 ha) and small *varzeas* (2,500 ha). Although not specifically mentioned this are polders.

In addition, according to the Group Polder Development (1982) there are polders near the Rio Parana in the southern part of Brazil, a rather similar condition as in the northern part of Argentina. In addition there are some polders in the Amazon area. However, specific areas have not been given.

Characteristic data of the polders in Brazil are shown in Table I.

Proposed polders

No proposals for new polders have been identified.

Location of the polders in Brazil as shown on the World polder map

The location of the polders in Brazil is shown in Figure 2.

There are no pictures by Prof. Adriaan Volker or by Prof. Bart Schultz.

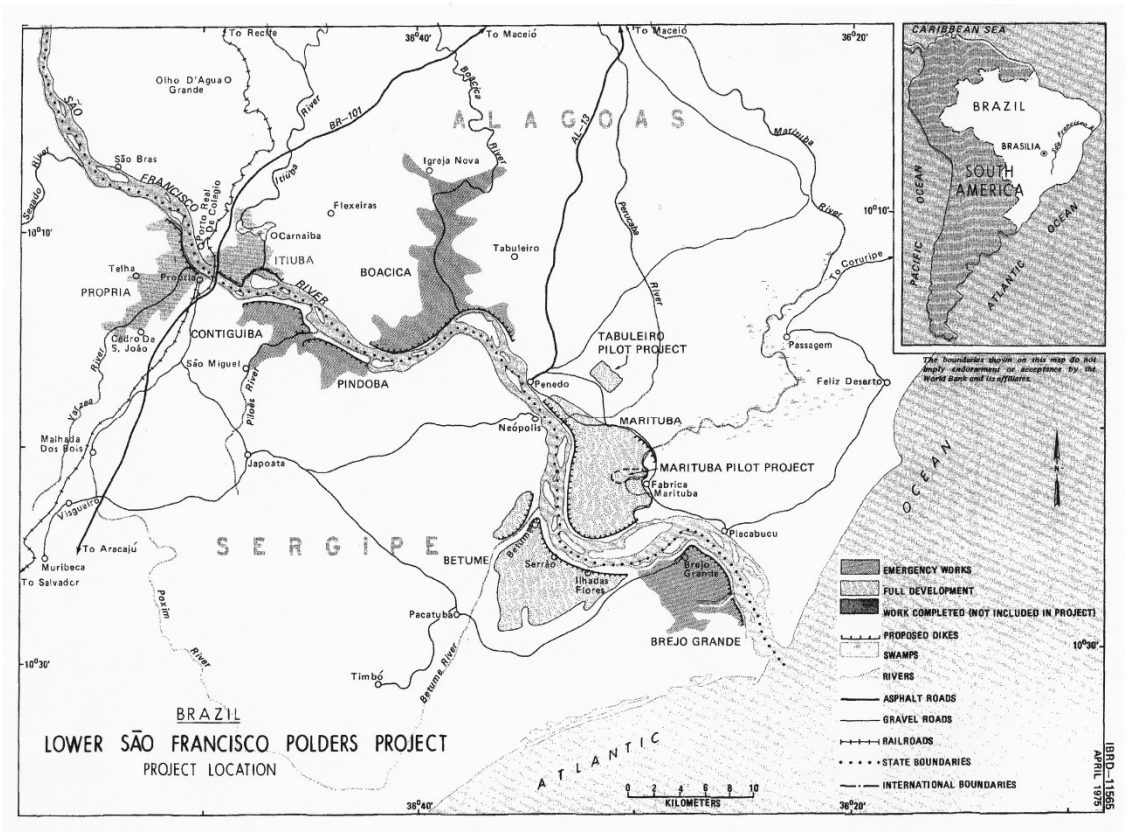

Figure 1. Project location Lower São Francisco Polders Project (World Bank, 1975)

Figure 2. Location of the polders in Brazil (source: esri – Batavialand)

References

Group Polder Development, Department of Civil Engineering, Delft University of Technology, 1982. *Polders of the World. Compendium of polder projects*. Delft, the Netherlands.

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World Bank, 1975. *Appraisal of the Lower Sao Francisco Polders Project*, Brazil. Latin America and Caribbean Regional Office.

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Bart Schultz

Lelystad, March 2023

Table I. General characteristics of existing polders in Brazil

Name	Reclamation	Area in ha	Type *)	Latitudes	Longitudes	Elevation in m+MSL	Land use
Betume		8,100	RLL	10º 27' S	36º 35' W	2	rice
Boacica		7,200	RLL	10º 15' S	36º 40' W	7	rice
Brejo Grande		4,800	RLL	10º 26' S	36º 27' W	2	rice
Cotinguiba		1,600	RLL	10º 15' S	36º 46' W	7	rice
Marituba		6,650	RLL	10º 23' S	36º 32' W	4	rice
Pindoba		1,150	RLL	10º 17' S	36º 43' W	6	rice
Polders in the Rio Parana area			RLL				
Polders in the Amazon area			RLL				
Small *varzeas*		2,500	RLL				rice
Total		32,000					

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