# [***"Water loss is a wake-up call for climate change"***](https://advance.lexis.com/api/document?collection=news&id=urn:contentItem:67V8-9X01-JCG7-82DT-00000-00&context=1516831)

CE Noticias Financieras English

March 22, 2023 Wednesday

Copyright 2023 Content Engine, LLC.

All Rights Reserved

Copyright 2023 CE Noticias Financieras All Rights Reserved

**Length:** 1123 words

**Body**

Brazil concentrates the largest volume of fresh water in the world, but it has been drying up in recent decades. For a specialist, the reduction indicates ongoing global warming.Brazil concentrates the largest volume of fresh water in the world: 12% of the planet's hydric reserves and 53% of the hydric resources of South America are in national territory.

Despite this abundance, the country has experienced three major droughts in the last 20 years. The most recent one, which occurred in 2021, was the most severe recorded in 90 years. A survey by the network of scientists MapBiomas also showed that Brazil is drying up: while in 1991 the country was covered by 19.7 million hectares of water, in 2022 this area will fall to 18.2 million hectares, a decrease of almost 8% of the water surface.

This loss, according to the coordinator of the MapBiomas Água platform, Carlos Souza Junior, may be related to the decrease in underground water, the aquifers, which supply rivers and other water bodies. The specialist also points to climate change and ***deforestation*** as factors that explain this worrying scenario.

"A deforested land, that is, without vegetation, does not have time to absorb the water, because the runoff on its surface is very fast. Without absorption, the soil and subsoil can't be replenished," Souza said.

In an interview with DW, Souza points out the importance of the ***Amazon*** forest in regulating rainfall in Brazil and the entire American continent, and suggests ways to try to halt the ongoing drought in the country.

DW: The area covered by freshwater in Brazil has decreased by about 8% in the last three decades. What does it mean to say that the country has lost water surface area?

Carlos Souza Junior: We don't have a definite diagnosis yet, but we have a study in the São Francisco River basin that shows that the reduction of water surface had a high correlation with the reduction of water in aquifers. That is, if the amount of water on the surface is being reduced, possibly the aquifers are already compromised.

The ***Amazon*** and the Atlantic Forest have the largest freshwater reserves in Brazil, concentrating 60% and 12% of all water resources in the territory, but the Cerrado is the biome considered the country's water body. Why?

The Cerrado is home to many river springs. For this reason, it plays an important role in providing water for various basins both inside and outside the biome. Despite this water importance, the Cerrado suffers very strong pressure from agribusiness, an activity that is a great consumer of water and is linked to ***deforestation***.

Speaking of ***deforestation***, how does it interfere with the amount of freshwater available in the country?

The natural vegetation is important to balance the humidity and local temperature, since it can retain the water on the land and, therefore, reduce the return of solar radiation to the atmosphere. However, a deforested terrain, that is, without vegetation, does not have time to absorb the water, because the runoff on its surface is very fast. Without the absorption, there is no supply of soil and subsoil.

When we think only of the ***Amazon***, a region rich in rivers, is the impact of ***deforestation*** on the hydrological cycle greater?

***Deforestation*** in the ***Amazon*** is a local problem, because it affects the hydrographic basins of the deforested region, but also global, since the forest works as a powerful hydraulic pump capable of regulating the hydrologic cycle of the entire American continent.

When it rains, the roots of the vegetation absorb the water and retain it in the soil. This water absorbed by the forest will return to the atmosphere through the transpiration of the plants and will supply the clouds, which will be carried to other regions by means of the winds. This is the process called flying rivers. However, as we remove the forest, the ***Amazon*** ecosystem loses its ability to return moisture to the atmosphere, lacking the water to supply the clouds. So by interfering with the flying rivers, ***deforestation*** in the ***Amazon*** could affect rainfall on the continent.

Is it possible to tell if climate change is already affecting the amount of freshwater in Brazil?

Aquatic systems are the most vulnerable to climate effects. One example is the várzea areas in the ***Amazon***, a type of vegetation that is temporarily or permanently flooded. Even away from the ***deforestation*** areas, we have observed that the várzeas are losing water. If it is not ***deforestation*** of the forest, the cause of the várzeas drying up is evaporation caused by local warming, since summers in the ***Amazon*** are increasingly dry, long, and hot. In other words, the loss of water in the várzeas is a warning that climate change is already causing changes in our aquatic systems, as is the reduction of water in the Pantanal. [Between 1985 and 2022, the water surface in the Pantanal has decreased by 81.7%, according to data from MapBiomas Água].

Although Brazil recovered 1.7 million hectares of water last year compared to 2021, a year in which the country recorded the lowest amount of freshwater in the last 30 years, the decrease in water surface in Mato Grosso (-48%) and Mato Grosso do Sul (-23%) draw attention. What explains these losses in both states?

The water loss in these states is a result of the removal of natural vegetation over time, coupled with climate change, which is amplified in these locations by ***deforestation***. Without natural vegetation, these states have difficulty absorbing and retaining water in the soil. There is also the presence of infrastructure that affects the quantity of water, such as small, medium, and large-scale dams, which reduce the flow of rivers.

How to ensure that fresh drinking water will not be lacking in the future?

With a set of measures that involve everything from public policies to mass awareness campaigns about the rational use of water and conservation. Each one has to do his or her part. It will also be necessary to stop ***deforestation*** in all biomes, besides avoiding the construction of dams and reservoirs, changing the production logic of agribusiness and investing in landscape planning to avoid very extensive agricultural production fields without vegetation. There is also the issue of chemical inputs in the field, such as fertilizers and pesticides used in large-scale agriculture. With the rains, these inputs flow into the aquatic ecosystems, causing a serious problem of contamination of the biodiversity in rivers and lakes and of the groundwater.

If we reach a critical point of fresh water availability, is desalination of seawater an option?

This is something very expensive. If we get to the level of having to resort to desalination of water, we have already lost the fight against climate change.

**Classification**

**Language:** ENGLISH

**Publication-Type:** Newspaper

**Journal Code:** CENFENG

**Subject:** CLIMATE CHANGE (90%); CLIMATOLOGY (90%); ***DEFORESTATION*** (90%); AQUIFERS & WATERSHEDS (89%); DROUGHT (89%); WATER RESOURCES (89%); RAIN FORESTS (79%); NATURAL RESOURCES (78%); WATER QUALITY (78%); GLOBAL WARMING (77%); RIVERS (72%); Giro (%)

**Industry:** ***DEFORESTATION*** (90%); AGRICULTURE, FORESTRY, FISHING & HUNTING (78%); GLOBAL WARMING (77%)

**Geographic:** BRAZIL (95%); SOUTH AMERICA (74%)

**Load-Date:** March 23, 2023

**End of Document**