

The Mato Grosso Pantanal

A Communication Challenge

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Abstract

The Pantanal, the world's largest floodplain, faces critical threats from increasingly frequent fires driven by drought and land management practices. Awareness efforts, led by municipalities and other entities, are vital to safeguard the biome and its unique culture. An exploratory study analysed Instagram posts from Cuiabá, Cáceres, and Poconé to assess how municipalities communicate environmental risks during the critical dry season. Results show minimal environmental content, mostly indirect, suggesting limited engagement in preventive actions. These findings highlight the urgent need to strengthen awareness strategies and promote a culture of preservation to protect the Pantanal's natural and cultural heritage.

Keywords

Pantanal Municipalities; Institutional Communication; Environmental Communication; Instagram

Introduction

The Biome and Its Context

The Pantanal is a biome of global importance, the largest floodplain on the planet (Gonçalves, 2019). Mostly located in Brazil (Mato Grosso and Mato Grosso do Sul), it also extends into Paraguay and Bolivia. Its unique ecosystem is shaped by its seasonal climate, with dry winters and wet summers. Recognised as a UNESCO Natural Heritage Site (UNESCO, 2000), Pantanal's rich biodiversity underpins vital ecological and economic functions, sustaining fishing, tourism, and cattle ranching (Alvares & Abrão, 2021).

The Pantaneiro Identity

Alongside its environmental dimension, the Pantanal identity manifests a rich cultural dimension, shaped by the coexistence of Indigenous populations, *Bandeirantes* from São Paulo, and Paraguayan immigrants (Arantes, 2007). The *Pantaneiro* is often portrayed as "a botanist, zoologist, astronomer, and geographer" (Nogueira, 2002, cited by Arantes, 2007), reflecting an intimate and symbiotic relationship with nature that defines and sustains this cultural identity.

Complex Threats and the Fire Crisis

The Pantanal faces chronic threats (deforestation, dam construction), alongside acute risks linked to fire (Silva et al., 2011). While traditionally used in land management, it has become a devastating hazard. In 2020, wildfires consumed nearly 30% of the Pantanal (Ramos, 2021), and the crisis was aggravated in 2024 by the most severe drought in seven decades (CNN Brazil, 2024), intensifying ecosystem vulnerability.

Constitutional Responsibility

Designated as national heritage by the Brazilian Federal Constitution (Brazil, 1998), the Pantanal is now further

protected under Law No. 15,228/2025.

This law establishes public policy guidelines to harmonise economic activity with environmental preservation, safeguard Indigenous and traditional communities, value local knowledge, and promote biodiversity conservation and sustainable resource use (Brazil, 2025). Local municipalities play a central role in their enforcement, as they are responsible for legislating on local matters and implementing public policies that directly affect citizens, including environmental management (Sguizardi, 2016).

Methodology

Objectives: This study investigates how municipalities in the Pantanal use institutional communication to raise awareness on environmental risks among residents and tourists during the 2025 dry season (July–September).

Sample: Three strategic municipalities in Mato Grosso were selected: Cuiabá (the state capital), Poconé (the gateway to the northern Pantanal), and Cáceres (located near the southern Pantanal and heavily affected by fires) (Fig. 1).



Fig. 1 Map of Mato Grosso highlighting the Pantanal. (Source: Pantanal Nature, n.d. <https://bit.ly/4hMks3X>)

Research Design

Type: Exploratory study (Lakatos & Marconi, 2003).

Approach: Mixed methods (Tréz, 2012).

- Quantitative analysis: Surveyed the total number of posts, quantified the frequency of those related to environmental communication, and calculated their monthly and municipal distribution.
- Qualitative analysis: conducted an interpretive content analysis to identify patterns and shortcomings in institutional communication. Posts were categorised as:
 - Direct Environmental Communication (EC): Content explicitly promoting environmental preservation and encouraging engagement;
 - Indirect EC: Content addressing environmental issues without explicit calls to action;
 - Unrelated: Content not connected to environmental themes.

Limitations: The study covers a limited analytical sample of three municipal Instagram profiles over three months.

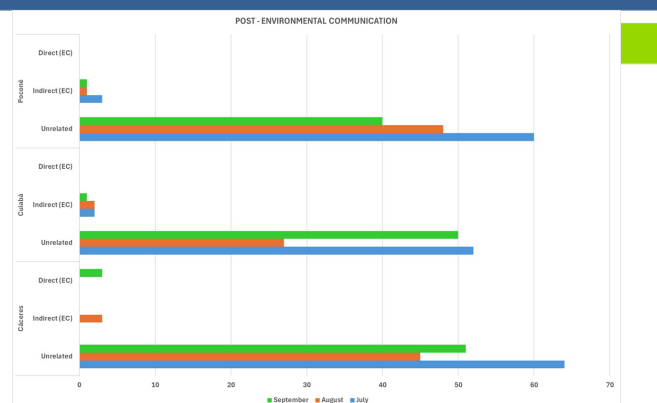


Fig. 2 Number of posts related to environmental education by municipality (Own work)

Presentation and discussion of results

Cuiabá: 126 posts. Maximum environmental coverage: 6.9% (Indirect EC), August. Dominant category: Unrelated

Cáceres: 181 posts. Maximum environmental coverage: 4.8% (Indirect), September. Dominant category: Unrelated.

Poconé: 146 posts. Maximum environmental coverage: 5.6% (Direct/Indirect), July. Dominant category: Unrelated.

Environmental communication was minimal (Fig. 2), and the predominance of non-environmental content demonstrates that municipal governments don't prioritise environmental awareness, even during the critical dry season. Most environmental posts were classified as indirect EC, showing that the subject was not prioritised in communication strategies.

Content analysis revealed sporadic and superficial posts on environmental issues, often framed with a punitive tone rather than an educational one. This compromised the continuity and formative nature required for effective environmental education. The predominance of indirect EC confirms this limitation. Only Poconé exhibited direct EC (three posts in July), which were not sustained in later months.

Legal contradiction: This lack of institutional communication directly contravenes the State's constitutional duty to promote environmental preservation (Sguizardi, 2016).

Impact on identity and heritage: The lack of effective communication hinders the development of a culture of environmental responsibility among Pantanal stakeholders. By failing to inform and engage both residents and tourists, municipal authorities jeopardise the protection of a UNESCO Natural Heritage Site and threaten the *Pantaneiro* cultural identity, which is intrinsically tied to the ecological integrity of the biome.

Conclusion

The analysed municipalities' institutional communication showed very low environmental coverage (0–6.9% of posts) during the critical fire season. The dominance of Indirect over Direct Environmental Communication reveals limited engagement and weak public awareness, which hinders the development of a culture of preservation.

This communication gap threatens the ecological integrity of the Pantanal, recognised as a UNESCO Natural Heritage Site, and the associated *Pantaneiro* cultural identity. Public institutions must recognise the crisis and implement continuous educational communication strategies aimed at residents and tourists in order to mitigate the region's multiple environmental threats.

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