

# Nature-Based Solutions: Reducing Fire Risks and Driving Sustainable Conservation in the Pantanal

In the Pantanal, the world's largest tropical wetland spanning 195,000 km<sup>2</sup>, Wetlands International and Mupan – Women in Action in the Pantanal are turning nature-based solutions (NbS) into real change, by uniting conservation, innovation, and social inclusion.

By combining science, traditional knowledge, and community-led management, we have been building concrete responses to the climate crisis: strengthening local resilience, protecting biodiversity, and fostering new opportunities for sustainable financing.

## SIFAU – Wetlands Fire Intelligence System

At the heart of the Pantanal, the first Wetlands Fire Intelligence System (SIFAU) was created in 2023. The system, developed by Wetlands International Brazil and Mupan – Women in Action in the Pantanal, in partnership with the Environmental Satellite Applications Laboratory at the Federal University of Rio de Janeiro (LASA/UFRJ), transliterate complex data into accessible information for public managers, environmental technicians, landowners, and local communities.

With SIFAU, it is possible to identify areas suitable for Integrated Fire Management (IFM), combining cutting-edge science with traditional fire practices.



- **Coverage:** Pantanal of Mato Grosso do Sul – 89,818 km<sup>2</sup>.
- **Features:** open-access platform with dynamic map layers, fire risk, biomass, and historical fire data.
- **Identified areas for prescribed burning:** 286 priority sites.
- **Immediate potential at farm scale:** 1,831 farms across Pantanal MS.

More than a tool for decision-making and fire alerts, SIFAU is a replicable model for wetlands worldwide, providing advanced innovation in monitoring, prevention, and sustainable fire management.



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## **Biodiversity as a Financial Asset**

Pantanal do Rio Negro State Park (76,869 hectares) is the pioneer in presenting how biodiversity can booster conservation financing. Through a Feasibility Study for Protected Areas, keystone species like the jaguar were identified as having high potential for generating biodiversity credits — innovative mechanisms which can ensure long-term funding for park management and inspire similar strategies in other protected areas.

Nowadays, Pantanal do Rio Negro State Park is a living model for nature-based solutions, with the capacity to strengthen conservation, attract investments, and open new pathways for sustainable development in the region.



- **Coverage: 76,869 hectares.**
- **Biodiversity as an asset: keystone species such as the jaguar, with high potential for biodiversity credits.**

Investing in nature-based solutions in the Pantanal means investing in innovation which protects biodiversity, reduces climate risks, and secures new pathways for sustainability – for communities, nature, and generations to come.

