

## Discover Research Opportunities in the Heart of the Pantanal and Cerrado

The Laboratory of Environmental Investigation of the Northern Pantanal invites you to join groundbreaking research exploring environmental changes and their impacts on biodiversity, air quality, and water systems in three of the world's most critical biomes: the Pantanal, Cerrado, and Amazon. Located in Cáceres, Mato Grosso, our laboratory focuses on the intersection of climate change, ecological conservation, and sustainability. We are excited to welcome European master's students to collaborate on innovative projects and contribute to preserving these unique ecosystems.

### Our Research Focus

The Pantanal, Cerrado, and Amazon are vital for global biodiversity and climate regulation, yet they face unprecedented challenges. Our laboratory investigates:

1. **Air Quality:** Wildfires are increasingly altering air quality across these biomes. We analyze the spread of pollutants, such as particulate matter and greenhouse gases, and their cascading effects on human health and wildlife.
2. **Water Quality and Scarcity:** Wildfires and deforestation significantly impact water systems, particularly in the Pantanal. Our research delves into how ash deposition and land-use changes affect water quality, availability, and ecosystem health.
3. **Biodiversity:** The combined effects of climate change, habitat loss, and pollution disrupt the delicate balance of aquatic and terrestrial ecosystems. We study ichthyological biodiversity, vegetation patterns, and the resilience of species in the face of these challenges.
4. **Climate Change and Wildfire Dynamics:** Wildfires in the Pantanal and Cerrado are increasing in frequency and intensity due to climate change. These events exacerbate water scarcity and biodiversity loss. Our team is pioneering work on the fluxes of greenhouse gases during and after wildfires, contributing to global climate models.

### Opportunities for Collaboration

We are thrilled to offer three master's research opportunities:

- 1 **Ichthyological Biodiversity:** Explore how wildfires impact fish populations and aquatic ecosystems. You will collect field data, identify species, and assess the broader ecological effects of fire events on biodiversity.
- 2 **Water Quality and Quantity:** Examine the consequences of wildfire ash on water systems. This project involves physical-chemical analyses, field measurements, and risk assessments, focusing on biodiversity and human health.

③ Greenhouse Gas Emissions: Analyze how wildfires contribute to greenhouse gas fluxes. This innovative project includes sensor installation, field monitoring, and advanced modeling, providing insights into the global carbon cycle.

### Why Join Us?

The Pantanal, the largest tropical wetland in the world, is a living laboratory for studying the effects of environmental change. Its unique landscape, combined with the biodiversity-rich Cerrado and Amazon, offers unparalleled opportunities for scientific discovery. As part of our team, you will engage in fieldwork, develop advanced research skills, and contribute to impactful publications.

Beyond academia, your work will directly support the conservation of critical ecosystems and inform sustainable management strategies. We provide a collaborative environment where international perspectives are valued, and mentorship is a priority.

### Apply Now

🌐 Immerse yourself in one of the most biodiverse regions on Earth and tackle some of the most pressing challenges of our time.

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Together, let's advance sustainability, mitigate climate change, and protect the Pantanal, Cerrado, and Amazon for future generations.