



Knowledges of Fire in Latin America and the Caribbean

The contribution of UNESCO sites to fire management in the face of climate change emergencies

GUEST EDITORS

Bibiana Alejandra Bilbao

Universidad Simón Bolívar, Venezuela | COBRA Collective

Serena Heckler

UNESCO Montevideo - Oficina Regional de Ciencias para América Latina y el Caribe de la UNESCO

Paul Joseph Dale

Mercado Mata Atlântica, Reserva de la Biosfera de la Mata Atlântica, Brazil

Sergio A. Guevara Sada

Red de Ecología Funcional del Instituto de Ecología, A. C. Mexico

CONTENT SUBMISSION

January 18th – May 10th, 2022

EDITORIAL GUIDELINES AND SUBMISSION INSTRUCTIONS

[Author resources](#)

Naturaleza y Sociedad. Desafíos Medioambientales invites the academic community and all interested authors to submit contents for its special issue

KNOWLEDGES OF FIRE IN LATIN AMERICA AND THE CARIBBEAN

The contribution of UNESCO sites to fire management in the face of climate change emergency

GUEST EDITORS

- ◇ Bibiana Alejandra Bilbao (Universidad Simón Bolívar, Venezuela | COBRA Collective | LAND-MARC: Land Use based Mitigation for Resilient Climate Pathways – Horizonte 2020, European Union)
- ◇ Serena Heckler (UNESCO Montevideo – UNESCO Regional Office of Sciences for Latin America and the Caribbean)
- ◇ Paul Joseph Dale (Mata Atlântica Market, Atlantic Forest Biosphere Reserve, Brazil)
- ◇ Sergio A. Guevara Sada (Red de Ecología Funcional del Instituto de Ecología, A.C. Mexico)

CONTENT SUBMISSION

January 18th – May 10th, 2022

EDITORIAL GUIDELINES AND SUBMISSION INSTRUCTIONS

[Author resources](#)

OBJECTIVE

This thematic issue aims to present research analyses and innovative tools on integrated fire management in the context of climate change in UNESCO sites in Latin America and the Caribbean. We invite all interested authors, including representatives of indigenous peoples and local communities, to submit their contributions on the relationship between wildfires and climate change and land use changes, innovative tools available for fire monitoring and forecasting, as well as examples of good fire management practices in emergency situations, indigenous and local fire use and management, integrated fire management, economics, and fire mitigation and adaptation measures in UNESCO sites in Latin America and the Caribbean.

Naturaleza y Sociedad. Desafíos Medioambientales's thematic issues include research articles; other content types aimed for a wider audience are published in Dialogues section. The guest editors and the editorial team will define the section of the journal in which approved manuscripts for publication will be included.

KEY DESCRIPTORS

Wildfire and society, wildfire and culture, integrated fire management, landscape resilience to fire, UNESCO sites, Latin America and the Caribbean

THEORETICAL FRAMEWORK

The Latin American and Caribbean region currently suffers one of the highest incidences of wildfires globally. This is a great paradox, considering that Latin America and the Caribbean is a region rich in fire management traditions and knowledges, in one of the most culturally, biologically, and geologically diverse continents in the world.

The Ibero-American Network of Climate Change Offices (RIOCC, for its acronym in Spanish) report on wildfires has identified divergent patterns of wildfire incidence over the last decades across the region; nevertheless, the reasons for these trends are still debated. Among the

factors that explain different patterns of wildfires in the Americas are the expansion of the agricultural and livestock frontier, deforestation, and climate change-related effects. Another conclusion of the RIOCC report is that wildfire monitoring and follow-up is still insufficient at the regional level and fire management is restricted, in most cases, to wildfire suppression and firefighting, which has a limited reach, in addition to exposing firefighters and the population to highly dangerous situations. New paradigms based on fire management are emerging in the region. Although still very incipient and at a very local scale, these fire management plans propose an integrated view of wildfire management, with the participation and knowledge of Indigenous peoples and local communities, including Afro-descendants, as well as technicians and scientists.

The UNESCO Biosphere Reserves, as well as natural and mixed World Heritage Sites and Global Geoparks, which represent the 190 UNESCO sites in Latin America and the Caribbean, cover an area of more than 3.25 million square kilometers and are home to more than 104 million people in 25 countries in the region. More importantly, they are managed by local, national, and international networks of multisectoral and multidisciplinary experts who collaborate to address the major socio-environmental problems of our time. In short, the UNESCO sites are observatories dedicated to sustainable development, to the conservation of the cultural, biological, and geological diversity of the planet, while representing a transcendental point of reference on how to confront emerging threats such as global climate change.

Drawing on scientific results, good practices, lessons-learned, and innovations from across Latin America and the Caribbean, a series of webinars coordinated by UNESCO compiled and documented the testimonies and experiences contained in case studies from UNESCO sites through expert presentations and discussions focused on supporting managers to better plan, monitor, and implement integrated fire management at their sites. This thematic issue aims to present innovative research and tools on integrated fire management in the context of climate change in UNESCO sites in Latin America and the Caribbean by actors from multiple sectors, including researchers, UNESCO site managers, indigenous peoples, as well as local, private, and public sector communities; with a special focus on wildfire management in UNESCO sites that can be translated into policy design and solutions for the entire region.

THEMATIC STRANDS

The occurrence of wildfires and alternatives for their management involve a wide range of topics in the field of natural and social sciences. The following are some of the key topics related to wildfires and fire management that are of interest for this special issue:

- ◇ Fire and its history in pre- and post-colonial culture and civilization in Latin America and the Caribbean (LAC).
- ◇ The causes of megafires and their impacts, wildfire climate, landscape transformation, and human alterations of the fire regime.
- ◇ Where, how, and when. What do we know about wildfires? Wildfire monitoring, observation, and early warning systems in UNESCO sites in LAC.
- ◇ The role of wildfires and deforestation in carbon dynamics, GHG emissions, and climate change. How to break vicious circles?
- ◇ Wildfire impacts and management of the cultural, biological, and geological diversity of the sites.
- ◇ Risk reduction, adaptation, or resilience to fire? What do we still need to know? What and from whom should we learn about fire?

- ◇ Stories of fire management in UNESCO sites in LAC. Lessons-learned, barriers, opportunities, and challenges.
- ◇ Indigenous fire management in UNESCO sites in LAC.
- ◇ Comprehensive fire management. Discovering the benefits of fire. Strategies for the articulation of local, scientific, and technical knowledges in the construction of new paradigms of fire management in LAC.

TYPE OF CONTENTS

Naturaleza y Sociedad. Desafíos Medioambientales welcomes contents for publication on the topic discussed above under the following typology:

- ◇ **Research article.** Original articles that present research progress or results. They can propose replicable models; develop theoretical, experimental, historical, empirical-quantitative, etc., analysis; or present qualitative case studies.
- ◇ **Balance.** Articles that develop updated thematic reviews or reflections in a specific field of research.
- ◇ **Document, debate.** Analytical written works that promote academic discussions from different perspectives. They may offer interpretations or analysis of articles published by the journal or other journals of related topics.
- ◇ **Dialogues.** Academic dissemination contents that contribute to contemporary discussions on nature, the environment, and society. They are aimed at diverse audiences, since their purpose is to encourage dialogue on topics of broad interest both to academics and to communities, teachers, students, public policy makers, and others. **Types:** Interview, presentation, short reflection article, working paper, partial results of a research, photo essays, annotated exhibitions, and others. **Formats:** Textual or multimedia.

THE PROPOSAL'S ORIGINS

During September 2021 took place the Capacity Building Webinar series on Fire Management in UNESCO Sites, organized by the Platform on Climate Change, Risk and Resilience in UNESCO Sites in Latin America and the Caribbean (<https://events.unesco.org/event?id=134061183&lang=1033>), in response to an increase in the number, extent, and severity of wildfires in Latin America and the Caribbean.

This event lasted more than 20 hours and was attended by a total of 60 scientific experts, managers, and representatives of intergovernmental agencies, local and national governments, non-governmental organizations, indigenous peoples, and local communities from 16 countries. It focused on key case studies from different UNESCO site designations: UNESCO Biosphere Reserves, Global Geoparks, and World Heritage Sites; with the participation of international and multi-stakeholder panels, experiences, lessons-learned, and challenges were exchanged through presentations and roundtable discussions.

The activity was organized through five webinars around topics such as megafires, climate change and biological and geological diversity; wildfire monitoring, observation, and early warnings; emergencies and droughts: fire and water; indigenous and local fire management; and the proposed approach “Where to go now? Integrated fire management as a proposal” (<https://es.unesco.org/fieldoffice/montevideo/CambioClimatico/Recursos>).

The event highlighted the lack of quality information and difficulties in communicating with experts at different levels and in various fields. In this sense, we were motivated to issue a

publication that would integrate the available information and identify relevant lines of work and research, as well as contribute to strengthening the regional identity for a collective improvement in the subject of UNESCO sites as tools for cooperation and knowledge generation on climate change and wildfires.