

Fire Management in Central America

This region has vast cultural richness, beautiful landscapes and a high biological diversity in 22 different eco-regions, says **Luis Diego Román Madriz**. But these resources are often damaged by natural disasters, made worse by human factors

THIS REGION BOASTS LOWLAND tropical rain forests, pine savannah, semi-arid plains, prairies and mountain forests, and has up to 12 per cent of the world's biological diversity in just two per cent of the Earth's land mass. Because of its geographic location and climate variability, the region is affected regularly by natural extreme events. The devastating effects of hurricanes are reinforced by human intervention.

Based on data from the Comisión Centroamericana de Ambiente y Desarrollo in 1996, approximately 18.1 million hectares of forests covered about 35 per cent of the region. But the high rate of illegal logging during the 1990s meant an annual forest loss of 2.1 per cent, causing further damage to ecosystems.

Regional conservation efforts have seen the establishment of 556 Natural Protected Areas, with a total area of 11.7 million hectares. Approximately 23 of these Protected Areas are bi-national and involve trans-border co-operation to protect them.

Forest fires in Central America are often human in origin, owing either to inadequate application of fire in agricultural activities, accidentally or by negligence. Some are intentional.

CULTURAL ASPECTS

According to the National Diagnostic for Central America and Mexico, presented in the Pan-American Conference for Forest Fires (Costa Rica in 2004), around 644,135 hectares were affected by fires between 1998 and 2004.

Cultural aspects also come into play, because pre-Columbian cultures considered fire as a force to be respected for its creative, renewable and destructive powers. In Mesoamerica (south-Mexico to Panama), the Olmeca Culture mentions the God of Fire, later known as Huehuetotl (Old God or Lord of the Fire).

Forest fires occur in summer, which begins in December and ends by mid June or later. Fire incidence is critical if the dry



A forest fire in Fila Santa Maria, Buenos Aires de Puntarenas, in Costa Rica, March 2009

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season extends past June and or during climatic extremes, eg droughts caused by the El Niño phenomenon. Extended wildfires during El Niño episodes have become more frequent in the last 12 years. National and international airports have been closed because of the smoke pollution from forest fires.

Since the 1980s, most of the seven countries of the Central American region have taken action to reduce fire incidences and effects. Fire management training has been implemented in education, research, fuel management, and pre-suppression measures (ie controlled burning to create 'black lines') and to reduce combustible materials, or through the mechanical construction of fire breaks and fuel breaks. However the disparity among countries in the region – as well as the lack of governmental interest – make it more difficult to make a unified improvement in the fight against forest fires.

The Central America Fire Management Strategy 2005-2015 was formulated with international funding and collaboration and is a planning tool to help reduce

the adverse effects of forest fire.

One of its main goals is to tackle the cause of fires by developing preventive activities and improving the participation of civil organisations in fire management. Activities include communication programmes, training, implementation of fire management techniques or providing alternative methods in line with fire regimes and fire-free ecosystems.

Some countries also have their own National Fire Management Strategies. Costa Rica created its first Strategy in 1997 and began a country-wide fire management plan as early as the 1970s. Today, Guatemala, El Salvador, Nicaragua and Panamá have National Forest Fire Committees.

Another aspect is the inclusion of civil society in fire management training by Forest Firefighter Brigades; this capacity building has been supported by USAID/OFDA by funding courses, including training in the Incident Command System. Many other countries have helped the region to improve fire management capacity, including Spain, Mexico, the US and Chile.

The challenges and tasks ahead are tough. Climate change means future fires may become more frequent and more difficult to control. So it is critical to take an integrated fire management approach where traditional measures, such as prevention and control, are applied in combination with approaches that take into account the culture and ecology of fire. **CRJ**

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