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Nicaragua

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Nicaragua

Nicaragua is bounded on all sides by water: to the east and west lie oceans, and most of the northern and southern borders are large rivers. Although the country has experienced growth in export processing and tourism, Nicaragua remains reliant on agriculture and fishing. The country experiences seasonal climate shifts, with pronounced wet and dry seasons. There is a tendency for flooding in the east and drought in the west. Knowledge about climate change mitigation is poorly developed within the country, in spite of vulnerability to natural disasters due to poverty, low investment in infrastructure, and poor interagency coordination. International nongovernmental organizations provide a large portion of disaster relief.

There has been a recorded increase in temperature of 1.2–1.8 degrees F (0.7–1.0 degrees C) across Central America over the past century. This generates concern over agricultural transition, since warming many increase crop pests and diseases. A drier climate may also increase risk of damage from forest fires. Malaria levels are likely to rise. There has been documentation of annual variation in Nicaragua of dengue/hemorrhagic dengue related to fluctuations in temperature, humidity, solar radiation, and rainfall.

Research suggests that hurricanes and tropical storms originating in the Atlantic Ocean may bring more rain as a result of increasing water temperatures. There is already a loss of more than 1 percent of the gross domestic product (GDP) annually in Nicaragua due to flooding. Regional studies suggest economic losses as a result of natural disasters are eight times greater now, as compared to the 1960s.

Hurricane Mitch struck Nicaragua in 1998. Its impact has been researched as a model for what could
occur from extreme weather events. In addition to
the loss of 50 percent of GDP, major mudslides on
the Las Casitas volcano led to the death of more than
2,000 people. There was also a documented increase
in malaria, dengue fever, cholera, and leptospirosis.
Conventional farms using chemical intensive mono-
culture had 60–80 percent more soil erosion, crop
damage, and other water-caused losses from the hur-
ricane than farms utilizing conservation practices
such as polyculture, crop rotation, water conserva-
tion, terracing, and agroforestry.

Biodiversity reduction is a problem across Central
America. Nicaragua has lost 50 percent of its forest cover
in the last five decades. Research suggests an urgent need
to reforest along the floodplains of rivers. Several forest
conservation areas receive extensive foreign assistance,
but marine reserves remain poorly protected. Mangrove
swamps and coral reefs are particularly at risk.

Nicaragua ratified the Convention on Climate
Change in 1995 and the Kyoto Protocol in 1999. Geo-
thermal energy production is part of a national plan
to combat climate change. New geothermal projects
are under construction, with funding from the United
Nations's Clean Development Mechanism (CDM). Other
CDM projects utilize biodigesters and bagasse
cogeneration to transform waste products from sug-
arcane processing into energy. In addition to rectify-
ing low energy efficiency, Nicaragua needs to improve
provision. About 20 percent of annual deforestation
comes from fuel wood extraction.

SEE ALSO: Clean Development Mechanism; Deforestation;
Floods; Hurricanes and Typhoons.

cdm.unfccc.int/index.html (cited June 2007); Walter Ver-
gara, Adapting to Climate Change (World Bank, 2005).

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