

Climate Variability Effects on Farming Communities of Calakmul Municipality and Prospects for Conservation of the Calakmul Biosphere Reserve, Campeche, Mexico

Joysee Rodriguez¹

¹ School of Natural Resources and Environment, University of Florida, Gainesville, FL, USA

Communities (*ejidos*) of the Calakmul municipality located in the southern Yucatan peninsula, Mexico are gradually feeling the effects of climate variability. Increasing temperatures, overall decline in rainfall, year-to-year variability in rainfall patterns, and out-of-season hurricanes are some of the problems cited by community members. This variability is posing great challenges for an environment characterized by a karstic soil substrate, where a lack of major riverine systems has left human and animal populations with limited water resources. Ongoing research on wildlife behavior has pointed out the impacts this could have on wildlife in the Calakmul Biosphere Reserve. The region also suffers from socioeconomic marginalization, thus the livelihoods for the majority of the population in the municipality are largely natural resource-based. They practice rain-fed commercial and subsistence agriculture and varied livestock rearing.

This exploratory research looked at the perspectives of key informants from different villages spread throughout the municipality and authorities concerning the effects that climate variations are having on their productive systems and daily lives.

Preliminary results indicate that local villagers, as well as government agencies and local authorities, are reacting differently to climate variability. Thus, new policies and programs are emerging while farmers' increased uncertainty about their local climate is altered. Changes include planting time, crop choices, seed banks, and the spread of new productive alternatives such as charcoal, wildlife commercialization, and tourism expansion. Each of these changes could have impact forest conservation in and around the Biosphere Reserve, placing additional pressure on wildlife.

Keywords: Climate variability, rainfall patterns, adaptation, agriculture, conservation.

Contact Information: Joysee M. Rodriguez, School of School of Natural Resources and Environment, University of Florida, Gainesville, FL 32611 USA, Phone: 352-846-6057; Email: rodrijm@ufl.edu