



Global change investigation key for risk preparedness in the region

In the wake of the recent Fuego volcano eruptions in Guatemala, which have left havoc and many dead, scientists and delegates from countries in the Americas are meeting in Antigua this week to discuss risk preparedness, adaptation and mitigation action related to global changes, including those resulting from increases of natural disasters that may or not be exacerbated by climate change.

The recent surge in volcano eruptions directly affects local and regional climate. The ash, gas, carbon, sulphur dioxide and other particles spewed into the air can have impacts on human health and the environment. That is why understanding the natural, social and economic impacts of natural and human induced global changes affecting Guatemala and countries in the region is urgently needed to put scientific information into action for well-informed policies and concrete adaptation action on the ground.

The Inter-American Institute for Global Change Research (IAI), a regional intergovernmental organization that promotes research to provide decision-makers with scientific information for policy decisions is collaborating with Guatemala's CONCYT to strengthen the coordination and execution of policies. These national and international plans are aimed to contribute to the economic and social development of the country and the region.

Scientists from a multinational research network in Brazil, Costa Rica, Chile and Canada, are studying the response of tropical dry forests to climate change. They understand that tropical dry forests conservation represents a good opportunity for mitigation of greenhouse gases as well as for adaptation.

“Tropical dry forests are important sources of carbon sequestration and water and play an important role on the provision of ecosystem services such as biodiversity, climate regulation to local communities facing the effects of climate change and climate variability” said Dr. Arturo Sanchez-Azofeifa. Despite their importance in the Central American Region, tropical dry forests remain under-studied, and under tremendous deforestation processes driven by agriculture and tourism expansion. “Via Tropi-Dry, a collaborative project funded by the IAI, we aimed to be partners with sound scientific information to the process of sustainable management of tropical dry forests in Latin America’ added Dr. Sanchez-Azofeifa.

Soil erosion is also an issue that requires specific policies and a deeper understanding of the main drivers and management options to avoid the negative results of this process on local communities in Latin America. “When it comes to agricultural expansion integrative planning is needed to keep food production in harmony with natural resources. Soil health and good nutrient balance are critical for a consistent production and to reduce negative impact in nature. Nitrogen, for instance, is a critical element for food production, but bad management practices in agriculture can lead to loss of this nutrient to the environment causing pollution and human health problems, said climate scientist Dr. Jean Ometto, who is leading a research network in Brazil, Argentina, Bolivia,



Chile, Mexico, USA and Venezuela on nitrogen management, soil erosion with consequences for food security.

Water scarcity, recurring drought, extreme flood events, water pollution, and lack of access to water and sanitation pose serious threats to quality of life and the environment in Northeast Brazil, Chile, Argentina, Mexico, the United States, and other regions of the Americas.

“Across the Americas, major sources of vulnerability are poor water quality, changes in cropland and food production (especially as a consequence of drought), and increased demand for water sanitation services due to population growth and urbanization”, said Dr. Christopher Scott. Strengthening water security is based on active collaboration and interdisciplinary science of the kind supported by the IAI through the AQUASEC Center of Excellence for Water Security. This research network, addresses water resources linked to food systems, energy generation including via renewable sources, and climate adaptation.

These scientists are participating in the IAI’s 26th Meeting of the Conference of the Parties this week. The main goal of the Conference is the exchange of knowledge among scientists and Party delegates to strengthen collaboration in the area of science and technology.

To Guatemala this 26th meeting of the Conference of the Parties is of major importance, as it will make it possible to plan ways for action and adjust our public policies towards preventing and mitigating the effects of climate change and natural disasters. In addition, the meeting will help strengthen lines of research in the climate change sciences,” said Dr. Oscar Cobar, National Secretary for Science and Technology of Guatemala.

The Parties to the IAI are: Argentina, Bolivia, Brazil, Canada, Colombia, Chile, Costa Rica, Cuba, Dominican Republic, Ecuador, Guatemala, Jamaica, México, Panamá, Paraguay, Peru, Uruguay, United States of America and Venezuela.