MERGING KNOWLEDGE
the formula for meeting climate change challenges

Creating discussions that spark common questions to help understand and tackle the complexity of climate change from the angles of different disciplines and knowledge areas—this is the big challenge taken on by the Universidad del Rosario's Climate Change study. It brings together academics from the areas of Anthropology, Biology, Jurisprudence, Medicine, and Urban Development Management.

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Photos Milagro Castro
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Climate change is now producing an annual outcome of 400,000 deaths through hunger and communicable diseases, which particularly hit children in developing countries such as Colombia. On an annual basis, this worldwide climate variation is now bringing downpours in one part of the planet (the east side of North and South America, northern Europe, and Central Asia), and in others droughts (southern Africa and parts of southern Asia). And this means flooding, displacement of populations, food shortages, and mobility difficulties, causing total losses in the region of one percent of the world's GDP.

Monitoring all this with concern is the International Panel on Climate Change, set up by the United Nations, which has placed world governments and citizens on alert. Colombia is just one country under threat due to its high vulnerability level, as has been demonstrated by the climatic cycles of the El Niño (drought regime) and La Niña (rainfall regime) weather patterns, both of which are currently linked to water scarcity, soil instability, rising sea levels, and flooding.

So, academic actions are fundamental for a better understanding of the causes of the phenomenon and its effects, with the aim of influencing state policy on climate change prevention, mitigation, and adaptation. Scholarly efforts are also fundamental for creating awareness in civil society, business and labor groups, and government bodies on the human impacts relating to this issue," point out professors of

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different faculties from the Universidad del Rosario in their explanation of the existence of the Climate Change group.

This group comprises a number of researchers who create scenarios for debate and academic work in analyzing problems from angles wide enough to include different scales of analysis, dialogue, and socio-ecological challenges. This leads to proposals for actions based on various ecosystemic, economic, social, and political realities within the country.

"The idea is that each of us brings his or her particular knowledge and experience in different areas such as biology, jurisprudence, and anthropology, among others. It's a question of merging knowledge, thus making a greater contribution," explains Diana Bocarejo, a group member teaching at the School of Human Sciences. The rest of the group comprises professors Juan Posada and Adriana Sánchez, from the Faculty of Natural Sciences and Mathematics; Andrés Rey, from the Faculty of Jurisprudence; Gustavo Adolgo Carrión, from the Faculty of Political Science, Government, and International Relations; Leonardo Briceño Ayala, from the School of Medicine and Health Sciences; Esteban Rozo, from Anthropology; Alejandro Fejed, from Urban Management and Development; Jenny Andrea Díaz, from Habitat Management; and Master's Degree student, Javier Fernando Cárdenas.

"Since I was invited to join the initiative, I was interested in the idea of merging our experiences and working on different projects, all moving in the same direction but with viewpoints and contributions from each member's different discipline. But it is also a way to share our wisdom, apply it, and close in better on problems directly affecting society," underlines Sánchez, a biologist and teacher at the University.

The group, which was created in 2017, includes among its focus subjects the commitments acquired by Colombia at the Paris (France, 2015) and Bonn (Germany, 2017) Climate Change Conferences. At these, the country reaffirmed its commitment to working on the formulation, application, publication, and updating of national programmes with measures aimed at reducing climate change.

Under this shadow, researchers laid out their working lines, including: analysis of biodiversity and its associated ecosystemic benefits; carrying out studies on the impacts of existing economic models; studying normativity, legislation, and state policy proposals in relation to prevention, mitigation, and adaptation to climate change; and, in general, the promotion of new governmental strategies for defining conservation horizons and environmental care in urban and rural contexts.

"We want to deepen some of the discussions, going into detail withing the frameworks of challenges we call socio-environmental. Our interest lies in thinking about environmental conservation and other subjects to do with climate change, but taking in community rights. We see advances in the protection of areas, but in a country such as Colombia, with its high inequality and poverty levels, one must think about inhabitants who are not on the level of gold diggers, for example," affirms Bocarejo, whose ideal in this respect is the generation of ideas related to human rights and environmental justice.

To fulfil its objectives, the group has defined actions to be carried out in academic spaces, while opening other interactive routes with collectives and institutions in civil society, all with the aim of tackling problems from different angles and with the agents personally involved.

FIRST STEPS AND IDEAS TOWARDS CONSOLIDATION

An initial step towards fulfilling its objectives was taken by the group when it firmed up an alliance with the Heinrich Böll Foundation to hold three forums on climate change issues.

"The Climate Change Group allows us to merge our experiences and work on different projects, all moving in the same direction but with viewpoints and contributions from each member's different discipline," says Adriana Sánchez, professor at the Faculty of Natural Sciences and Mathematics.

The first of these, *Renewable Energies: Opportunities and Challenges* was held in February this year. The second, covering inhabited conservation areas, is programmed for September and will involve the Humboldt Institute. A third will focus on dialogues and exchanges on environmental government.

"As a group, we go over the discussions likely to be the most important for Colombi-

an state policy making, keeping Postconflict circumstances in view. Electricity generation in Colombia and the search for alternative energies is naturally a very important debate because, although much of Colombia's energy comes from hydroelectric plants and is considered clean energy, these forms have had both environmental and social costs hushed up by the government," claims Bocarejo, a doctor in anthropology.

Organizing such events was not easy because they had to convince different elements of the energy sector of the importance of their participation. This is how they managed to get sector business chiefs and those bringing new energy projects to sit together with academics, and government, environmental, and social organizations, among others.

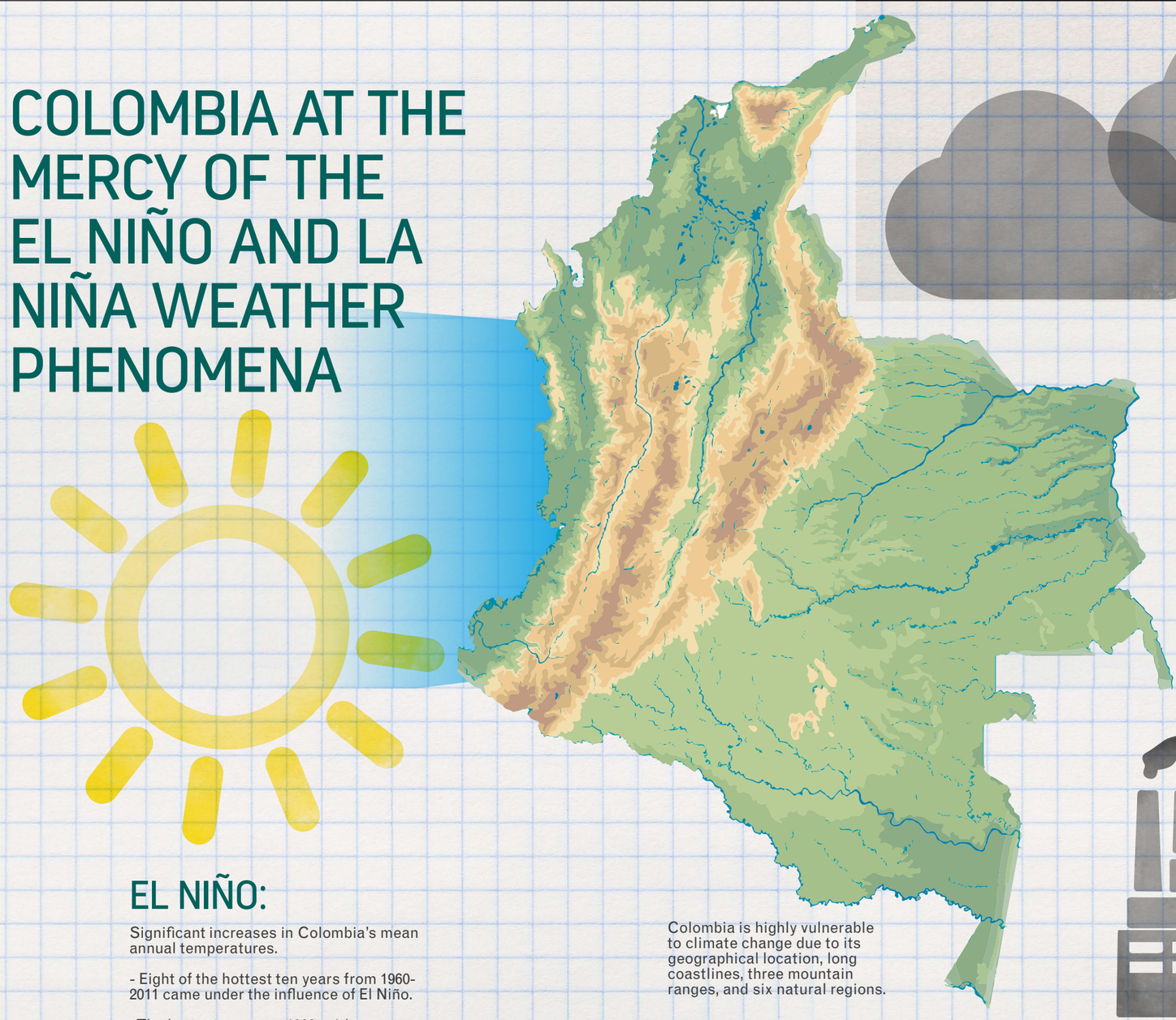
With their participation, a workshop was held first, followed by a round-table debate with five invited speakers. The project led to a dialogue and exchange of disciplines and experiences, allowing for the identification of challenges and recommendations on different levels and from diverse knowledge angles in a debate that became more relevant for the country as it went on.

And this is precisely one of the Group's premises, joining up agents from beyond academia, hauling in public policy and science. This approach led to the involvement of the organizers of a World Fish Migration Day workshop on defending our rivers and their migratory fish, *Encuentro de saberes para la defensa de nuestros ríos y sus peces migratorios*, held in Barrancabermeja in April.

This brought together freshwater artisanal fishers and organizations active in protecting fish diversity and artisanal fish management. Participants discussed the different threats involved in the conservation of migratory fish, as well as possible actions built on the traditional knowledge of fishers. They listened to and debated the idea behind two projects that seek to understand, protect, and manage Colombian rivers, their migratory fish populations, and fishing culture.

By invitation of the *Rachel Carson Center for Environment and Society*, Bocarejo will represent the Climate Change Group at an event in Munich (Germany), where she will present her ideas as part of a forum to expound initiatives taking place worldwide in environmental humanities. "I was invited because I work in this line and this falls in with our goal to make the most of such opportunities to get things across and, through this, achieve their consolidation," concludes Bocarejo.

COLOMBIA AT THE MERCY OF THE EL NIÑO AND LA NIÑA WEATHER PHENOMENA



EL NIÑO:

Significant increases in Colombia's mean annual temperatures.

- Eight of the hottest ten years from 1960-2011 came under the influence of El Niño.

-The hottest year was 1998, with an average of 22.85°C and the strongest El Niño phenomenon of the last 60 years.

- Among the 20 hottest years, nine fall into the decade from 2001-2010.

Colombia is highly vulnerable to climate change due to its geographical location, long coastlines, three mountain ranges, and six natural regions.

Source - IDEAM - INDICATORS OF CLIMATE CHANGE IN COLOMBIA (hottest and rainiest years and decades/ MinAmbiente document - EL ACUERDO DE PARÍS ASÍ ACTUARÁ COLOMBIA FRENTE AL CAMBIO CLIMÁTICO, 2016

LA NIÑA:

Strong rains and a fall in the country's average temperature.

- 14 of the 15 most rainy years from 1970 to 2011 came under the influence of the La Niña phenomenon.

- From 2010 to 2011, Colombia faced a more intense La Niña phenomenon than in previous years. There were rainfalls above historical averages, and floods: more three million people were affected, with a cost of around 11.2 billion pesos, equal to 2,2% of GDP.

- Temperatures in Colombia rose 0.198°C per decade from 1980 to 2011, slightly higher than the worldwide average (0.166°C per decade).

Despite emissions in Colombia being relatively low in comparison with those of other countries—0,46% of global greenhouse gas level—its accumulated emissions between 1990 and 2012 place it among the 40 countries with greatest responsibility for generating greenhouse gas, chiefly through deforestation.