

TC ABSTRACT

I. Basic project data

▪ Country/Region:	Regional
▪ TC Name:	Program to strengthen institutional capacity to better assess climate impacts in LAC
▪ TC Number:	RG-T2612
▪ Team Leader/Members:	Team Leader: Alfred Grünwaldt (INE/CCS); Inês Ferreira, Maricarmen Esquivel, Martin Kerres, Mariana Hernández (INE/CCS); Hori Tsuneki (INE/RND); Fernando Miralles (INE/WSA), Ramiro Rios (INE/TSP), Hilary Hoagland-Greyand and Roberto Leal (VPS/ESG).
▪ Type of TC	Research & Dissemination
▪ Reference to Request ¹ :	N/A
▪ Date of TC Abstract:	January 2015
▪ Beneficiary:	Regional
▪ Executing Agency	Bank Executed
▪ IDB Funding Requested:	US\$ 505,000 (SECCI Fund)
▪ Local counterpart funding:	US\$ 101,000 (in kind)
▪ Disbursement period:	30 months
▪ Required start date:	May 2015
▪ Types of consultants:	Firm
▪ Prepared by Unit:	INE/CCS
▪ UDR:	INE/CCS
▪ Included in Country Strategy:	Yes ² .
▪ GCI-9 Sector Priority:	Climate change and environmental sustainability

II. Objective and Justification

- 2.1 The objective of this TC is to support the consolidation of a regional network of scientists from different institutions in Latin-America and the Caribbean (LAC), in order to enhance technical capacity on the generation, use and visualization of high-resolution climate data. The project will contribute to complement existing knowledge gaps in LAC on climate change impacts on physical and natural systems. Specifically, the TC will provide them theoretical and practical expertise in complex areas of climate modeling such as climate in mountainous regions, hurricanes, and inter-decadal variability. The studies to be carried out together with the improvement of an existing online tool to visualize data that will help countries to better assess climate risks and prioritize adaptation needs. Justification: In 2008, with the main goal of supporting the development of a science and technology transfer program between LAC scientific community, IDB approved a regional operation ([RG-T1574](#)) focused on the generation, analysis and visualization of climate change scenarios. One of the components of said Program financed a group of training sessions carried out by the University of Nebraska at Lincoln (UNL) through their Department of Earth and Atmospheric Sciences. These training sessions focused on the generation of high-resolution climate change scenarios using the

¹ A copy of the Letter of Request, Programming/Portfolio Review Mission Aide Memoire or Report requesting the TC should be submitted with the Abstract.

² Peru (2012-2016), México (2013-2018), Colombia (2012-2014), Costa Rica (2011-2014) and Bolivia (2011-2015). According to these Country Strategies, IDB will provide support by increasing investments in human capital for research development and innovation and supporting the development of platforms for research and innovation programs, as well as support to strengthening national capacities in the area of climate change.

Weather Research and Forecasting model (WRF), with the participation of scientists from eleven countries.

- 2.2 Main outputs of the completed Program included: (i) at least 80 scientists and practitioners from the region trained through a variety of workshops and lectures imparted by UNL; (ii) the establishment of a small and informal network of climate scientists that met once a year to discuss key issues on climate downscaling; (iii) the generation of high resolution climate change scenarios for the Mesoamerican region to be used in vulnerability and adaptation capacity assessments, (iv) the development of a group of key scientific studies on precipitation forecasting, hurricanes and robust methods for decision making, and (v) development of an on-line tool (MapMaker) to visualize high-resolution outputs from model runs. Although still an advanced prototype, in its current version Mapmaker already has some useful capabilities, and has proven to be an invaluable tool at the numerous workshops UNL conducted throughout Latin America. By being a free online web-based tool, MapMaker has the potential to serve other users beyond the scientific community, including development practitioners, such as IDB specialists and their technical advisors/consultants. However, in order to make it run at its full potential as a truly useful and user friendly on-line visualization-tool, MapMaker should undergo further development. Improvements/adjustments to the tool will be made based on input received as it is detailed under section III, Component 2, below. Results from the implementation of RG-T1574 as well as specific requests for additional support received from the participating countries demonstrate that further training is required to better understand the extent of climate change impacts in the region. Moreover, regional frameworks, such as the knowledge network proposed, are the best way to interchange high-resolution data and specific modeling techniques for the analysis and visualization of complex climate processes. In addition, there is a need for improving the screening of climate risks at the project level within the international development community, including IDB sector teams. The proposed operation will contribute also towards this goal.

III. Description of activities and outputs

- 3.1 Component 1; *Regional Task Force on climate change impacts*. This component aims at consolidating a regional network of scientists and climate change model users for the exchange of experiences, knowledge and lessons learned as well as advanced technical training on specific priority subjects (ex. hurricanes, inter-decadal variability, etc.) that will be evaluated and confirmed on the first meeting between UNL and the participating countries' representatives. The objective is to encourage peer-to-peer training and regional collaborations and the generation of additional knowledge and skills on climate modeling and climate change impacts in the LAC region. This would be achieved with the guidance and technical support of scientists from UNL, by creating working groups that will target these subjects in (semi-)annual meetings and virtual spaces. Result: Improved knowledge of regional climate change impacts. Products: At least three (3) technical papers to be submitted to key international scientific journal(s), one for each of the targeted regional climate-related issues. Component 2; *Improvement of interactive tool to analyze and visualize regional climate models' output*. This component will finance further development of the existing web-based tool *MapMaker* for processing, analyzing, verifying, and visualizing models' outputs. Improvements to the tool will be carried out directly by UNL, based on recommendations received from national scientists participating in the program and who have experience in the use of the tool. As it is expected that development practitioners can also access and use the tool to, for example, visualize how climate might affect their project activities during initial project screening, and to plan accordingly, feedback for improvement will also be collected from staff from different IDB

sectors. The main objective is to make the current prototype fully operational and more user-friendly, by adding new functionalities (to be determined accordingly based on the recommendations received) and giving users the possibility to access more information through better maps with high-resolution (12 and 4 km). Result: Additional high-quality data and information on climate change scenarios is easily accessible to practitioners and scientists in the region and IDB specialists. Product: state of the art and fully refurbished user friendly web-based climate scenarios visualizer, with the most up-to-date data from downscaled climate modeling for the Region.

IV. Budget

Indicative Budget

Component	IDB Funding (US\$)	Counterpart Funding (US\$)	Total Funding (US\$)
Component 1: Regional task Force on climate change impacts	251,000	101,000	352,000
Component 2: Development of a regional scientific tool/visualizer for climate modeling	244,000	-	244,000
Supervision and monitoring of activities	10,000	-	10,000
Total	505,000	101,000	606,000

V. Executing agency and execution structure

- 5.1 IDB will be the executing agency of the funds. The execution period is expected to be no longer than 27 months and the disbursement period 30 months. The technical responsibility for the supervision within the Bank will be on charge of INE/CCS Division in Washington D.C., in coordination with the different Bank Divisions participating in the project. The disbursements will be made with the support of the Bank’s procurement and contract officers. UNL is expected to be hired by INE/CCS through a Single-Source Selection (SSS) contract in accordance with the Bank’s policies and procedures.

VI. Project Risks and issues

- 6.1 The main risk associated with the implementation of this TC project is the sustainability of the Task Force efforts beyond the duration of this TC. To mitigate this risk, additional partnerships with regional, national and other international institutions will be explored during TC implementation under the guidance of UNL, so that existing alliances among participating countries can be maintained and nurture. On this point, there was a call to developed countries during the Conference of the Parties (COP) in Lima, to help strengthening existing capacities in developing countries to better assess climate change impacts; to this petition US will launch a global program for the next three years that will among others, give training to meteorologist and climate scientists. An additional risk is that Consortium members won’t dedicate the time needed towards the joint efforts of the group which might affect the quality of the expected outputs. This risk is mitigated through formal commitments from participating national institutions to assign an official to the program.

VII. Environmental and Social Classification

- 7.1 The formal classification will be completed upon the registration of the CT. However, there are no foreseen environmental and/or social impacts, so it is expected that the TC is classified as a Category C project.