

REGIONAL
INTER-AMERICAN DEVELOPMENT BANK
CLIMATE CHANGE AND SUSTAINABILITY DIVISION (INE/CCS)
PROGRAM TO STRENGTHEN INSTITUTIONAL CAPACITY TO BETTER ASSESS CLIMATE IMPACTS
IN LATIN AMERICAN AND THE CARIBBEAN (LAC)
TERMS OF REFERENCE

I. BACKGROUND

1.1 The present consultancy is to develop the activities detailed on the Inter-American Development Bank (IDB) Technical Cooperation (TC) RG-T2612 document, which has the objective of supporting the improvement of climate change modeling related knowledge in Latin-America and the Caribbean (LAC), through a consolidation of a regional network of climate scientists from different hydro-met institutions and universities. The project will contribute to fill existing knowledge gaps in LAC on climate change impacts on infrastructure and rural/urban communities, their livelihoods and associated risks. Specifically, the TC will help generate and gather theoretical and practical expertise in complex areas of climate modeling such as simulating the climate of mountainous regions and hurricanes (among others).

1.2 To accomplish this objective, the following components are expected to be developed:

- 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. The objective of this component is to encourage trainings that generate additional knowledge and skills on climate modeling and climate change impacts in the LAC region.
- Component 2. Improvement of an interactive tool to analyze and visualize regional climate models' outputs. This component will finance further development of the existing web-based tool MapMaker for processing, analyzing, verifying, and visualizing model outputs. The tool will be improved based on recommendations received from national scientists participating in the workshops (Component 1) and who have experience in the use of the tool as well as IDB specialists. These recommendations include, but are not limited to: (i) adding additional data such as evapotranspiration, number of precipitation days, among others; (ii) include the ability to download data subsets (specific variables, times, areas, points, etc.); (iii) scaling changes to intermediate times (i.e., < 50 years); (iv) improve the user's manual section as well as the online help tool; and (v) make it have better integration so that only a single version needs to be maintained, rather than several project-specific versions. 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 access to more information through better maps with high-resolution (12 km and 4 km specifically).
- Component 3. Outreach and dissemination. This component will finance the dissemination of the technical papers developed under Component 1 in international

scientific journal(s), as well as the development and publication of Technical Notes that will present the results of the regional network workshops. Furthermore, this Component will also finance the dissemination of MapMaker tool and its capabilities on regional knowledge platforms and other regional workshops where the work of this partnership can be disseminated.

II. CONSULTANCY OBJECTIVE(S)

2.1 The objective of this consultancy is to provide develop the activities expected under components 1 and 2. For this purpose, a consulting firm with ample expertise in climate modeling, climate change impacts and vulnerability assessment in the region, and with MapMaker tool will be hired.

III. MAIN ACTIVITIES

3.1 The selected candidate will:

- Carry out training and educational activities with the goal of encouraging 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;
- Provide technical support to the process of development of the technical studies after each training session of the regional network is conducted;
- Improve MapMaker tool based on recommendations received and lead the improvement process of MapMaker tool (including the development of a questionnaire to the countries participating in the network to receive their inputs/suggestions on how to improve the tool and the development of an action plan for the improvement of the tool).

IV. REPORTS / DELIVERABLES BY COMPONENT

- Work Plan for the consultancy activities.

Component 1

- Report summarizing the results of the 1st workshop (including list of participants, agenda and the selected specific priority subjects (climate-related issues such as hurricanes, climate in mountainous regions, etc.) that the network will be working on);
- Reports summarizing each subsequent workshop results (including list of participants, agenda, barriers encountered/information gaps, suggestions/feedback received by the participants and the assessment of any additional capacity on climate modeling needs in the region);
- At least three (3) technical papers ready to be submitted to key international scientific journal(s), one for each of the targeted regional climate-related issues.

Component 2

- Fully refurbished and operational user friendly web-based climate scenarios visualizer, with the most up-to-date data from downscaled climate modeling for the Region;
- Report summarizing the main adjustments made to MapMaker and detailing the capabilities of the tool at the date;
- Handbook with examples on how to use of MapMaker.

V. PAYMENT SCHEDULE

5.1 The payment schedule will be as follows:

1. 25% after contract signature and presentation and acceptance of the Work Plan by the Bank;
2. 15% in the end of the first year of the Project execution after reception and approval by the Bank of that year's workshop reports and the corresponding papers drafts;
3. 15% in the end of the second year of the Project execution after reception and approval by the Bank of that year's workshop reports and the corresponding papers drafts;
4. 15% in the end of the third year of the Project execution after reception and approval by the Bank of that year's workshop reports and papers drafts;
5. 30% after delivery of refurbished MapMaker and its Handbook and approval by the Bank.

VI. QUALIFICATIONS

6.1 The consulting firm will be contracted according to the IDB procurement process (GN 2350-9).

- Profile of consulting firm: The consulting firm must submit the CVs and the list of the team members participating in the development of the consultancy.
- The consulting firm will be responsible for performing the activities and tasks described in these Terms of Reference and deliver the products described in the section *Reports/Deliverables by Component*. The consulting firm will demonstrate logistical, financial and technical capacity to implement the consultancy.
- Areas of Expertise: The consulting firm must have (i) knowledge and experience in climate dynamics, climate modeling (including downscaling techniques), as well as knowledge of the climates of Latin America and the Caribbean, and (ii) experience in providing training and education in the operational aspects of meteorology, climate modeling and weather modeling.

VII. CONSULTANT TEAM PROFILE

- Professional profile 1. Climatology professor with a minimum of 10 years of experience in climate modeling and providing capacity building in the subject. Demonstrated experience in Latin America and the Caribbean region. Languages: English. Fair level of Spanish preferred.
- Professional profile 2. Climatology professor with a minimum of 10 years of experience and expertise in the areas of climate modeling and visualization of information. Demonstrated experience in Latin America and the Caribbean region. Languages: English. Fair level of Spanish preferred.
- 3 support junior level personnel: Post-doctorate level and expertise in generating, understanding and communicating at the local and regional level. One position will require strong programming skills and experience with large datasets.
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VIII. CHARACTERISTICS OF THE CONSULTANCY

- Consultancy category and modality: Consulting firm.
- Contract duration: Estimated at 27 months after contract signature by both parties.
- Place(s) of work: External consultancy.
- Division Leader or Coordinator: Mr. Alfred Grünwaldt, Climate Change Senior Specialist (alfredg@iadb.org – Ext. *241888) (INE/CCS).