



MEMORANDUM OF UNDERSTANDING

between

Federal Office of Meteorology and Climatology MeteoSwiss

and

Instituto de Hidrología, Meteorología y Estudios Ambientales de Colombia (IDEAM)

with reference to the project

CATCOS (Capacity Building and Twinning for Climate Observing Systems)

1 Introduction

- 1.1 This Memorandum of Understanding (MoU) builds on the Agreement on technical and scientific co-operation between the Republic of Colombia and the Swiss Confederation done at Bogotá on 1 February 1967 and in force since 15 November 1969 (SR 0.974.226.3, copy of Spanish original appended).
- 1.2 In the context of the Global Climate Observing System (GCOS)¹ and WMO Global Atmosphere Watch (GAW)², the project CATCOS (Capacity Building and Twinning for Climate Observing Systems) aims at improving the capacity for measurements of glacier mass balances in different regions of the world with data gaps. The expected project outcomes are an increased availability of glacier monitoring data at international data centers. Funded by the Swiss Federal Department of Foreign Affairs (FDFA), acting through the Swiss Agency for Development and Cooperation (SDC), and coordinated by the Federal Office of Meteorology and Climatology MeteoSwiss, the project CATCOS is implemented between 12 September 2011 and 31 December 2013.
- 1.3 In Colombia, the project will establish the capacity for the observation of the essential climate variable "glacier" (Activity A4.1: Continuation of in-situ mass balance measurements and establishment of a baseline geodetic survey). Geodetic surveys are a basic requirement for the validation and calibration of the in-situ mass balance series.
- 1.4 The overall project coordination is with MeteoSwiss acting on behalf of SDC. The Swiss implementing partner (hereafter "Contractor") acting on behalf of MeteoSwiss is the Department of Geography, University of Zurich, Switzerland.
- 1.5 This MoU clarifies the roles of MeteoSwiss and the Instituto de Hidrología, Meteorología y Estudios Ambientales de Colombia (IDEAM) (hereafter referred to as "Parties") in implementing these activities.

¹ www.wmo.int/gcos

² www.wmo.int/gaw

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2 Responsibilities of MeteoSwiss

2.1 MeteoSwiss agrees to

- Coordinate and monitor the project implementation;
- Facilitate smooth and efficient communication between MeteoSwiss and the Contractor, as well as with IDEAM;
- Maintain frequent contact with all project partners, to keep abreast of project progress and disseminate relevant information to Parties;
- Take responsibility for coordination and communication with and reporting to the funding agency (SDC);

3 Responsibilities of IDEAM

3.1 IDEAM agrees to

- In collaboration with the Contractor, prepare Terms of Reference and carry out the process of selecting the company which supports the establishment of a baseline geodetic survey of Glaciar La Conejera, Santa Isabel, in 2013 (depending on weather conditions), based on one of the following technologies ranked in order of priority: (1) airborne laser-scanning, (2) airborne photogrammetry, (3) terrestrial laser-scanning, (4) terrestrial photogrammetry, (5) terrestrial survey with total station and/or differential GPS;
- With support of the Contractor, process, analyze and submit the results of the geodetic survey of Glaciar La Conejera, Santa Isabel to the World Glacier Monitoring Service for publication in its data reports and for digital dissemination to the scientific community;
- Analyze the data from the geodetic survey of Glaciar La Conejera, Santa Isabel in comparison with available earlier geodetic studies in collaboration with the Contractor and publish the results in an international academic journal;
- Participate at the *WGMS Summer School on Glacier Mass Balance Measurements* to be held in Switzerland in 2013, subject to receiving the official permits.

4 Financial Arrangements

4.1 The following activities are financially supported by the project:

- Geodetic survey of Glaciar La Conejera, Santa Isabel, with a maximum of USD 30000; whereas, a maximum of 30% of the total costs for the survey can be prepaid after the approval of the flight plan (in case of aerial options 1 and 2) or field work plan (in case of terrestrial options 3 to 5) by the Contractor; the remaining amount will be paid after the receipt of the processed dataset.

- The option chosen for the geodetic survey follows the order defined in sub-item 3.1. No additional expenditures beyond the budgeted maximum amount will occur for the Parties involved.
- The financial arrangements for any company involved, such as advance and payments, will be managed directly between the Contractor and the company, in close consultation with IDEAM.
- Travel and subsistence for one participant of IDEAM attending the *WGMS Summer School on Glacier Mass Balance Measurements* in Switzerland in 2013.

5 Communication

- 5.1 The official language of communication is English.
- 5.2 Parties and Contractor agree to exchange relevant information about project progress and about any events that may affect project progress in a timely manner. In particular, MeteoSwiss has to be informed immediately about major deviations from the implementation schedule agreed between IDEAM and Contractor.
- 5.3 Any official external communication concerning the project is subject to review by MeteoSwiss.
- 5.4 Any communication of the project achievements by the IDEAM including presentations, reports and publications shall include the following reference: "We acknowledge the support of the Federal Office of Meteorology and Climatology MeteoSwiss through the project Capacity Building and Twinning for Climate Observing Systems (CATCOS), Contract no. 81013476 between the Swiss Agency for Development and Cooperation (SDC) and MeteoSwiss".
- 5.5 Any scientific results from the project shall be published only upon mutual agreement and shall be subject to review by and inclusion as co-authors of Parties and Contractor.
- 5.6 The information provided by the Parties for the project is not subject to the regulations in 5.4 and 5.5.

6 Sustainability

- 6.1 IDEAM agrees to continue the mass balance monitoring at Glaciar La Conejera, Santa Isabel to ensure sustainability of project achievements to the extent possible.

7 Validity

- 7.1 This MoU shall enter into force upon signature of both Parties and shall remain in force until the conclusion of the project, unless terminated by either Party upon ninety (90) days, written notice to the other party. Recognizing the long-term goals of this project, Parties agree to continue to collaborate informally after the conclusion of this project by exchanging expert advice or by other means as appropriate.

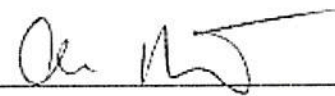
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- 7.2 Two (2) versions of the present MoU will be signed, one version is in English and the other one is in Spanish. In case of any discrepancies or differences of interpretation in these two (2) mentioned versions, the English version prevails.

8 Appendixes

- Appendix A: Persons responsible from Parties
- Appendix B: Project Document (Terrestrial Domain)
- Appendix C: Agreement on technical co-operation between the Republic of Colombia and the Swiss Confederation (SR 0.974.226.3)

9 Agreement by Parties

Signed:  cp

Place, Date: Zürich, 13. Dec 2012

On behalf of Federal Office of Meteorology and Climatology
MeteoSwiss

Dr. Christian Plüss, Director General

Signed: 

Place, Date: _____

On behalf of Instituto de Hidrología, Meteorología y Estudios
Ambientales de Colombia (IDEAM)

Dr. Ricardo José Lozano, Director General

Seen by Swiss Partner Acting on Behalf of MeteoSwiss

Dr. Michael Zemp

Director World Glacier Monitoring Service (WGMS)

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Signed:



Place, Date:

Zurich 13.12.2012

On behalf of Dept. Geography, University of Zurich
Dr. Michael Zemp