**Abstract Submission Form**

**NAME OF MAIN AUTHOR**
SURNAME: POUGET  
GIVEN NAME(S): Jean-Christophe  
TITLE: Dr. Ing.

**INSTITUTION /ORGANISATION**
IRD (Institut de Recherche pour le Développement) Quito

**Names of any other authors**
Marlon CALISPA (EPN Quito), Marcos VILLACIS (EPN Quito), Thomas CONDOM (IRD Lima), David PURKEY (SEI-US), Bolivar CACERES (INAMHI), Luis MAISINCHO (INAMHI), Roger CALVEZ (IRD Quito), Diego PAREDES (EMAAP Quito)

**TITLE OF PAPER**
High Mountain Catchments Modelling and Water Resources Planning in Quito (Ecuador) - Comparisons between different glacio-hydrological models on Antizana stratovolcano

**THEME/SESSION(S) TO WHICH THIS PAPER IS LINKED –**
15 - Integrated water resource management in mountain regions

**GEOGRAPHICAL REGION TO WHICH PAPER REFERS**
South America

**PREFERRED TYPE OF PRESENTATION – both options can be given**
Concurrent session (verbal presentation)  
Poster session

**MAIN AUTHOR’S EMAIL ADDRESS**
jcpouget@ird.fr

**MAIN AUTHOR’S MAILING ADDRESS**
Jean-Christophe Pouget  
IRD Ecuador, Apartado 17-12-857, QUITO ECUADOR

**Phone number (with country code)**
(593 2) 224 38 93  
Fax number (with country code)
(593 2) 250 40 20

**ABSTRACT (200 words)**
Quito constitutes one of the most densely populated Andean basin. The Quito population has increased by 7 since 1950 to reach 2.5 million inhabitants (2007). The imbalance between supplies and demands has led to great transfers from high mountain watersheds with altitude above 3500 m asl, including Amazon catchments. Thus, the Mica system that supplies water to Quito since 2000 uses some catchments of the Antizana stratovolcan (5760 m). These basins are composed by 90% of páramo and 2.5% of glaciers (2006). The glaciers retreat has been of 25% in 40 years. In order to propose an integrated water resources management model to support Quito planification, we tested several models to represent the high mountain hydrology, using 2 high nested watersheds (2.7 and 12.5 km2). The approach taken uses the planning tool WEAP (Water Evaluation and Planning System), run at monthly time-step. The originality of our work is that it links a glacier evolution module to a WEAP’s integrated rainfall-runoff/water resource systems modelling framework to investigate the climate-glacier-hydrology-water management continuum. A double validation of the models was done by comparing observed and simulated streamflows at the 2 control points (2005-2009 period) and the calculated and observed glacier area evolution (1956-2009).

**My participation in the conference:**
is definite  
depends on acceptance of my presentation  
depends on external funding

Please complete this form in Arial x 10 font

Please return this form to:
mountain.conf@perth.uhi.ac.uk
by 1 March 2010