

## **Hydro-climatic observatory of the Rharaya watershed in the Moroccan High Atlas Mountains**

Lahoucine Hanich<sup>1</sup>, Simon Gascoin<sup>2</sup> and Vincent Simonneaux<sup>2</sup>

<sup>1</sup> *L3G Laboratory, Earth Sciences Department, Faculty of Sciences and Techniques, Cadi Ayyad University, Marrakech, 40000, Morocco; [Lhanich@uca.ma](mailto:Lhanich@uca.ma)*

<sup>2</sup> *Centre d'Études Spatiales de la Biosphère (CESBIO), Université de Toulouse, CNES, CNRS, INRAE, IRD, UT3 University of Toulouse, Toulouse, France*

The Atlas Mountains extend 700 kilometers along a west southwest to east-northeast axis and are 70 kilometers wide. It forms a barrier in central Morocco between the Mediterranean Sea in northern Morocco and the Sahara Desert. The observatory of the Rheraya watershed consists of the measurements of climatic and hydrological parameters. The Rheraya watershed is located on the northern slope of the High Atlas Mountains, south of Marrakech, between 1000 and 4167 meters above sea level, covering an area of 225 square kilometers. Beginning in 2002, a network of five automatic weather stations was gradually installed spanning an elevation range of 1400 – 3200 m, recording temperature, humidity, wind speed, solar radiation and precipitation in 30-minute increments. Four other sites record only precipitation. These meteorological data are either used directly to force hydrological models or evaluate climate model outputs and satellite products.