



GUMNET - A new long-term monitoring initiative in the Guadarrama Mountains, Madrid, Spain

Volker Rath (1,2), J. Fidel González Rouco (1), Carlos Yagüe Anguis (1), and the GUMNET Initiative Team
(1) Universidad Complutense de Madrid, Fac CC Físicas, Departamento de Física de la Tierra, Astronomía y Astrofísica, Madrid, Spain (vrath@ucm.es, +34 913944635), (2) Dublin Institute for Advanced Studies, Dublin, Ireland

We are announcing a new monitoring network in the Guadarrama Mountains north of Madrid, which is planned to be operational in early 2015. This network integrates atmospheric measurements as well as subsurface observations. It aims at improving the characterization of atmosphere-ground interactions in mountainous terrain, the hydrometeorology of the region, climatic change, and related research lines. It will also provide the meteorological and climate data which form the necessary background information for biological, agricultural and hydrological investigations in this area.

Currently, the initiative is supported by research groups from the Complutense and Polytechnical Universities of Madrid (UCM and UPM), the Centro de Investigaciones Energéticas, Medioambientales y Tecnológicas (CIEMAT), the Spanish National Meteorological Agency (AEMET), and finally the Parque Nacional de la Sierra de Guadarrama (PNSG). This infrastructure forms part of the Campus of Excellence Moncloa, and is supposed to become a focus of local as well as of international research. However, it is not associated with a particular project: data will in principle be available to the scientific and public communities. Also, the integration of new instruments (long or short term) will be welcome.

The starting setup is as following: A group of WMO-compatible meteorological station in the central area of the massif will be installed, which include also a subsurface component of boreholes (≈ 20 m depth), where temperature and moisture will be measured. This core group is complemented by a reference site near El Escorial (including a fixed and a mobile tower for micrometeorological investigations). This setup is embedded in a network of meteorological stations run partly by AEMET and partly by the PNSG, which will provide the information necessary for the characterization of regional meteorology and climate. Finally, part of the data will be made available quasi-online on a central web server in Madrid.

(temporary web page: <http://tifon.fis.ucm.es/~gumnet/>)