



## **Impact of extreme precipitation events in the Miño-Sil river basin**

Manuel Fernández-González (1), Juan Antonio Añel (1,2), and Laura de la Torre (1)

(1) EPhysLab, Universidade de Vigo, Ourense, Spain (manolo.fernandez@uvigo.es), (2) Smith School of Enterprise and the Environment, University of Oxford, Oxford, UK

We herein research the impact of extreme rainfall events in the Miño-Sil basin, a heavily dammed basin located in the northwestern Iberian Peninsula. Extreme rainfall events are very important in this basin because with 106 dams it is the most dammed in Spain. These dams are almost exclusively used for hydropower generation, the installed generating capacity reaches more than 2700 MW and represents almost 9% of the total installed electrical generation capacity of the Iberian Peninsula, therefore with a potential impact on the energy market.

We research the extreme events of rainfall and their return periods trying to reproduce the past extreme events of rainfall and their time periods to prove the proper functioning of the adapted model, so we can forecast future extreme events of rainfall in the basin.

This research tries to optimize the storage of dams and adapt the management to problems as climate change. The results obtained are very relevant for hydroelectric generation because the operation of hydropower system depends primarily on the availability of stored water.