Geophysical Research Abstracts, Vol. 8, 07698, 2006
SRef-ID: 1607-7962/gra/EGU06-A-07698

The use of meteorological ensemble prediction in the European flood alert system

M-H. Ramos, J. Thielen, J. Bartholmes and A. de Roo

European Commission, DG Joint Research Centre, Institute for Environment and Sustainability, Ispra, Italy(helena.ramos@jrc.it / Fax: +39 0332786653)

The European Flood Alert System (EFAS) offers a suitable framework to make use of the state-of-the-art of meteorological products in hydrological forecasting. In particular, the use of ensemble prediction systems (EPS) is being investigated to produce flood ensemble prediction. Recently, meteorological ensembles from the European Centre for Medium-range Weather Forecasts (ECMWF) have been introduced in EFAS. The ECMWF-EPS consists of 51 10-day weather forecasts (50 ensemble forecasts and 1 unperturbed control forecast) issued twice a day at 00:00 and 12:00 with a resolution T_L255L40 ($\sim$80 km, 40 levels). EFAS forecasts based on ECMWF-EPS take into account the uncertainty on reaching EFAS alert levels due to the different 51 possible meteorological forecasts. In this study, we present the first results obtained from the incorporation of ECMWF-EPS into EFAS during 2005. We present the main challenges for EFAS regarding the computational requirements for data processing and storage in the European scale, the investigation on how to extract the necessary information and the development of tools to efficiently visualize EFAS forecasts and, consequently, to produce useful forecasts to support the activities of the Member States' hydrological services in flood forecasting.