Geophysical Research Abstracts,
Vol. 10, EGU2008-A-09597, 2008
SRef-ID: 1607-7962/gra/EGU2008-A-09597
EGU General Assembly 2008
© Author(s) 2008

Potential of historical meteorological and hydrological data for the reconstruction of flood events - the example of the 1882 flood in SW-Germany

J. Seidel (1,4), F. Imbery (2), P. Dostal (2), D. Sudhaus (3) and K. Buerger (1)

(1) Department of Physical Geography, Werthmannstrasse 4, 79085 Freiburg, Germany, (2) Meteorological Institute, Werthmannstrasse 10, 79085 Freiburg, Germany, (3) Institute for Landscape Management, Tennenbacher Strasse 4, 79106 Freiburg, Germany, (4) Institute of Hydraulic Engineering, Pfaffenwaldring 61, 70569 Stuttgart, Germany (jochen.seidel@geographie.uni-freiburg.de / Phone: +497612039117)

Information from historical documents has a great potential for the reconstruction of floods in the past and can be informative for contemporary flood risk management. The project "Analysis of Historical Floods for a Preventive Risk Management of Extreme Flood Events" (Xfloods) incorporates historical climatic aspects causing extreme flood events and is part of the RIMAX (Risk Management of Extreme Flood Events) research framework, which is founded by the German Federal Ministry or Education and Research. The regional focus ist put on southwest Germany and the catchment of the Necakar River. The use of historical data and documentary archives for the reconstruction of particular flood events or for flood chronologies has great potential and can be used to improve flood risk management or to assess the role of climatic variability on floods. The method presented here is the analysis and reconstruction of the flood triggering meteorological situation and the simulation of discharges. Our approach uses information from historical data, such as meteorological and hydrological measurements to reconstruct past flood events and to understand their hydrometeorological causes. The course of the 1882 flood event in the Neckar catchment in southwest Germany and the weather conditions which led to this flood were reconstructed by evaluating the information from various historical sources. Discharges in the Neckar catchment for this flood event were simulated with the water-balance model LARSIM

and the 1D model HEC-RAS.