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Flood Loss Model for Austria

P. Punčochář (1) and A. Podlaha (2)

(1) Impact Forecasting, Aon Benfield, Prague, Czech Republic (petr.puncochar@aonbenfield.com), (2) Impact Forecasting, Aon Benfield, London, United Kingdom (adam.podlaha@aonbenfield.com)

A new flood model for Austria quantifying fluvial flood losses based on probabilistic event set developed by Impact Forecasting (Aon Benfield's model development centre) was released in June 2011. It was successfully validated with two serious past flood events – August 2002 and August 2005.
The model is based on 10 meters cell size digital terrain model with 1cm vertical step and uses daily mean flows from 548 gauge stations of series of average length $\sim$ 60 years. The even set is based on monthly maxima flows correlation, generating 12 stochastic events per year and allows to calculate annual and occurrence exceedance probability loss estimates. The model contains flood extents for more than 24,000 km of modelled river network compatible with HORA project (HOchwasserRisikoflächen Austria) for design flows ranging from 2 to 10,000 years. Model is primarily constructed to work with postal level resolution insurance data reducing positional uncertainty by weighting over more than 2.5 millions address points from Austria Post's ACGeo database. Countrywide flood protections were provided by the Austrian Ministry of Environment.
The model was successfully tested with property portfolios of 8 global and local insurance companies and was also successfully validated with August 2002 and August 2005 past events evaluating their return period on the probabilistic simulation basis.