A Century of UK Flood Losses

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The UK is a flood prone country where the natural conditions interact with a high accumulation of economic value. Especially after World War 2, known flood risk was often neglected and as much as 50% of the property development took place in areas identified today as at high, or very high, risk of flooding.

In recent years, tremendous advances have been realised in terms of hydrological modelling in general and flood and catastrophe modelling in particular. However, we acknowledge that data availability and quality is still a major obstacle to high-resolution flood modelling. We therefore believe there is a need for simple aggregated models where data scarcity does not allow the use of complex models, or to evaluate the results of more detailed models.

Here we present an example of this type of model with which we estimate the as-if present value losses of historic floods in the UK during the 20th century. The model uses only historical river discharge records and population and economic value distributions as input. We present the estimated losses for different reinsurance event definitions (hours or loss occurrence clauses) together with a comprehensive analysis of the underlying uncertainties.