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Science and the second generation of insurance-oriented natural hazard loss models – example of the probabilistic DACH flood model

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Traditionally, insurance and natural science did not have much in common. They had different goals, worked on different time scales and applied a different degree of accuracy to their results. Quick risk assessments based on extrapolation of past, large-scale and poorly localised financial losses, were hardly reproducible via lengthy and detailed scientific analyses and vice-versa, resulting in a mutual misunderstanding between those two groups.

The goals of the two sectors might not have changed substantially in more recent times, but the degree of their interaction certainly has. This interactive process has been substantially accelerated by the fast progress made in the IT sector, as well as by the compilation of comprehensive scientific and public databases. This development profited both sectors and represented the first step of the rapprochement process.

Driven by the need for better risk assessment tools, the insurance industry has gradually taken advantage of the new data and technology, and a first suite of, more or less, adequate (partly) probabilistic insurance loss-oriented assessment models covering the major natural perils, has been developed. During the last decade these models have then been accepted as a standard tool by the insurance industry.

Recent progress in applied science and the existence of new comprehensive broad-spectrum data sets opens now the door for the development of a second generation of loss-assessment models – models, which were previously kept in the “too hard” basket. The development of DACH, a probabilistic Central European flood model (a joint endeavor between EQECAT and Guy Carpenter) is an example of such a second

generation risk assessment model.

This talk will address the gradual rapprochement between the scientific and insurance community and use DACH (large-scale precipitation based & multi-basin correlation considering) probabilistic Central European flood model as example of the culmination of this process.