# Flood Model for Poland

Flood caused over two-thirds of insured losses from natural catastrophes in Poland between 1997 and 2014, exceeding EUR700m. This frequent and costly flooding in recent decades, together with increasing insurance penetration, triggered the most significant enhancements of the Impact Forecasting's probabilistic flood model for Poland since 2004.

Impact Forecasting – Aon Benfield's catastrophe model development center of excellence – developed a probabilistic flood model for Poland in 2004 which has been widely used across the industry. The new generation of the flood model for Poland benefits from the flood team's past experiences, increased volume of exposure and loss data plus the latest scientific knowledge in hydrological, flood and statistical modelling.

## Benefits

- The model provides a complete view on probabilistic riverine and off-flood plain losses on latitude longitude or postal code geocoding level with two additional historical scenarios from 1997 and 2010

- Its flexible structure and openness allows clients a detailed understanding and validation of the individual model components required by Solvency II

- Very detailed and top quality flood hazard maps enable not only portfolio modelling but can also be used for primary underwriting linked to your underwriting systems

## Innovation

- Extensive collection of Polish local data including 208 gauge stations from Polish Hydrometeorological Institute or detailed LIDAR digital terrain model from Centre for Geodesy and Cartography with height accuracy < 0.2 meter and resolution 1m x 1m

- Inundation modelling done using 2-dimensional hydrodynamic model TUFLOW applied on variable mesh size from 10 x 10 meters in exposed or spatially heterogeneous areas and 20 x 20 meters in flat floodplains with minor exposure potential

- Flood defences, including location and height of more than 9,000km of levees (extracted from LIDAR digital terrain model), directly implemented in the inundation modelling process

- The realistic spatial pattern of stochastic events is reproduced through the innovative use of vine copulas – a new approach to stochastic flood event set generation

### We're here to empower results:

Contact us to understand more about our transparent and customizable models.

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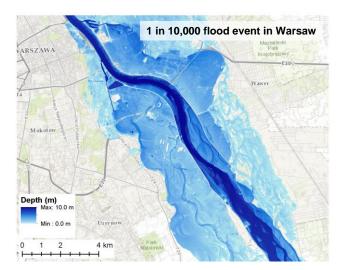petra.seydlitz
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1 in 10,000 flood event in Warsaw

Depth (m)
Max: 10.0 m
Min : 0.0 m