

Testing the validity of pluvial flood risk models

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Pluvial floods

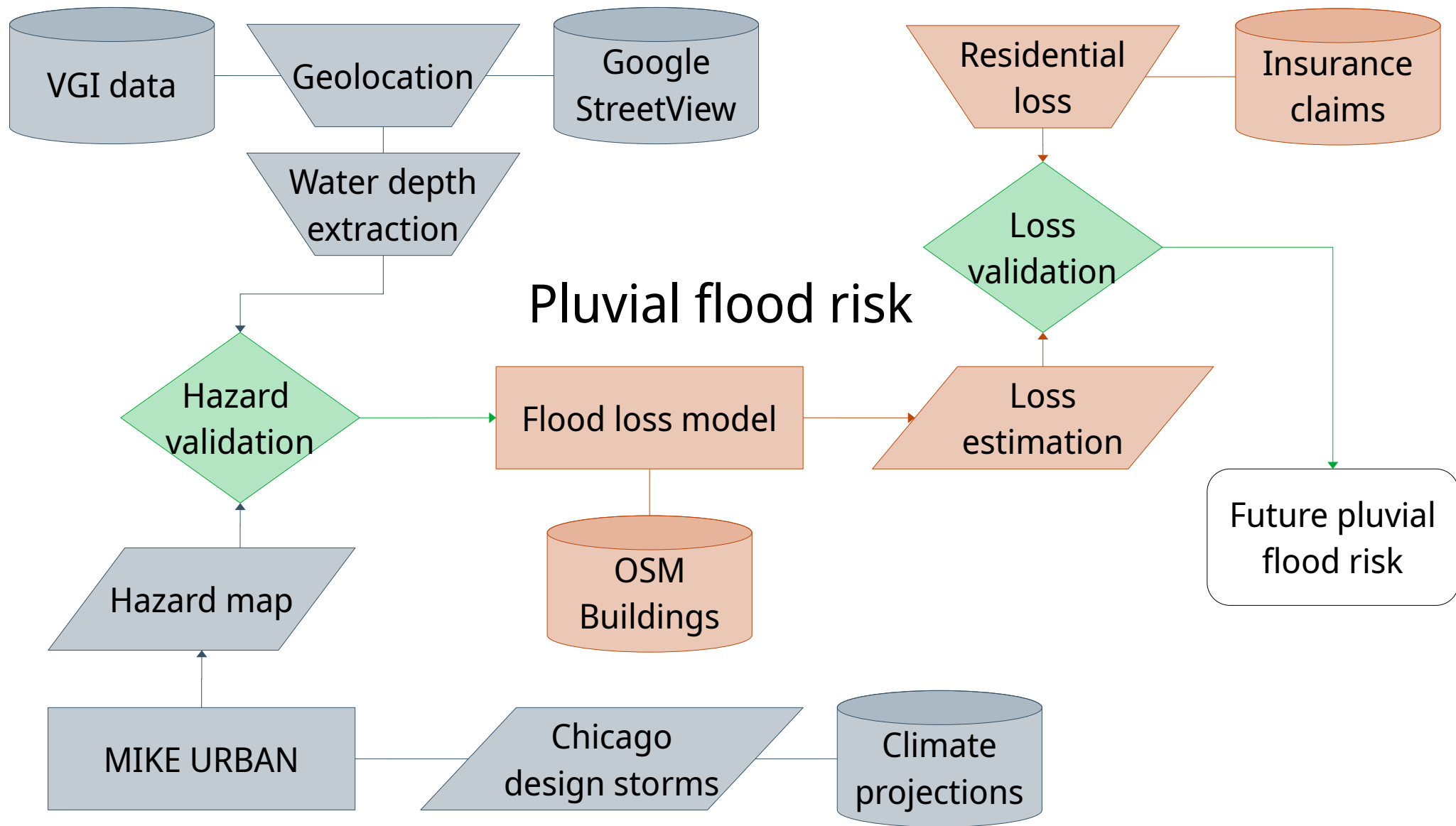
Short local events

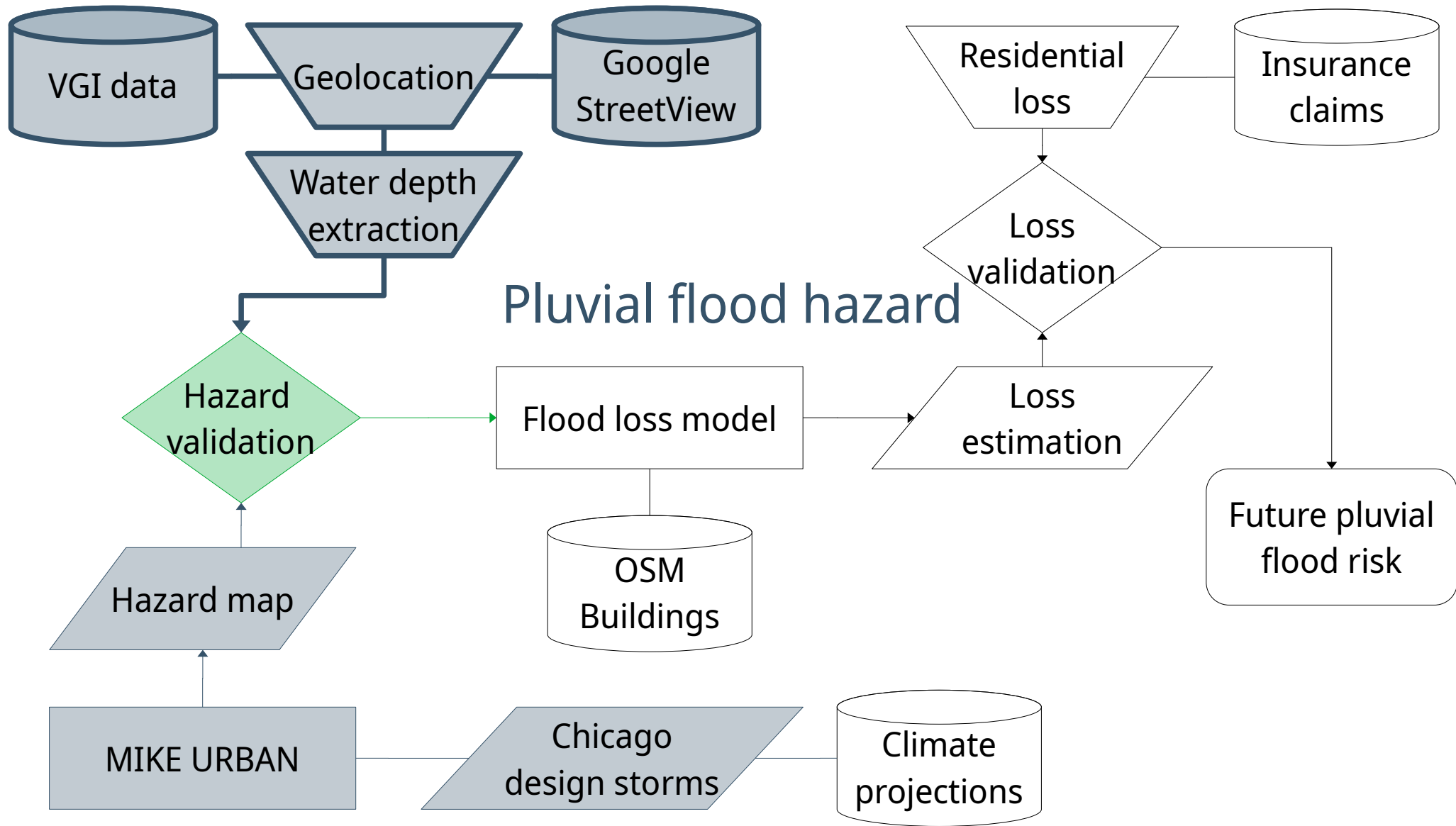
Data scarcity

Lacking validation

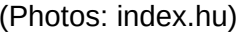
Validation of flood hazard and loss in Budapest

https://index.hu/galeria/index/belfold/2015/08/17/hatalmas_eso_csapott_le_budapestre/7 (Photo: Csonka Dániel)

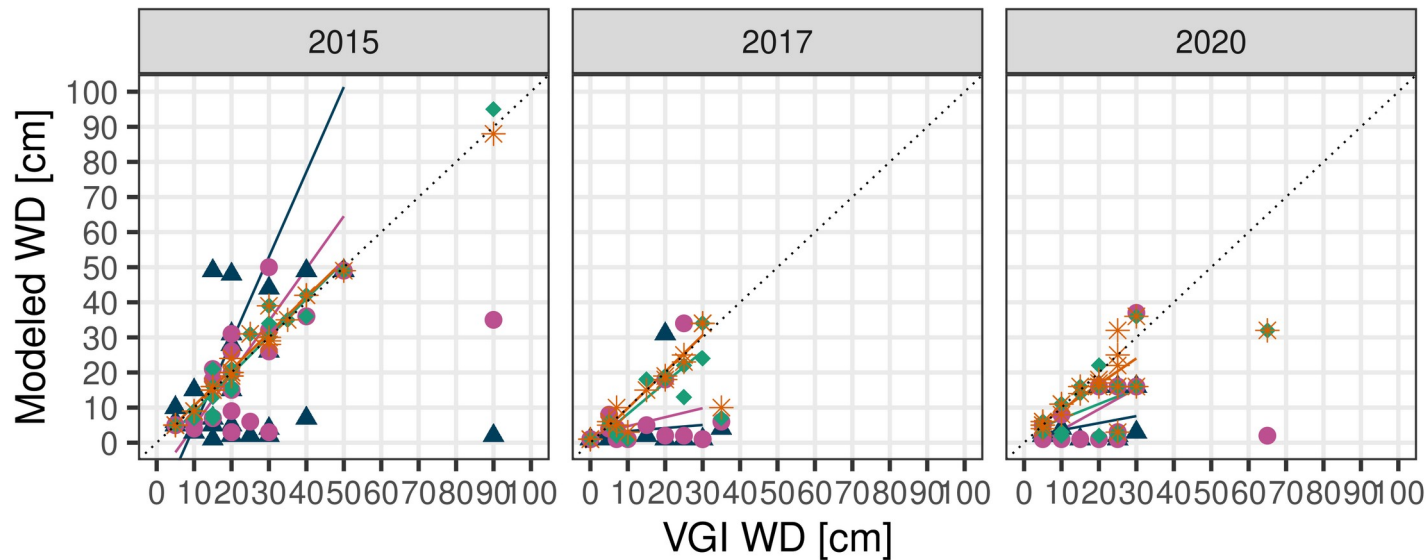
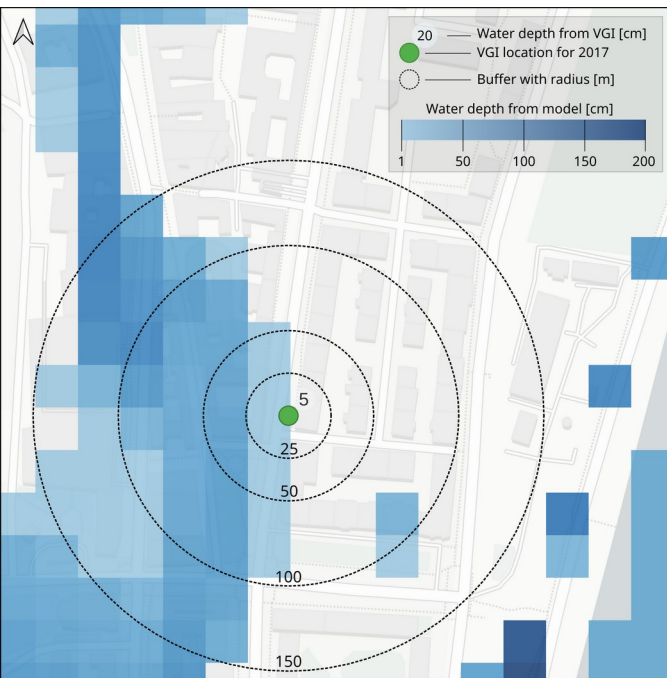




This section compares two types of geolocation data. On the left, a photograph taken from a vehicle's perspective shows a yellow taxi in a city square, with a semi-transparent white bubble containing the word "Geolocation" overlaid. Below this image is a white bubble containing the text "VGI". On the right, a Google Streetview image of the same location is shown, also with a semi-transparent white bubble containing the word "Geolocation" overlaid. Below this image is a white bubble containing the text "GoogleStreetview".



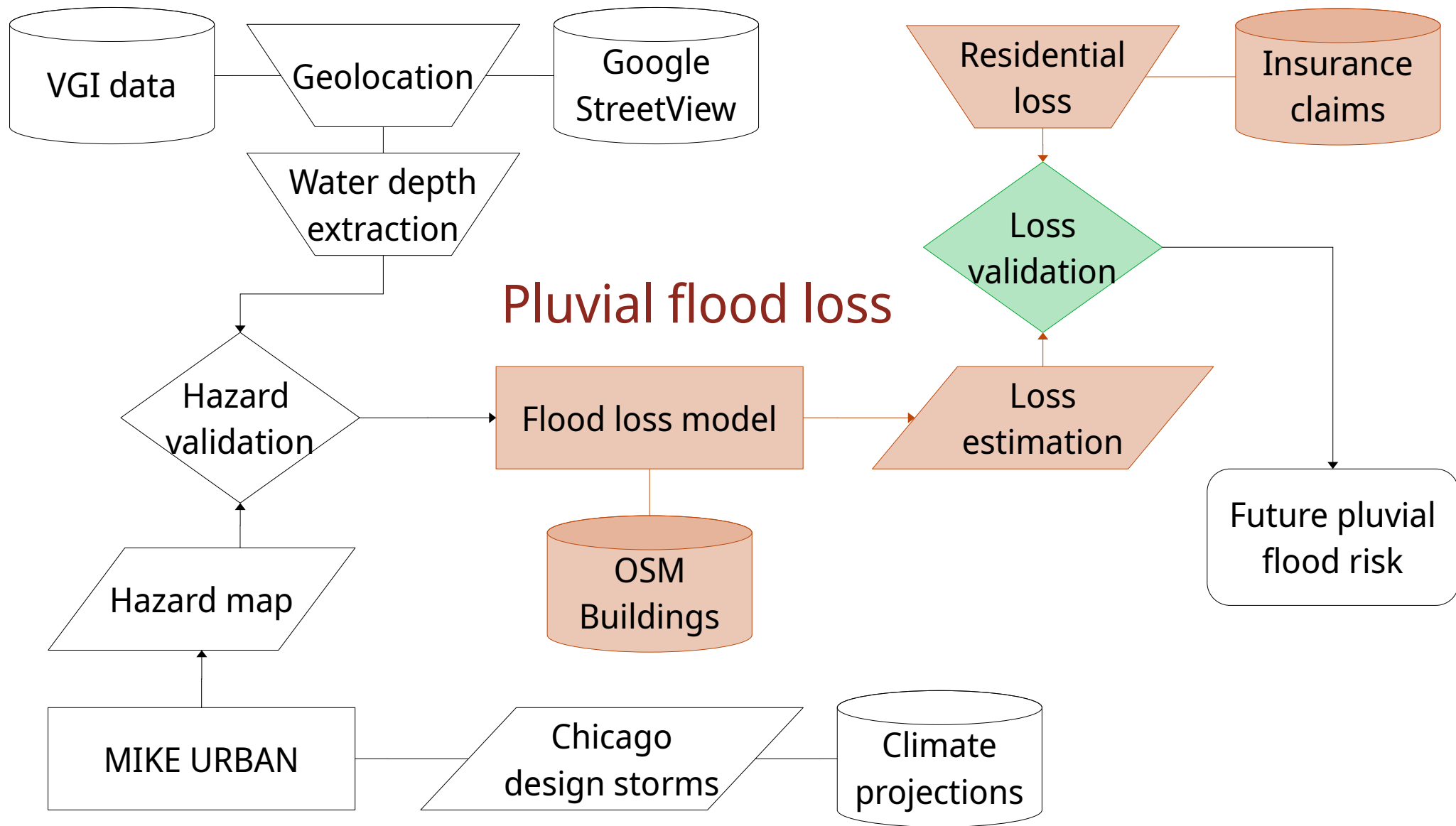
Pluvial flood hazard validation



Buffer around VGI location [m] ▲ 25 ● 50 ◆ 100 ★ 150

- MIKE URBAN (DHI)
- Conceptual drainage system
- Chicago design storms & 25 m DEM

- Transferability
- Climate projections
- Effective resolution ~ 100 m



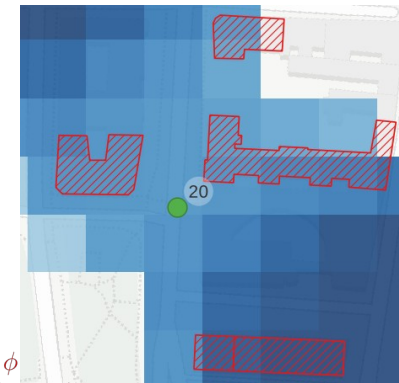
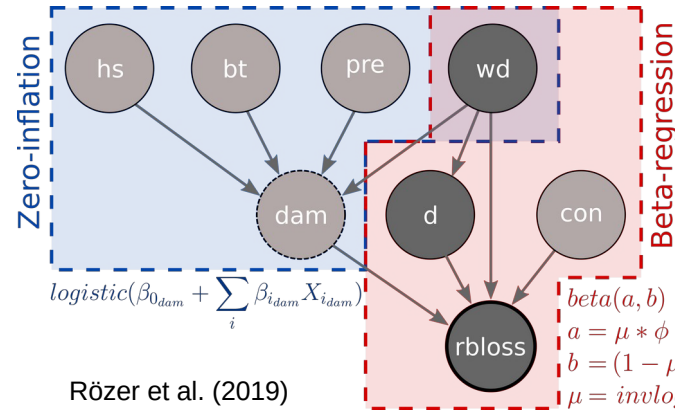
Loss data and model

Insurance claims

Pluvial loss model

Event	No. claims	Reported loss €
2015	10976	4.772.612
2017	3768	1.589.257
2020	4225	1.412.835

Magyar Biztosítók Szövetségét (MABISZ, 2020)



- Losses for residential buildings
- District aggregates for Budapest
- Very high market coverage

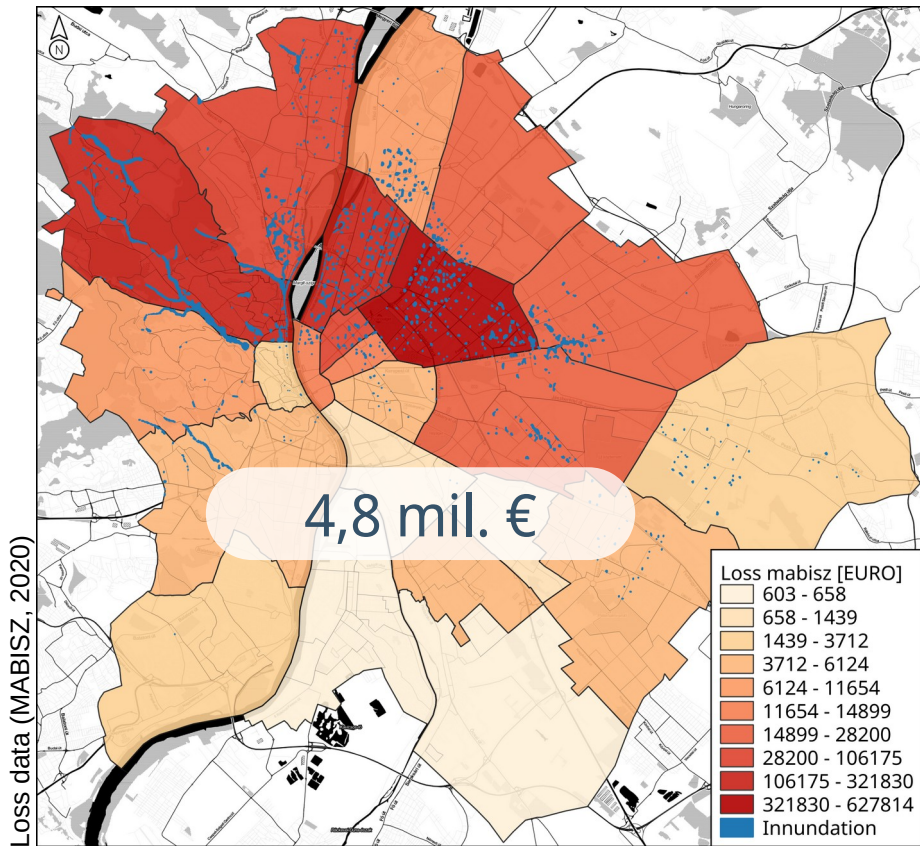
- Multi-variable loss estimation
- Object sharp resolution (OSM)

→ Additional loss models:

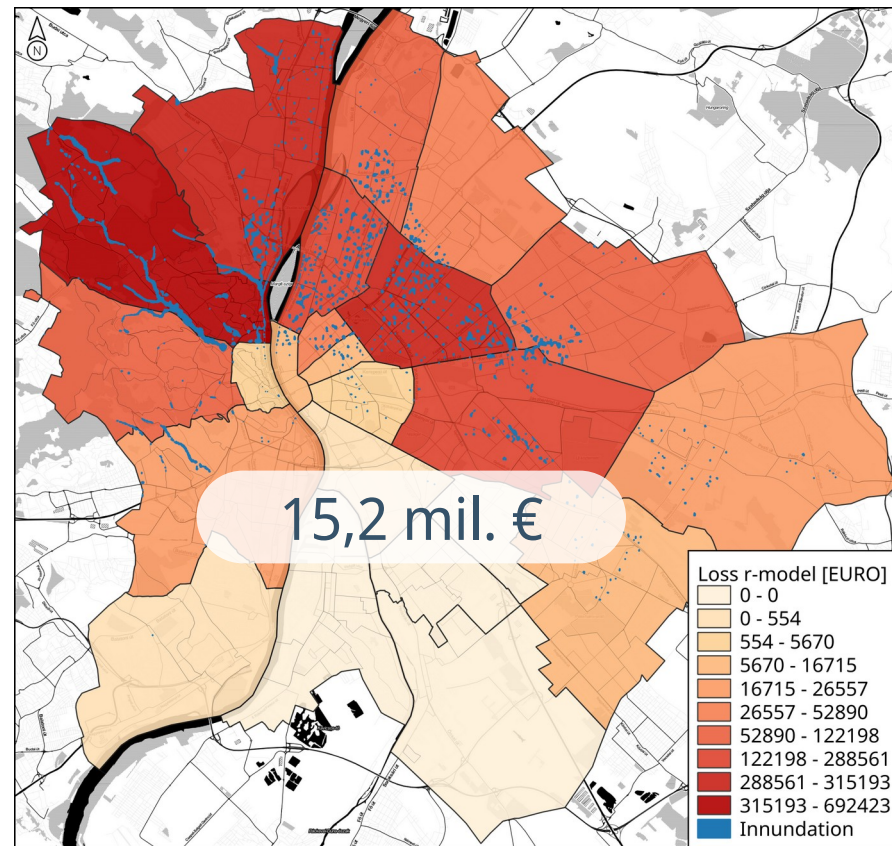


Pluvial flood loss 2015

Insurance claims



Pluvial loss model



Outlook

VGI for pluvial flood
hazard validation

**The utility of using Volunteered Geographic Information
for evaluating pluvial flood models (in prep.)**

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Hattermann, and Kai Schröter

Additional loss models

Future risk estimation

Questions?
Suggestions!

Vote for OSPP

