Africa-Museum Tervuren

14th of November 2019

Beyond adaptation:

Emergency planning in times of climate change

PUCS has received funding from the European Union's Horizon 2020 Research and Innovation Programme under Grant Agreement No. 730004

Increasing pluvial flood risk

- Due to their fast onset and localized nature, pluvial floods cause significant damage to the urban environment and are challenging to manage.
- Increasing pluvial flood risk due to climate change in combination with population growth.

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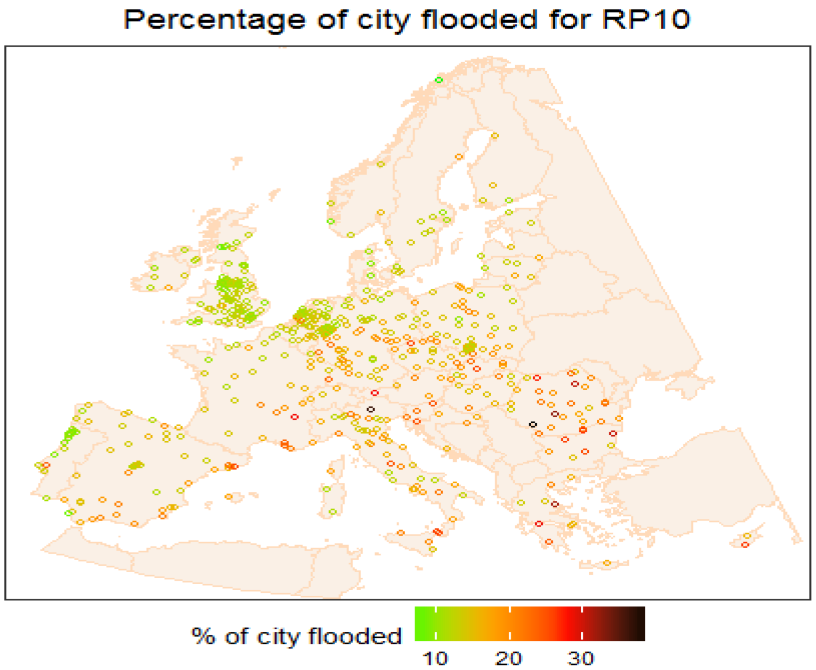
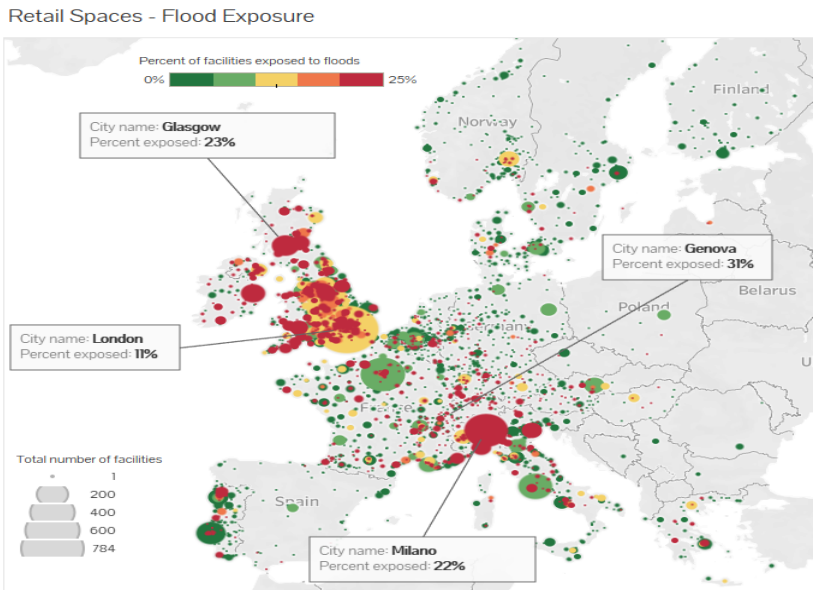
Pan-European Challenge





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Mitigate

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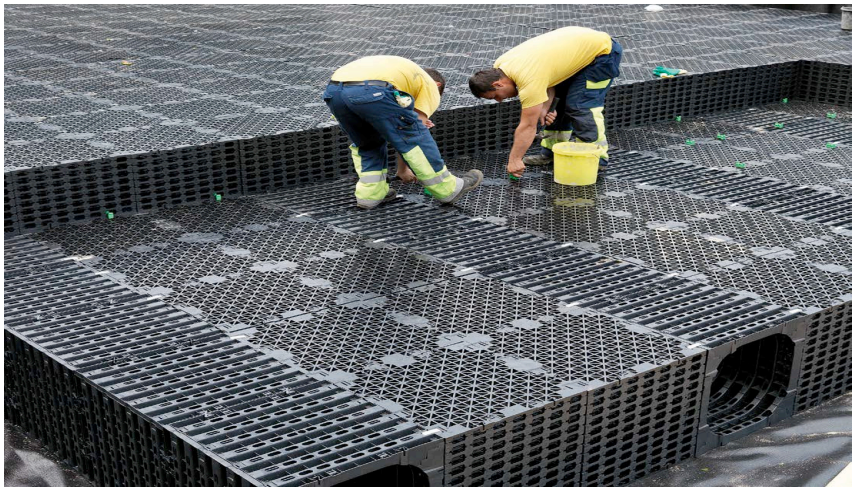
Adapt



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Emergency Relief

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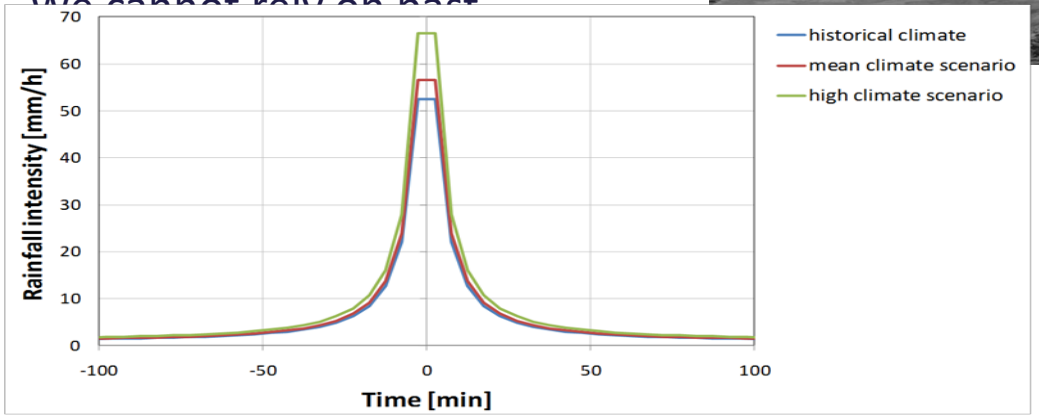
1953-2053

A 100 year storm in 2030 will be much worse than the 100 year storm of 1953

We cannot rely on past



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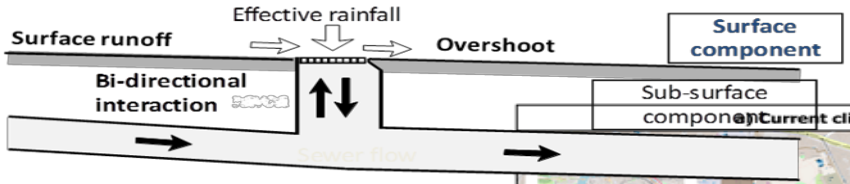
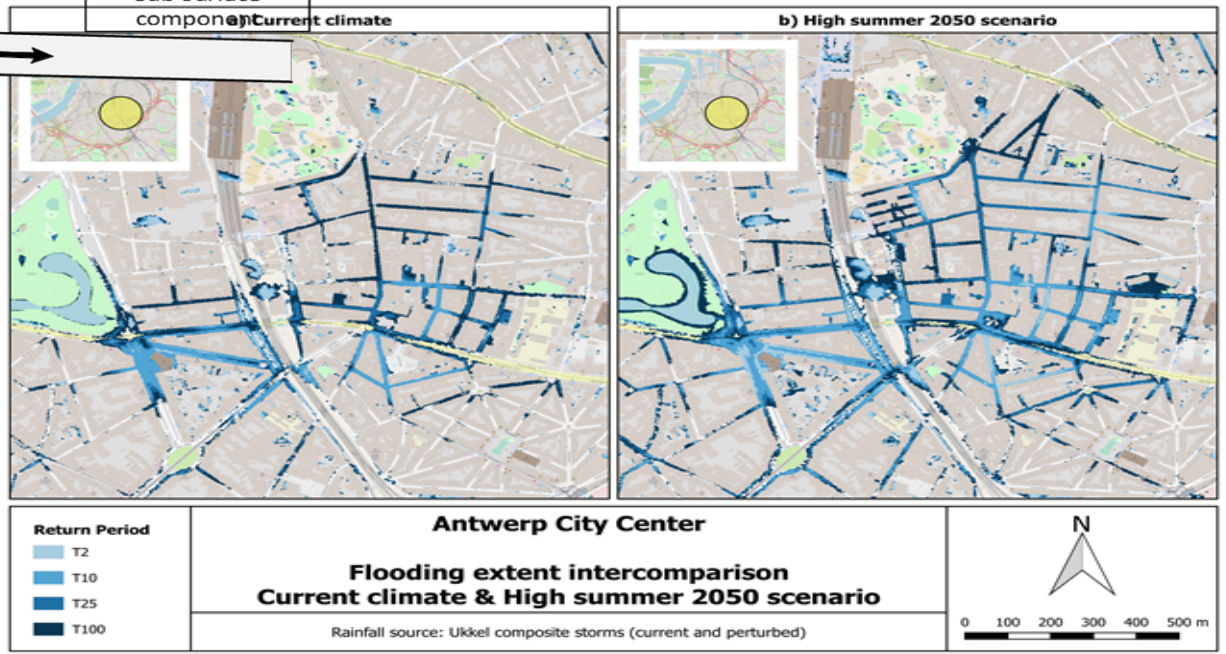
Pluvial flood risk maps



KU LEUVEN



Research and Innovation Programme under Grant Agreement No. 730004

Co-designing the service

- Participants:

✓ Fire Brigade
✓ Civil Protection
✓ Police
✓ Medical Relief/Hospitals
✓ Public electricity distribution company
✓ Public transport company
✓ Relief planners
✓ Environmental department

- Conclusions

- Vulnerability of networks, grids and punctual critical infrastructure (hospitals, train stations, court house, police HQ, 'dangerous' enterprises…)
- Impact on mobility
- Resilience (or lack of reslicience) of the impacted population

- → **qualify and quantify relief demand according to several future climate scenario's**

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'3D' – viewer (1)

- 1st dimension: critical infrastructure :

  Brederode_T05_2050

Electricity Distribution cabins: 3

Vehicle entrance/exit: 1 (Courthouse)

Emergency exit: 1 (Courthouse)

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‘3D’ – viewer (2)

- 2nd dimension: Mobility:

Brederode T05 2050

regional road: 1 (Singel)

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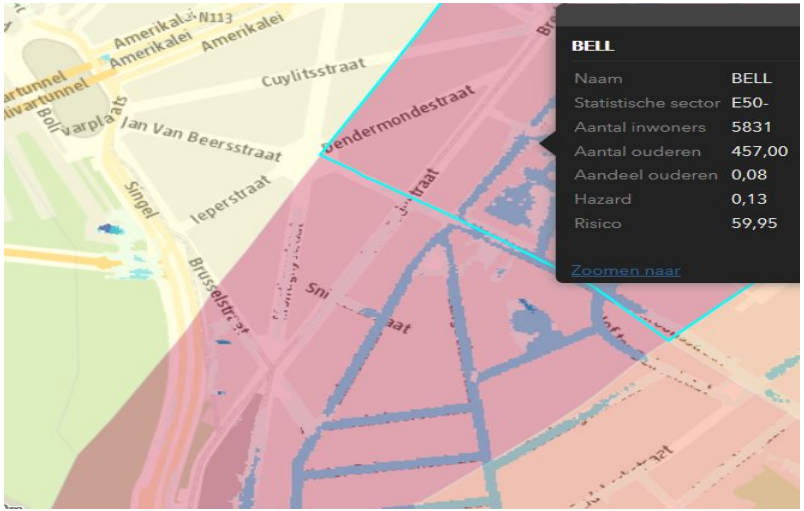
‘3D’ – viewer (3)

- 3rd dimension: population:

Brederode_integrated (to be developed further)



- Name of the statistical sector: Bell
- Reference of the statistical sector: E50-
- Inhabitants: 5831
- Elderly > 75 yrs: 457
- Percentage elderly > 75 yrs: 8 %

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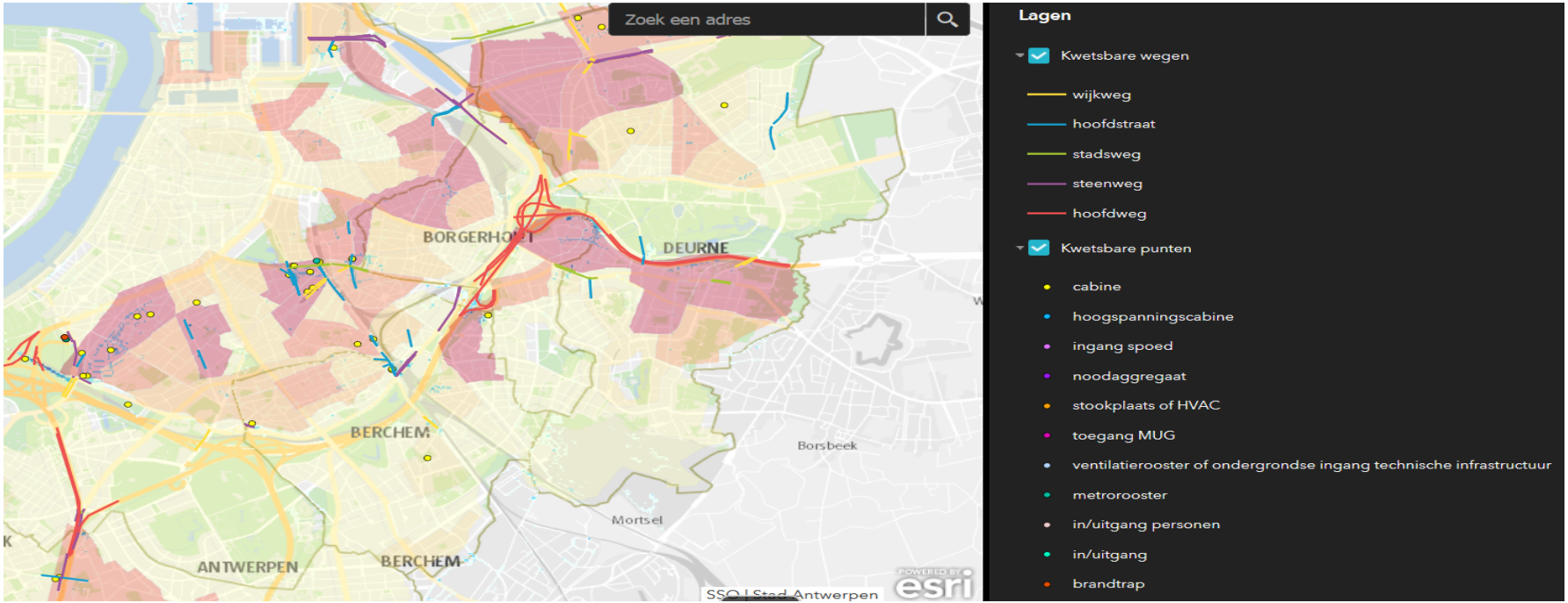
T05_2050_overall_view



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Future developments

- Fine-tuning & validation of the socio-demographic parameters
- Integrating pluvial & fluvial flooding risks
- This was a **climate data** based project. But there is a strong demand from emergency & relief services to 'feed' this viewer with real time meteorological data and predictions (nowcasting), for example provided by rain shower radar. Whether C-band radars can deliver, or X-band radars are necessary, remains to be examined.

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