



Simulating the impact of climate change and SUDS on urban floods

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Water Resilient Cities
Mechelen, 4th October 2017

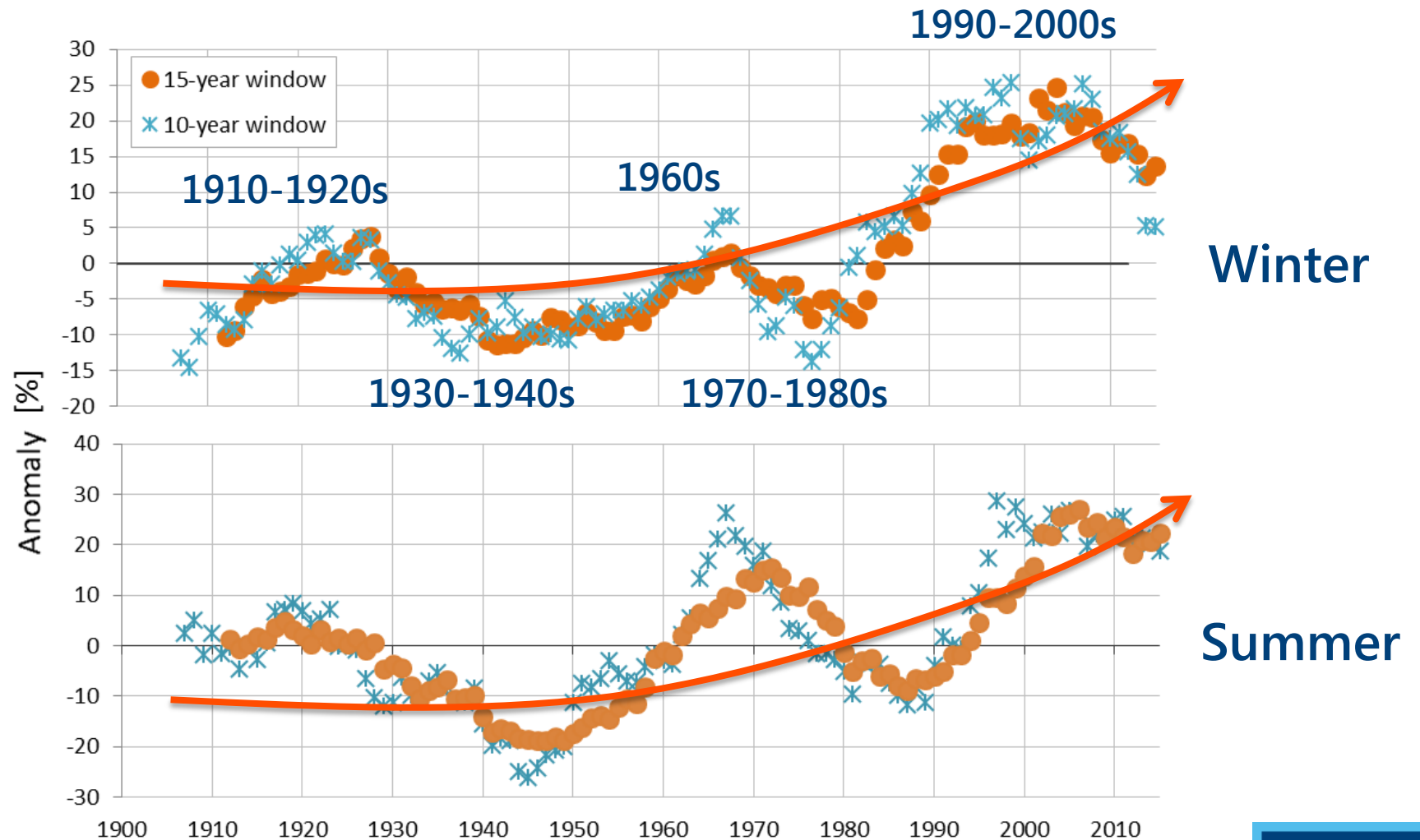
Rainfall extremes are changing

Analysis on the Uccle time series

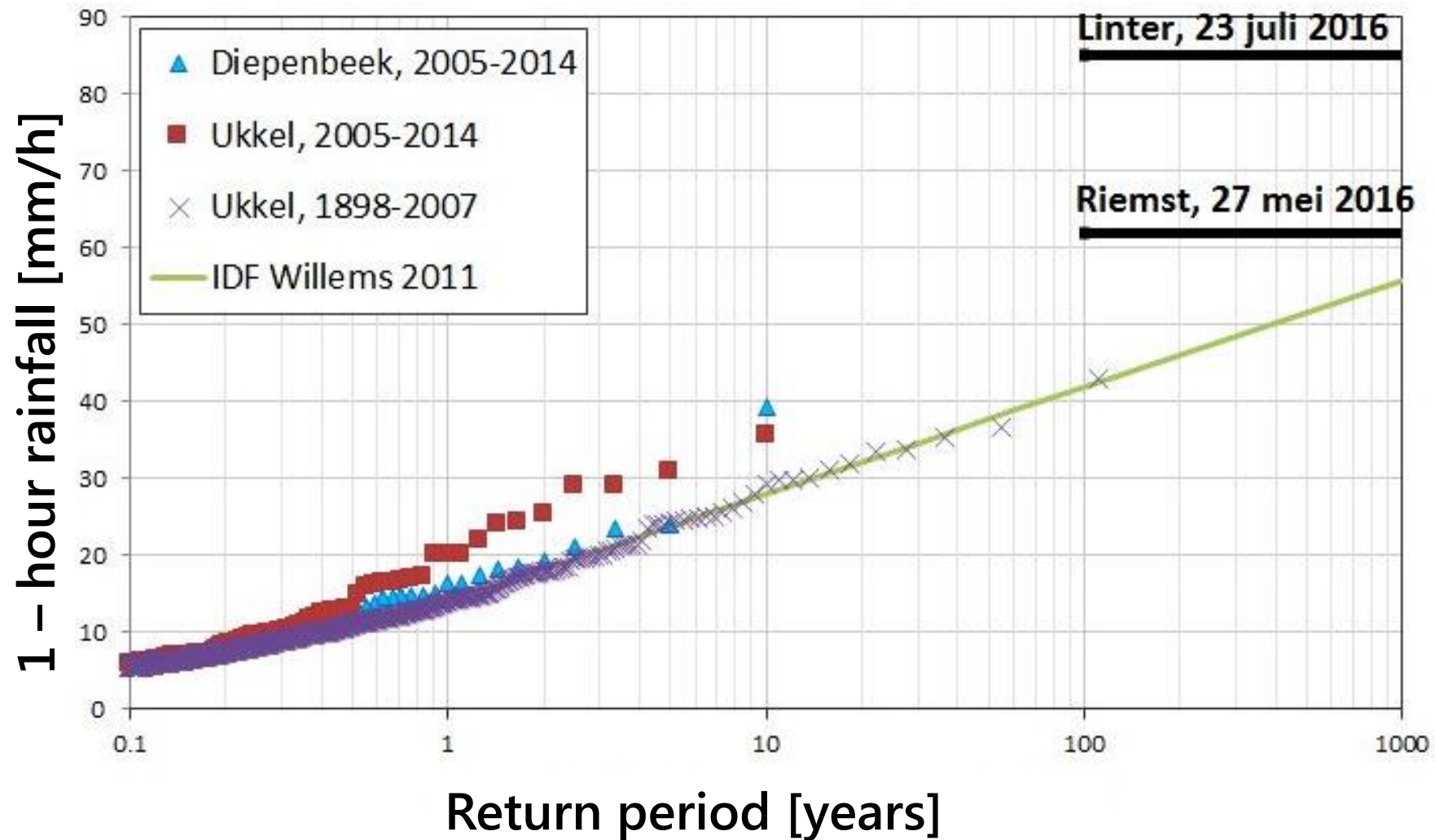
Historical trend in rainfall extremes?



Unique data set:
10-minute rainfall
since 1898



Extreme rainfall May-July 2016



Consequences of climate change

Increased flood risk

Longer dry periods

Waterschade loopt op tot 150 miljoen euro

Aanbevelen Delen 13 Tweet G+ 0

GERELATEERD NIEUWS

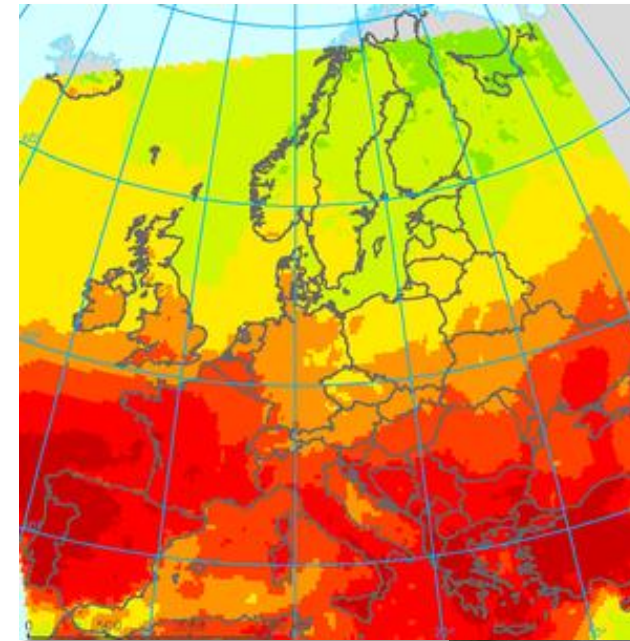
Door: redactie
23/06/16 - 20u52 Bron: vtmnieuws.be

BEWAAR ARTIKEL

Stormweer verstoort



VIDEO De schade van de vele regen van de afgelopen weken zal de verzekeraars 150 miljoen euro kosten. Dat bevestigt Assuralia, de verzekeringskoepel, aan VTM NIEUWS. Er zijn zo'n 35.000 schadegevallen, per schadedossier komt het op zo'n 4.000 euro.



Towards water resilient cities

**Adaptive
infrastructure**

**Win-win use of
open spaces**

Water Resilient Cities

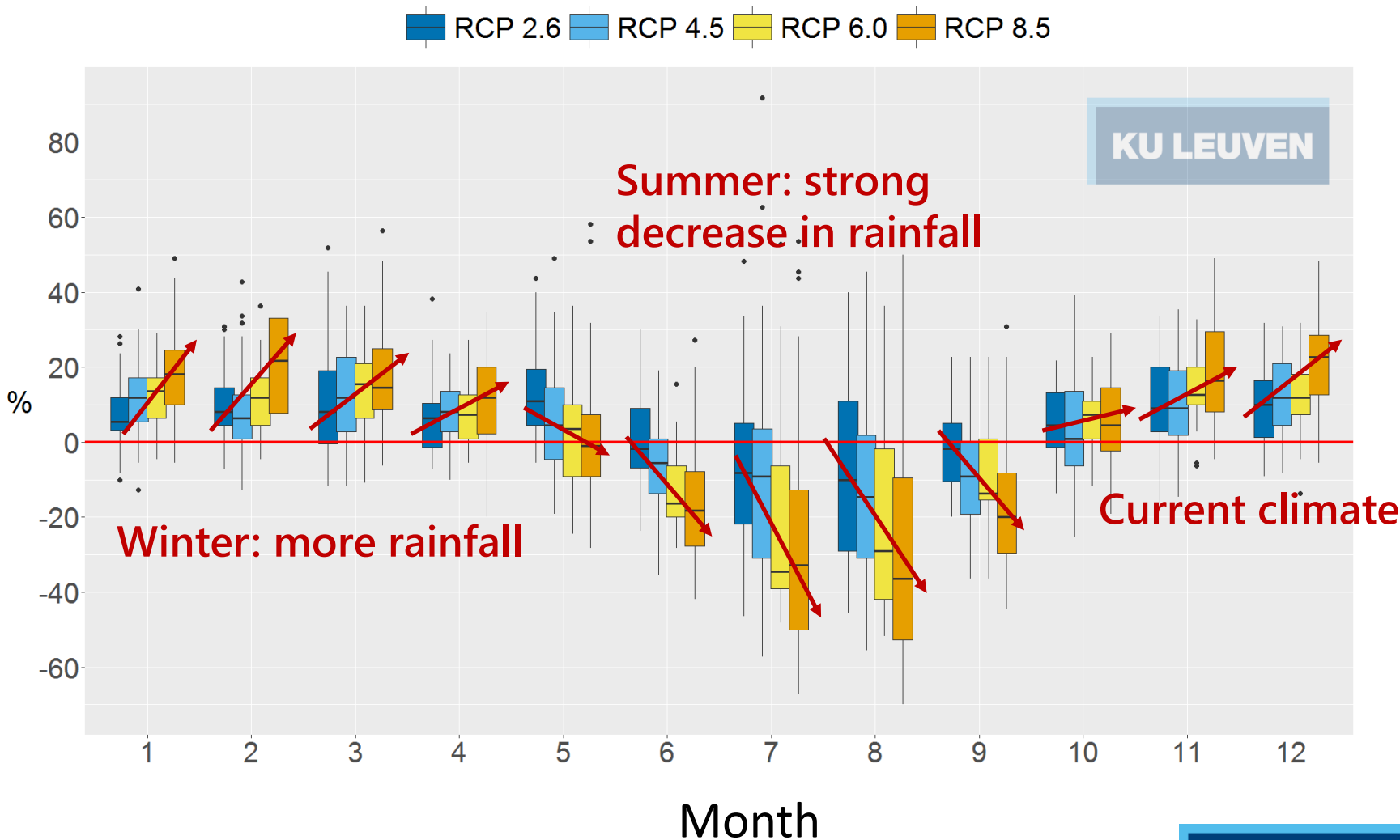
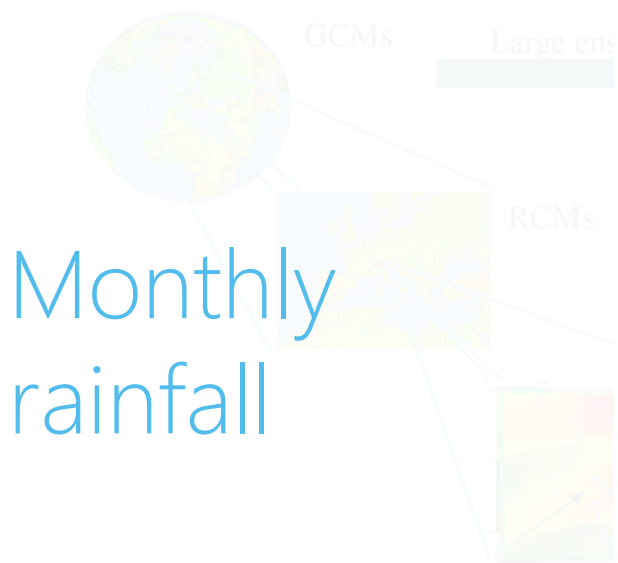
**Behavioural
change**

Technology

- Climate scenarios
- Modelling
- Forecasting
- Go for innovations

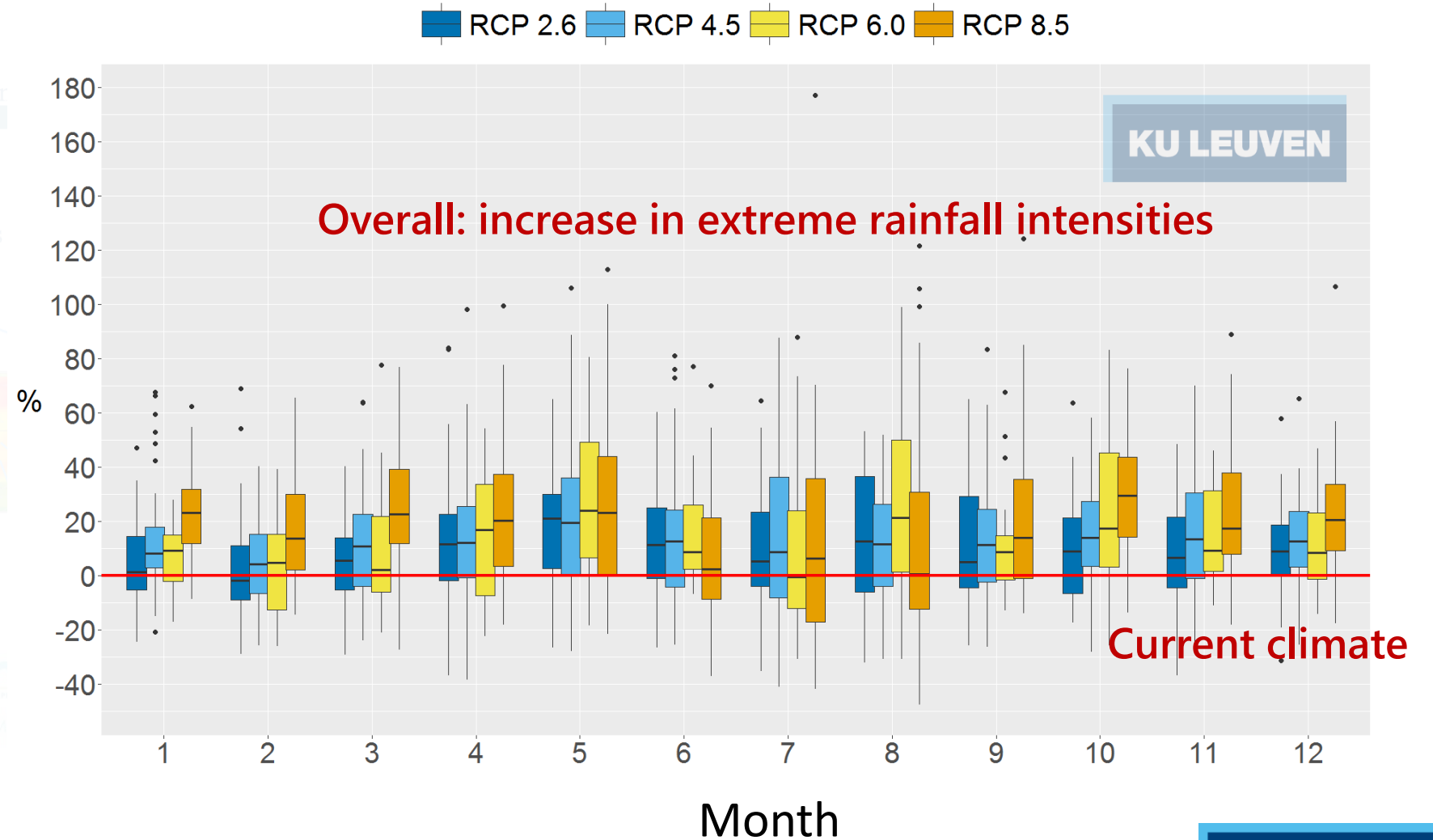


Climate scenarios



Climate scenarios

Rainfall
extremes (T20)



Models as planning tools

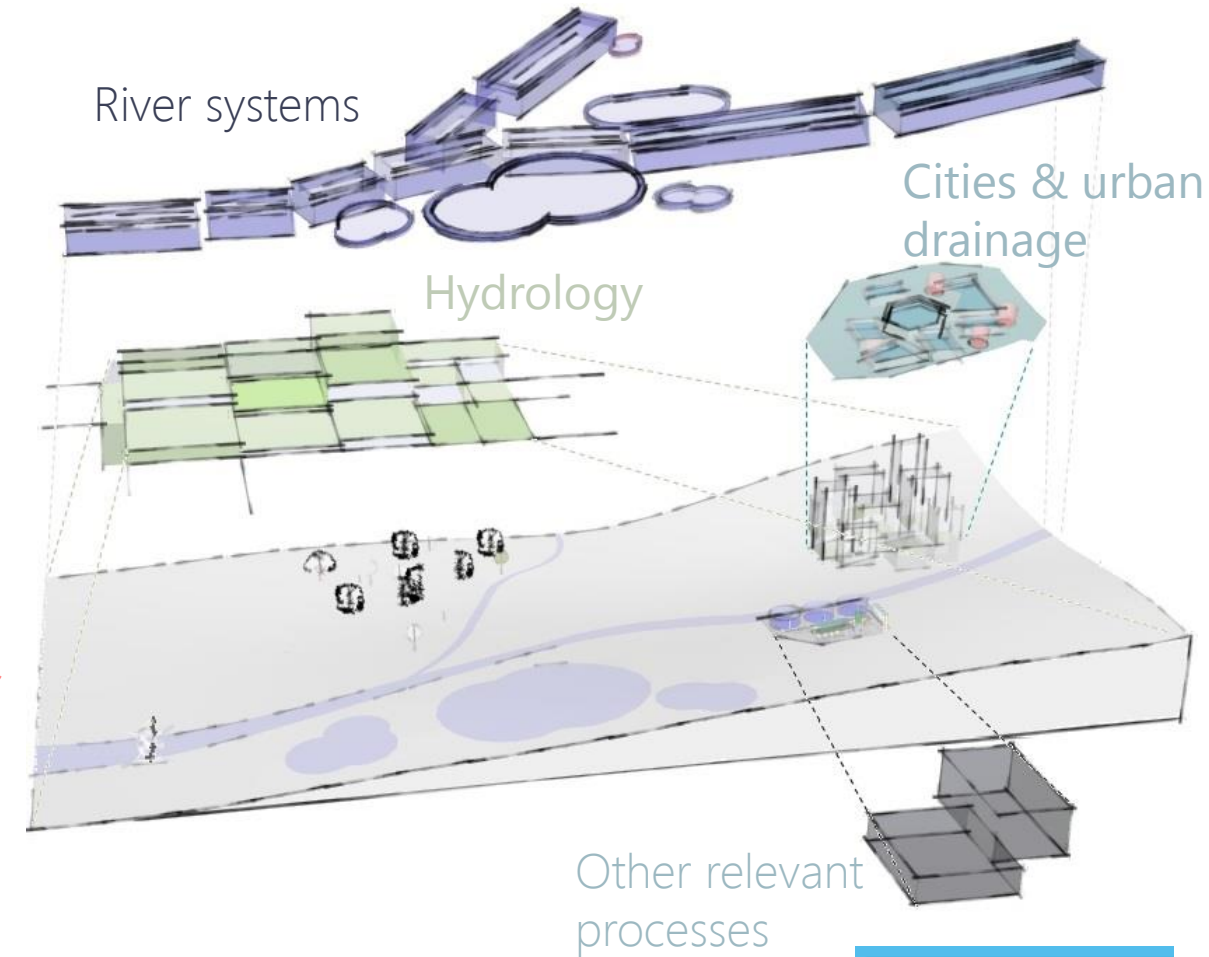
Designed for cities & industry

- Design SUDS & quantify their effect
- Simulate 100 years in seconds
- See the impact of climate change
- Created with VLARIO & industry

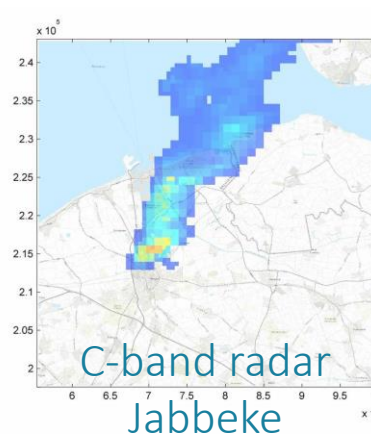
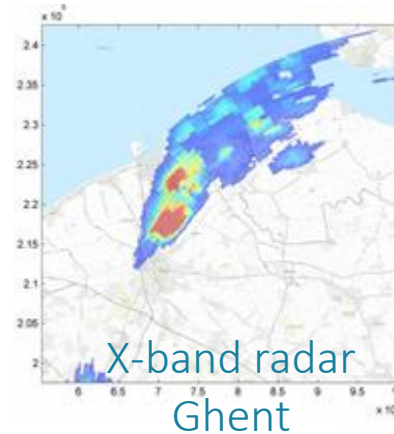
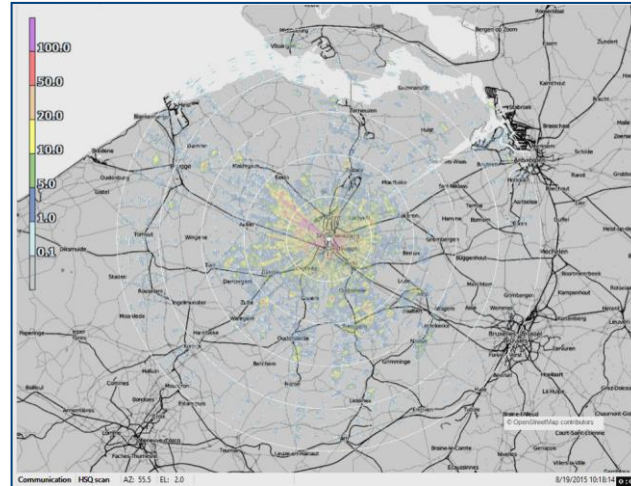


Sirio *Launched!*

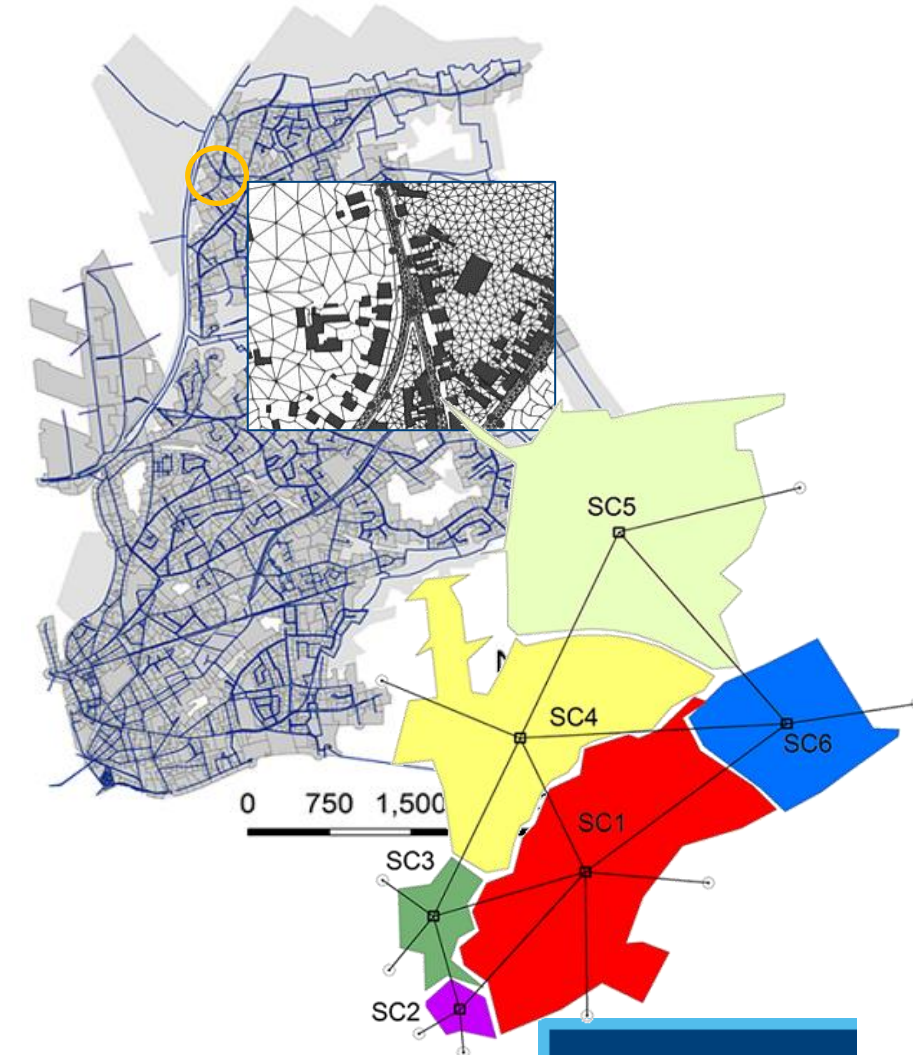
SCAN *Under development*



Forecasting & real-time control



Flood forecasting



Support innovations: BRIGAD (EU H2020)



**BRIDGING THE GAP FOR
INNOVATIONS IN DISASTER
RESILIENCE**



Smart green roof


Impact on floods & ecological parameters



Workshop February '17:
How to make our district climate proof?



Hemelwater as innovator
Alternative use of rainwater



Questions? Innovations to test?
Interesting case or idea to quantify?

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