

Realtime modellering: rioolbeheer voor de toekomst?

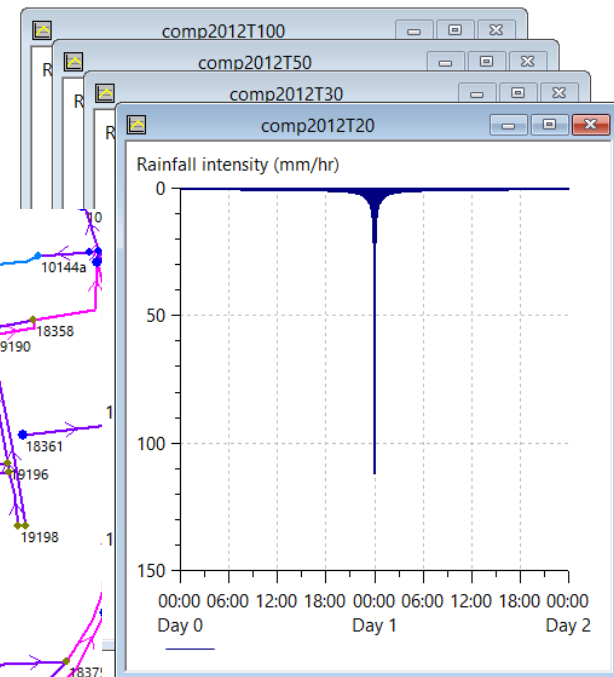
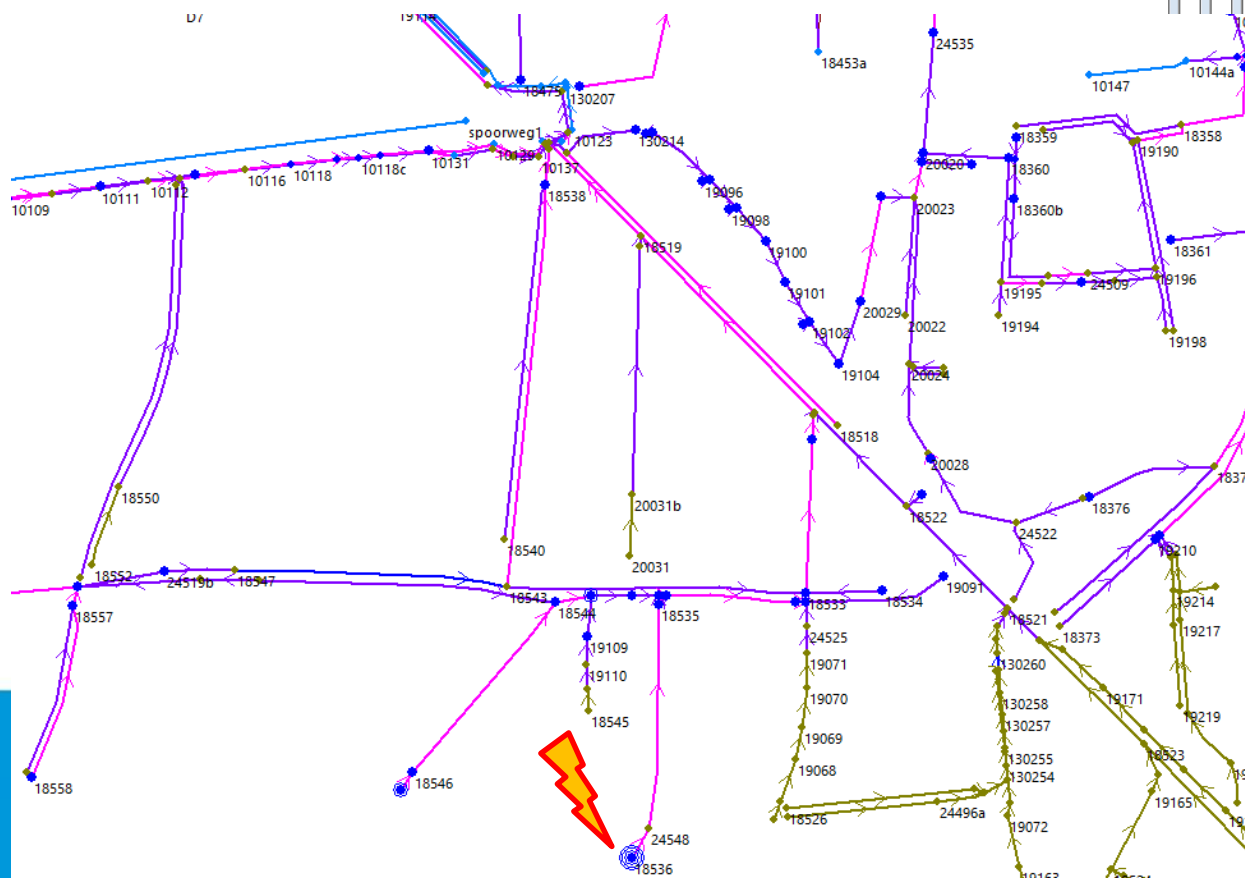
Stefan Kroll, Aquafin

National Observers Group Workshop, Antwerpen 10 sept 2015



Klassiek: deskstudie

- Hydronaut procedure
- Ontwerp-/ historische buien



Nieuw: forecast

- Realtime regenmeting/voorspelling

→ realtime resultaten



Regenmeters

- 4 meetlocaties
- Tijdstap 1 min
- Afstand 2-6 km
- < 5000 €/locatie



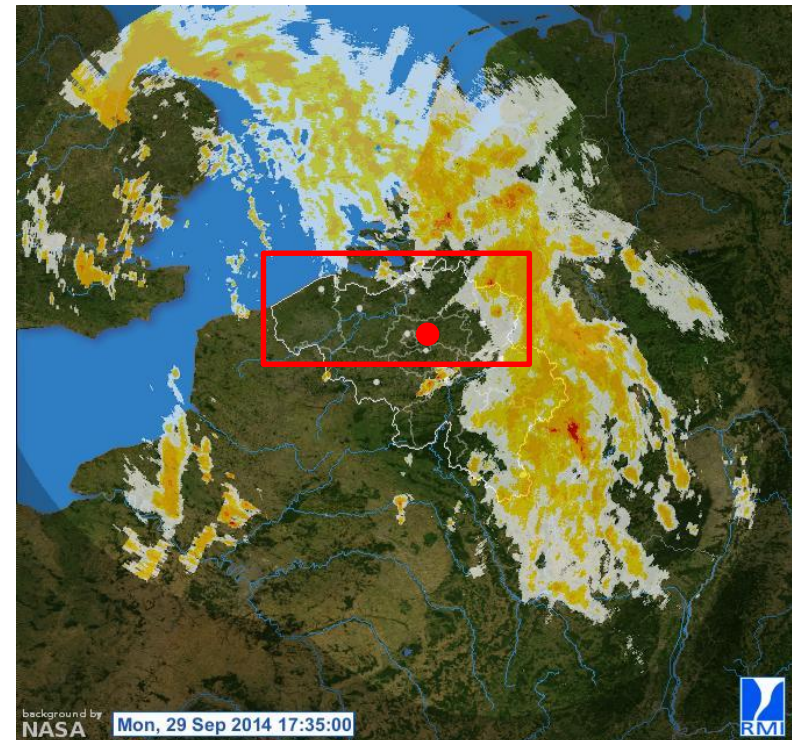
Regenmeters

- Zones van enkele km²



C-band radar KMI

- 3 radar stations
 - Jabbeke
 - Wideumont
 - Zaventem
- 700 x 675 km (1338 x 1275 pixels)
 - 180 mld. pixels/jaar
 - ≈ 1 TB/jaar
- ... Mio €/station

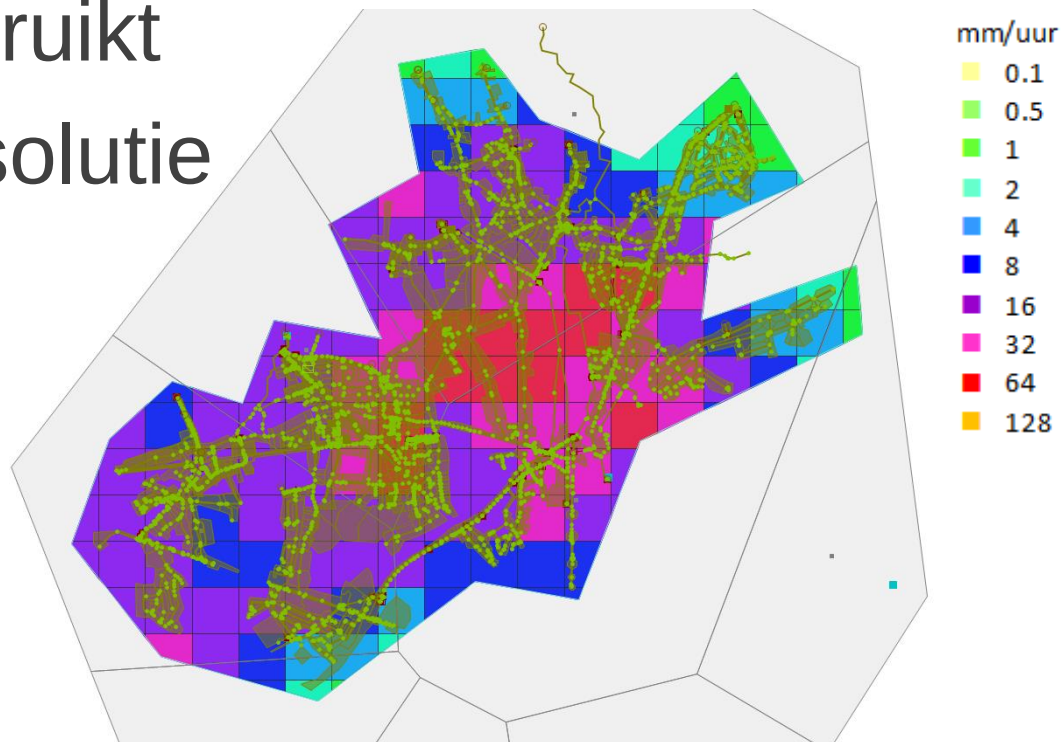


<http://www.meteo.be>



C-band radar

- 147 pixels gebruikt
- Ruimtelijke resolutie 530 x 530 m
- Tijdstap 5 min



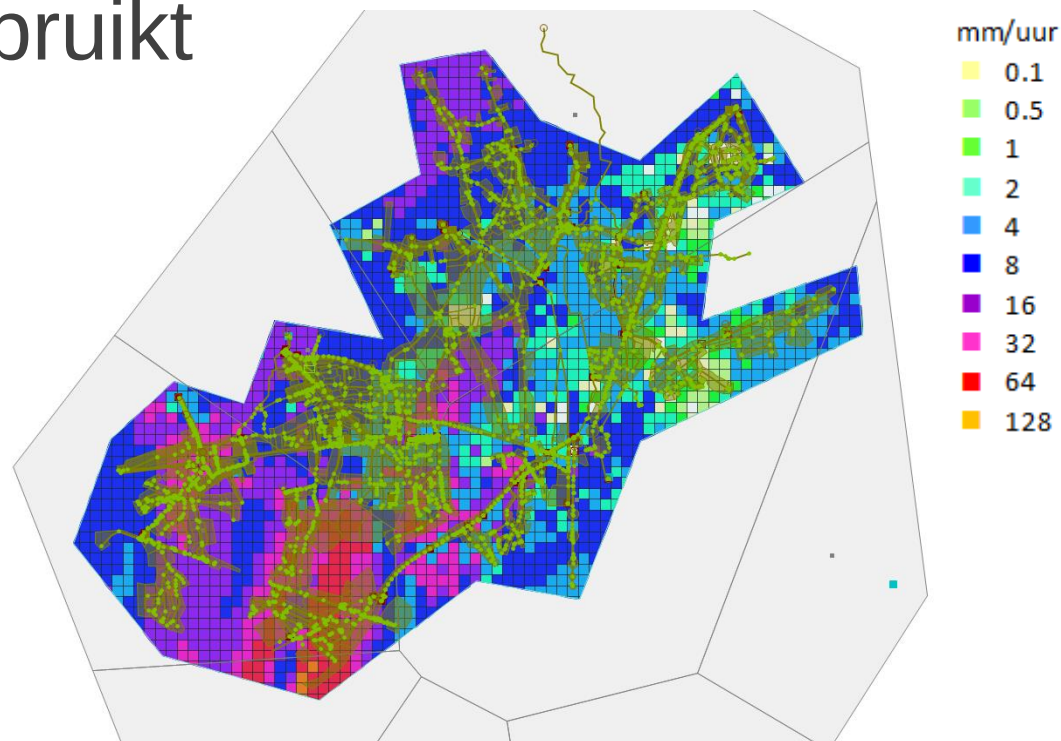
X-band radar Aquafin

- 30 x 30 km
(240 x 240 pixels)
- ≈ 30 GB/jaar
- Real-time correctie & aanvulling
- ≈ 100.000 €

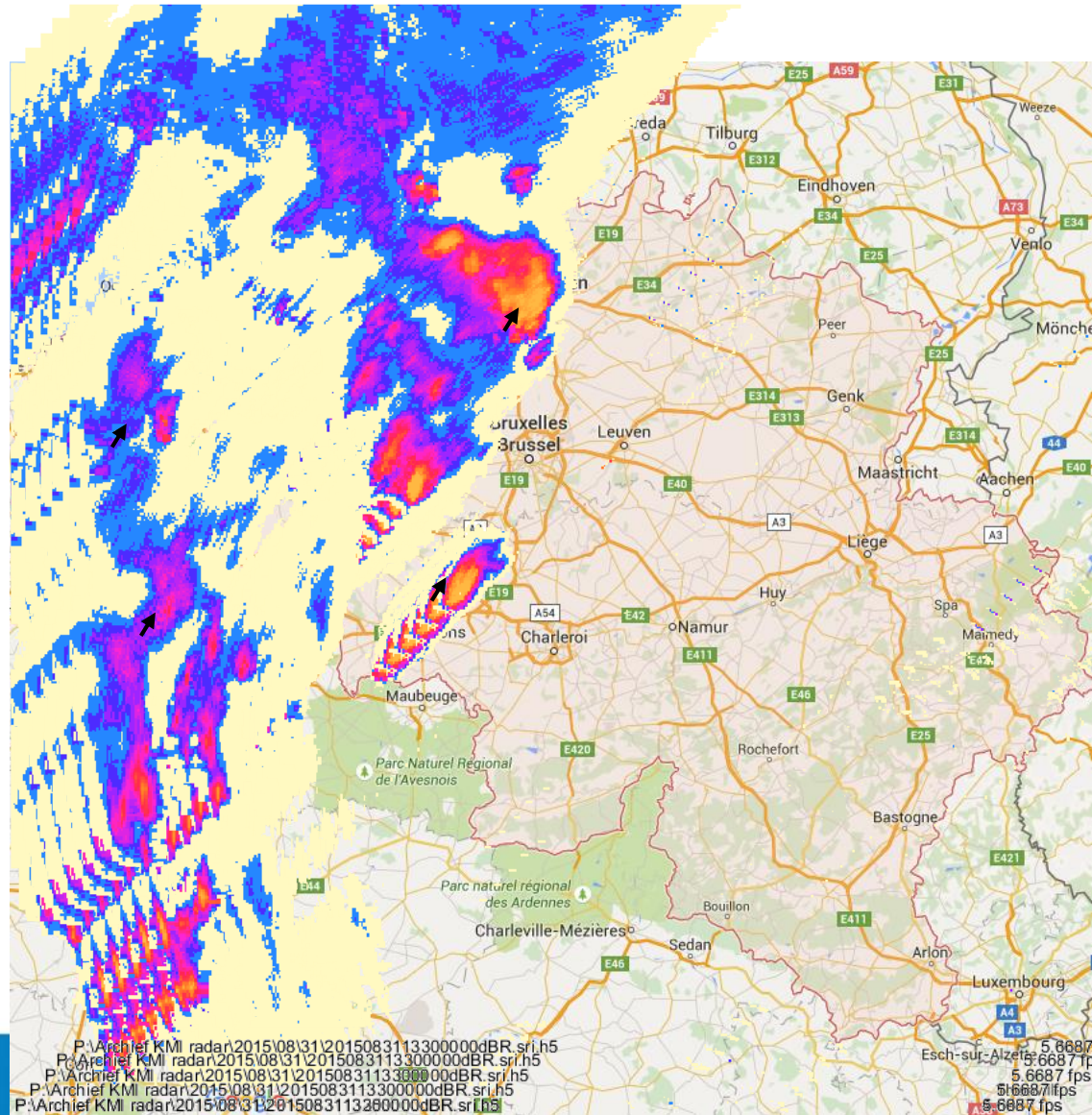


X-band radar

- 2015 pixels gebruikt
- 125 x 125 m
- Tijdstap 1 min



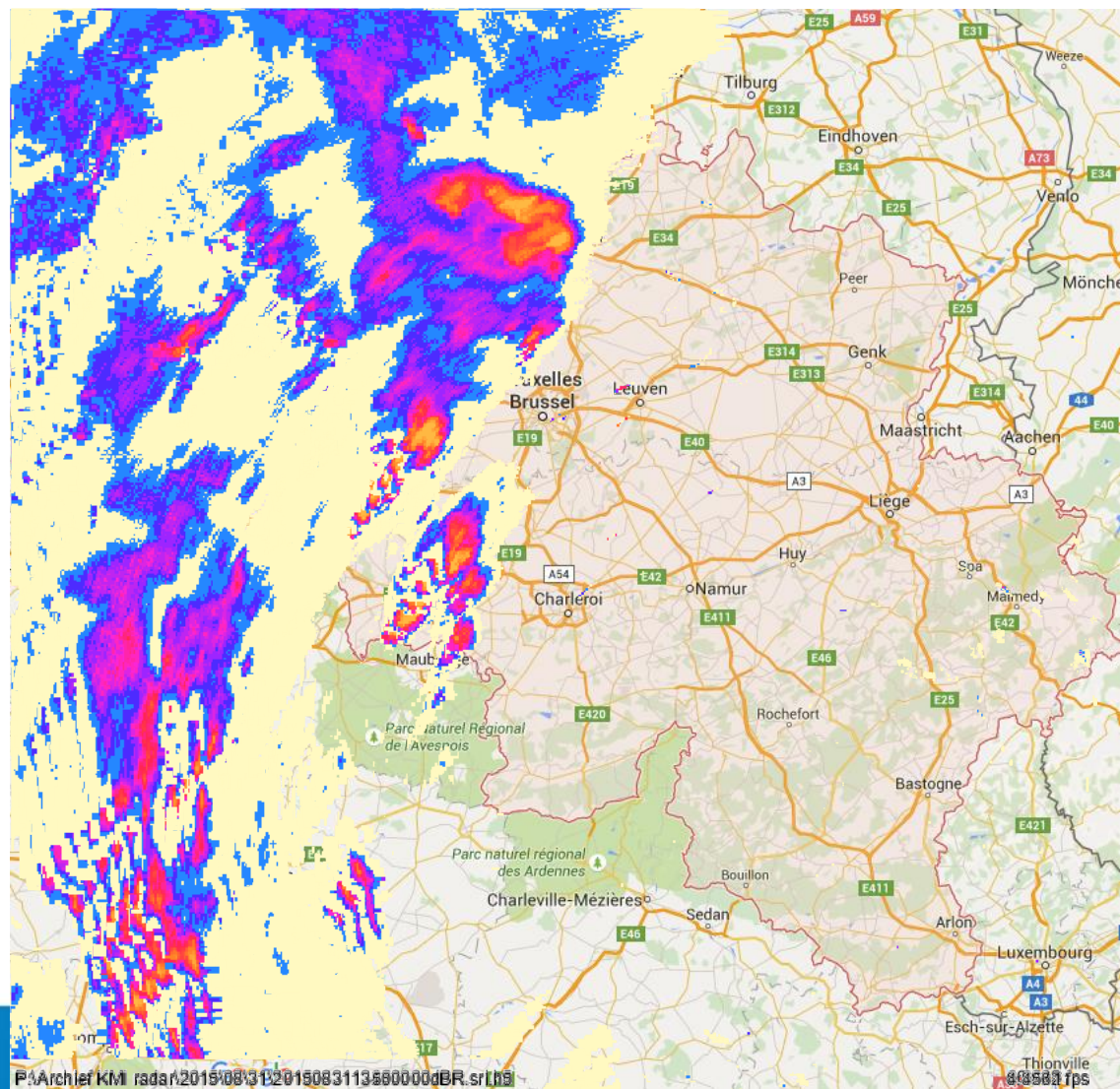
Regenvoorspelling



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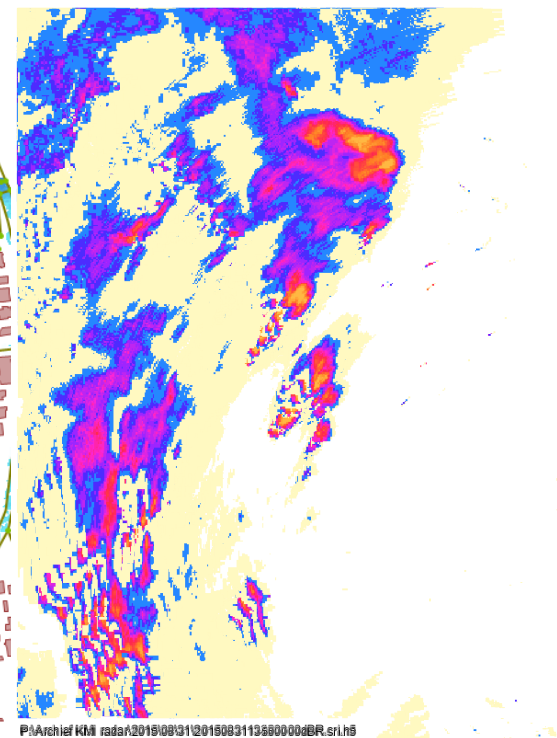
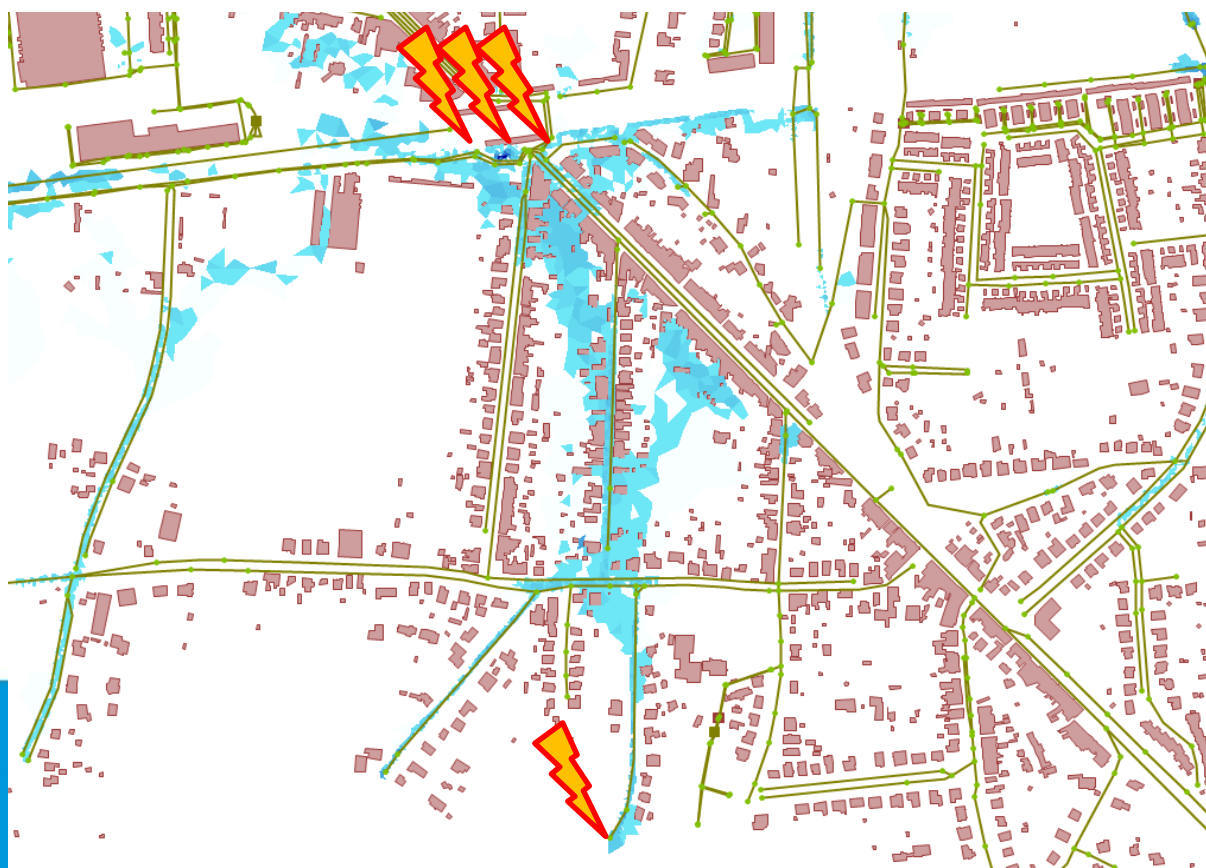
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Geobserveerde regen



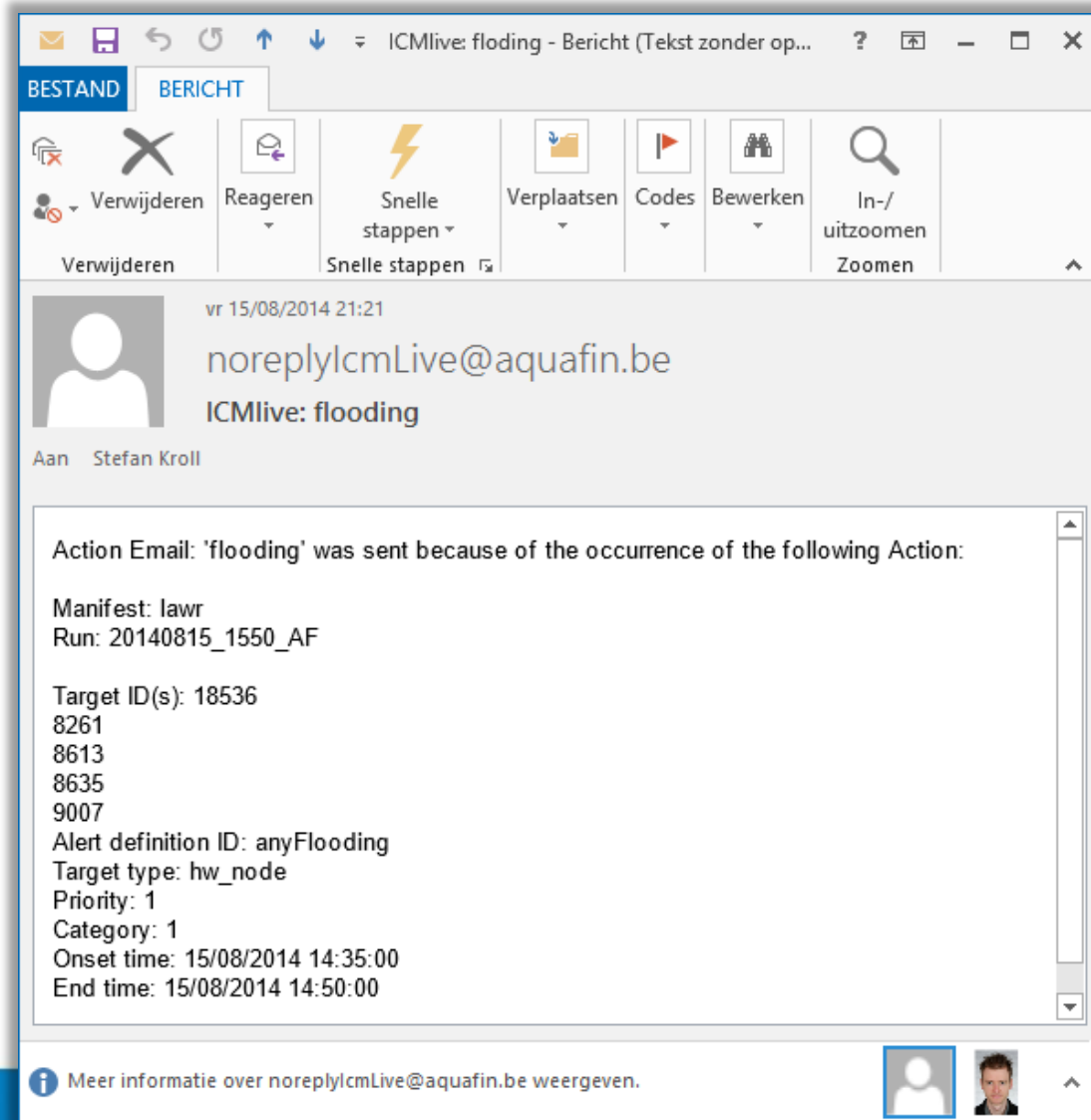
Alarmering

- Gedetailleerde 2D overstromingskaart



Alarmering

- Email
- Sms



Mogelijkheden vandaag

- ✓ Regenvoorspelling van $\frac{1}{2}$ uur
- ✓ 1D voorspellingssimulaties
- ± 2D voorspellingssimulaties
- Eisen:
 - Goed digital hoogtemodel
 - Up-to-date rioolmodel
 - Hardware, Software(!)



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