

Smart Infrastructure in the water sector – the potential to  
deliver a more competitive, reliable and resilient service

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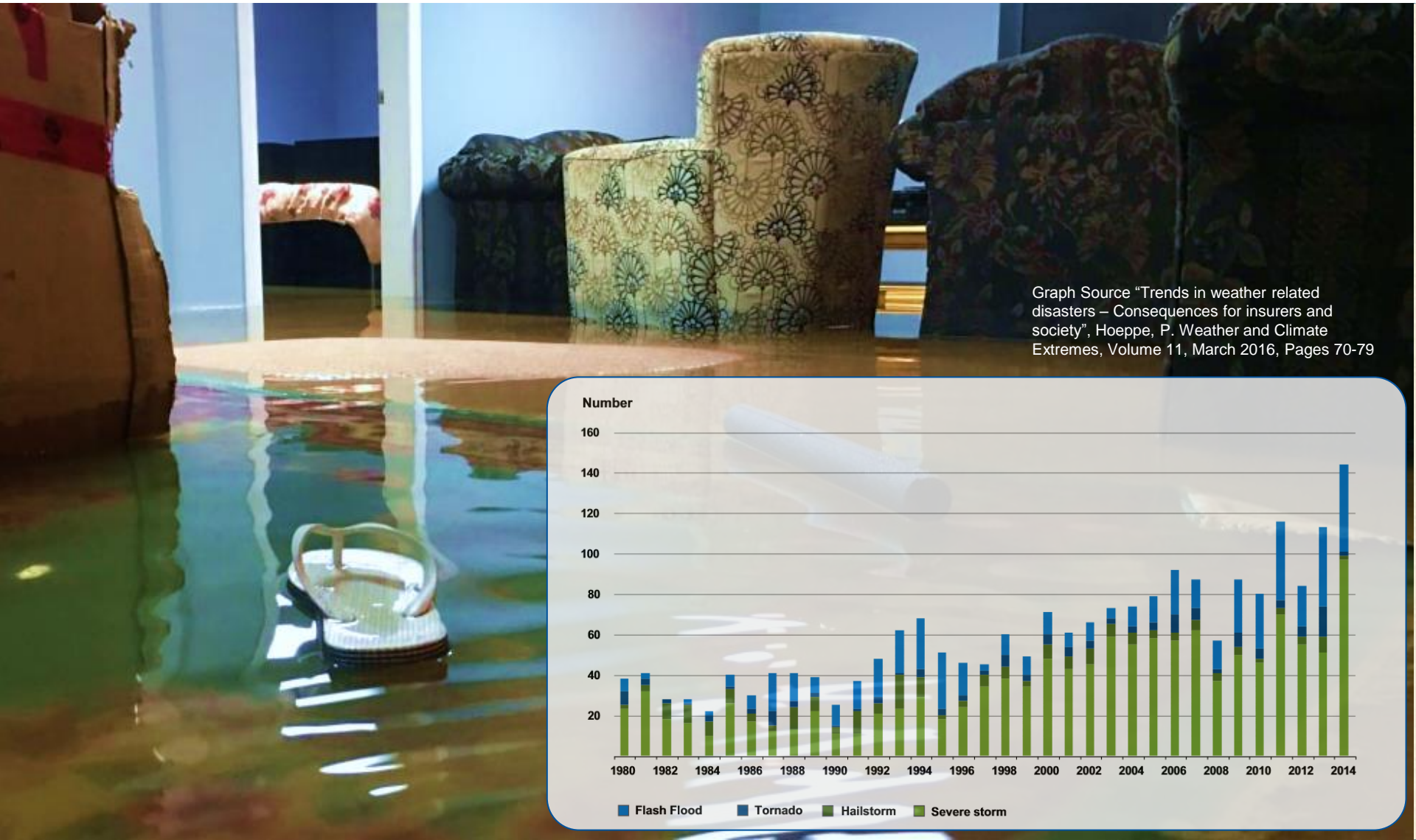


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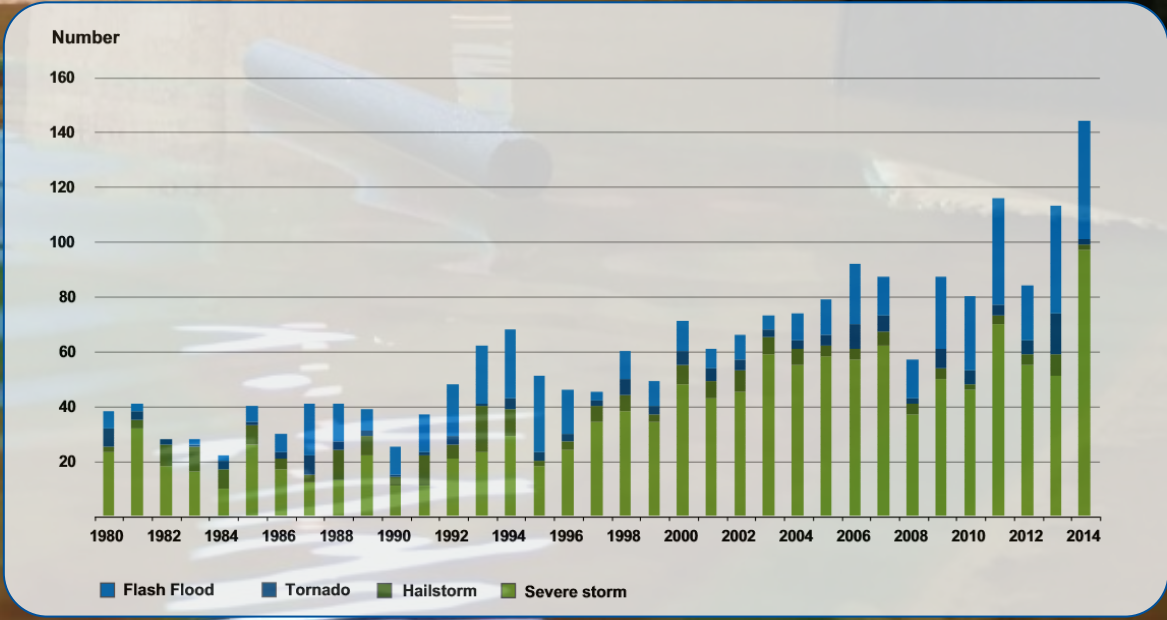
# Sewer Related Flooding at its Worst...



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Graph Source "Trends in weather related disasters – Consequences for insurers and society", Hoeppe, P. Weather and Climate Extremes, Volume 11, March 2016, Pages 70-79

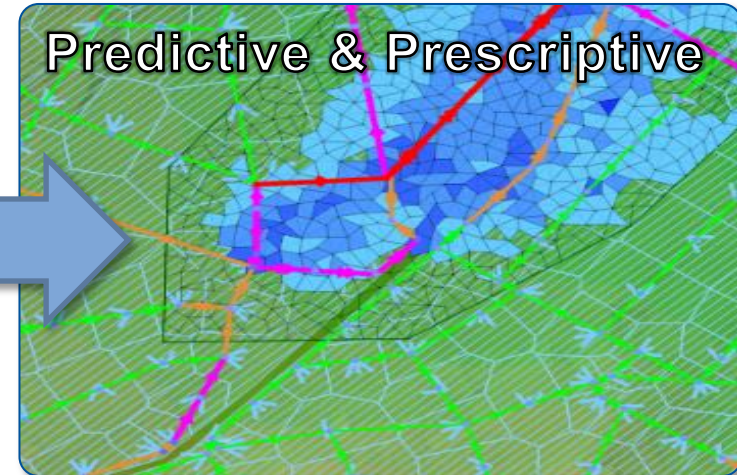




# Towards Intelligent Sewer Management



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- Digitised Sewer Configuration Alarms and Localised Controls
- Post-event customer contact
- Environmental Monitoring (CSOs, sampling, weather events)
- Emergency response protocols
- Outcomes:
  - Societal experience – variable
  - System resilience – low
  - Environmental performance – intermittent

- Data becomes insight:
  - Additional sensors
  - Demand forecasting
  - Networks Operations Model
  - Distribution Optimisation Tool
  - Machine Learning
- Rapid Fault Detection
- Optimised O&M plus dynamic event management
- Enhanced emergency planning
- System re-design
- User interactions

- Smart cities need smart infrastructure
- Opportunities extend to every part of the water, wastewater and sludge asset-base to deliver catchment-based solutions which naturally integrate with other sectors within the municipal space for added-value
- Benefits include increased resilience, safety, sustainability and inclusivity