

FRMRC flood risk management research consortium

Coastal inundation at Walcott using TELEMAC system

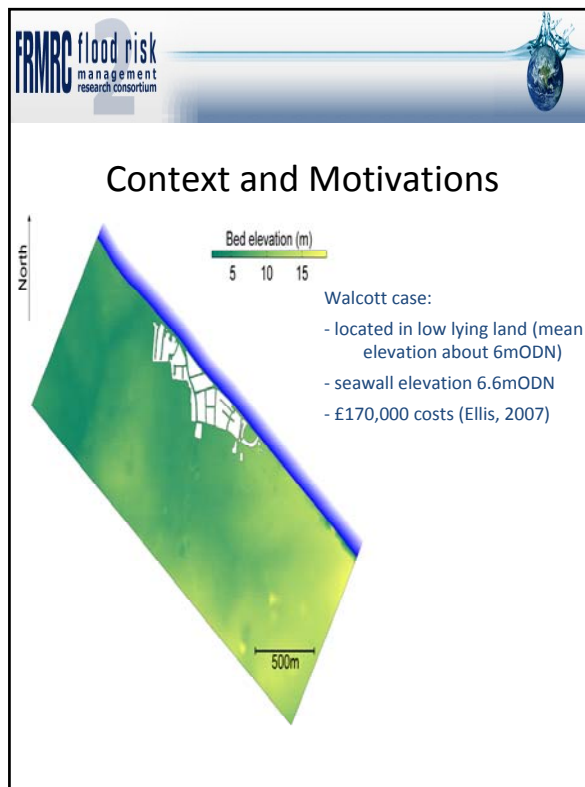
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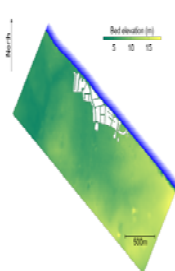


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Context and Motivations

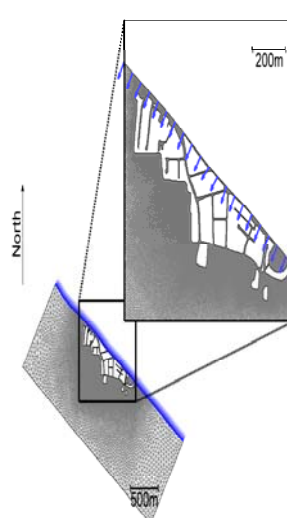
- How to transform overtopping discharge into flooding maps?
- Which are the appropriate tools?
- Provide with guidelines for coastal flood mapping due to wave overtopping

1. Model presentation
2. Results
3. Conclusions

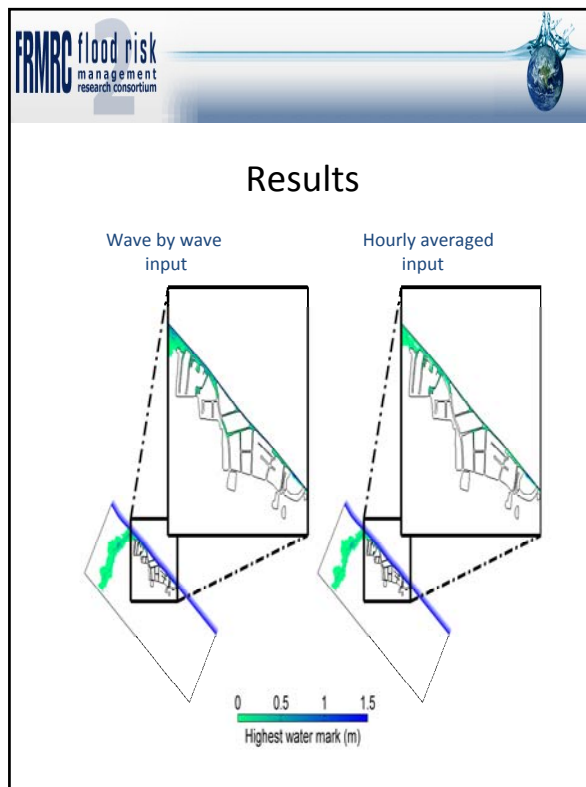
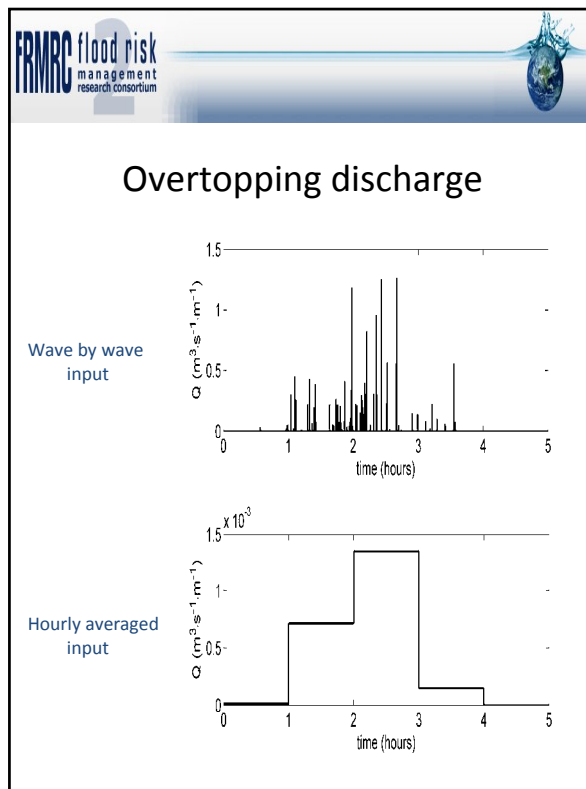


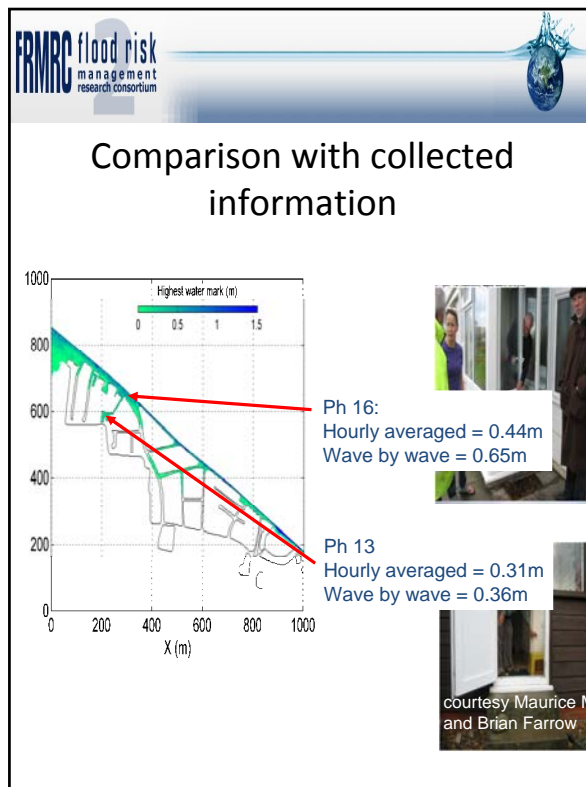
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Model presentation



- Unstructured mesh
90102 triangular elements
resolution from 50m to 1m
- Bathymetry: LIDAR 2m resolution (EA), filtered by Kuo (2011)
- Blocks represented as islands with a sliding conditions at their boundaries
- Treatment for non-positive depths
- Overtopping discharge rates represented as sources terms and imposed at each node of a seawall 1260m long
- Time step : 0.1s
- Bottom friction : Manning's $n=0.036s/m^{1/3}$





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- The slide is titled "Conclusions" and lists four key findings from the research:
- A model based on FE method has been set up to transfer overtopping discharge into flooding maps
 - Inputs are represented by source terms in order to add the right volume into the domain
 - Similar flood extent for both constant and time-dependent wave overtopping event in Walcott
 - Computational grid modification to include ditches



Acknowledgement

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