

Case Study 3 – Coastal Flooding, Torbay, UK

EXETER UNIVERSITY / TORBAY COUNCIL



EU-CIRCLE

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 653824

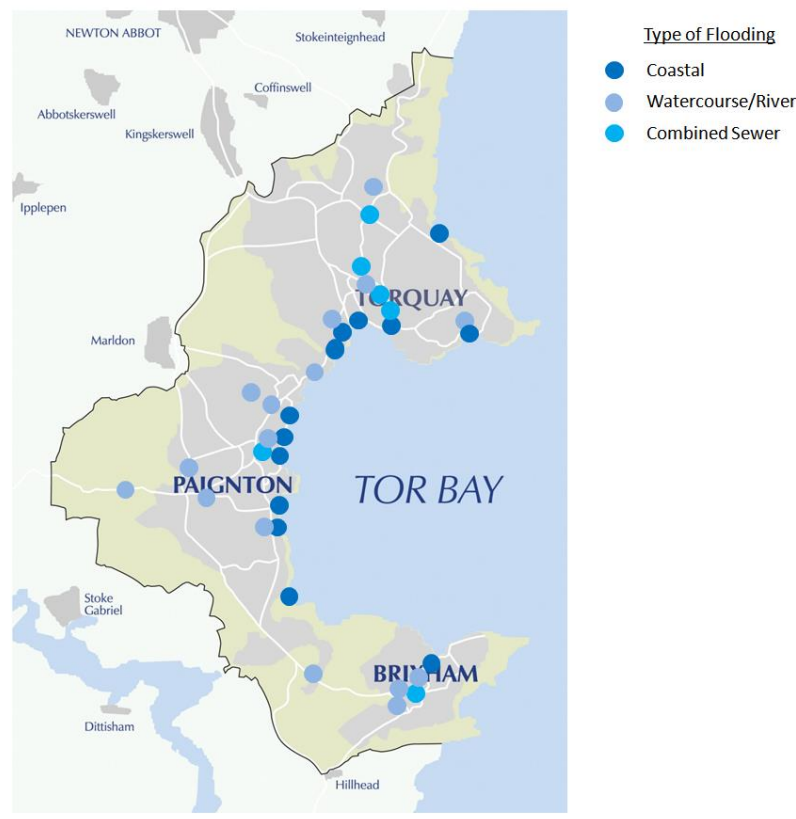
Torbay - Location



EU-CIRCLE

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 653824

Historic Flooding Locations



EU-CIRCLE

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 653824

Impacts of Flooding

- Residential Properties
- Commercial Properties
- Highway
- Tourism
- Economy
- Infrastructure – sewers, gas, electricity, water telephone, etc.
- Health
- Environmental
- Transport



EU-CIRCLE

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 653824

Historic Flooding Photos - Coastal



EU-CIRCLE

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 653824

Storm Damage – Critical Infrastructure



EU-CIRCLE

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 653824

Historic Flooding Photos – Sewer/Watercourse



EU-CIRCLE

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 653824

Effects of Climate Change

Rising sea level

- Increased risk of overtopping
- Restricting outfall discharges

More intense rainfall

- Increased surface runoff
- Increasing risk of localised flooding
- Reduced hydraulic capacity of drainage systems



EU-CIRCLE

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 653824

Mitigation Measures

- Torbay critical drainage area
- Coastal defence study
- Flood alleviation schemes
- ICM Live hydraulic modelling
- Local flood warnings



EU-CIRCLE

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 653824

Challenges

- Data – quality
- Data – quantity
- Verification
- Changes in time (i.e. works have taken place on systems – tanks etc.)



EU-CIRCLE

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 653824

Potential Outcomes

- Identify infrastructure at risk due to climate change
- Identify future mitigation works
- Produce a plan to allow resilient development



EU-CIRCLE

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 653824