

# Making sense of Climate Change Impacts in 3D

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# **Climate Change Impacts**

- **Extreme weather**
- **More Intense Rainfall (shift in spatial distribution)**
- **More Droughts**
- **Sea Level Rise**
- **Thermal Stresses**
- **Ecological Impacts**
- **Economic Impacts**
- **PPS 22 – Carbon and Climate Change**

# Flooding and Resilience

- Flood Risk Management is needed to make urban areas resilient
- Consultation is key
- 3D City Modelling is a powerful alternative to mapping
- Future scenarios easily visualised and modelled
- Can be used to display various data types, and present in a high-impact, relatable manner.
- Risks currently conveyed using maps (EA)







# Leeds City Model

**Study Area :**

**Vulnerability Mapping**

- Ambulance Stations
- Basements
- Camping and Caravan Parks
- Clinics and Health Centres
- Conservation and Heritage
- Electricity Substations
- Emergency Priority Routes
- Fire Stations
- GP's
- Govt Agencies and Offices
- Historic Buildings
- Hospices
- Hospitals
- Hotels
- Mobile Phone Masts
- Museums and Cultural Buildings
- Nursing Residential Homes
- Pharmacies
- Police Stations
- Prescribed Processes
- Prisons
- Railway Stations and Junctions
- Schools, Nursery and Playgroups
- Schools, Secondary
- Schools, Primary
- Schools, Special Needs
- Water and Sewer Mains

Environment Agency

Without proposals

With proposals

1:200

1:100

1:50

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# Leeds Model - Demonstration



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# Conclusions and future Development

- Very useful in persuading stakeholders of the benefits of FAS, and thus helps to improve the resilience of Cities.
- Shows direct and indirect impacts of floods.
- Optioneering
- Useful for other types of data display (traffic, emissions, temperature).
- Potential to view all flood risks, and combined source flood risks.
- Next stages – view interactions between people, traffic, flooding, infrastructure failure etc.

**Thanks for listening. Questions ..... ?**

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