

# Rising to the Challenge : Climate Change Adaptation in London



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Session DP GV 3.3 : Adaptation Strategies in delta cities

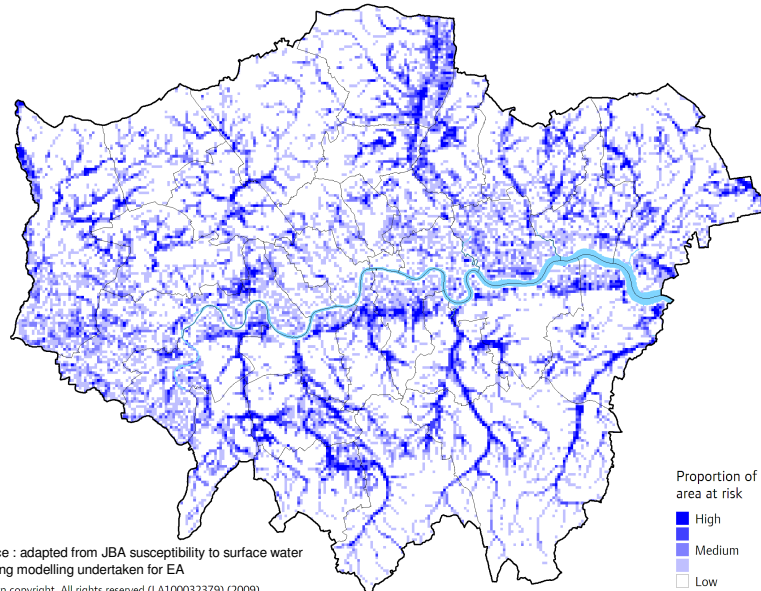
Deltas in times of climate change. Rotterdam 2010

## How is London vulnerable to CC ?

- **Flooding**
- **Water resources**
- **Overheating**
- Air Quality
- Subsidence and heave
- Wind storms
- Global climate events



## The challenges : flooding



## Managing surface water flood risk in London

### What ?

Developing flexible adaptation pathways for managing surface water flood risk

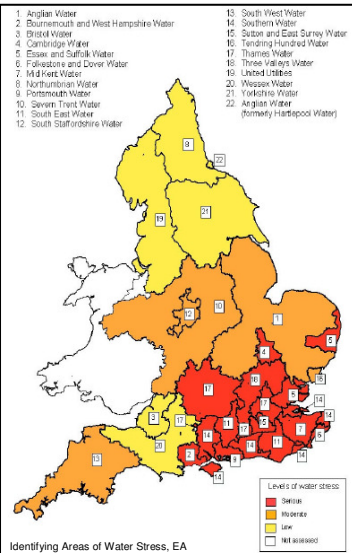
### How ?

- Define acceptable level of risk
- Project future rainfall intensities
- Identify future 'flood gap'
- Compare 'hard' and 'soft' approaches
- Combine optimal measures to develop a flexible adaptation pathway

### When ?

- Variable, some measures are long term – eg. urban greening, others can be achieved now e.g. requiring green roofs on new development, developing community flood plans etc

## The challenges - drought



- The south east of England is already seriously 'water stressed'.
- 80% of London's water supply from Thames and Lea, 20% from aquifer
- London's water resources are already over-abstracted, or over-licensed.
- In a dry year, Thames Water forecast that current demand would be 80Ml/d greater than available supply
- Londoners use more water than the national average (161 l/p/d vs 150 l/p/d)
- Only 1 in 5 homes has a water meter
- The Victorian-era water distribution network loses over 1/5 water in leakage

## Water Neutrality in London

### What ?

A programme to offset the demand for water from the growing population by saving it from the existing.

### How ?

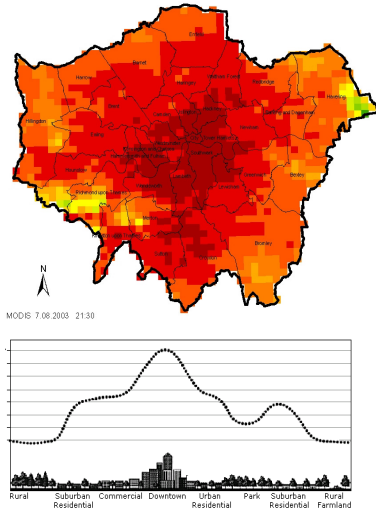
- Ensure new development is water-efficient (min 105 l/p/d average consumption)
- Integrating water into energy efficiency retrofit programme for existing development
  - Homes
  - Public buildings
  - Offices

### When ?

- Up to 200,000 homes by 2012, 1.2million by 2015

## The challenges - overheating

Temperature distribution in London, August 2003



- 600 people died in the 2003 heatwave
- London's microclimate amplifies the impact of hot weather (London is up to 10°C warmer than the greenbelt on summer nights)
- Londoners are more resilient to rising temperatures than other UK regions, but suffer most when temperatures exceed 24 °C.

## Urban Greening Programme

### Targeted urban greening programme :

- Increase greenery in the centre of London by 5% by 2030 and a further 5% by 2050
- Increase tree cover by 5% by 2025
- 100,000m<sup>2</sup> of green roofs by 2012
- enhance 280ha of greenspace by 2012 – especially in east

