Planning for climate change adaptation at the coast

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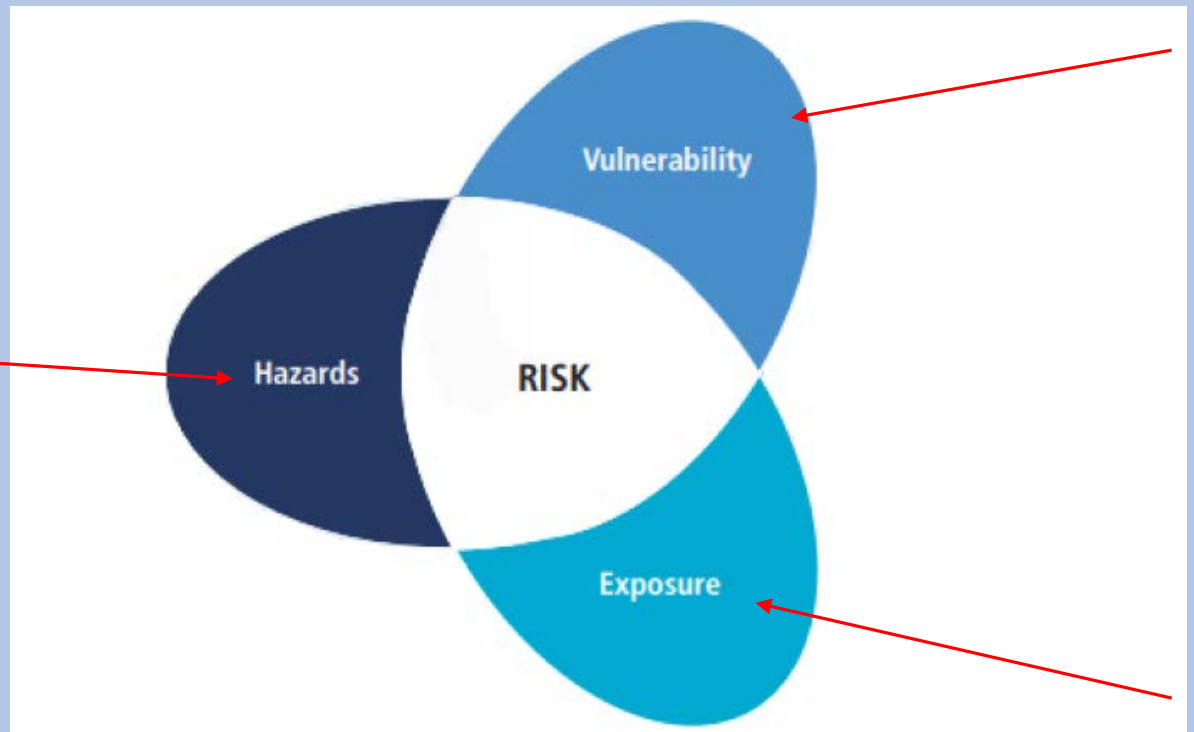
Presentation overview

- Portsmouth - *What does climate risk look like for coastal urban areas?*
- The implementation of climate change adaptation in the planning and regeneration of coastal urban areas: barriers, priorities and future prospects. – *An overview of my recent research.*

Climate change risk in coastal urban areas

Not just wetter winters, and warmer summers. But coastal areas have the added hazards from the sea (sea level rise, storms)



The relationship between exposure, vulnerability and climate hazards in determining climate change risk (adapted from IPCC, 2014).

Above average numbers of:

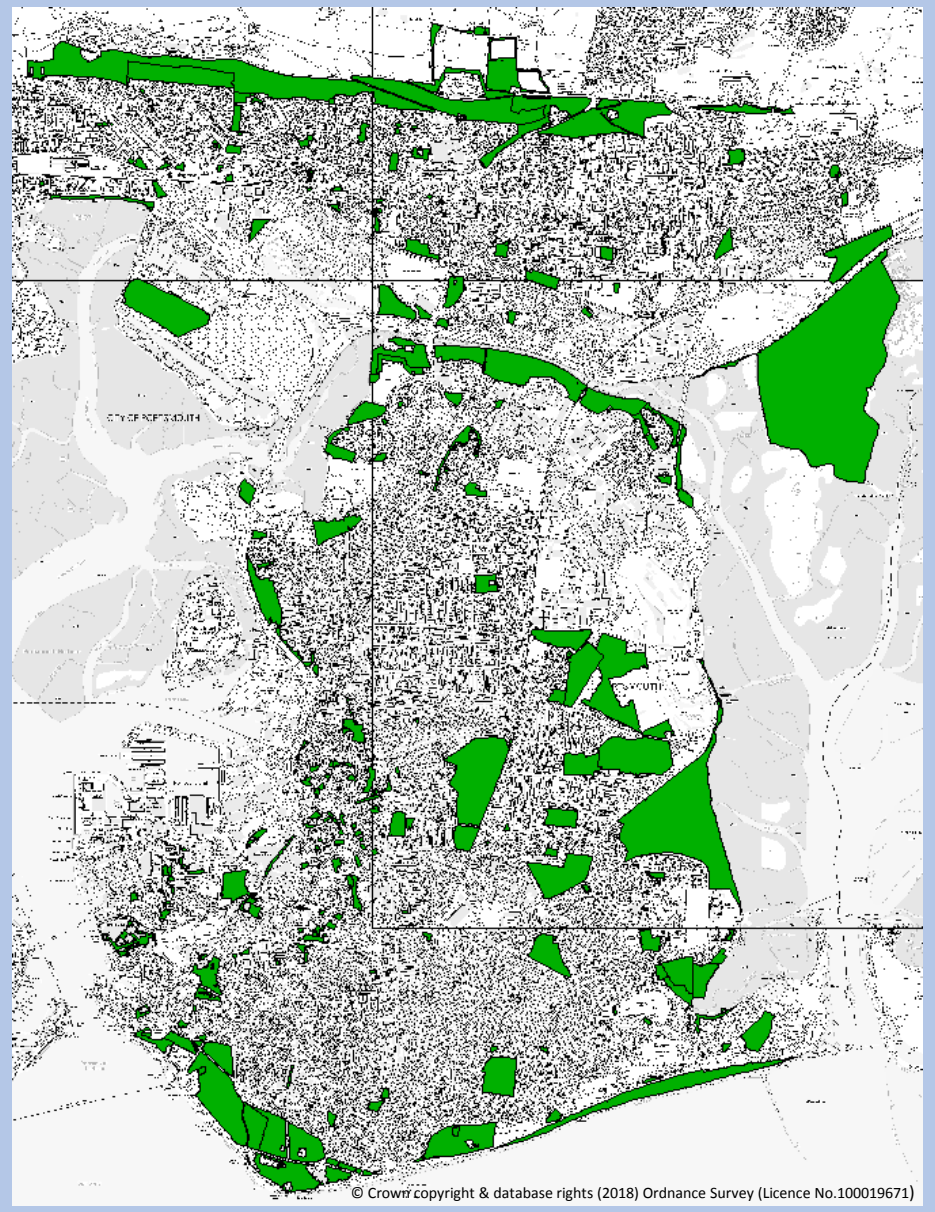
- Aging population
- Socio-economic deprivation
- Transient communities

Concentrations of assets (economic, social, environmental), such as houses, employment land, infrastructure, habitats and heritage.

Portsmouth
On the edge of climate risk?

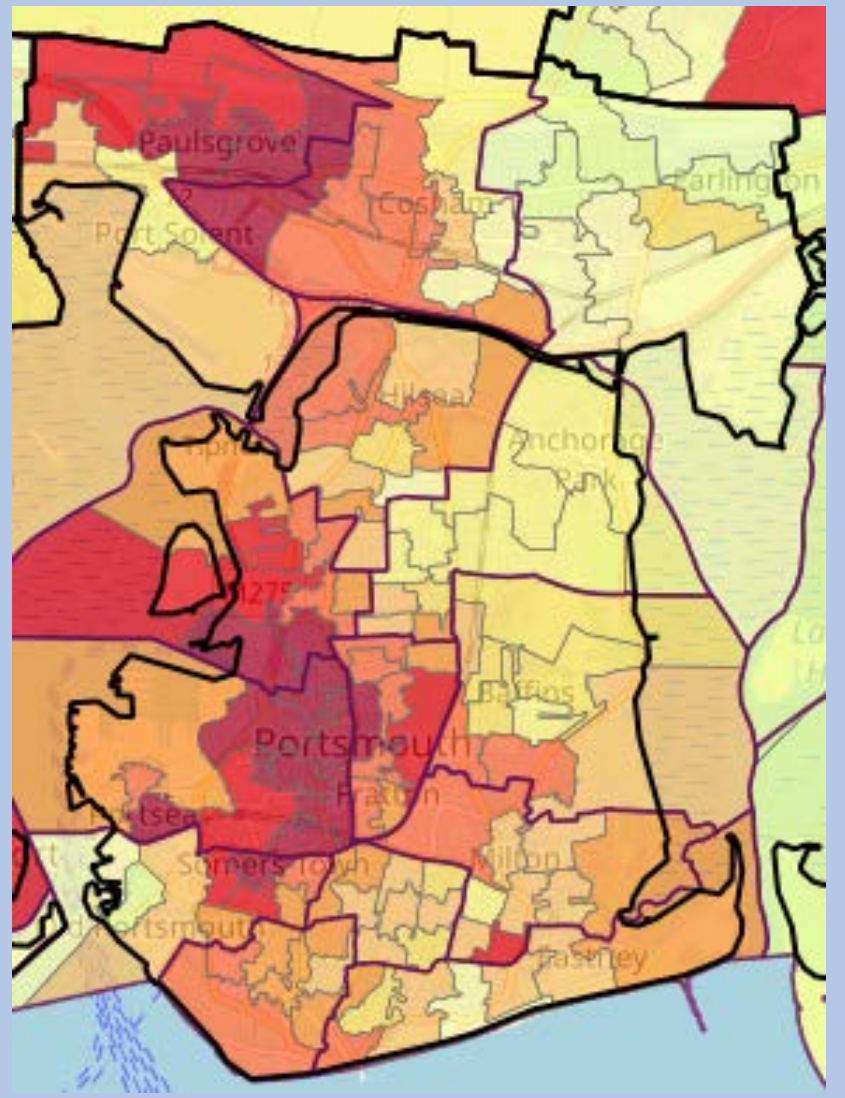
Exposure

- Majority of Portsea Island is <10m above sea level – high percentage of administrative area within flood zones 2 and 3.
- Green infrastructure and public open space is not evenly distributed – there are distinct areas of deficit in terms of tree cover and green space.
- A significant proportion of the housing stock was built prior to second world war. Also a large proportion of flats and terraced housing.



Vulnerable communities

- The second most densely populated city outside of London – population continues to rise.
- Some of the most deprived wards in the country according to the index of multiple deprivation (IMD).
- Higher than average reported numbers with life limiting health conditions.
- An ageing population - like other parts of England.

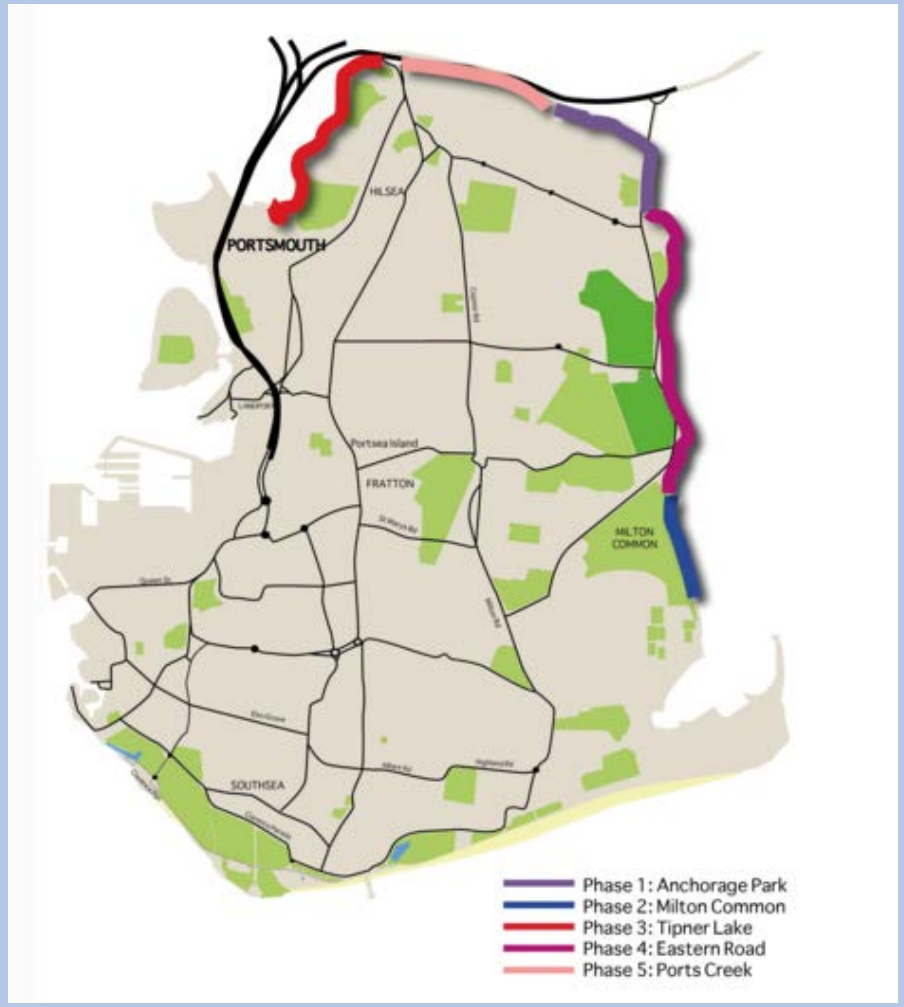


How does this equate to climate risk?

- Low lying and densely developed land means a concentration of assets at risk from tidal flooding.
- Ageing built stock was developed without regard for climate change of the future. The abundance of terraced housing and flats can be especially vulnerable to overheating.
- Deprived communities experience the burden of climate impacts hardest – unable to afford their own adaptation strategies. People already in ill health are also particularly sensitive to overheating.
- Lack of green infrastructure in parts of the city reduces resilience to heat, flooding, also biodiversity.

How is Portsmouth responding to this challenge?

- City-wide sea defence improvements, intended to raise protection from tidal flooding for more than 8,700 residential properties, 800 non-residential properties and other critical infrastructure.
- Investing in green infrastructure – projects to deliver new greening in streets and enhance multi-functionality of green spaces.
- The Local Plan – steering new development to take better account of climate through various planning policies.
- Amongst various councils to declare a climate emergency.



(See Eastern Solent Coastal Partnership website for more details)

The implementation of climate change adaptation in the planning and regeneration of coastal urban areas: barriers, priorities and future prospects.

Methodology

- Desk based **content analysis of local plans**/local development frameworks **fully adopted in the last five years** (39 documents).
- **Telephone interviews** with heads of **planning policy** or an elected representative from 17 authorities about a range of topics including the **drivers and barriers to policy formulation**, as well as the general **process of writing climate change policies**.
- **Online surveys** of 35 planning officers in **development management** from 15 authorities, about **applying Local Plan policies** in deciding planning applications; **attitudes of developers**; and **incorporating climate change considerations** into the DM process.

Main findings

Climate change and local plans

Response to climate change from coastal local authorities is **varied**.

Broadly **some level of recognition** of climate change in plans, but often **little specific policy direction** addressing adaptation.

Action was largely focussed on water, less attention paid to the implications from other impacts **e.g. from overheating**. which were often treated as implicit.

Most common policies in respect of adaptation **related to Green Infrastructure, SUDs and flooding**. Often these **aren't specifically formulated to address climate change** –more general sustainability focus to them – thus risks of **limited effectiveness** at building resilience to climate impacts in particular.

Central government leadership

Perceived **lack of direction from central government** with climate having **fallen down agenda** (nationally and with local elected members,).

There is a **preoccupation with other matters** relating to **economic development**, **housing delivery** and **promoting growth**.

Climate adaptation potentially seen as an **obstacle to housing delivery** – conflict with the very notion of **sustainable development**?

"I'd like to say it was one of our key political priorities, but I can't do that because it's not."

"I don't think they know what they want people to do and also politically… they're not going to win or lose elections on climate change policy, whereas housing policy… might have more of an impact…"

"…if anything, if you raise it (the climate change agenda), it is seen as an obstacle to housing delivery…"

Central government leadership

"Government can put out the vibes, can put out 'what is it we think is important', 'what is it we think you should really be picking up on' and that actually does help…"

"If you haven't got the national picture saying this should be up in your top ten, top three, top four, issues to resolve in your plan, the politicians (local) aren't going to go for it and won't spend the resources on it."

There is **value** in having guidance/support and stronger **top-down leadership** from central government – helps to **steer local policy writing** and **prioritising**.

Local authority resources and training

There has been a continued **diminishing of resources** within planning departments.

Cuts and subsequent **restructures** have led to an **erosion of in house knowledge and skills** amongst planning officers.

A sense that **previous rounds of plan preparation** were **better informed** in relation to adapting to climate change as a result.

"For example four/five years ago, maybe slightly more, we had government money to employ a climate change officer, we had one in house, we had a climate change action plan as a council, and all that's gone, you don't even hear about it… I think we will look back with some concerns."

"There are less skills and resources now than there were when we produced the last plan… going forwards that's going to be an issue for us in moving this new plan forwards"

Local authority resources and training

"Further training on the matter would be welcome; my understanding is mostly self-taught."

"I have only a general understanding of the impacts of climate change in terms of higher occurrences of heatwaves etc...."

A **lack of accessible, formal training** available for planning officers in adapting to climate change.

Some find it **difficult to apply** climate-related Local Plan policies due to their broad, non- prescriptive nature.

Planners are often the ones who are **driving** the **inclusion of the adaptation strategies** in Local Plans – in absence of direction from other stakeholders e.g. elected members.

The matter of viability

Relegates climate change adaptation to a '**nice to have**'.

Implementation of adaptation is often **impeded** because developers successfully argue its **detrimental effect** on the **viability** of development.

A **particular issue for coastal areas** when it comes to **attracting new development**, due to these areas often having issues of **moderate development values**, **big infrastructure investment needs**, **obstacles** of **previously developed land** or **contamination**.

"You've got County Council asking for highway improvements, education contributions, affordable housing contributions, and climate change adaptations are well down the list, if they're talked of at all."

"…wording tends to be greatly watered down, with words such as 'encourage' instead of 'must'; or 'subject to viability'. …From a negotiation point of view it (adaptation) ends up as a 'nice to have'…"

The matter of viability

"You're potentially having to spend quite a lot of additional public money at some point in the future trying to retrospectively refit a lot of new development to bring them up to climate standards…"

"Once the things that you're requiring people to do become mainstream, and everyone's doing them, then you get economics of scale, with the costs coming down."

There is **value in adaptation**, it builds in value into the scheme and it's **cheaper** to build it in at the **beginning**.

Findings **support** research of others, highlighting the **ongoing challenge** of encouraging people to take a **longer term view** to development.

Key recommendations

- Local authorities need to address the full range of impacts expected from climate change, including rising summer temperatures and risks of heat stress on human health. This could also help to reduce the burden of climate change felt on the most vulnerable communities.

- There needs to be a renewed focus on adapting to climate change from central government, with stronger and clearer direction regarding climate change adaptation within the planning system to support policy formulation at local level.

- Planners need to be empowered to ensure that the built environment is as resilient to climate change as it can be, through greater resourcing and professional training regarding the full scope of climate change adaptation opportunities.

- The value of adaptation within new development needs to be improved, with greater emphasis on taking a longer-term view of development. This could help to ensure adaptation is not seen to be as big a burden upon viability as it is at present.

At present it appears that climate change adaptation through the planning system will continue to be limited - not just at the coast but also nationally, with particularly serious implications for the most vulnerable coastal communities on whom climate change impacts are predicted to fall hardest.