Sustainability appraisal and flood risk management in England

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Dr Jeremy Carter
University of Manchester (UK)

flood risk management research consortium

FRMRC

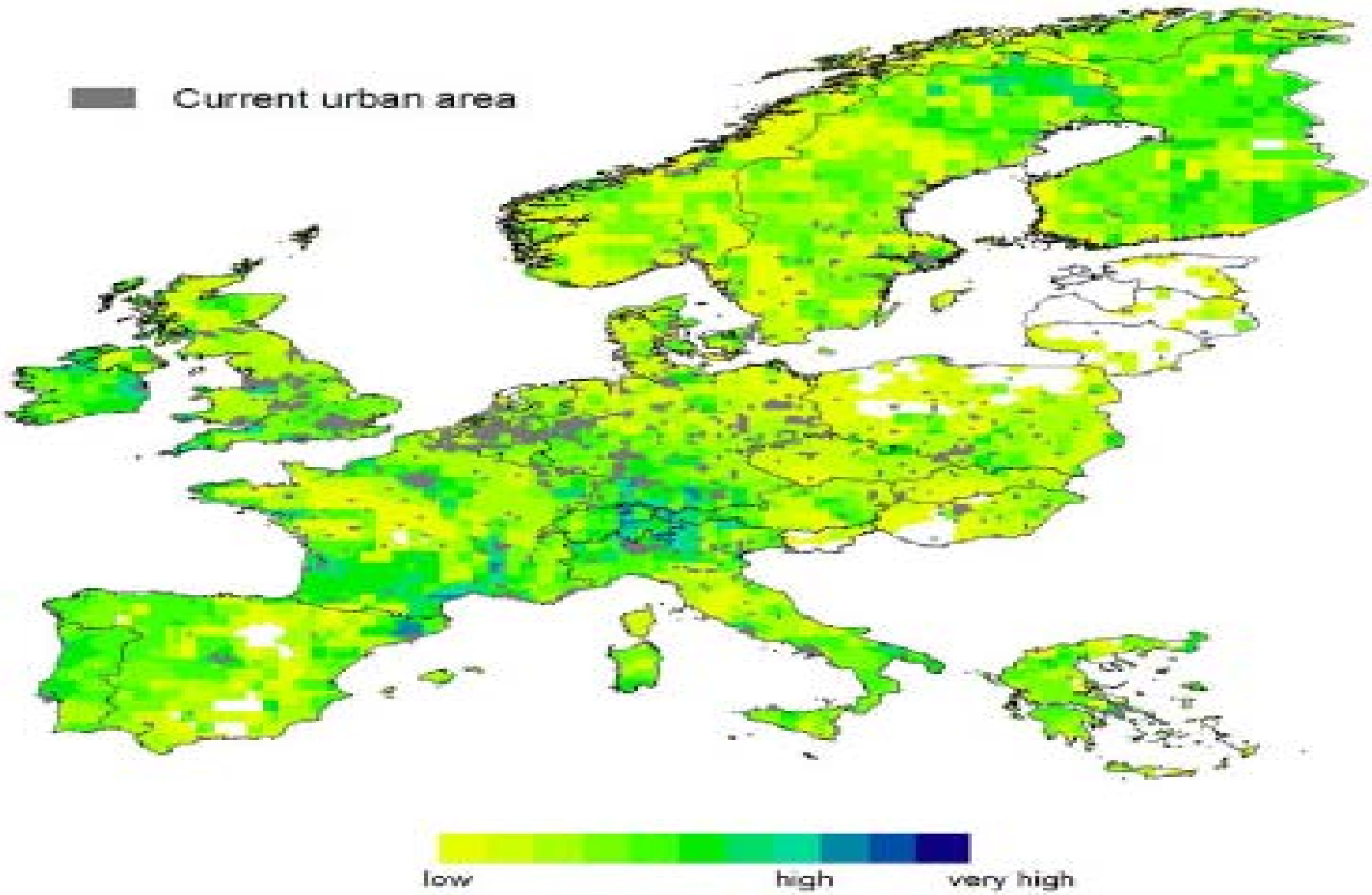
Today's presentation

- Flooding in England.
- Future flooding.
- Sustainability appraisal (SA) and flood risk management.
- Conclusions and recommendations.

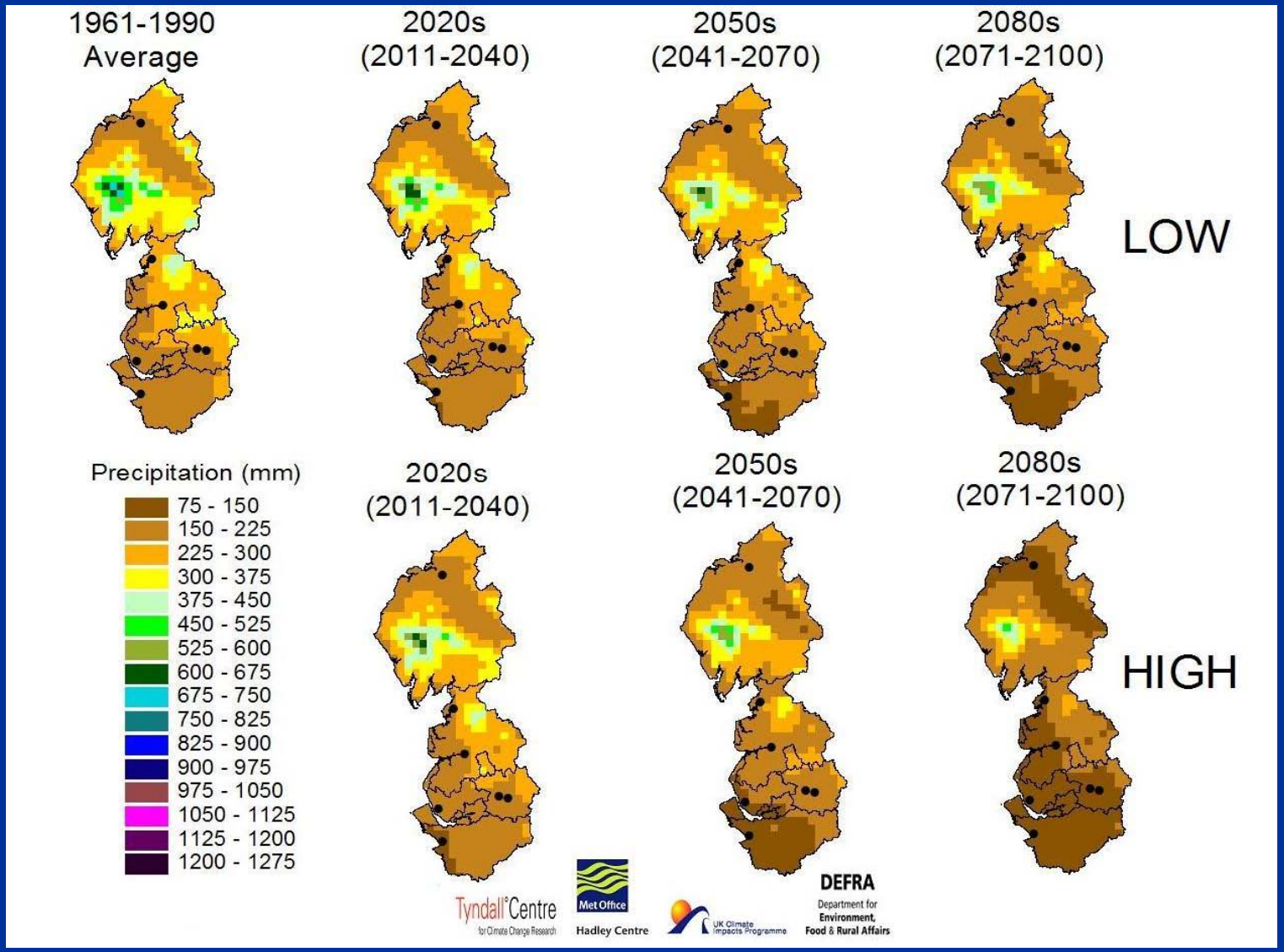
Flood risk in England

- One of UK's most costly and damaging natural hazards - £1.4 billion/year.
- Around £220 billion of UK assets at risk.
- About 8% (or 10000 km2) of England is at risk of flooding from rivers, tidal rivers or estuaries.
- 10% of the population and 12% of farmland at risk from flooding.

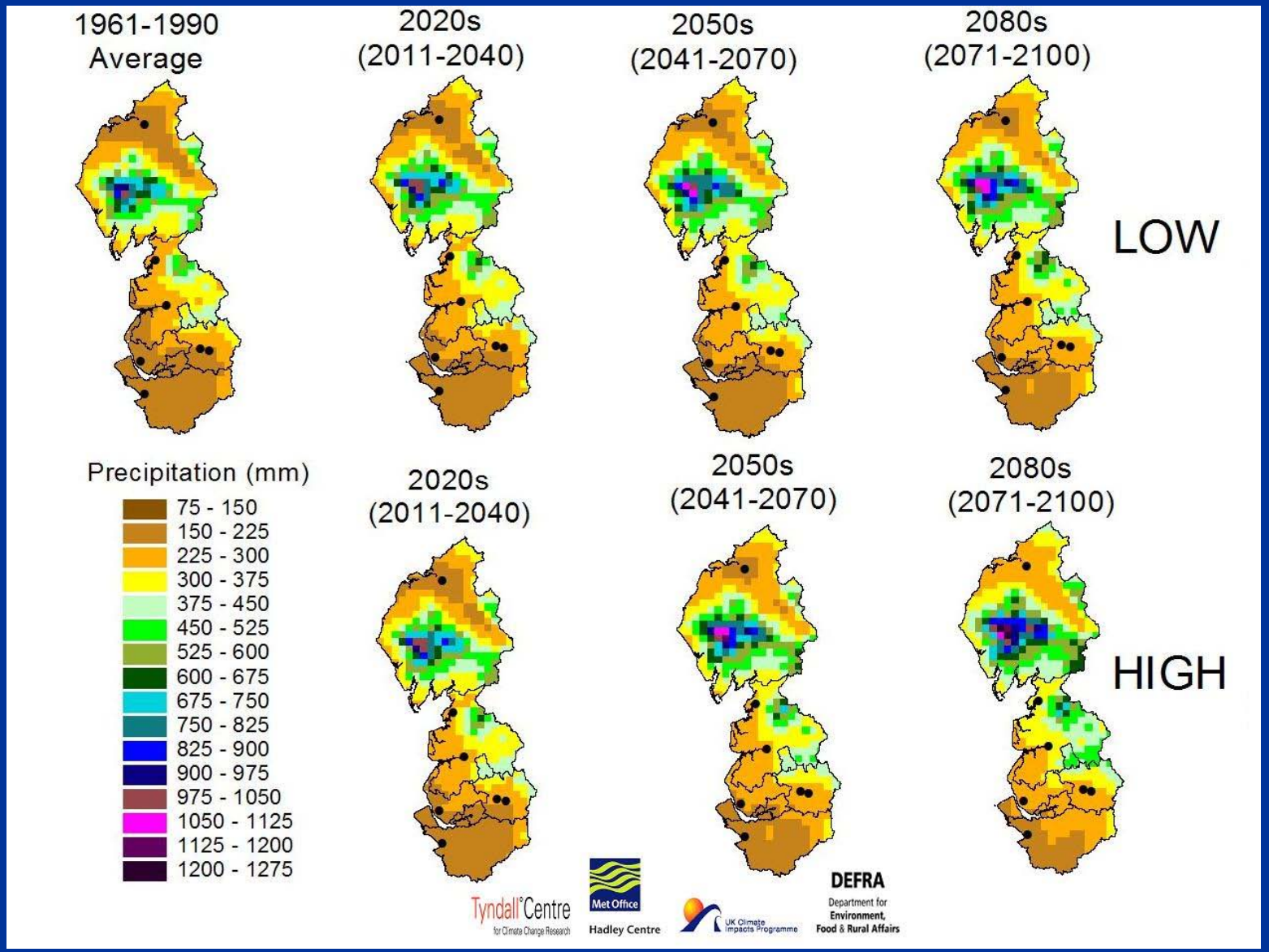
Flood risk map for Europe in 2020 (source EEA)



Average Summer Precipitation Scenarios for the North West



Average Winter Precipitation Scenarios for the North West



Future flooding

(Source: Evans et al 2004)

Chart 2.1 **Average annual damage for all of the UK (£ billion) assuming flood-management approach and expenditure remain unchanged – present day and 2080s**

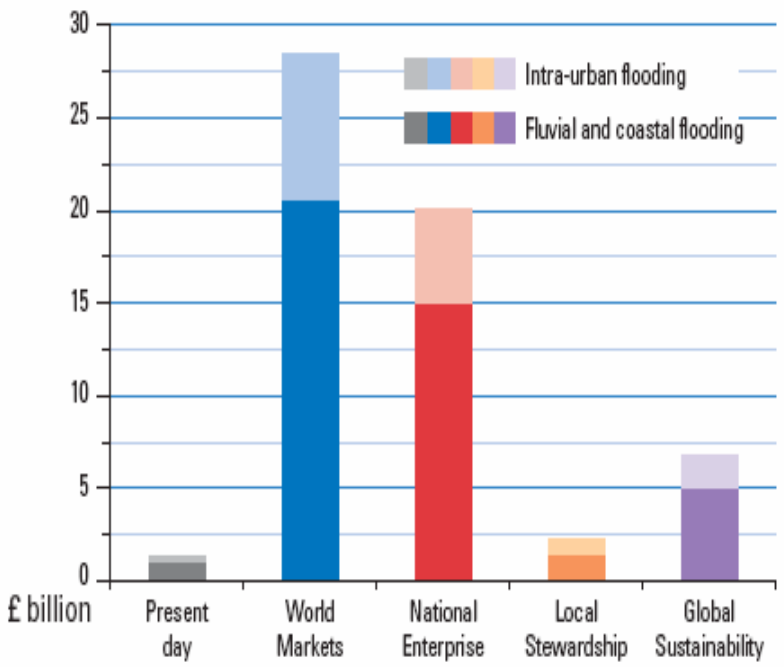
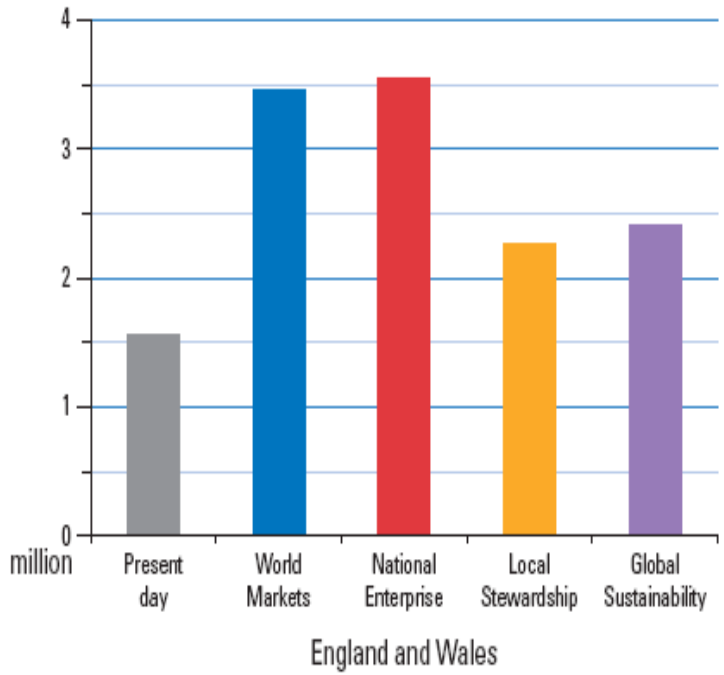


Chart 2.7 **Number of people at high risk now and in the 2080s – river and coastal flooding ('high' means a chance of flooding of greater than 1:75 in a given year)**



Flooding and spatial planning

- Flooding and land use change.
- Development in flood-prone areas – historic and contemporary problem.
- Hard surfaces increase runoff rates – 30-50% of rainfall in urban areas is released as runoff.
- Spatial planning can increase and reduce flood risk.
- Spatial planning is a low-cost option for flood risk management.

The role of SA in flood risk management

- "Sustainability appraisals offer an opportunity to examine the strategic role that planning can play in contributing to preparing for climate change and minimizing flood risk." (ABI 2004)
- UK government policy and guidance promotes the link between SA and flood risk management.

Benefits of undertaking SA for flood risk management – the planning system

- SA provides a route to introduce flooding concerns into the planning system.
- SA can help to raise awareness and knowledge of flooding amongst planners and decision makers.
- SA can encourage planners to take a strategic, holistic, balanced and long term view of the relationship between spatial plans and flooding issues.
- SA can enable planning policy development to proceed more sustainably where flooding impacts are identified.

Case study: SA of English Regional Spatial Strategies (RSSs)

- RSSs - a strategic policy framework to deliver a spatial vision for English regions.
- RSSs must be subjected to SA during preparation – national and EU legislation.
- Research into the impact of SA on the preparation of RSSs – questionnaires, interviews, case studies.

Research findings: review of SA reports of English RSSs

Key findings:

- Greater involvement of stakeholders with knowledge of flooding issues.
- Expansion of the amount of data held by planning authorities on flooding issues.
- Enhanced understanding of the flooding impacts of RSS implementation and of solutions to manage impacts.
- Increased monitoring of RSS policies in terms of their impact on flooding issues.
- Stimulating changes to the content of RSSs to strengthen their contribution to flood risk management goals.

RSS SA Review – good practice examples (1)

- **Quantitative baseline data:** (North West RSS SA):

- Current and potential future annual flood damage (£).
- % of land in the region at risk of flooding.
- % of population and number of properties at risk of flooding.
- Number of EA objections to planning applications (flood risk).

RSS SA Review – good practice examples (2)

- **Targeted recommendations relating to flooding:**

- (East Midlands RSS SA): "The Plan must provide for the natural functioning of floodplains and coastal areas and ensure that these are considered in development decisions."

- (South West RSS SA): "Flood risk issues arise across the favored development areas [within the Swindon sub-region] and attention will need to be given to this issue (including involvement of the Environment Agency and flood risk assessment)."

RSS SA Review – good practice examples (3)

- **Changes to the plan as a result of the SA:**

- (East of England RSS SA): Flooding policy was strengthened to state that development should be located, wherever possible, in areas of little or no flood risk.

- (Greater London Authority RSS SA): Two new policies were introduced, one requiring SUDS to be adopted in appropriate schemes and another providing protection to existing floodplains.

Barriers to the use of SA to deliver flood risk management goals

- Lack of resources (time and money).
- Insufficient capacity (knowledge and expertise) within planning authorities.
- Limited time for the SA within plan preparation procedures.
- Lack of specific spatial policies at the regional level to assess in terms of flooding issues.
- Flooding often subsumed within other SA objectives (e.g. climate change).

Recommendations – enhancing the contribution of SA to flood risk management

- Encourage a SA objective dedicated to flooding.
- Enhance the availability of baseline data on flooding issues.
- Tiered hierarchy of assessment procedures.
- Promote networking between planners – manage shared river basin catchments collectively.
- Education and awareness raising of flooding and role of SA – climate change as a driver.

Conclusions

- Means of addressing flooding issues within planning.
- Raising awareness of flooding issues.
- Positive influence spatial planning policies.
- Delivery of government policy goals.
- Environmentally sustainable development and climate change adaptation.