



*Special Session 1: Extreme Events and Climate Change,
IDRC Davos 25 August 2008, Switzerland*

Climate Change, Vulnerability Reduction and Adaptation – New Challenges for Spatial & Urban Planning

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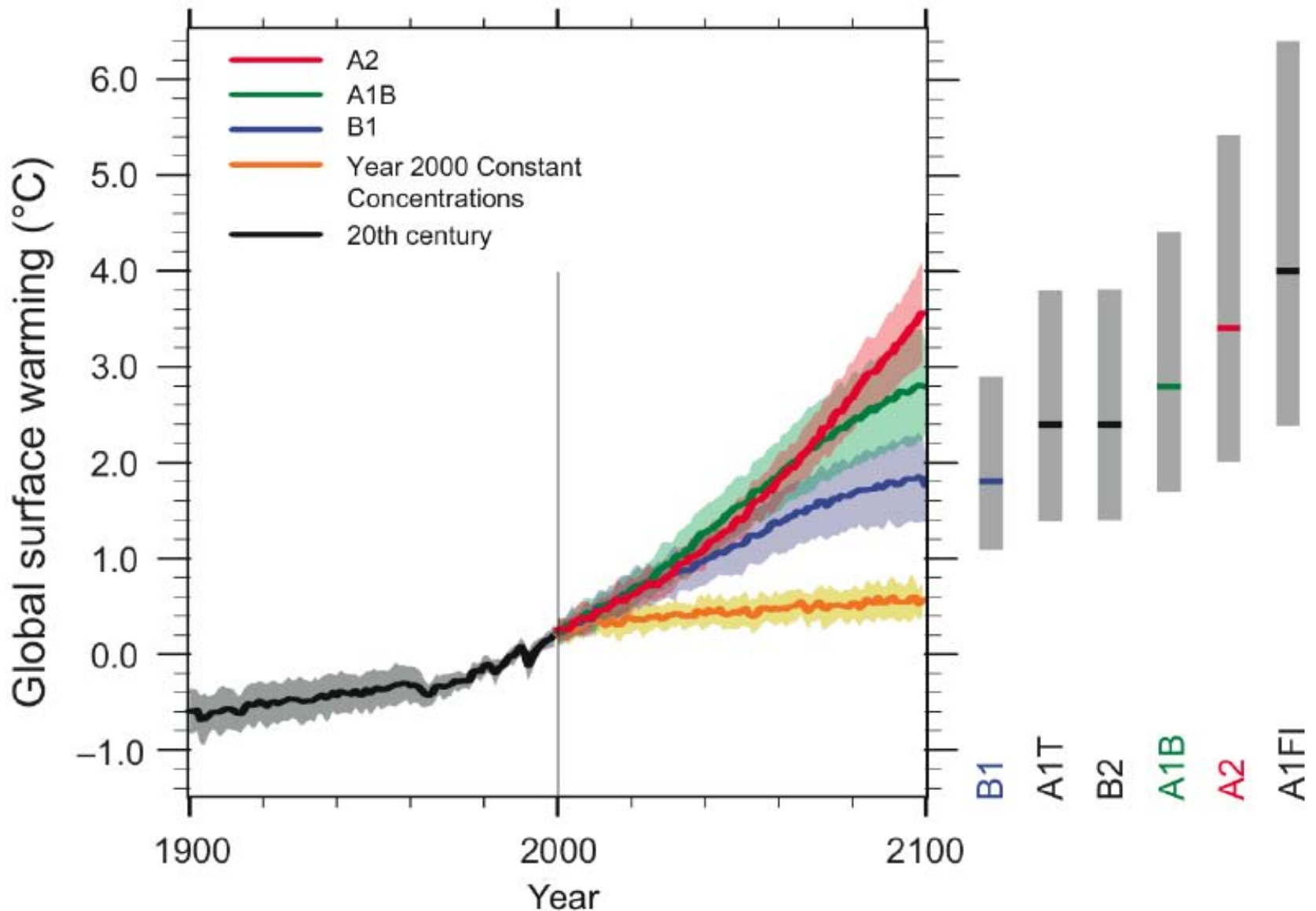
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and Human Security



Projection of Future Changes in Climate



Source: IPCC Working Group I Technical Summary 2007: 79



Extreme Weather Event



Duesseldorf 2003

Dr.-Ing. JOERN BIRKMAN



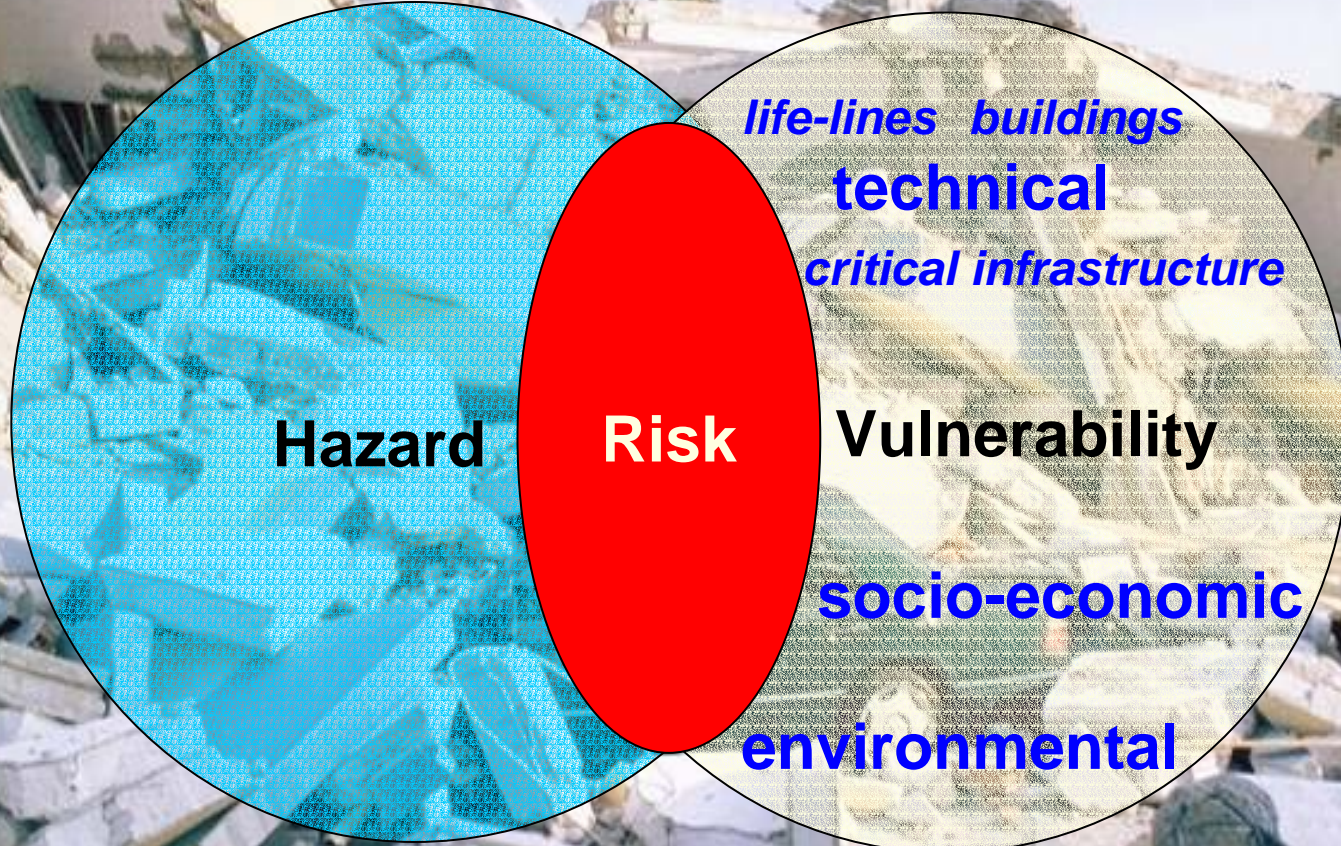
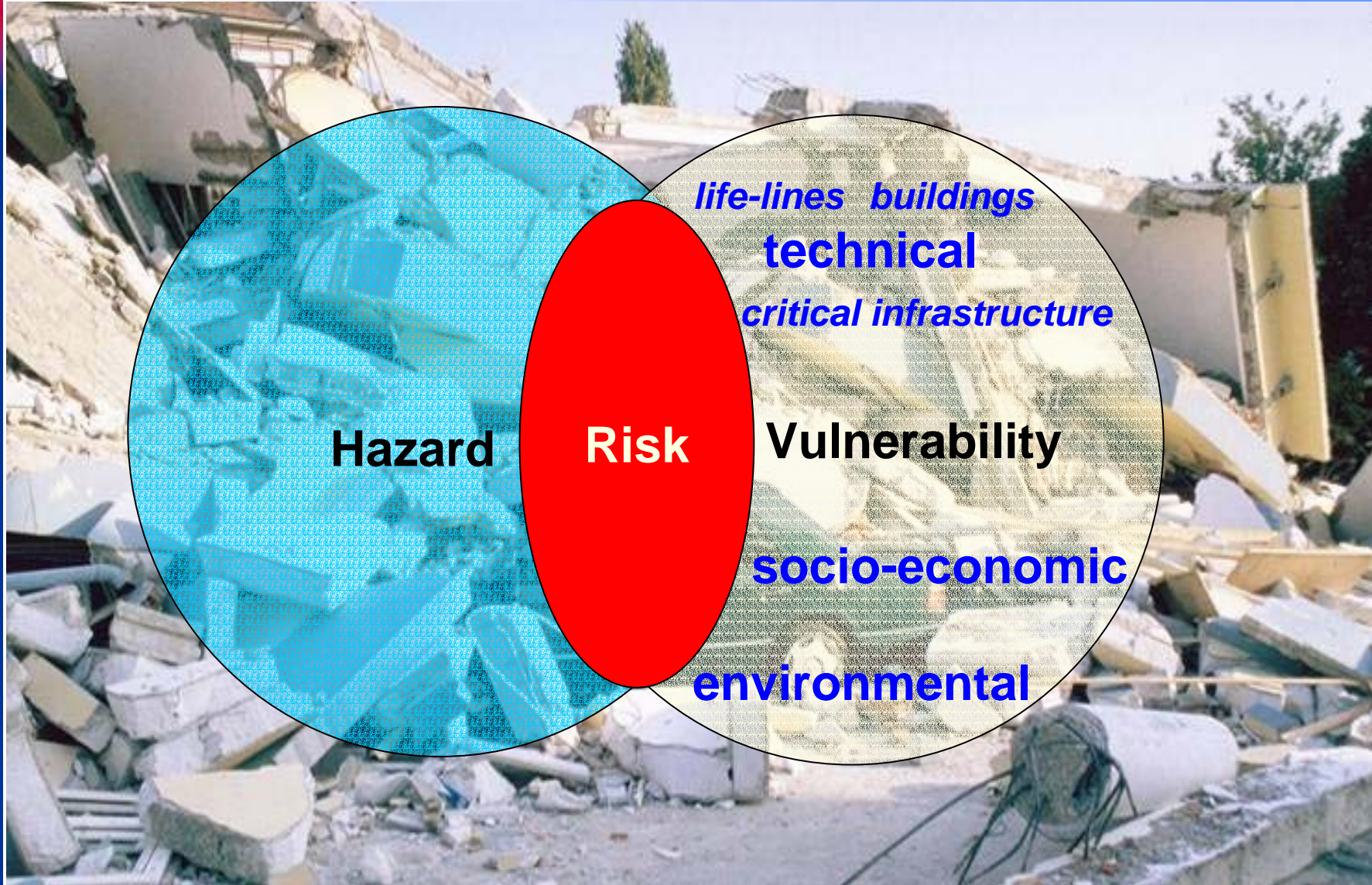
Dresden 2006

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Risk $f =$ (Hazard and Vulnerability)





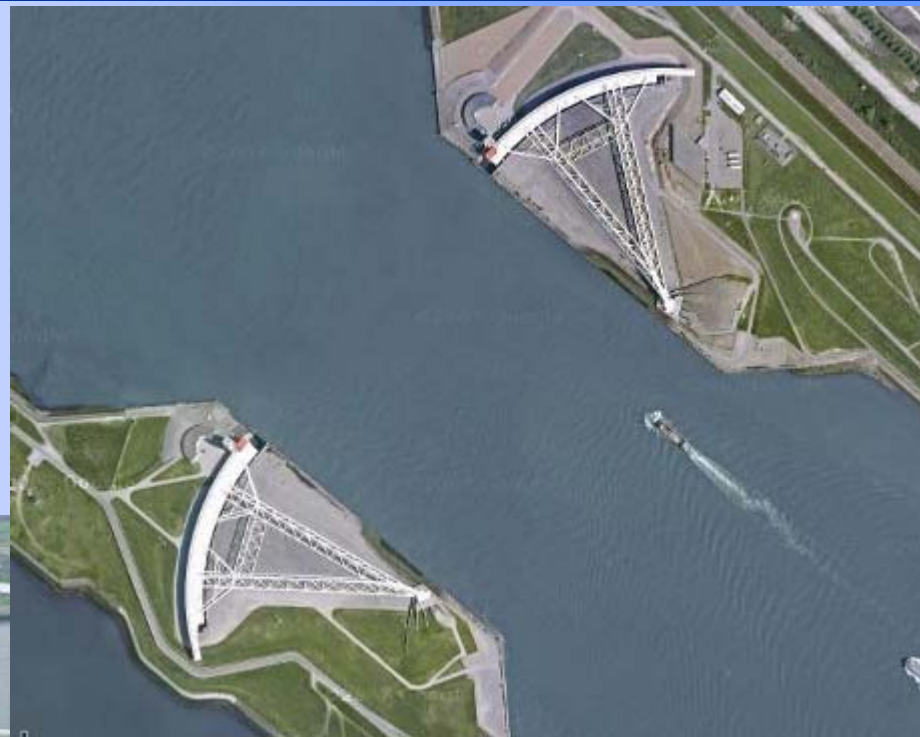
Two Responses to Climate Change

1. Climate Change MITIGATION – Greenhouse Gas Reduction
 - Mixed land-use
 - Limit urban sprawl
 - Decentralized concentration
 - Urban development along public transport axes
 - Space for the production of renewable energy (water, wind-energy)
2. Climate Change ADAPTATION
 - Old measures/ tools – such as dykes??
 - New content?
 - New planning procedure?



Critical Infrastructures

- Rotterdam: Maeslant Barrier
- Takes 2 hours to close the Barrier

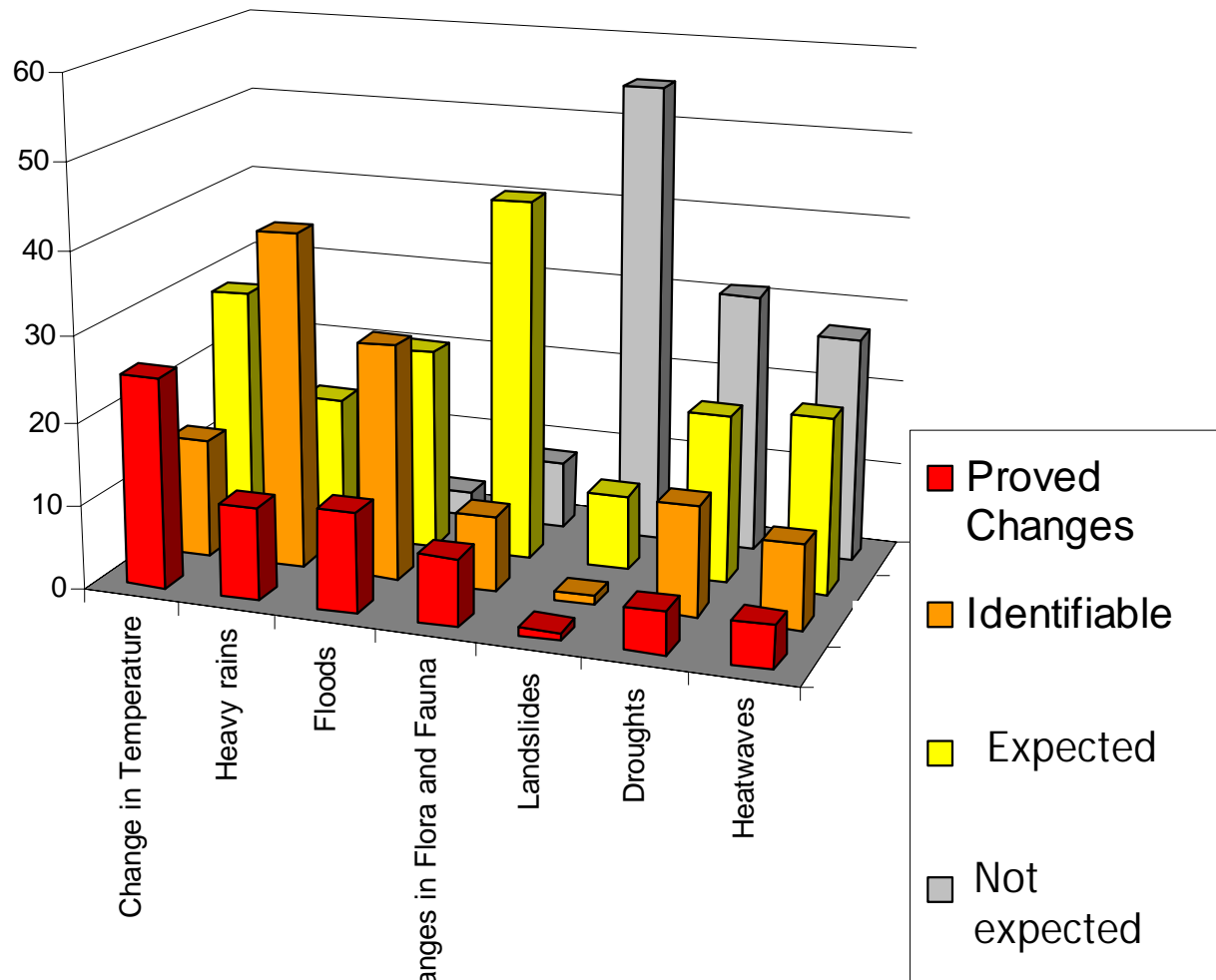


<http://www.keringhuis.nl>



Symptoms of Climate Change

Symptomes of Climate Change in Regions in Germany

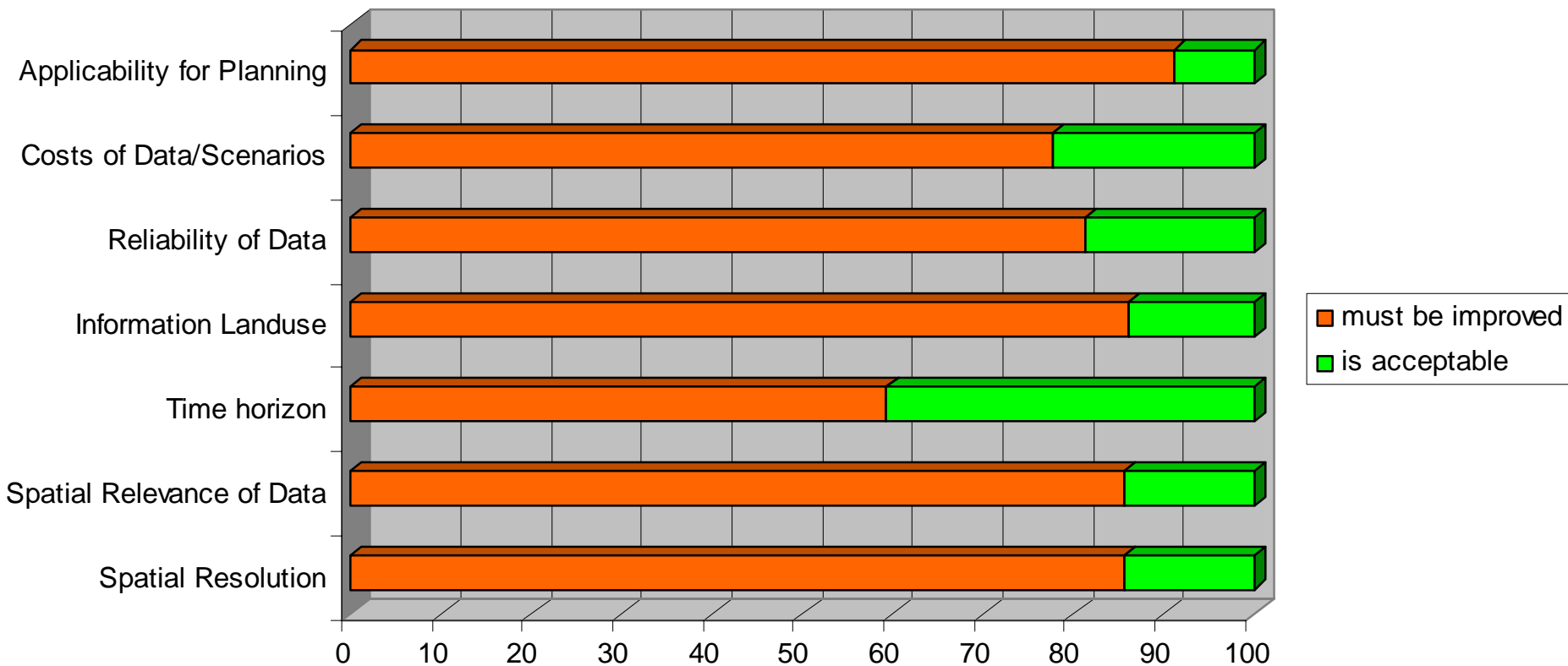


Source: Survey of the Expert Group on Climate Change and Spatial Planning / Academy of Regional Research and Regional Planning 2008



Applicability of Climate Change Information

Data / Information Requirements

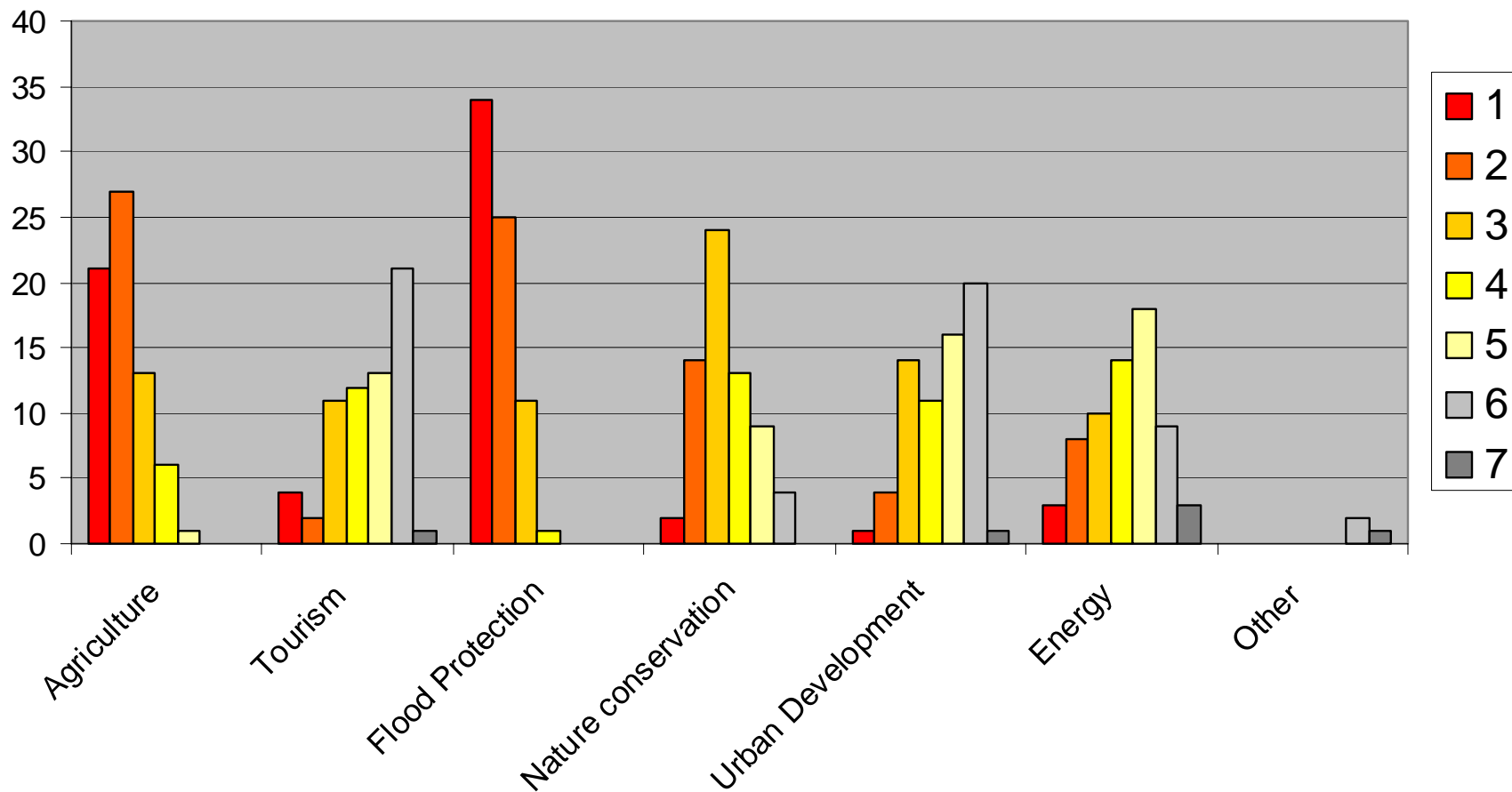


Source: Survey of the Expert Group on Climate Change and Spatial Planning / Academy of Regional Research and Regional Planning 2008

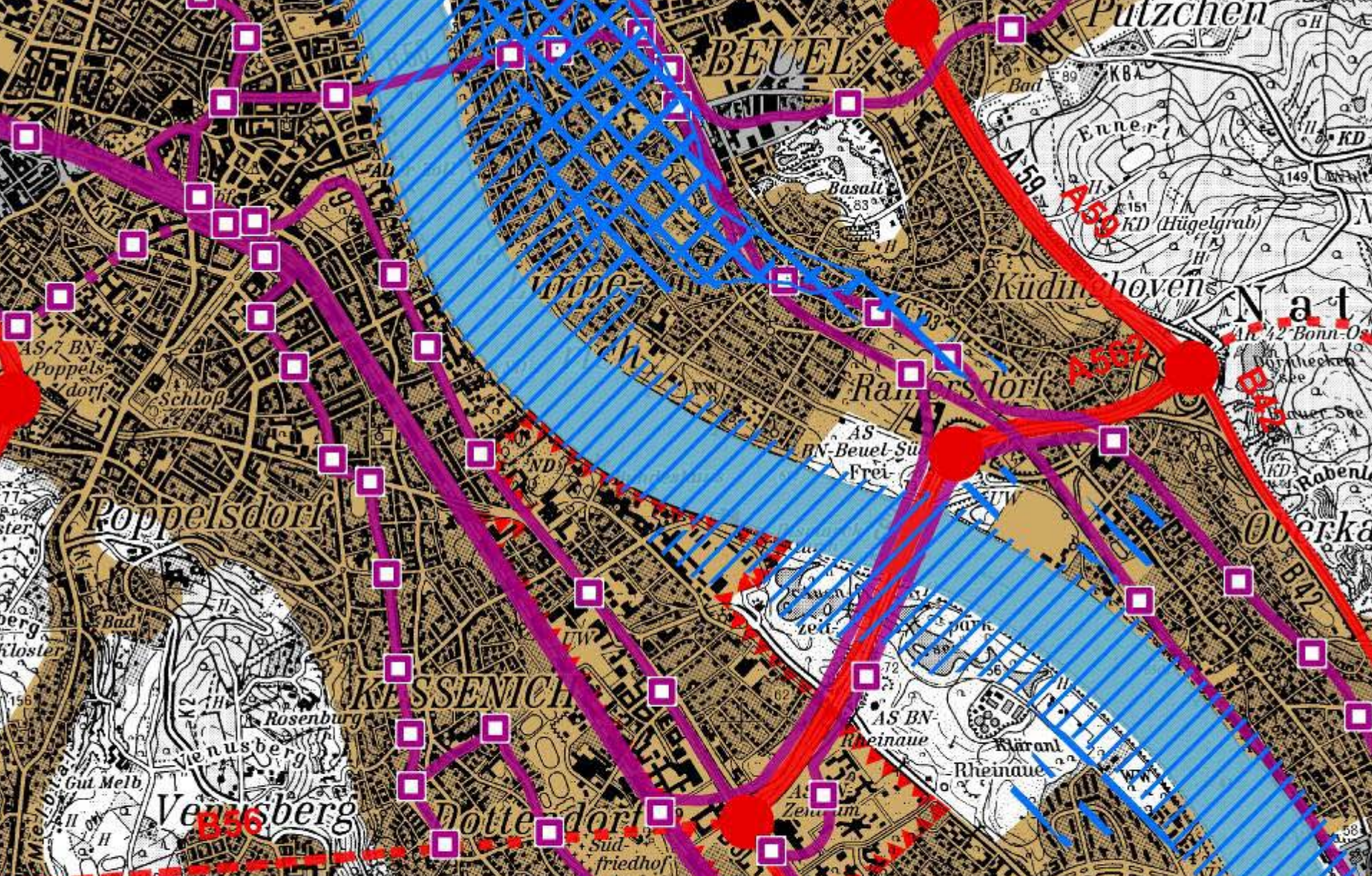


Most Significant Changes Expected in:

Most significant changes expected due to climate change - different sectors.



Source: Survey of the Expert Group on Climate Change and Spatial Planning / Academy of Regional Research and Regional Planning 2008



Source: Regionalplan für den Regierungsbezirk Köln

Sachlicher Teilabschnitt

Vorbeugender Hochwasserschutz, Teil 1 (Ausschnitt)



Conclusions

- Awareness mainly exists for well-known frequent hazards.
- Risk assessment within spatial planning mainly focuses on the hazard component.
- Climate change and impact scenarios have a too coarse spatial resolution to be used for spatial and urban planning.
- Current “environmental assessments procedures/tools” account for climate change, however, the focus is often very limited.
- Climate Proofing is needed.



For Further Information:

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