Methodological challenges in multidisciplinary climate change research – experiences from ESPON CLIMATE

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ESPON CLIMATE – BACKGROUND AND PURPOSE

- ESPON Climate project was mainly about:

- a pan-European *vulnerability assessment* as a basis for identifying regional typologies of climate change exposure, sensitivity, impact and vulnerability.

- On this basis, *tailor-made adaptation options* can be derived which are able to cope with regionally specific patterns of climate change.

- In the ESPON Climate project this *regional specificity* is addressed by seven case studies from the transnational to the very local level.

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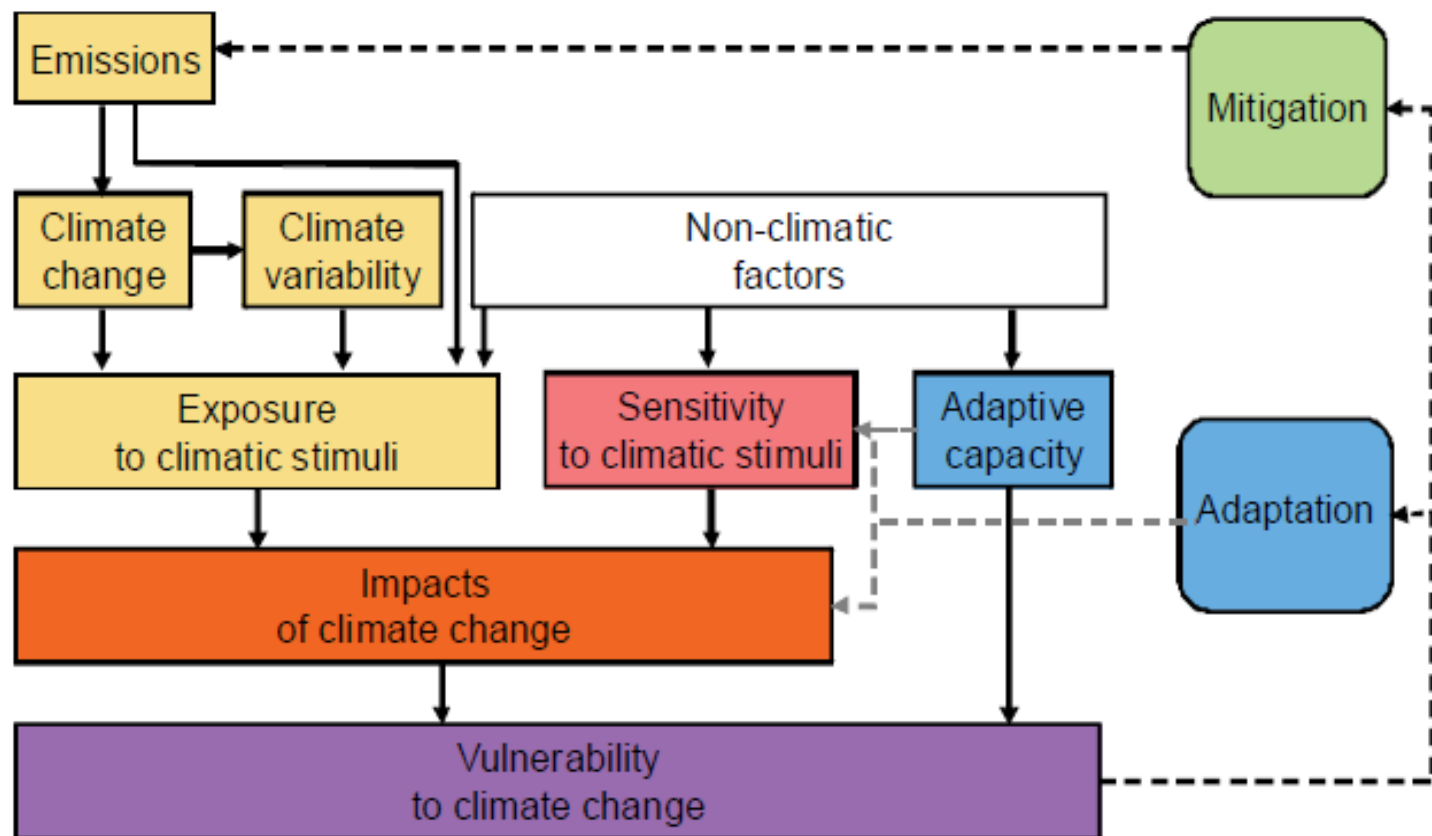
Conceptual and methodological framework

Figure 1: ESPON Climate Change research framework (adapted from Füssel & Klein, 2006, 54)

Challenges

- Multidisciplinarity
- Time perspective and predictions
- Maps and aggregation
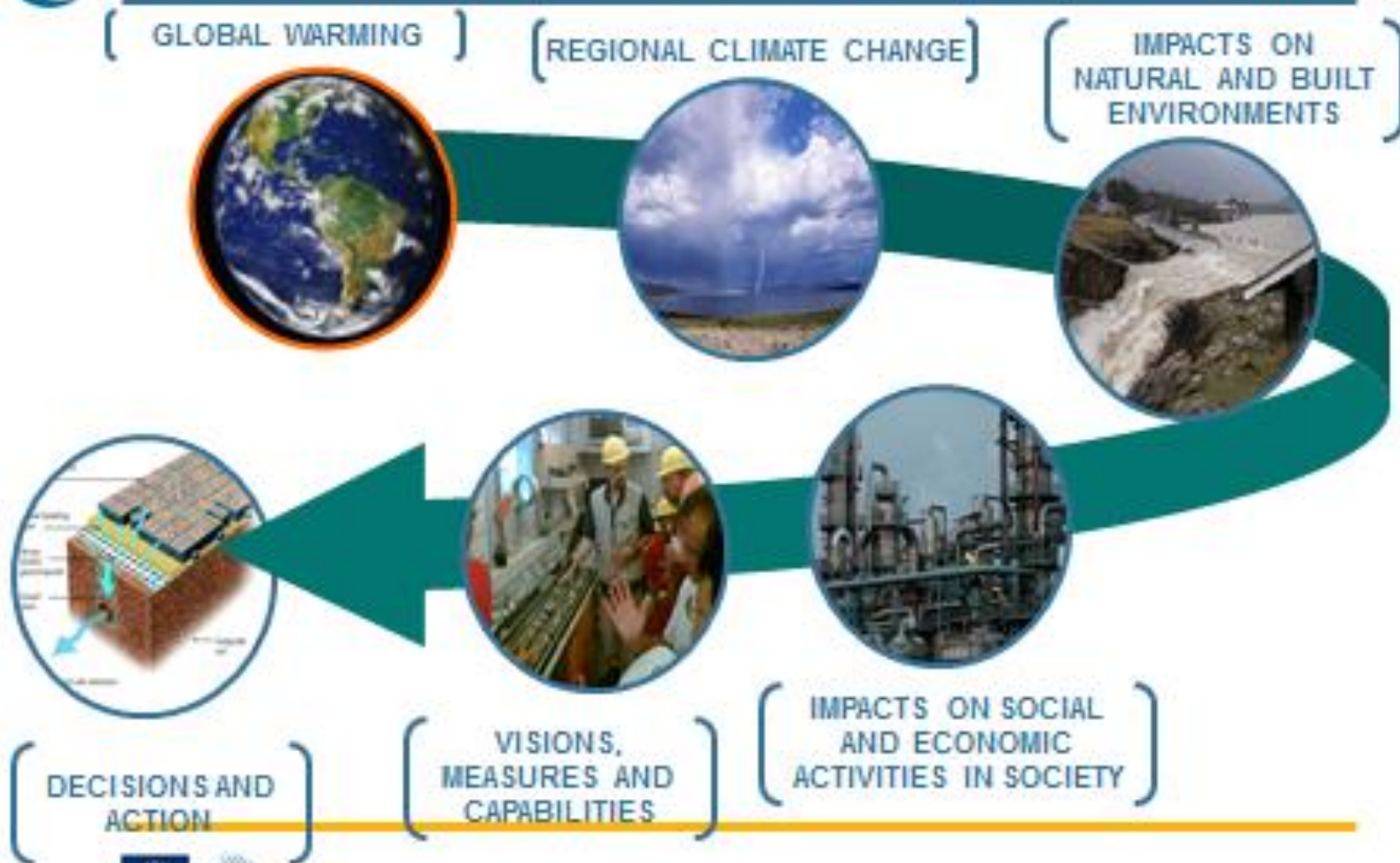
The adaptation sequence

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GLOBAL WARMING — REGIONAL CLIMATE CHANGE — IMPACTS ON NATURAL AND BUILT ENVIRONMENTS

DECISIONS AND ACTION — VISIONS, MEASURES AND CAPABILITIES — IMPACTS ON SOCIAL AND ECONOMIC ACTIVITIES IN SOCIETY
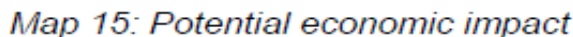
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Time perspective and the quest for prediction

- Climate change – long term changes

- Predictions in social science

- Scenarios as alternative future research

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Maps and aggregated data

Map 15: Potential economic impact

Overall the economic impacts of climate change show a clear south-north gradient: many economically important countries like Germany, Poland and almost the whole Scandinavia may expect a positive impact. The main reason for the gradient is the economic dependency of large parts of Southern Europe on (summer) tourism, but also agriculture. Both are projected to be negatively impacted due to the increase in temperature and decrease in precipitation while the environmental conditions for agriculture in North-Eastern Europe tend to be improved. Moreover, energy demands come into play through the increased need for cooling. However, the Alps as a premier tourist depended region are also identified as hotspot which mainly results from the projected decrease in snow cover. The economic impact in South Eastern Europe is a consequence of the impact on agriculture – which is still important there.

From ESPON Climate, Final report version 31/5/2011. Main Report, p17.

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Conclusion

- How to achieve optimal multidisciplinarity?
- Is it possible to predict the future in social sciences?
- Which kind of climate research is most helpful for spatial planning?