



ECONADAPT
The Economics of Adaptation



Funded by
the European Union

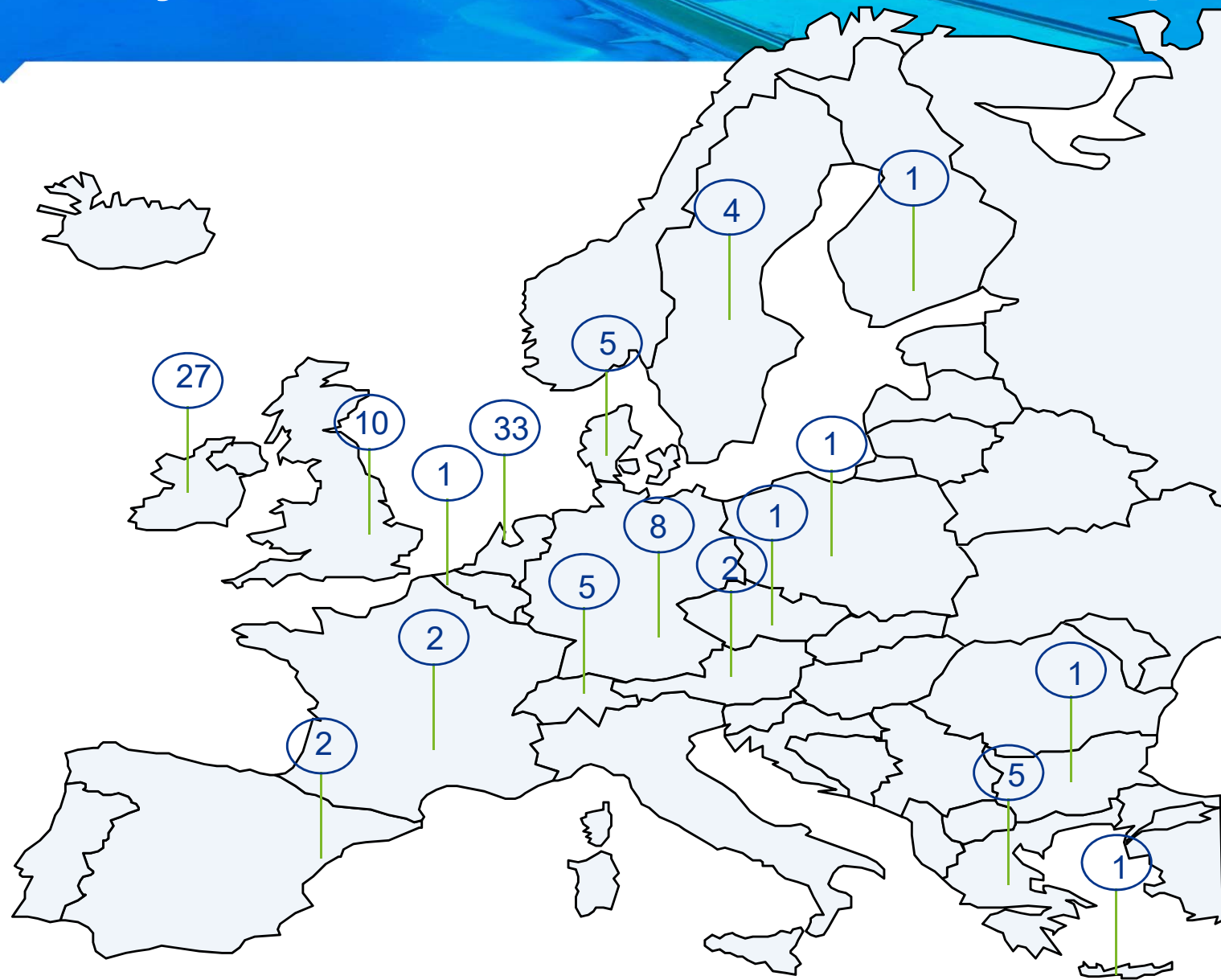
Assessing the economic case for adaptation to extreme events at different scales

Onno Kuik, Paolo Scussolini, Reinhard Mechler, Junko Mochizuki, Alistair Hunt, Jacob Wellman

Outline of the presentation

- Inventory on the return on investments in flood protection in Europe
- Case study on the use of decision-making tools in flood risk management in four EU countries

Inventory on return on investment in flood protection

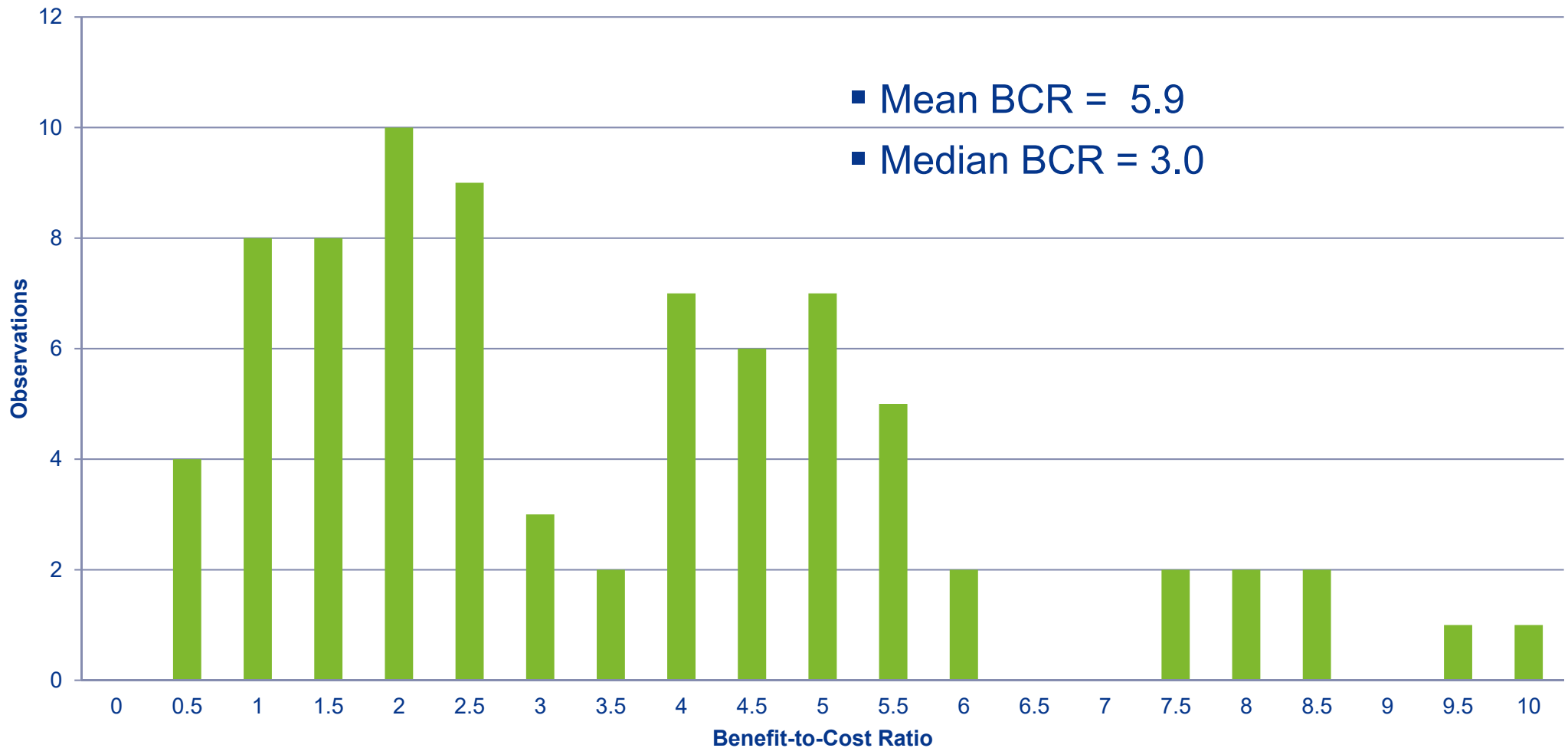


- 110 observations
- 32 studies
- 17 countries
- 1991-2015

#

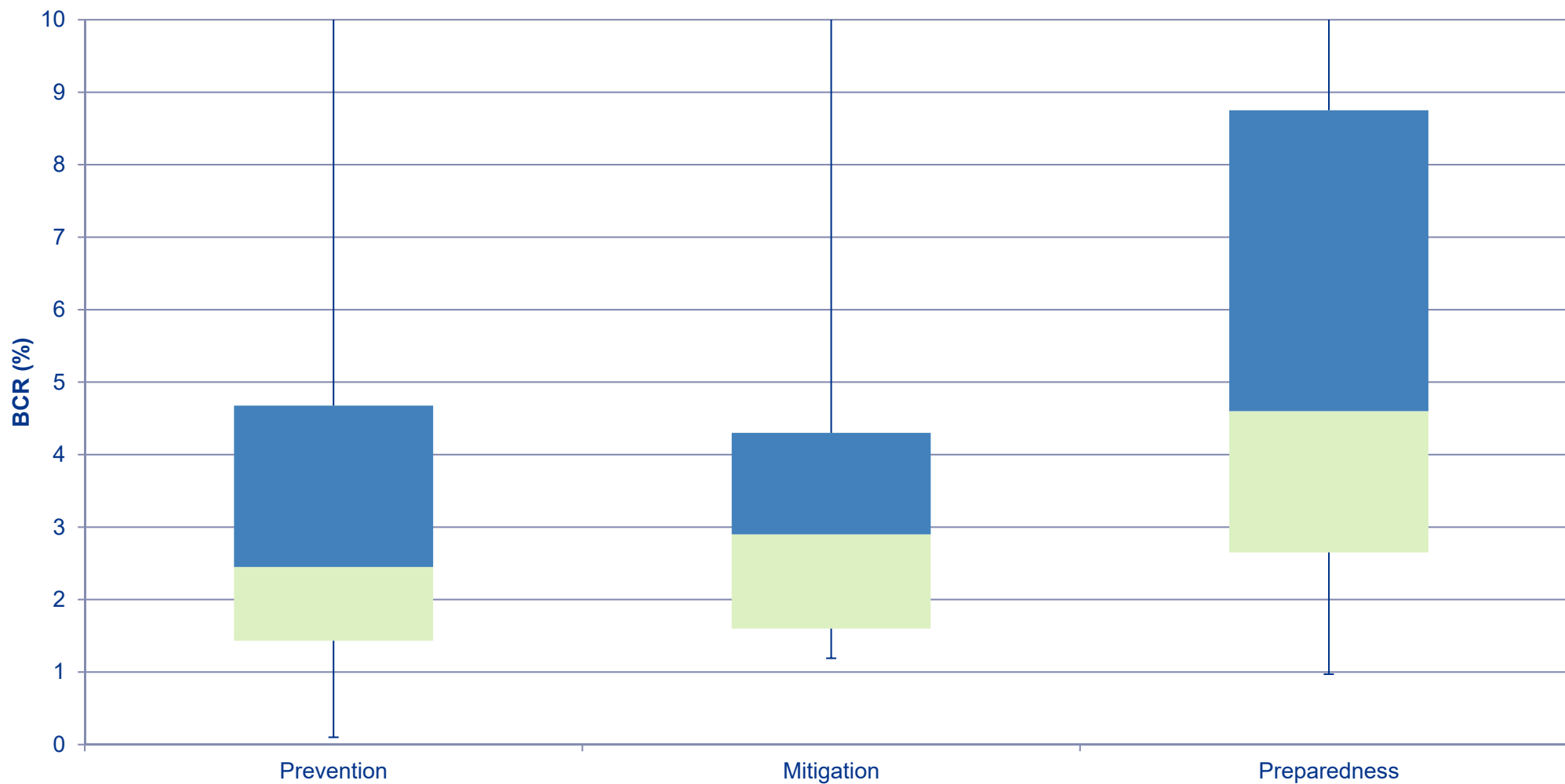
of obs.

Results – Benefit-to-Cost Ratios

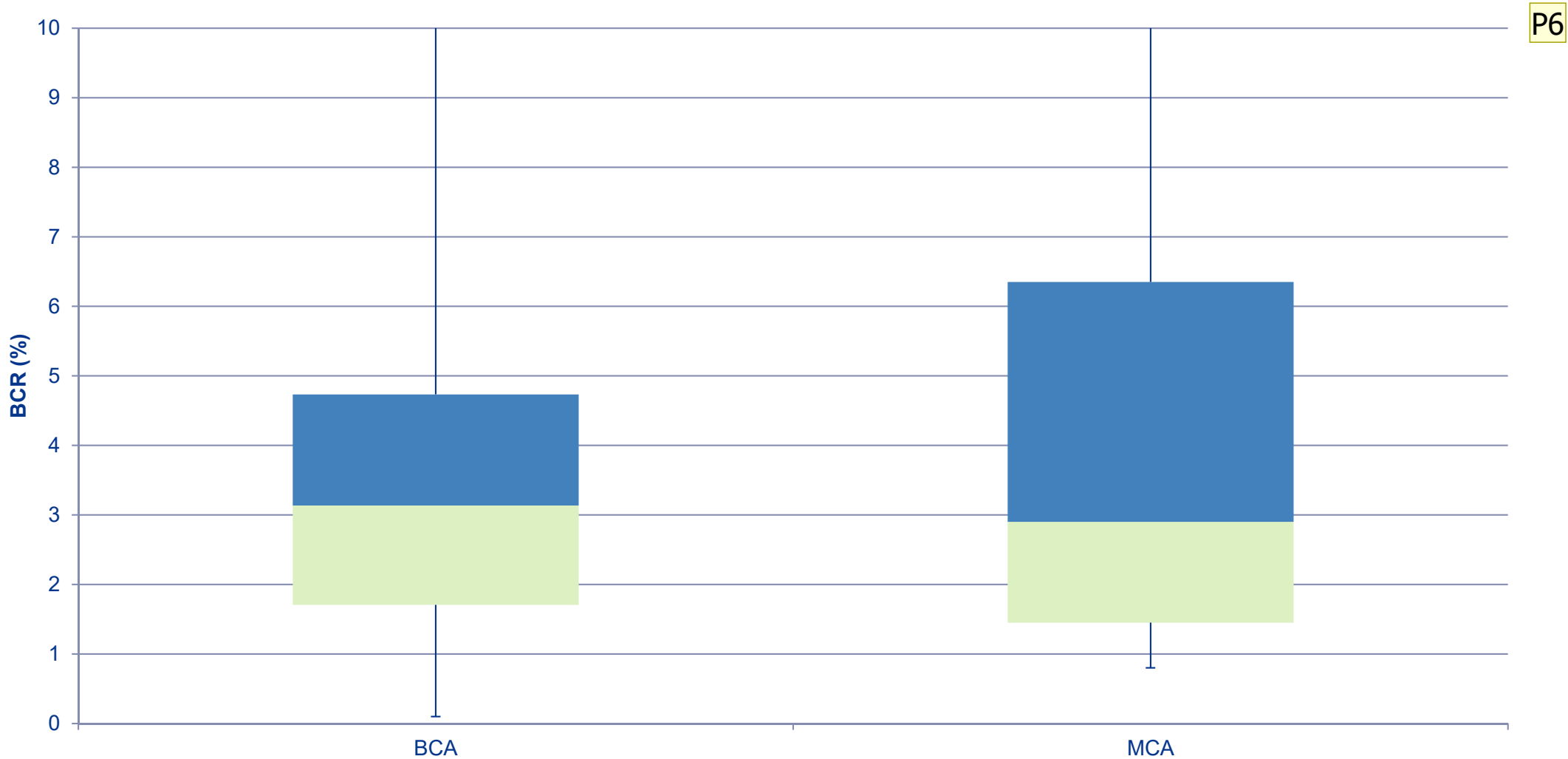


N=84

Results – BCRs of alternative DRM options



Results – BCRs of alternative assessment tools



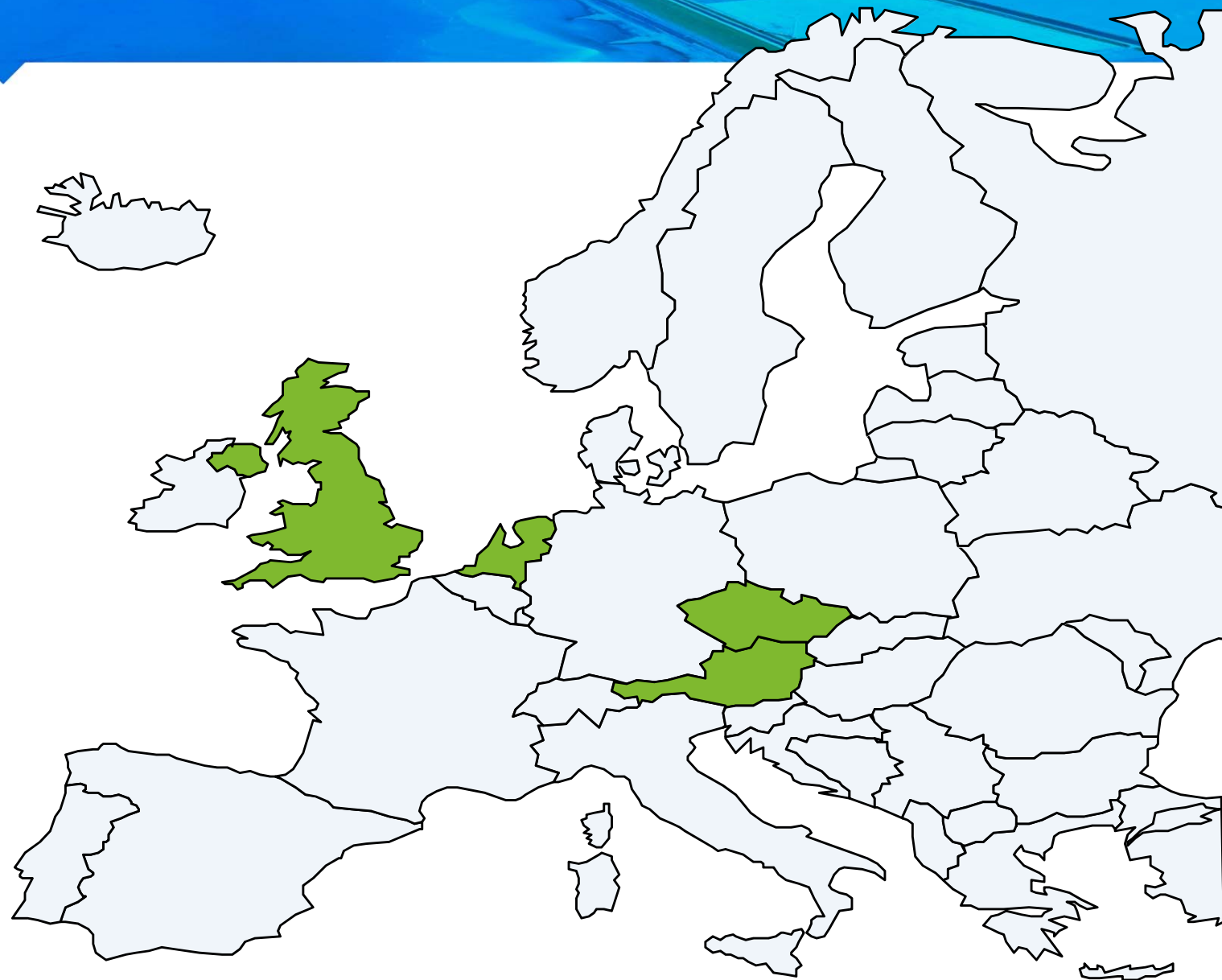
Slide 6

P6

also here it could be said that one shouldn't be scare of going gor MCA :-D
also, maybe write cost benefit analysis and multi criteria analysis whole? (there is room)

Paolo, 9/22/2016

Case studies

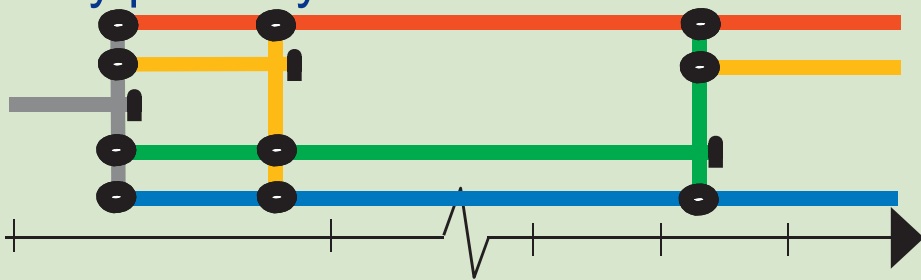


- Austria
- Czech Republic
- Netherlands
- United Kingdom

Case studies – appraisal tools

Country	Appraisal tools in flood risk management
Austria	Flood risk zoning (hazard maps); full CBA (incl. intangible assets) for projects > 1 M€, simplified CBA for projects between 0.11 and 1 M€.
Czech Republic	Designation of ‘active zones’; Decisions on investment projects based on CBA, technical merit and environmental considerations .
Netherlands	Flood protection standards based on local individual risk, CBA, group risk, and vital infrastructure ; CEA for initial screening of project options; simplified CBA (costs and co-benefits) for local design (mandatory for projects > 225/112.5 M€, sometimes mandatory by local law); ‘Water Test’ (watertoets) in urban development.
United Kingdom	National Planning Policy Framework (Sequential Test; Exception Test); Flood and Coastal Erosion Risk Management appraisal procedures require CBA or CEA when legal requirement, sustaining present standard of service, or after CBA to establish best option to accomplish desired outcome.

Case studies – future climate change

Country	Appraisal tools to account for uncertain future climate change
Austria	Follows Iterative Risk Management approach (“wait and see”)
Czech Republic	No evidence found
Netherlands	<p>‘Most likely climate change scenario’; Experimenting with ‘adaptation pathways’ or ‘dynamic adaptive policy pathways’</p>  <p>(Haasnoot et al. 2013)</p>
United Kingdom	UKCIP Adaptation Wizard; Supplementary Green Book Guidance; MCA + Real Options Analysis (ROA) in TE2100.

Conclusions



- Flood risk protection offers good value for money
- Countries use many decision-making tools at all scales (no single tool fits all purposes)
- Climate change is being factored in by some countries (experimentally)
- Disaster risk management offers a good entry point to examine decision-making for adaptation
- Investments in “preparedness” seem to offer high returns, probably also for other climate change hazards.

Thank you for your attention

