

Adapting to Climate Change: Challenges for Scotland

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Climate change & Scotland's nature



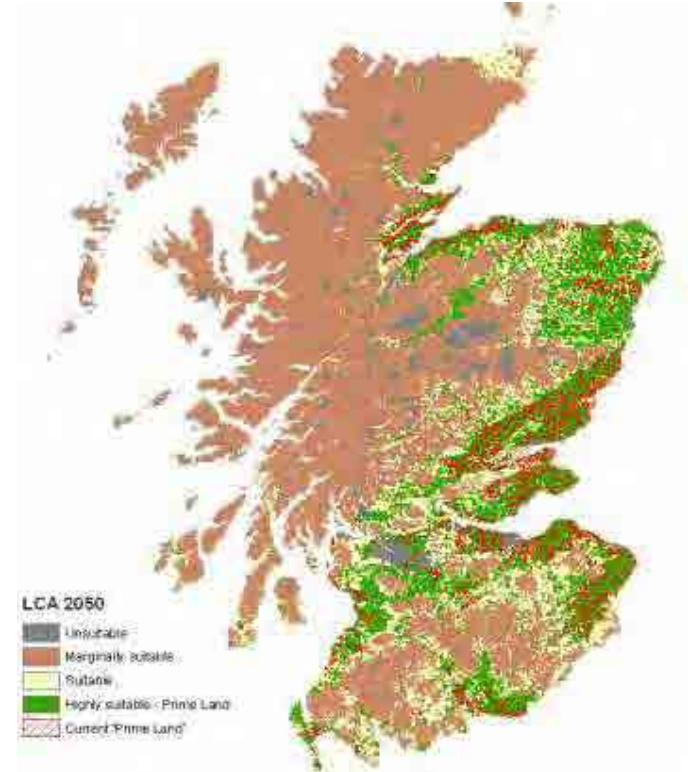
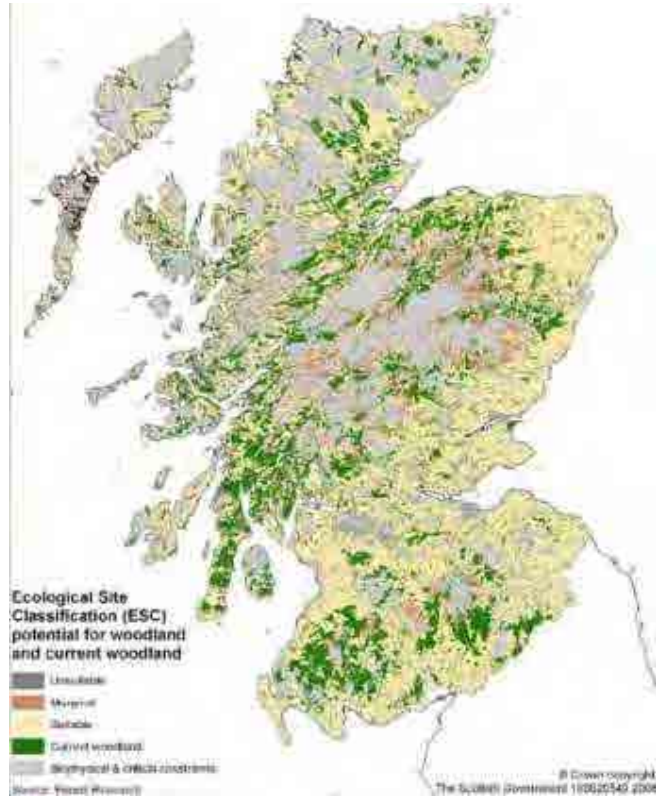
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Flooding, sea level rise and loss of habitats
Ocean acidification
Pests and diseases, and invasive organisms
Changes in habitats and species

Increase forest cover from 17-25%

Agriculture under future climates



Brown *et al.* (2008)





Adaptation Challenges

- How do we deal with uncertainty?
- What do we monitor?
- Should we change our objectives?
- What does resilience look like?
- What if we make the wrong choices?



Adaptation Principles

- Reduce other pressures
- Make space for natural processes
- Enhance species dispersal
- Improve habitat management
- Enhance habitat diversity
- Take an adaptive approach
- Plan for habitat change
- Consider translocating species





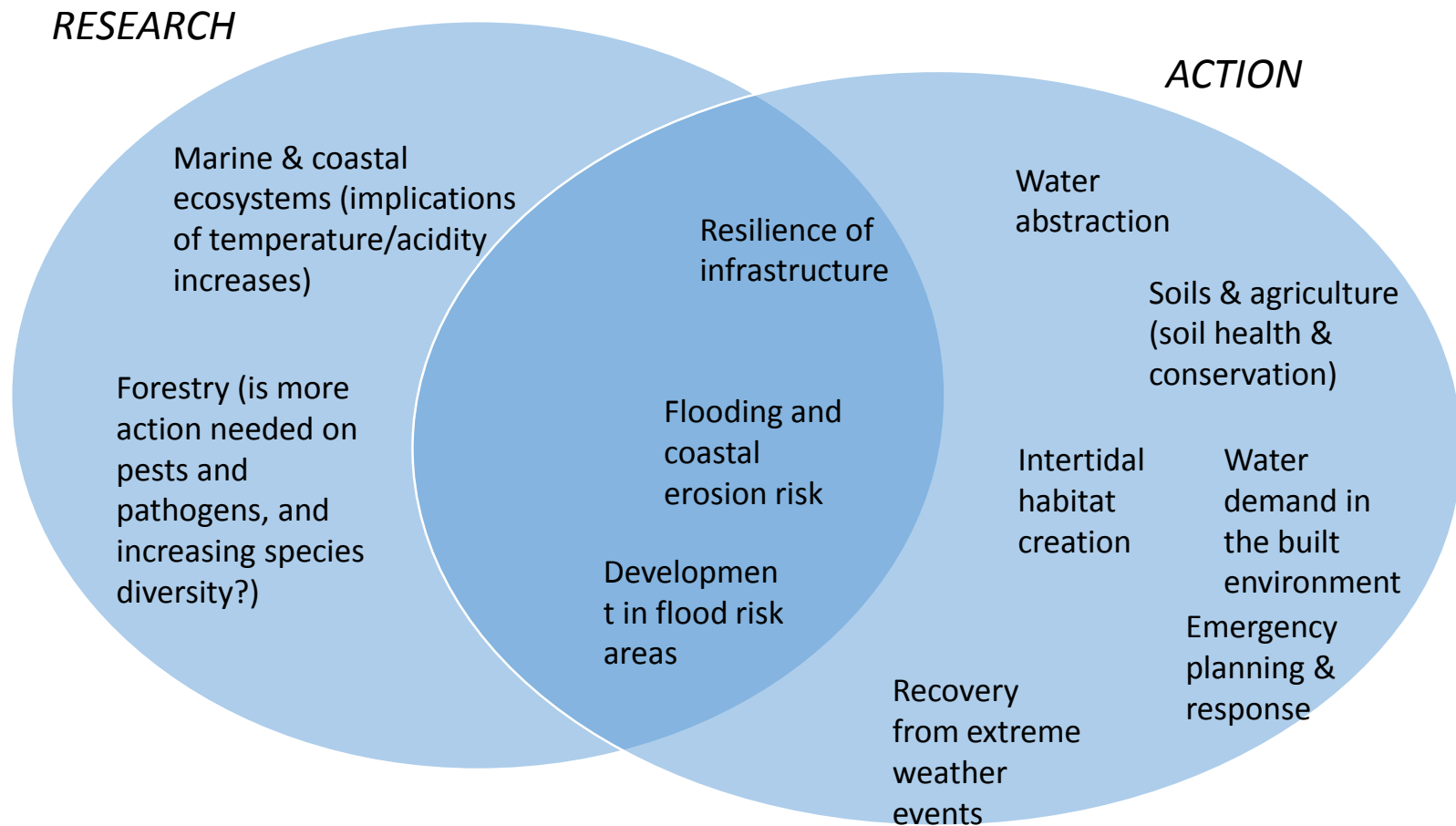


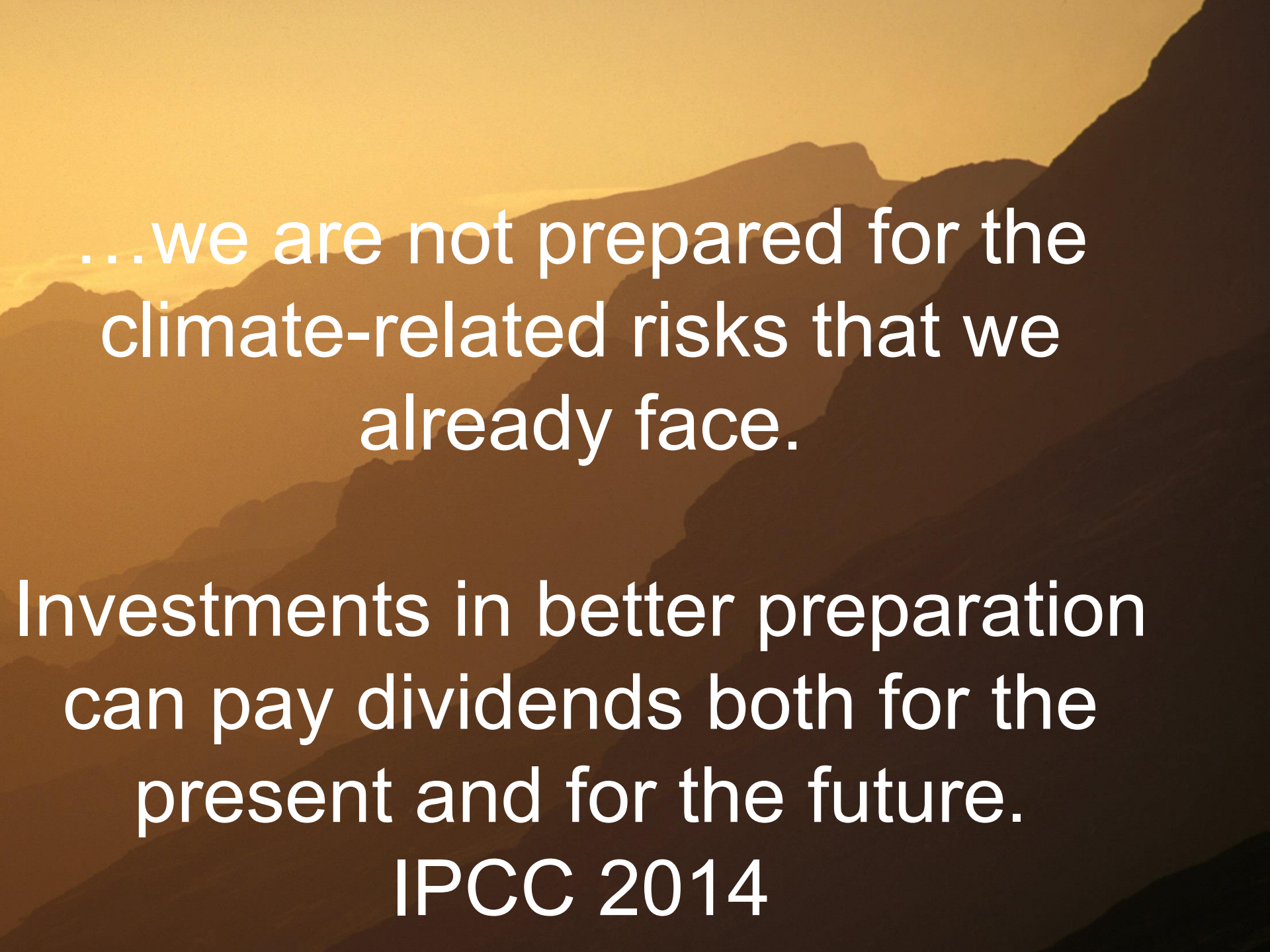






Key priorities for Scotland from CCRA2





...we are not prepared for the
climate-related risks that we
already face.

Investments in better preparation
can pay dividends both for the
present and for the future.

IPCC 2014

Links

- SNH's action plan Climate change and nature in Scotland
- <http://www.snh.gov.uk/publications-data-and-research/publications/search-the-catalogue/publication-detail/?id=1421>
- Climate trends on Scotland's Environment Web
- <http://www.environment.scotland.gov.uk/get-interactive/data/climate-trends/>
- LWEC Terrestrial Biodiversity Climate Change Impact Report Card
- <http://www.lwec.org.uk/resources/report-cards/biodiversity>
- Marine Climate Change Impacts Partnership Report Cards
- <http://www.mccip.org.uk/>
- Climate Change Risk Assessment Summary for Scotland
- <https://www.theccc.org.uk/wp-content/uploads/2016/07/UK-CCRA-2017-Scotland-National-Summary.pdf>
- National Coastal Change Assessment for Scotland
- <http://www.dynamiccoast.com/>
- SNH's adaptation principles and case studies
- <http://www.snh.gov.uk/climate-change/taking-action/adapting-to-change/helping-nature-adapt/turning-principles-into-practice/>
- Brian Huntley et al paper on pinewoods and climate change
- <http://onlinelibrary.wiley.com/doi/10.1111/conl.12349/full>
- Climate Ready Places (landscape visuals)
- <http://www.adaptationscotland.org.uk/how-adapt/tools-and-resources/climate-ready-places>



Some questions for discussion

- ☾ How do we take account of climate change risks and uncertainties in defining outcomes for nature? What does resilience look like?
- ☾ How do we involve others in defining new approaches and objectives? Does language matter?
- ☾ Are we likely to need transformational changes (e.g. major land use change) to adapt to climate change?
- ☾ How do we make up to date information on risks and current impacts available for adaptive management?
- ☾ How involved do local communities need to be? Are there examples where this has worked particularly well?