

Rain, hail, sleet and snow

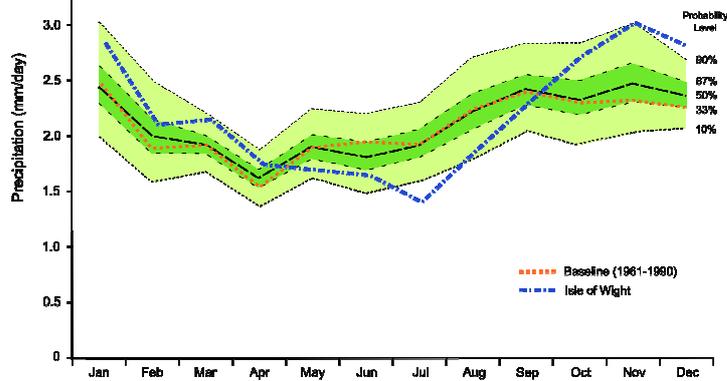
How does this compare?



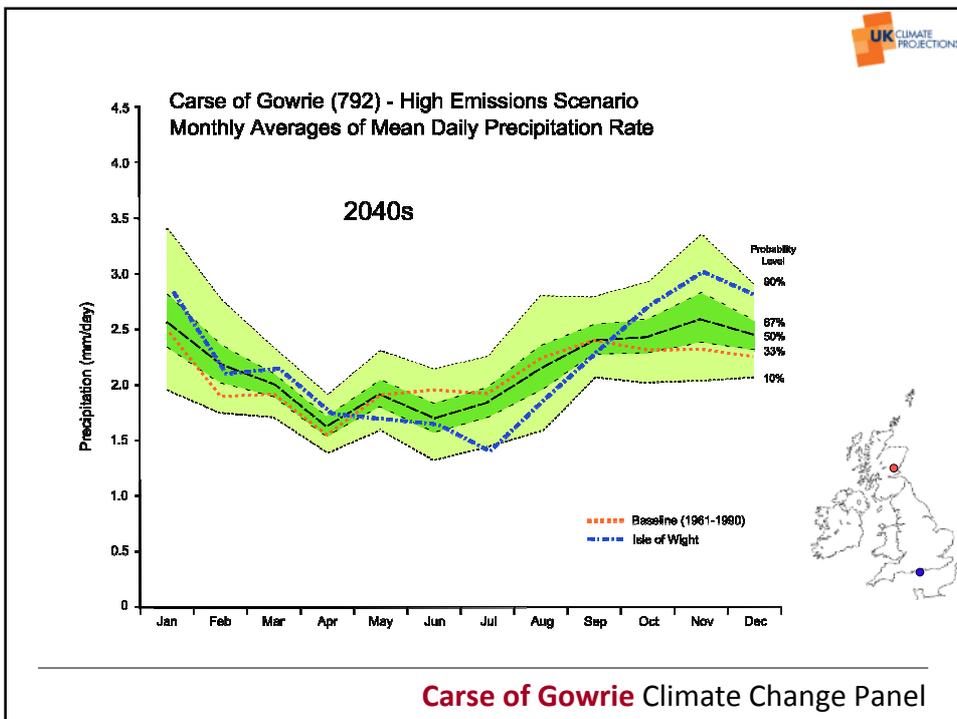
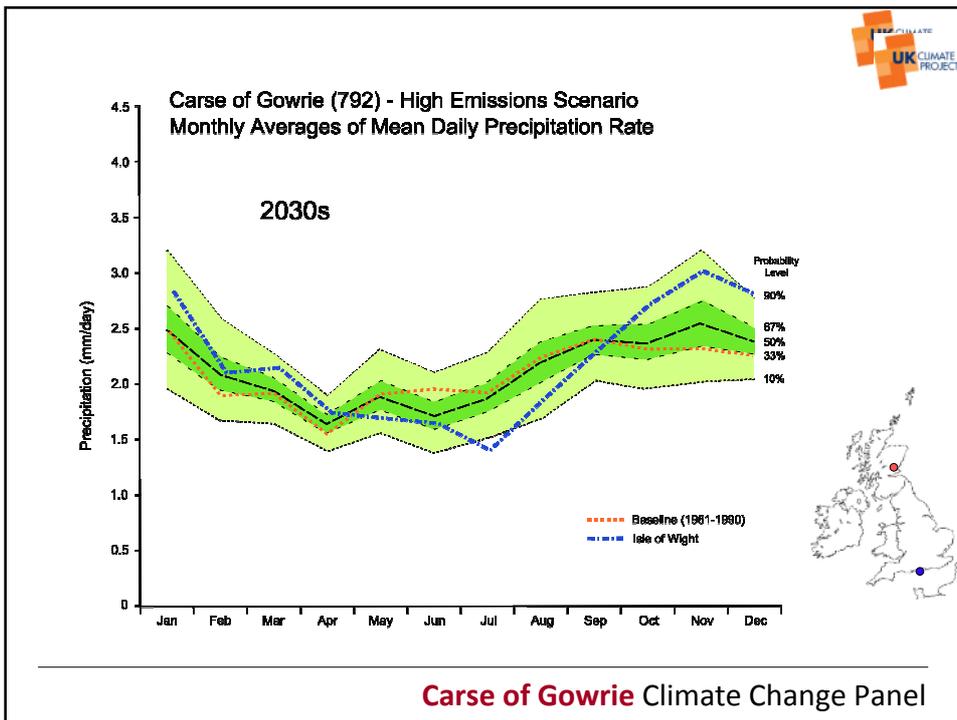
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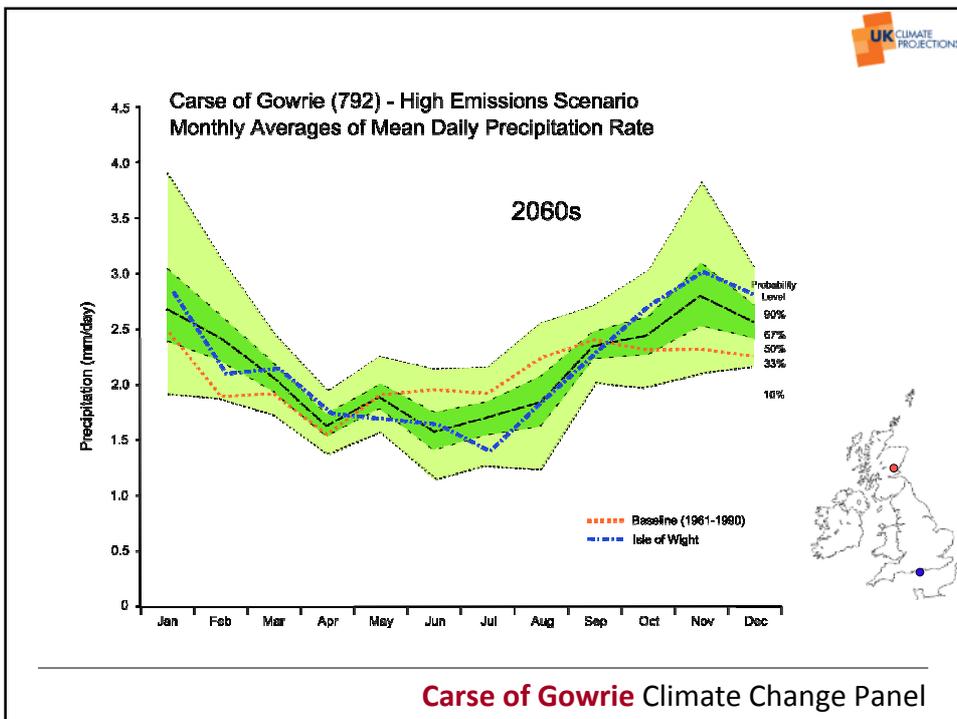
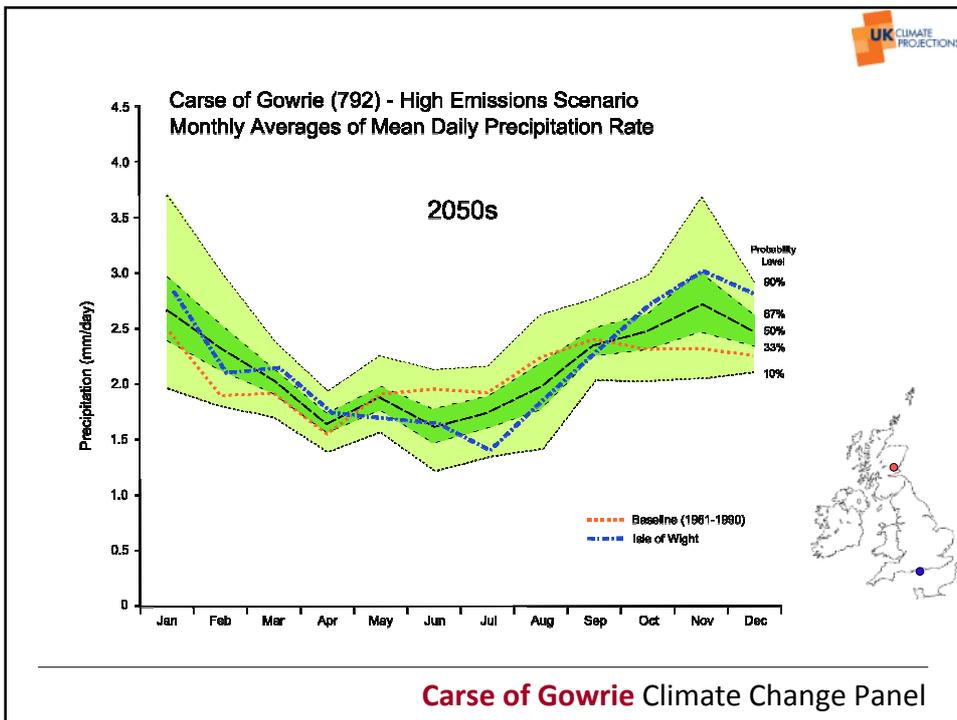
Carse of Gowrie (792) - High Emissions Scenario Monthly Averages of Mean Daily Precipitation Rate

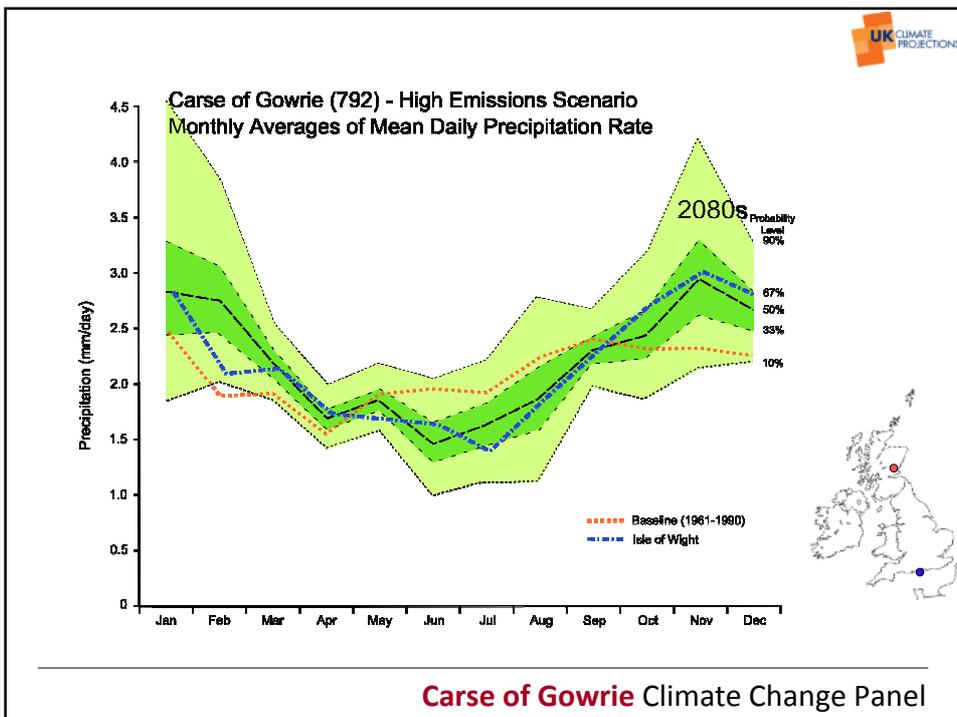
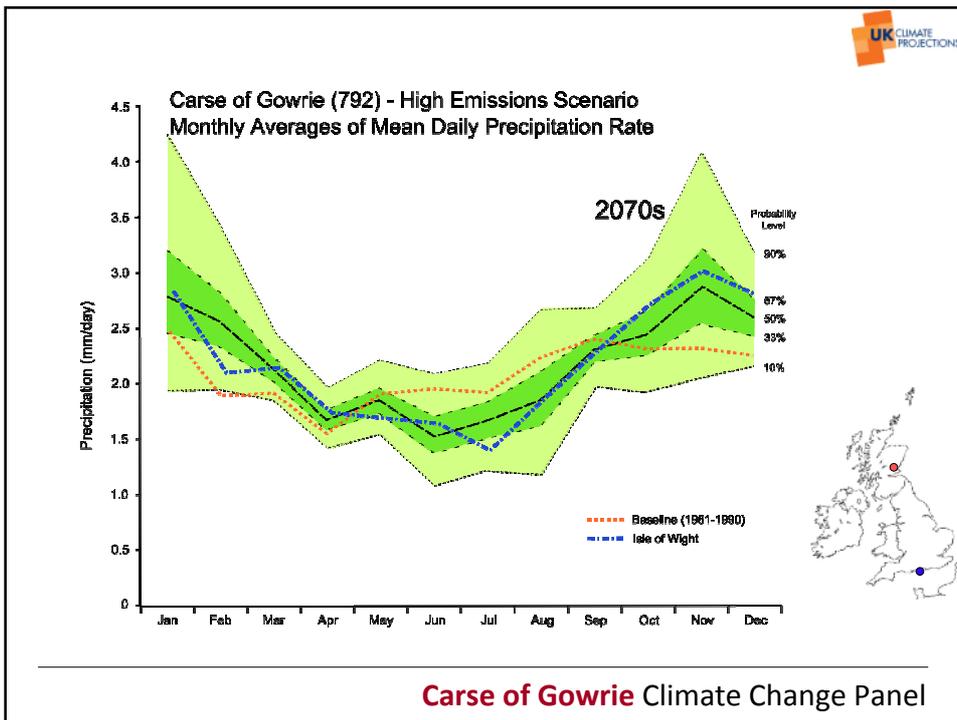
2020s



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Sea level rise

‘Glacio-isostatic rebound’ – much of the Scottish land mass has been rising since the last ice sheets melted

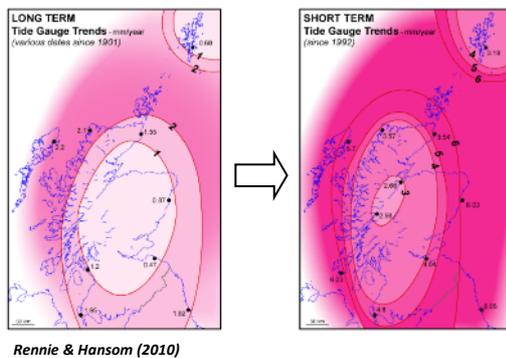
Rate of uplift is declining at the same time as global sea level rise is accelerating

So, sea level rise is likely to be a key issue for Scotland – low lying coastal areas, coastal settlements and infrastructure

- **what’s already happening?**
- **what do the climate change projections suggest?**
- **what are the implications?**

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What's already happening? Records from Tidal Gauges in Scottish Ports



Recent analysis of tide gauge records at Scottish Ports indicates that sea level is now increasing around Scotland...

... and the rate of sea level rise appears to be increasing since 1992...

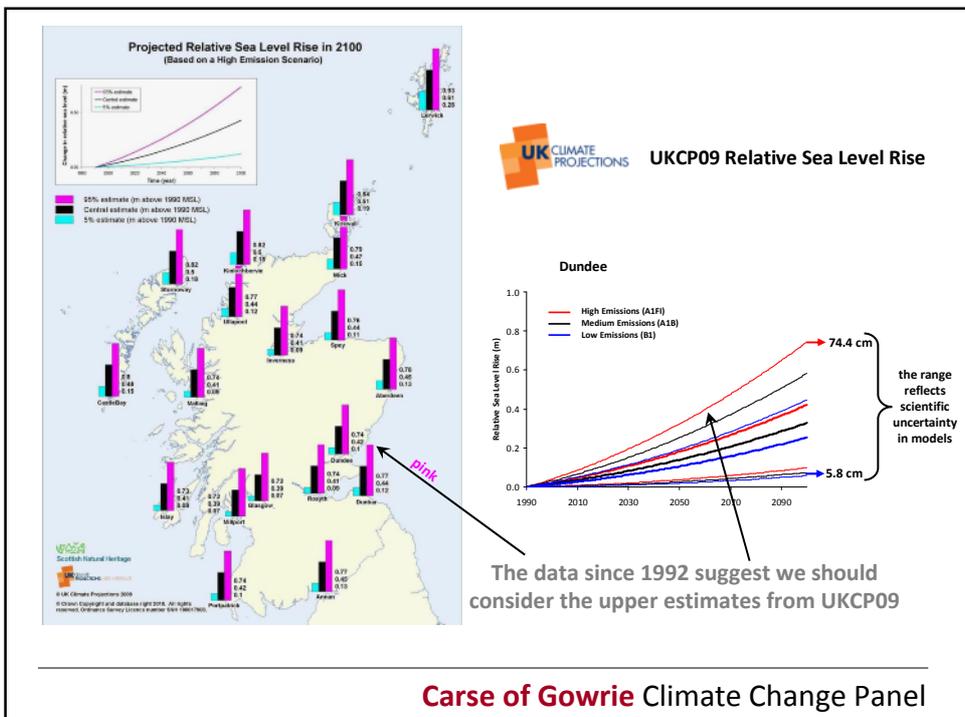
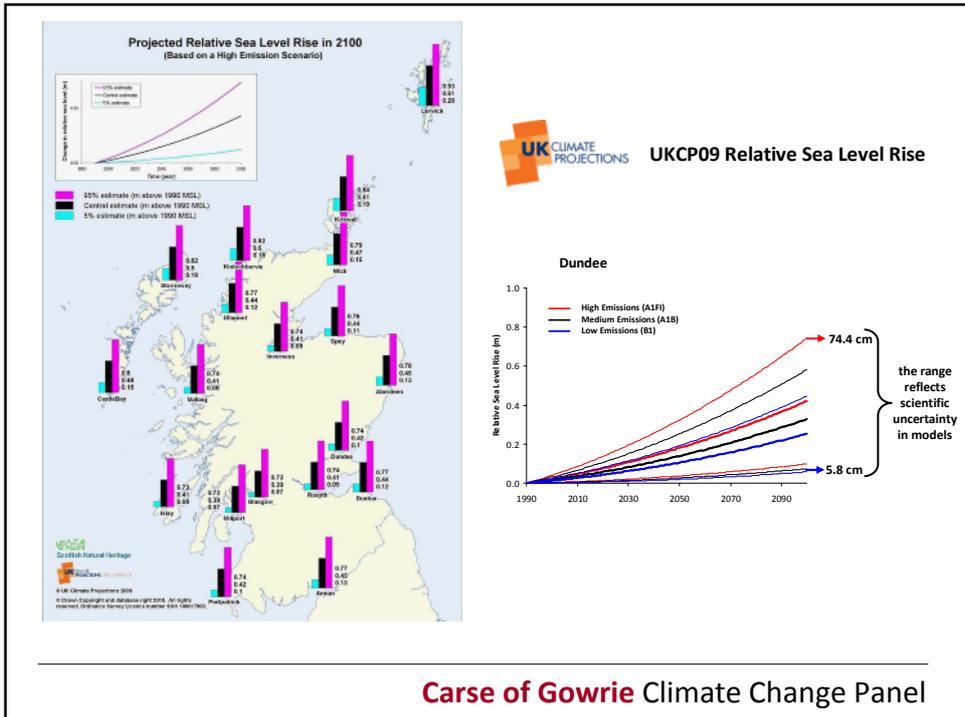
... these recent trends would put Scotland on the 95% frequency high emissions of UKCP09 model outputs

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What do the climate change projections suggest will happen in the future?

- Potential rise in sea level of between 6 and 74cm by 2100
- Considerable uncertainty
- Recent trends suggest the figure is likely to be closer to the upper projection

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Sea level rise

Potential loss of low lying sections of coast

More severe flooding during storm events – tidal surges

Changes in coastal processes – erosion, transport and deposition of material

Rates of sea level rise greater than 3-4 mm year can lead to widespread 'reorganisation' of coastal landforms

The degree of change will reflect rate of sea level rise and the supply of sediment along the coast and from rivers such as the Tay

Influence of coastal defences here and elsewhere, and how river catchments are managed

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... in summary

Climate change projections suggest that:

- Summers will get hotter and drier
- Winters will be warmer and wetter
- Longer growing season
- Coastal areas will experience sea level rise and changing patterns of coastal erosion and deposition

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Next time ...

What will this mean for the Carse of Gowrie?

- threats
- opportunities

How will climate change affect the aspects of the area that you value? Will it make existing problems worse?

What choices will we need to make?

Thank you!

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