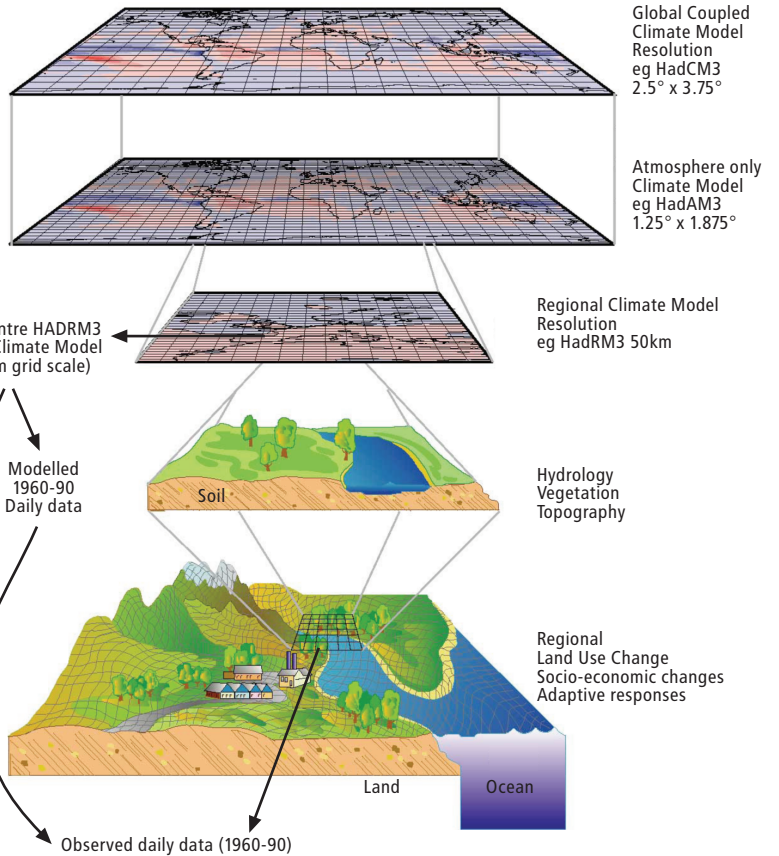


## Climate Model Downscaling and Uncertainty Implications for Planning

Data from climate models are used to predict the likely impacts of climate change and help plan mitigation and adaptation strategies. However, a key area of uncertainty is the utility of future climate projections. Quality evaluation and downscaling may help to resolve this issue.



Climate model scales of representation and evaluation process

### How does this work?

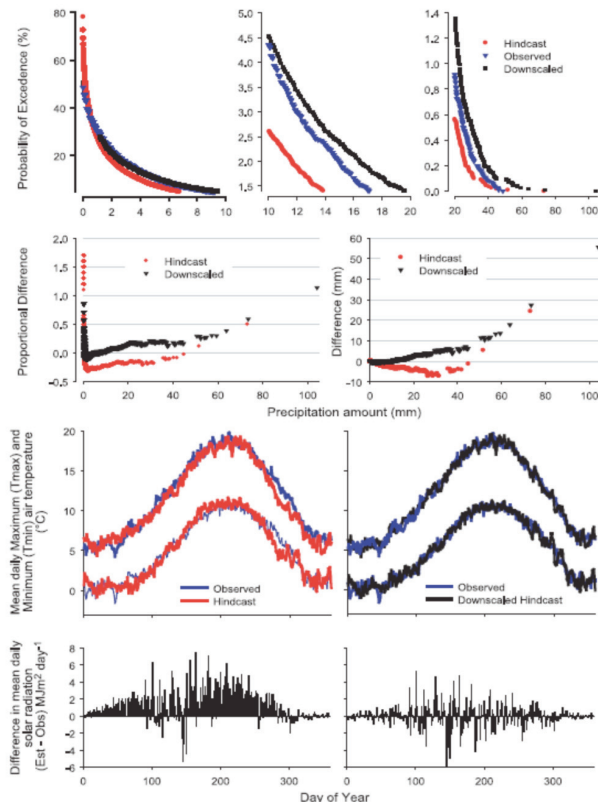
Climate model data representing the weather for the period 1960 to 1990 were compared with actual historical data.

Any differences were used to help develop 'bias correction downscaling factors'. These were then applied to the model's 1960 – 90 estimates again and a new comparison made.

The downscaling factors improved the match between modelled and observed data. They could then be applied to the climate model's future projections to help reduce uncertainty.

### Why is this important?

This process means we can have greater confidence in the utility of the future projections. It means more localised climate change impacts and adaptations studies can be made.



Assessment of data quality for original HadRM3 hindcast (red) and downscaled hindcast (black) against observed data for Mylnefield, Scotland