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Uncertainty in climate-driven disease prediction on seasonal to decadal timescales

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Climate anomalies act as a forcing on disease. In the case where a prediction of disease risk is based on prediction of climate anomalies, the skill of the disease forecast depends on the climate forecast to a large extent. Forecasts of upcoming climate can be made using climate models, which simulate the future evolution of the climate based on initial conditions. Seasonal climate models make forecasts of an upcoming season from months ahead and have been shown to have prediction skill in certain regions, whilst decadal models are run out to decades ahead and so far have not demonstrated useful prediction skill.
In this talk the validation of climate models on seasonal to decadal scales will be discussed, with a view to using their output to drive disease models. In the case of seasonal prediction, results from the current UK Met office seasonal model will be shown and compared with initial results from the European Centre for Medium-Range Weather Forecasts seasonal model, system 4.
With regard to decadal timescales, validation of the ENSEMBLES decadal stream 2 hindcasts (the first ever multi-model decadal hindcast set) will be presented. Finally to there will also be a discussion of issues related to the wider uncertainties in prediction of climate-driven disease.