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Decadal variability, predictability & risks

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Decadal prediction is a growing field due to its possible value for policy, planning and risk management. The potential to make skilful forecasts on these timescales arises from both the forced response and internal variations of the climate system. However, models disagree on the amplitude and timescales of decadal variability and on how low-frequency variations in the ocean generate variations over land areas. An empirical decadal prediction system which combines both GCM and statistical methods with the aim of producing improved probabilistic predictions over land will be described and assessed. I will also discuss how the risks of extreme temperature events have already changed and may change further in future, and whether these risks vary with different phases of large-scale variability modes.