

SESSION: (B1) Mechanisms of S2D predictability

(B1-01)

On the mechanisms that give rise to predictability on Seasonal-to-decadal time-scales

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Providing the best climate information available for smaller regions, and on shorter timescales, is a crucial goal for Climate Science in order to aid planning and adaptation decisions. Therefore, over the last 10-15 years, or so, there has been an explosion in the interest in so called “near-term” climate predictions, which aim to predict both the regional impact of forced changes and the internal variability. There is now significant evidence showing that initialising coupled climate models from observations leads to improved retrospective predictions of a range of variables on inter-annual, multi-year and decadal time-scales. However, to confidently predict future variability, it is crucial that the mechanisms that give rise to predictive skill on these time-scales are understood. As prediction is also the ultimate test of our understanding and of our models, climate predictions on seasonal-to-decadal time-scales also represent a powerful tool to explore our understanding of regional climate dynamics, and to improve our models. Therefore, in this talk I’ll give a brief overview of the mechanisms that are important for delivering skill on different time-scales. I’ll also provide some commentary on what mechanisms we think are more robust, and those which need more understanding. Finally, I’ll discuss ways in which novel experiments using seasonal-to-decadal predictions can be used to probe our understanding further.