

EGU22-12001

<https://doi.org/10.5194/egusphere-egu22-12001>

EGU General Assembly 2022

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Characteristics of extremely warm and extremely cold events in Iceland – The Couch Diagramme

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Temperature extremes are in general relatively difficult to forecast accurately and it is important to assess their nature and characteristics, both in numerical models and in reality. Such extremes in Iceland have been explored and linked to two key parameters of the flow; low-level wind speed and static stability. The results reveal very distinct distribution of cases in the space of these parameters: Cold extremes in the winter occur only at low wind speeds, while in the summer, they occur only in low static stability. Warm extremes in the winter occur on the other hand only at high static stability, and warm extremes in the summer occur only at low wind speeds. This result can be summarized in The Couch Diagramme.