

## **Analysis of synoptic forcing for widespread surface temperature extremes across Alaska**

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Widespread daily warm and cold extremes across the state of Alaska are identified using the ERA-Interim reanalysis. The self-organizing map (SOM) algorithm is used to classify the typical synoptic patterns that impact this area and to identify the patterns that are responsible for these extremes. Different types of synoptic forcing for extremes are identified (e.g. advective vs radiative events). Common characteristics for these types are evaluated by compositing basic state variables and differences between extreme and non-extreme days are evaluated. We also analyze the days leading up to the extreme event to determine if there is a preferred synoptic evolution that favors extreme events.