

- 13:48–13:55
- |
- EGU22-12001
- |
- **ECS**
- [Characteristics of extremely warm and extremely cold events in Iceland – The Couch Diagramme](#)
- **Guilhem Mollard** and Haraldur Ólafsson



The the couch diagramme of temperature extremes

Guilhem Mollard og Haraldur Ólafsson



How do T extremes look like?

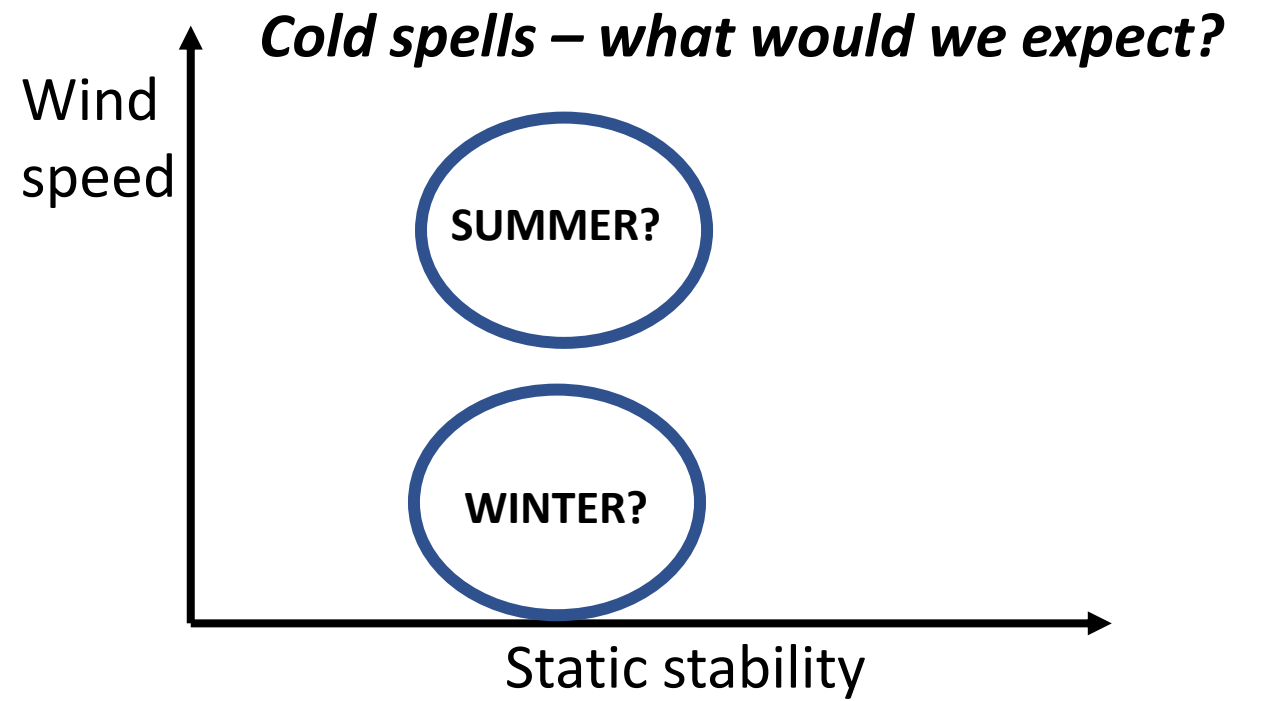
Variability in time, Profiles of wind, wind direction and temperature, humidity and cloudiness....

40 years of data from Iceland

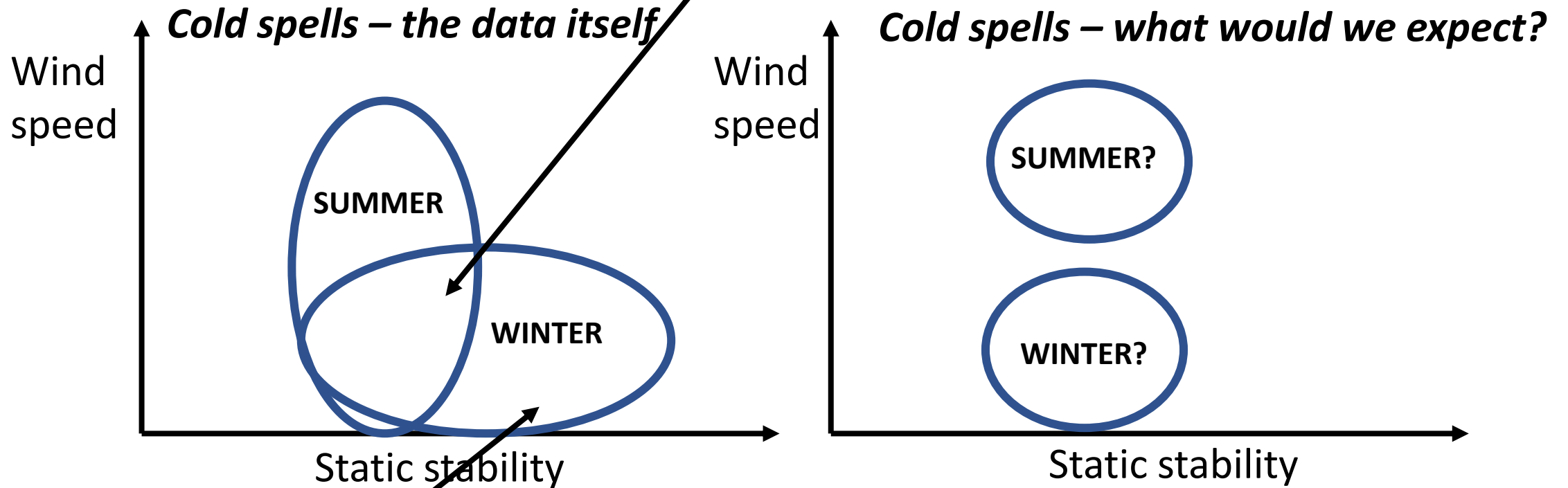
Extreme = Return period of ca 1 year

Model performance depends on the dynamic situation; e.g.: surface inversions may be very hard to simulate accurately





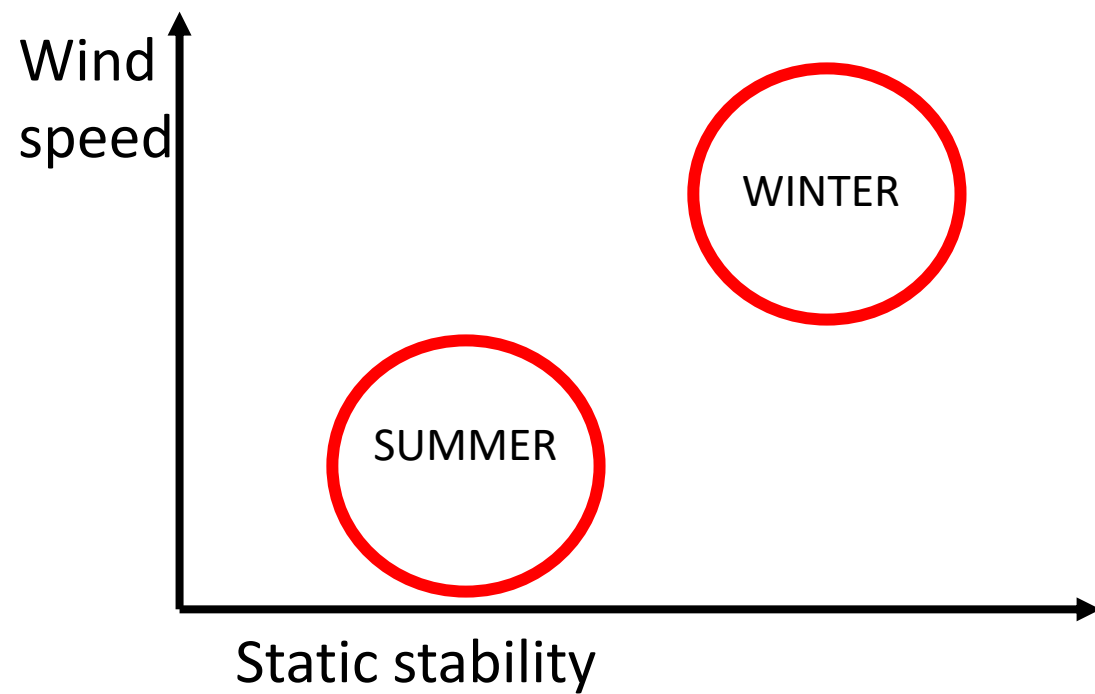
A calm summer night following an Arctic outbreak



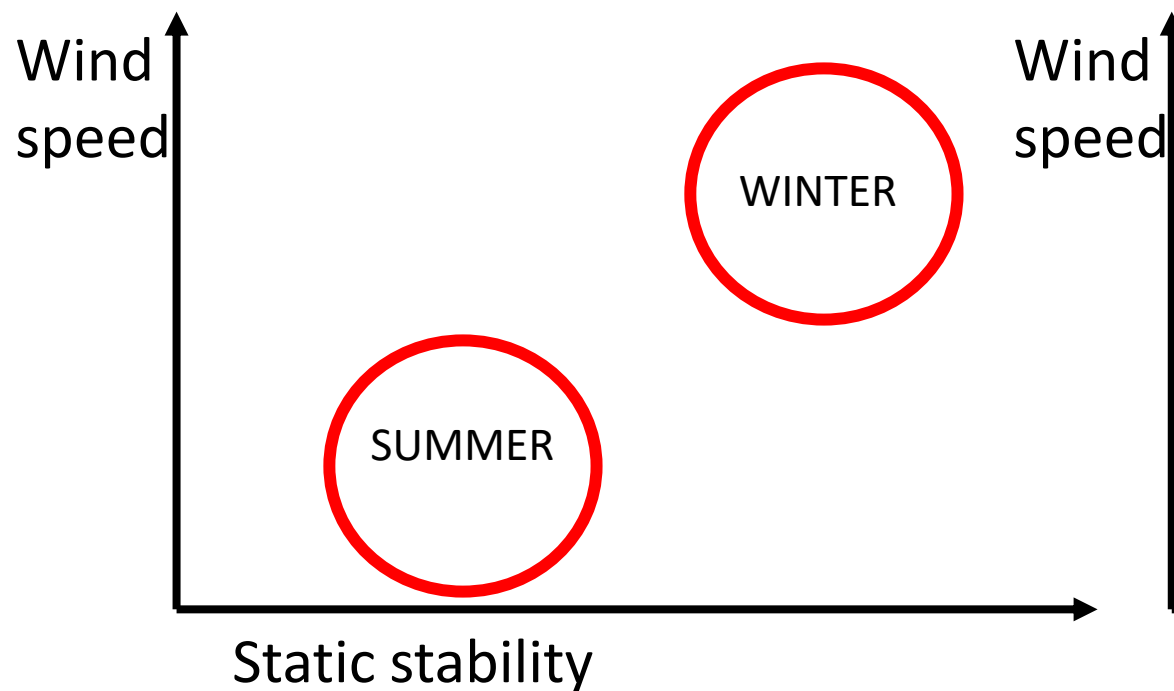
Mid-to-upper tropospheric warm ridge
may be favourable for radiative heat loss
at the surface



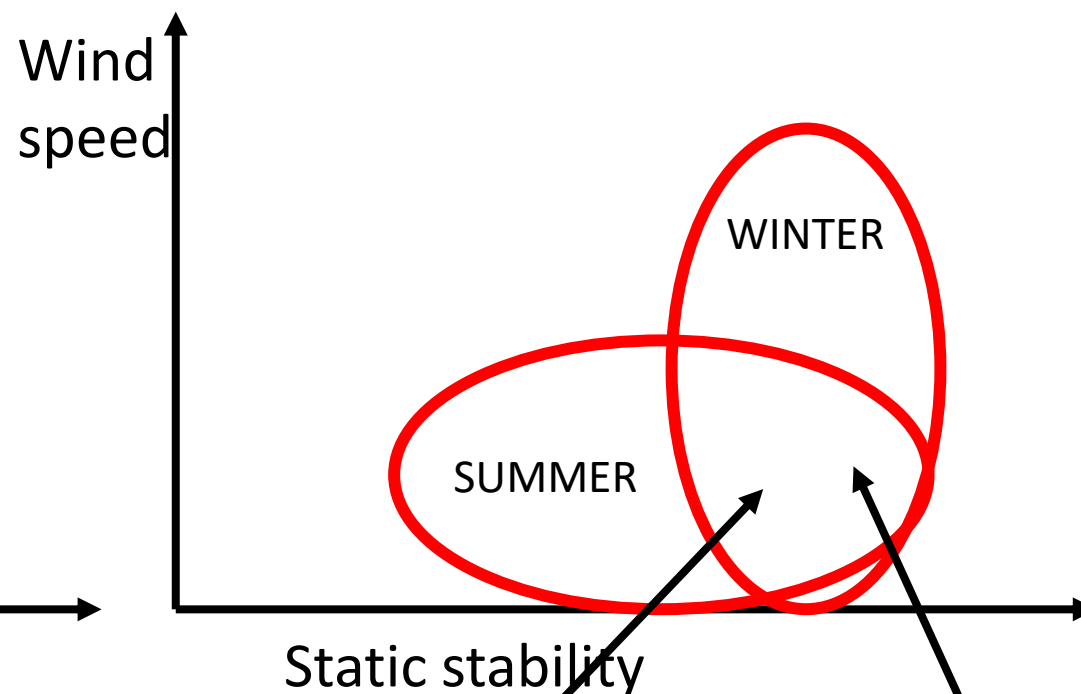
Heat waves – what would we expect?



Heat waves – what would we expect?



Heat waves – the data itself!

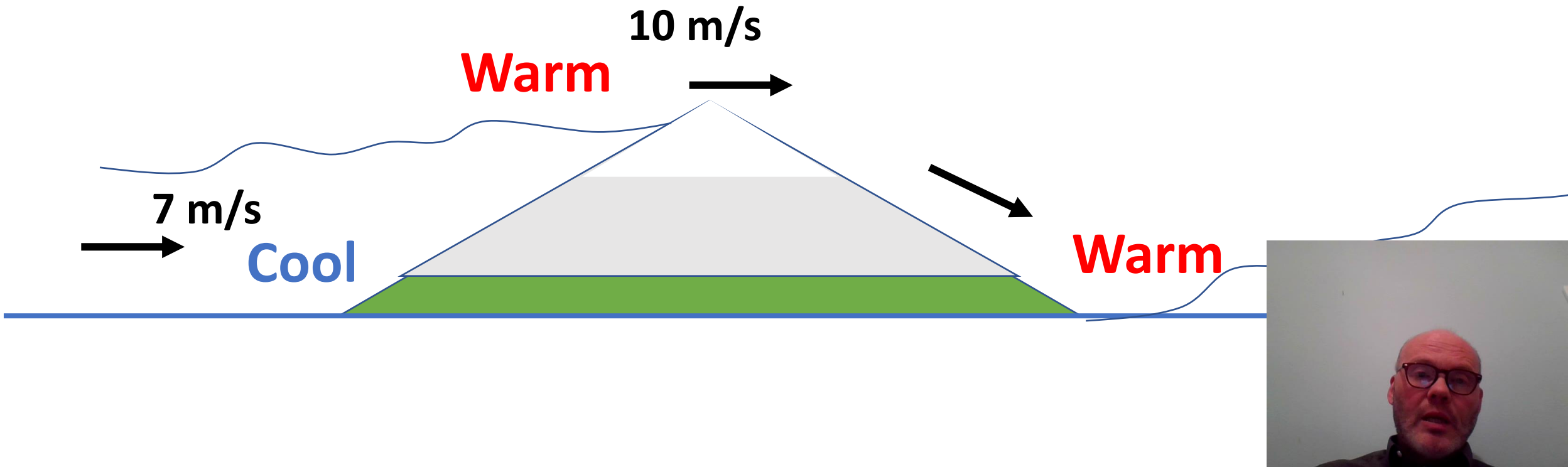


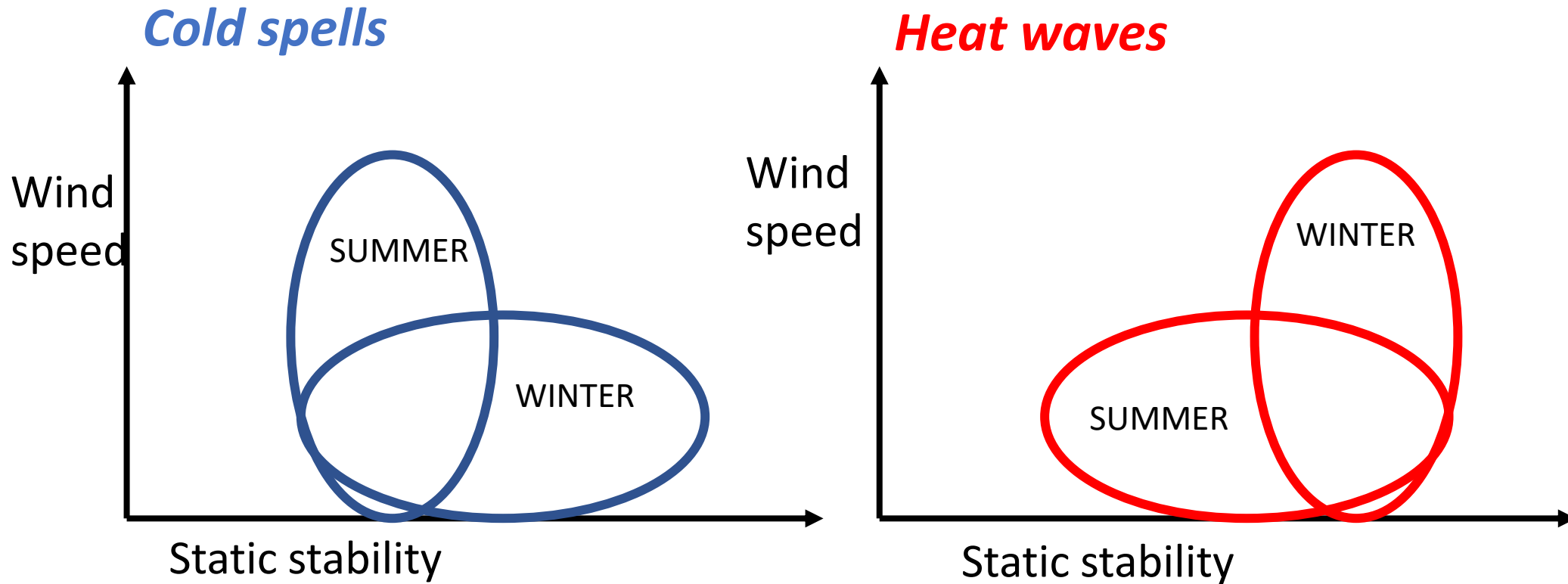
Summer:
Upper level warm ridge,
cloudfree

Winter:
a) foehn “
b) “recent



“Moderate” foehn. If the wind increases, the cool upstream air will overcome the barrier of the mountain and the temperature in the wake will decrease





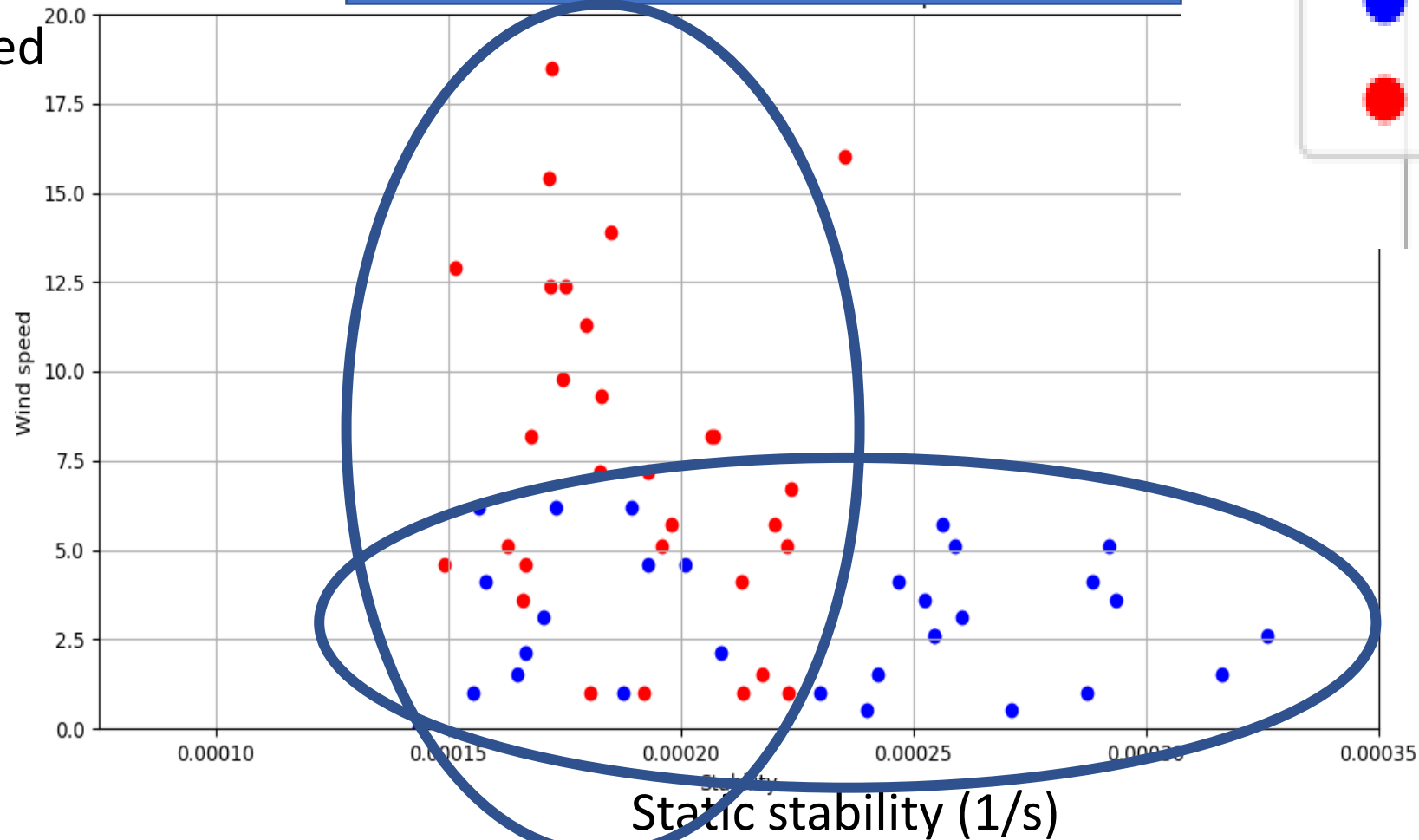
The couch diagramme of temperature extremes

How universal is the couch diagramme?



Hveravellir – Cold spells

Wind speed
(m/s)





The couch
diagramme

