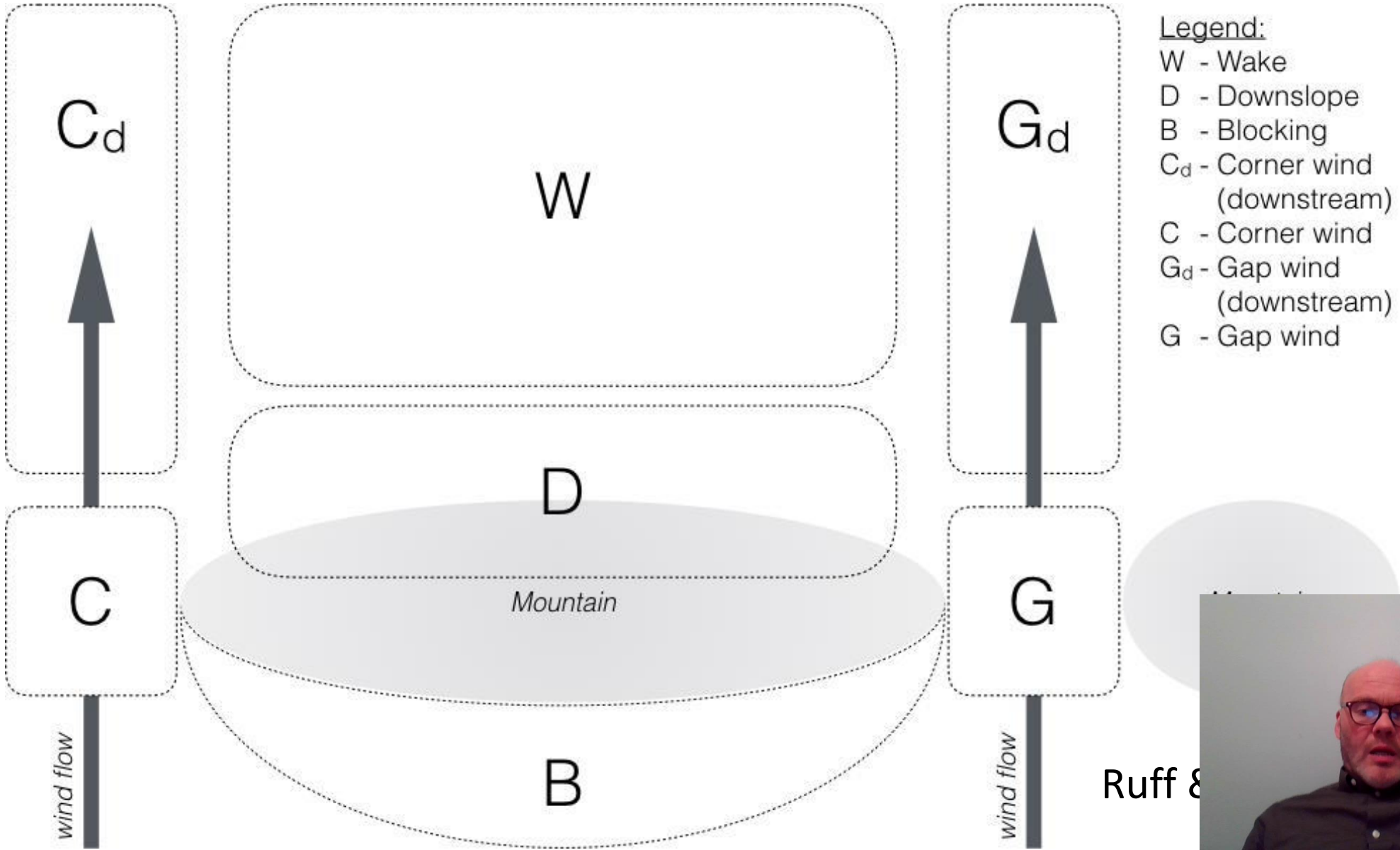
- 13:34–13:41
- |
- EGU22-11169
- **The connection between quality of wind forecasts and the dynamics of the winds**

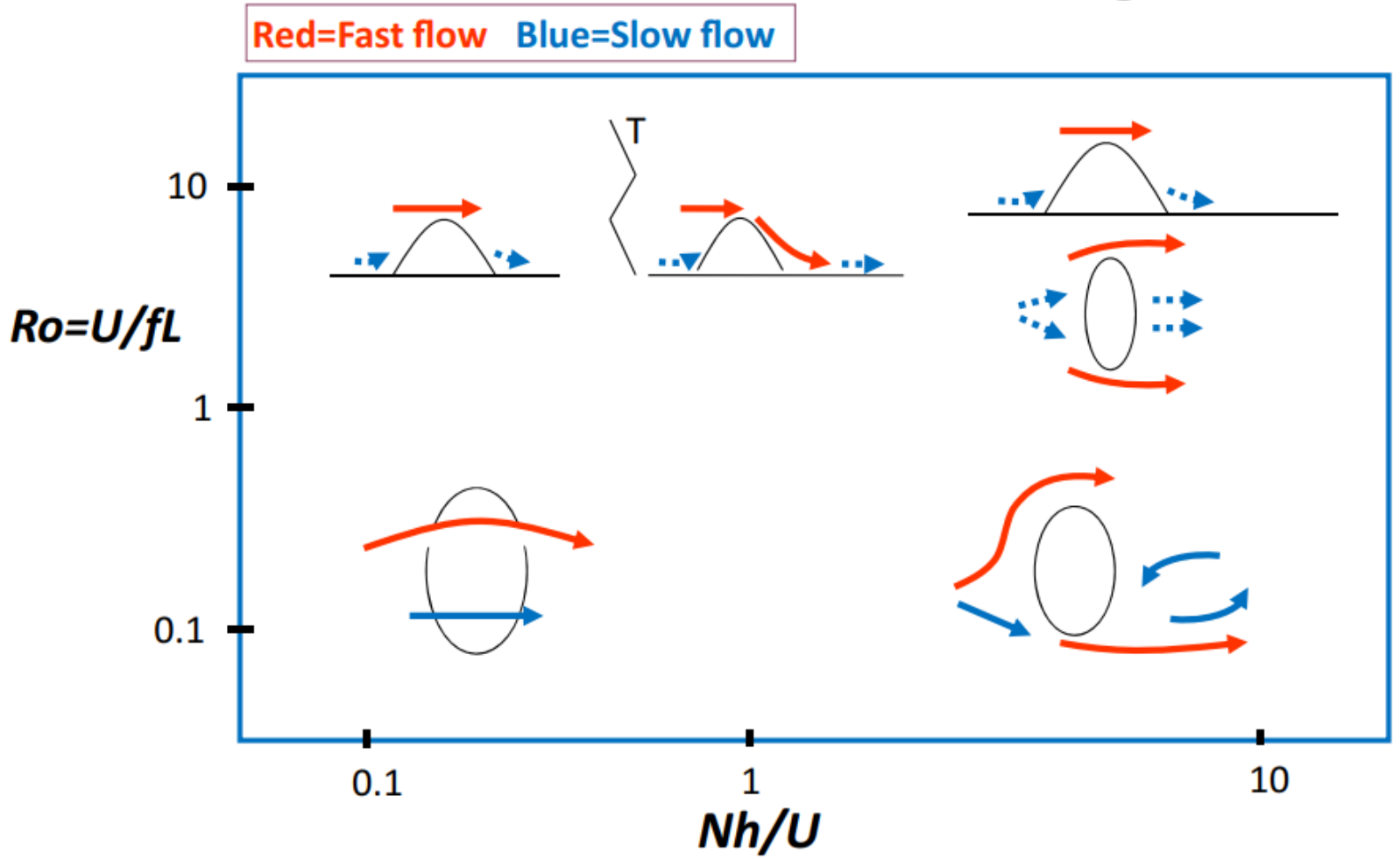
- Poster moved into short contribution

Orographic flows

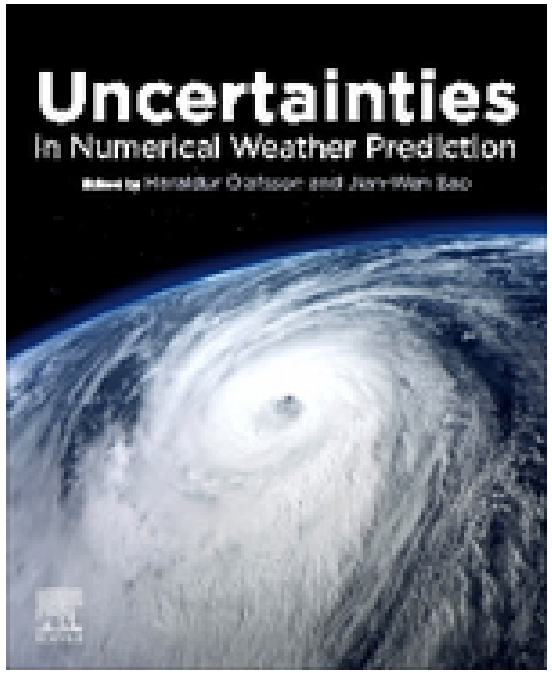


Ruff &

The mountain wind diagram



Ólafsson & Ágústsson (from Ólafsson & Bao edts., 2020) Email: haraldur68



Uncertainties in Numerical Weather Prediction

1st Edition

☆☆☆☆☆ Write a review

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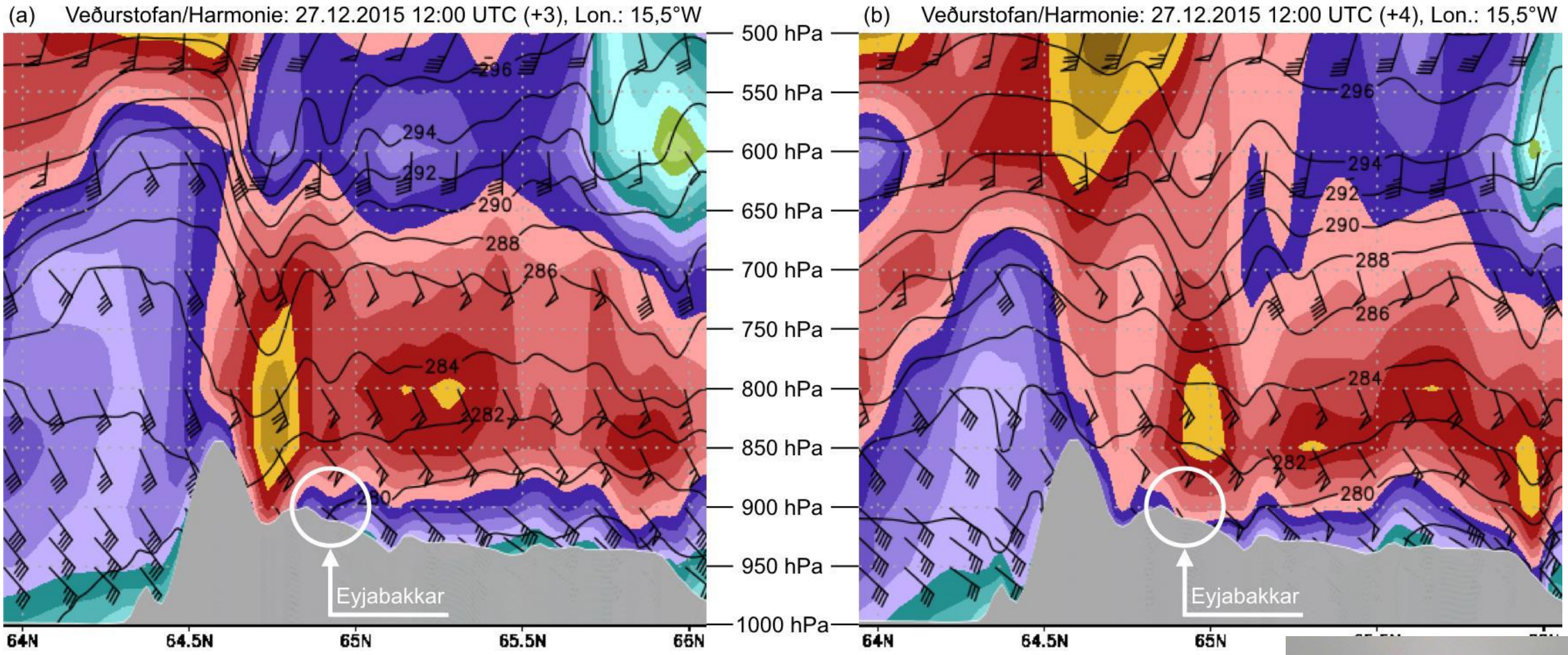
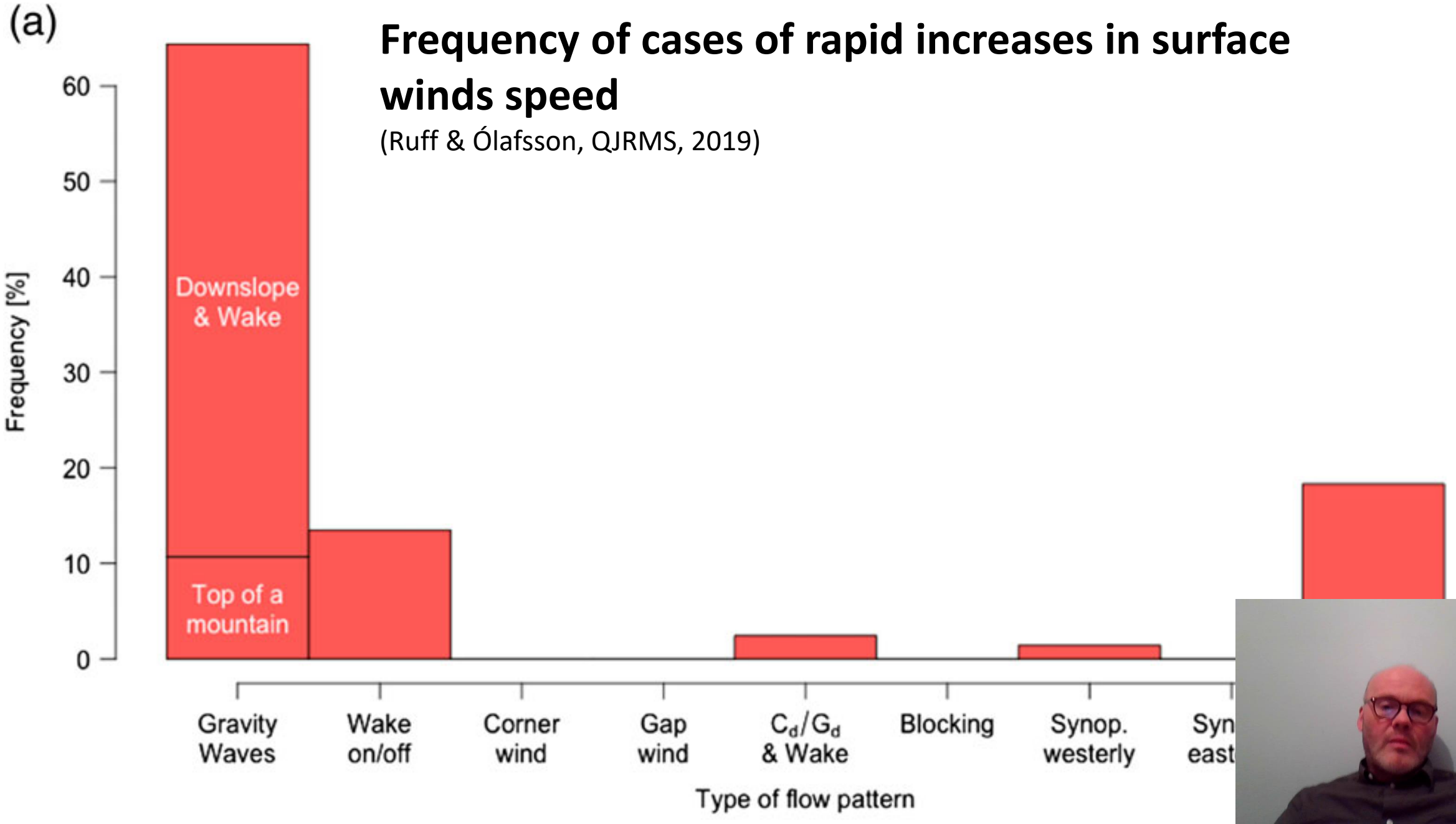


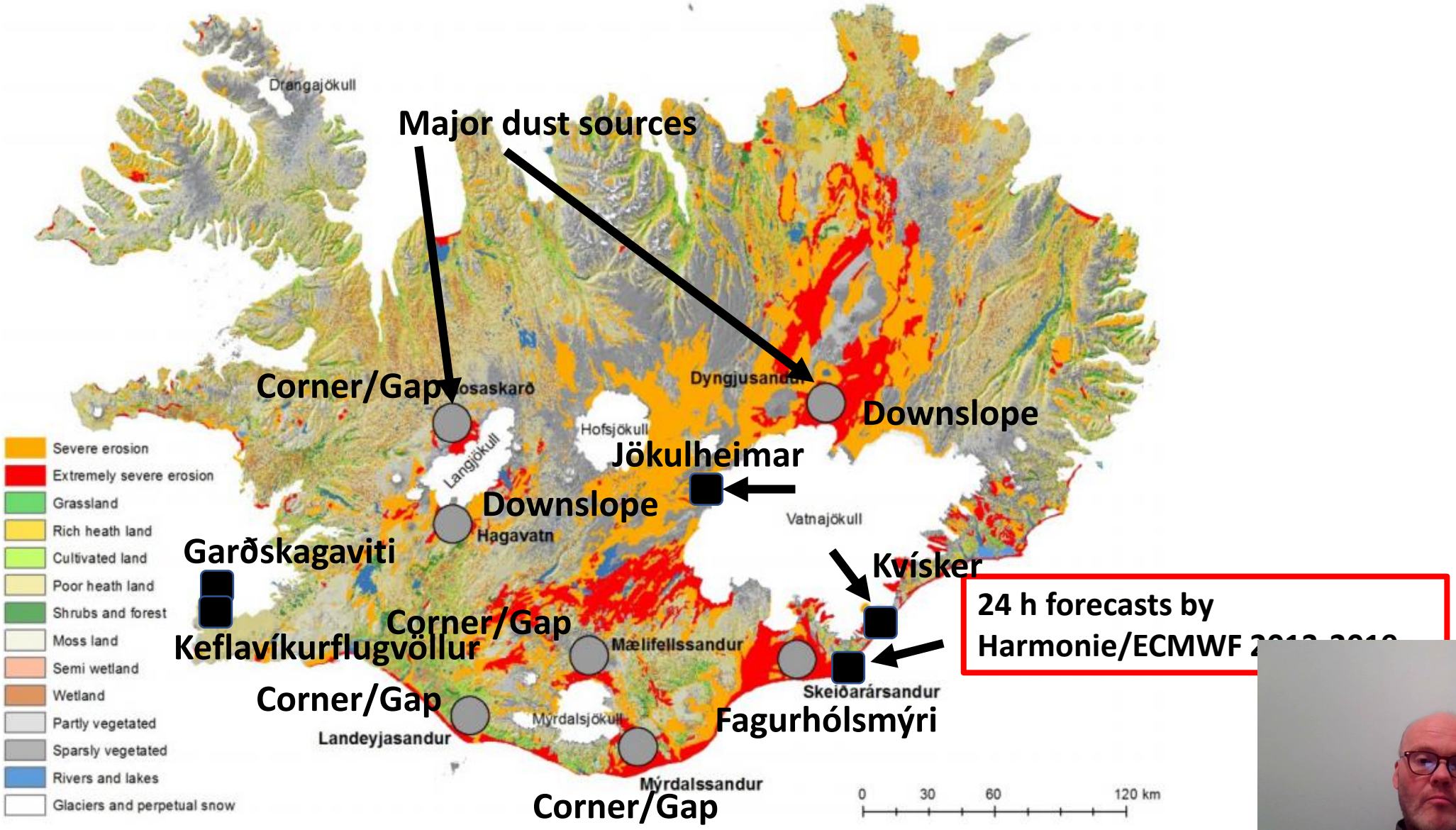
Simulated wind speed with a 1 h interval

(Ruff & Ólafsson, QJRMS, 2019)

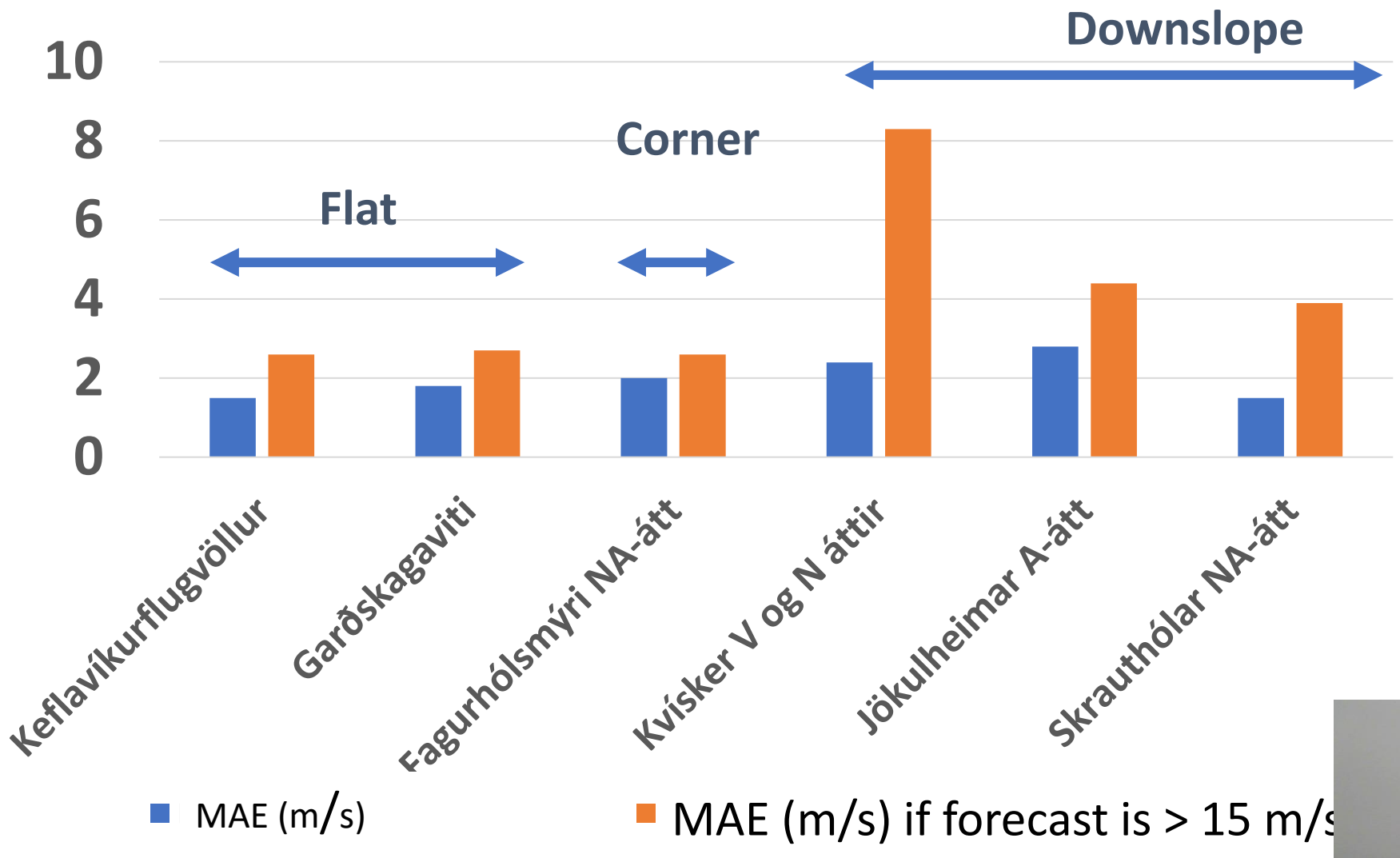
Frequency of cases of rapid increases in surface winds speed

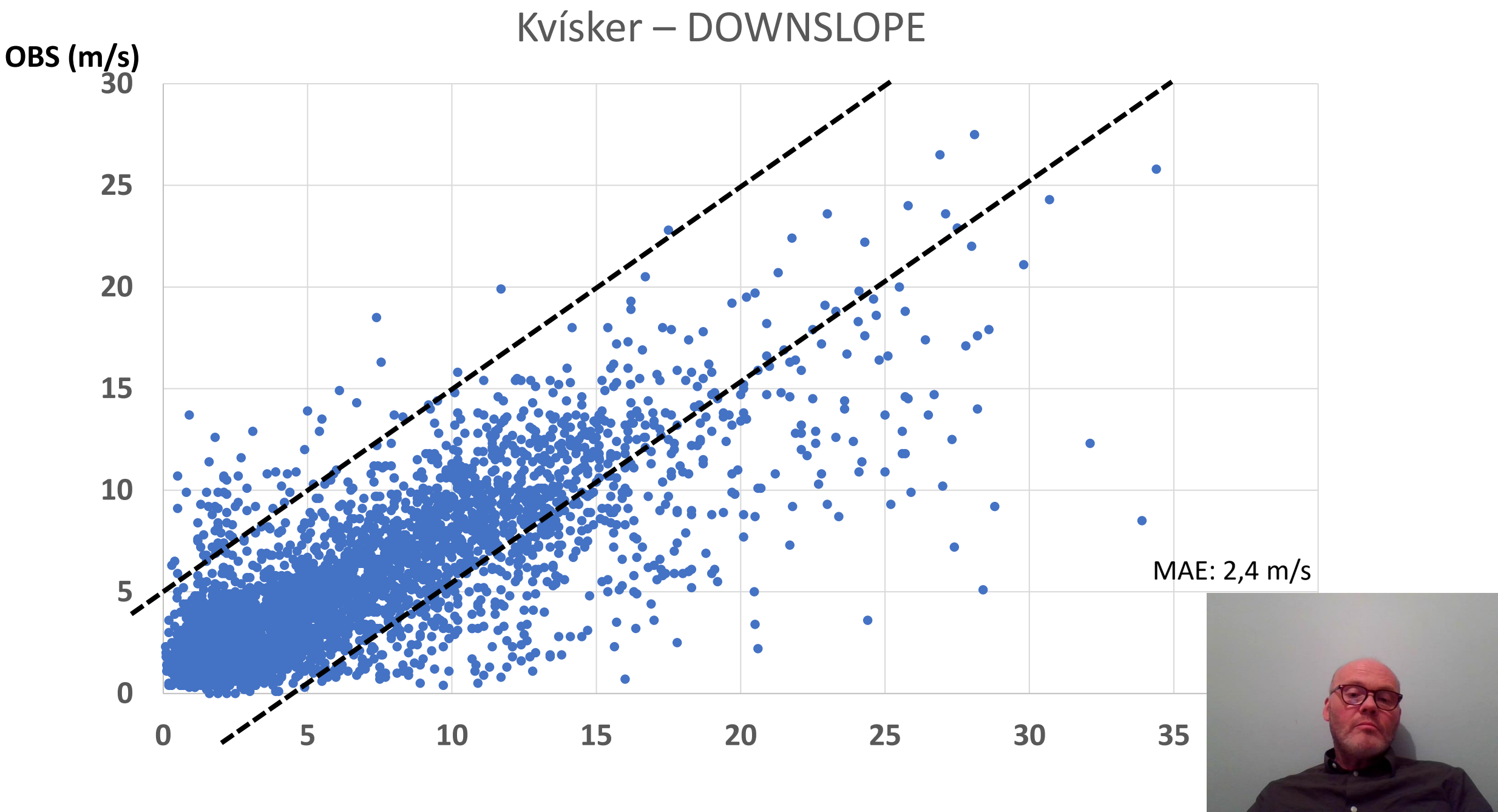
(Ruff & Ólafsson, QJRMS, 2019)



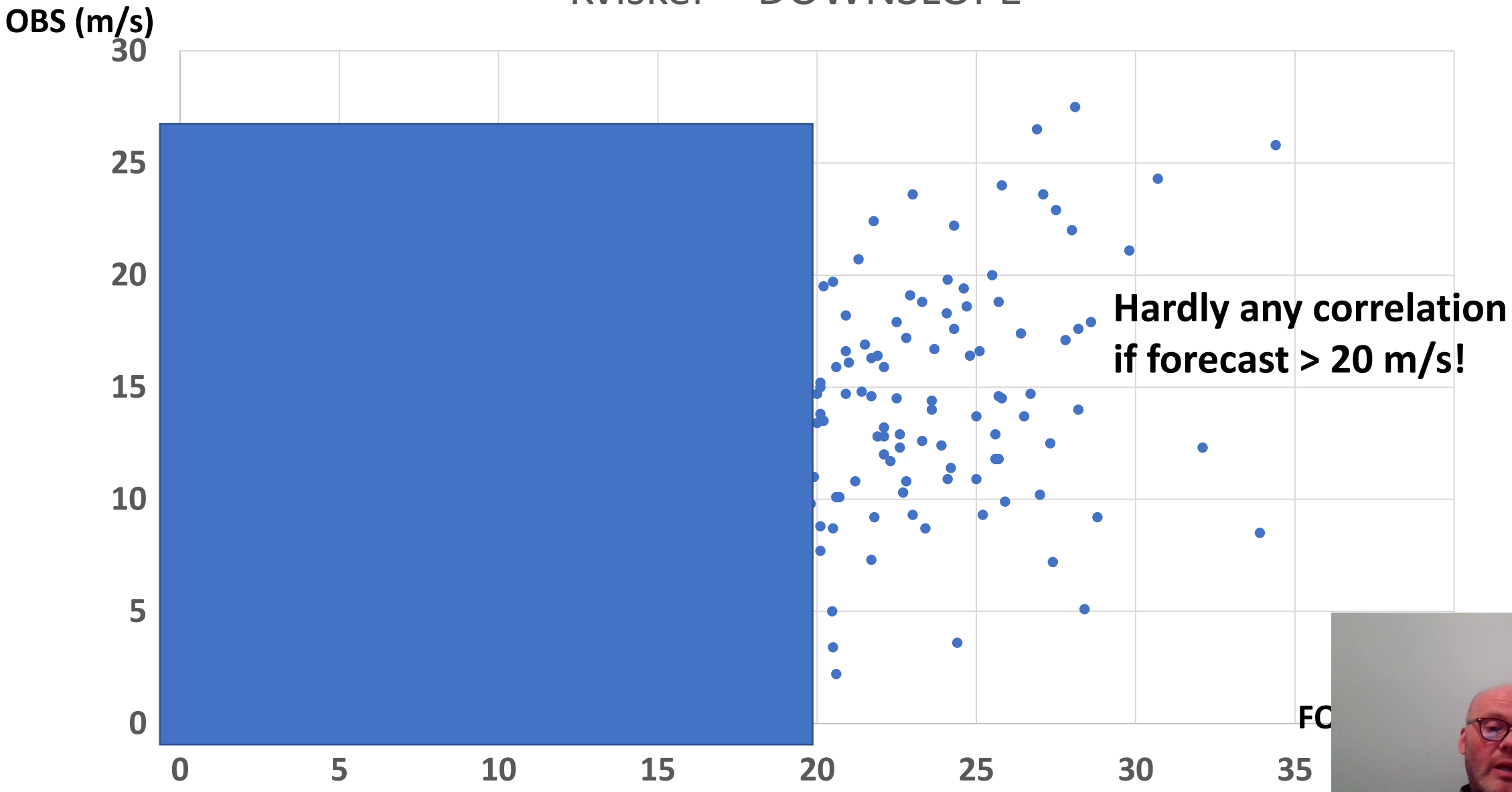

Major dust sources
Drangajökull
Corner/Gap
Dyngjusandur
Downslope
Hofsjökull
Jökulheimar
Langjökull
Downslope
Hagavatn
Vatnajökull
Garðskagaviti
Kvísker
Corner/Gap
Keflavíkurflugvöllur
Mælifellssandur
Skeiðarársandur
Corner/Gap
Fagurhólsmýri
Mýrdalsjökull
Landeyjasandur
Mýrdalssandur
Corner/Gap
Severe erosion
Extremely severe erosion
Grassland
Rich heath land
Cultivated land
Poor heath land
Shrubs and forest
Moss land
Semi wetland
Wetland
Partly vegetated
Sparsly vegetated
Rivers and lakes
Glaciers and perpetual snow
0 30 60 120 km
24 h forecasts by
Harmonie/ECMWF

Mean absolute error in 24 h wind forecasts (m/s)




Kvísker – DOWNSLOPE
OBS (m/s)
30
25
20
15
10
5
0
0
5
10
15
20
25
30
35
MAE: 2,4 m/s

Kvísker – DOWNSLOPE



Summary

Station	False alarms	Missed storms
Corner wind	0,42%	0,26%
Downslope I	2,20%	0,08%
Downslope II	0,83%	1,00%

Big errors in predicting dust-storm winds are up to several times more frequent in downslope wind conditions than in corner winds

This is most likely related to uncertainties in the vertical profile of the atmosphere and may be difficult to deal with