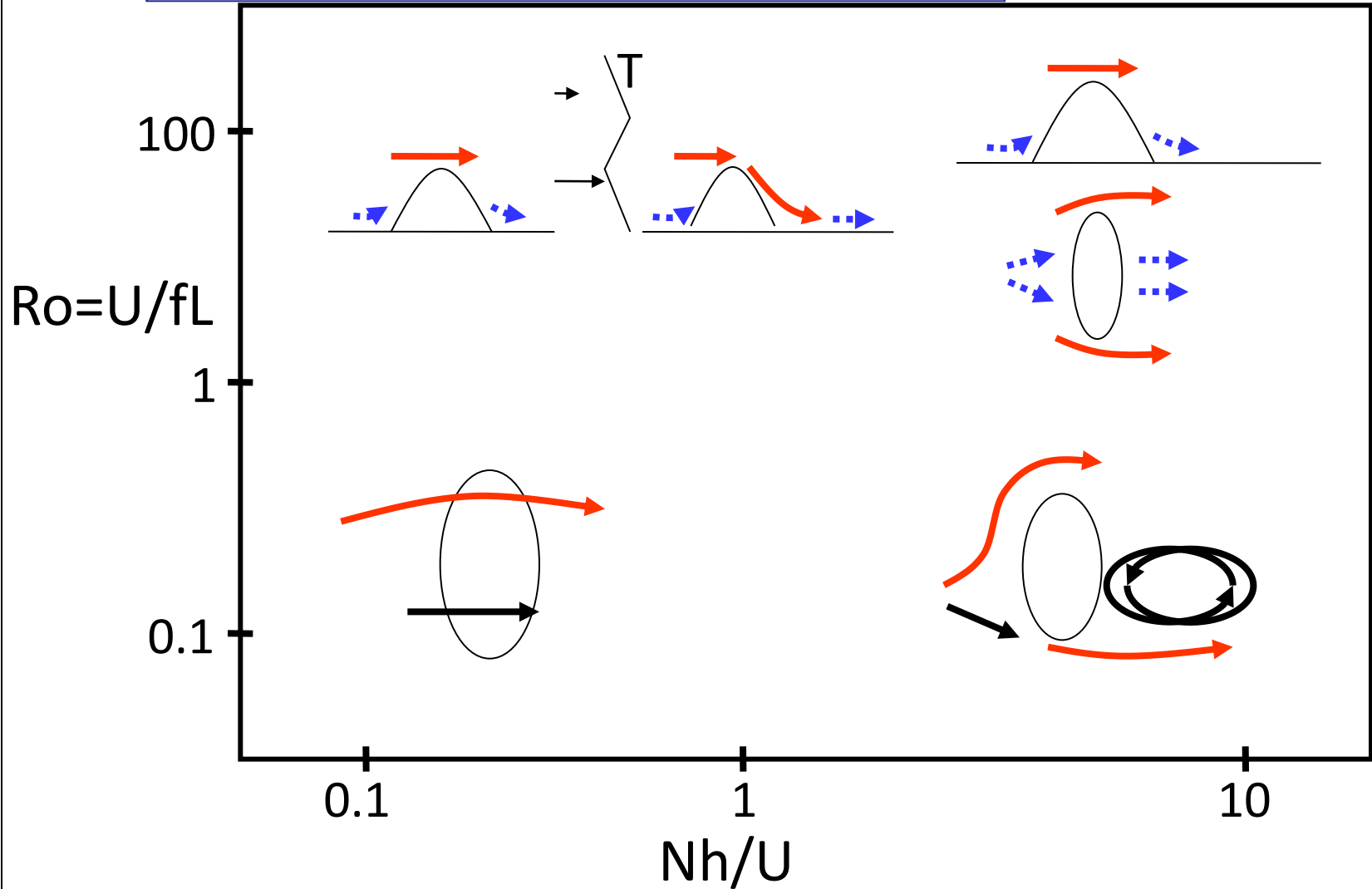


Orographic flow NOMEK 2010

Handouts

The mountain wind forecasting diagramme

Red=speed up Blue=slow down



Mountain waves

Good for creation:

- A stable layer close to mountain top

- Impinging winds stronger than about 12 m/s

Good for amplifying and upward propagation:

- Stability decreases with height

- Wind increases with height

- No great changes in wind direction with height

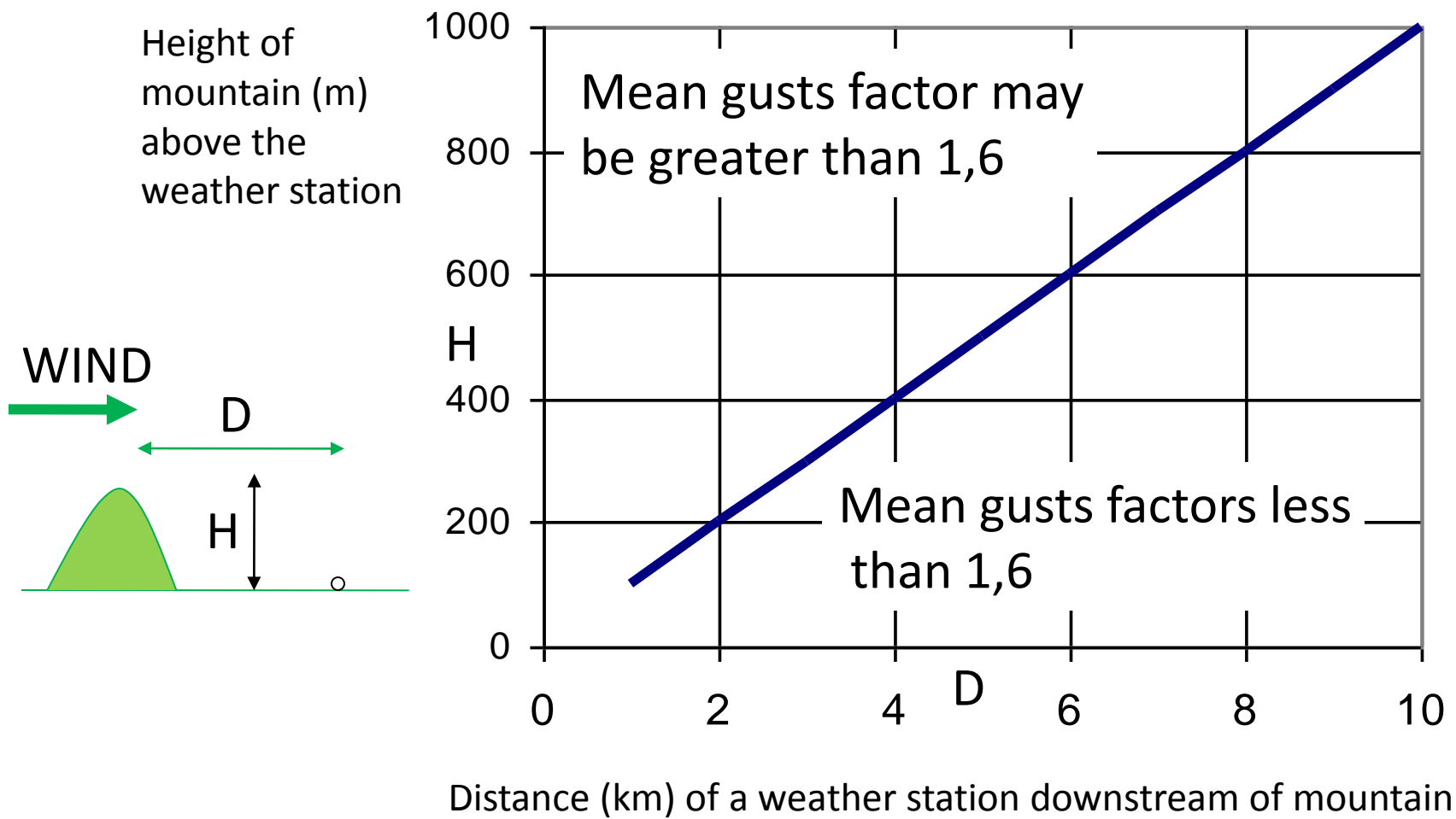
Good for breaking:

- Wind decreases with height

- Stability increases with height

The gust factor diagramme

for surfaces giving mean gust factor 1,4 and $w_{sp} > 10$ m/s (Ágústsson & Ólafsson, 2004)

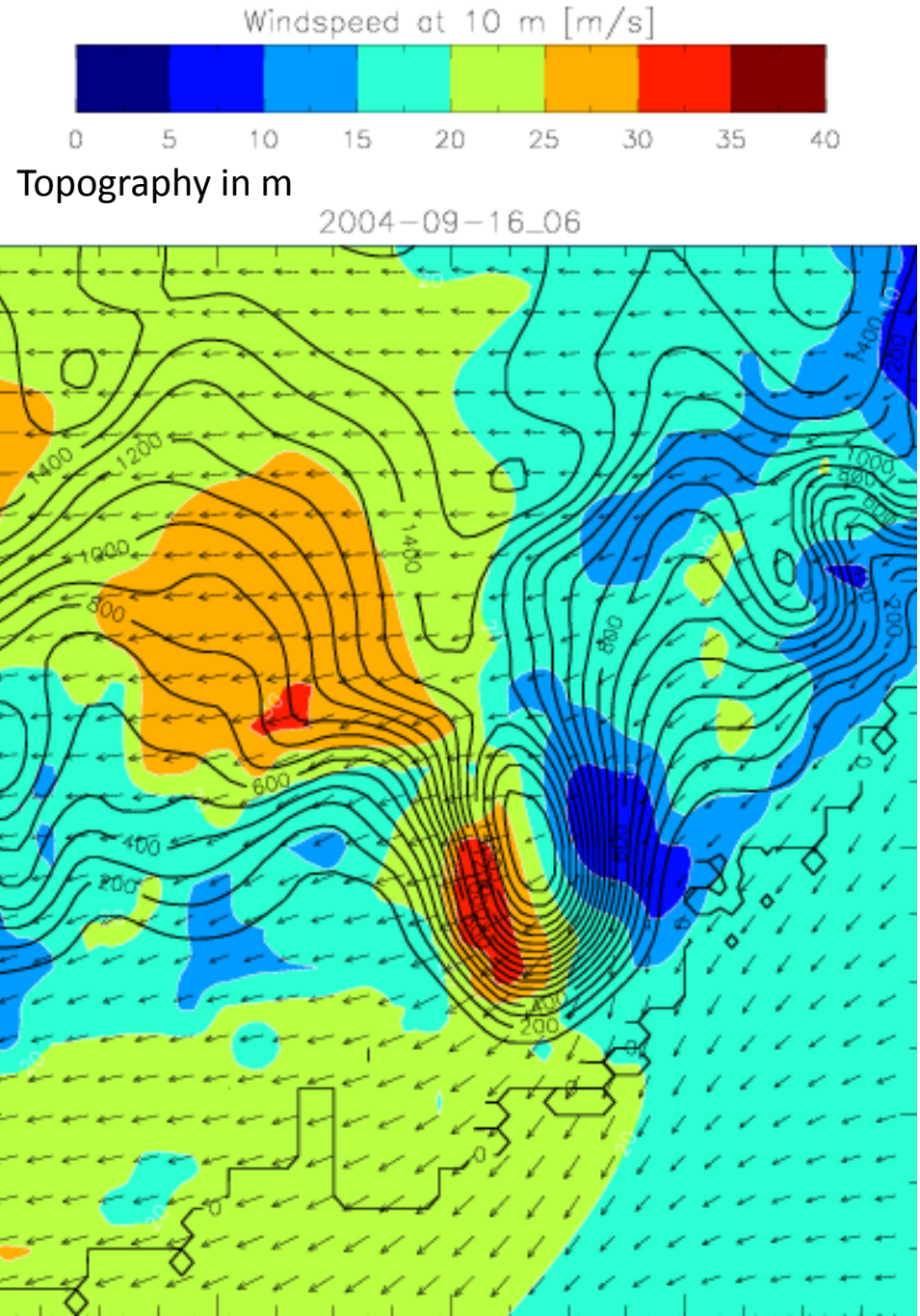
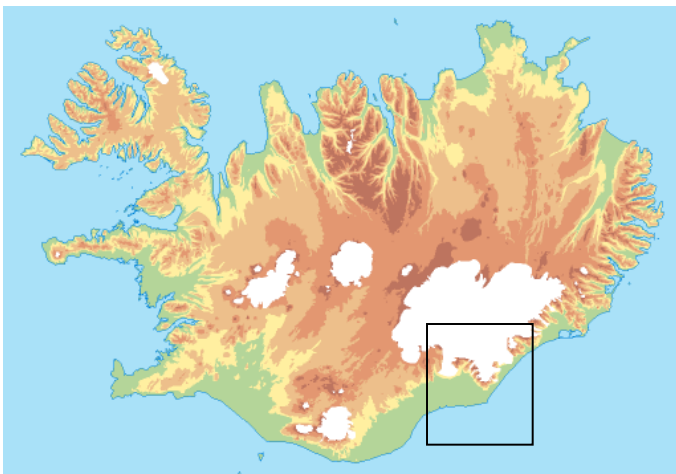


Problems

Problem 1

Identify:

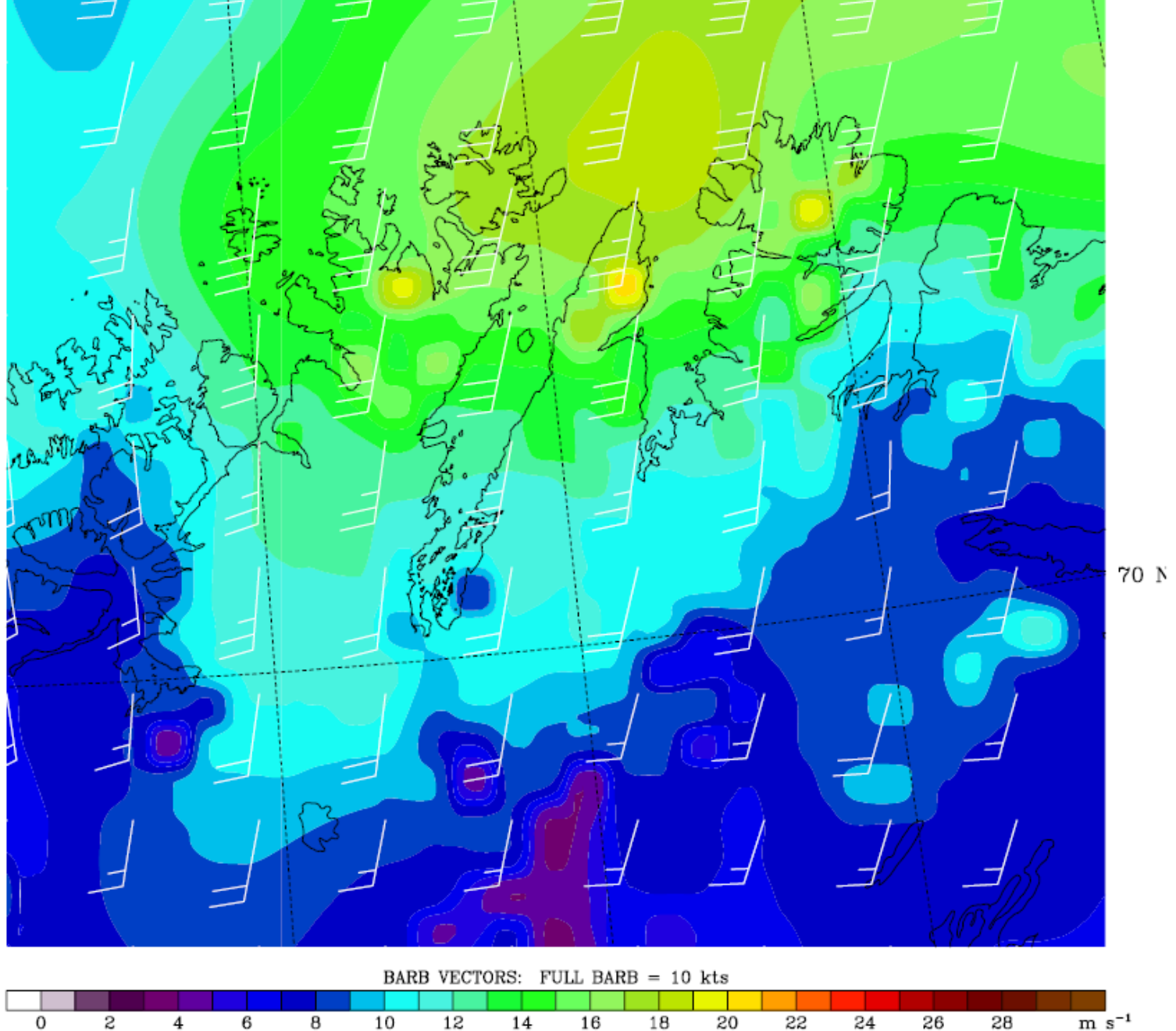
- Downslope windstorm(s)
- Corner/gap wind(s)
- Blocking(s)
- Wake(s)

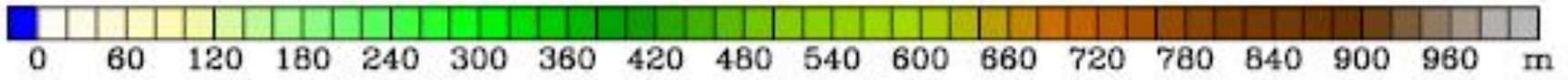


Problem II

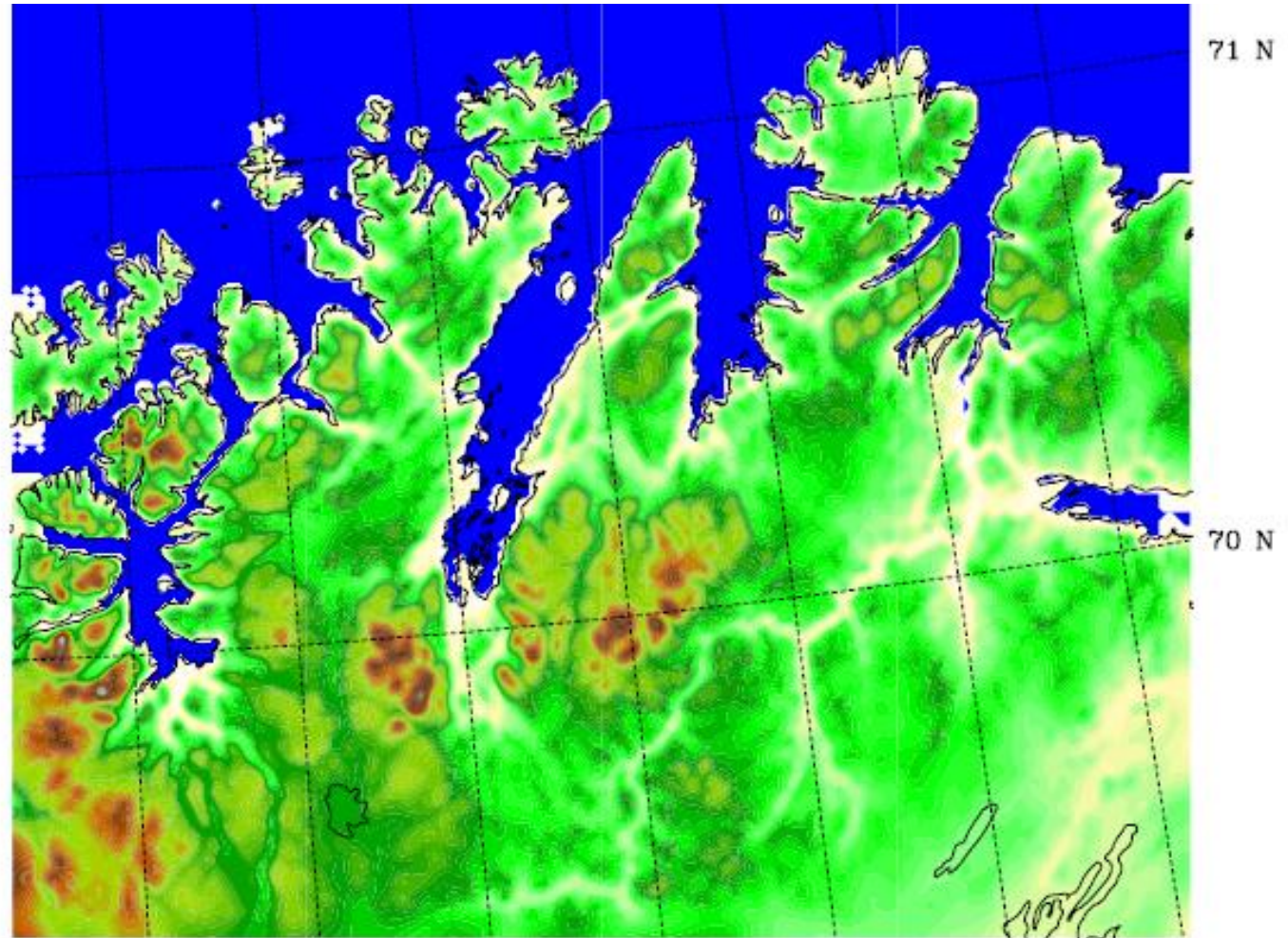
This is the
large scale
wind
speed.

Find areas
of local
speed-up
or slow-
down





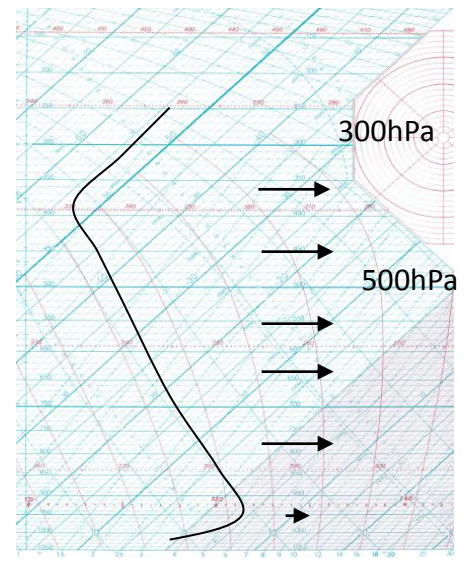
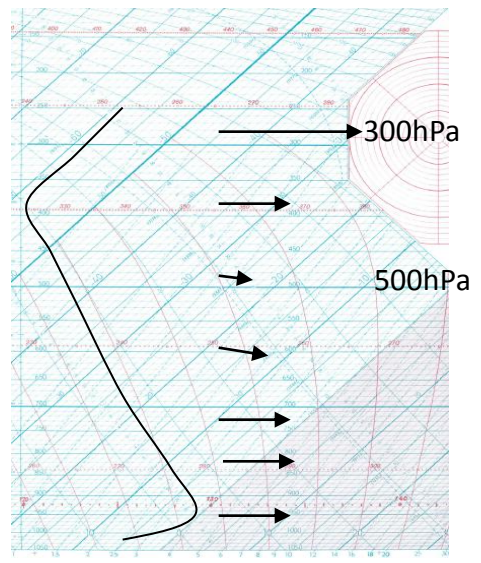
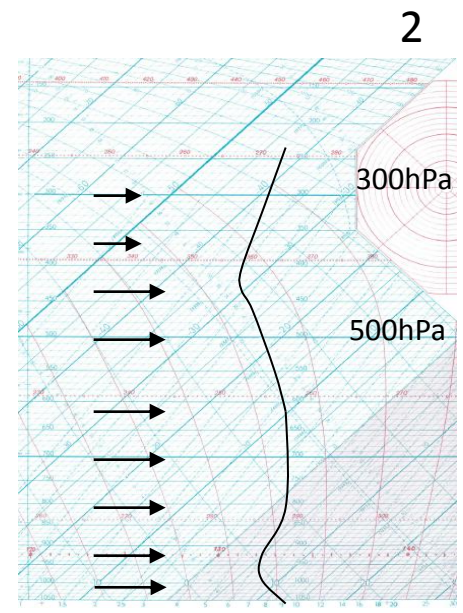
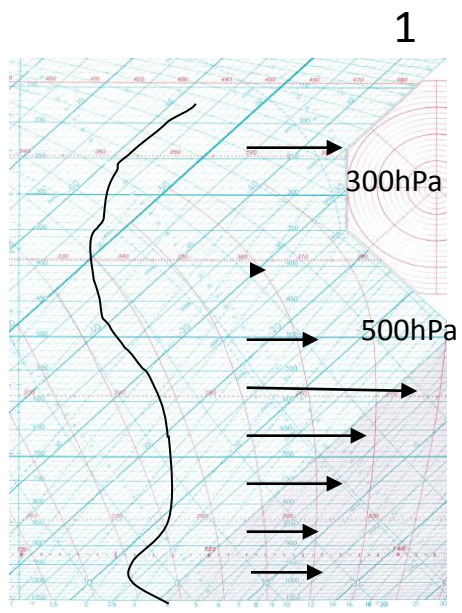
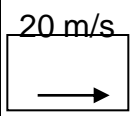
Topography



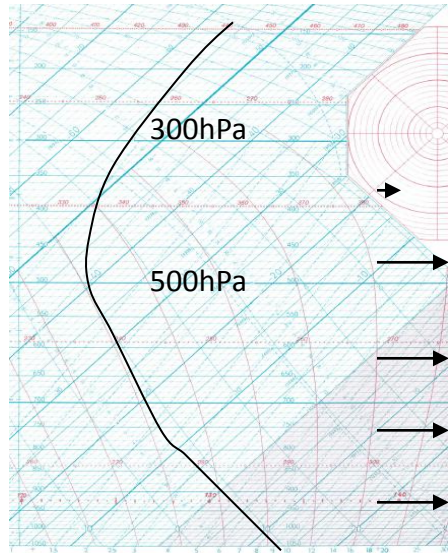
Problem III

Find a situation where strong wave breaking may be expected at

- (a) 400 hPa
 - and
 - (b) at 500 hPa
- above a 1500 m high mountain



5



6

