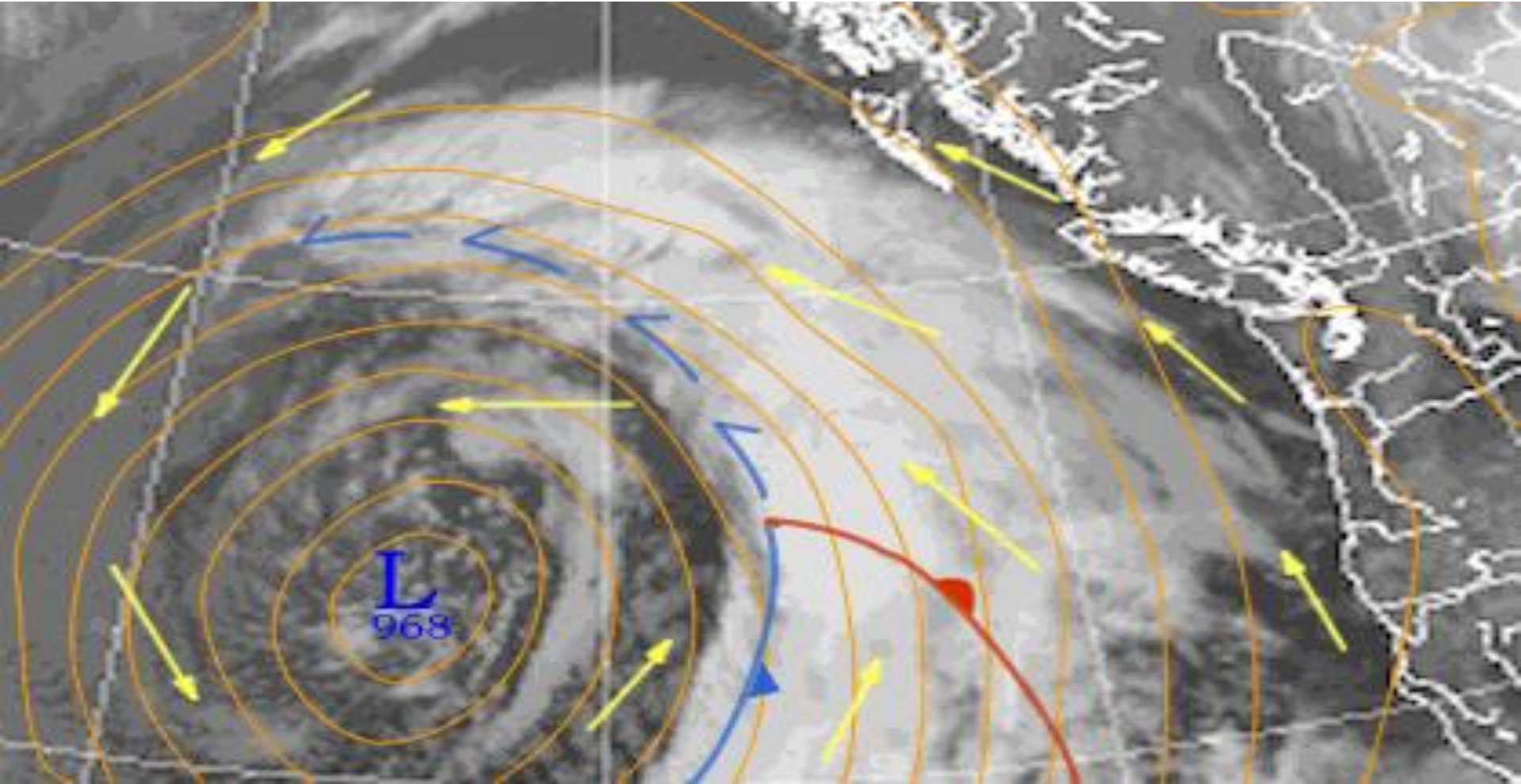


Winter Weather and Wind Patterns

Meteorologist David Jones

November, 2005



Outline

Terrain and Precipitation

Key Questions

Windflow Patterns and weather

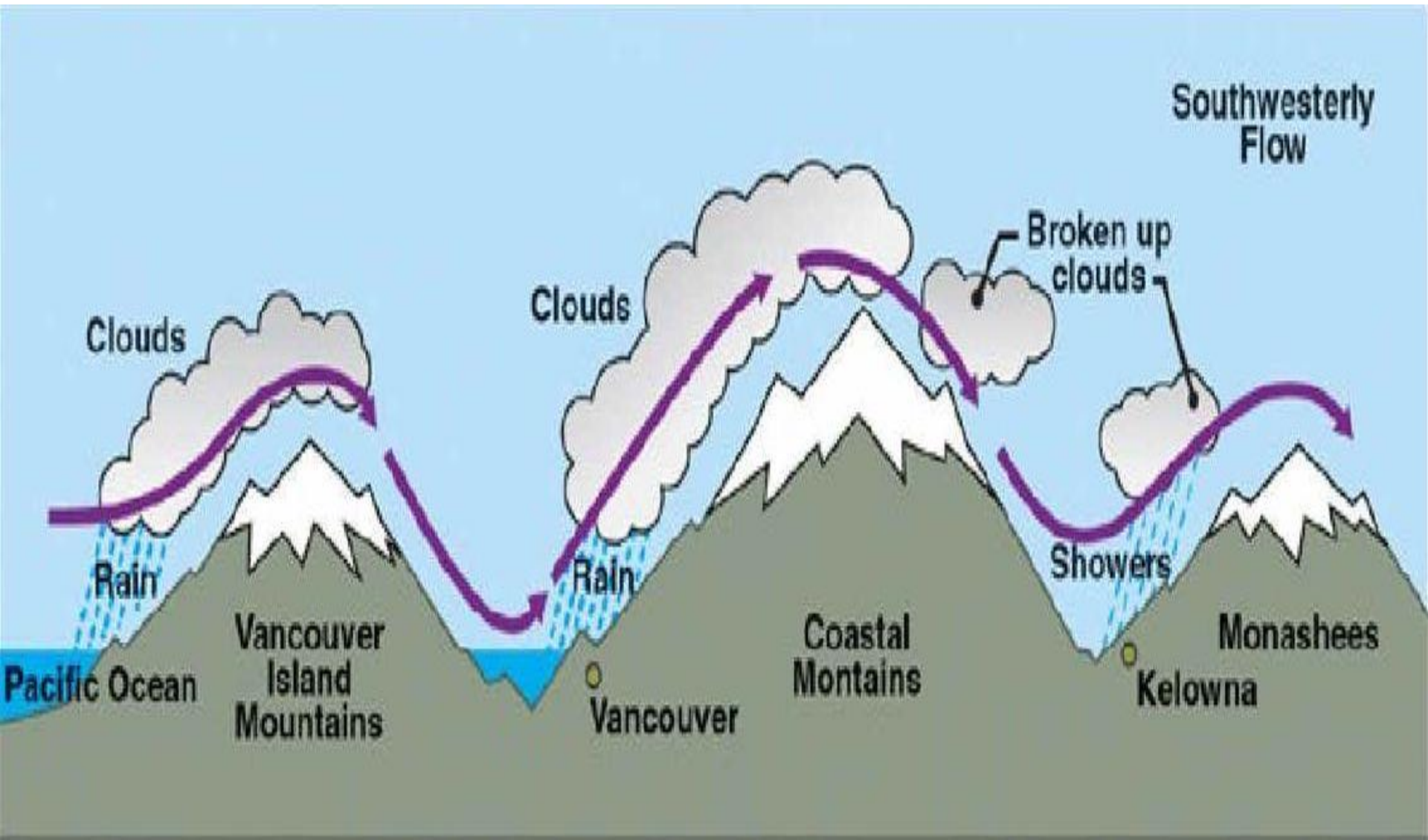


Albert studied diligently. He knew that if his answers were at least 50% accurate he'd could pursue his lifelong dream of becoming a weather forecaster...

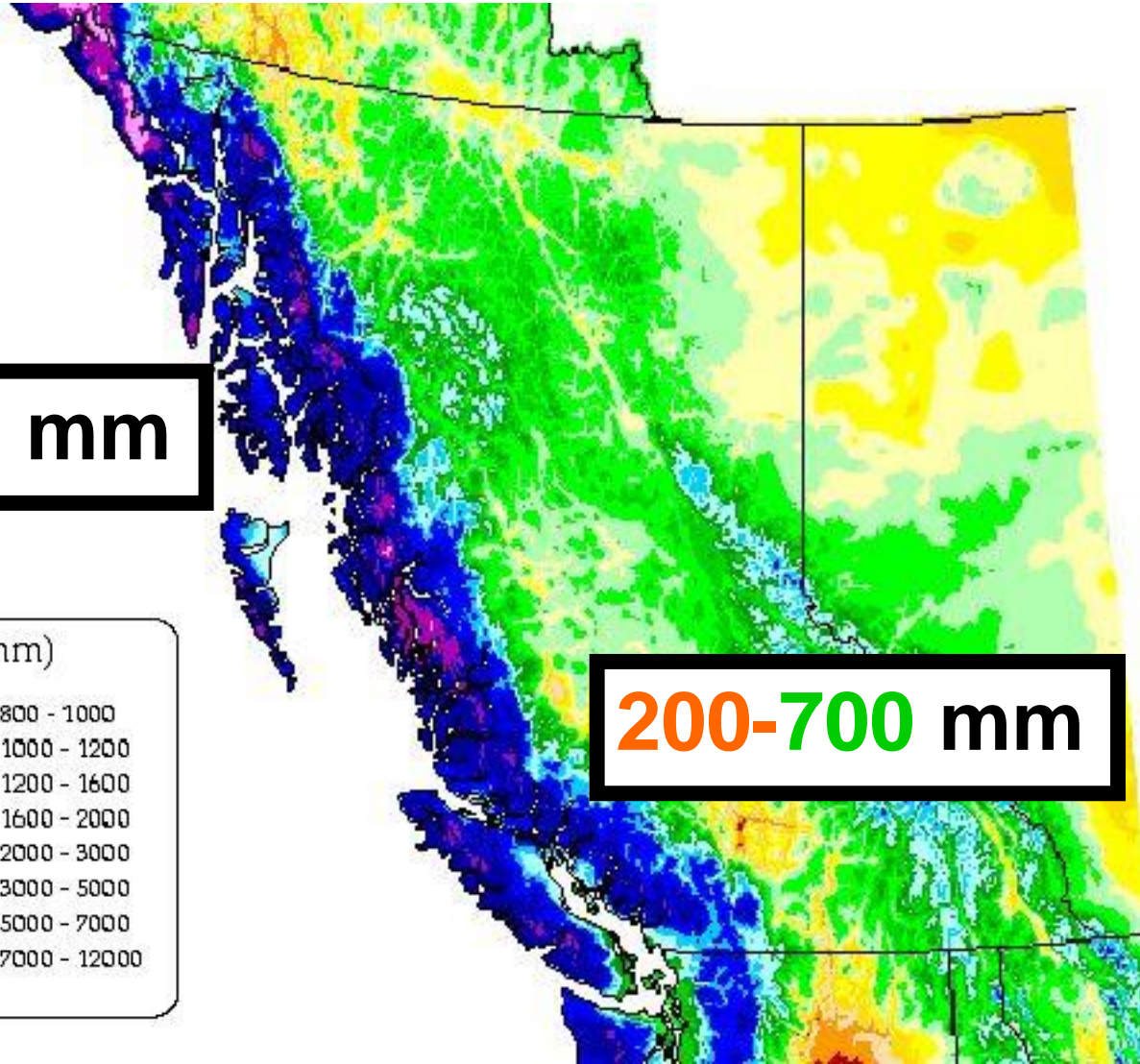
Leah



Mountains and Precipitation



Precipitation Patterns



2000-7000 mm

200-700 mm

Precipitation (mm)

0 - 250	800 - 1000
250 - 300	1000 - 1200
300 - 350	1200 - 1600
350 - 400	1600 - 2000
400 - 450	2000 - 3000
450 - 500	3000 - 5000
500 - 600	5000 - 7000
600 - 800	7000 - 12000



Meteorologist's Motto

Forecast the wind...

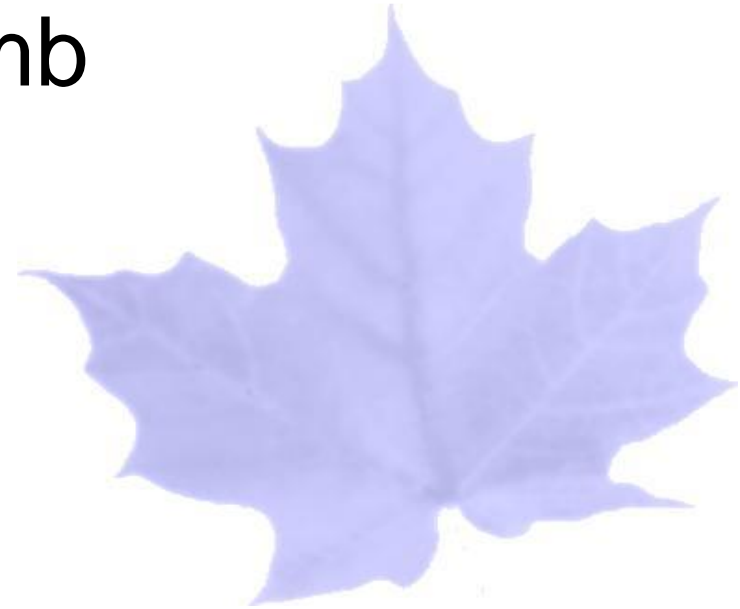
Forecast the weather



Meteorologist's Jargon

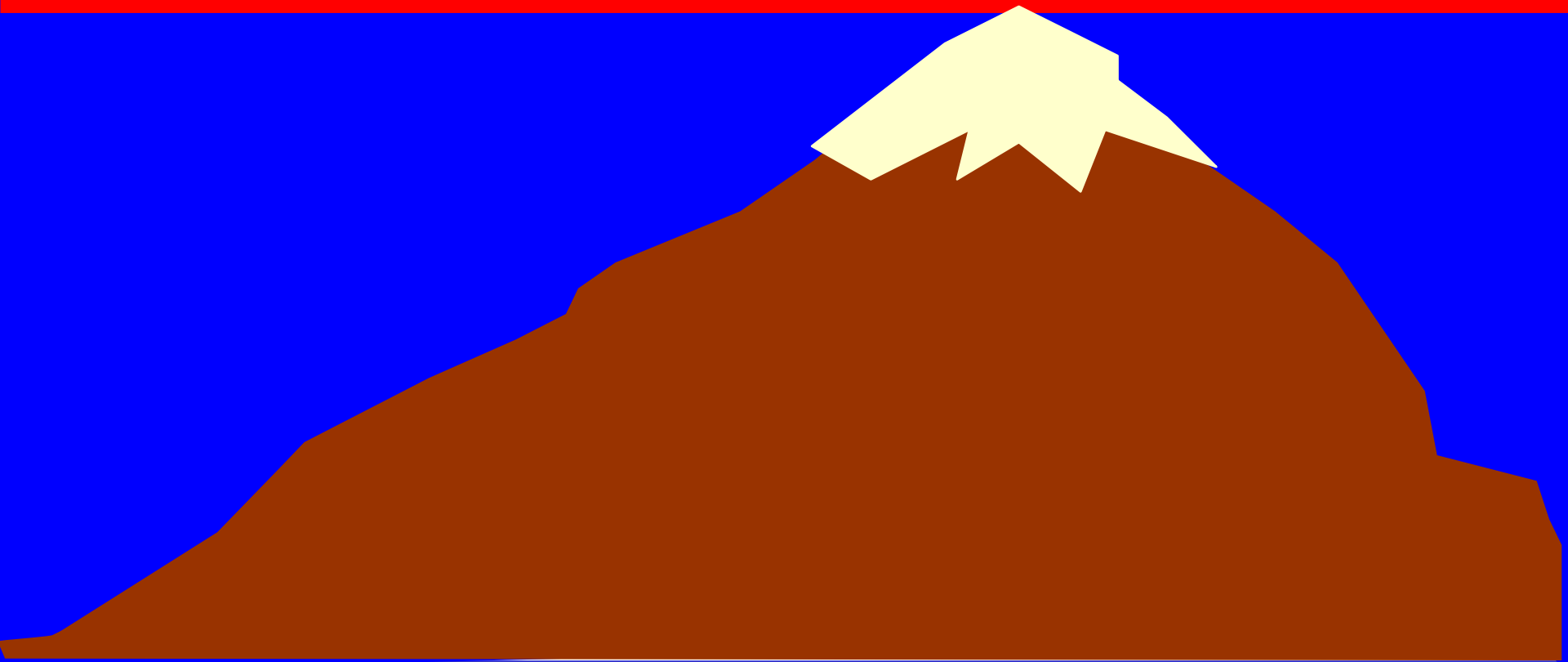
The flow is just the wind

For mountain weather, a convenient level to look at is 700mb

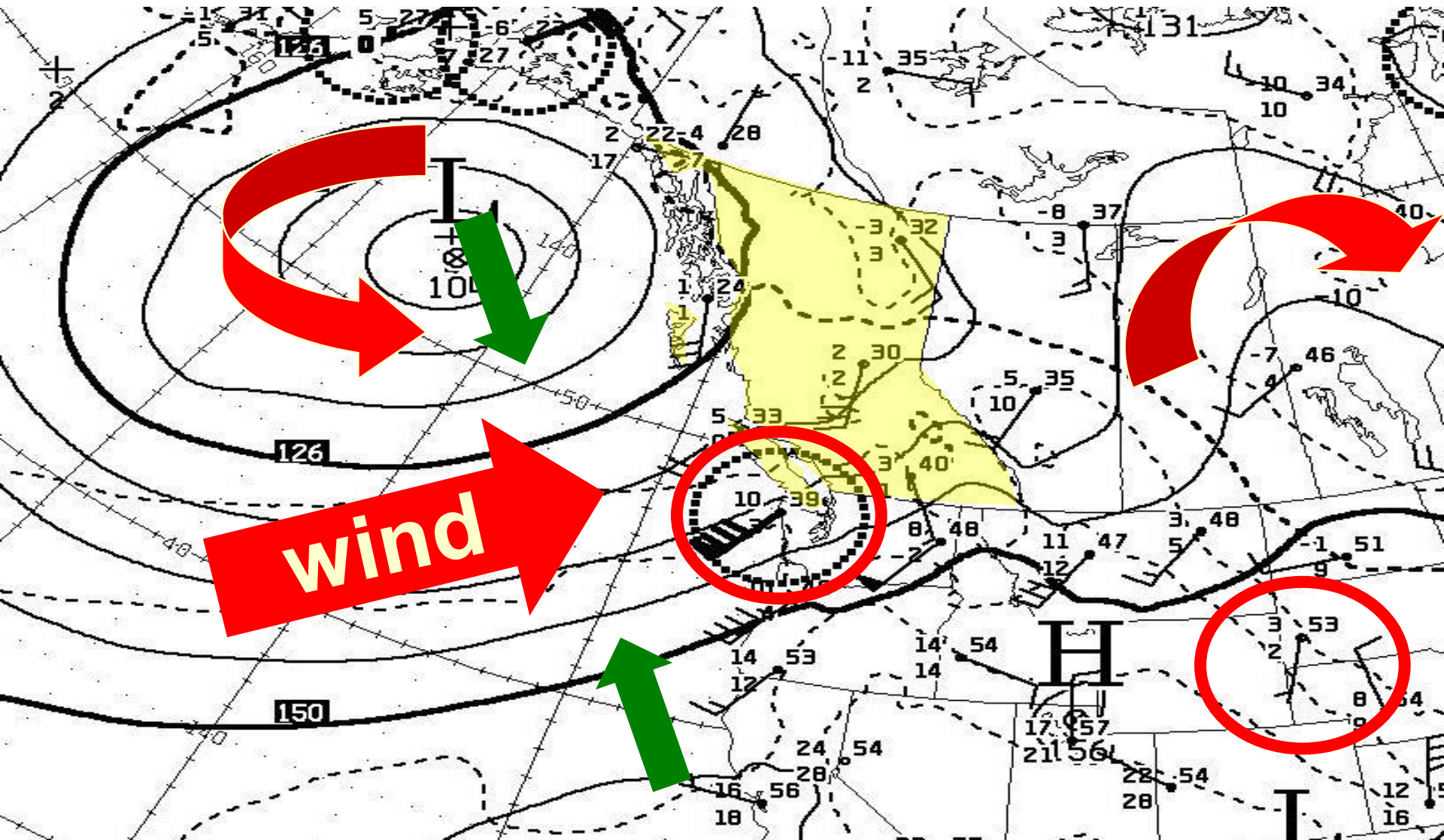


700 mb Level

3,000 metres



700 mb Charts



Two Key Questions

Is the flow...

1) upslope or downslope?

2) onshore or offshore?



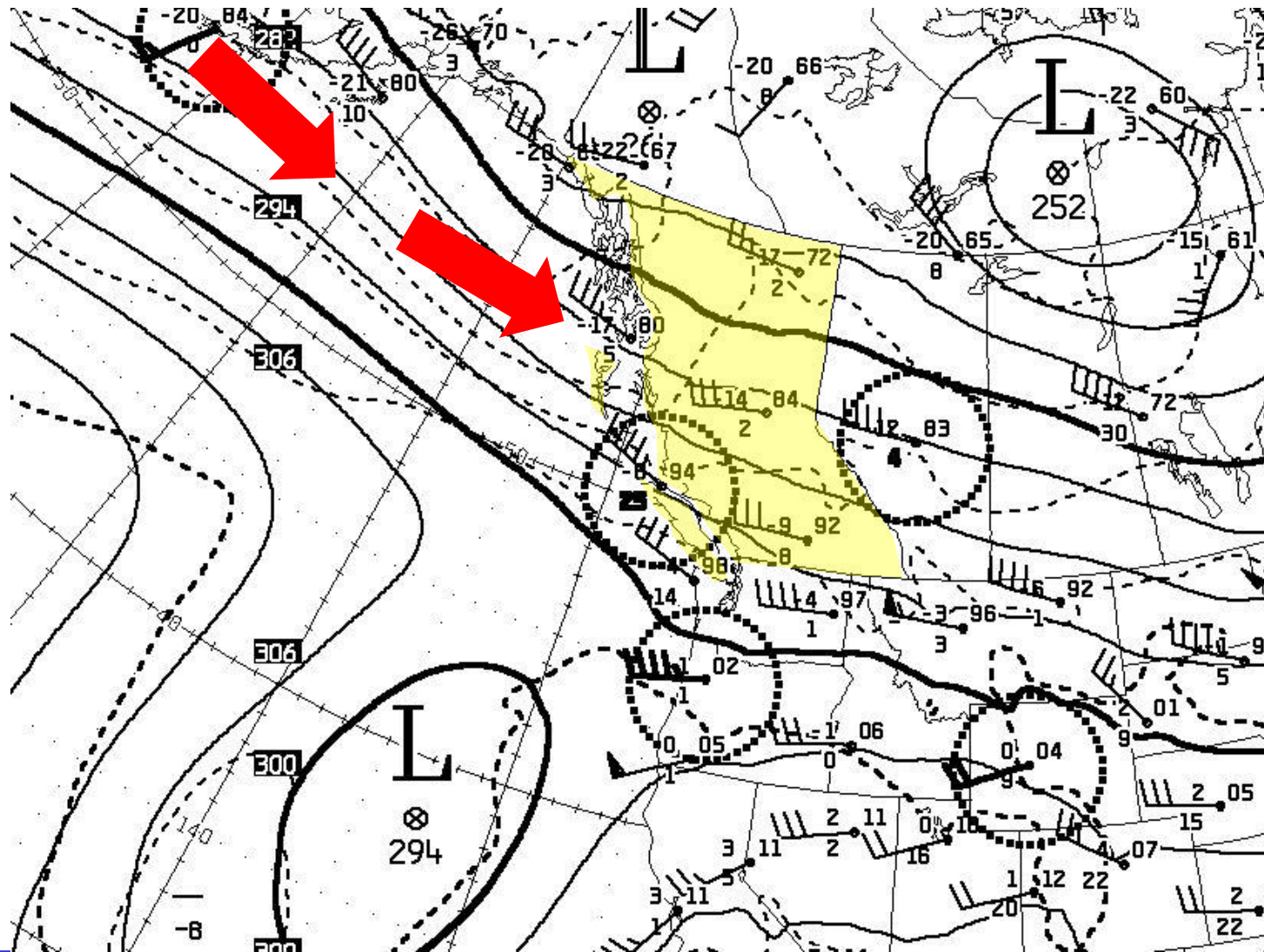
Know the Terrain!!



Windflow Patterns and Weather



Westerly Flow



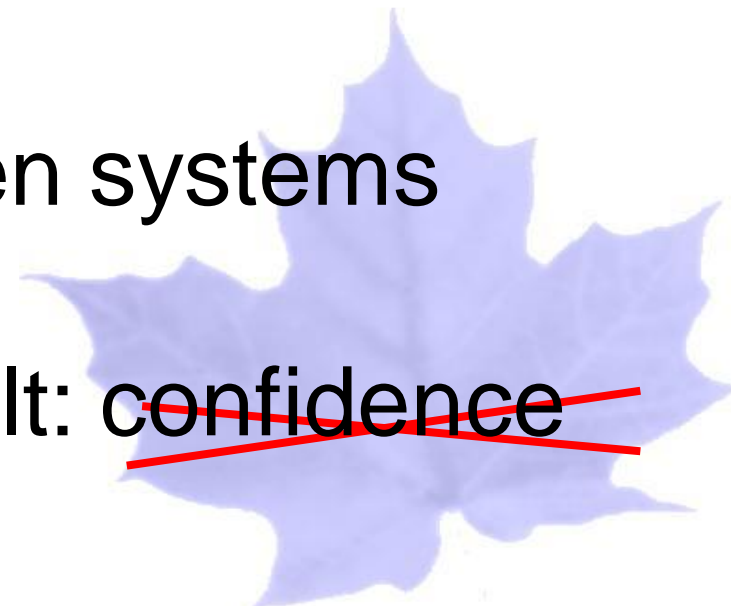
Westerly Flow

East-West oriented valleys: S+

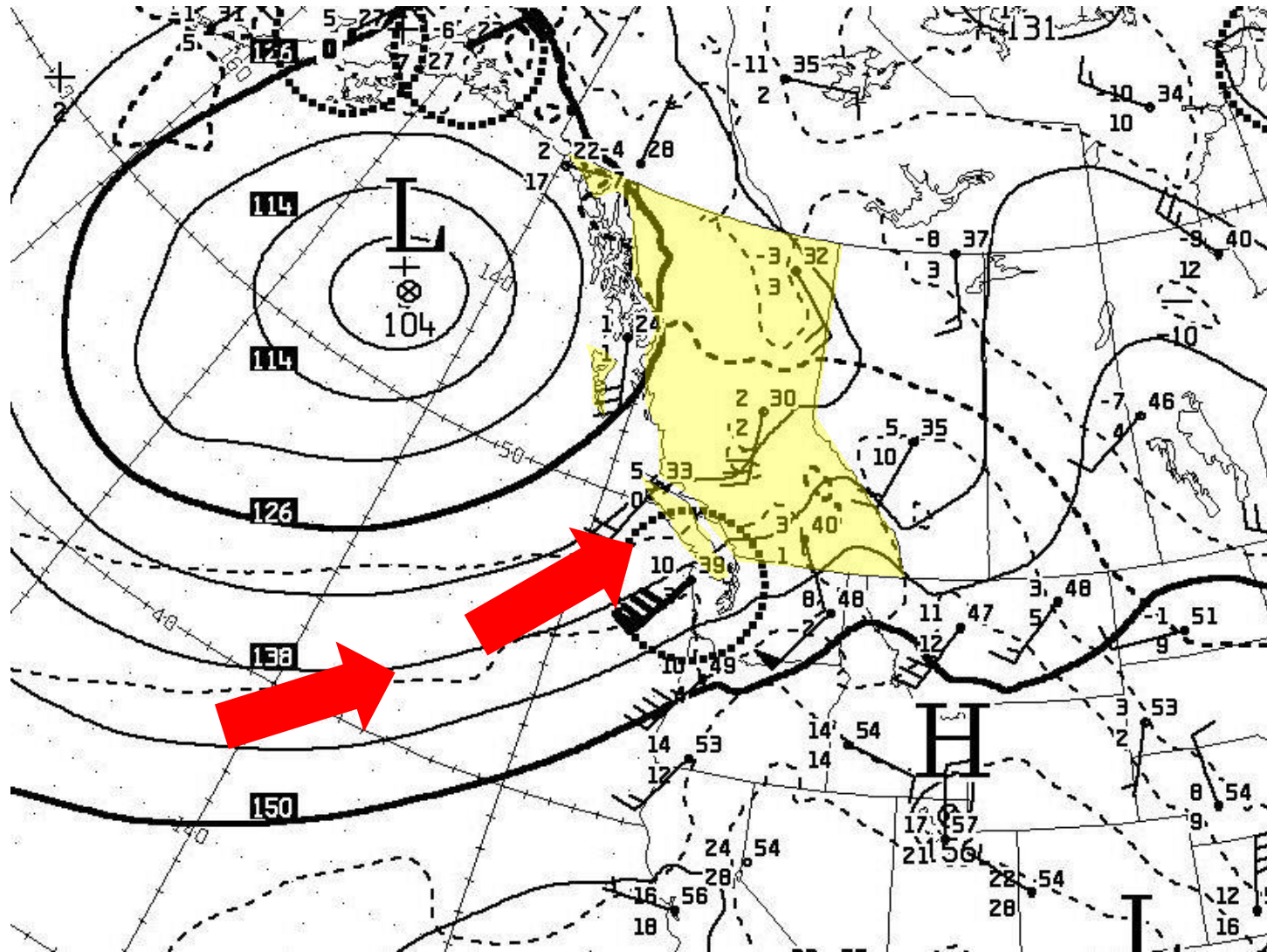
Freezing level varies minimally

Rapid clearing between systems

Timing systems difficult: ~~confidence~~



Southwesterly Flow



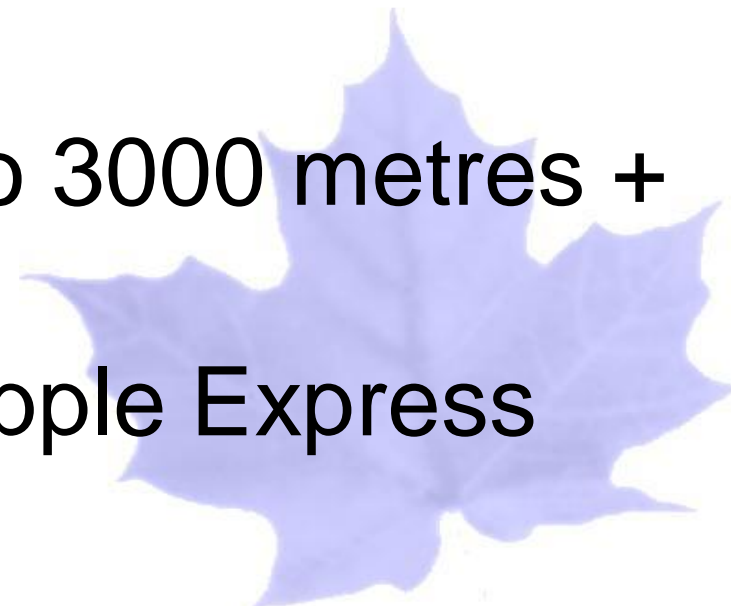
Southwesterly Flow

Maximum vertical 'forcing'

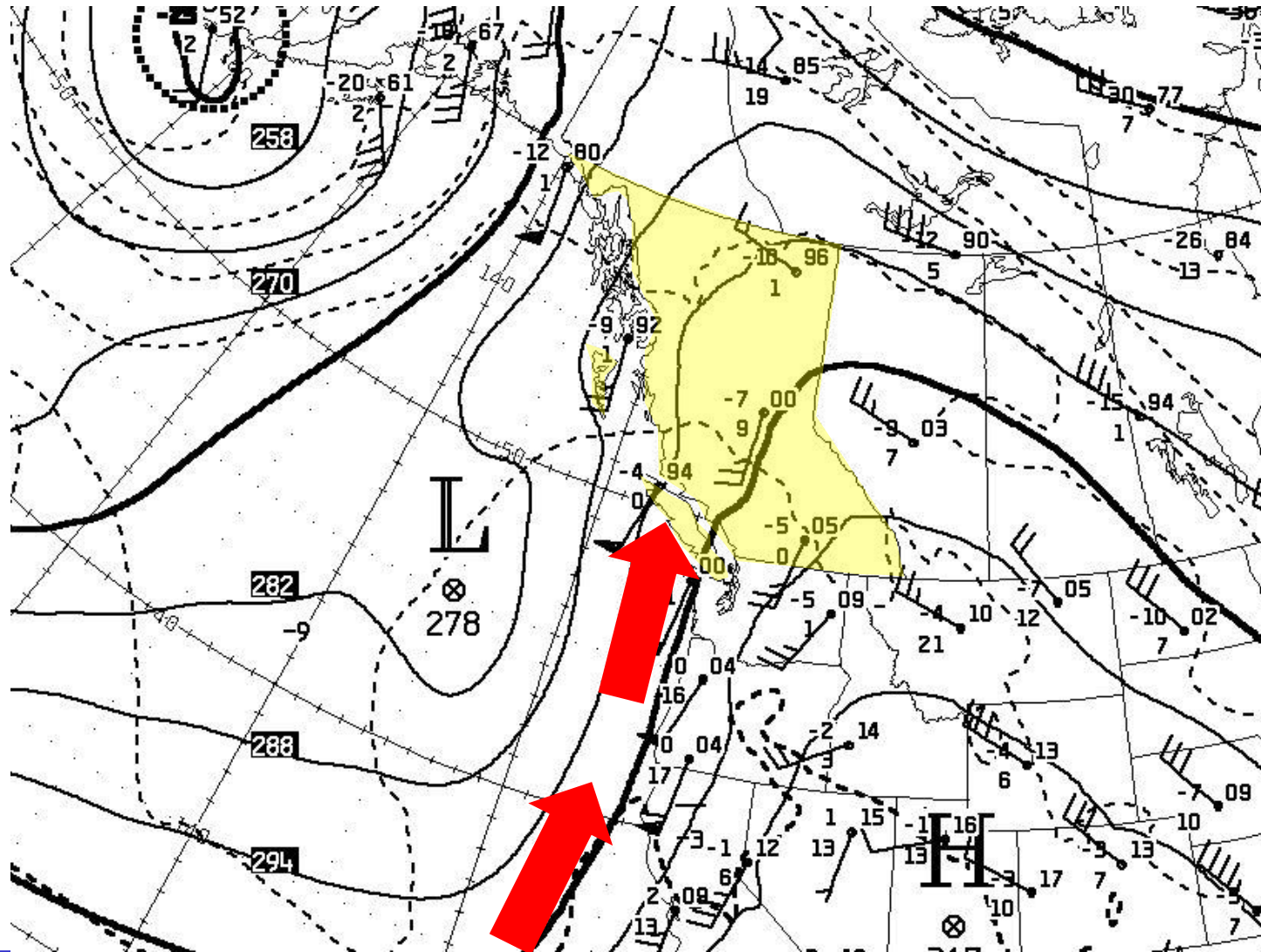
Precipitation **Maximized**

Freezing Level rises to 3000 metres +

Digging trough: Pineapple Express



Southerly Flow



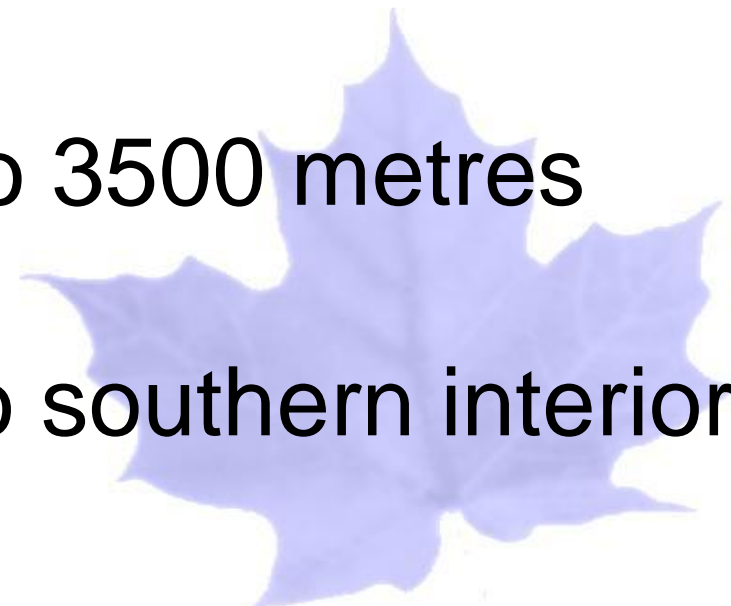
Southerly Flow

Upslope flow from the Columbia Basin

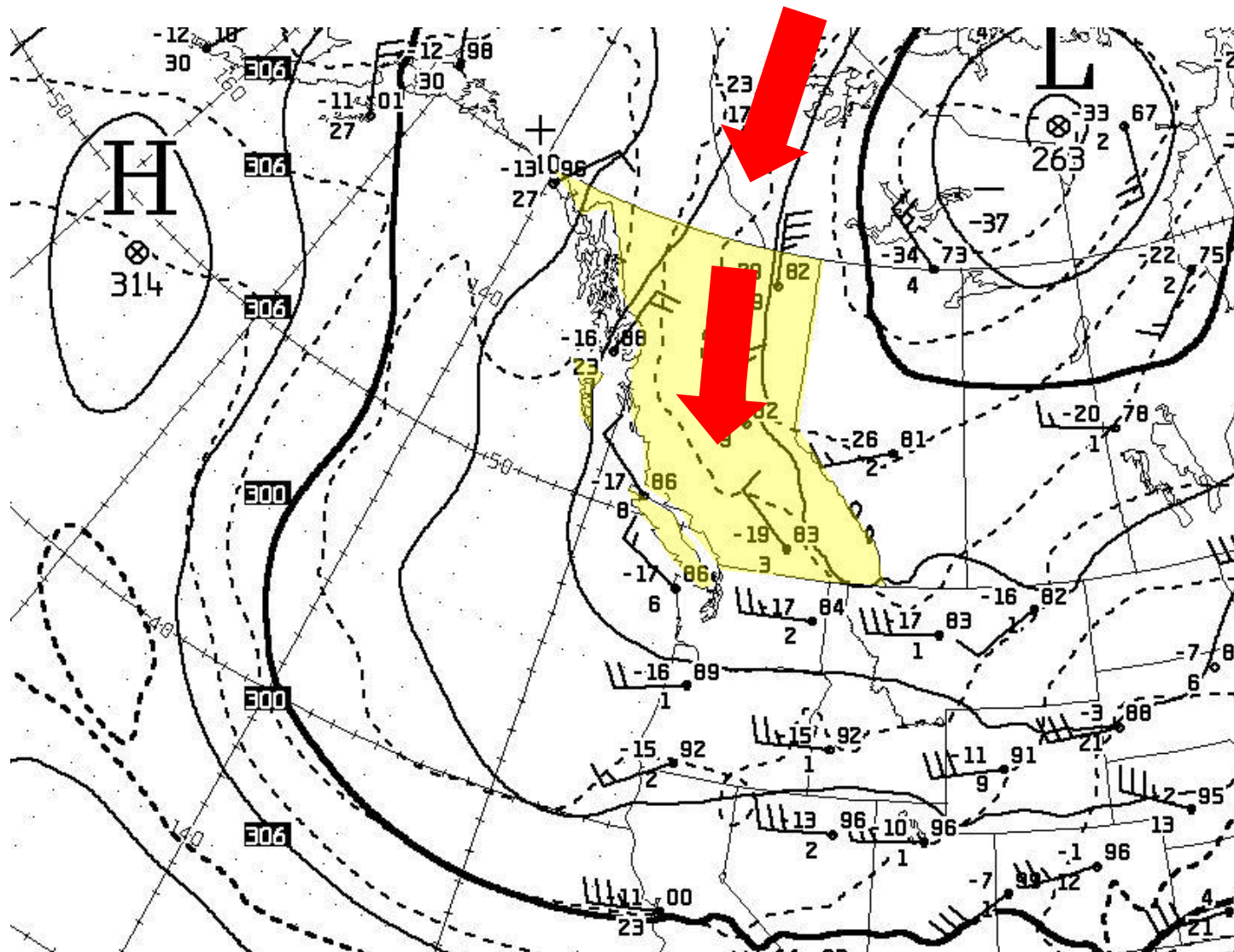
No significant subsidence

Freezing Level rises to 3500 metres

Steady rain or snow to southern interior



Northerly Flow



Northerly Flow

Dreadfully cold and dry!! FZLVL 0m

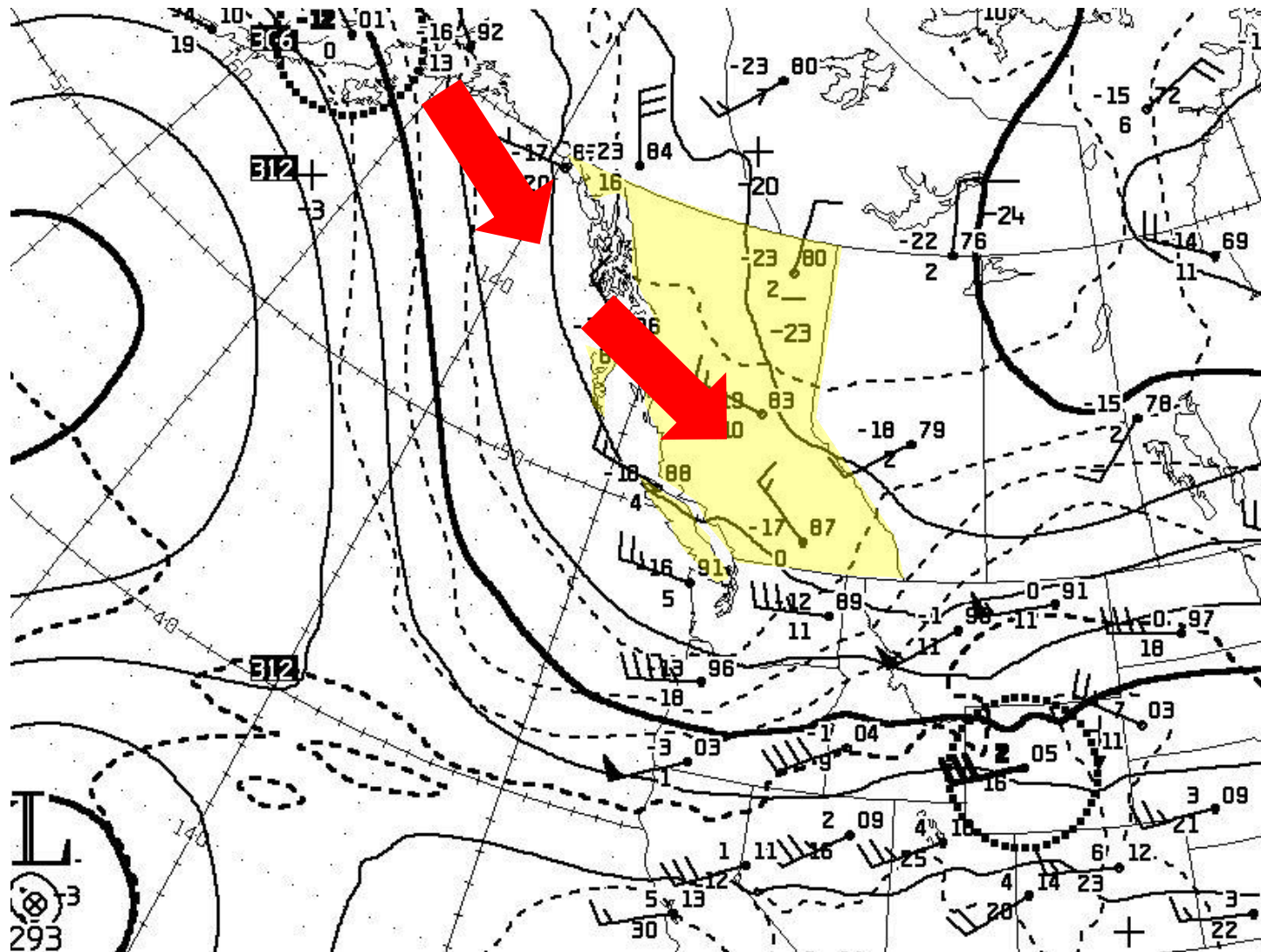
Upslope now on the east slopes

Flurries (5cms) upon 'outbreak'

Breaks down with shift to SW flow



Northwesterly Flow



Northwesterly Flow

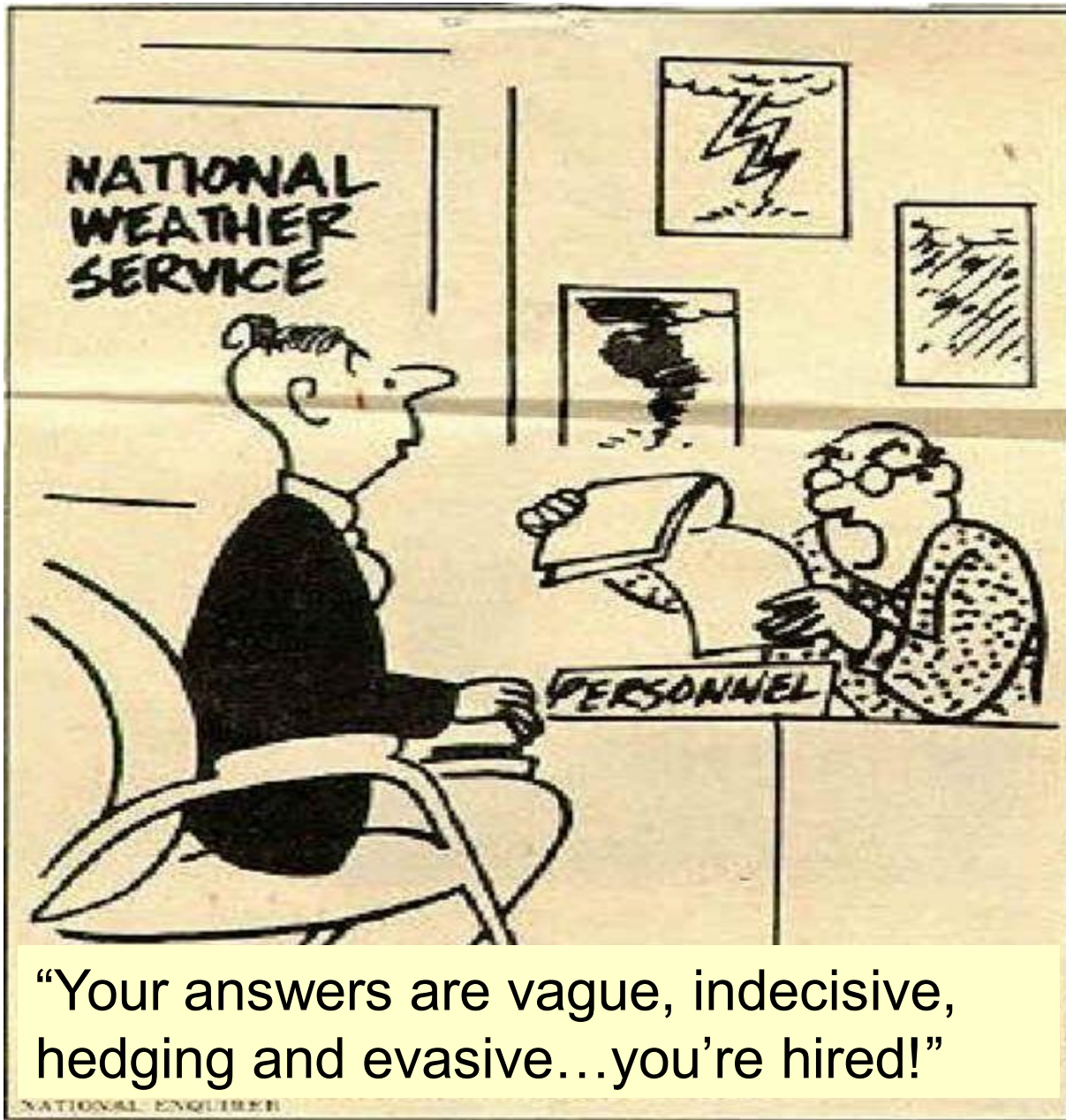
Skier's Flow. The "Let's Go" flow

Freezing level drops to 500 metres

Cellular clouds on satellite imagery

Swirling comma systems – yah!





“Your answers are vague, indecisive, hedging and evasive...you’re hired!”





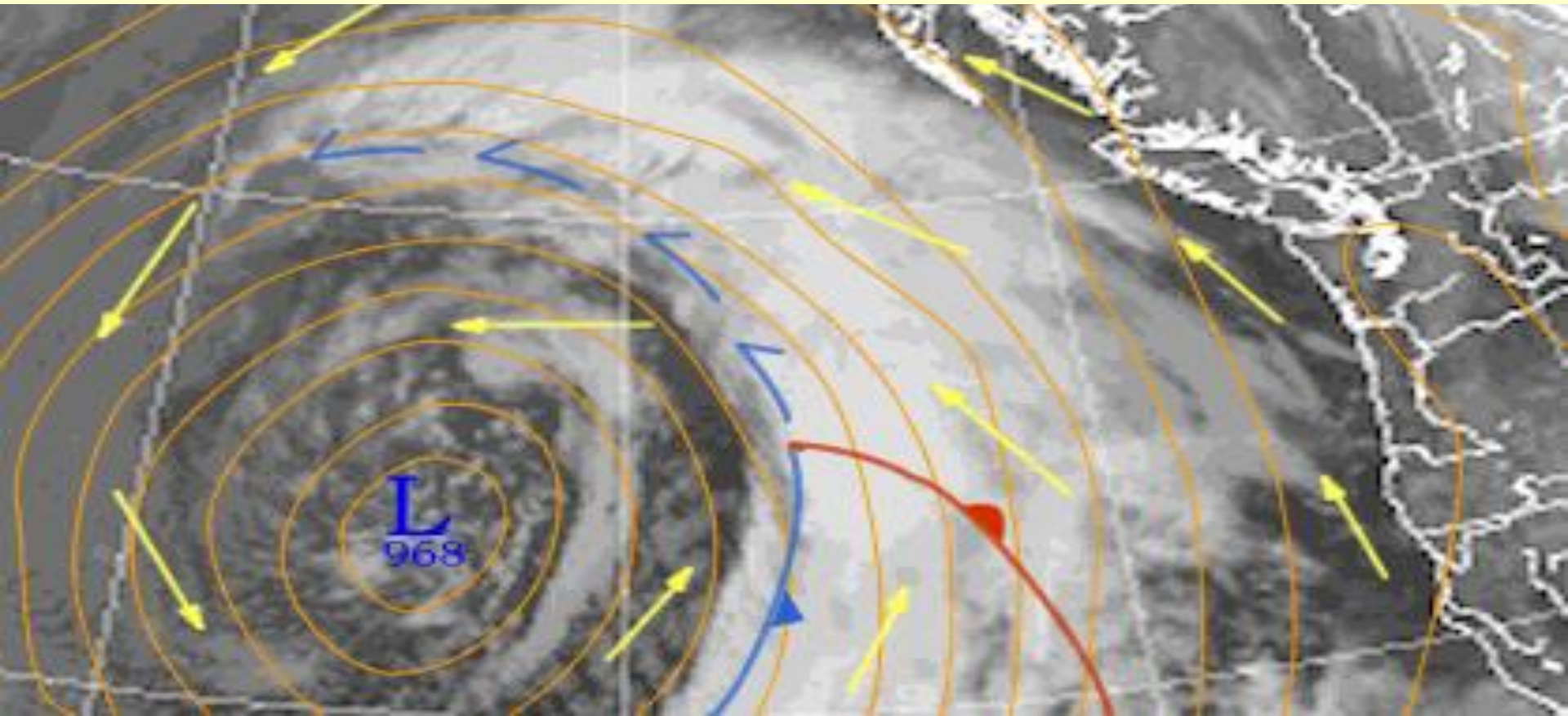
Thanks!





**MOUNTAIN
EQUIPMENT
CO-OP**

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**Environment Canada
Meteorological Service of Canada**