Cours n°07

Météorologie :

étude des phénomènes atmosphériques dans le but de comprendre comment ils se forment et évoluent.

L'atmosphère :

Composition :
- azote : 78 %
- oxygène : 21 %
- argon : 0,9 %
- dioxyde de carbone : traces
- hélium: traces
- hydrogène: traces
- ozone : traces

Sa pression :

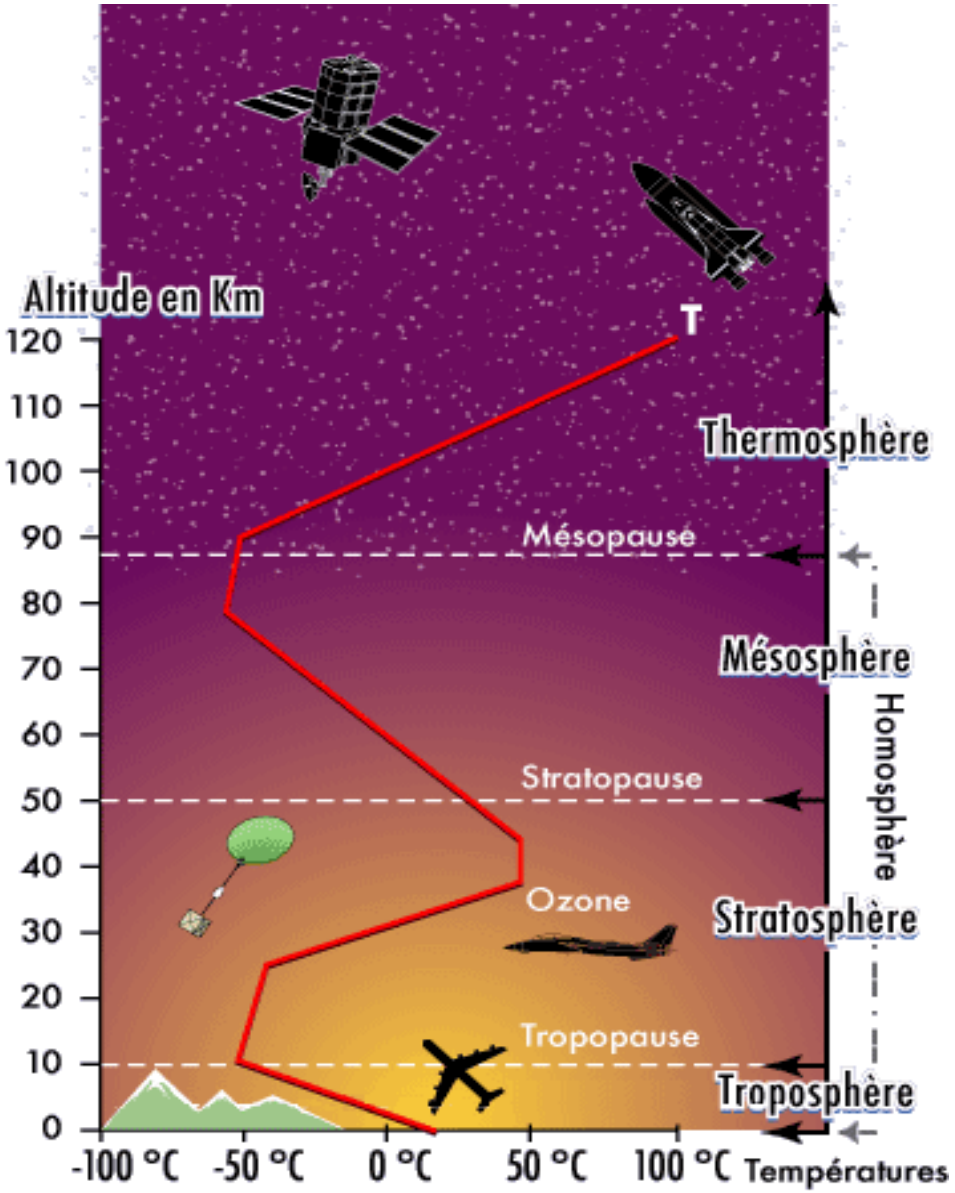
Pression standard au niveau de la mer : 1 013,25 hPa
1 bar = 1 000 hPa

décroissance : 1 hPa / 28 ft

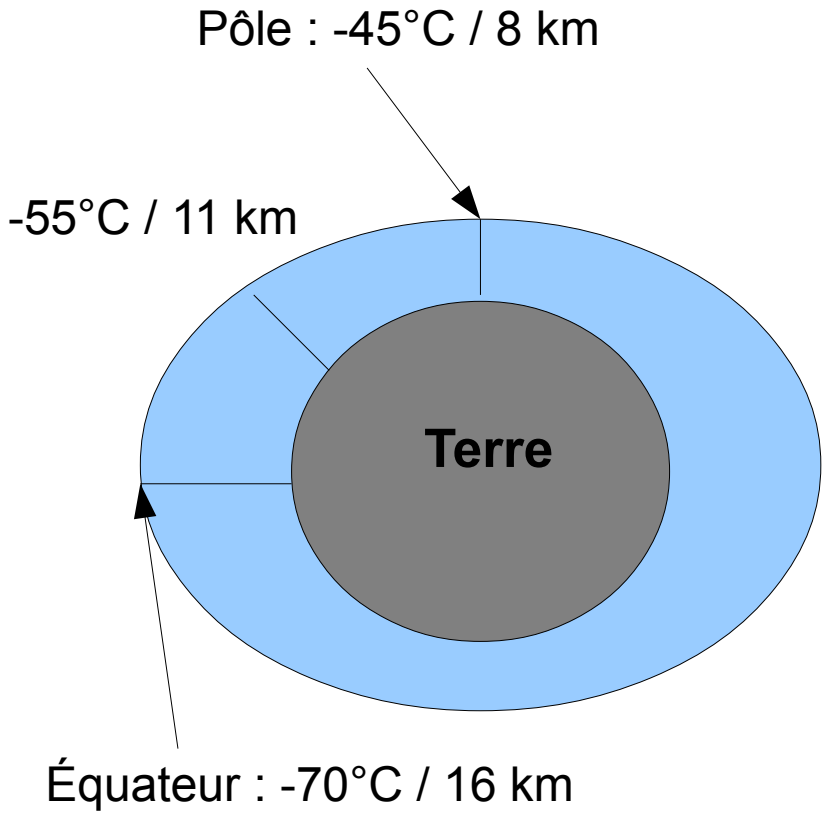
Sa température :

Température standard au niveau de la mer : 15°C
0°C = 273,15 K

décroissance : 2°C / 1000 ft ou 6,5°C / 1 000 m



T° mini : 1/2 h après le lever du soleil
T° max : 1 après le passage du soleil au zénith



Les échanges de température :

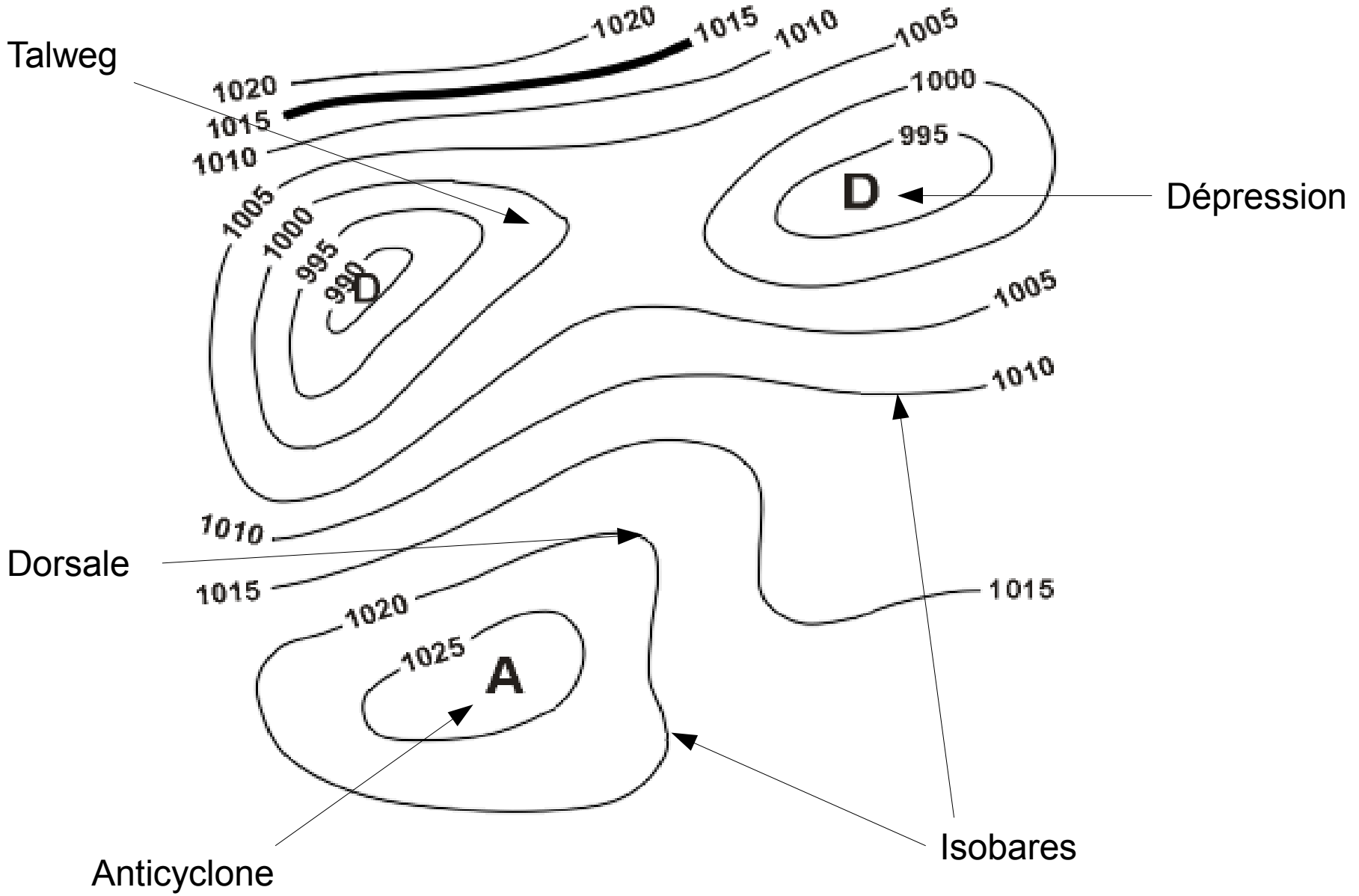
Rayonnement : propagation de l'énergie sous formes d'ondes (Soleil)

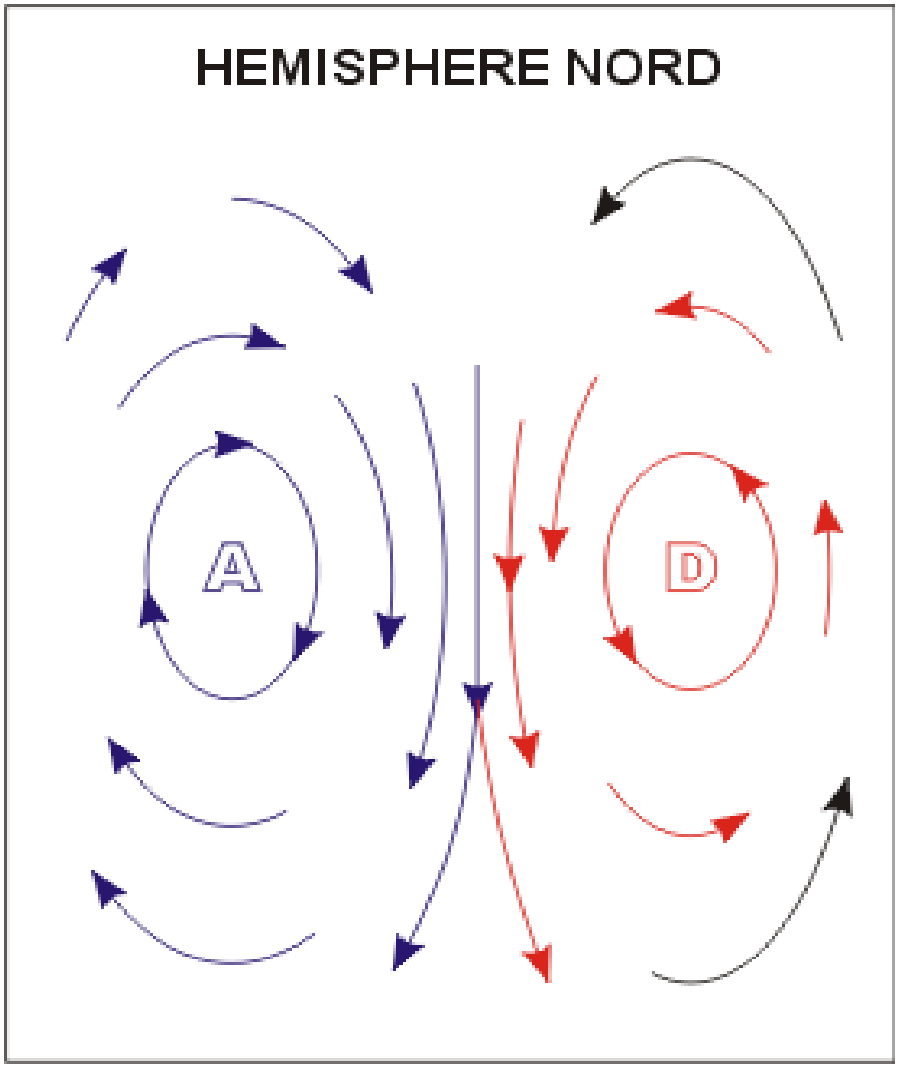
Conduction : par contact avec un autre corps (plaque chauffante)

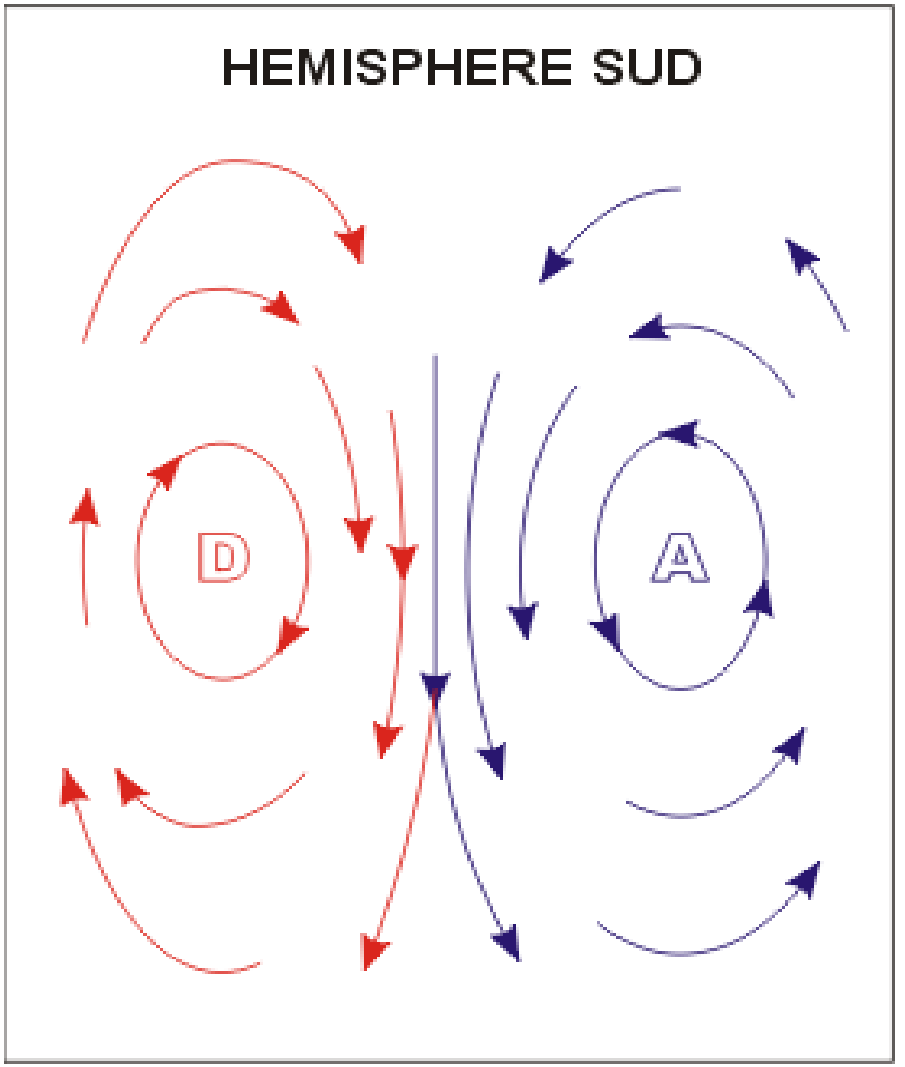
Convection : par mouvement vertical de l'air (radiateur)

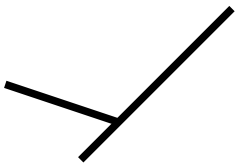
Advection : par mouvement horizontal de l'air

La pression et le vent :





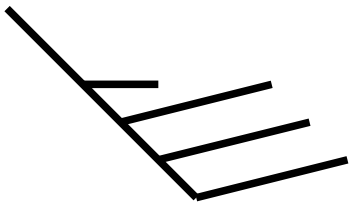




225° / 5 kt

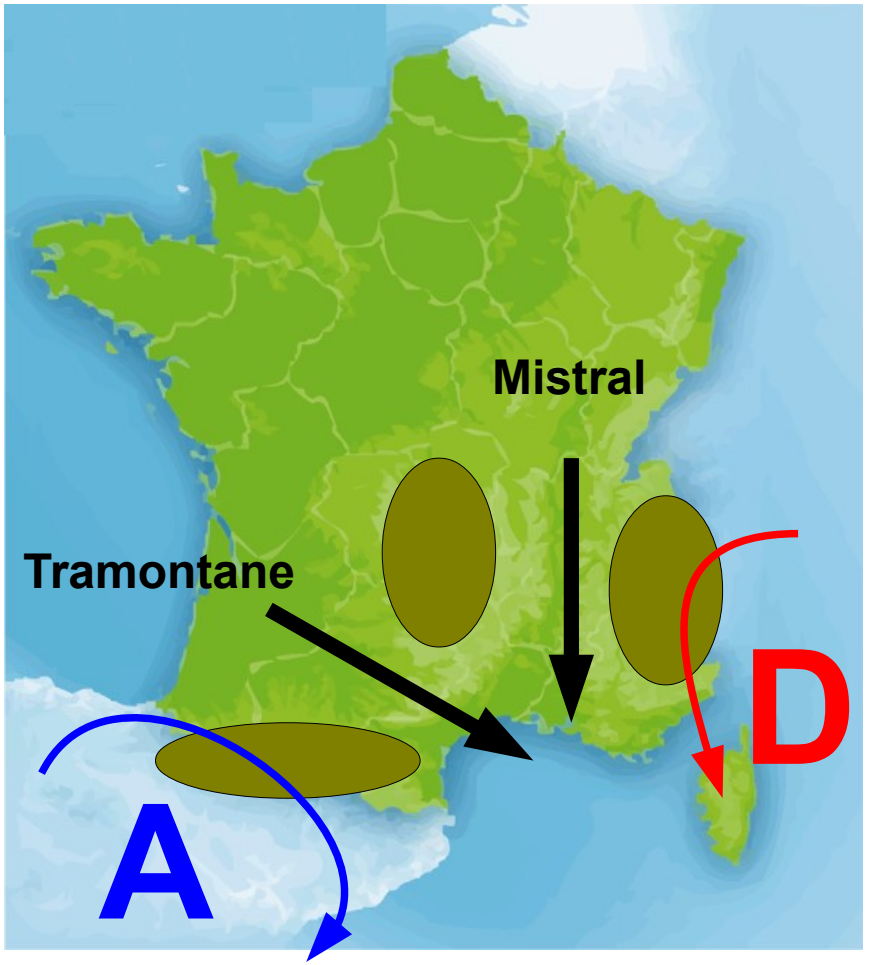
270° / 10 kt

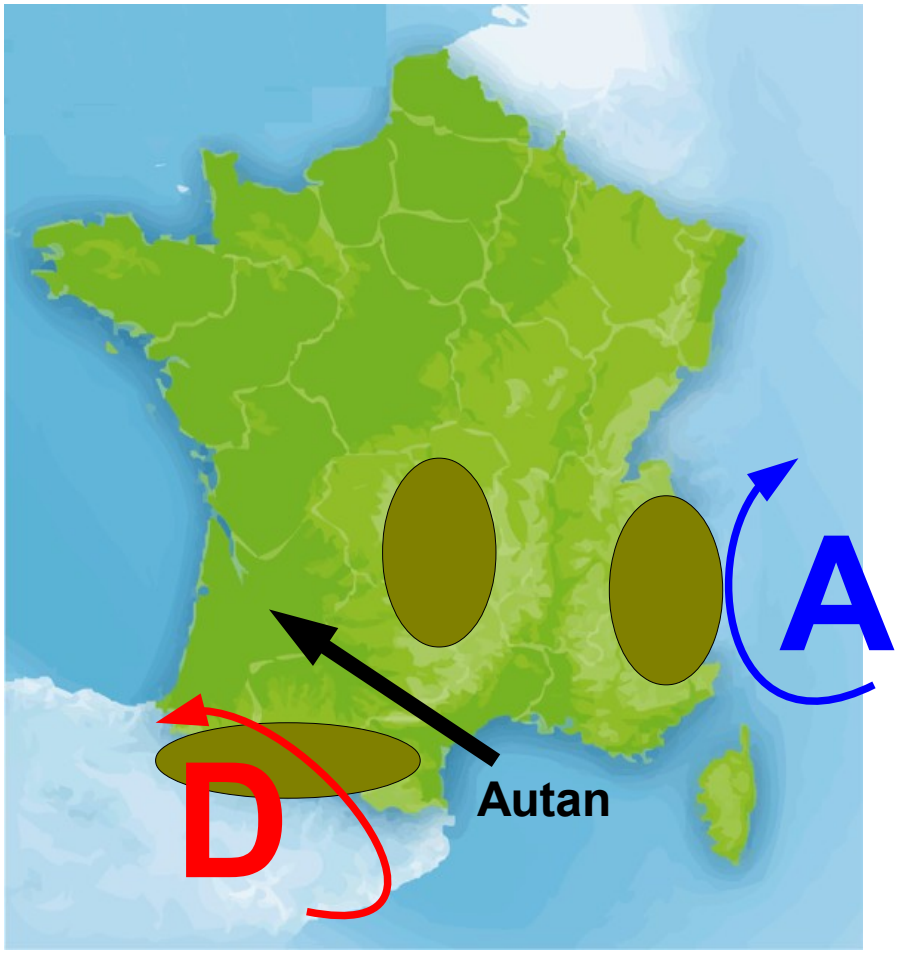
090° / 50 kt



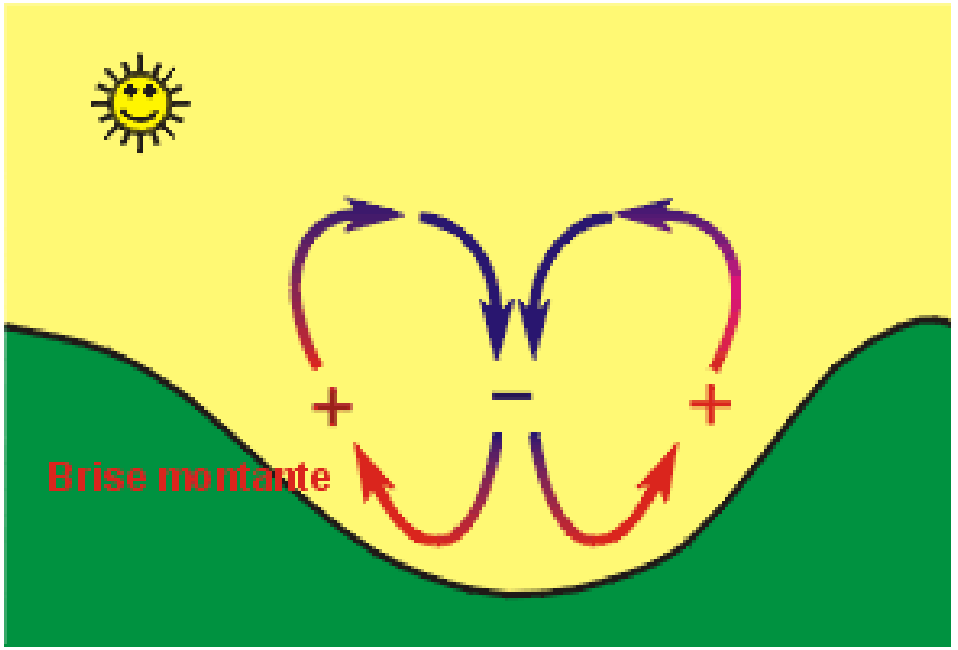
125° / 35 kt

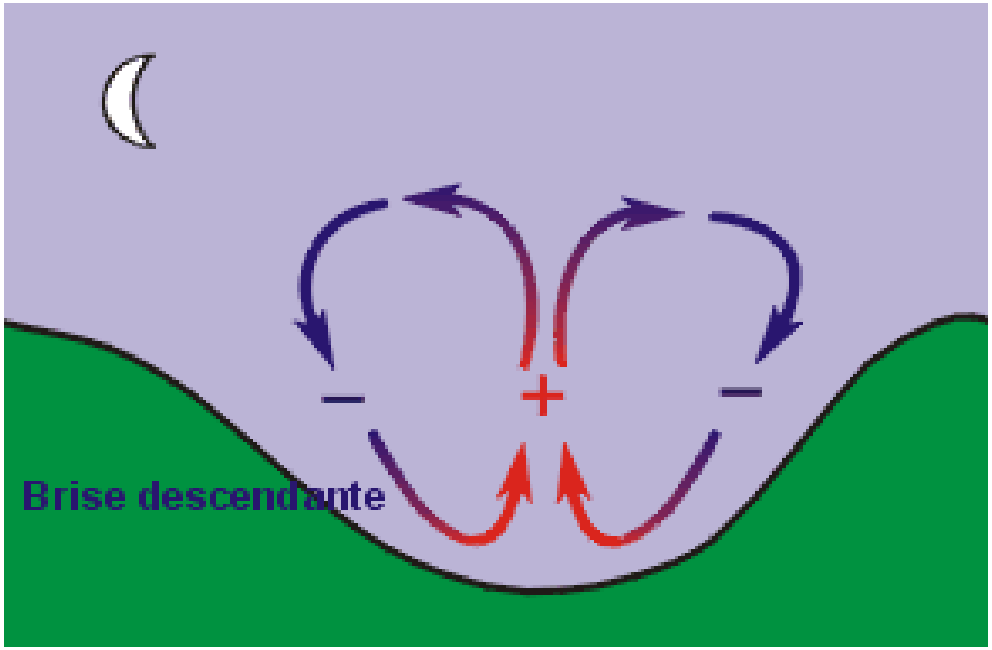
Les vents locaux :

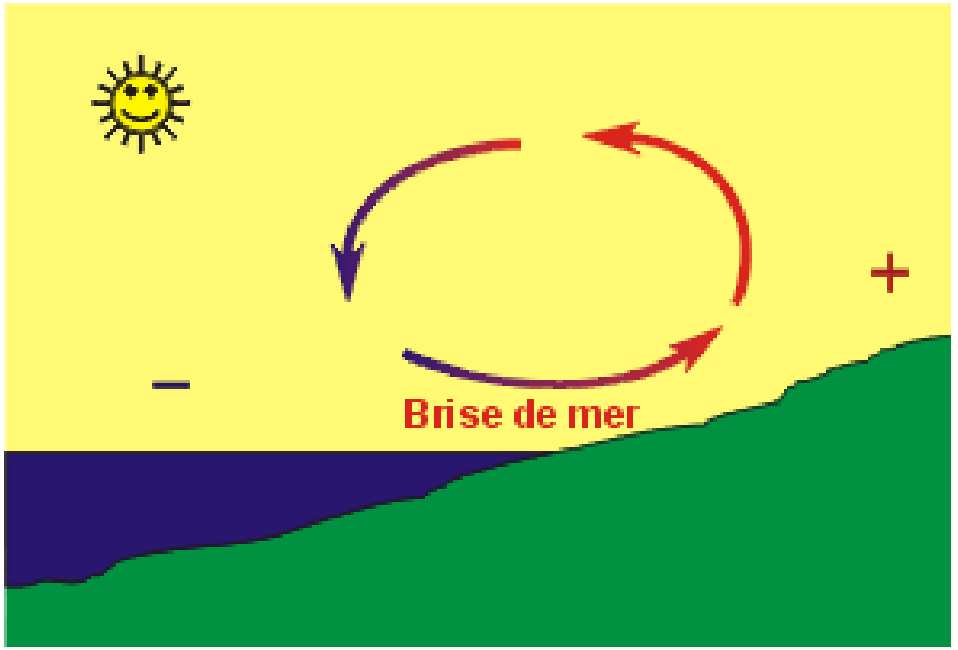


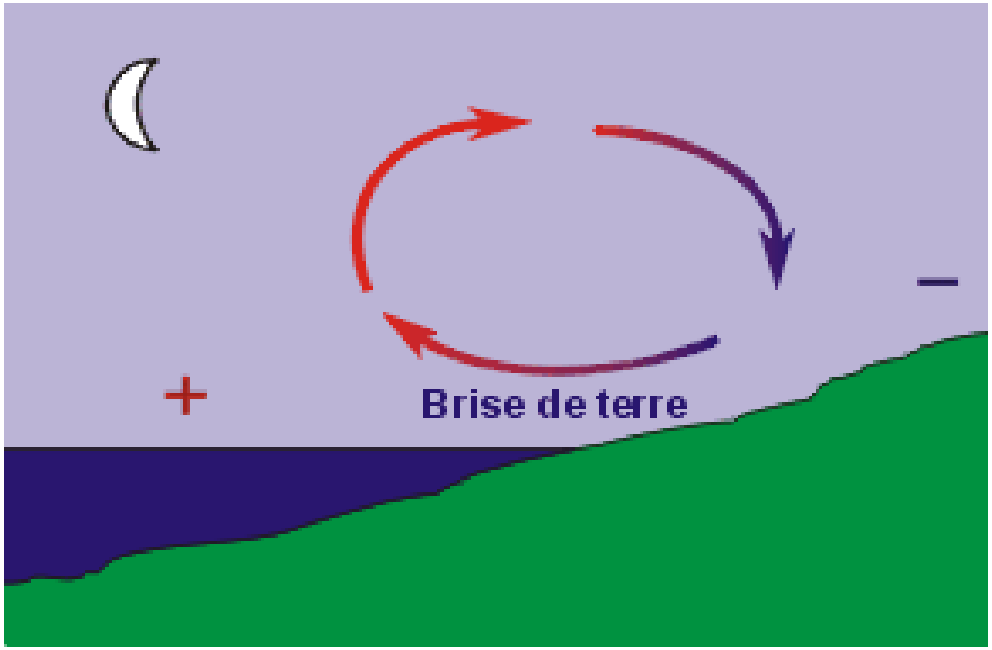


Les brises :


+
−
+
Brise montante

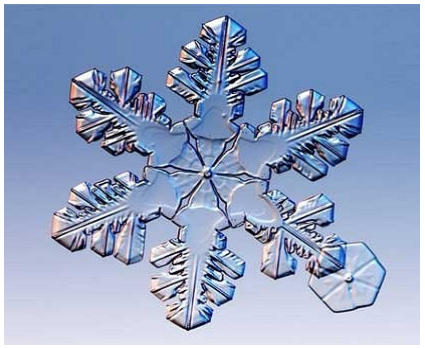

−
+
−
Brise descendante


+
−
Brise de mer


−
+
Brise de terre

L'eau

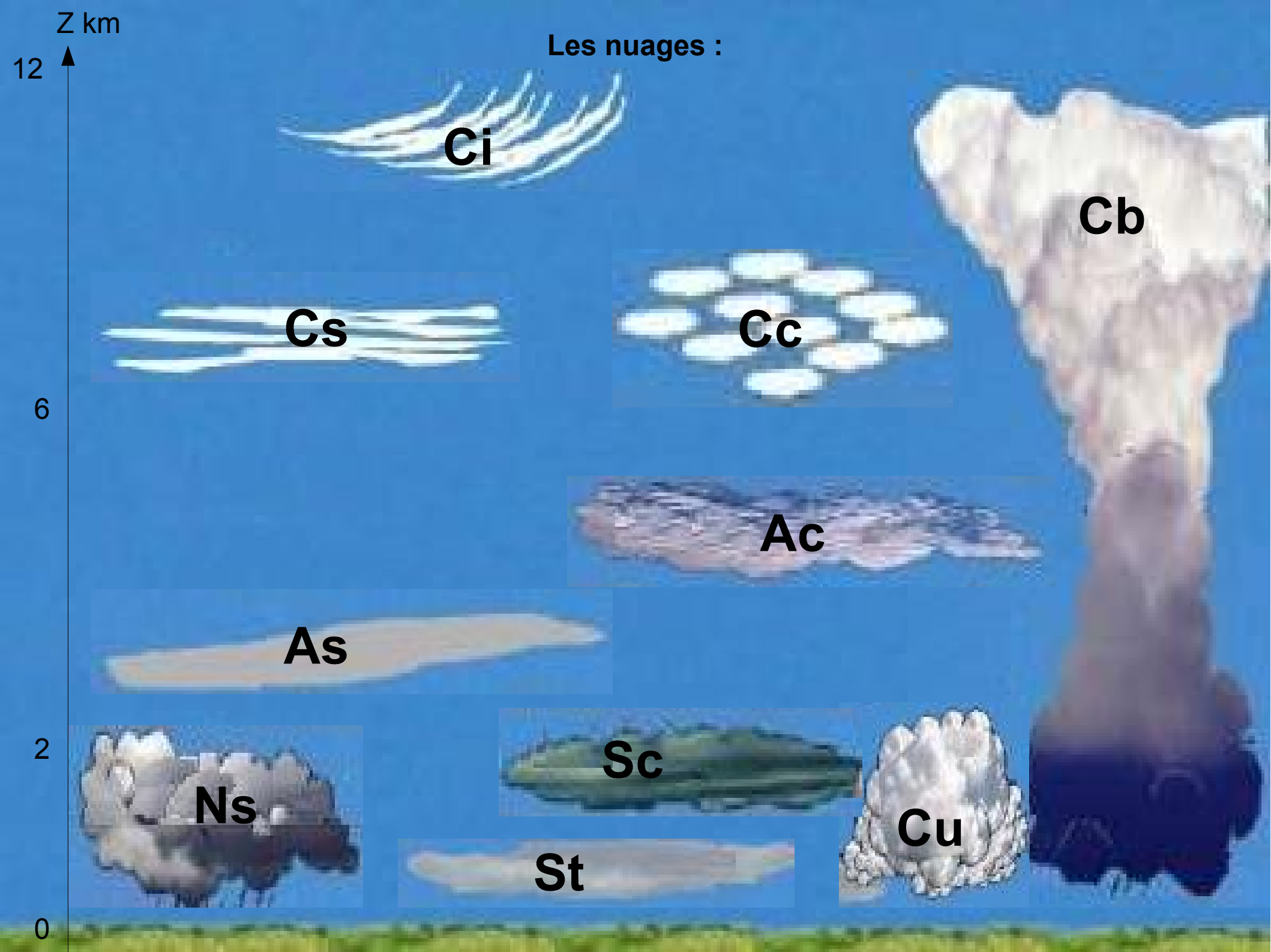
Solide :
neige, grêle, cristaux de glace



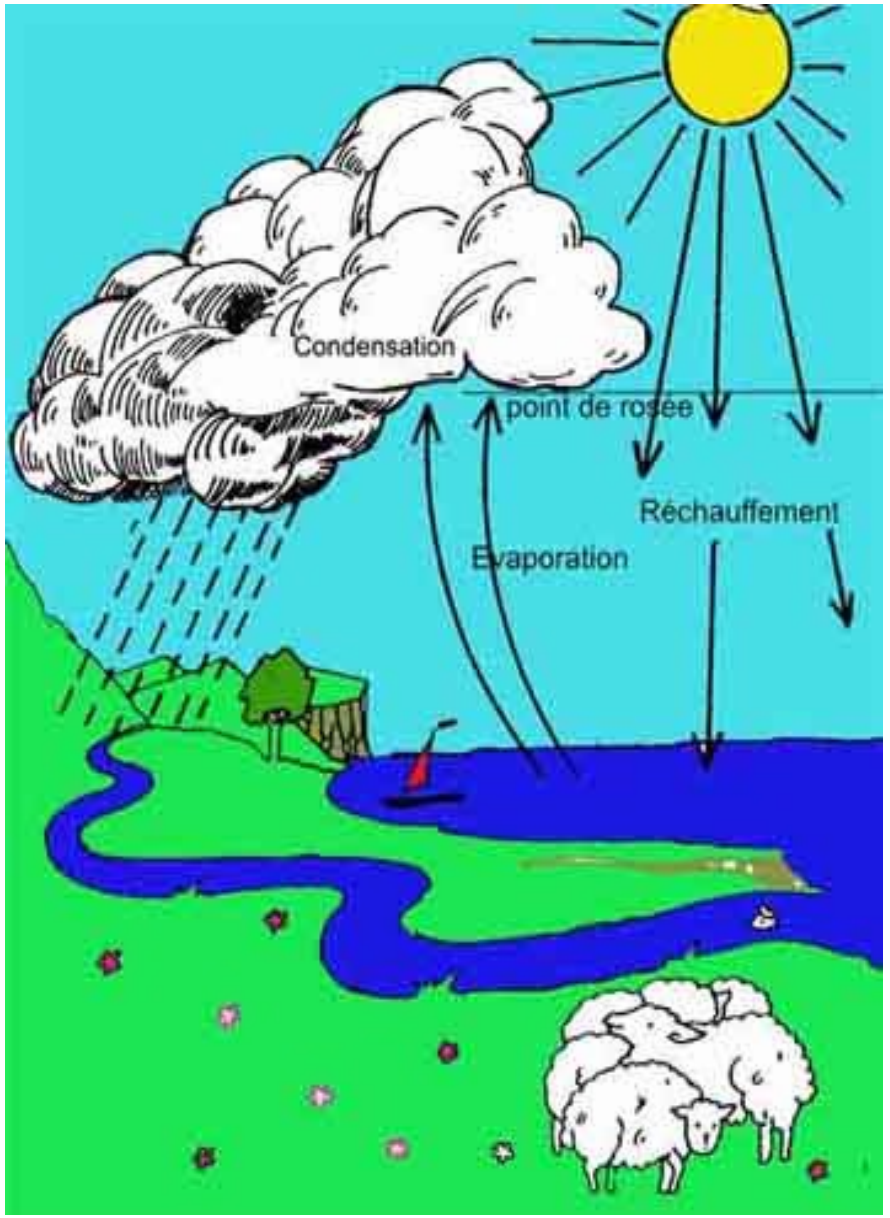
Liquide :
nuages et pluie

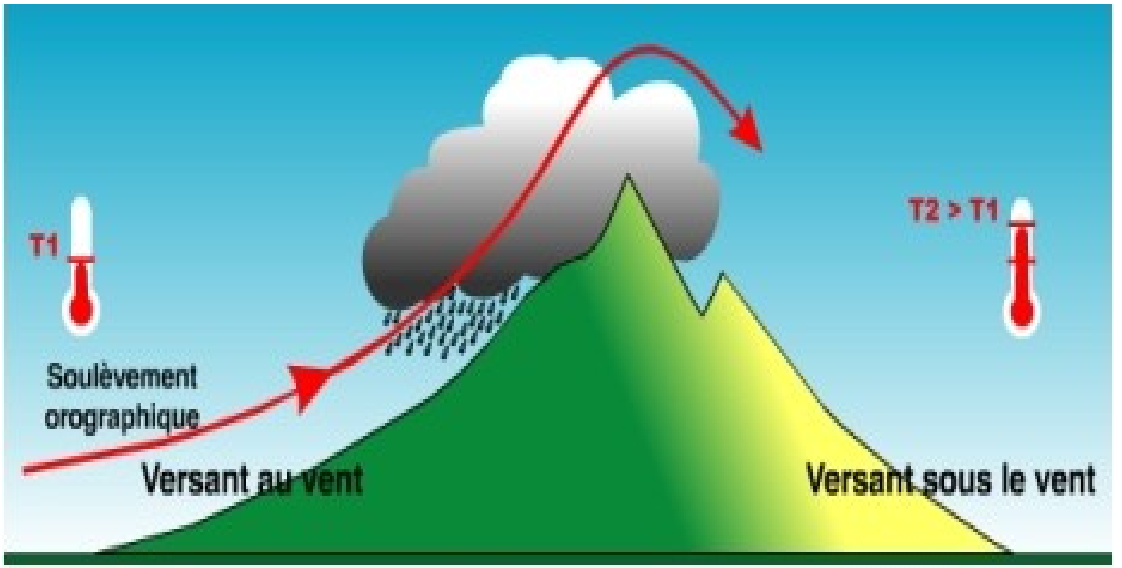
Gazeux :
air

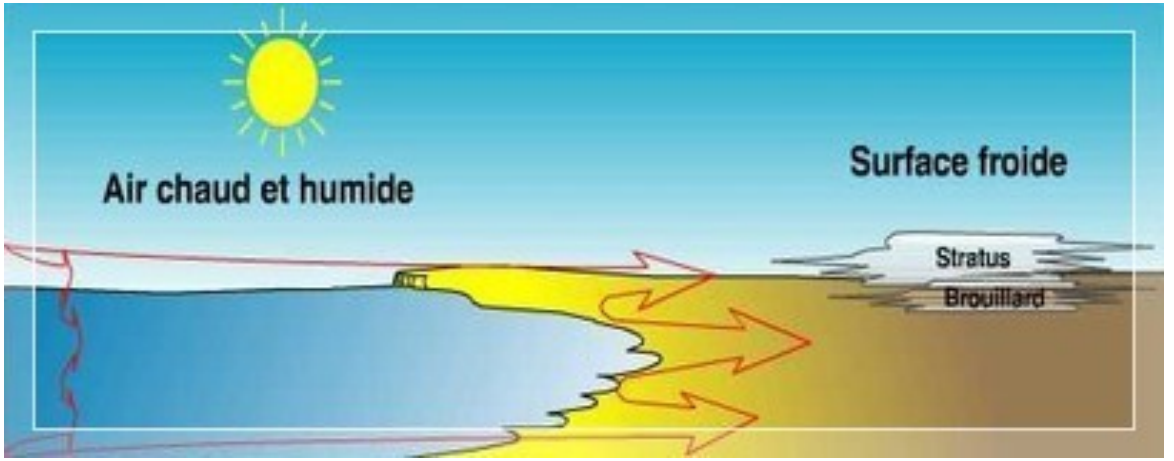
Solide	Liquide	Gazeux
→ Fusion →		
	→ Vaporisation →	
→ Sublimation →		
	← Condensation ←	
← Congélation ←		
← Condensation solide ←		


Z km
12
6
2
0
Les nuages :
Ci
Cb
Cs
Cc
Ac
As
Sc
Ns
Cu
St

La formation des nuages :

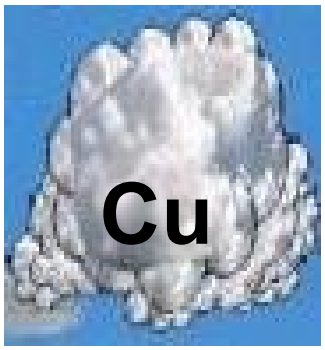






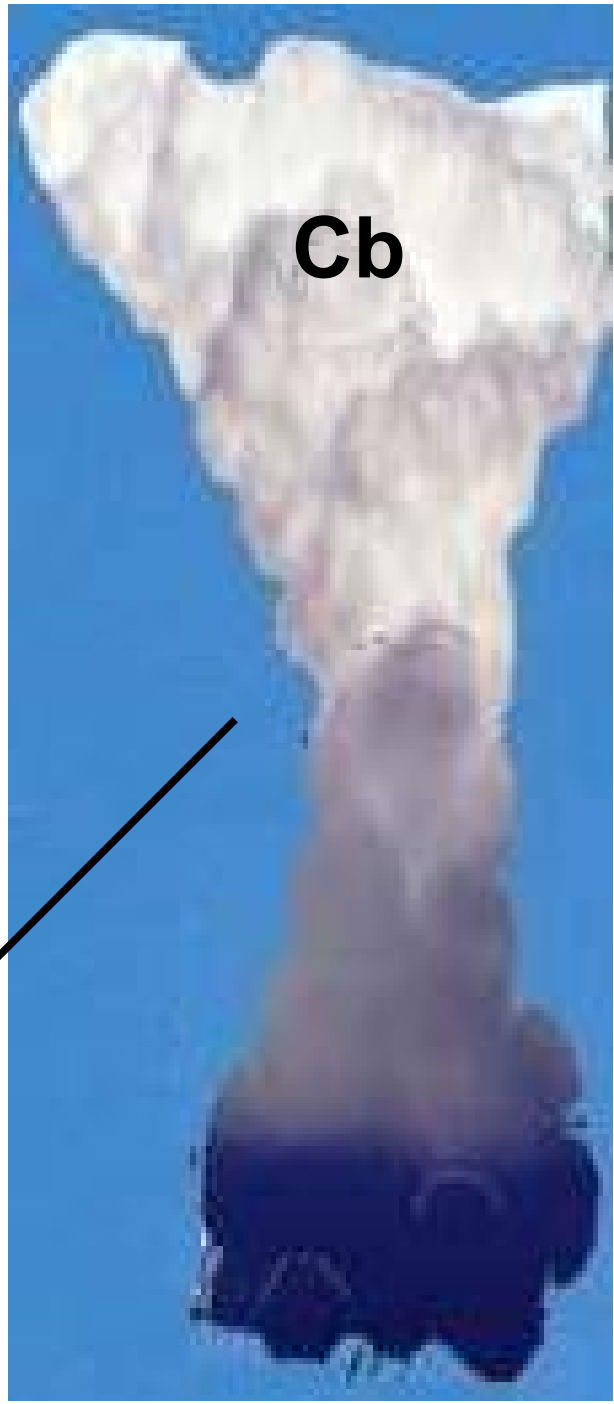
Les précipitations :

Bruine



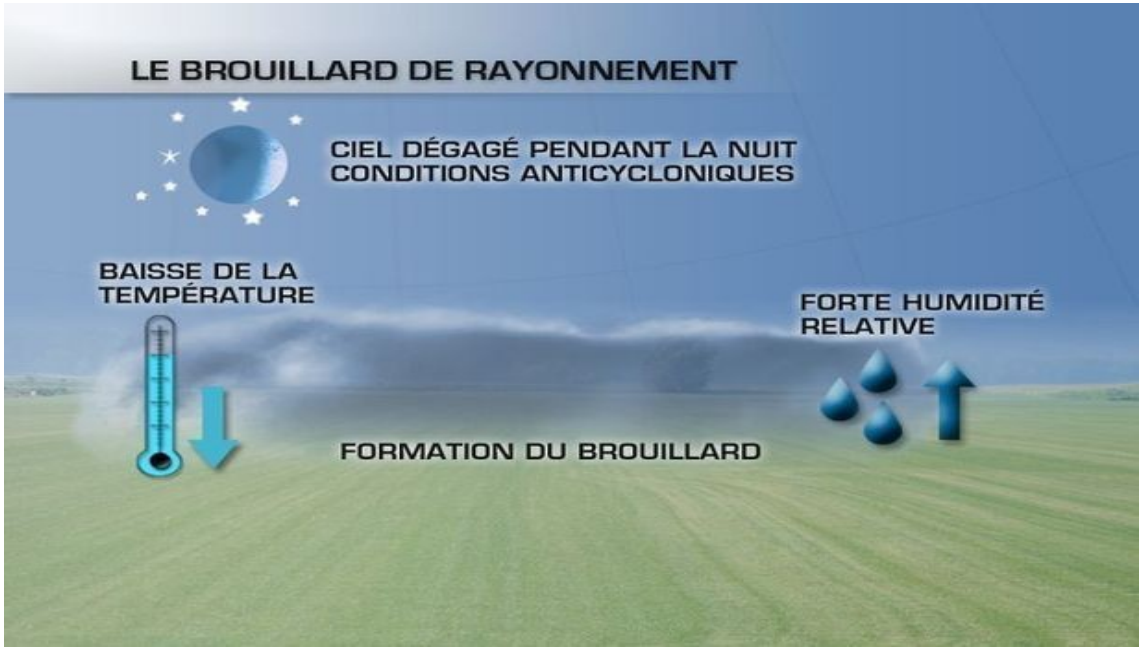
Pluie
Averse
Neige

Averse
Neige
Grêle
Eclair



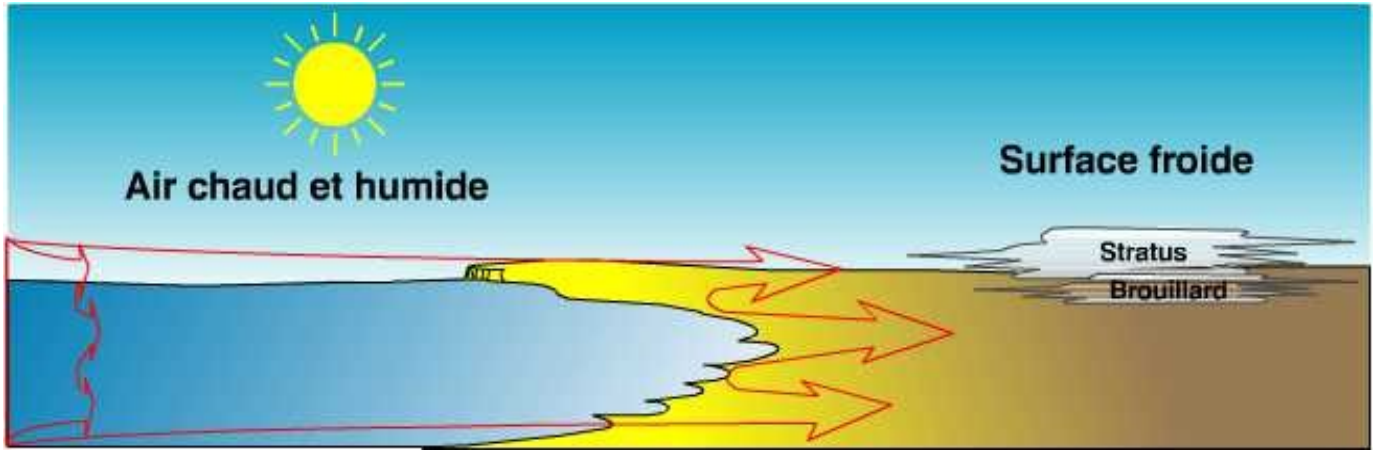
Les brouillards :

- Brouillard de rayonnement

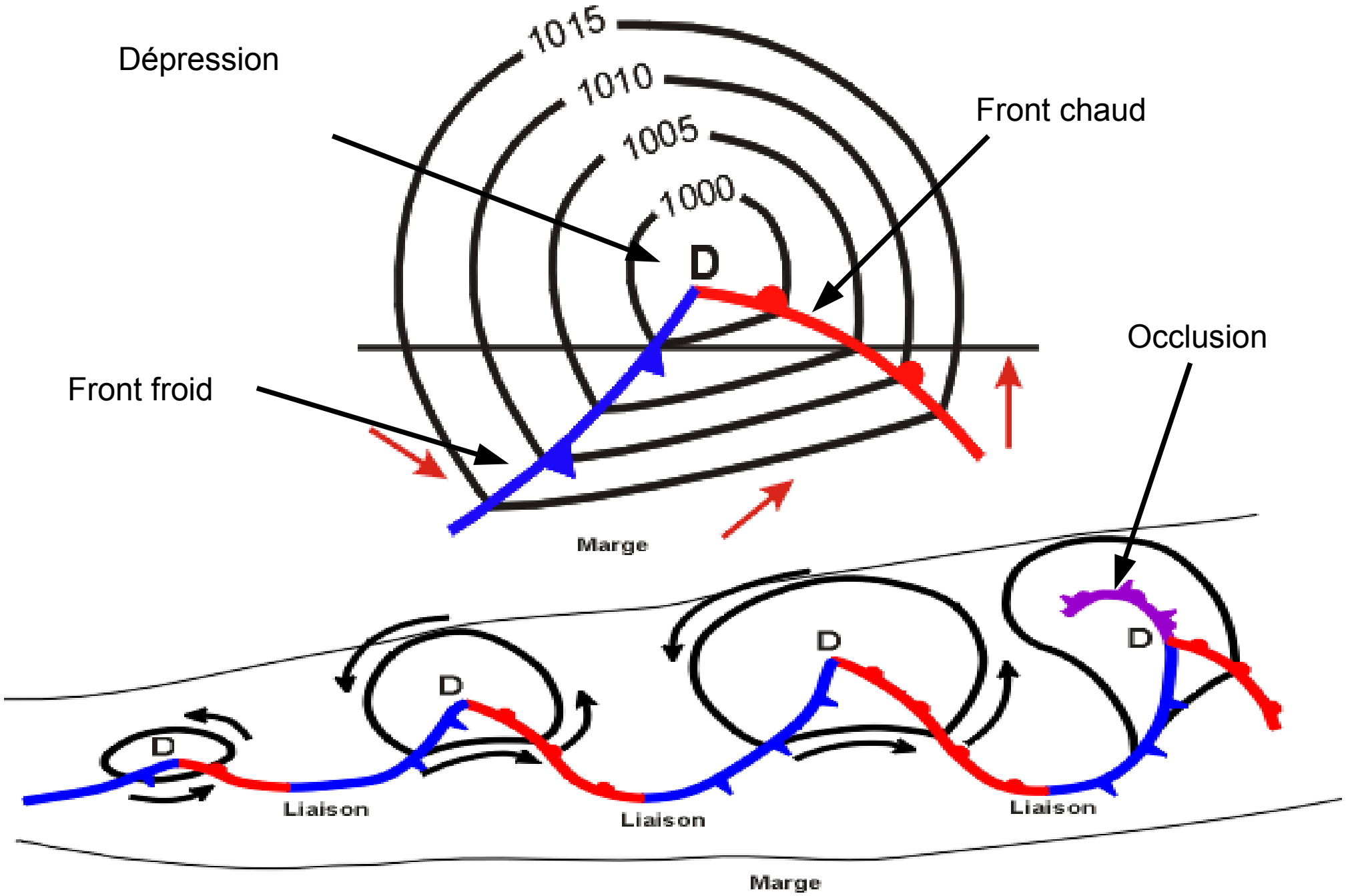


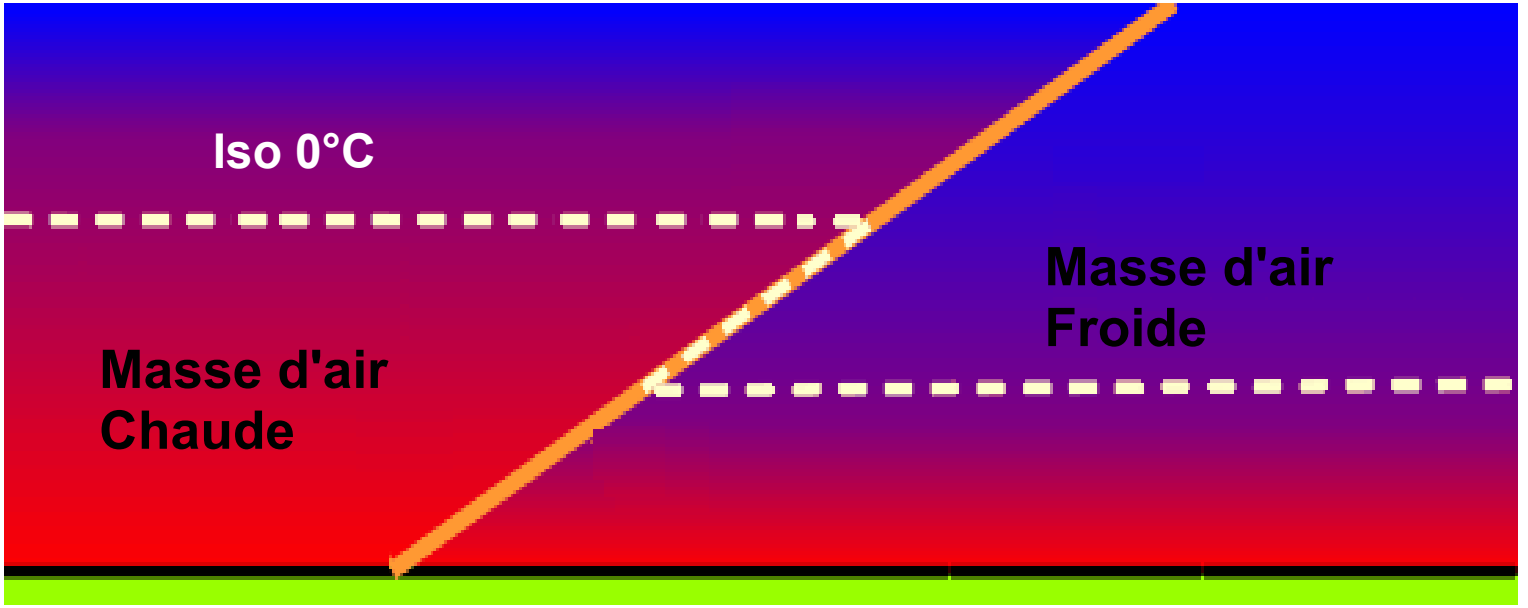
- Brouillard d'advection

- Brouillard côtier

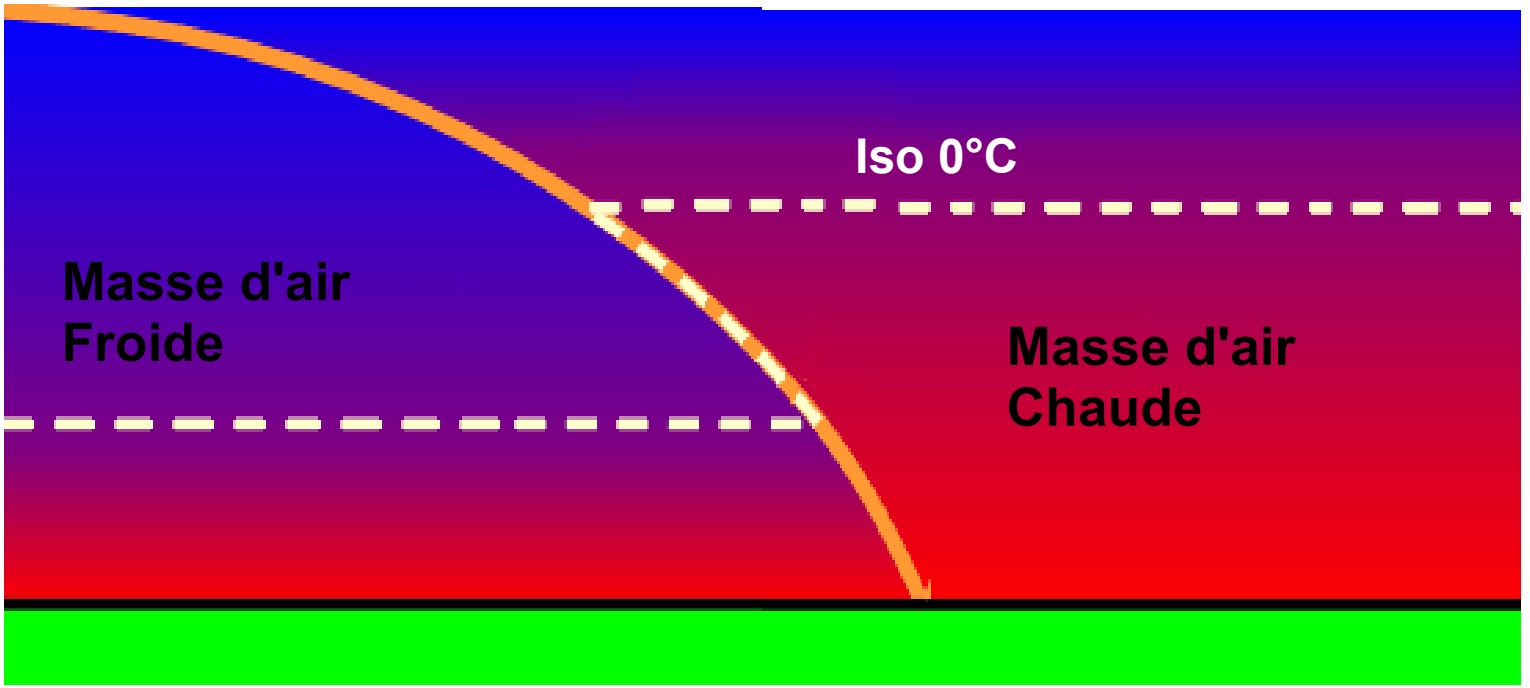


Les fronts :


Dépression
1015
1010
1005
1000
D
Front chaud
Front froid
Occlusion
Marge
D
D
D
D
Liaison
Liaison
Liaison
Marge

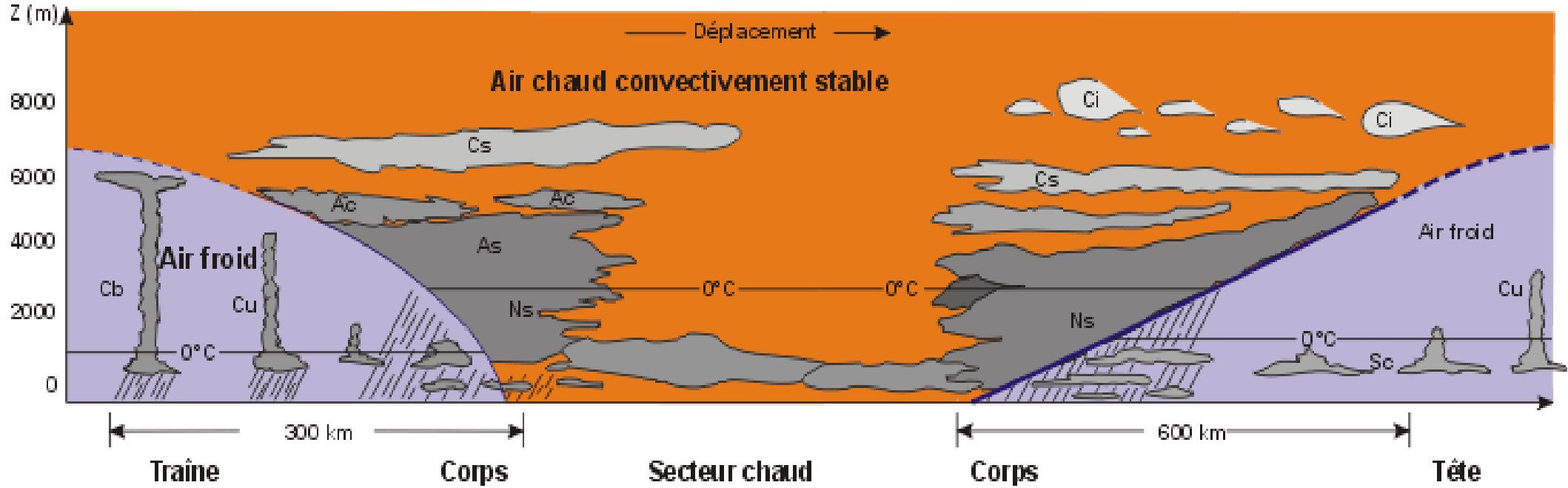


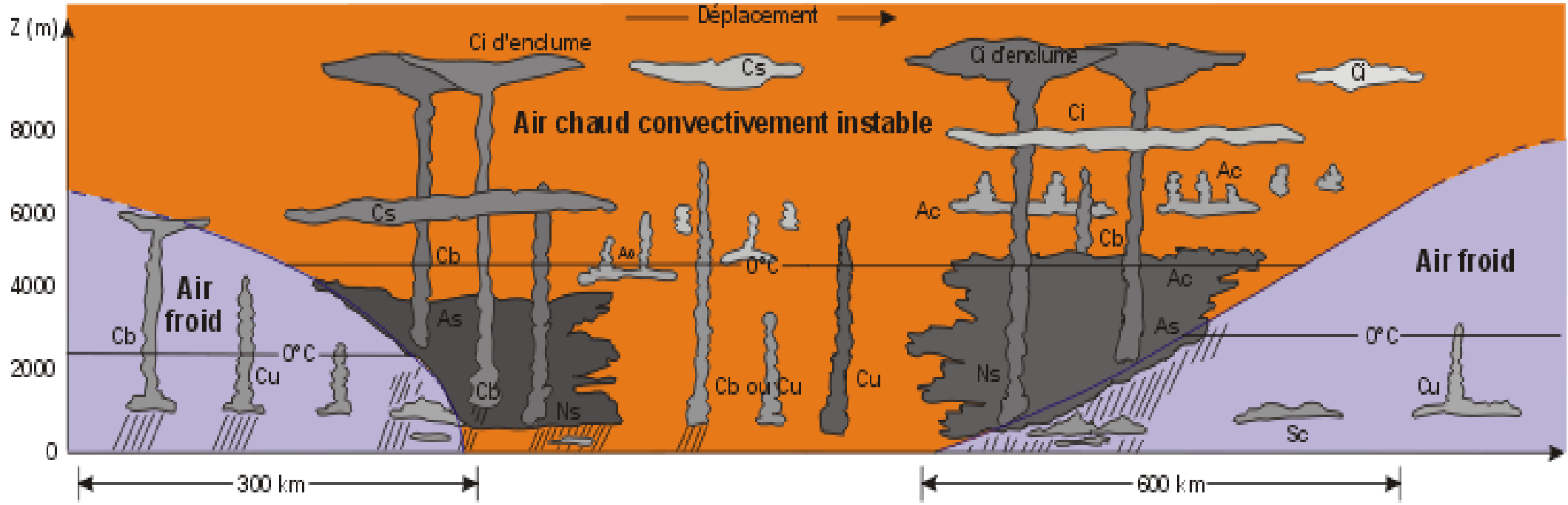
Front Chaud



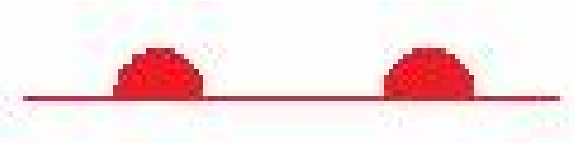
Front Froid

Nuages et fronts :





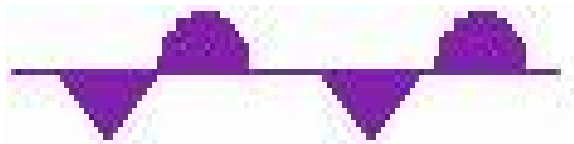
Les symboles des cartes :



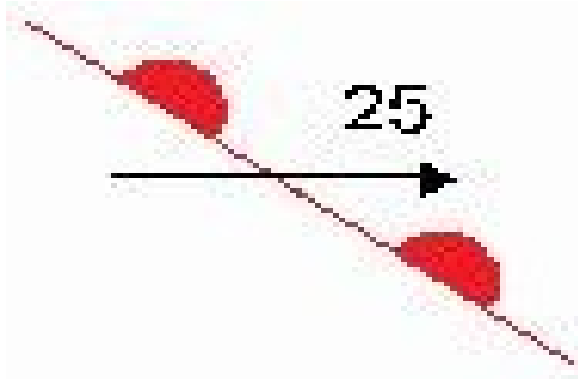
Front chaud

Front froid

Front occlus



Front quasi stationnaire

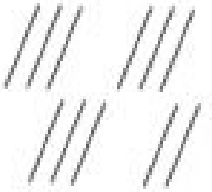


Front chaud se déplaçant à 25 kt

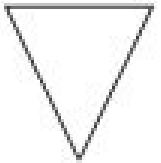
Brume : visi entre 1 km et 5 km

Brouillard : visi < 1 km

Bruine

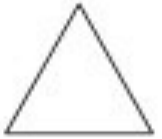


Pluie

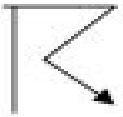


Averse

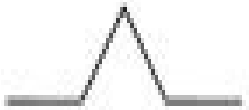
Neige



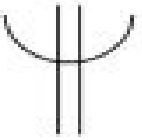
Grêle



Orage



Turbulence

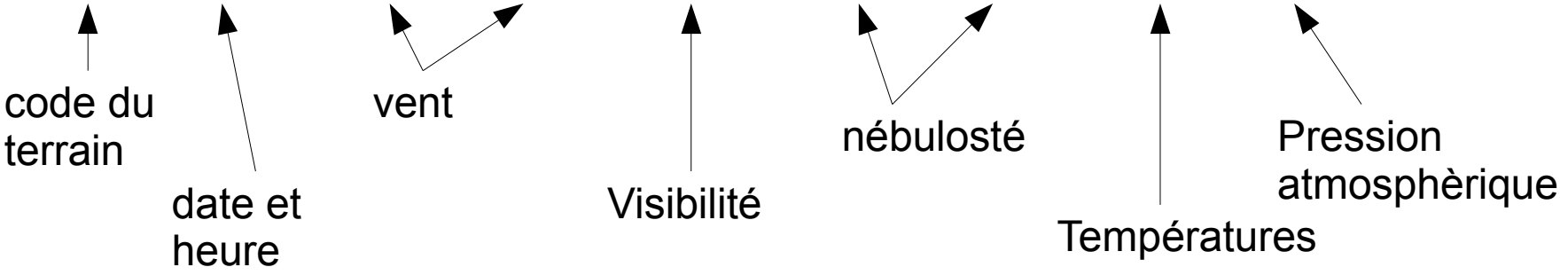


Givrage

METAR et TAF :

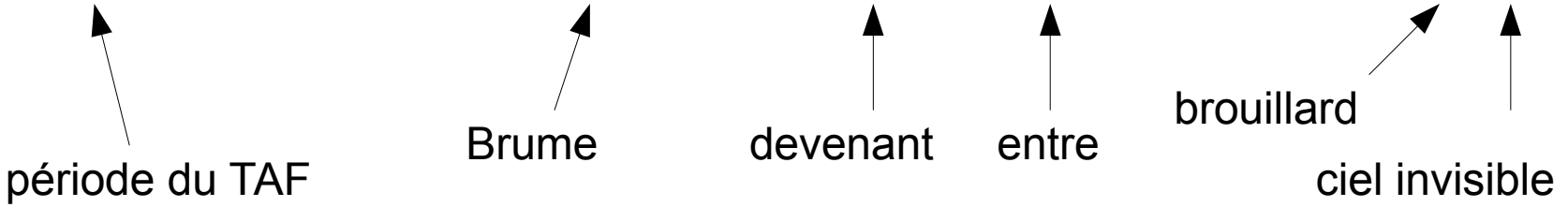
Metar : observation

LFLM 161430Z 1805KT 140V240 8000 FEW030 OVC100 35/13 Q1020 NOSIG



Taf : prévision

LFLG 141700Z 1418/1524 VRB02KT 3000 BR SCT040 BECMG 1500/1502 SCT005 FG VV///



CAVOK : visi > 10 km, pas de nuage < 1500 m, pas d'orage