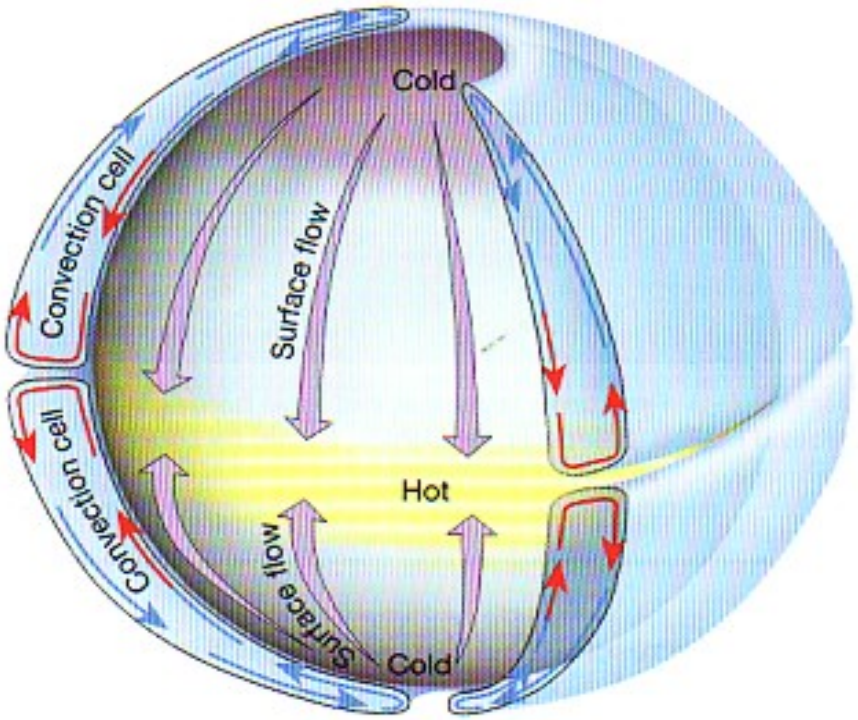
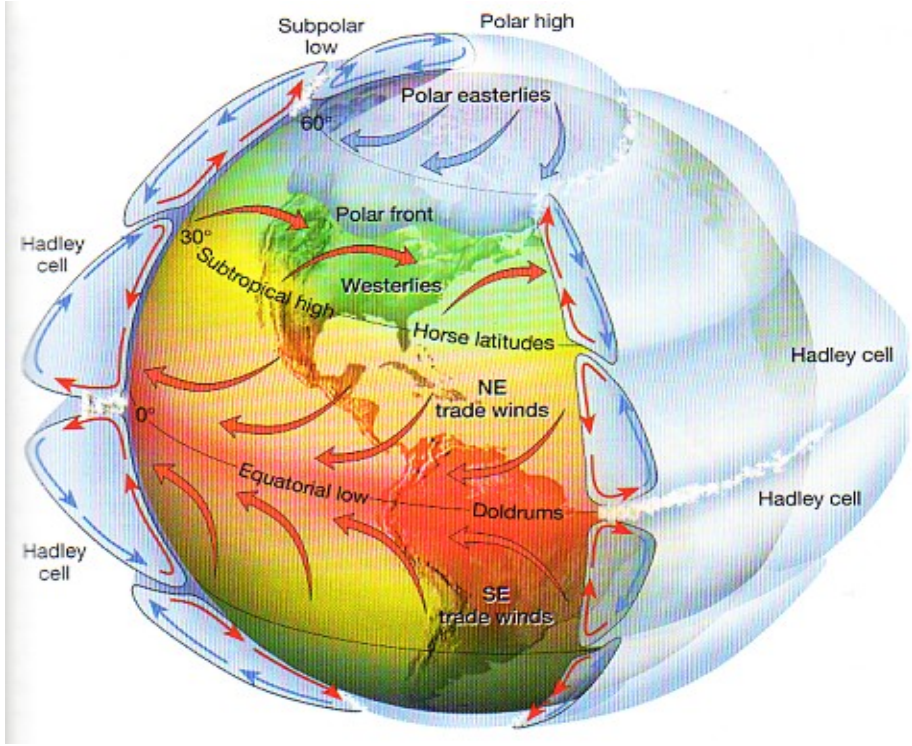
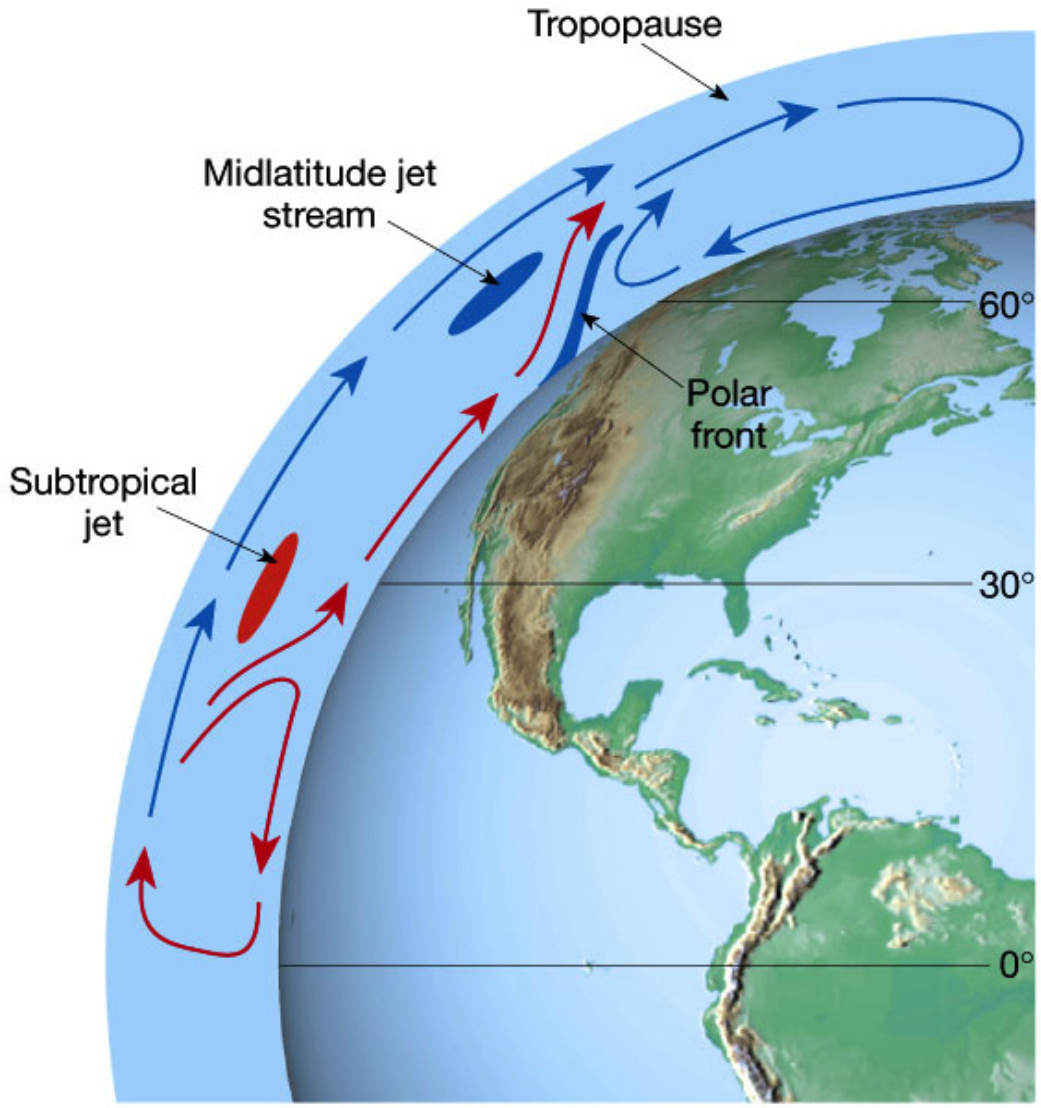
Scale dei moti atmosferici

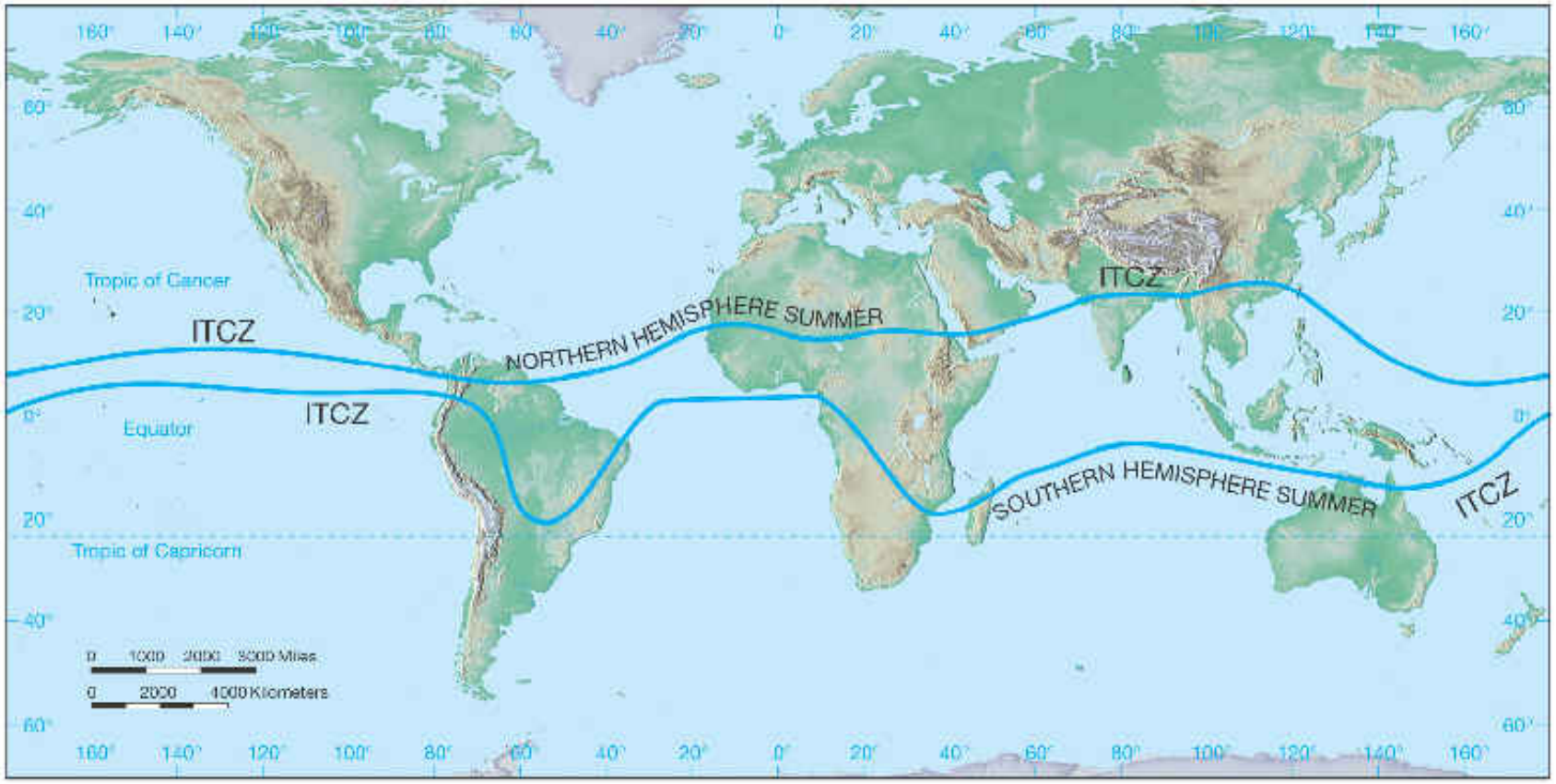
	1 mese			1 giorno	1 ora	1 minuto	1 secondo	
10000 km	Onde stazionarie	Onde ultra lunghe	Onde di marea					SCALA PLANETARIA
1000 km		Onde barocline						SCALA SINOTTICA
100 km			Fronti e uragani					MESOSCALA
10 km				Correnti a getto in bassa quota notturne Linee dei groppi Onde inerziali Cluster di nubi Effetti urbani				SCALA LOCALE o MICROSCALA
1km				Temporali Onde di gravità inerziali Turbolenza in aria chiara Perturbazioni orografiche Nebbie				
100 m					Tornado Convezione profonda Onde di gravità corte			
10 m						Mulinelli Termiche Scie		
1 m							Pennacchi Effetti di scabrezza Turbolenza	

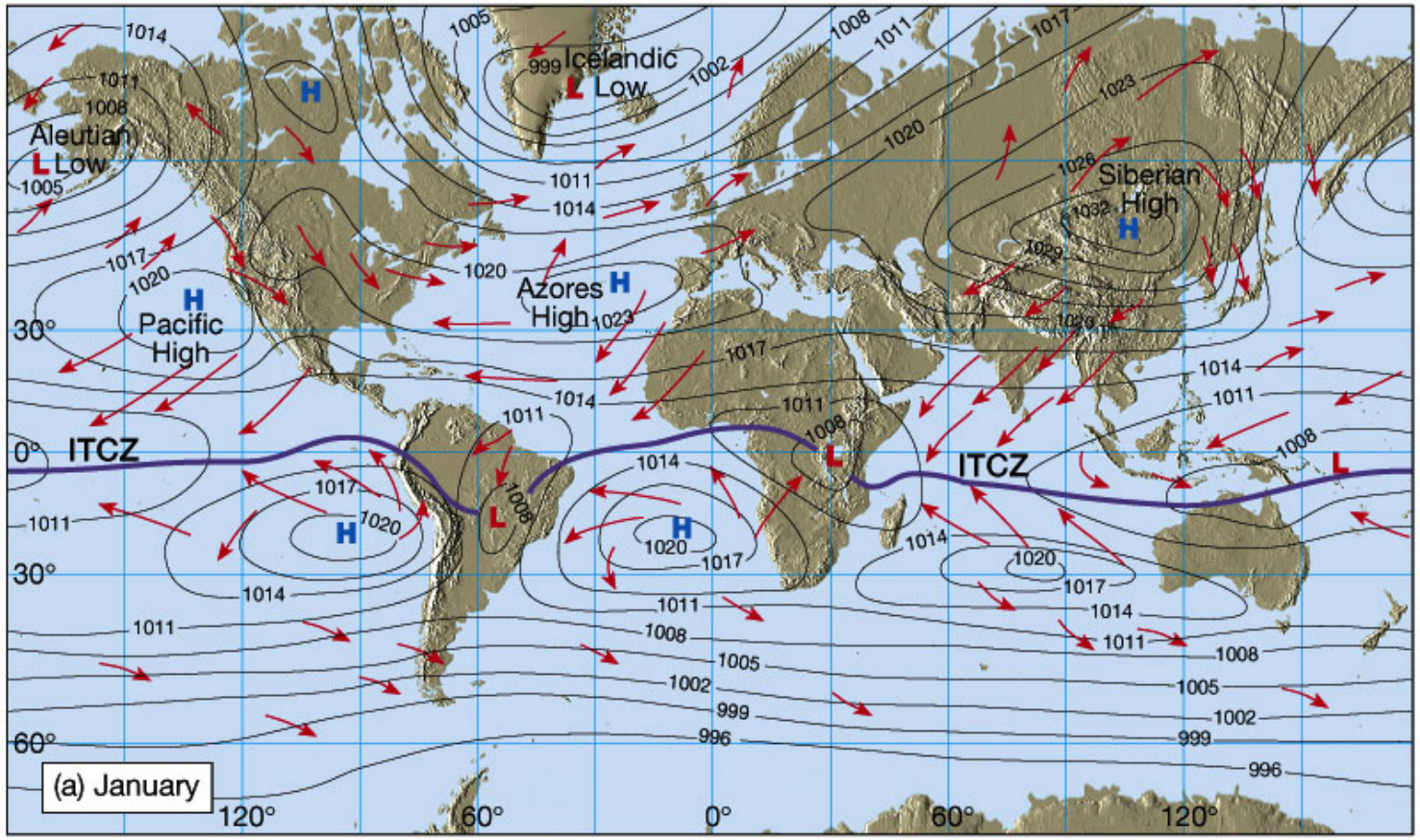

Cold
Convection cell
Surface flow
Convection cell
Hot
Surface flow
Cold

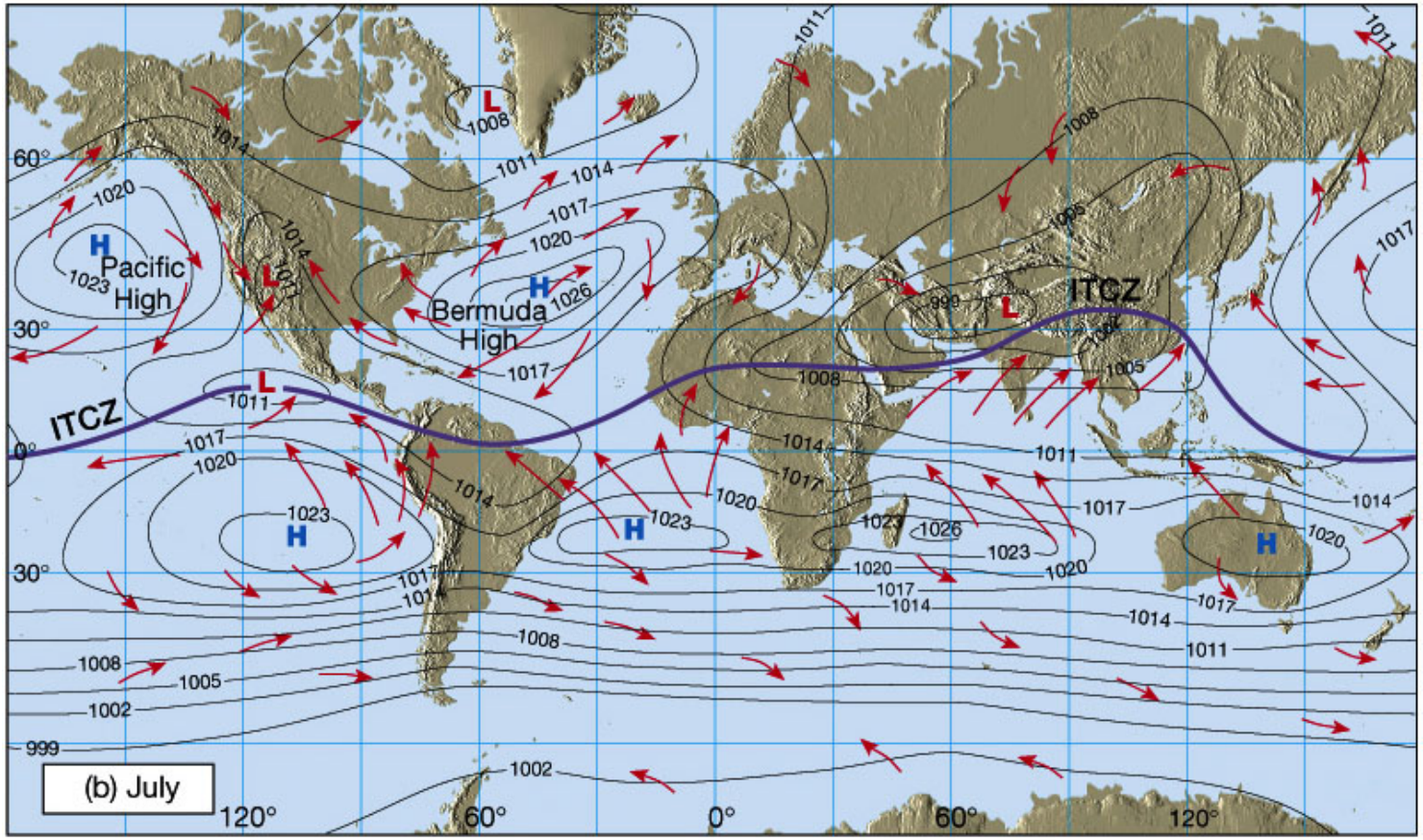

Subpolar low
Polar high
Polar easterlies
60°
Polar front
Hadley cell
30°
Subtropical high
Westerlies
Horse latitudes
Hadley cell
NE trade winds
0°
Equatorial low
Doldrums
Hadley cell
Hadley cell
SE trade winds

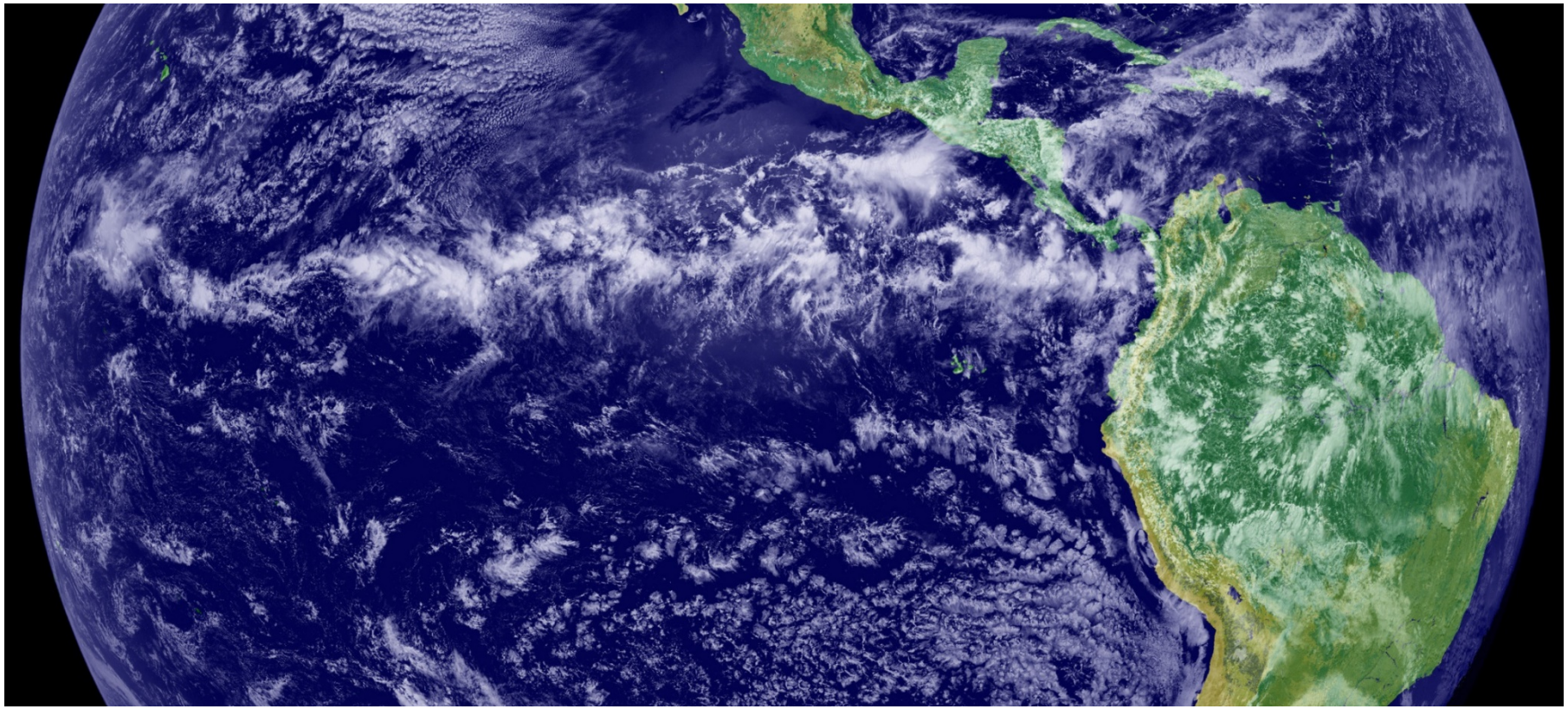

Tropopause
Midlatitude jet stream
Polar front
Subtropical jet
60°
30°
0°

Fascia di convergenza intertropicale (InterTropical Convergence Zone, ITCZ)

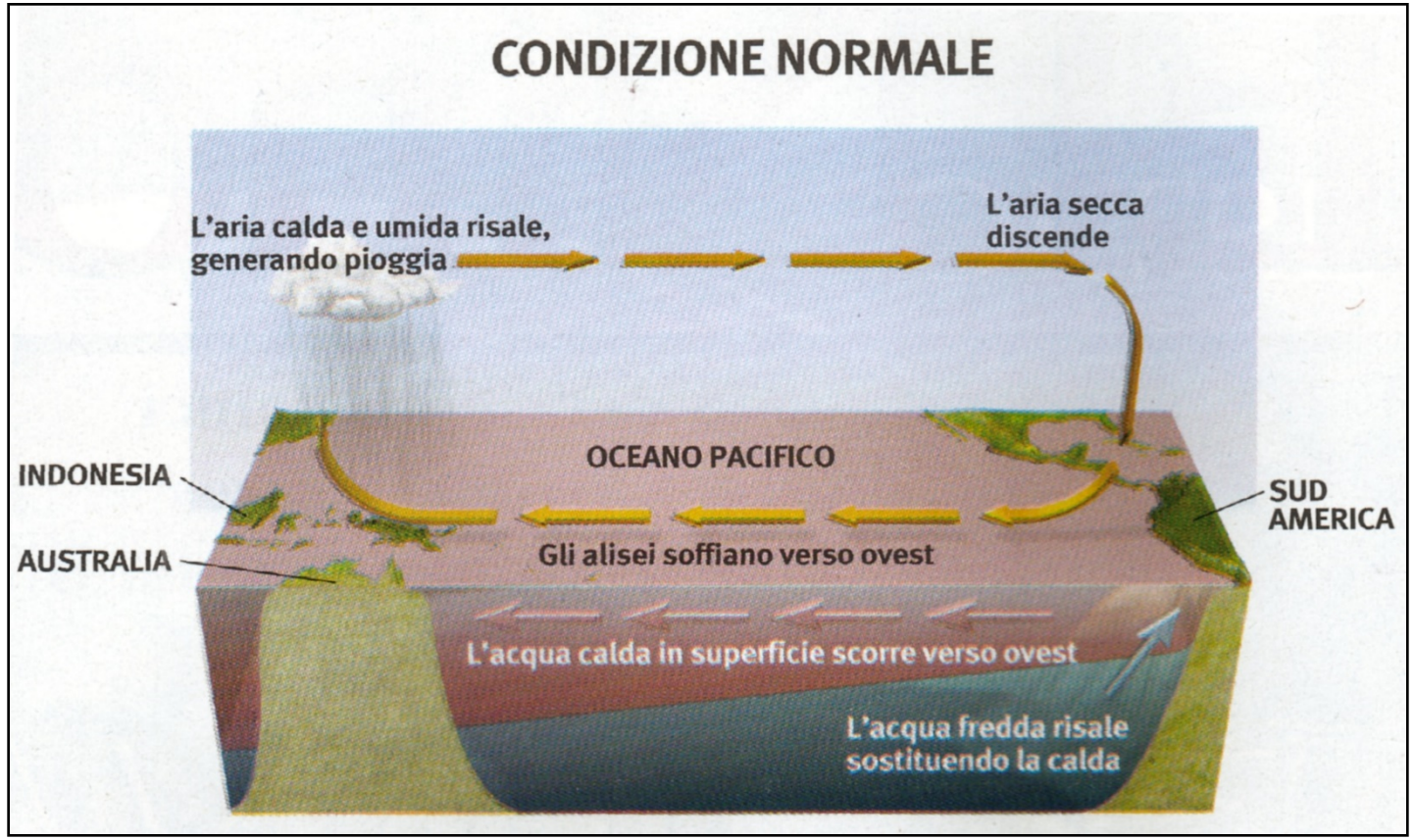



Icelandic Low
Aleutian Low
Pacific High
Azores High
Siberian High
ITCZ
ITCZ
(a) January
30°
0°
30°
60°
120°
60°
0°
60°
120°


(b) July
Pacific High
Bermuda High
ITCZ
ITCZ
60°
30°
0°
30°
120°
60°
0°
60°
120°

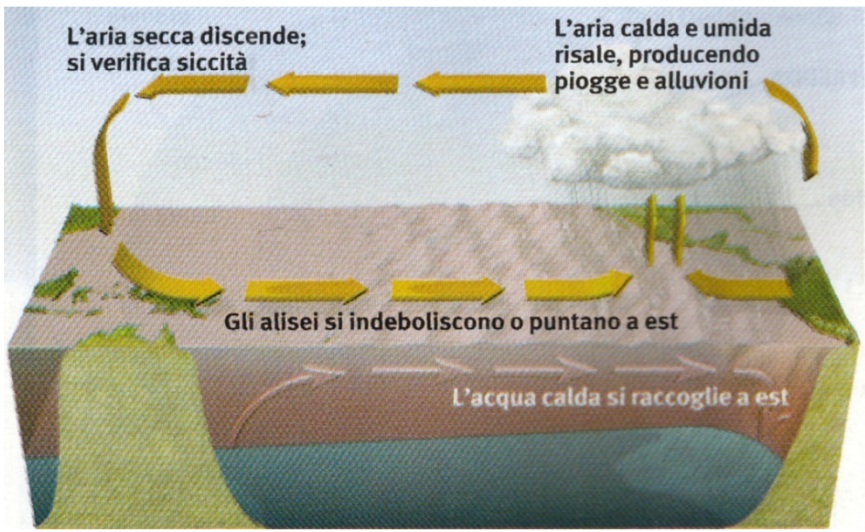


“El Niño” - Southern Oscillation (ENSO)

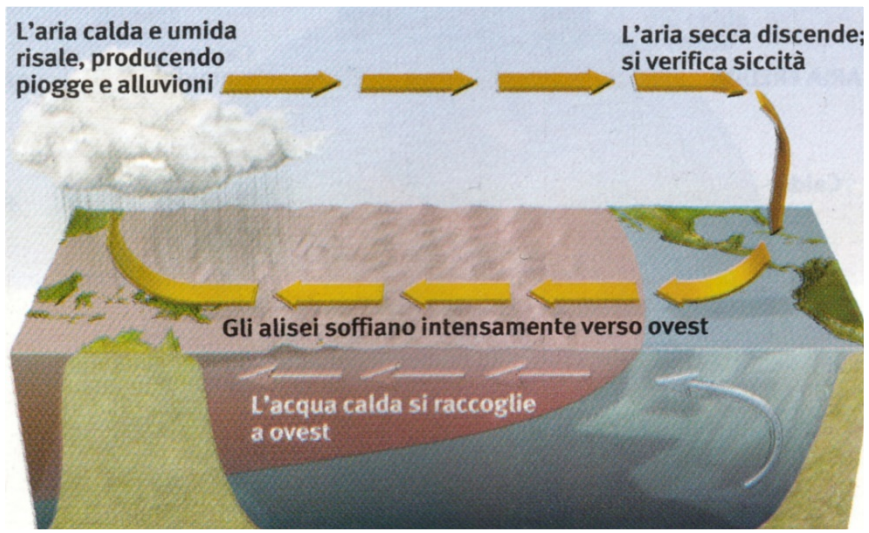


Periodo: 4.5 ± 1.5 anni

“El Niño”
SITUAZIONE NORMALE



“La Niña”
SITUAZIONE ANOMALA



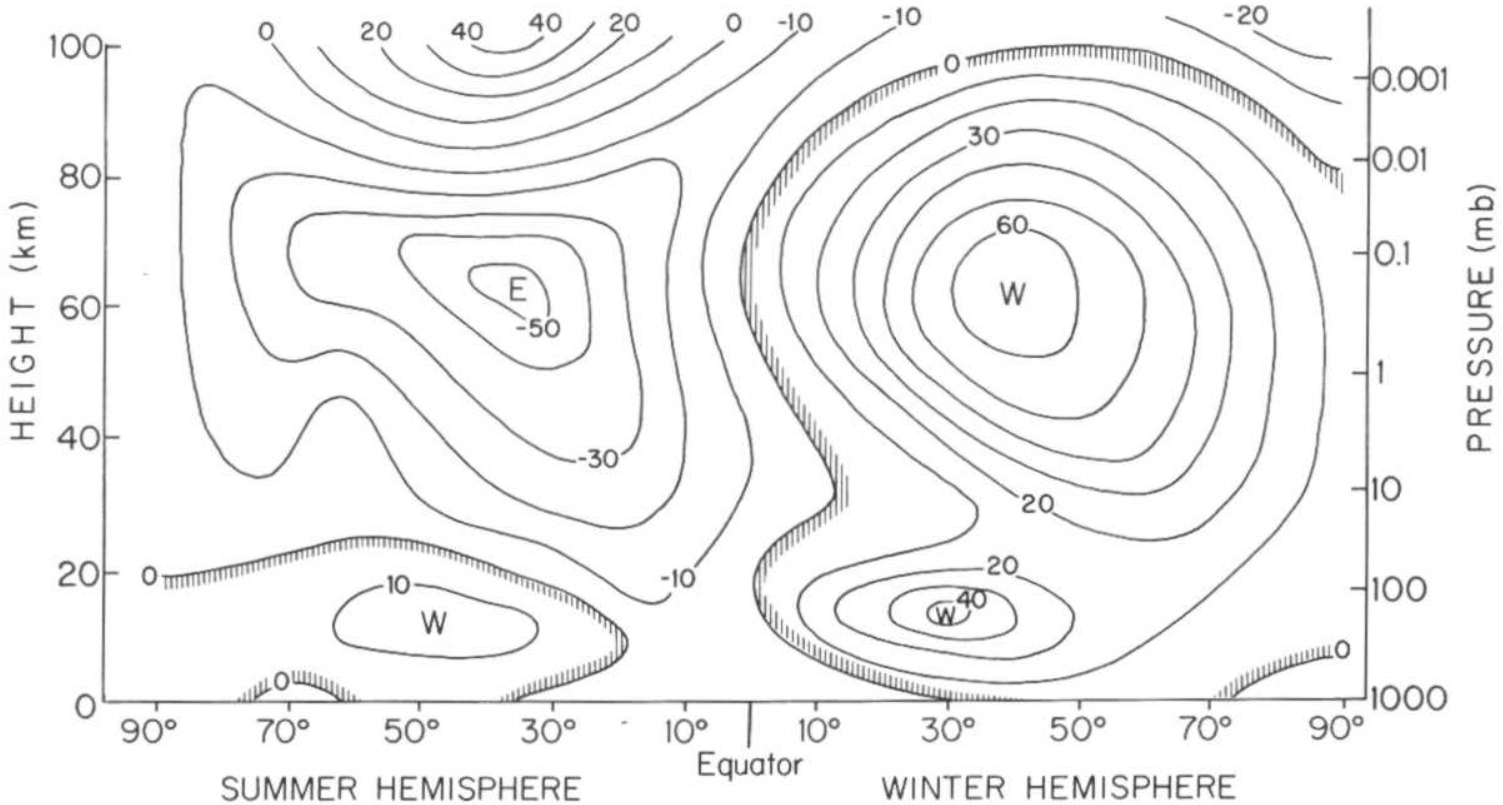


Fig. 1.12 Meridional cross section of longitudinally averaged zonal wind in meters per second at the time of the solstices. Positive zonal winds denote flow from west to east. (Courtesy of R. J. Reed.)

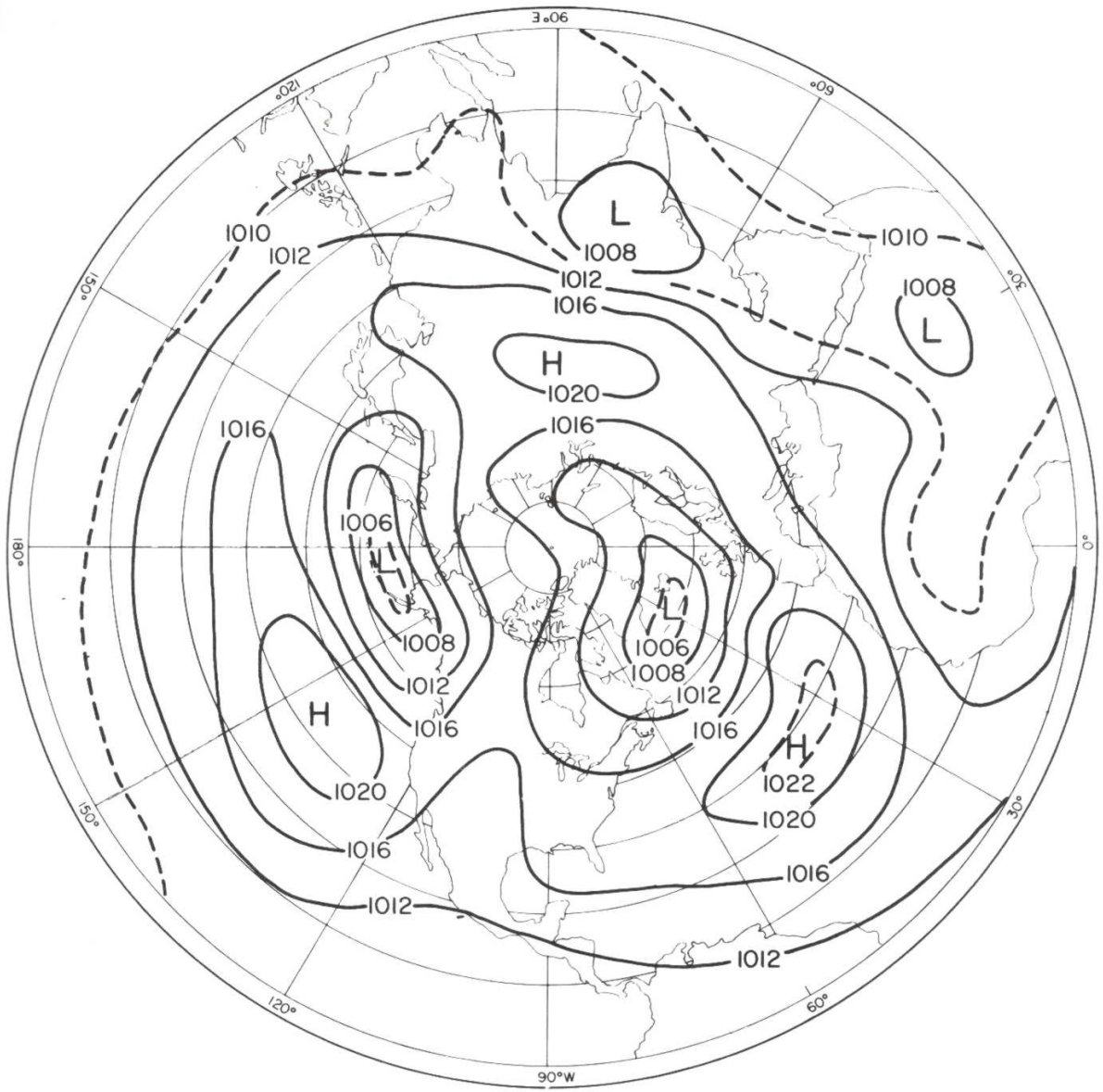
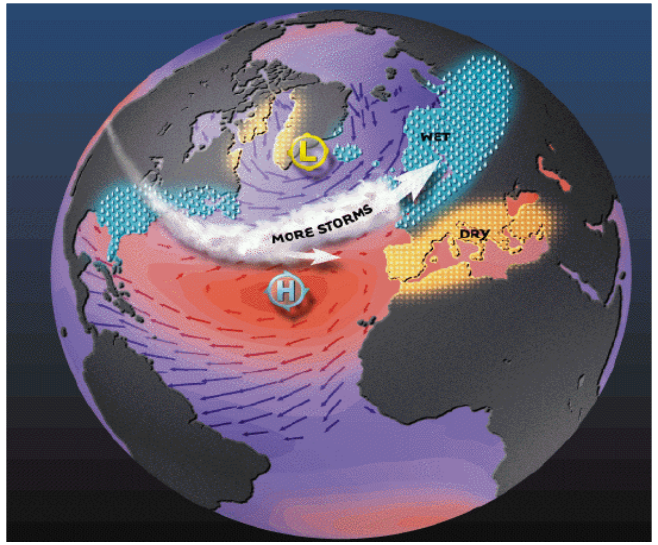
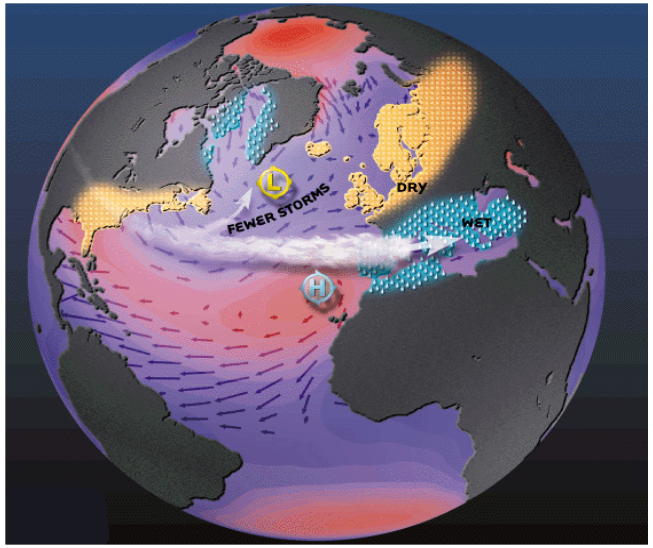


Fig. 1.15 Annual average sea level pressure in millibars. [From *Mon. Wea. Rev.*, **104**(12) (1976).]

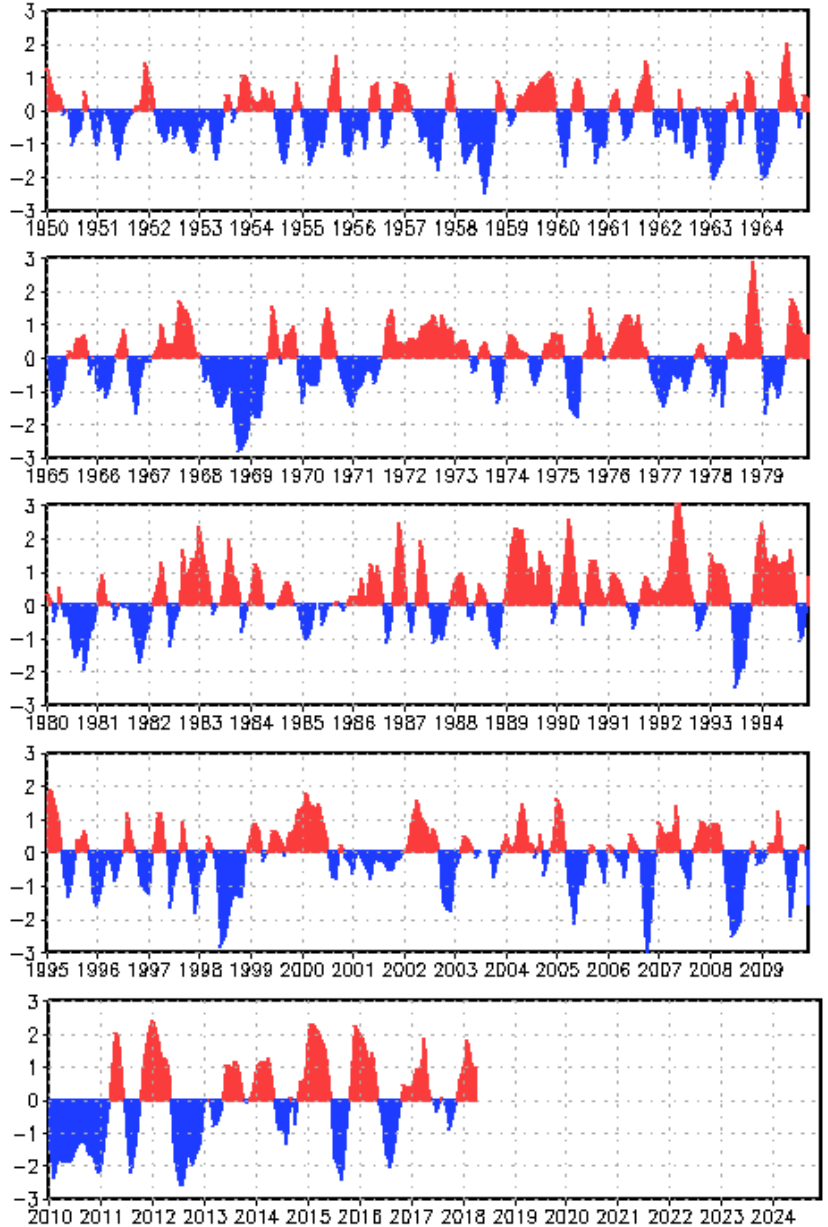
L’Oscillazione Nord Atlantica (NAO)



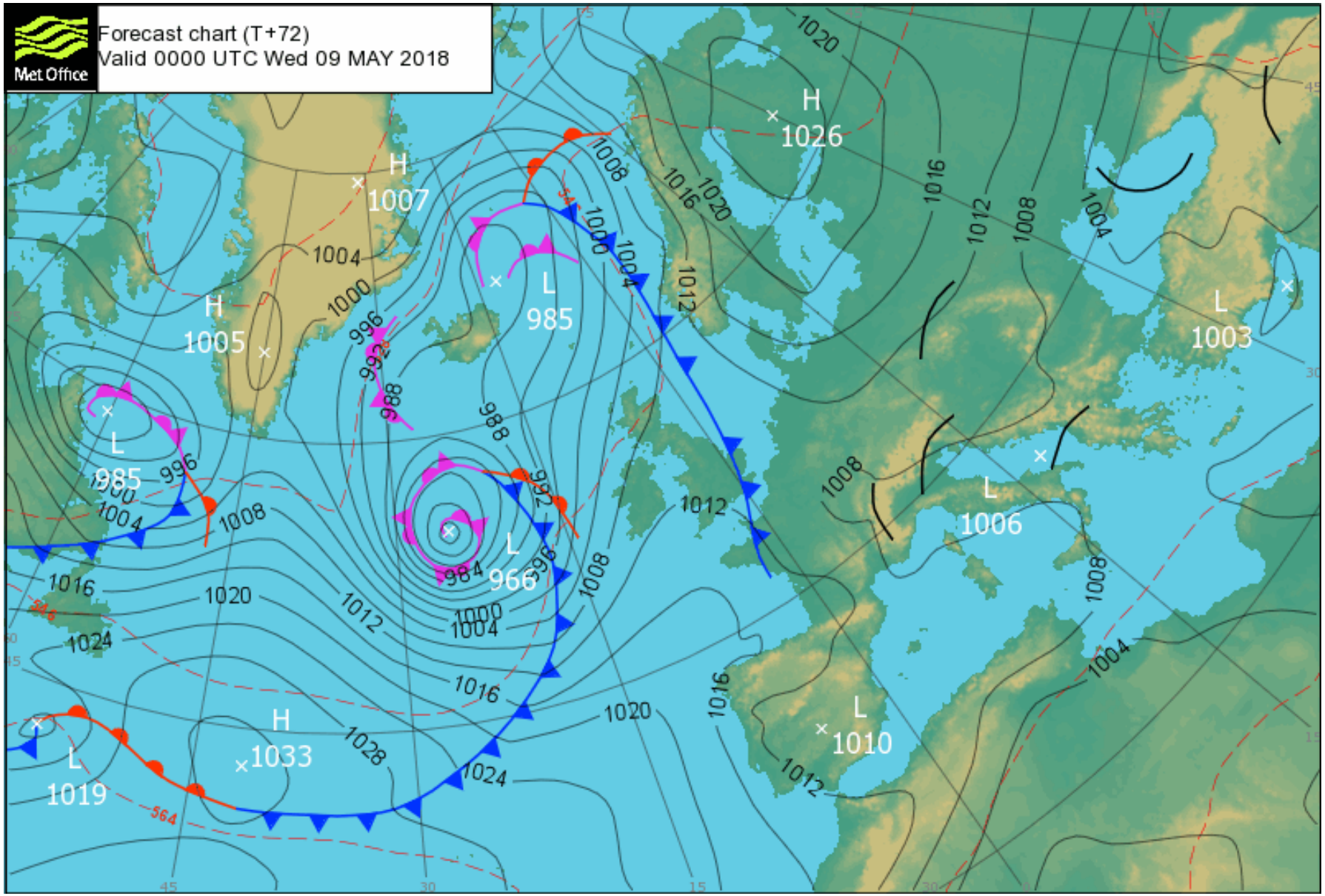


Periodo: 2.6 ± 0.1 anni (Winter NAO: 6.5 ± 1.5)

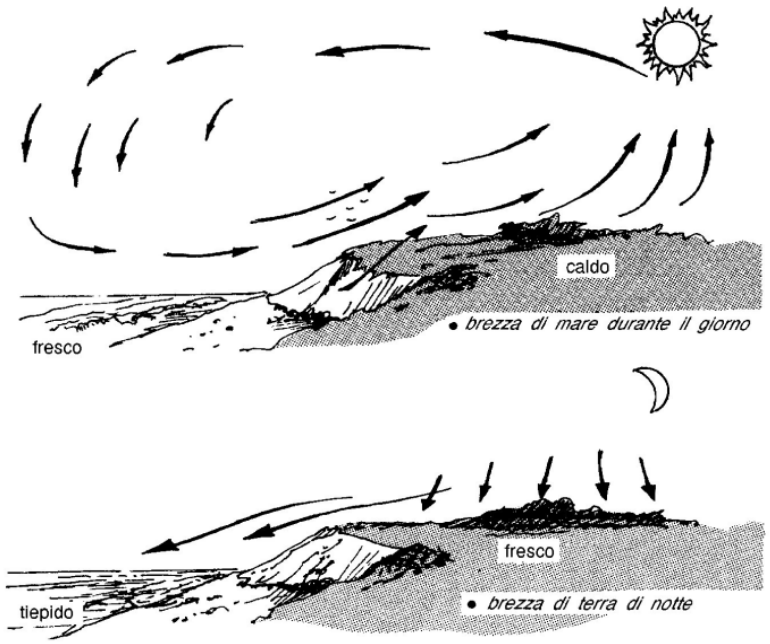
Standardized 3-Month Running Mean NAO Index
Through April 2018

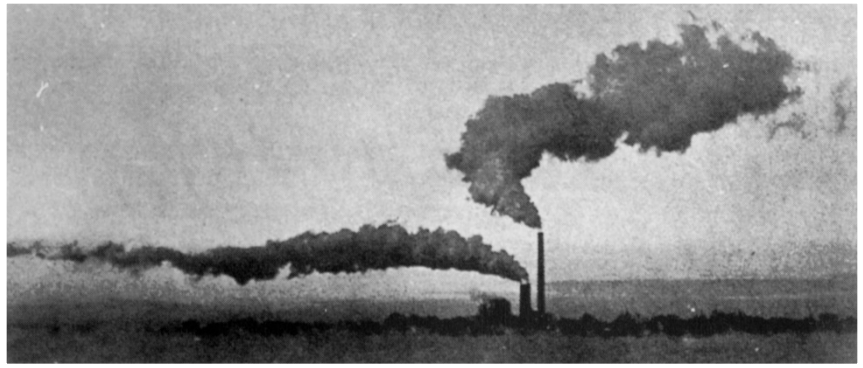


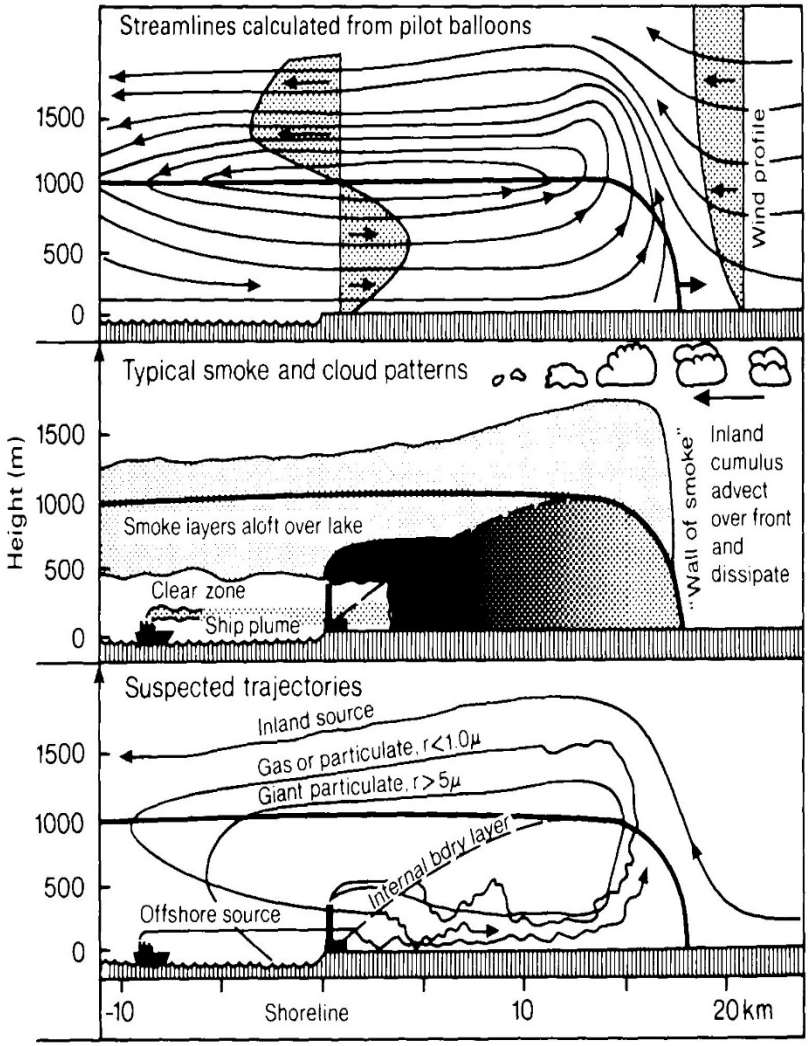
Scala sinottica



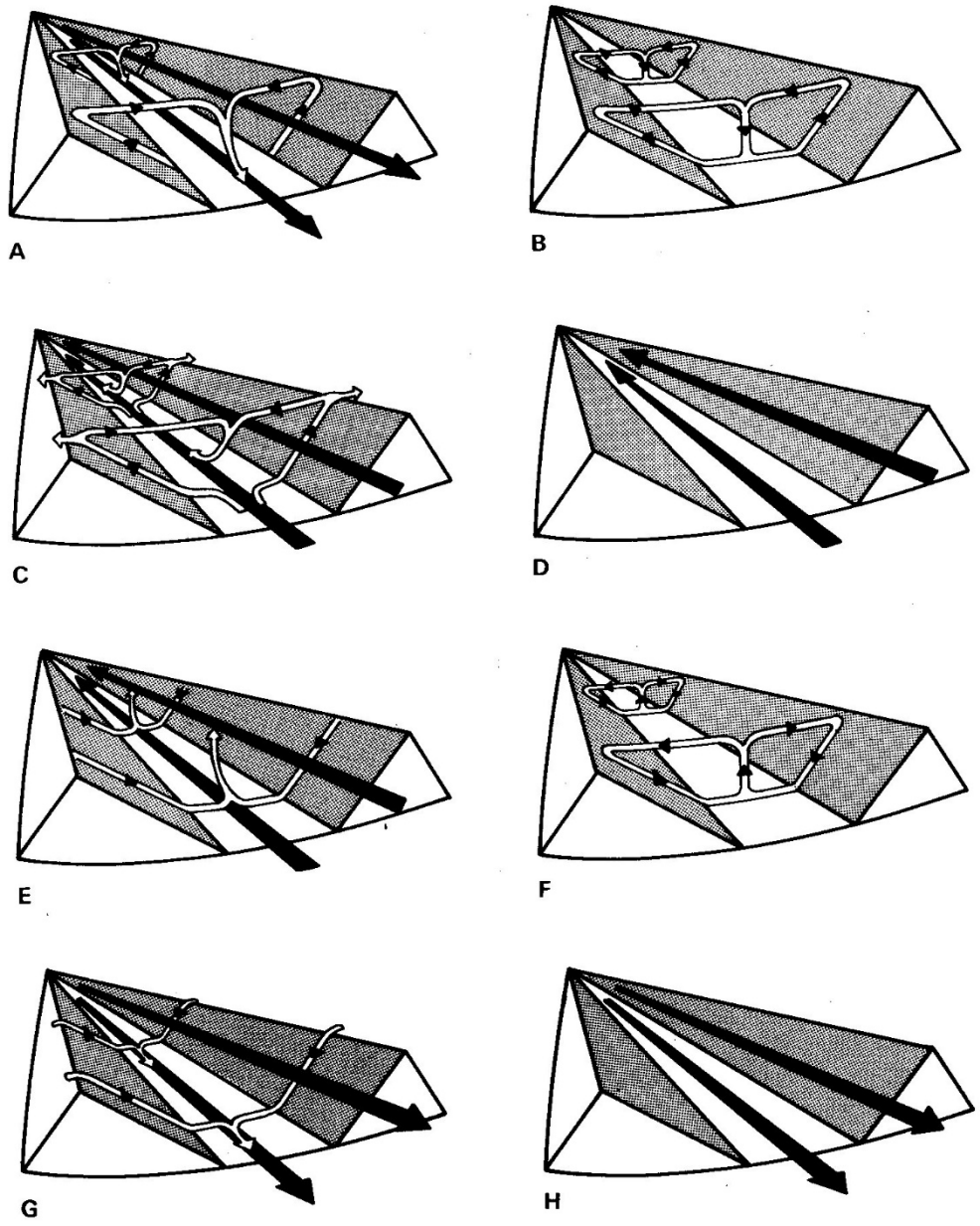
Mesoscala: brezze di costa



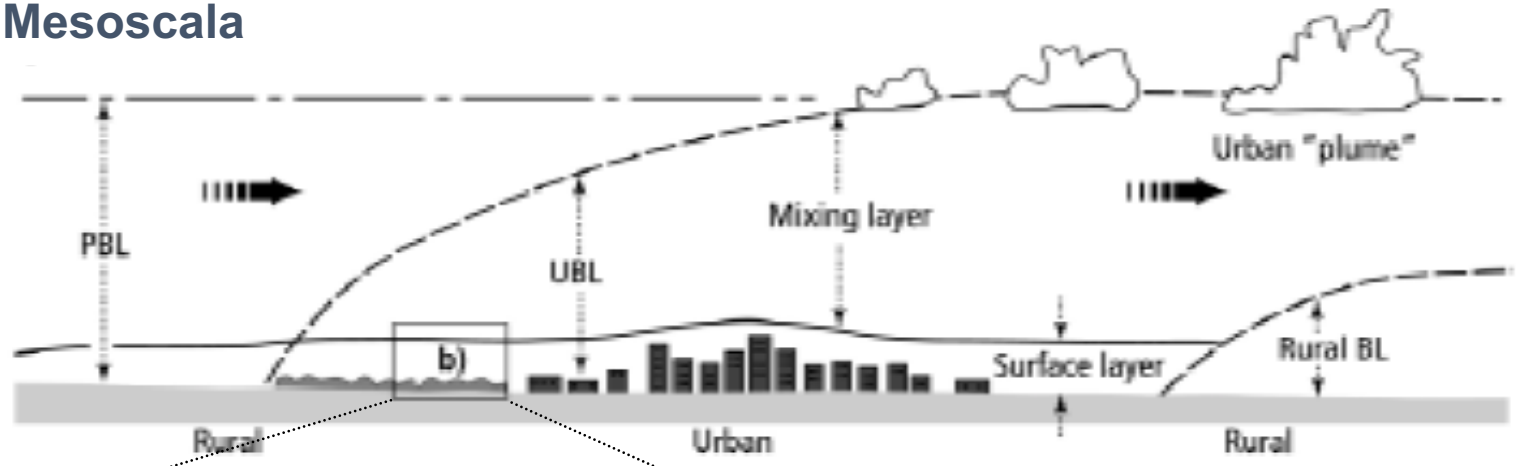




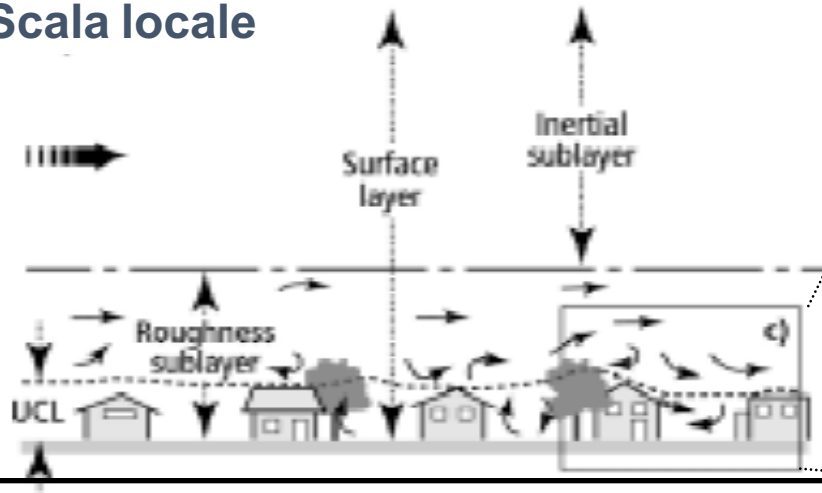
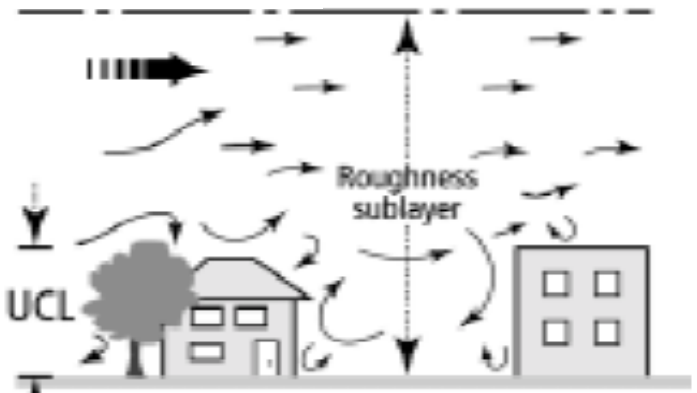
Mesoscala: venti di valle



Mesoscala



Scala locale



Microscala