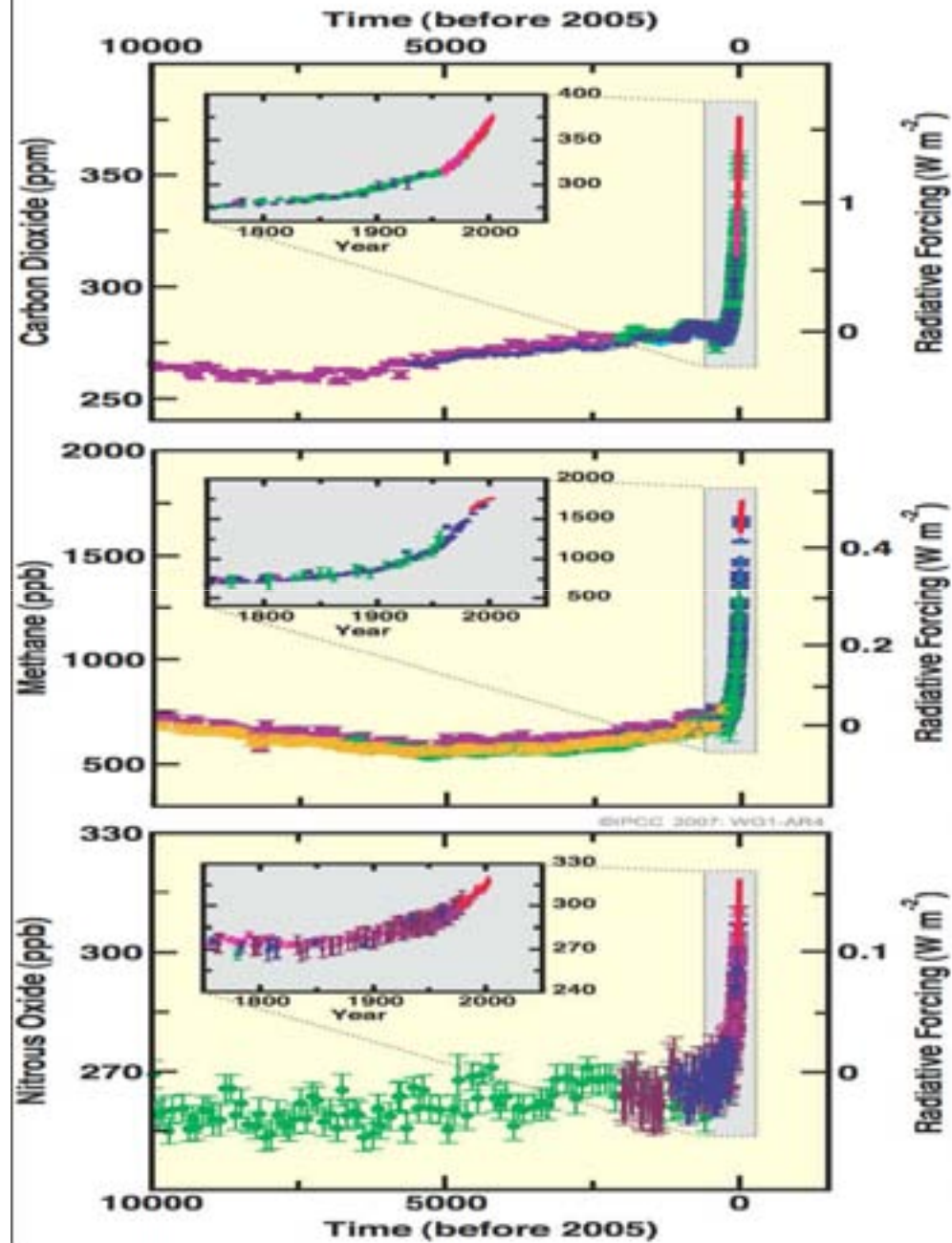


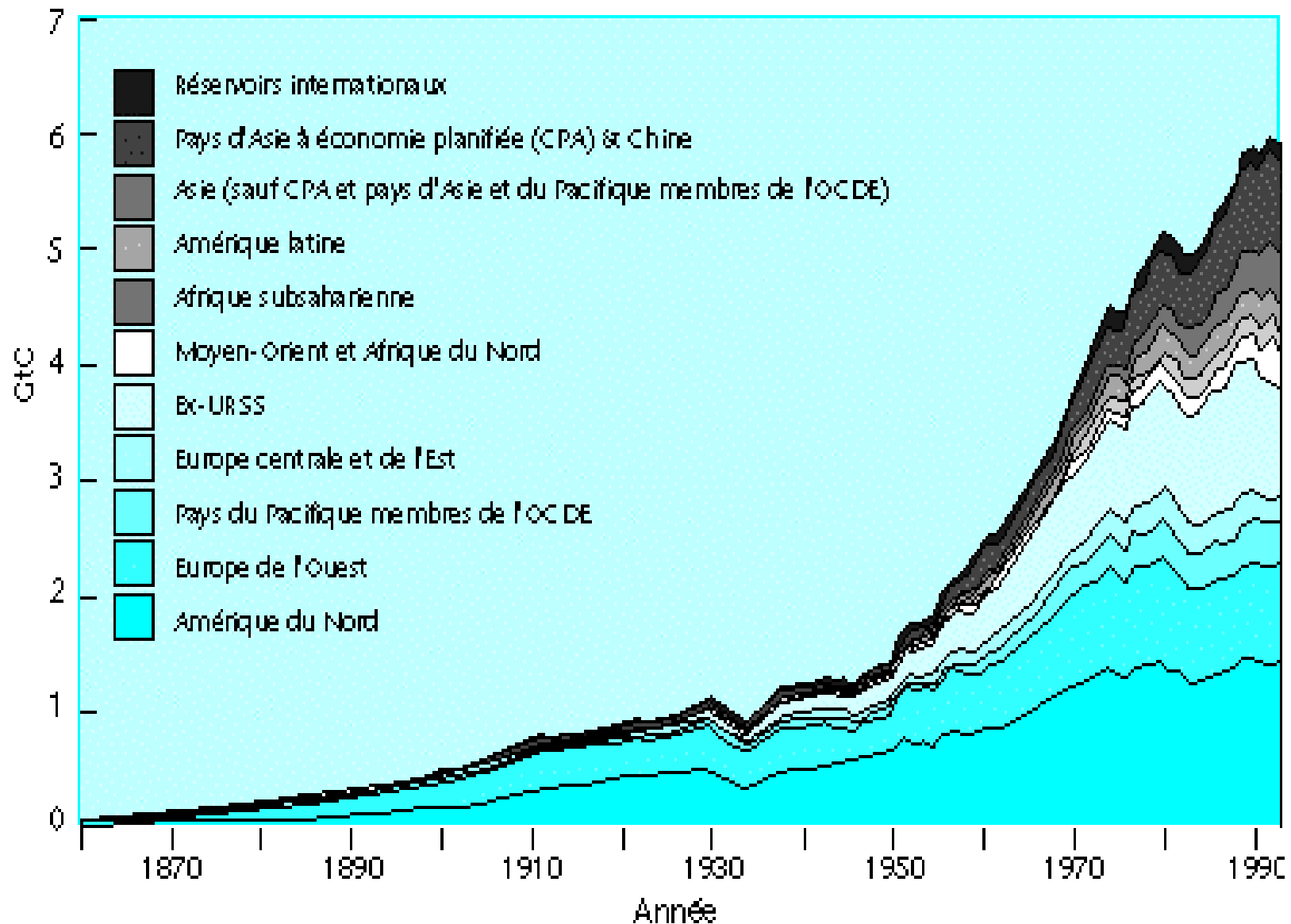
Changements climatiques: que peut-on prévoir?

Hervé Le Treut

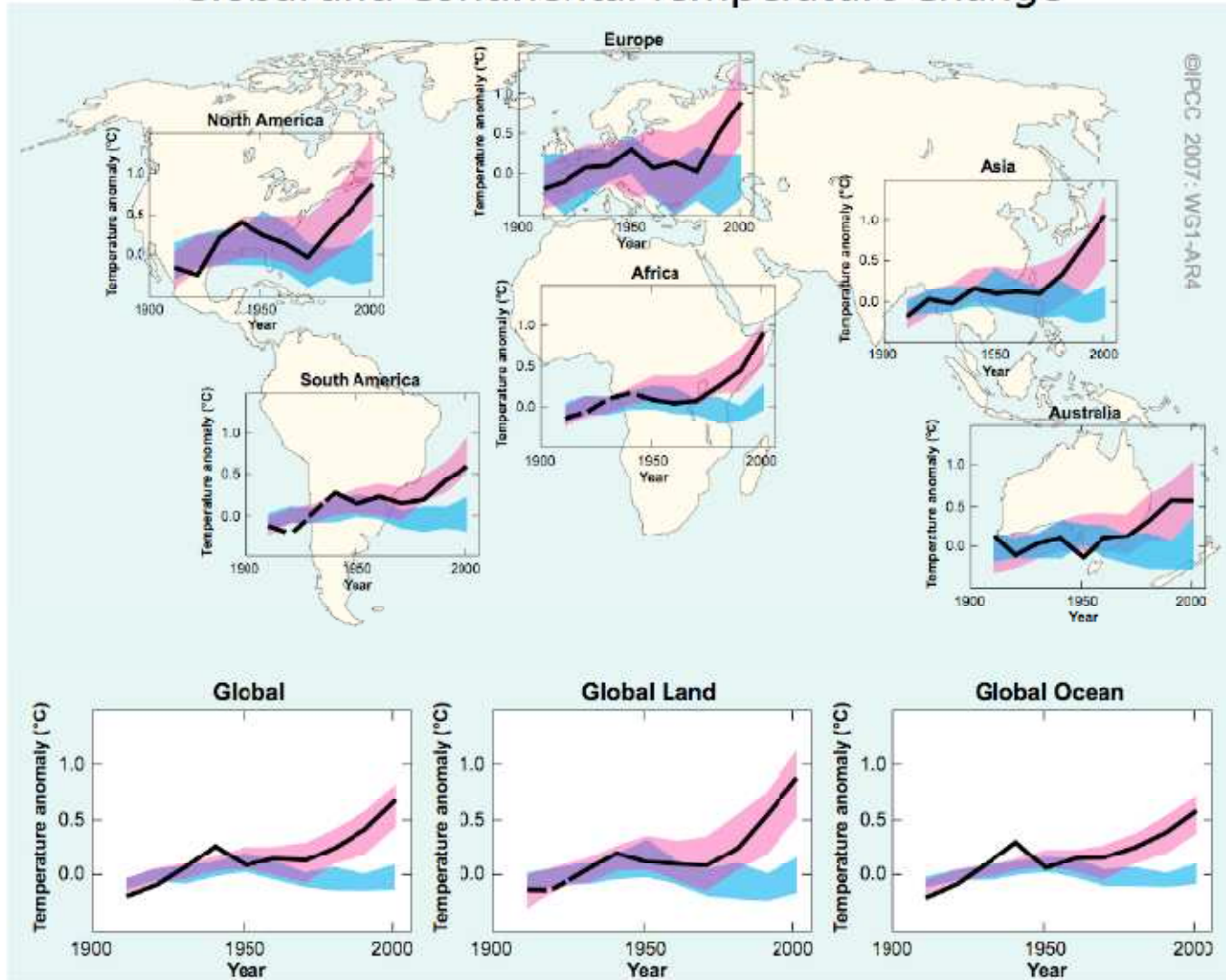
Changes in Greenhouse Gases from ice-Core and Modern Data



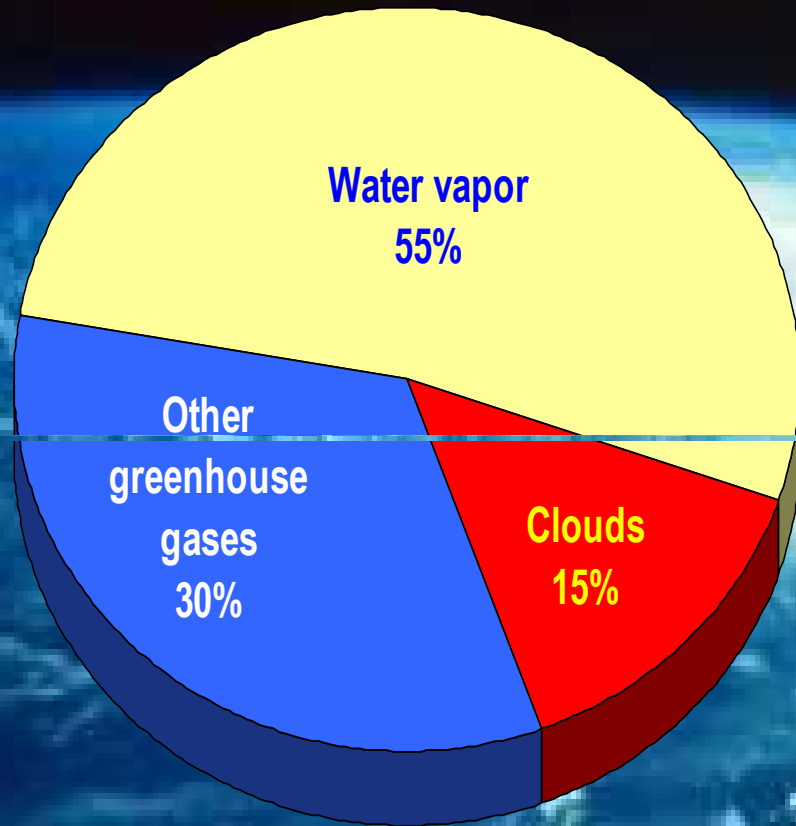
Les émissions anthropiques de dioxyde de carbone ont augmenté au cours des dernières décennies.



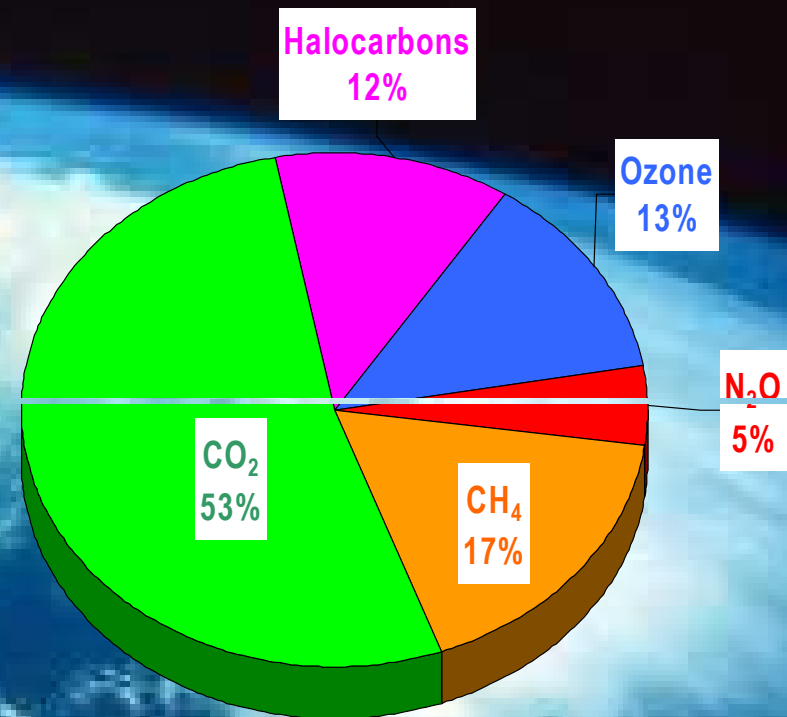
Global and Continental Temperature Change



Principaux constituants atmosphériques contribuant à l'effet de serre

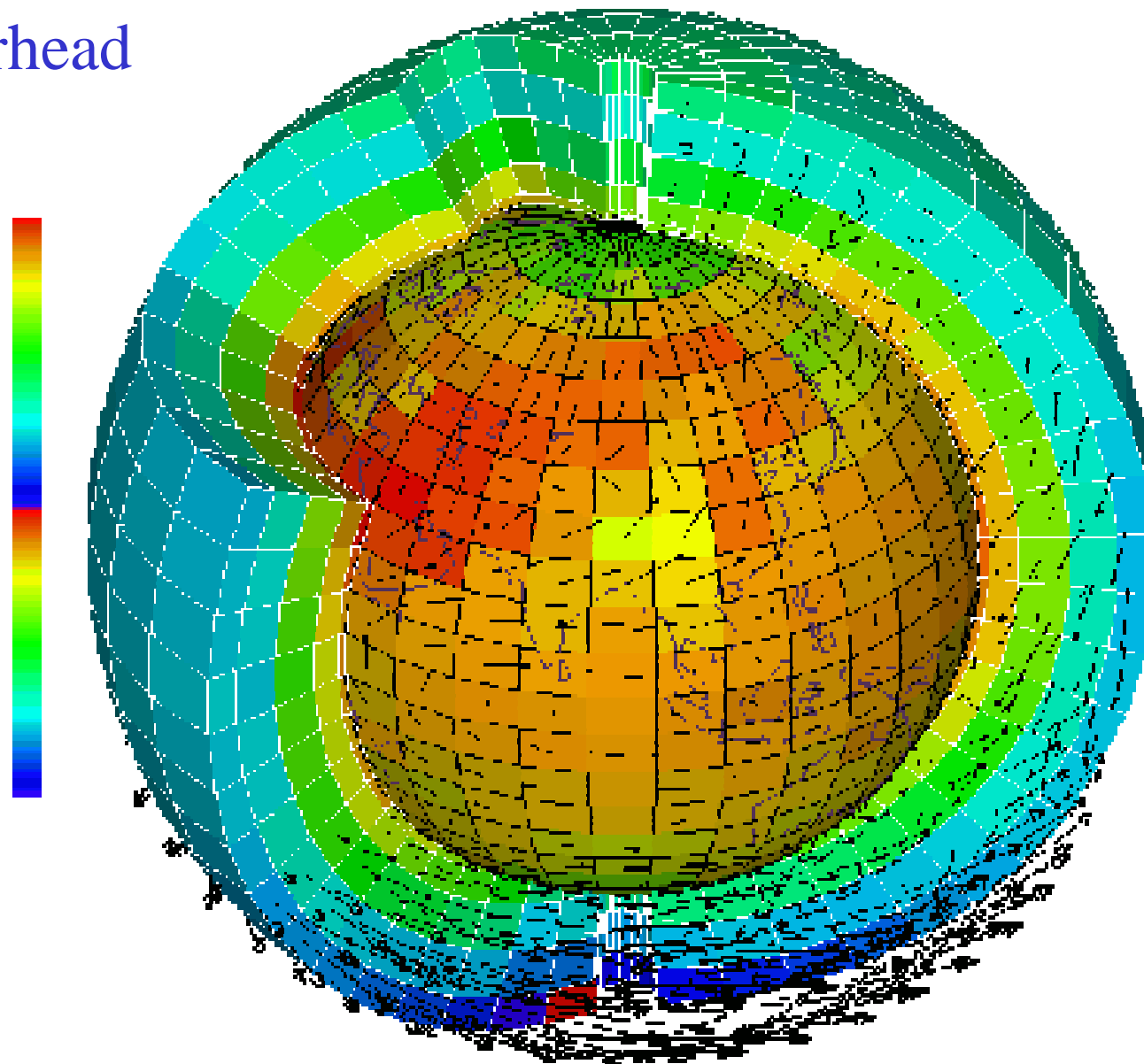


Naturel
(155 W/m²)



Additionnel
(2.8 W/m²)

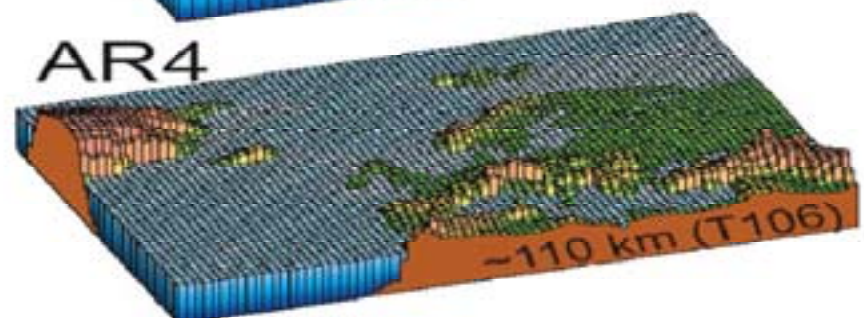
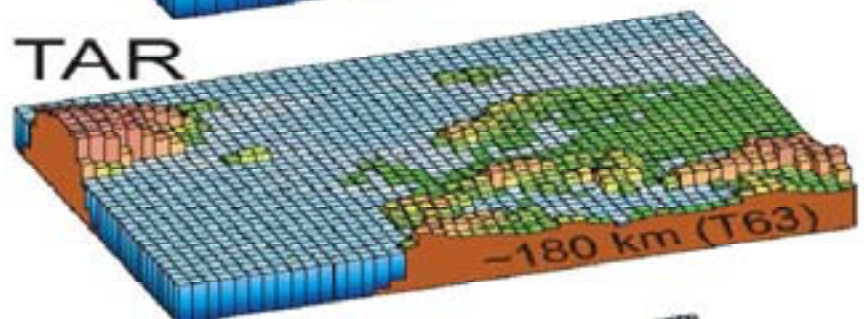
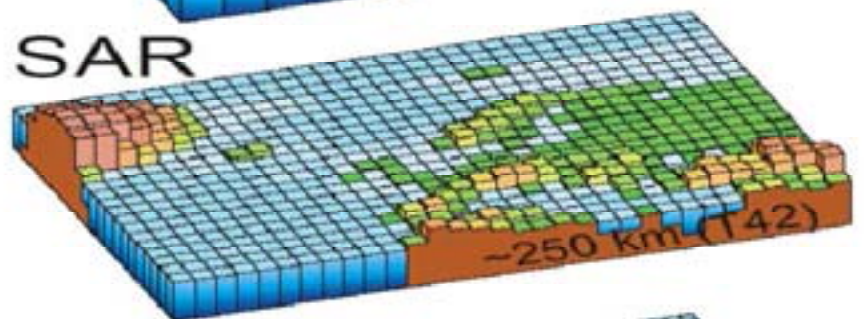
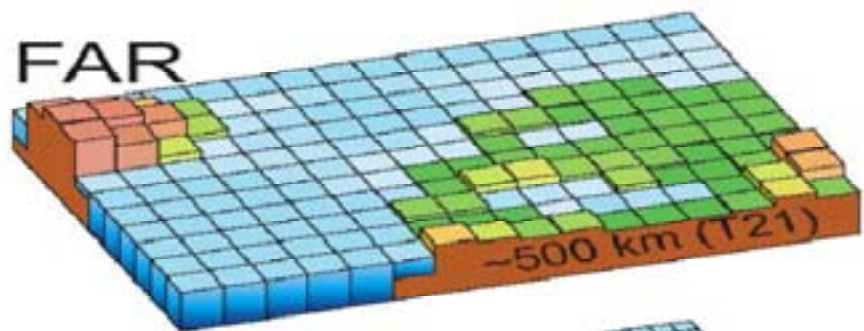
L. Fairhead



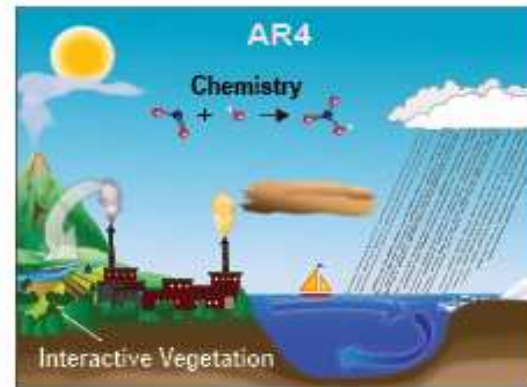
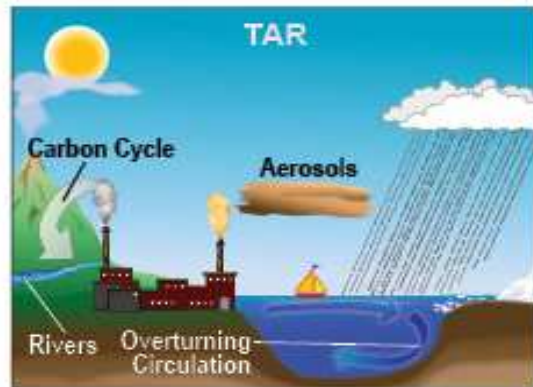
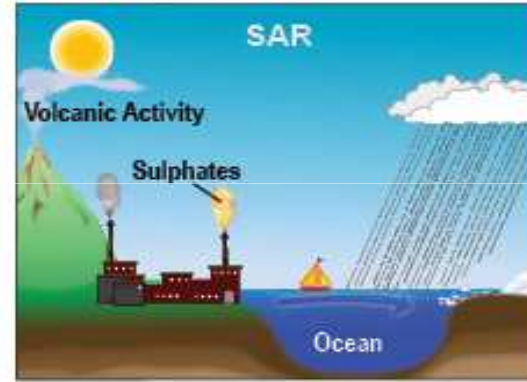
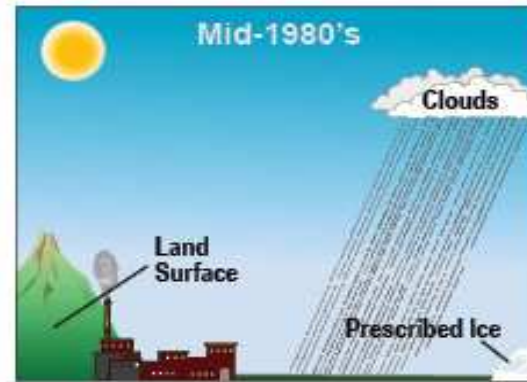
Forme finale de l'équation du mouvement :

$$\frac{DU}{Dt} = -2\Omega \wedge U - \nabla\Phi - \frac{1}{\rho}\nabla P + \mathbf{F}.$$

\mathbf{F} désigne les termes liés à la viscosité
(friction).

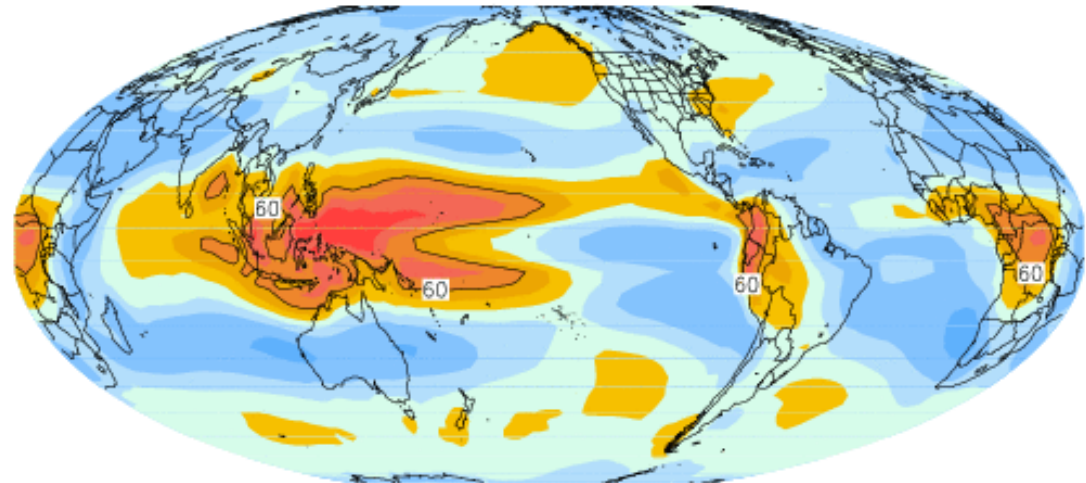


The World in Global Climate Models

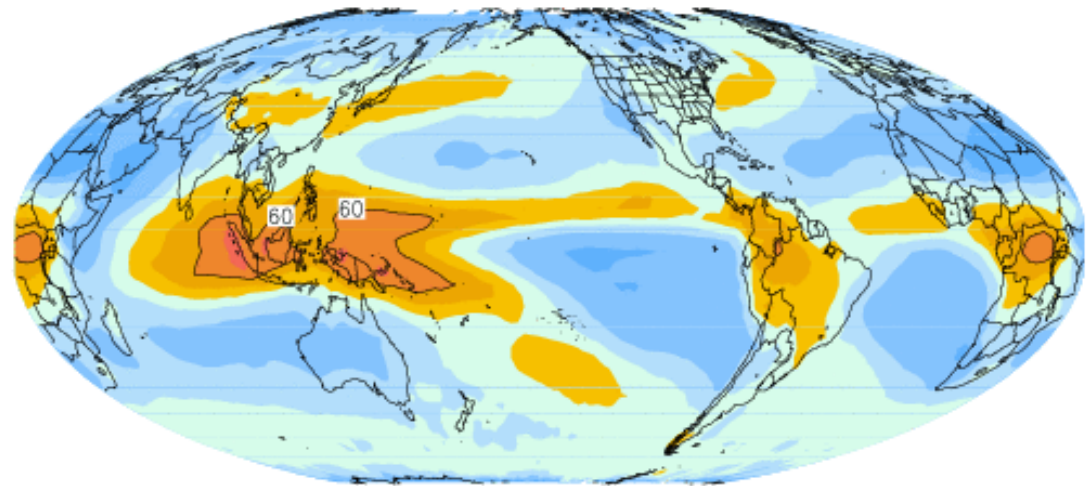


Forçage radiatif des nuages : LW

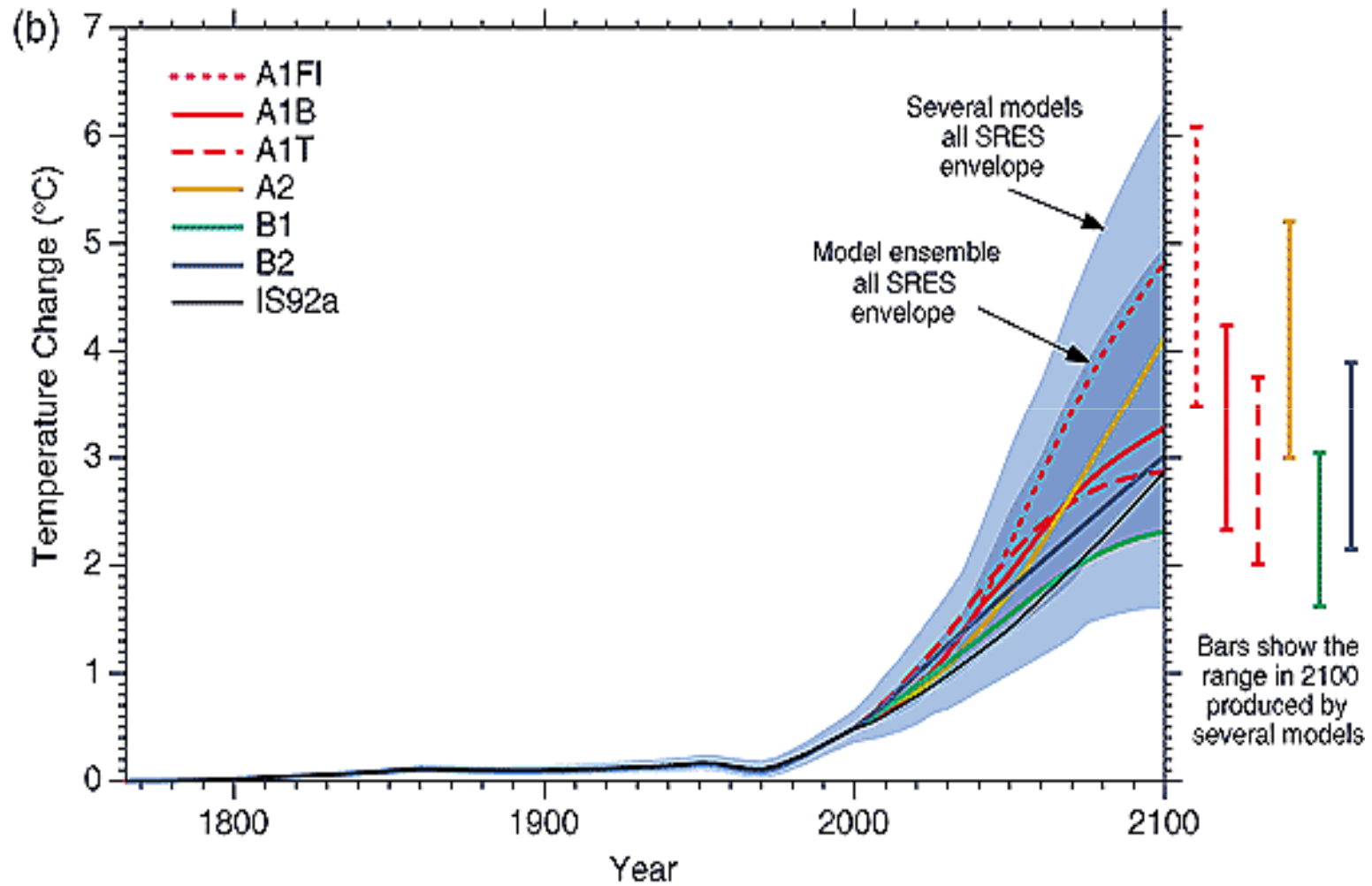
IPSL 20C (2L22): LW CRF (ANNUAL)



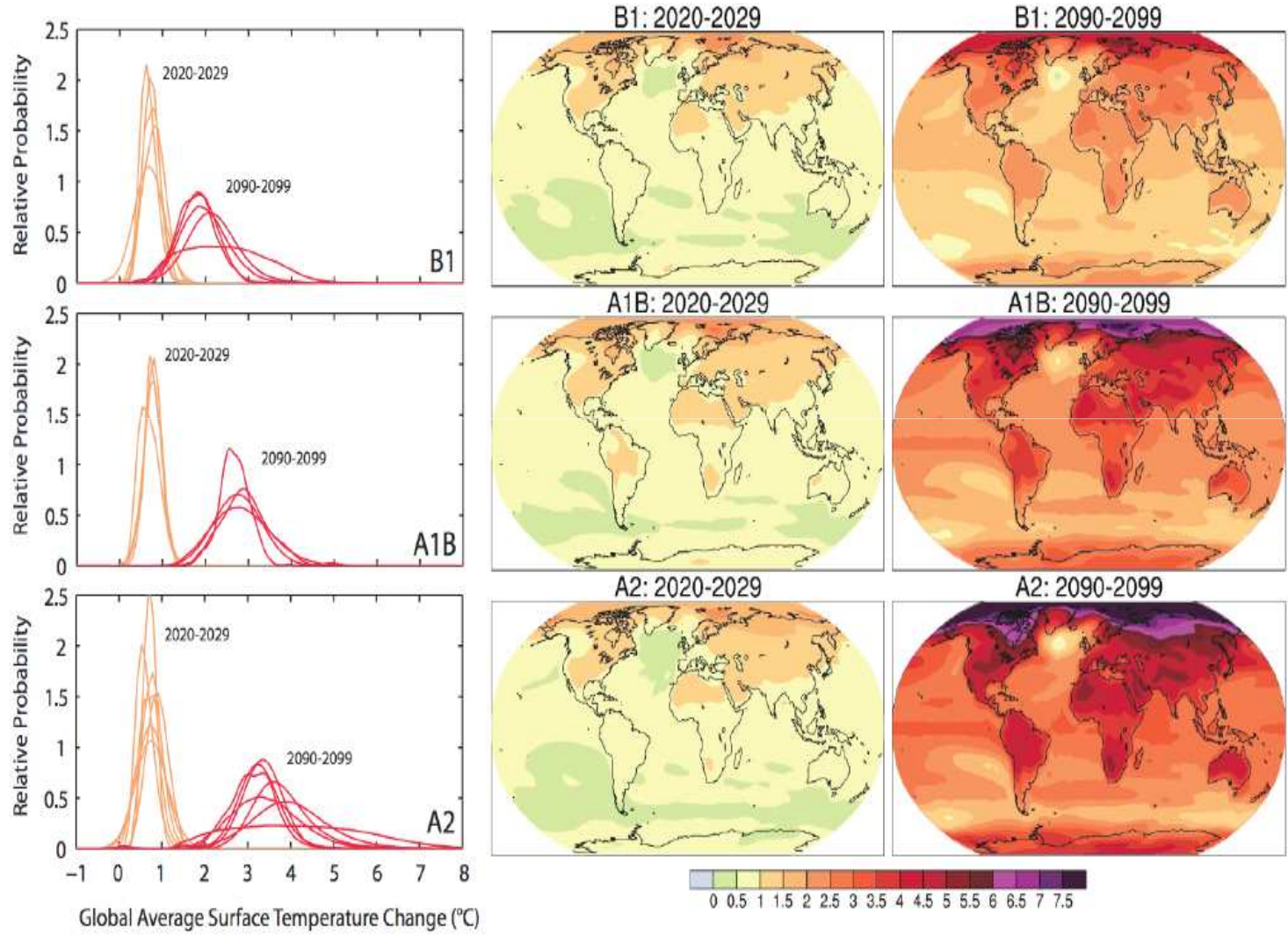
ERBE (1985–89): LW CRF (ANNUAL)

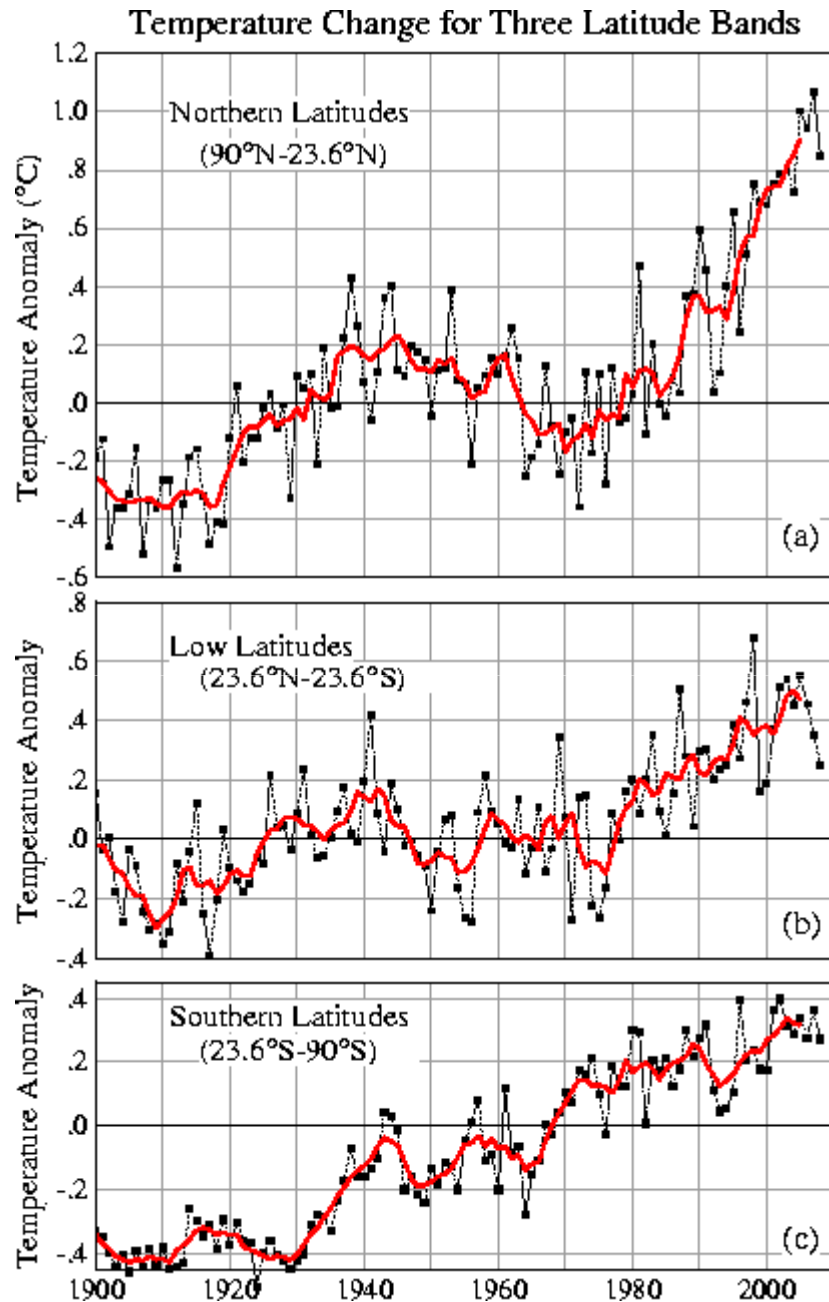


Un exemple de communication mal comprise: GIEC 2001



AOGCM Projections of Surface Temperatures



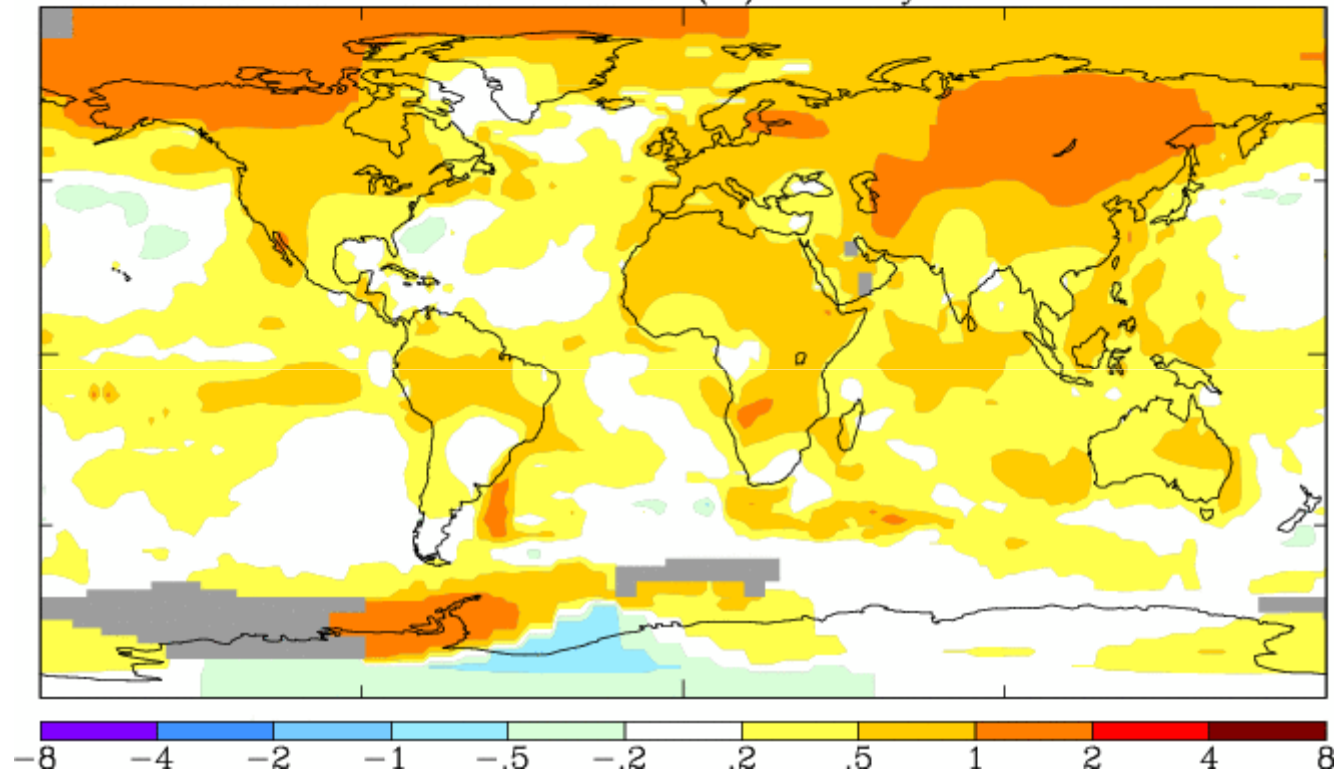


Variabilité
naturelle et action
de l'homme se
superposent

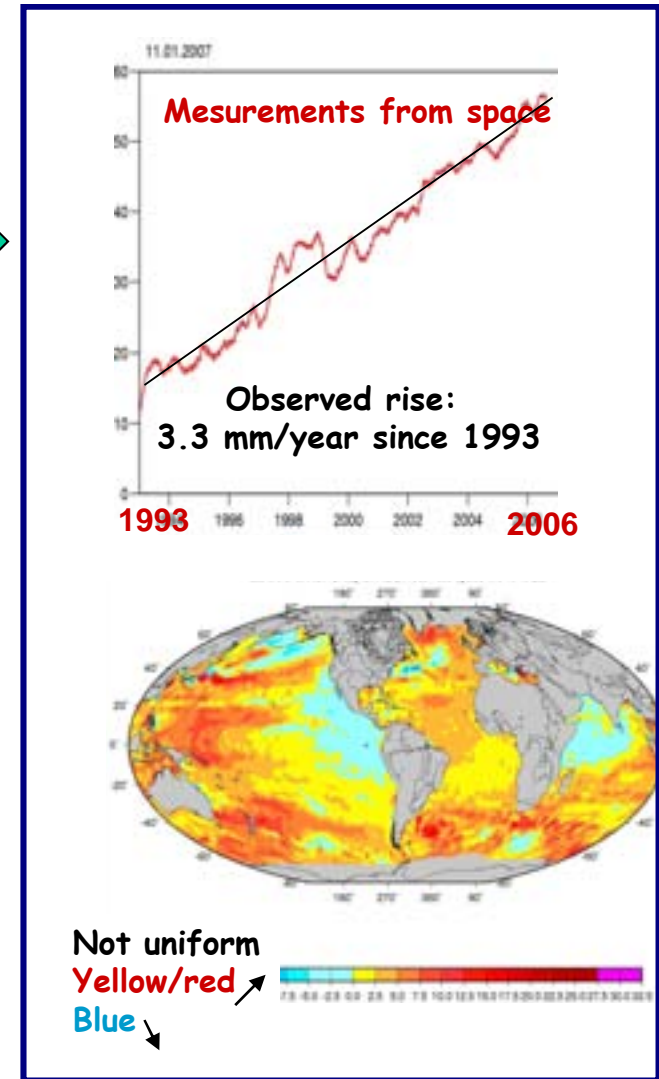
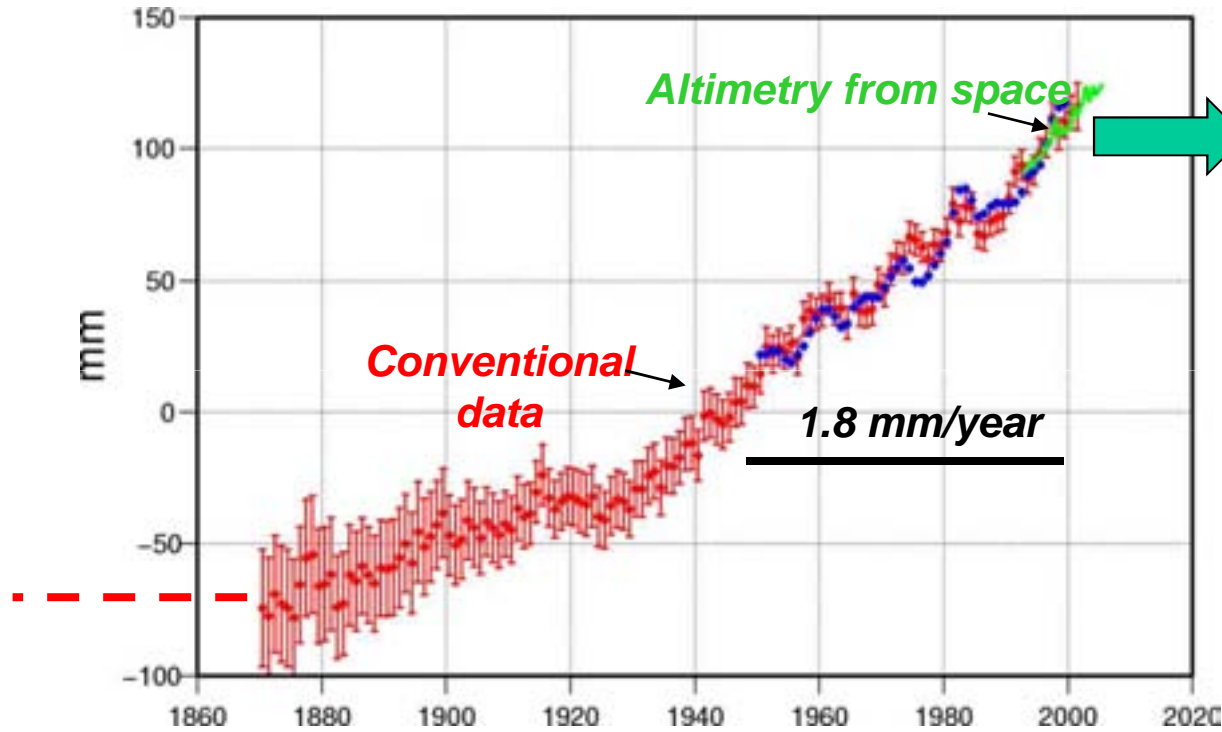
Nov-Oct 1991-2006

L-OTI(°C) Anomaly vs 1951-1980

.40



Sea-level rise throughout the 20th century

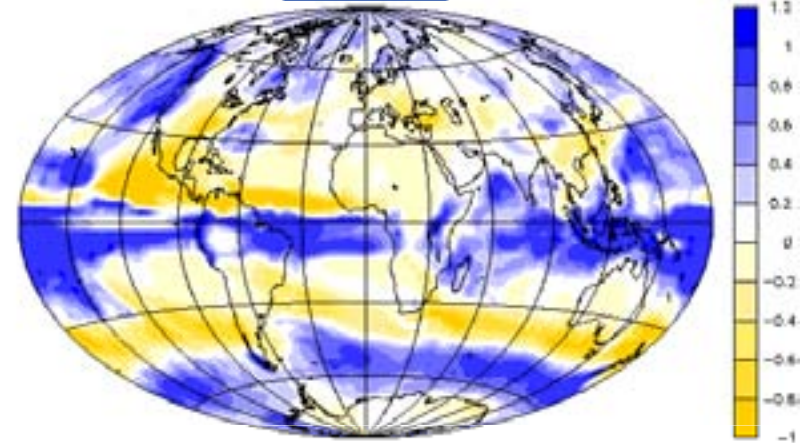
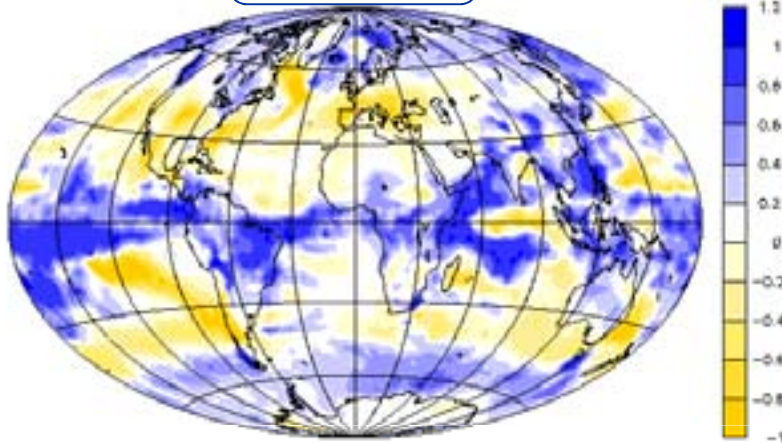


L'évolution du climat pour deux modèles et deux scénarios: les précipitations

CNRM

IPSL

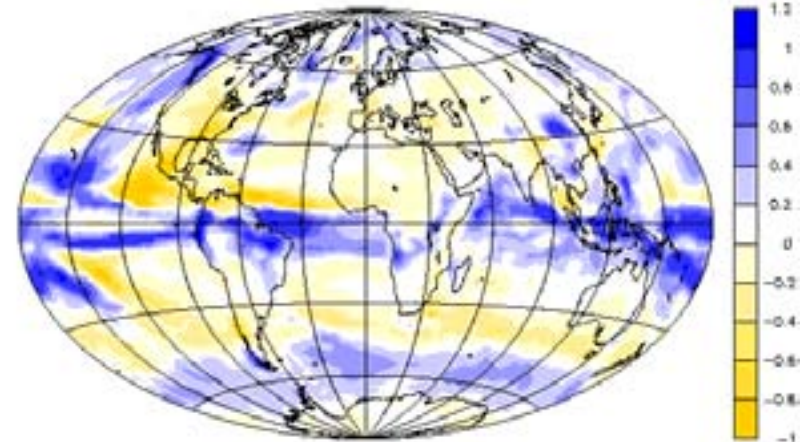
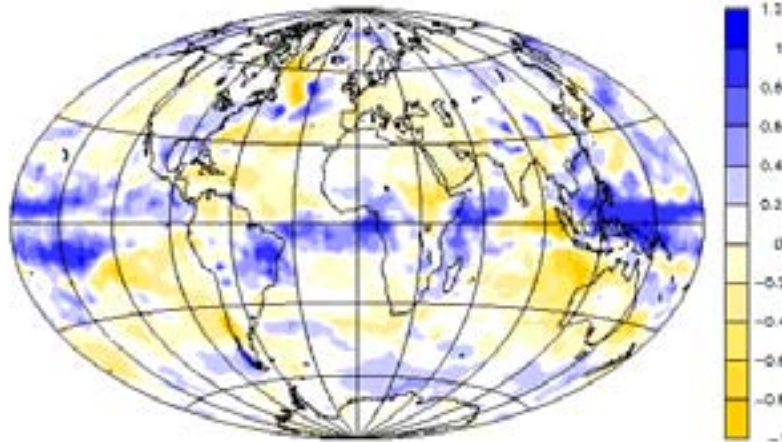
A2



IPCC / CNRM - SRESA2 scénario - Anomalies de la précipitation (mm/jour)
(2090-2099) comparées à (2000-2009)

IPCC / IPSL - SRESA2 scénario - Anomalies de la précipitation (mm/jour)
(2090-2099) comparées à (2000-2009)

B1



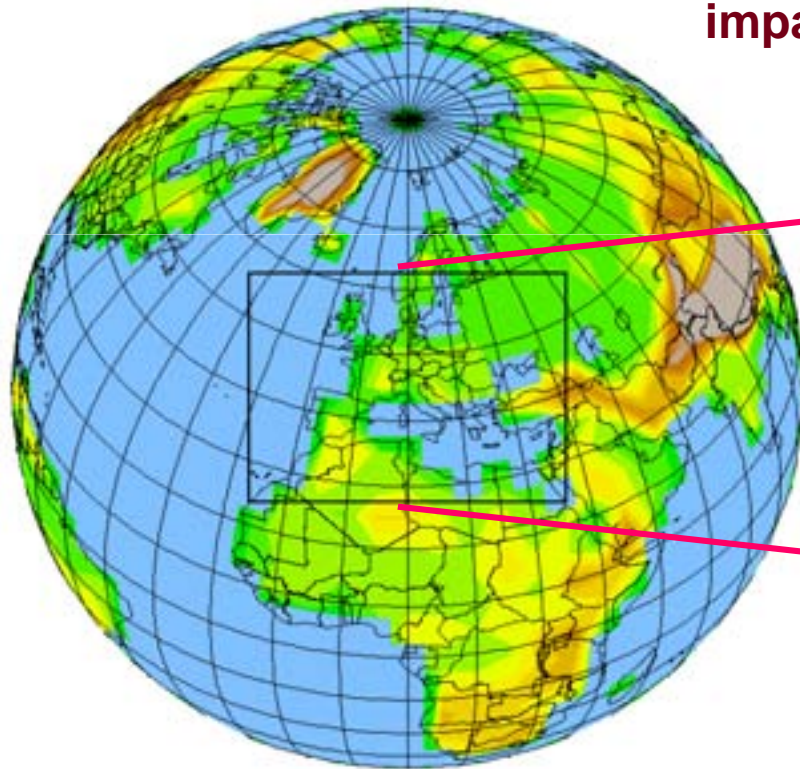
IPCC / CNRM - SRESB1 scénario - Anomalies de la précipitation (mm/jour)
(2090-2099) comparées à (2000-2009)

IPCC / IPSL - SRESB1 scénario - Anomalies de la précipitation (mm/jour)
(2090-2099) comparées à (2000-2009)

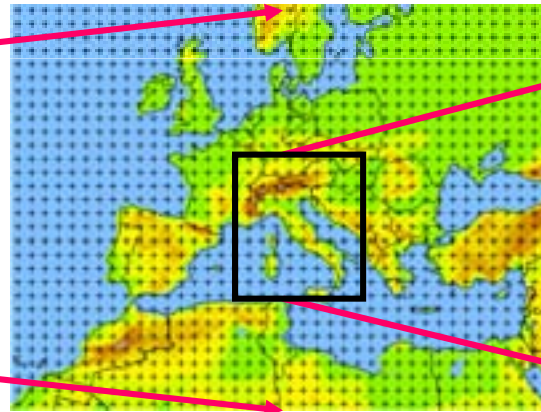
Climate projections on regional and local scales

Performance of current AOGCMs (like those from CMIP3) deteriorate when looking at finer temporal and spatial scales which are needed for many impact assessment studies.

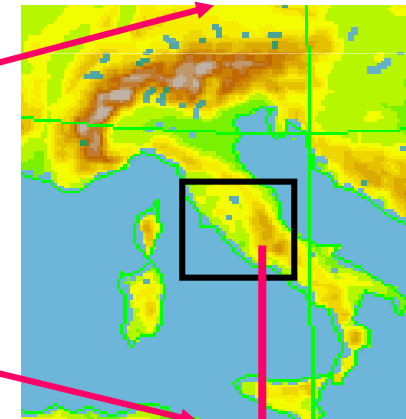
Global



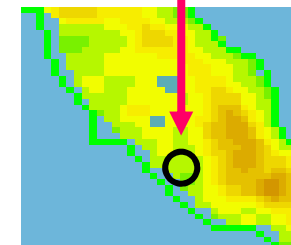
Continental



Regional



Local



Giorgi 2007