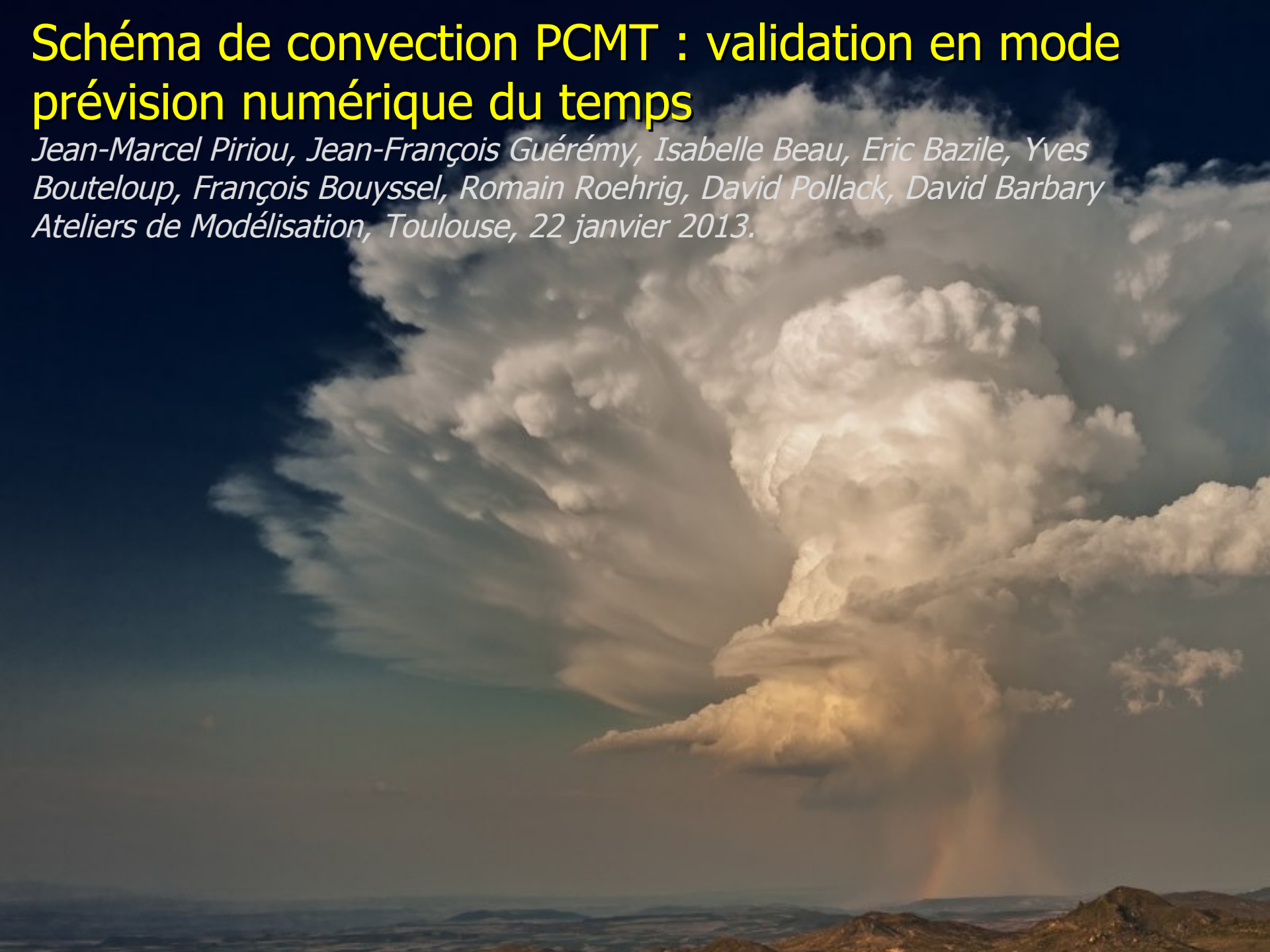
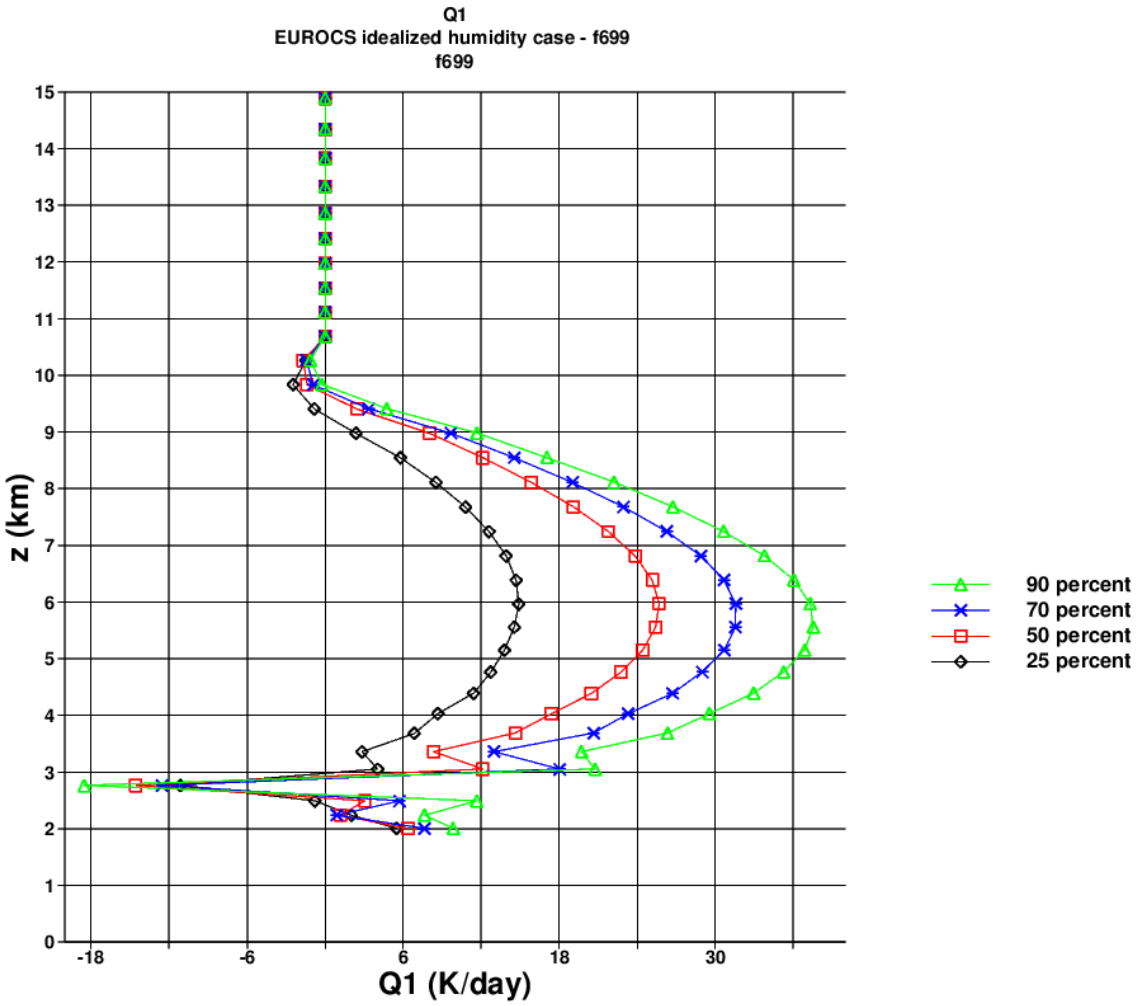
Schéma de convection PCMT : validation en mode prévision numérique du temps

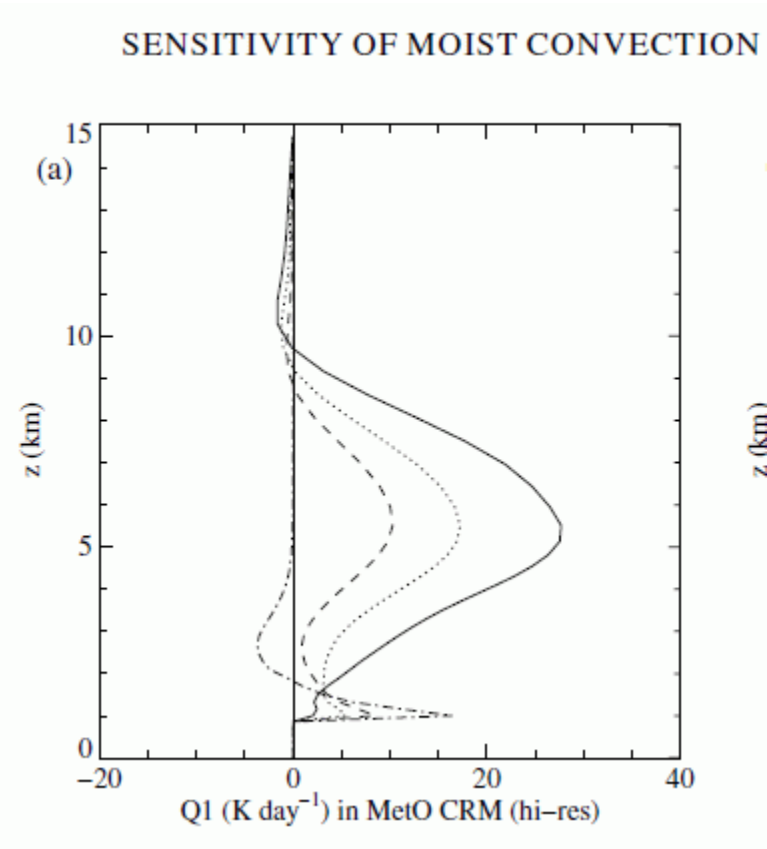
Jean-Marcel Piriou, Jean-François Guérémy, Isabelle Beau, Eric Bazile, Yves Bouteloup, François Bouyssel, Romain Roehrig, David Pollack, David Barbary

Ateliers de Modélisation, Toulouse, 22 janvier 2013.

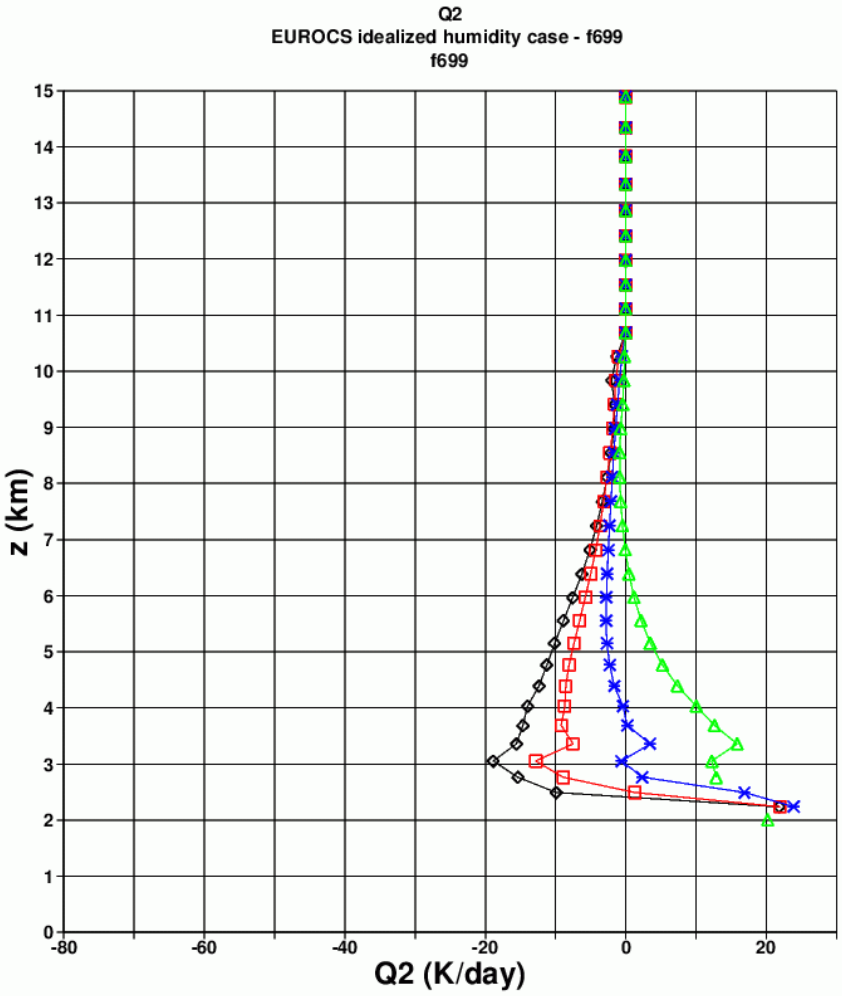


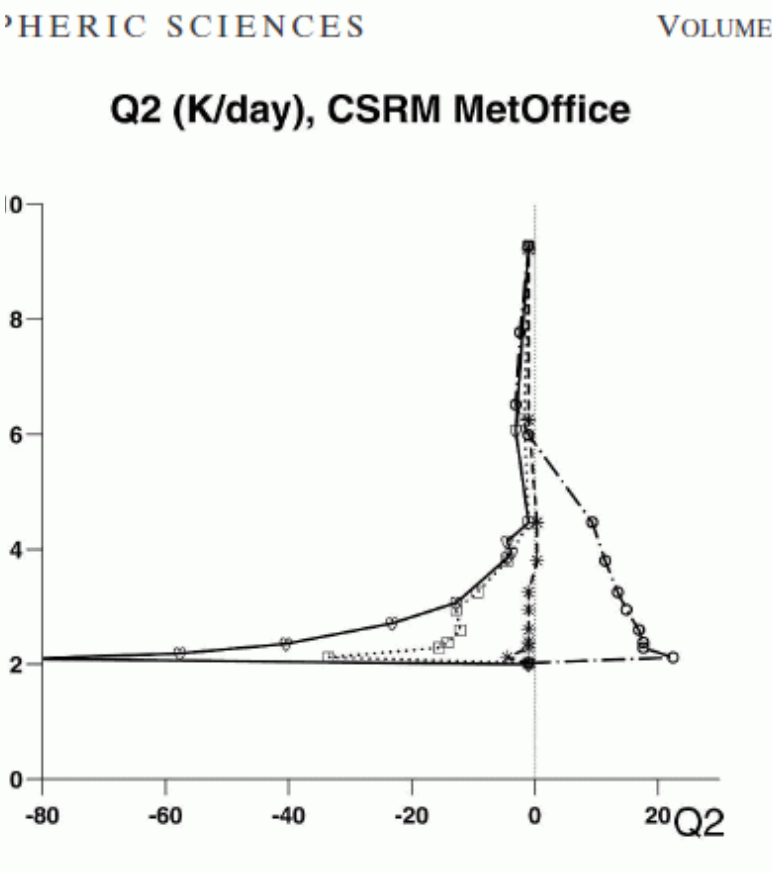
Q1 PCMT sur cas EUROCS qv idéalisée





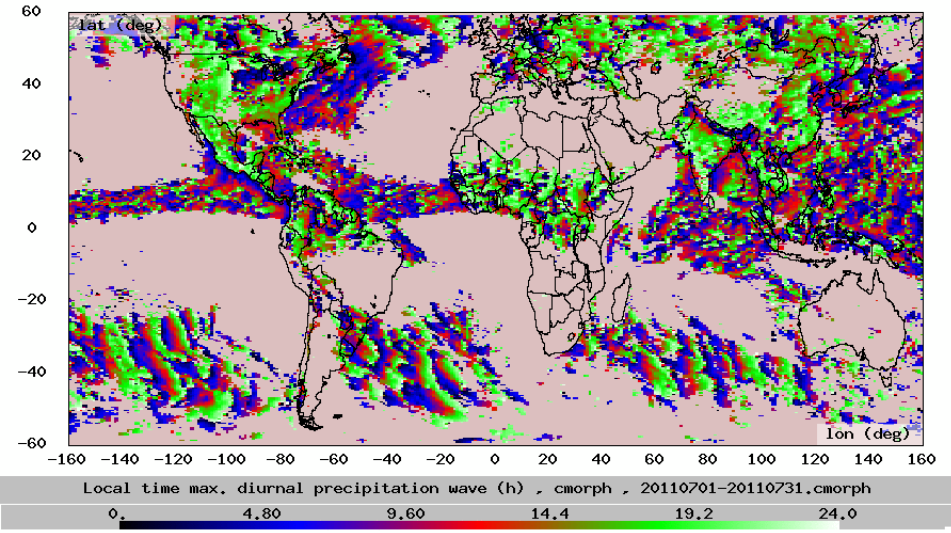
Q2 PCMT sur cas EUROCS qv idéalisée



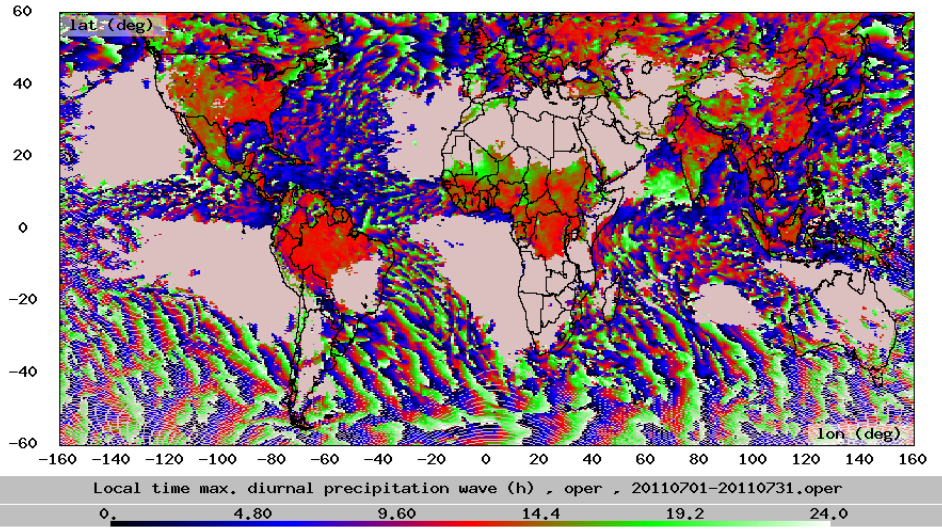


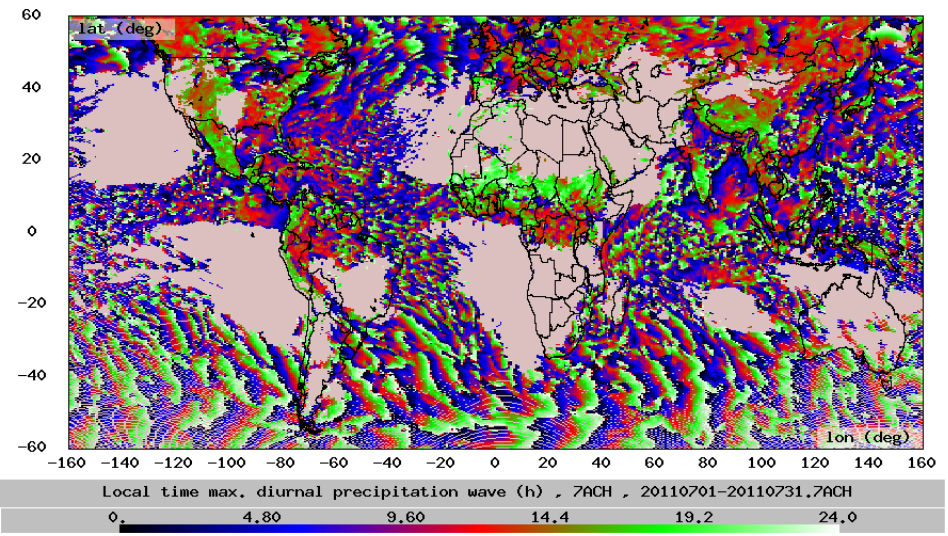
PCMT : cycle diurne

Observation (CMORPH)



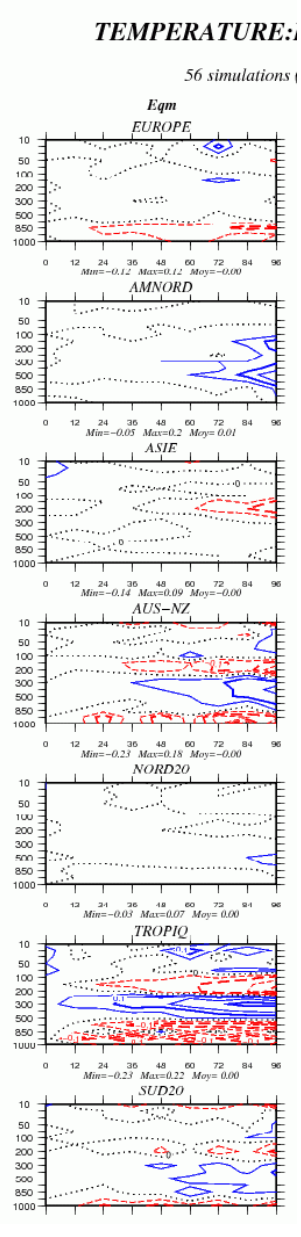
ARPEGE ref : opérationnel

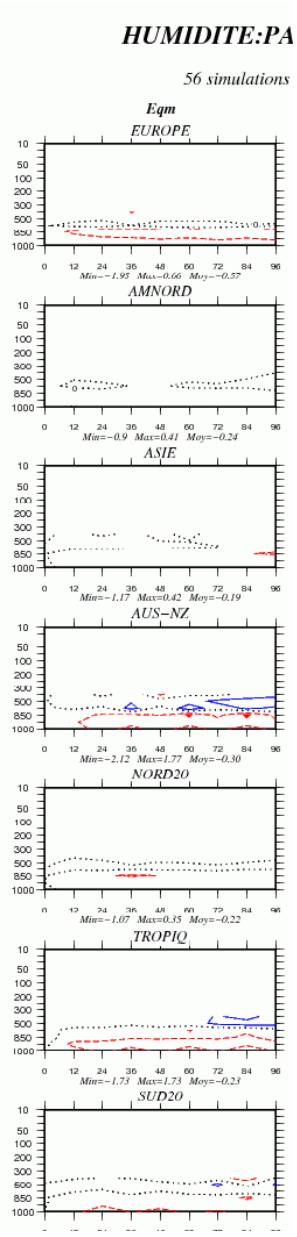


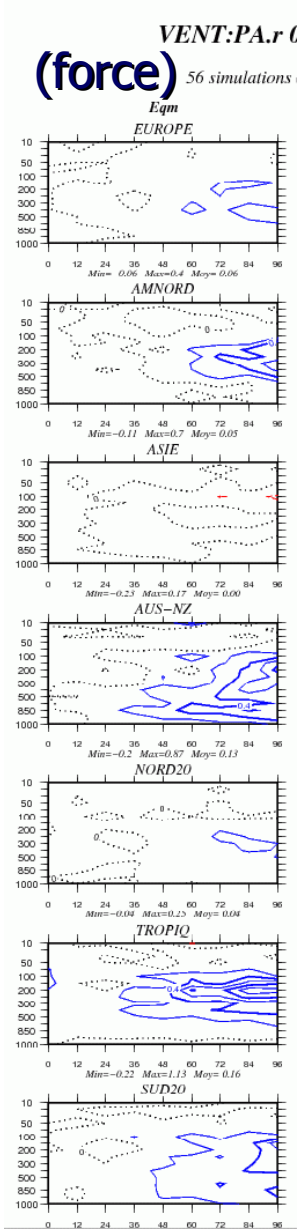


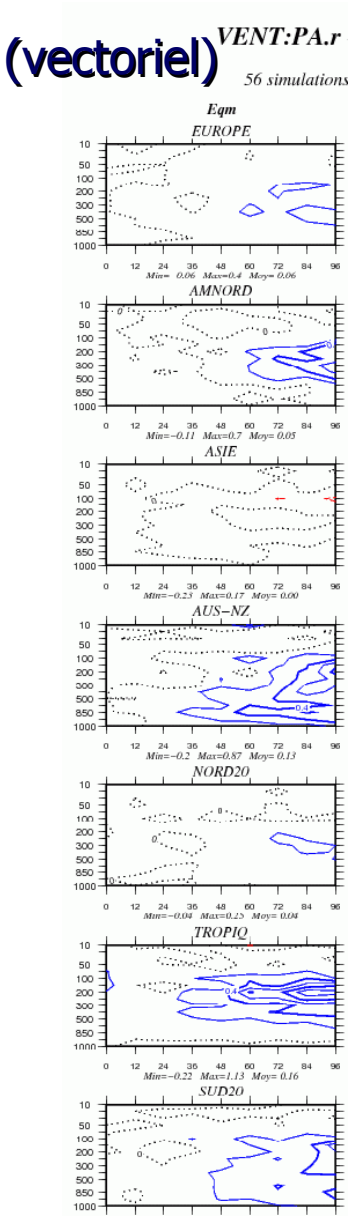
ARPEGE PCMT

PCMT : scores vs TEMP, Jan-Fev 2012

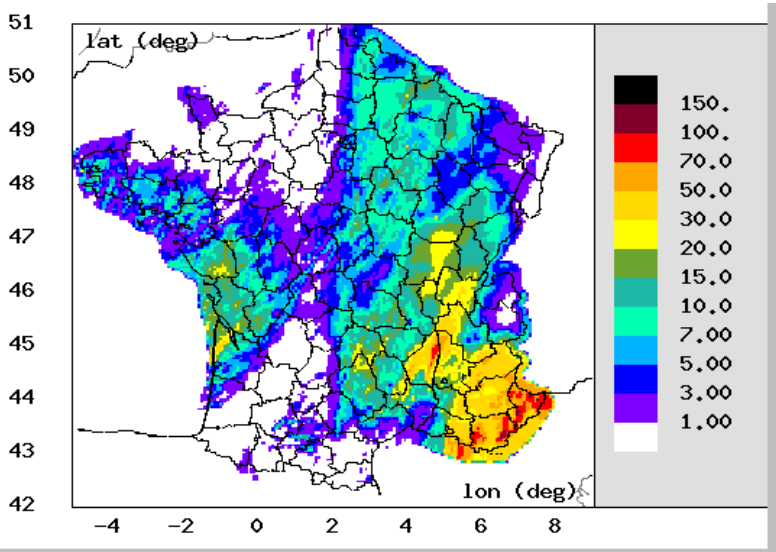








PCMT : localisation par rapport au relief



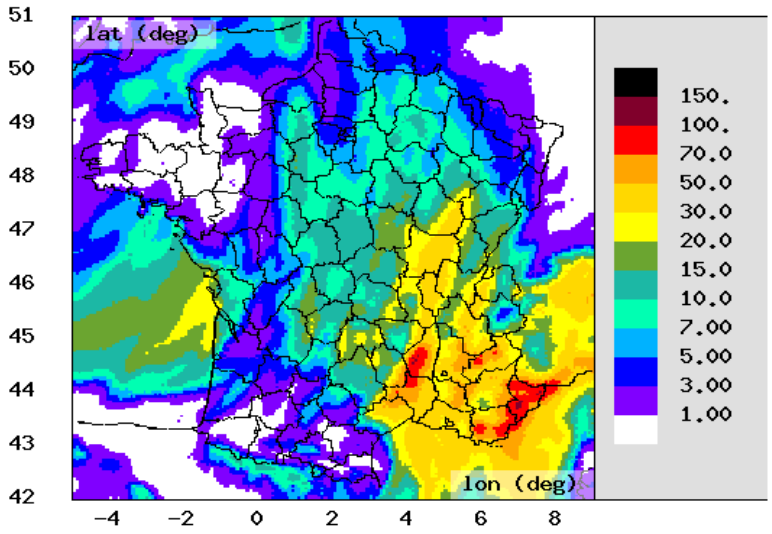
Lame d'eau ANTILOPE (mm/24h) , Cumul 24h le 2011-10-25

Min = 0., Max = 129., Moy = 5.04, Ect = 10.6

Observation radar

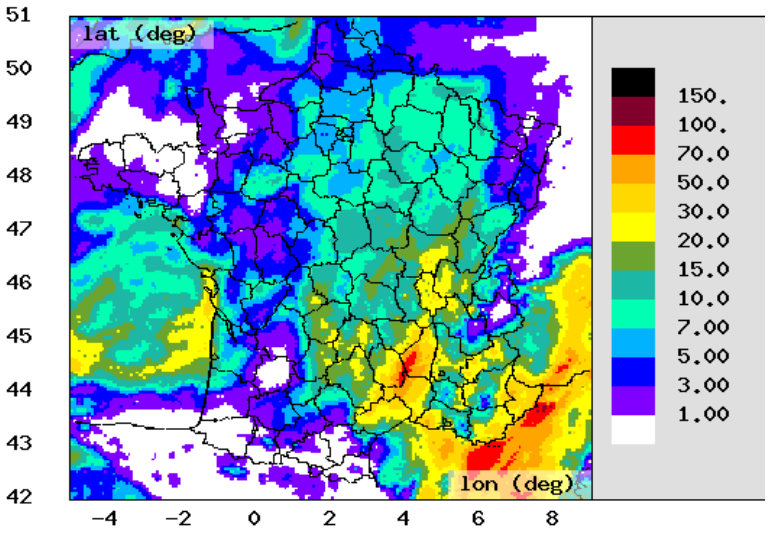
ARPEGE ref

ARPEGE PCMT



ARPEGE 7ACG (mm/24h) , Cumul 24h le 2011-10-25

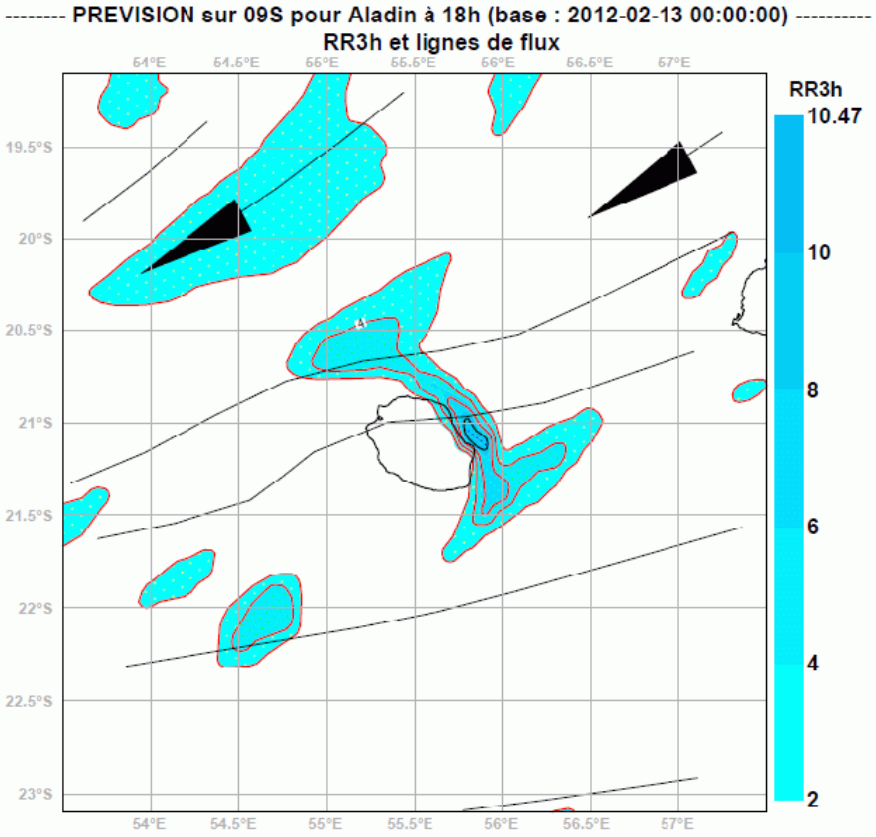
Min = -5.13E-3, Max = 120., Moy = 11.2, Ect = 14.2

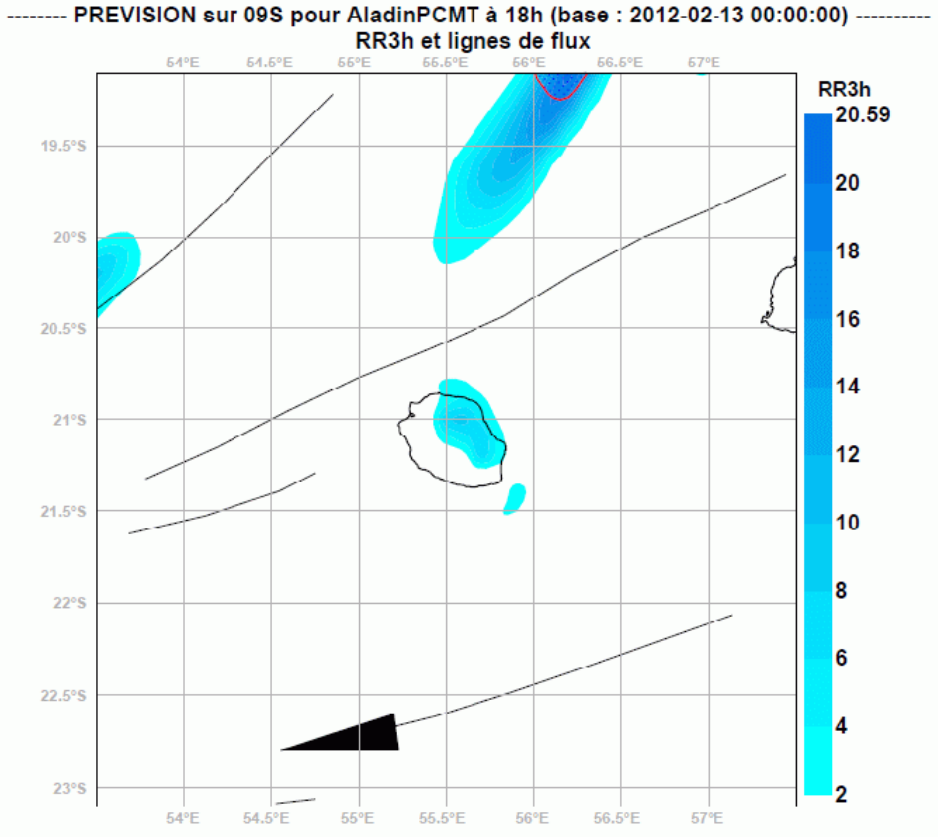


ARPEGE oper (mm/24h) , Cumul 24h le 2011-10-25

Min = -6.86E-3, Max = 126., Moy = 10.2, Ect = 13.3

PCMT : localisation par rapport au relief : île de La Réunion

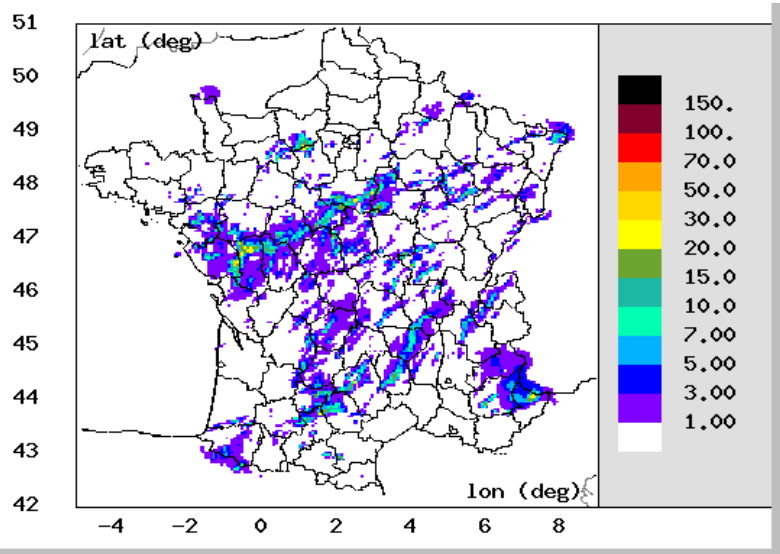




ARPEGE ref

ARPEGE PCMT

PCMT : variabilité horizontale



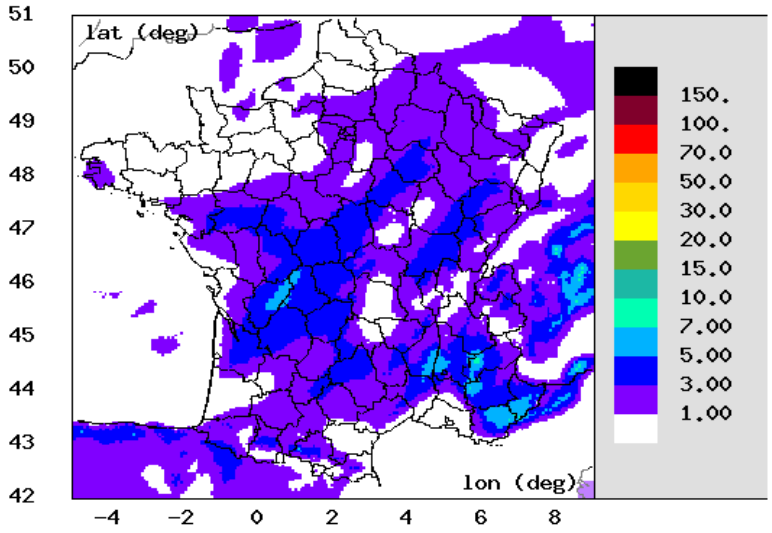
Lame d'eau ANTILOPE (mm/3h) , Valid 2012-05-05-15 UTC

Min = 0., Max = 32.2, Moy = 0.540, Ect = 1.72

Observation radar

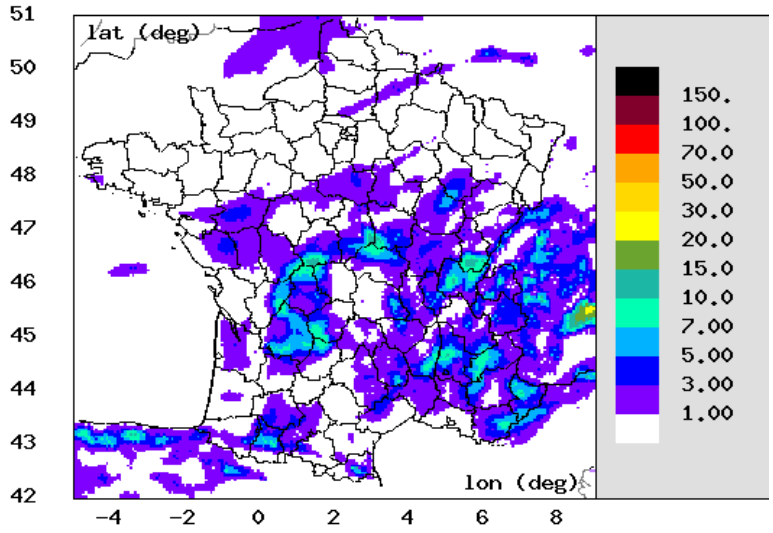
ARPEGE ref

ARPEGE PCMT



ARPEGE 7ADG P36-P39 (mm/3h) , Valid 2012-05-05 15 UTC

Min = -6.17E-3, Max = 8.72, Moy = 1.44, Ect = 1.39



ARPEGE oper P36-P39 (mm/3h) , Valid 2012-05-05 15 UTC

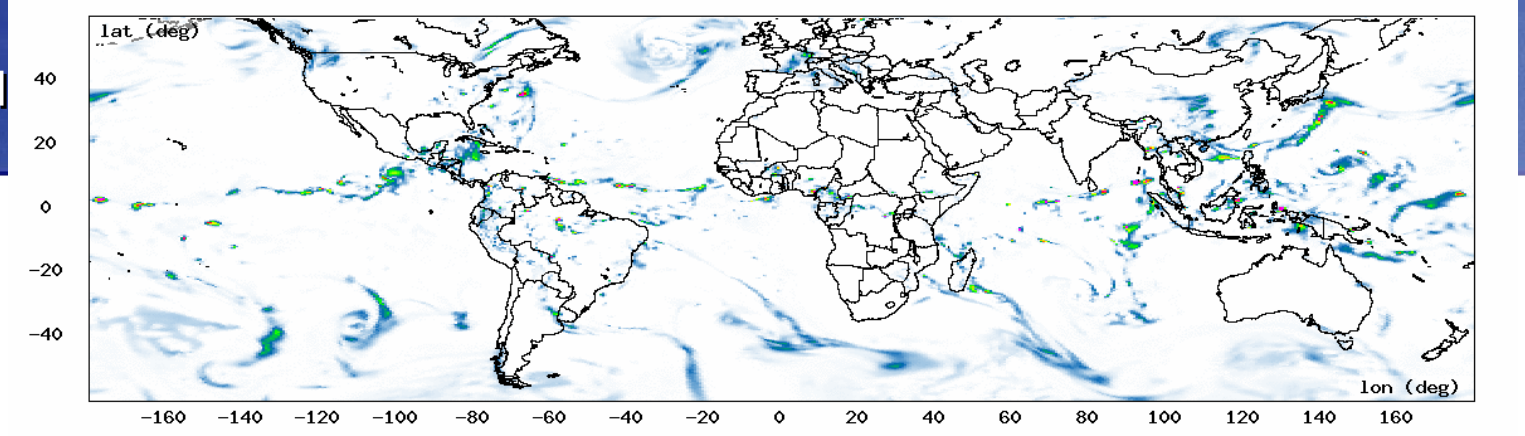
Min = -1.47E-3, Max = 22.7, Moy = 1.14, Ect = 1.77

Schéma de convection PCMT - Conclusions / perspectives

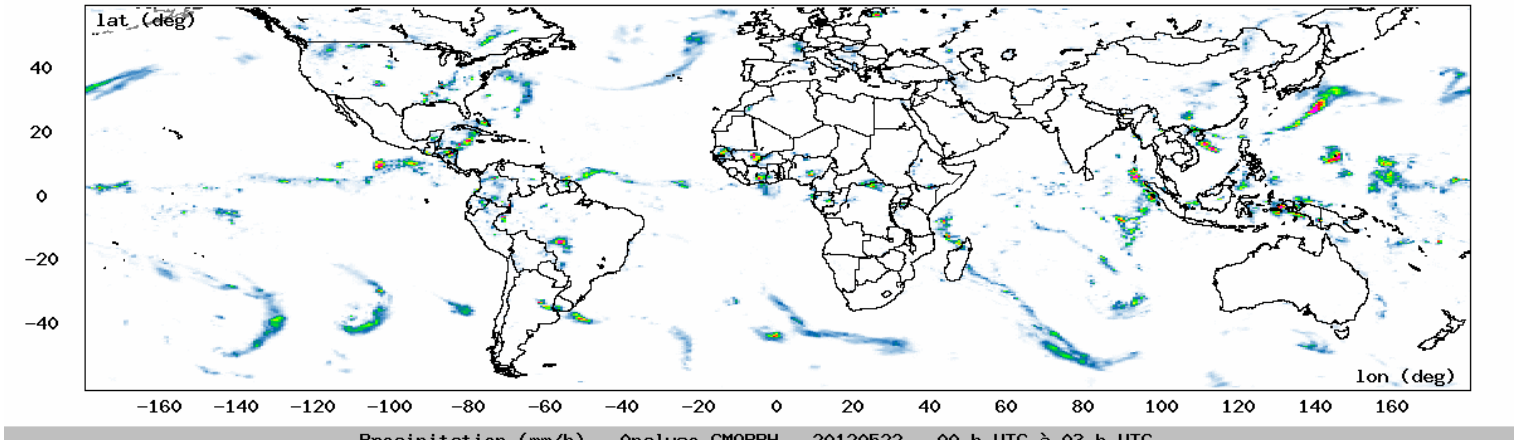
- Un schéma de convection a été écrit, code commun pour la PNT et Climat.
- réglages PNT/Climat différents, raisons liées à l'activité du schéma.
- Downdrafts pronostiques à écrire ; reconvergence possible ?

Fin

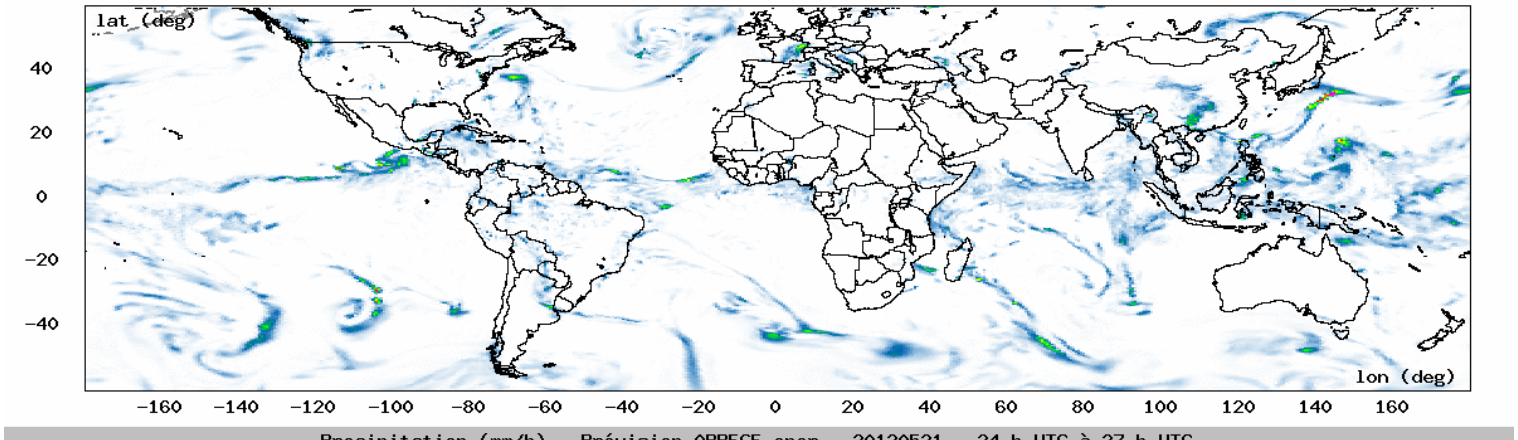
Résu



Precipitation (mm/h) , Prévision ARPEGE 7ABG , 20120521 - 24 h UTC à 27 h UTC



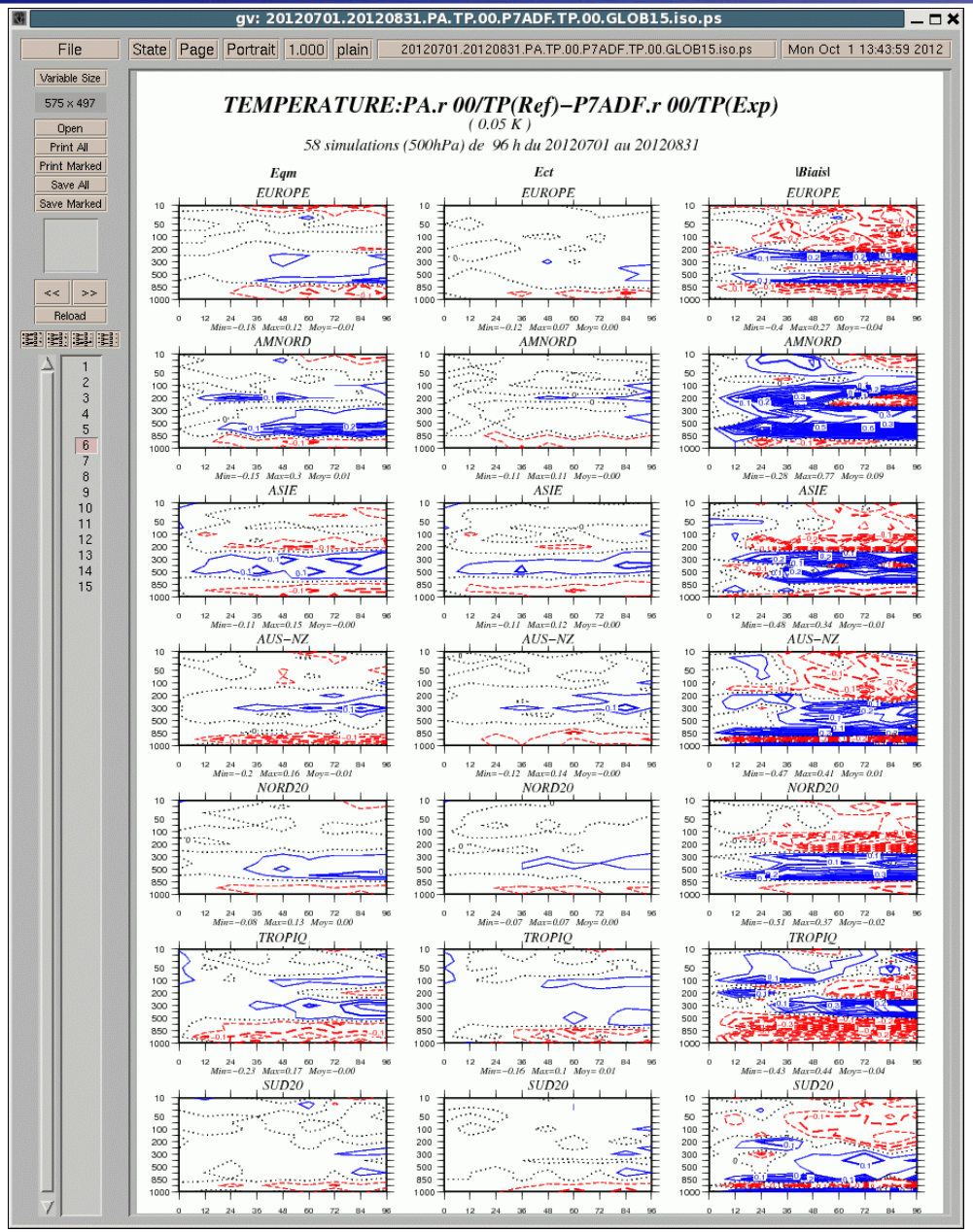
Precipitation (mm/h) , Analyse CMORPH , 20120522 - 00 h UTC à 03 h UTC



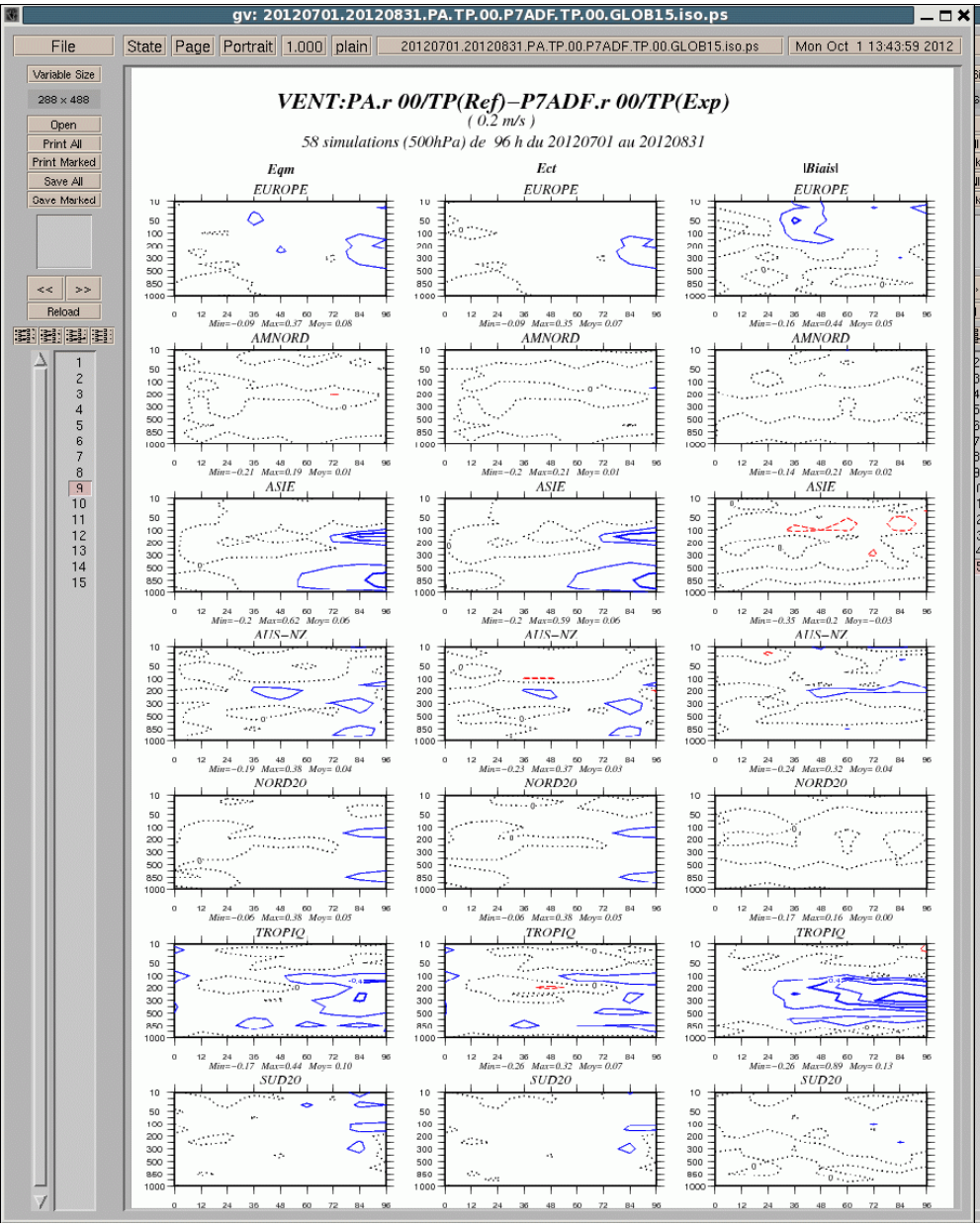
Precipitation (mm/h) , Prévision ARPEGE oper , 20120521 - 24 h UTC à 27 h UTC

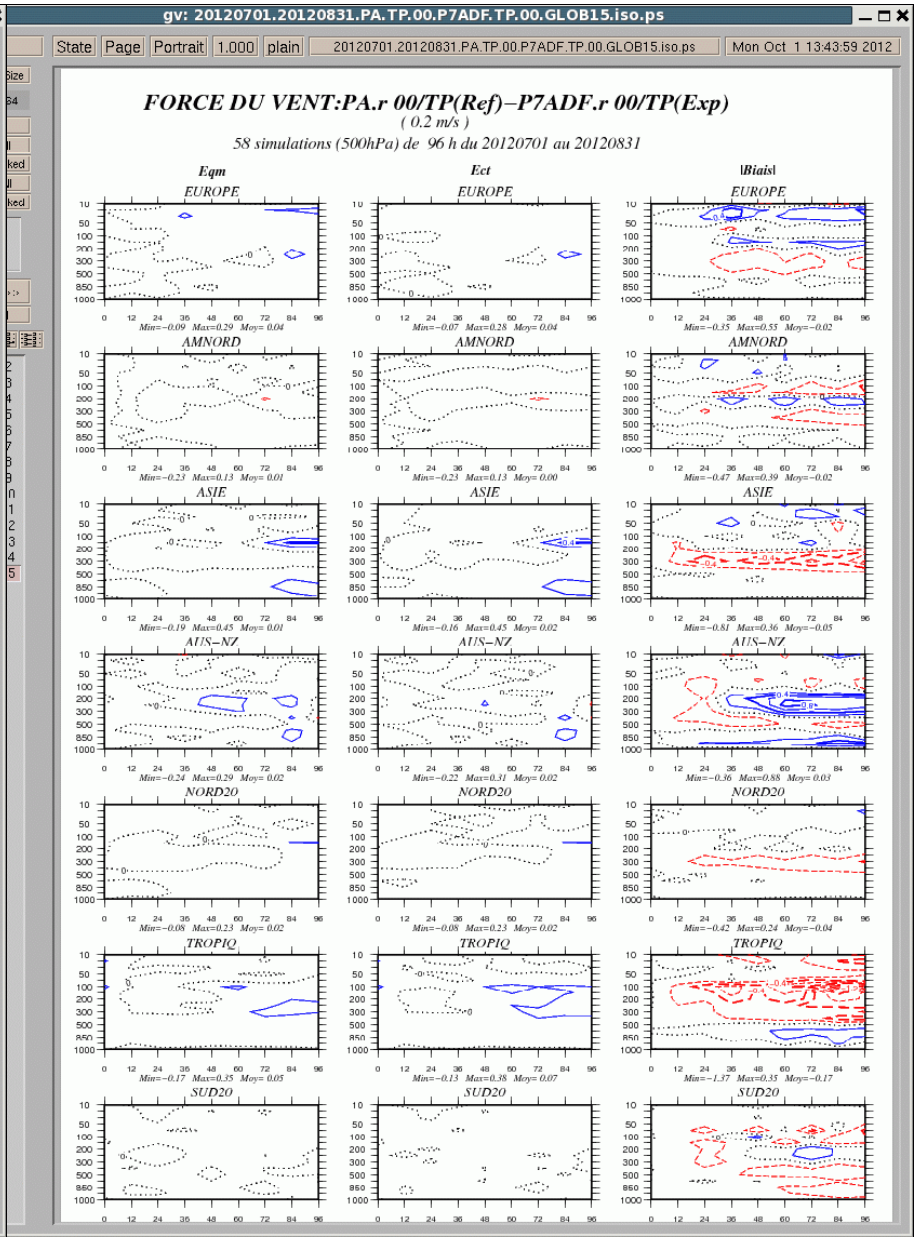
0. 1.43 2.86 4.29 5.71 7.14 8.57 10.0

PCMT : scores vs TEMP, Jul-Aug 2012



PCMT : scores vs TEMP, Jul-Aug 2012

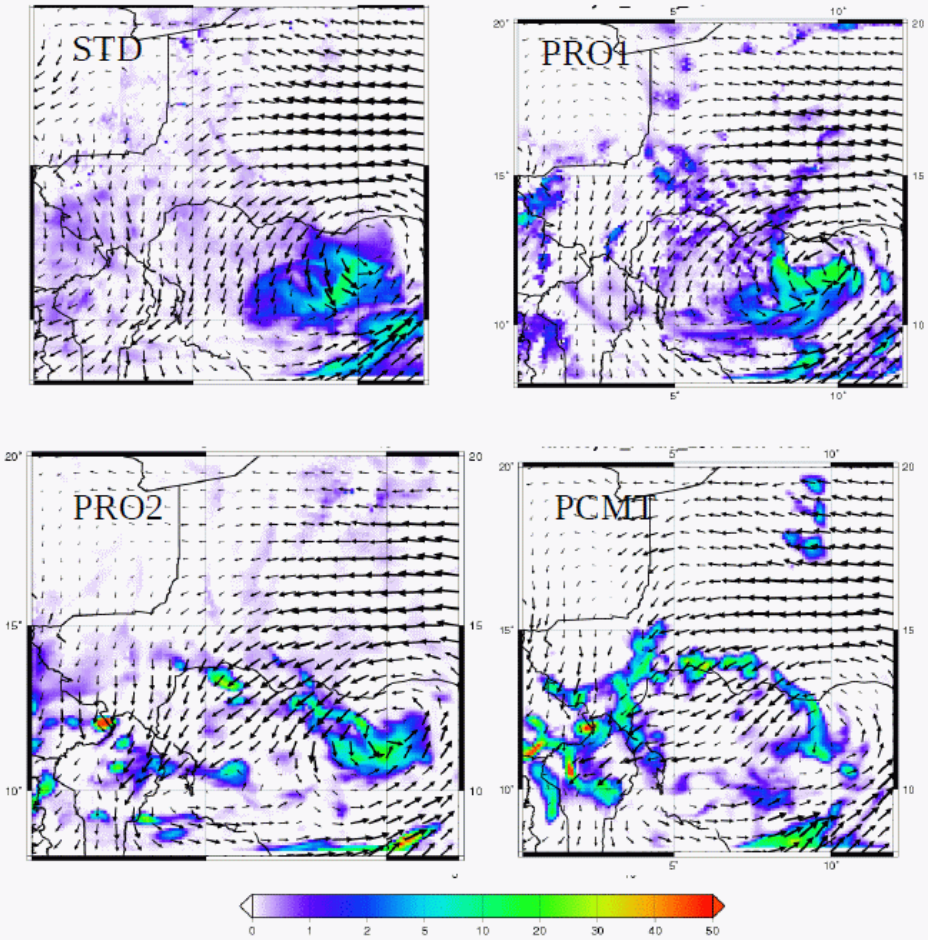




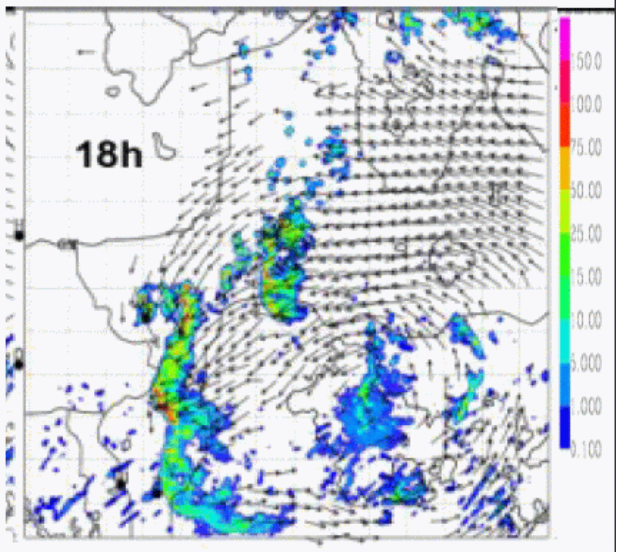
ALADIN - Climat (David Pollack)

Simulation results with a 10 km horizontal resolution

1800 UTC



Color : convective precipitation (mm/h)
Arrow : 700 hPa winds



Meso-NH precipitation