

Geophysical Research Abstracts,
Vol. 10, EGU2008-A-03654, 2008
SRef-ID: 1607-7962/gra/EGU2008-A-03654
EGU General Assembly 2008
© Author(s) 2008



Effect of variations in jet width and jet latitude on upper-tropospheric wave breaking processes.

G. Rivière

CNRM/GAME, CNRS and Météo-France, Toulouse, France (gwendal.riviere@meteo.fr /
Fax : 33 561078453 / Phone : 33 561079781)

Upper-tropospheric wave breaking processes play a crucial role in the dynamics of the general circulation of the atmosphere and particularly of the teleconnections such as the North Atlantic Oscillation as shown recently by different authors. Positive and negative phases of the NAO are closely related to anticyclonic and cyclonic wave breaking respectively. The purpose of our study is to systematically investigate factors influencing these two kinds of wave-breaking processes using idealized numerical simulations.

We focus more particularly on the effect of variations in jet width and jet latitude on baroclinic waves life-cycles and their breaking. Idealized numerical simulations are performed using quasigeostrophic and primitive equations models on the sphere. Interpretation of the different effects is made through normal mode analysis and refractive index diagnostics.