Geophysical Research Abstracts, Vol. 7, 03280, 2005
SRef-ID: 1607-7962/gra/EGU05-A-03280

Large-scale atmospheric dynamics connection with local precipitation extreme episodes

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Weather extreme events have many important consequences in numerous environmental, social and economic sectors. It seems then appropiate to devote numerous efforts to the understanding and predictability of the atmospheric circulation phenomena yielding the ocurrence of an extreme episode. In this paper we focus on the large scale atmospheric patterns who may be responsible for a number of intense precipitation episodes in western France. We present an alternative and attractive approach to identify these large-scale patterns, based on the weather regimes concept. We wonder if it is possible to perform a classification of geopotential weather maps corresponding to an intense precipitation episode over a certain domain. For western France we have identified a large scale pattern, with a strong negative anomaly over Great Britain. It have been also found that this pattern often appears during the transition of Zonal (negative NAO phase) to Greenland Anticyclone (positive NAO phase) classical weather regimes. This is a unlikely transition, this result corroborates the fact that an extreme event rarely ocurrs.