Geophysical Research Abstracts,
Vol. 11, EGU2009-7815-1, 2009
EGU General Assembly 2009

Linking Rainfall Extremes to Weather Types

H. W. Rust (1), M. Vrac (1), M. Lengaigne (2), and B. Sultan (2)

(1) Laboratoire des Sciences du Climat et de l'Environnement (LSCE-IPSL) CNRS/CEA/UVSQ, Gif-sur-Yvette, France (hrust@lsce.ipsl.fr, +33 1-69-08 77-16), (2) Laboratoire d'Océanographie et de Climatologie par Experimentation et Approche Numérique (LOCEAN), Université Pierre et Marie Curie, Paris, France

The potential change in precipitation patterns with climate change mainly affects water resources and agriculture. This is of major concern in highly vulnerable regions as, e.g., in the Amazonian Basin. To plan relevant measures of adaptation, stakeholders profit from information about likely changes in water availability and regional precipitation patterns. The latter can be provided by a localised downscaling of climate model scenario simulations to given regions. A typical approach is weather typed downscaling: present climate's typical synoptic situations, so called weather types, are identified from reanalyses and linked to rainfall probabilities. These weather types are assumed to be present also in a future climate, basically unchanged but with a different frequency of occurrence. Together with their associated rainfall probabilities, they provide the basis for a downscaling concept. On the way towards such a weather typed downscaling approach, we relate characteristics of extreme rainfall observations from various rain gauges in the Amazonian Basin to reanalyses weather types identified in that area.