Geophysical Research Abstracts, Vol. 7, 03721, 2005
SRef-ID: 1607-7962/gra/EGU05-A-03721

Unusual blooms in the Equatorial Pacific in 1998: a model point of view

C. Menkes (1), **T. Gorgues** (1), S. Alvain (2), O. Aumont (1), L. Bopp (2), C. Moulin (2), Y. Dandonneau (1), S. Cravatte (1), J. Vialard (1)

(1) LOCEAN (ex LODYC) (tglod@lodyc.jussieu.fr), (2) LSCE (alvain@lsce.saclay.cea.fr)

The 1997-1999 ENSO was among the largest ENSO on records. It had a dramatic impact of the marine ecosystem in the equatorial Pacific and produced striking features such as large unexpected phytoplankton blooms in the central Pacific when El Nino switched to La Nina in May 1998. Here, we use a coupled dynamical-biogeochemical model of the tropical Pacific to document and understand how the tropical Pacific variability changes during that ENSO. The model is forced with scatterometer winds over 1992-2000 and produces realistic dynamical and biogeochemical features. We document the biogeochemical onset, development and demise of the El Nino and the return of La Nina with a particular focus on the contrast between the warm pool oligotrophic waters and the upwelling waters, the influence of Kelvin waves onto the ecosystem during that event and the spectacular bloom associated with La Nina's return.