Geophysical Research Abstracts
Vol. 14, EGU2012-102, 2012
EGU General Assembly 2012

Regional sea level variability in the Caribbean and South China Sea over 60 years from 1950-2009

H. Palanisamy (1), B. Meyssignac (1), D. Peng (1), A. Cazenave (1), and M. Becker (2)
(1) LEGOS/CNRS, Toulouse, France, (2) University of Cayenne, French Guiana

By making use of tide gauge records, reconstructed sea level data set since 1950 based on statistical analysis of tide gauge records and gridded sea level data from ocean circulation models and observed satellite altimetry, we study the interannual, decadal and multi-decadal sea level signals in the Caribbean and the South China Sea for the past 60 years. We find that the intensity of the interannual signal has increased during the last two decades when compared to the previous decades. We compare the interannual variability in sea level with climate indices known to have impacts on each of the studied regions. Secondly, at several locations in the studied areas, from the reconstructed and available tide gauges, we estimate the climate-related sea level changes (i.e. uniform global mean sea level rise plus regional variability) which is one of the constituents of the total sea level rate (the other being vertical crustal motions). We find that in the Caribbean, the climate-related sea level change is very similar to the uniform global mean rise ($\approx$1.8mm/yr) whereas it is slightly higher in the South China Sea. We compare these results for the Caribbean and South China Sea region with previous results obtained in the tropical Pacific by Becker et al., 2012. Preliminary results for the Indian Ocean are also shown.