Survey of Continental-scale River Discharge in South America with SST in Ocean in Surrounding and Separated Region

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Discharge from Continental-scale river basin is influenced by the fluctuation of SST from surrounding ocean. For river basin in South-American continent, it is well known that there are correlations between Discharge in Amazon River Basin and ENSO, together with Northern/Southern Tropical Atlantic Cold. In this survey we are focusing on relationship with IOD based on the hypotheses found in Chan *et al.* (2008). By analyzing correlation between precipitation data and IOD mode in the region there are some evidences that indicate relationship. Based on that approach we made comparison with observed discharge and calculated one using continental-scale hydrological model for the basin. It is found that discharge in Amazon and Paraná basin are widely affected and influenced from those surrounding SST together with IOD in long distance.

We also start analyzing the loading from these continental-scale river basins into surrounding ocean. If above relationship may clearly be established, we may propose river loading model into ocean in association with SST.

References

[1] S.C. Chan, S.K. Behera, and T. Yamagata. Indian Ocean Dipole influence on South American rainfall, *Geophysical Research Letters* 35, L14S12. (2008).