[EE] Evening Poster | A (Atmospheric and Hydrospheric Sciences) | A-OS Ocean Sciences & Ocean Environment

[A-OS12]Continental-Oceanic Mutual Interaction: Planetary scale Material Circulation

convener:Yosuke Alexandre Yamashiki(Earth &Planetary Water Resources Assessment Laboratory Graduate School of Advanced Integrated Studies in Human Survivability Kyoto University), Yukio Masumoto(Graduate School of Science, The University of Tokyo), Swadhin Behera(Climate Variation Predictability and Applicability Research Group, Application Laboratory, JAMSTEC, 3173-25 Showa-machi, Yokohama 236-0001, 共同), Takanori Sasaki(Department of Astronomy, Kyoto University)
Tue. May 22, 2018 5:15 PM - 6:30 PM Poster Hall (International Exhibition Hall7, Makuhari Messe)
The main purpose of this session is to promote discussion on mutual interaction between Continental zone and Oceanic zone. The global-scale material circulation induced by River runoff through oceanic general circulation as major topic on Continental-Oceanic Interaction, where the ENSO / IOD influence into continental climate as major topics on Oceanic-Continental Interaction. Numerical simulation and field observation of radionuclide transport from continental zone into ocean and its potential impact is also important topics of this session. The session also extend discussion on planetary hydrology and oceanography focusing on subserface ocean in Jupiter's moon &Ancient Martian Hydrology.

[AOS12-P02]Oceanic Primary Producers’ Responses to ENSO Variability: The Role of Continental-Oceanic Interactions

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Keywords:Oceanic primary producers, Remote sensing, ENSO

Oceanic primary producers respond rapidly to a complex spectrum of climate-driven perturbations, confounding attempts to isolate the principal causes of observed changes. A dominant mode of variability in the Earth-climate system is that generated by the El Niño phenomenon. Recently, marked variations have been observed in the centroid of anomalous warming in the Equatorial Pacific under El Niño, associated with quite different teleconnection patterns. Here, using observational and reanalysis datasets, we differentiate the regional forcing mechanisms, including continental-oceanic interactions, and assess their influence on oceanic primary producers during two extreme types of El Niño. We find robust evidence that Eastern Pacific (EP) and Central Pacific (CP) types of El Niño generate regionally-different, and sometimes opposite, impacts on primary producers, associated with changes in inland precipitation, as well as wind-driven dust transport from inland deserts and vegetation fires. Our analysis highlights complex interactions between continental and oceanic processes that: 1) are forced by remote teleconnection patterns, and 2) may act in synergy to create larger responses in oceanic primary producers.