[EJ] Evening Poster | M (Multidisciplinary and Interdisciplinary) | M-AG Applied Geosciences

[M-AG32]Marine Earth Informatics

convener:Seiji Tsuboi(JAMSTEC, Center for Earth Information Science and Technology), Keiko Takahashi(Japan Agency for Marine and Earth Science and Technology), Masaki Kanao(国立極地研究所)
Wed. May 23, 2018 5:15 PM - 6:30 PM Poster Hall (International Exhibition Hall7, Makuhari Messe)
In advancing the research of marine Earth science, observation and computer simulation is an essential element. In recent years, the performance of the observation apparatus is dramatically improved, along with the means of observation is diversified. It is becoming possible to observe in a resolution, which was not imaginable so far. Such data to be generated from the observation is tremendously large in quantity and its quality is drastically improved. To handle these huge and high quality dataset for data analysis, we need to have a high speed and large memory computer system but such a system now becomes within reach in our hands by the recent dramatic improvement of high performance computer system. On the other hand, researchers who can use this kind of large-scale computer in their studies are still quite limited. In this session, we try to review the situation of observation data that has undergone a dramatic change regarded with both quality and quantity in recent years of marine Earth science research. We also try to review the situation from a professional standpoint of simulation about the status of the high performance computer system to analyze these 'big data'. Also we focus on the state of the art data analysis technique and aim to share the outlook from the professional standpoint of computational science and professional position of observation science about the future direction of the marine Earth informatics research.

[MAG32-P01]Near real-time forecasts using global nonhydrostatic model on the Earth Simulator during intensive observations.

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Japan Agency for Marine-Earth Science and Technology (JAMSTEC) has research vessels, various observation instruments and supercomputers and can approach research targets of marine and earth science both from in-situ observations and numerical simulations. We constructed near-realtime forecast system using the global nonhydrostatic model “NICAM (Nonhydrostatic ICosahedral Atmospheric Model)” on the Earth Simulator and used it during the research vessel “MIRAI” cruises over the Eastern Indian Ocean (MR17-08, MR15-04), as a part of an international campaign “YMC (Years of the Maritime Continent)”, led by JAMSTEC. We intend to promote understanding of the observed phenomena, as well as smooth execution of observation. During the “MIRAI” Arctic Ocean cruise (MR17-05C), we carried out near real-time forecasts targeted for the polar_regions for the first time, as a pilot study toward optimization of dynamic observation. We plan to continue verification of our forecast system in comparison on the globe, and to improve the system in the forthcoming field campaigns.