Fossil diatom records from IODP Exp. 382 Sites U1536 and U1538 (preliminary results)

*Yuji Kato[1], Michael E. Weber[2], Maureen E. Raymo[3], Trevor Williams[4], - The IODP Expedition 382 Scientists

1. Center for Advanced Marine Core Research, Kochi University, 2. University of Bonn, Germany, 3. Lamont-Doherty Earth Observatory of Columbia University, USA, 4. International Ocean Discovery Program, Texas A&M University, College Station, USA

As the Southern Ocean plays a significant role in global climate system, there has been a great discussion about paleoceanographic changes in the Southern Ocean. Of these, fossil diatoms preserved in sediments have been treated as useful paleoenvironmental indicators for reconstructing past ocean conditions over geological timescales.

International Ocean Discovery Program (IODP) Expedition 382 (from March to May 2019) obtained several high-resolution sediment cores from Scotia Sea (Atlantic sector of the Southern Ocean), which covers Plio-Pleistocene ages. Of these, Site U1536 (59.44ºS, 41.06ºW, water depth 3220 m, Dove Basin) and Site U1538 (57.44ºS, 43.36ºW, water depth 3131 m, Pirie Basin), which are located in the vicinity of modern winter sea-ice limit, are likely to contain robust paleoceanographic information such as sea-ice history and SST changes. In the current presentation, we will present preliminary results of diatom assemblage analysis extending past ca. 0.5 myrs and discuss their paleoceanographic and biostratigraphic significance.

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