

## **PHYSICAL PROCESSES ON THE CENTRAL AMUNDSEN SHELF: ARAON'S EFFORTS DURING RECENT TWO YEARS**

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### **ABSTRACT**

As a flagship project in the western Antarctic Ocean, KOPRI has recently launched a novel research program to understand the physical processes occurring in the Amundsen Sea, the most rapidly changing region of the Antarctic Ocean. The shelf troughs were suspected to be main conduits supplying warm circumpolar deep water (CDW) onto the continental shelf, eroding the underside of the ice sheets and glaciers. Despite the critical role of CDW in the continental shelf of the Amundsen Sea, vital information is still lacking concerning the spatial-temporal variability of CDW, which is controlled by combined effects of atmospheric and oceanic forcings. Using the icebreaker R/V Araon, a multi-disciplinary scientific cruise was carried out in the austral summer season of 2010/2011 and 2012. The international collaboration among Korea, Sweden, UK, and US stimulated to form a basis of observation network in the Amundsen Sea. During the presentation, the shipborne measurement and mooring data will be presented in the aspect of CDW's intrusion and its synoptic circulation on the Amundsen shelf. Moreover, the future multi-national collaboration will be discussed to build up a robust framework of observation network, which can be a main component of Southern Ocean Observation System (SOOS).