

## **Radiocarbon of Dissolved Organic Carbon in the Amundsen Sea, Antarctica**

JEOMSHIK HWANG<sup>1</sup>, LING FANG<sup>1</sup>, SANGHOON  
LEE<sup>2</sup>

<sup>1</sup>School of Earth and Environmental Sciences, Seoul  
National University, Seoul, South Korea

<sup>2</sup>Korea Polar Research Institute, South Korea

Radiocarbon content in dissolved organic carbon (DOC) was measured at three sites on the Amundsen Shelf, Antarctica, to examine DOC cycling. Radiocarbon content was higher in the upper layer than near the bottom where the Circumpolar Deep Water flows into the shelf. DOC Radiocarbon content appears to be affected by fresh DOC produced in the surface water. The extent of changes in DOC radiocarbon content by primary production was significantly higher in the polynya region than in the sea ice zone. Our radiocarbon results suggest that DOC concentration is quickly modified by primary production during the polynya opening period in the austral summer.