



Agenda Item: ATCM 13

Presented by: Korea
(ROK)

Original: English

Collaborations with Other Parties in Science and Related Activities during the 2007/2008





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Conscious of the importance of collaborations among the parties within the spirit of the Antarctic Treaty and in accordance with Article 6 of the Protocol, Korea cooperated with several parties during 2007/2008 in scientific and related activities.

1. Trace metal analysis in the snow pits in cooperation with China and Japan

As a cooperative work between Korea, China and Japan for contributing to ITASE(International Trans-Antarctic Scientific Expedition), surface snow samples were collected along the traverse routes to Dome A and to Dome Fuji, East Antarctica. Trace metals, water soluble ions and Pb isotopes in the snow samples will be analyzed to investigate spatial changes in their concentrations.

(Contact point: Dr. Sungmin Hong, smhong@kopri.re.kr)

2. A hydroacoustic monitoring in the Bransfield Strait

Korea Polar Research Institute (KOPRI) and U.S. NOAA/PMEL have maintained acoustic hydrophone arrays in the Bransfield Strait and Drake passage since December 2005. During the 2007/2008 austral summer expedition, KOPRI and NOAA scientists recovered five hydrophones in the Bransfield Strait using the *R/V Yuzhmorgeologiya*. They also deployed five new hydrophones in the Scotia Sea near the South Georgia Island. These hydrophones record underwater sounds originated from earthquakes, icebergs and marine mammals. We hope that tectonic events, volcanic activities, and ice breakup in the region can be understood from those records.

(Contact point: Dr. Minkyu Park, minkyu@kopri.re.kr)

3. International collaboration on the study of Antarctic oscillations and their impact on mid-latitude climate

It is important to understand what caused the Antarctic Oscillation (AAO) variability, particularly the low frequency variability. This heavily depends on the availability of the AAO index reconstruction. To improve the quality of low-frequency changes in the reconstruction, we need to take the advantage of multiproxy data, including tree-ring and ice-core data sets. The usage of ice-core and coral data would greatly improve the low-frequency climate signals and hopefully result in a much better AAO index for the past several centuries. That is essential to answer whether recent trend in AAO is caused by the reduction of ozone in the stratosphere as suggested by recent simulations. In order to investigate the AAO variability and its connection to mid-latitudes, KOPRI and Beijing Normal University of China are currently collaborating. The purpose of this study is to find teleconnections between Antarctica and East Asia by analyzing coral records in the northern mid-latitudes and modern meteorological data.

(Contact point: Dr. Seong-Joong Kim, KOPRI, seongkim@kopri.re.kr)

4. The 14th International Symposium on Polar Sciences

International Symposium on Polar Sciences was held in KOPRI, Incheon, South Korea during May 15-17, 2007. The symposium is the 14th of its kind, and has been held in Korea every one or two

years since 1988 (every year since 2000). With the theme, 'Polar Regions in Global Change', there were more than 45 presentations spanning from paleoceanography and paleoclimatology, glacialogy, atmospheric sciences, geophysics, geology, and gas hydrates. Seventeen foreign scientists from eight countries participated in the symposium and gave presentations.

(Contact point: Mr. Dongmin Jin, KOPRI, dmjin@kopri.re.kr)

5. Logistic cooperation with China

China's Icebreaker 'Xue long' support KOPRI by transporting KOPRI's cargo from Buenos Aires in Argentina to King Sejong Station on King George Island in the Antarctic and KOPRI helped China to rent a Helicopter(KA32) belonging to a Korea company last year for the purpose of transporting the cargo from 'Xue long' to ZhongShan Station.

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6. International Seminar on polar-station operation and logistics

KOPRI held the International Seminar inviting experts from 6 countries who are in charge of the operation and logistics at KOPRI conference room, Incheon, South Korea in April 7-14, 2008.

At this Seminar Australia(AAD), China(CAA), Germany(AWI), Japan(NIPR), UK(BAS), and US(OPP)'s experts introduced recent issues on polar station operation & logistics and had discussions with KOPRI staffs. Foreign experts commented and gave advice on the operation of Korea's icebreaker(ARAON) which will be completed next year.

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