## **Research and Expedition**

Conducting scientific research expeditions into oceanic and polar areas well beyond the boundaries of Korean territory, waters, and airspace represents an important step in Korea's contribution to the global scientific community. The participation of Korean researchers on projects located in international scientific territory (non-sovereign areas in international waters and airspace as well as polar research stations) fosters international cooperation but no gains in territory or resources. Korea, with its advanced technological capabilities, has a deep commitment to research contributions that deal with such global issues as climate change and the degradation of the

Antarctic Voyage of Araon



global environment. Its continued presence in research stations worldwide is a testimonial to this commitment.

Korea's polar research began in earnest with the construction of the King Sejong Antarctic Research Station (Korea's permanent Antarctic research base) in 1988. Since then, Korea has conducted a variety of research and expedition activities on the environment surrounding the station, and in 2014 Korea built the Jang Bogo Antarctic Research Station, broadening the scope of their research and expedition to include areas closer to the South Pole. In 2009, the country started developing geographic information by performing the mapping and measurement of its Antarctic base

Arctic Voyage of Araon

and its neighboring area. It has contributed a total of 27 names of Antarctic places (17 in 2011 and 10 in 2012) in the Composite Gazetteer of Antarctica (CGA). With the 2002 opening of the Dasan Arctic Research Station, Korea's research on the North Pole began to accelerate. In 2012, Korea obtained the status as a permanent observer in the Arctic Council thereby gaining an opportunity for direct participation in the development of North Pole routes and resources. In 2009, it embarked on a voyage with the construction of the nation's first research icebreaker vessel, Araon. This ship has conducted independent polar research in the Arctic and Antarctic frozen waters,

explored new routes, and provided supply to landbased polar research stations. Based on submarine topography data collected by Araon in October 2013 South Korea registered two undersea feature names with the International Hydrographic Organization (IHO), namely, Dolgorae Hills (Dolphin Hills) and the Kkotsin Knoll (Floral Shoes Knoll). Additionally, in January 2014, Korea produced and published the provisional marine chart of the waters around the Jang Bogo Antarctic Research Station.







Dasan Arctic Research Station

) Station in Ny-Alesund Villagi



Korea constructed the Dasan Arctic Research Station which became operational on April 29, 2002. With the completion of this station, Korea has become the 8th country in the world that has its own research stations in both the North and South Pole regions. The Dasan Arctic Research Station is situated at Ny-Alesund (78° 55' N Latitude, 11° 56' E Longitude) on the Arctic island of Spitsbergen, part of the Svalbard Archipelago.

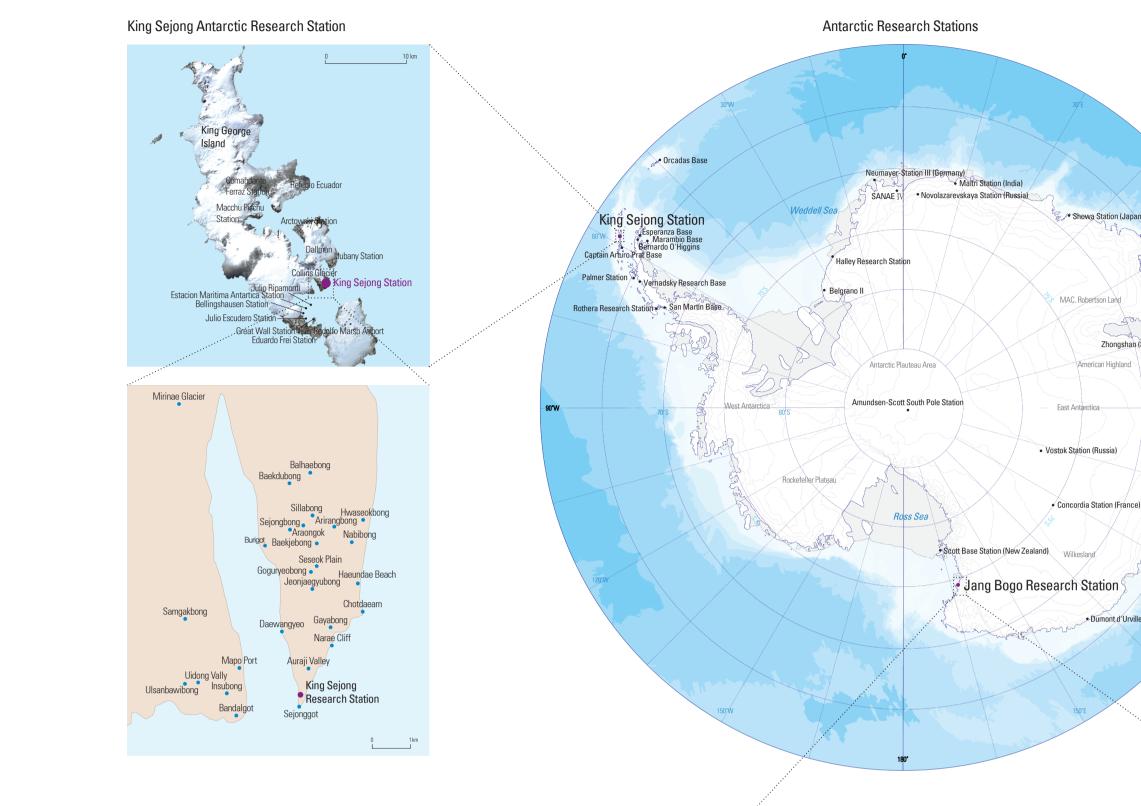
Korean Research Icebreaker Araon

The station, which was set up to explore the Arctic environment and resources, performs multiple roles as an observation base for a variety of research projects including frozen soil layer data collection, aerosol and frozen land-atmospheric circulation of greenhouse gases, and arctic ecosystems.



Detailed Map of Dasan Arctic Research Station





Korea operates two research stations in Antarctica: the King Sejong Station and Jang Bogo Station. The King Sejong Station was completed on February 17, 1988 and Jang Bogo Station on February 12, 2014. With the completion of the King Sejong Station, Korea has become the 18th country to have a permanent station in Antarctica, and the addition of Jang Bogo Station made Korea the 10th nation to have more than one permanent Antarctic stations. The King Sejong geologic features, waters, and organisms. With the Station is located on King George Island in the South construction of the Jang Bogo Station, however, Shetland Islands (62° 13' S, 58° 47' W) and is one of Korea has extended the scope of research to include thirteen Antarctic stations there operated by twelve nations, nine of which are permanent stations operated by eight nations. The Jang Bogo Station is situated on the Terra Nova Bay Coast, Northern Victoria Land in

southeastern Antarctica (74° 37.4' S, 164° 13.7' E).

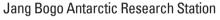
Before the Jang Bogo Station was built, Korea's Antarctic research was centered on the areas surrounding the King Sejong Station and nearby islands, mostly in the northern part of Antarctica. The active research agenda there primarily focused on climate change and polar environments such as atmospheric conditions in the Antarctic region, its such additional fields as paleoclimatology and paleoenvironments along with expeditions for meteorites.



King Sejong Antarctic Research Station



Jang Bogo Antarctic Research Station







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