

New project of KOPRI Satellite Remote Sensing

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New Project

- **Title:**

Research on analytical technique for satellite observation of Arctic sea ice

- **Period:**

2017-2019 (Stage 1)

- **Budget:**

3 M USD / Year

- **Aim:**

Development of satellite observation and analysis for Arctic sea ice

- ✓ Prototype satellite data archive/manage system for ASI
- ✓ ASI RS data processing and analysis technique
- ✓ International satellite observing network for Arctic

KOPRI's VISION (2016-2019)

2016-2019
연구부문
전략목표 및
성과목표

글로벌 기후변화에 대한 남극의 역할 규명

전략 목표 1

성과목표 2
기후변화로 인한 남극 해양환경·생태계 변화 분석과 미래변화 예측



성과목표 1
기후변화 예측능력 향상을 위한 관측 및 복원기술 고도화



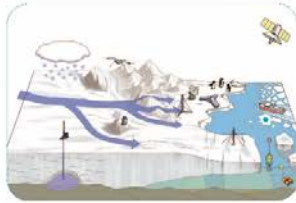
콜드 러시 Cold Rush 시대를 주도하는 전략적 북극진출 발판 마련

전략 목표 2

성과목표 2
북극 해빙의 글로벌 트렌드 영향 분석을 위한 위성 종합 관측망 구축



성과목표 3
남극 빙상 변화가 해수면 상승에 미치는 영향 분석



남극 생태계



북극 종합 관측

성과목표 1
북극 영향력 확대를 위한 환경·자원 정보 확보



미답지 도전과 극지자원 활용기술을 바탕으로 미래가치 창출

전략 목표 3



성과목표 1
극한 미답지 (별개구조-송영해령-탄소저감해역-우주) 환경변화 진단

성과목표 2
극지유전체 및 대체재 활용기술 개발



아라온 호

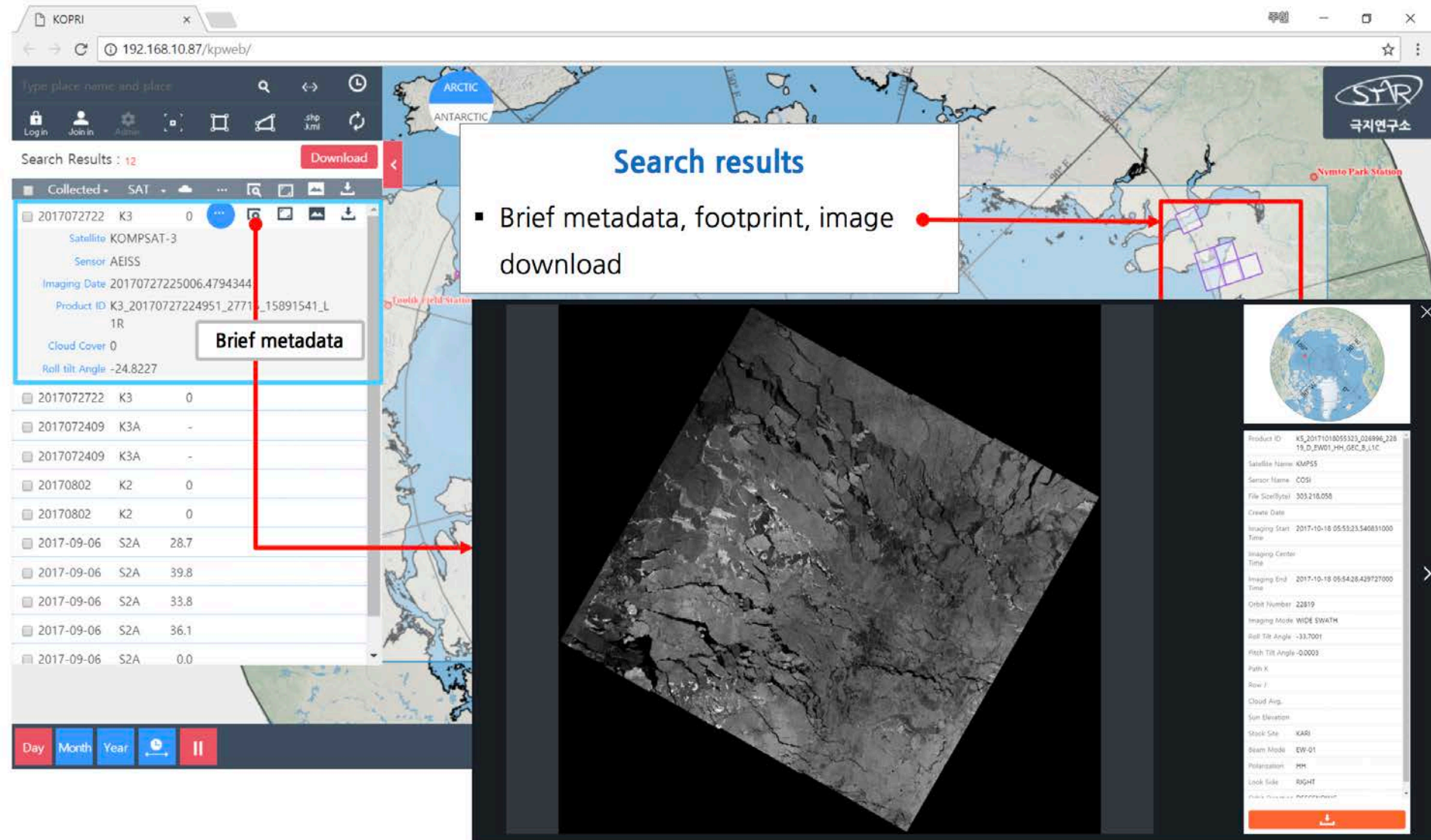


성과목표 3
남극 내륙 진출루트 (K-Route) 계획과 대륙 현장연구체계 확립



성과목표 3
북극의 급격한 기후변화가 한반도 기상이변에 미치는 파급효과 예측

STAR system



The screenshot displays the STAR system web interface. At the top, there is a search bar and navigation icons. Below the search bar, a list of search results is shown. A callout box labeled "Search results" points to the list, indicating that it provides "Brief metadata, footprint, image download".

The first search result is highlighted, and a callout box labeled "Brief metadata" points to its details. The metadata includes:

- 2017072722 K3 0
- Satellite KOMPSAT-3
- Sensor AEISS
- Imaging Date 20170727225006.4794344
- Product ID K3_20170727224951_2771_15891541_L1R
- Cloud Cover 0
- Roll tilt Angle -24.8227

Below the metadata, a table lists other search results:

2017072722	K3	0
2017072409	K3A	-
2017072409	K3A	-
20170802	K2	0
20170802	K2	0
2017-09-06	S2A	28.7
2017-09-06	S2A	39.8
2017-09-06	S2A	33.8
2017-09-06	S2A	36.1
2017-09-06	S2A	0.0

A large satellite image of a rocky terrain is displayed in the center. To the right, a callout box shows detailed metadata for a specific image:

- Product ID KS_20171018055323_026994_22819_D_FW01_HH_GEC_B_11C
- Satellite Name KMPSS
- Sensor Name COSI
- File Size(Byte) 303,218,050
- Create Date
- Imaging Start Time 2017-10-18 05:53:23.546831000
- Imaging Center Time
- Imaging End Time 2017-10-18 05:54:28.429727000
- Orbit Number 22819
- Imaging Mode WIDE SWATH
- Roll Tilt Angle -33.7001
- Roll Tilt Angle -0.0003
- Path K
- Row J
- Cloud Ang.
- Sun Elevation
- Stack Site KARI
- Beam Mode EW-01
- Polarization HH
- Look Side RIGHT

At the bottom of the interface, there are navigation buttons for "Day", "Month", "Year", and a pause button.

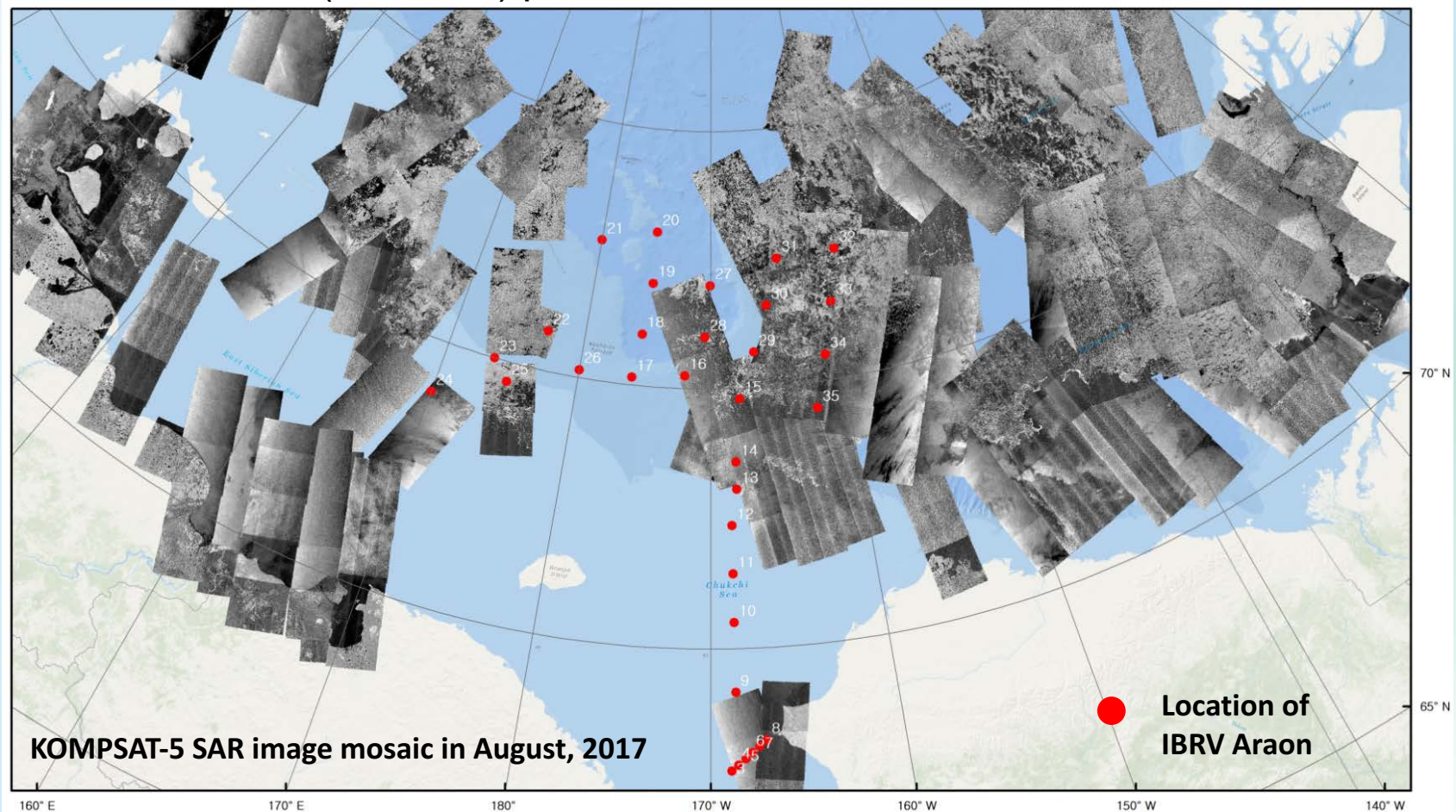
KOMPSAT-5

- South Korea's first satellite equipped with SAR
- Launch - August 22, 2013
- SAR payload name: COSI (Corea SAR Instrument)
 - X-band (9.6 GHz)
 - Dawn-dusk frozen orbit
 - 28 days repeat period at mean altitude of 550 km
- The **GOLDEN** mission
 - **GIS**
 - **O**cean & **L**and management
 - **D**isaster & **EN**vironment monitoring
- **Strength for Polar research**
 - High resolution SAR imaging
 - Capability of imaging twice a day
 - Applicable ice and snow observation
 - Feasibility of quickly imaging



K-5 Eyes on the Arctic

- Near-real time KOMPSAT-5 image acquisition system
 - Continuous collection of sea ice images over East Siberian, Chukchi and Beaufort Sea
 - ~500 scenes (~500 GB) per month



KOMPSAT-2, 3 for Arctic

- High resolution Imagery

	KOMPSAT 2	KOMPSAT 3
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Launch	July 28, 2006	May 18, 2012
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Resolution	1.0 m / 4.0 m	0.7m / 2.8 m
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