# QUREOS

- Lab for Quantitative Remote Sensing -
Pusan National University

QUREOS is a research group focusing on quantitative remote sensing at Pusan National University. We conduct in-depth research on retrieving geophysical variables, utilizing various remote sensing platforms such as satellites, aircraft, and drones.

## From UAV to Satellite: Supporting CAS500-4 Forest Monitoring

We are developing advanced forest monitoring technologies for South Korea's upcoming agroforestry satellite, CAS500-4, by integrating drone-based multispectral imagery with in-situ optical measurements. Our research includes terrain correction to minimize reflectance variability caused by topographic effects. Additionally, we are investigating the bidirectional reflectance distribution function (BRDF) of forested areas to better characterize their angular reflectance properties, thereby enhancing the interpretation of spectral signals observed from space.


Surface reflectance

Topographic corrected
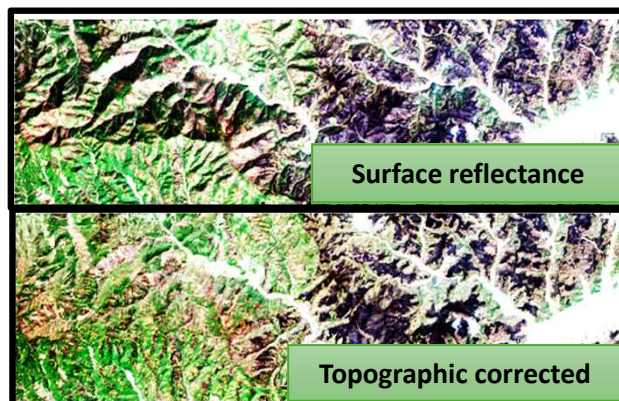
Topographic Correction Algorithm for CAS500-4

Major Research

- **Tidal Flat Remote Sensing:** Applying atmospheric correction to airborne hyperspectral imagery and developing retrieval algorithms for benthic microalgae estimation.
- **Thermal Remote Sensing:** Conducting vicarious calibration of MWIR sensors and developed temperature retrieval algorithms for KOMPSAT-3A and KOMPSAT-7 satellite missions.
- **Benthic Habitat Mapping:** Developing mapping techniques for coastal and intertidal zones using advanced hyperspectral remote sensing data.
- **Red Tide Detection:** Developing detection algorithms using the GK-2B Geostationary Ocean Color Imager for real-time monitoring of harmful algal blooms.
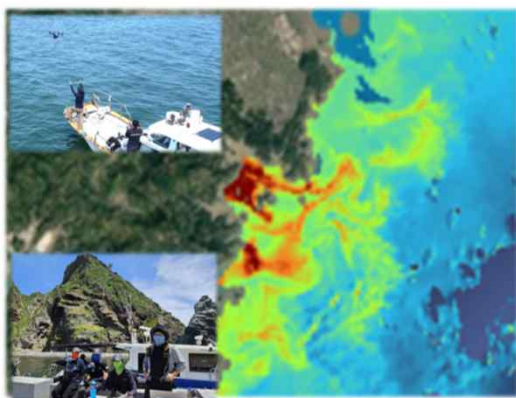
Development of Red Tide Detection algorithms
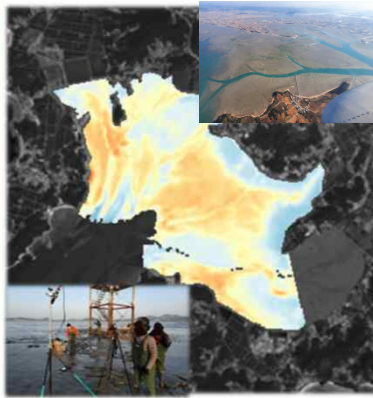
Estimation of MPB in Tidal Flats

Benthic Mapping for Coastal Regions of Indonesia

We are looking for motivated graduate students who are passionate about quantitative remote sensing and environmental analysis. If you're eager to work with real-world remote sensing data, develop models, and contribute to advancing science through rigorous, data-driven research, this is the lab for you. Interested students can visit our lab through the QR code below.