

A vision for the integrated coastal ocean observing system in Korea

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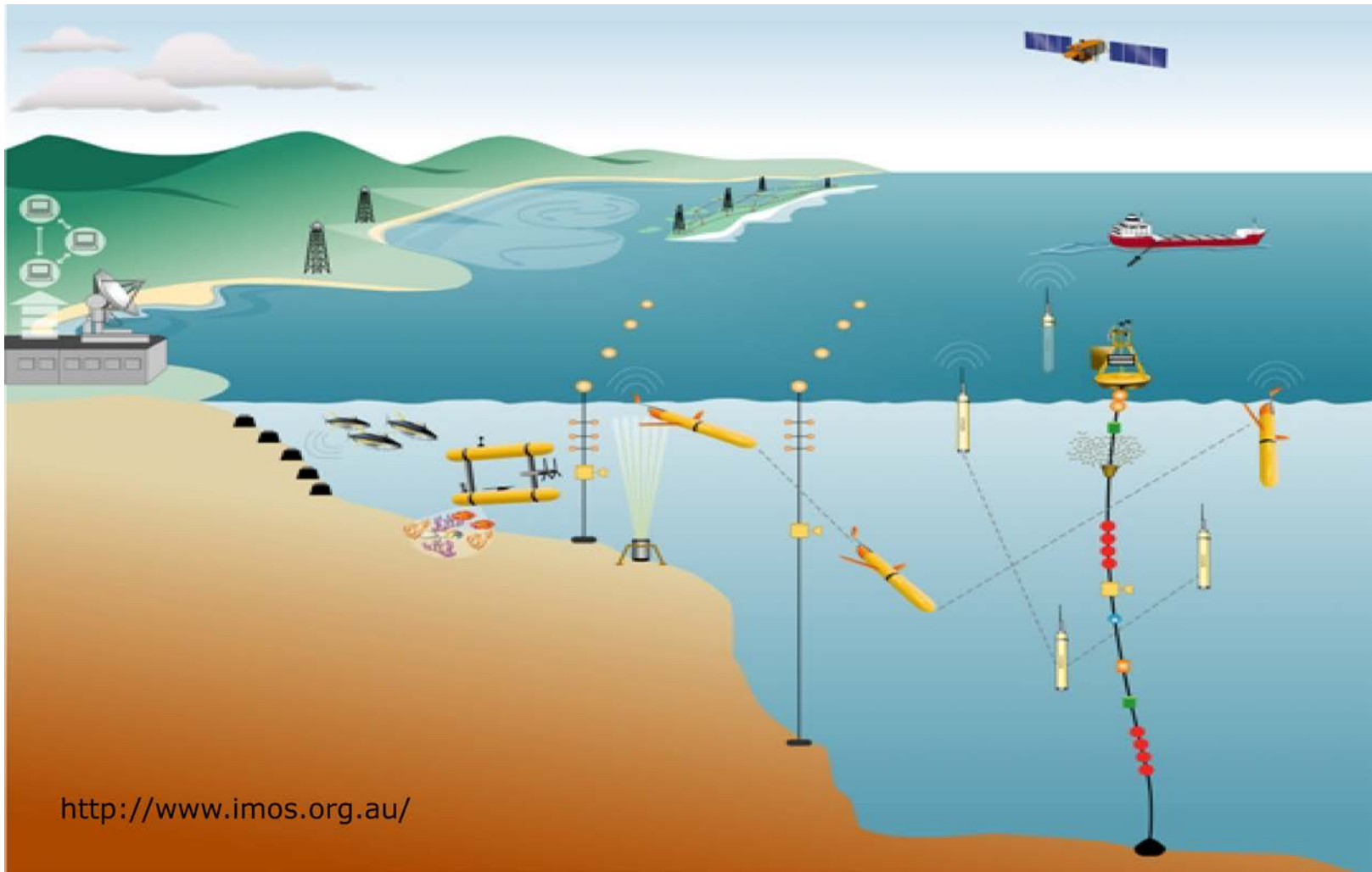
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Outline

- Current status of coastal ocean observing systems in S. Korea
 - Goals and primary issues
- Future plans for coastal and science communities
- Summary

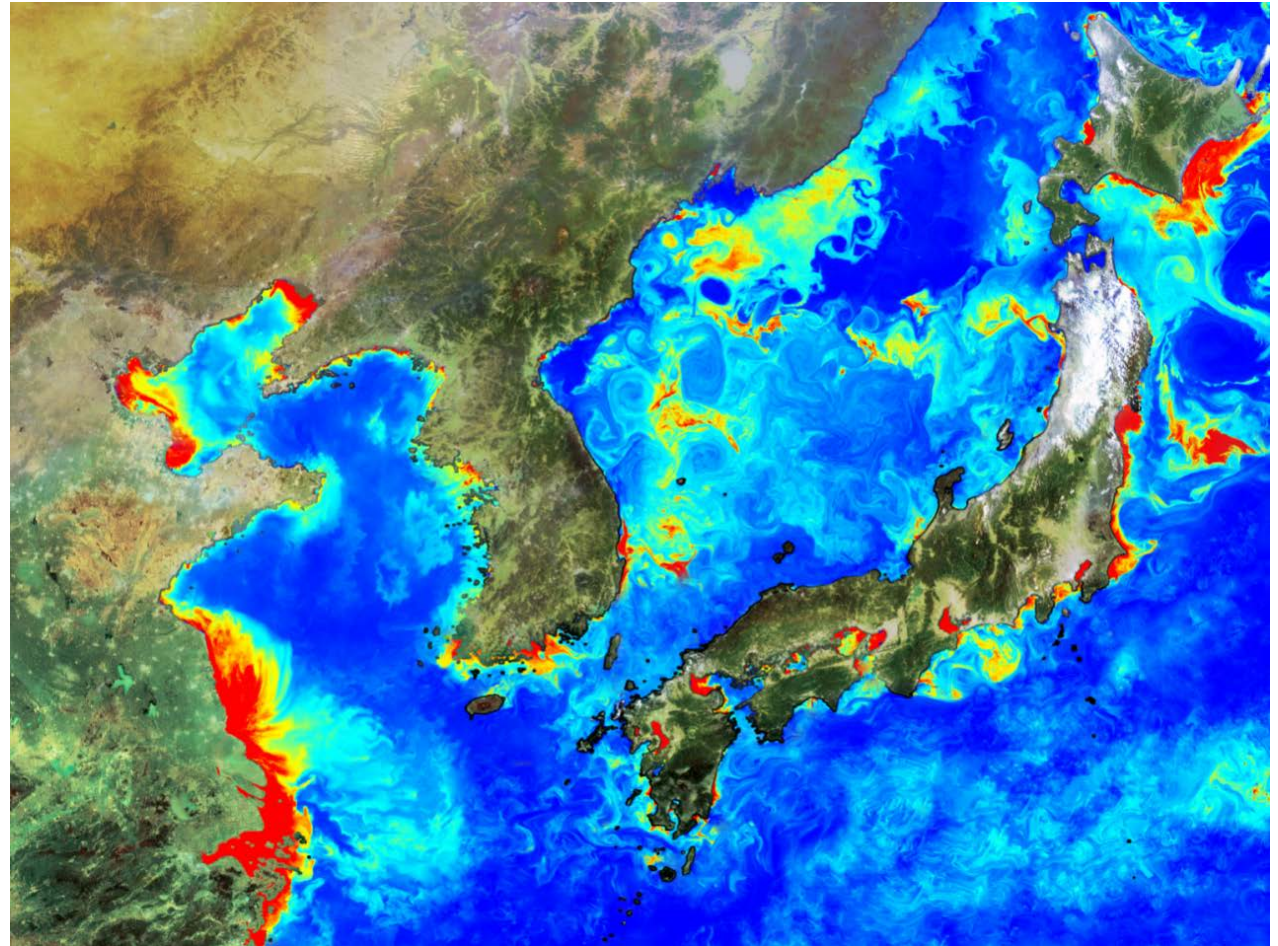
Coastal Ocean Observing System



- Satellites; Buoys; Gliders; Floats; Tide gauges; high-freq. radars
- Integration of systems and collected data

COOS –Satellites

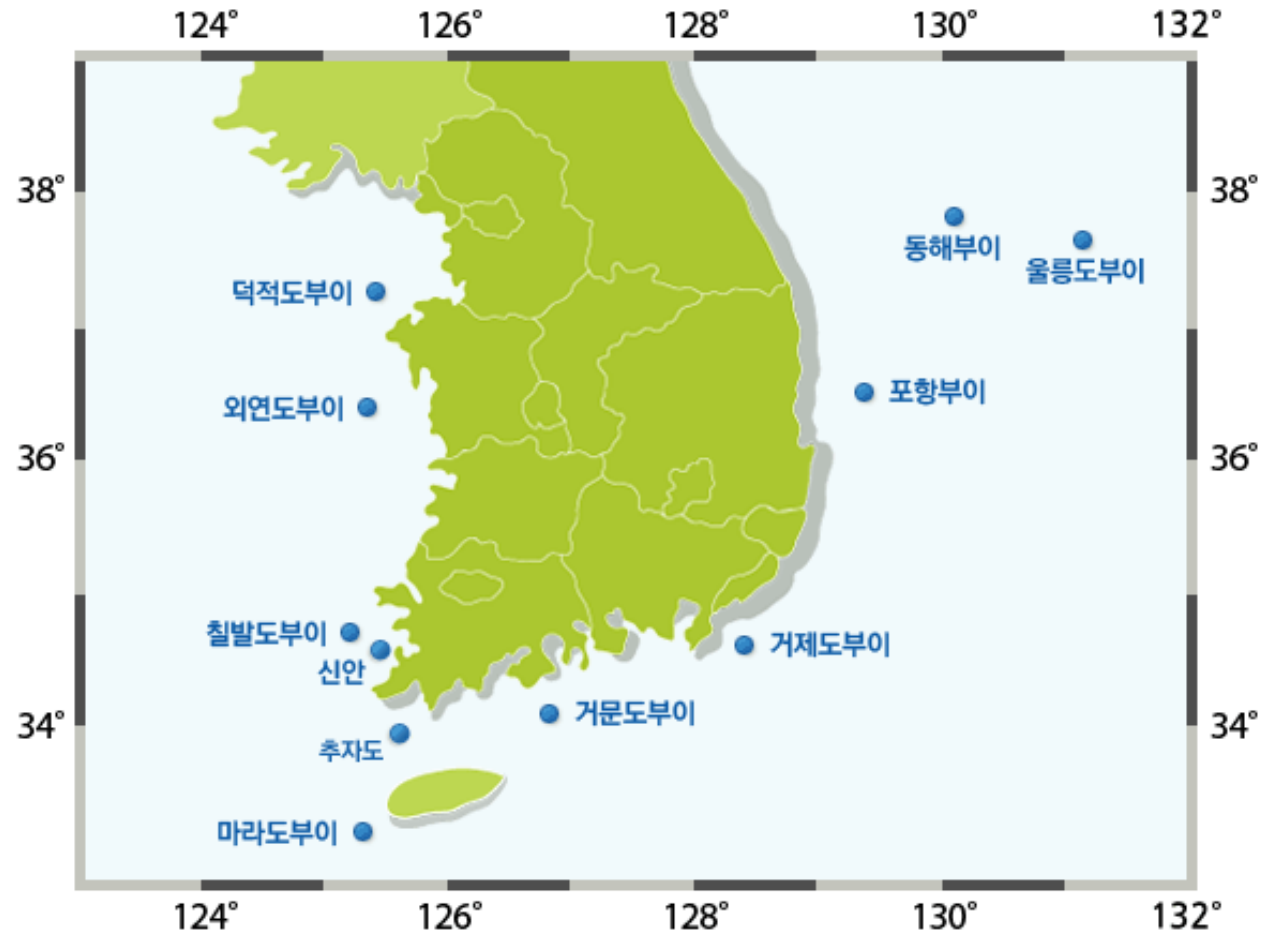
- Satellites
- Buoys
- Gliders
- Argo-Floats
- Tide gauges
- High-frequency radars
- Other in-situ coastal observations



- GOCI (Geostationary Ocean Color Imagery)
 - 0.5 km and hourly resolutions during the day (8 snapshots/day)
 - CHL/TSS/CDOM L2 level products;
- AVISO geostrophic currents (0.25 deg. 7 daily); OSTIA SST (0.25 deg. daily)

COOS – Buoys (T/S/T-air/P)

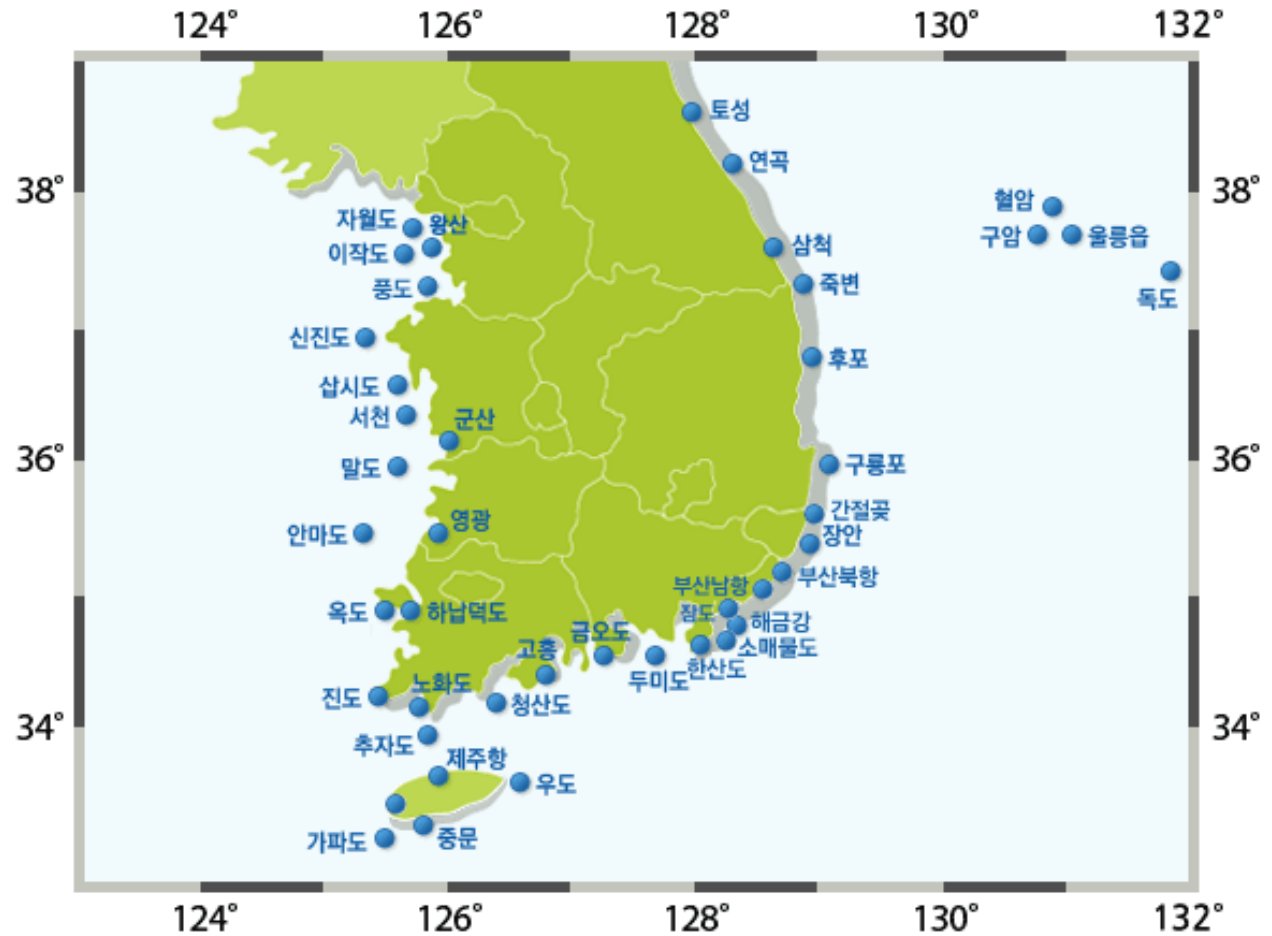
- Satellites
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- Ocean T/S/T-air/P at every hour

COOS – Buoys (Waves)

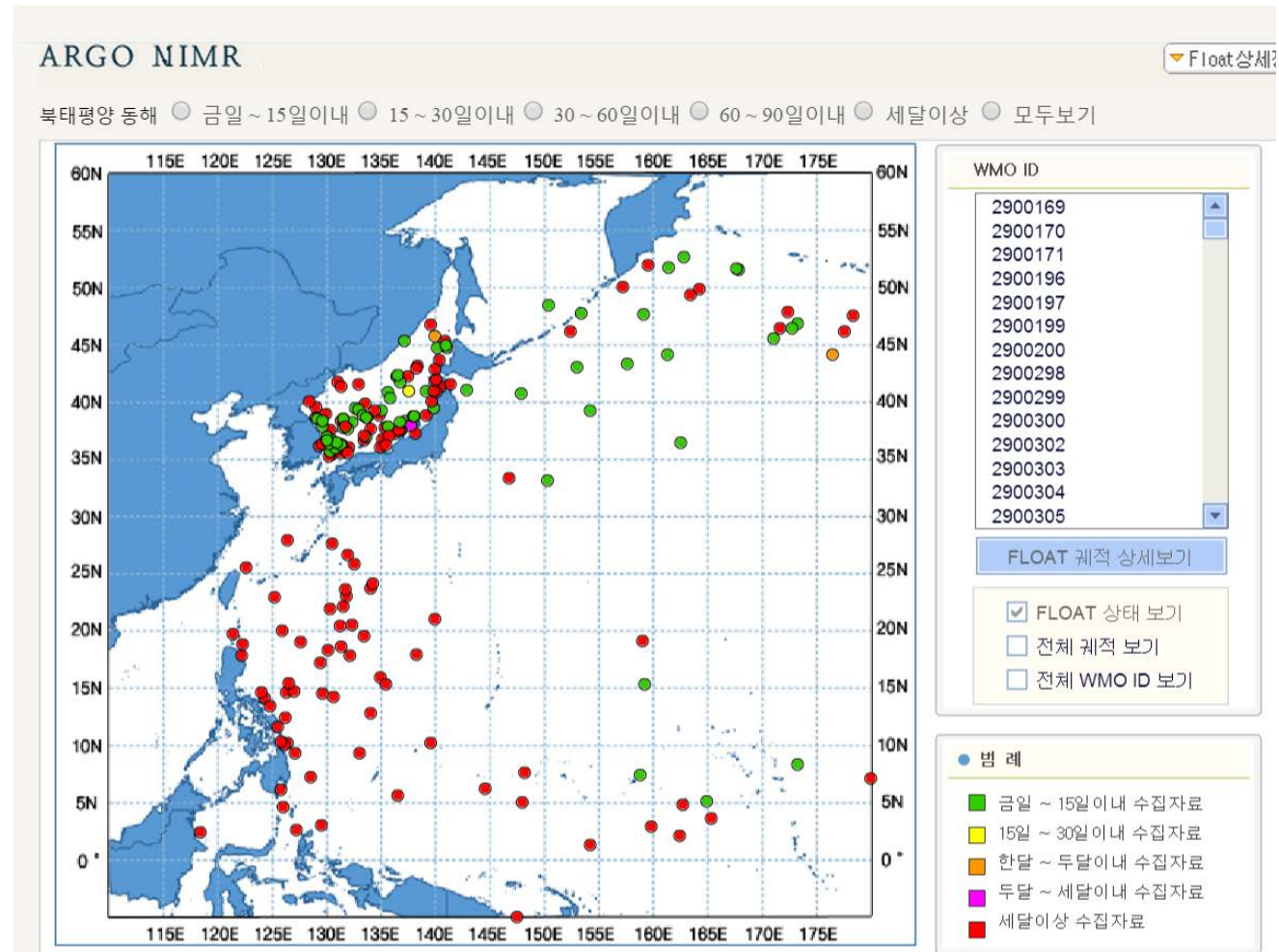
- Satellites
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- Surface waves information of T_p / H_s / H_{max} / H_{min} at every hour

COOS – Tide gauges

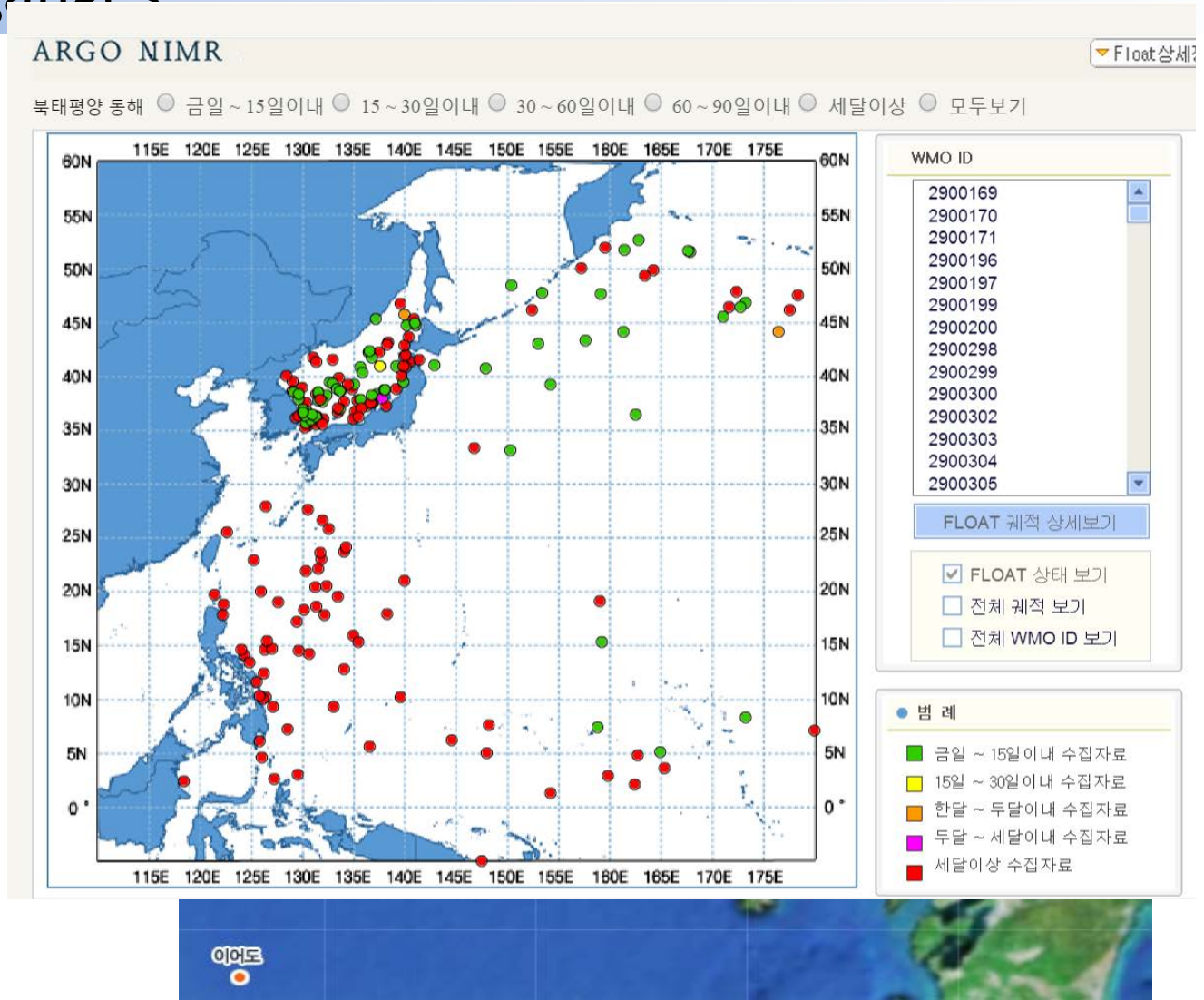
- Satellites
- Buoys
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- High-frequency radars
- Other in-situ coastal observations



- Sea elevations at **stations at every hour

COOS – Tide gauges

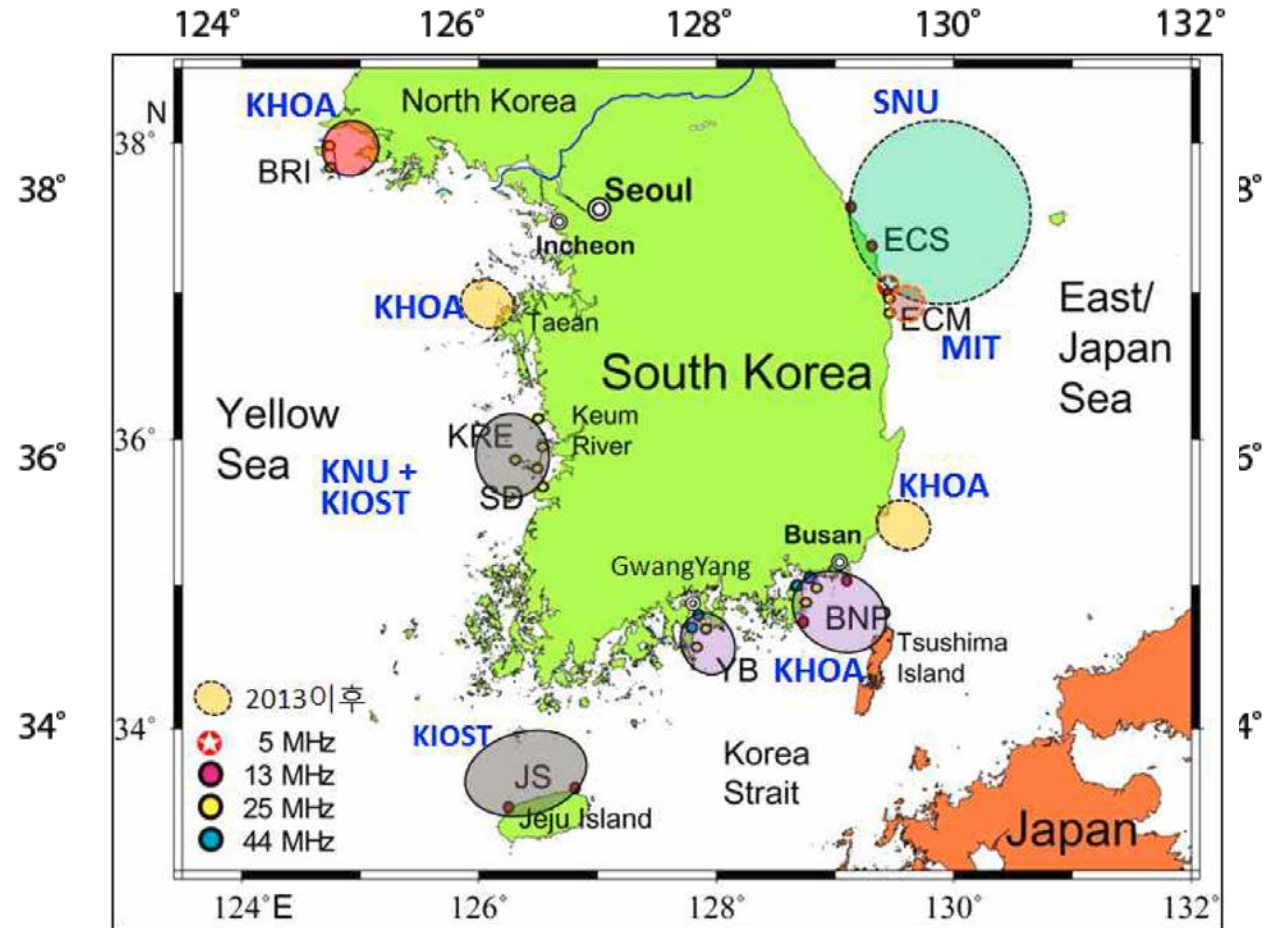
- Satellites
- Buoys
- Gliders
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- Tide gauges
- High-frequency radars
- Other in-situ coastal observations



- Sea elevations at **stations at every hour

COOS – HF Radars

- Satellites
- Buoys
- Gliders
- Argo-Floats
- Tide gauges
- High-frequency radars
- Other in-situ coastal observations



- Surface current maps in several hours and bays at every hour

Primary issues in coastal regions

- Beach erosion, shoreline change, and trash in nearshore areas
- Red tides
- Freshwater due to coastal river plumes (e.g., dyke)
- Nowcast and forecast of local/regional weather
- Providing the status of ocean in bays, ports, and coastal regions to end users (ship/vessel and coastal/fishery communities) (e.g., circulation and sea water temperature)
- Tidal power station (e.g., Sihwa) and its influence on coastal environment

Integration of systems and data within COOS

- Integration of COOS systems
 - Data portal and visualization (e.g., multi-layer tools)
 - Coordination between agencies/institutions on goals for observations
 - Minimize duplicate/similar observational efforts
- Integration of COOS data
 - Agreement on data sharing
 - Development of data-derived models and forecast models
 - 4-dimensional data/observations/model outputs (as a dynamical framework) and data analysis