

International Cooperator Report of
**National Disaster Management
Research Institute (NDMI)**

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Ministry of the Interior and Safety
**National Disaster Management
Research Institute**



NDMI's history

"Disaster Safety Leading Global Think Tank"

1997 - NOW



- 1997 • Opening of the National Institute for Disaster Prevention (NIDP) under the Ministry of the Interior
- 2004 • Transformed into the National Emergency Management Agency (NEMA)
- 2011 • Reorganized under the Ministry of Public Administration and Security (MOPAS)
- 2013 • Changed to the National Disaster Management Institute (NDMI)
Transformed into the executive agency under the Ministry of Security and Public Administration (MOSPA)
- 2014 • Transformed into the agency under the Ministry of Public Safety and Security (MPSS)
- 2015 • Moved to the Ulsan city from Seoul
- 2017 • Transformed into the agency under the Ministry of the Interior and Safety (MOIS)





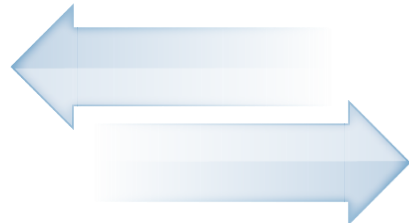
Mission and roles



NDMI

-  Enactment and revision of safety and security law, system improvement, and guideline establishment
-  Research and development of disaster prevention, mitigation, and recovery techniques
-  Management and analysis of disaster information including GIS, satellite imagery, SNS, and UAV
-  Establishment of global cooperation networks for disaster management and research





Technical needs for disaster management



Promptly supporting decision making

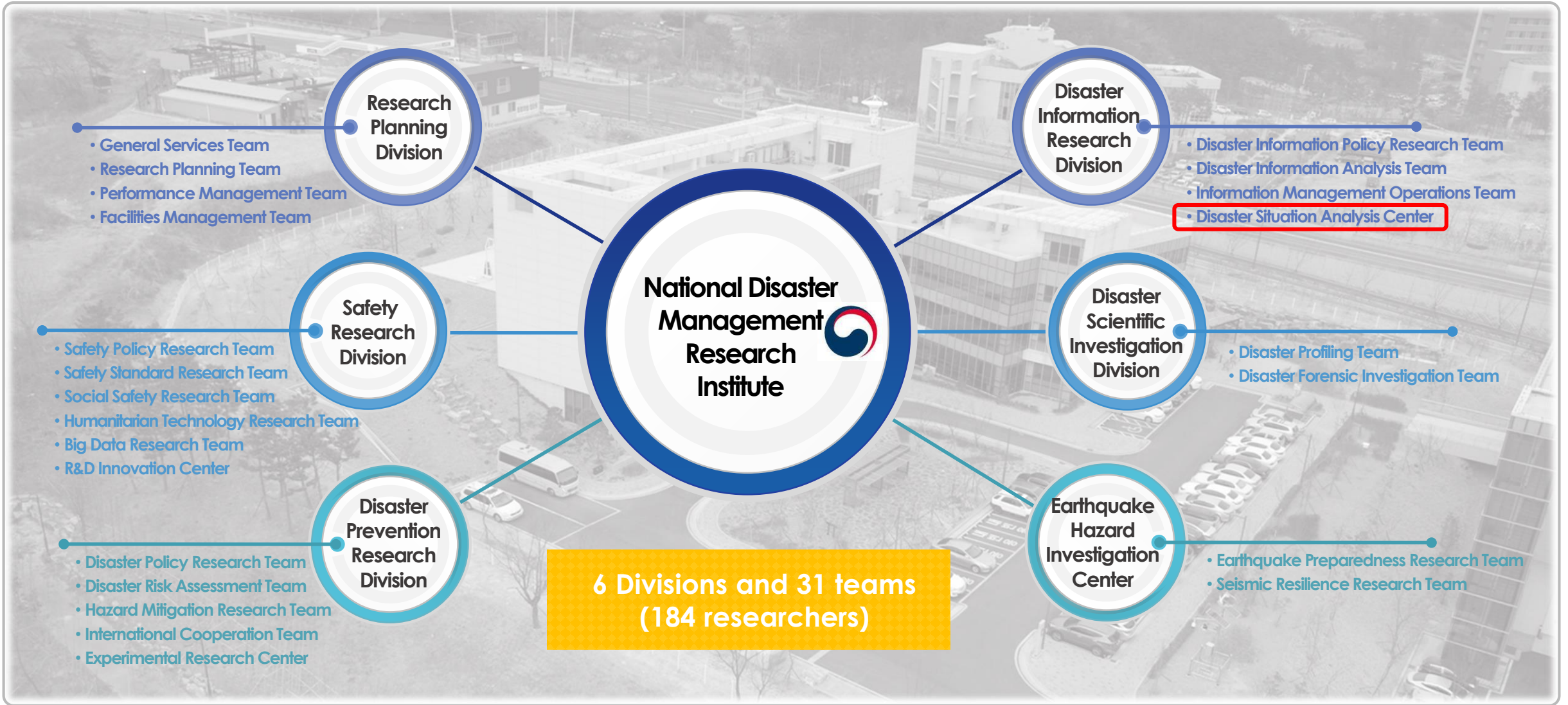


MOIS

-  Establishing, administering and controlling, total coordinating policies of safety and security
-  Tasks of fire-fighting and disaster prevention
-  Tasks of emergency preparedness and civil defense
-  Security, safety, preventing pollution in the ocean and investigating maritime incidents



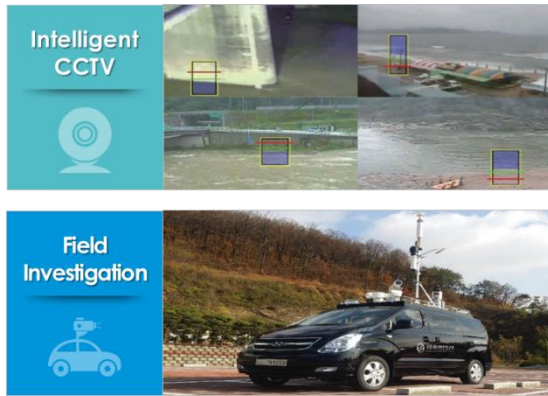
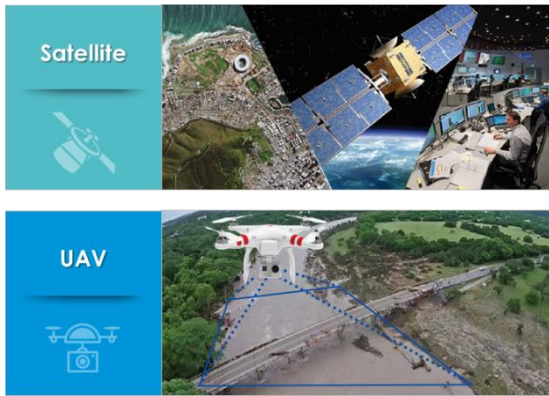
Organization chart



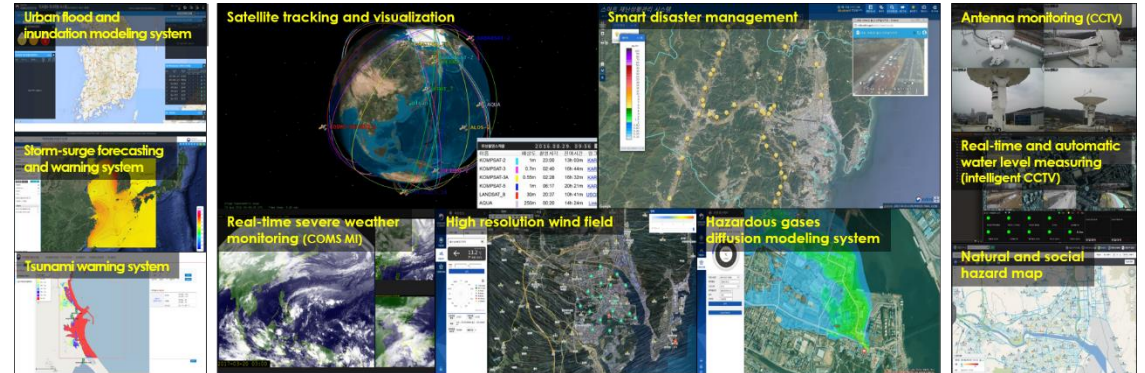


Disaster Situation Analysis Center (DSAC)

New technology development



Disaster detection and modeling



Total 34 disaster monitoring and modeling systems were developed by the NDMI's technology

Decision making support

- Participating in the daily video conference with the minister of MPSS and officers of Korean government since May 2016



- Prompt analysis reports on different disasters including wild fire, storm-surge, heavy snow, flood and drought



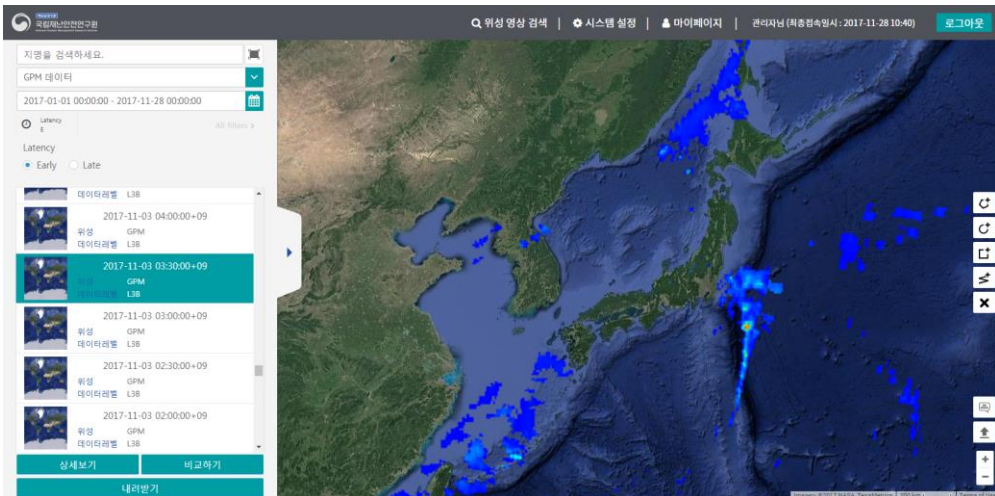
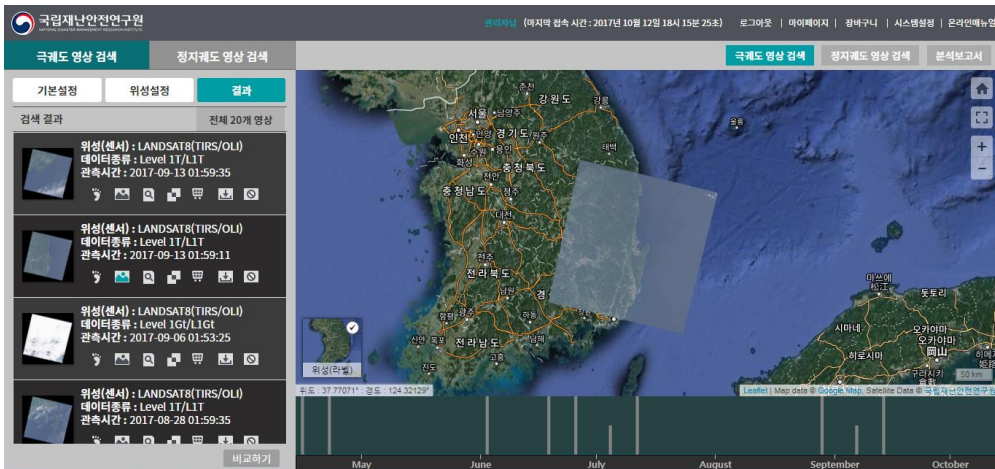
Public relations and training programs





Disaster Situation Analysis Center (DSAC)

Catalog Systems



For receiving via antennas



COMS

LANDSAT-8

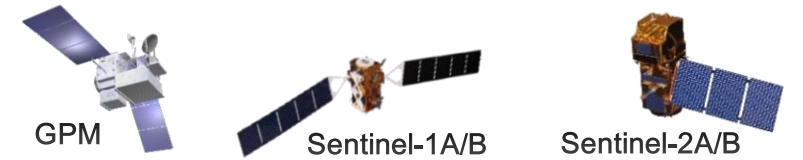


SUOMI NPP

TERRA

AQUA

For receiving via networks



GPM

Sentinel-1A/B

Sentinel-2A/B



KOMPSAT 3

KOMPSAT 3A

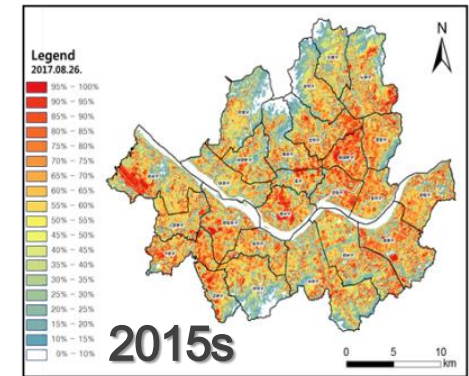
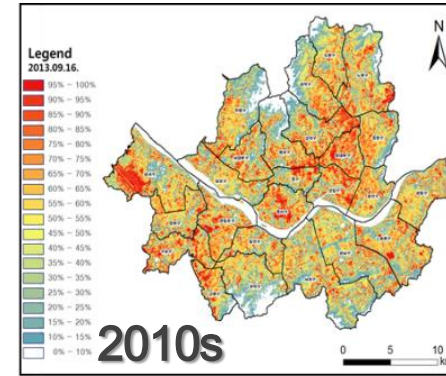
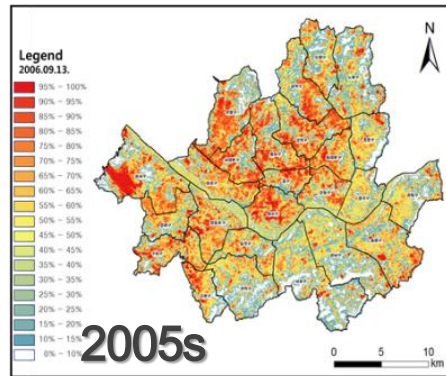
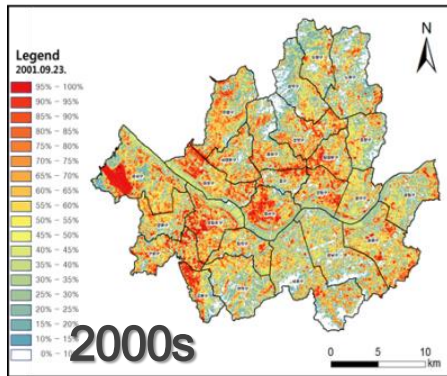
KOMPSAT 5



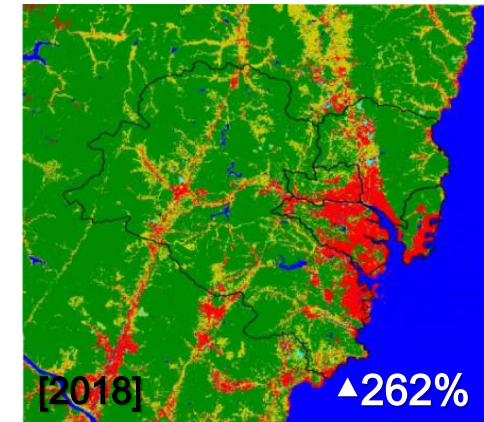
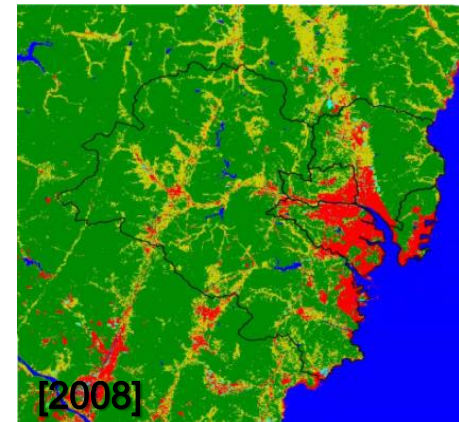
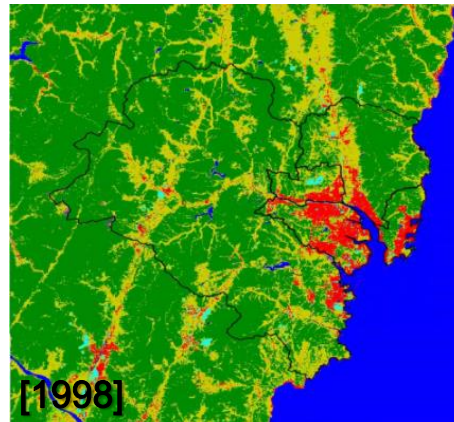
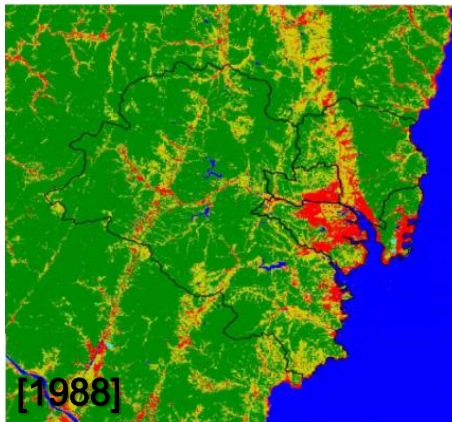
Disaster Situation Analysis Center (DSAC)

Analysis Case

Heat distribution map (Seoul)



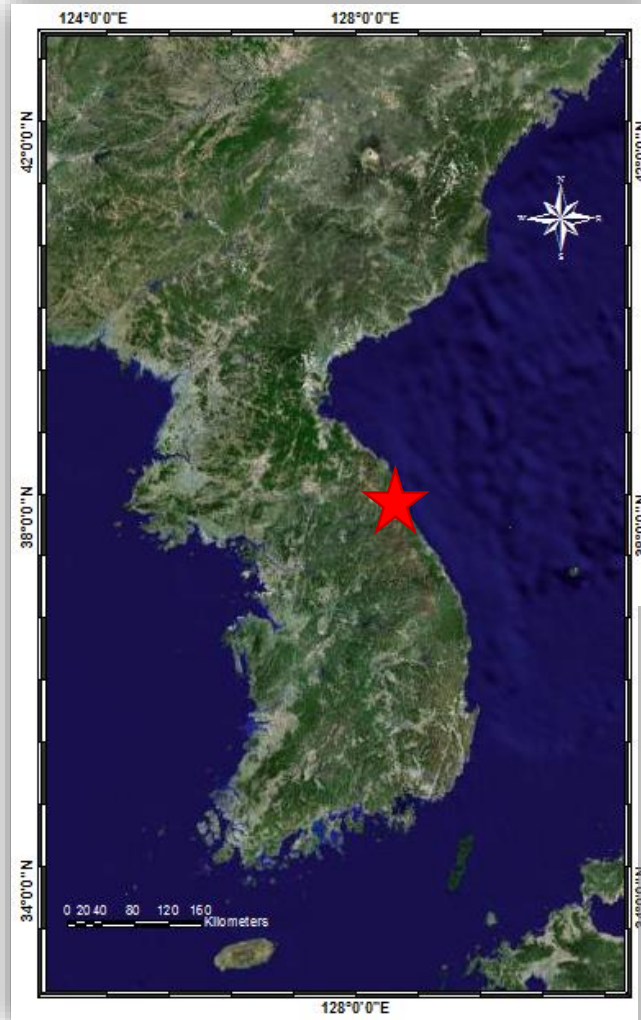
City change monitoring using land cover (Ulsan)



Urban Area Water Forest Cropland



Ongoing Activities (Forest fire – East coast of S. Korea)



- A Forest fire in Gangwon-do, South Korea
- 4 Apr. 2019 ~ 5 Apr. 2019
- 32 Helicopters, 26 Fire engines, 600 Firefighters and 16,500 Soldiers

Ongoing Activities (Disaster analysis – Forest Fire)



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- WEB GIS
- Emergency Observation
- Wildfire Monitoring
- Flood Monitoring
- MTSAT Imagery
- Capacity Building
- Library

Emergency Obs. Request List

Country: Disaster Type:

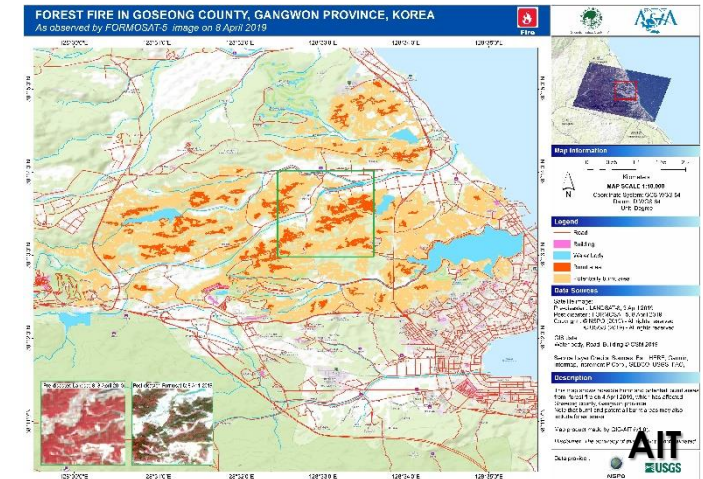
| Emergency Obs. ID | Occurrence Date | Country | Disaster Type | Product | WEB-GIS | Detail | Disaster Inf. | Status |
|-------------------|-----------------|-------------|------------------|---------|---------|----------------------|----------------------|--------|
| ERPHVS000021 | 22/Apr/2019 | Philippines | Earthquake | | | link | ADRC | Active |
| ERKRDM000003 | 04/Apr/2019 | Korea | Forest fire | | | link | ADRC | Active |
| ERNPDH000004 | 31/Mar/2019 | Nepal | Typhoon | | | link | ADRC | Active |
| ERIDLP000045 | 16/Mar/2019 | Indonesia | Flood | | | link | ADRC | Active |
| ERJPJX000088 | 17/Jan/2019 | Japan | Volcano eruption | | | link | ADRC | Active |
| ERLKDM000010 | 22/Dec/2018 | Sri Lanka | Flood | | | link | ADRC | Active |
| ERIDLP000044 | 22/Dec/2018 | Indonesia | Tsunami | | | link | ADRC | Active |
| ERINSR000047 | 16/Dec/2018 | India | Flood | | | link | ADRC | Finish |
| ERVNMN000053 | 24/Nov/2018 | Vietnam | Typhoon | | | link | ADRC | Active |



Ongoing Activities (Disaster analysis – Forest Fire)

Forest fire in Gangwon(2019)

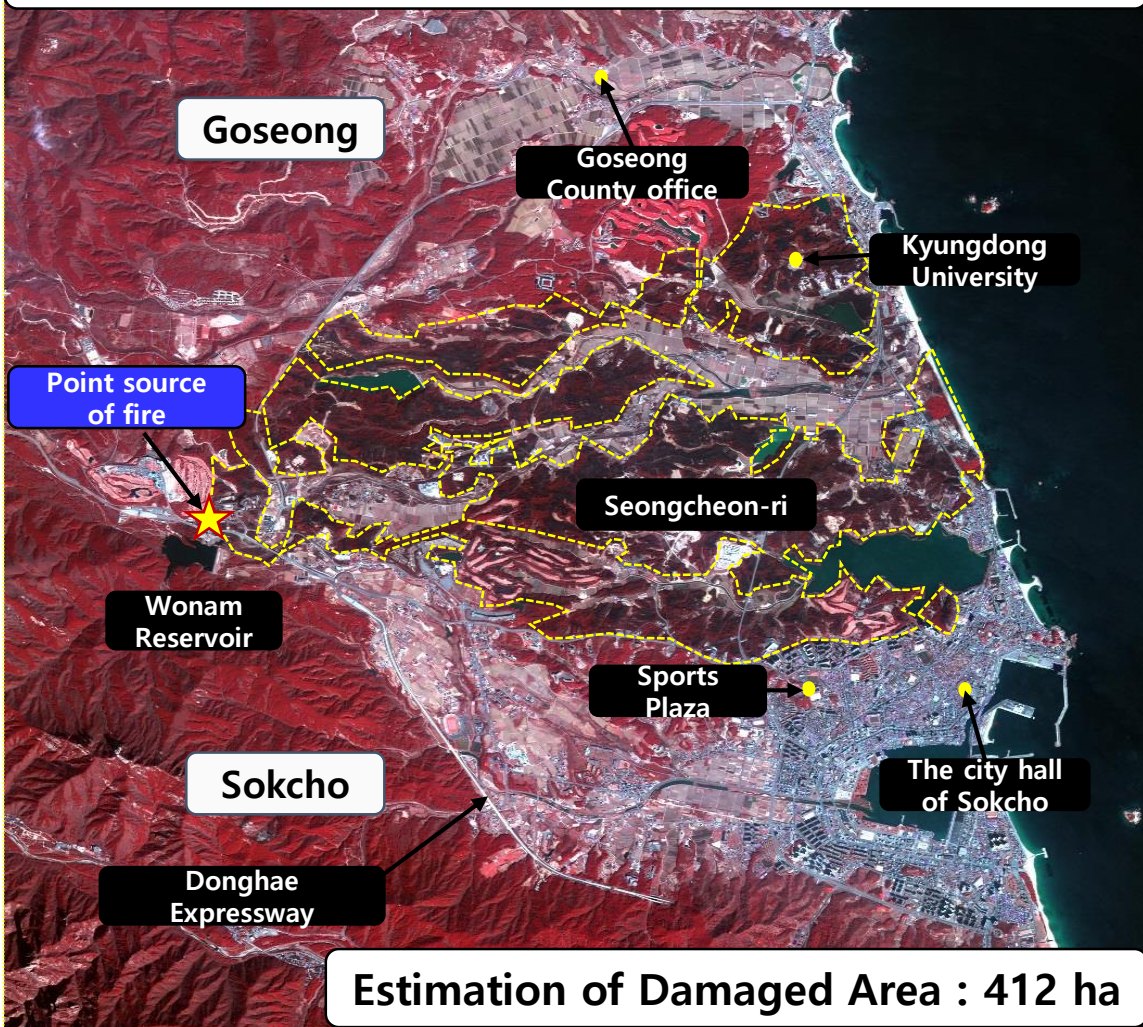
Emergency Observation Request (EOR)



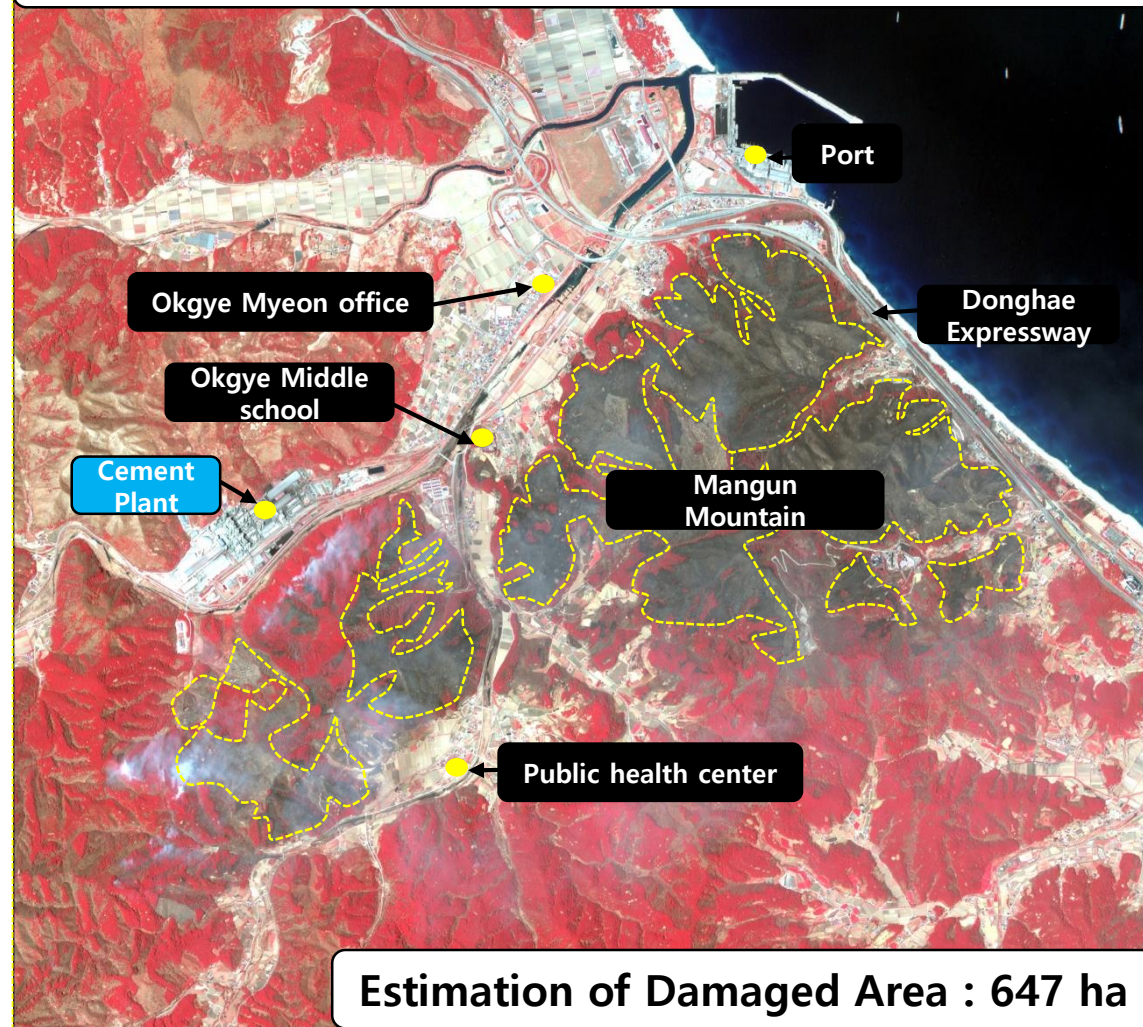


Ongoing Activities (Disaster analysis – Forest Fire)

KOMPSAT-3, 05.Apr,2019 (Goseong, Sokcho)



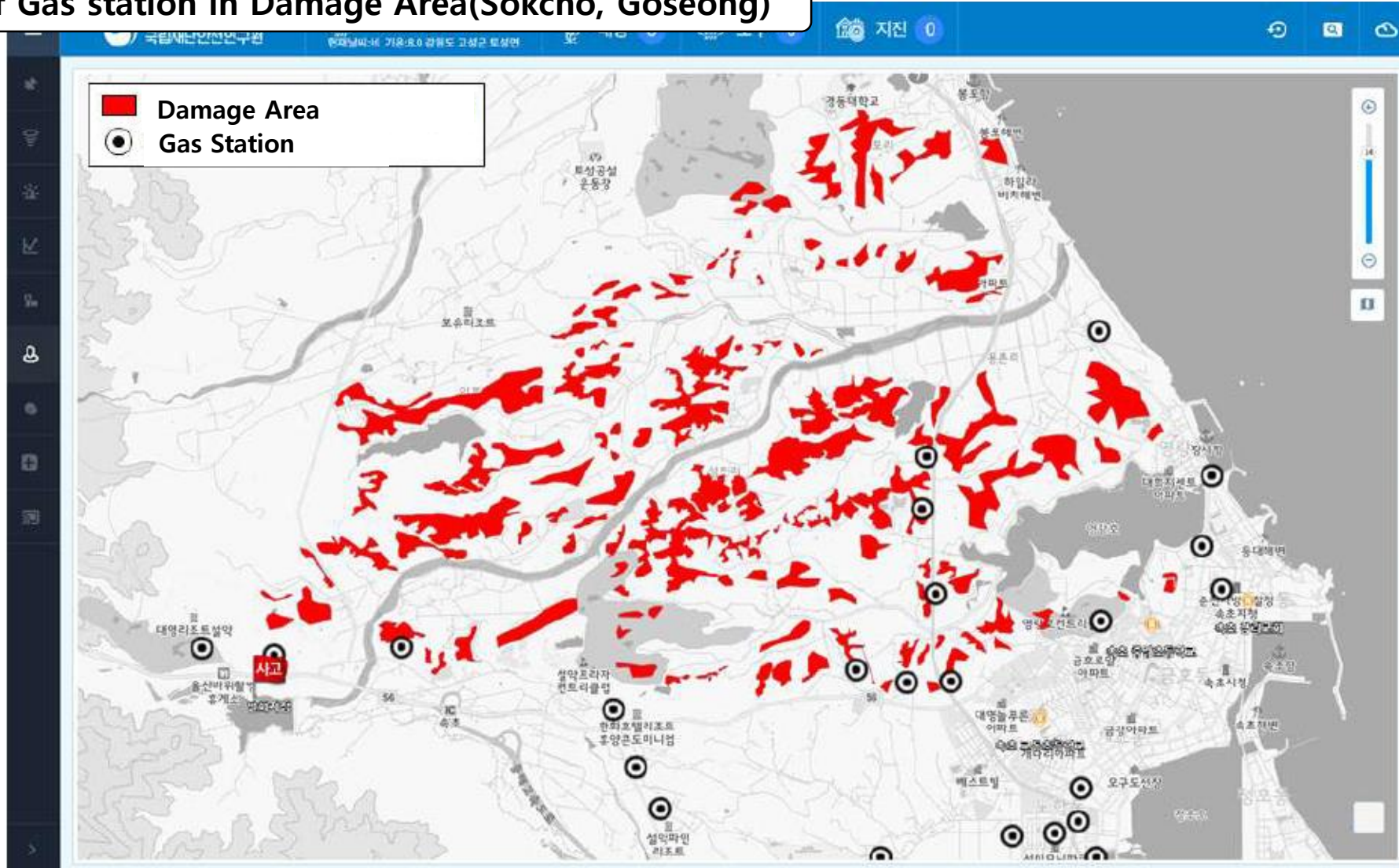
KOMPSAT-3, 05.Apr,2019 (Gangneung)





Ongoing Activities (Disaster analysis – Forest Fire)

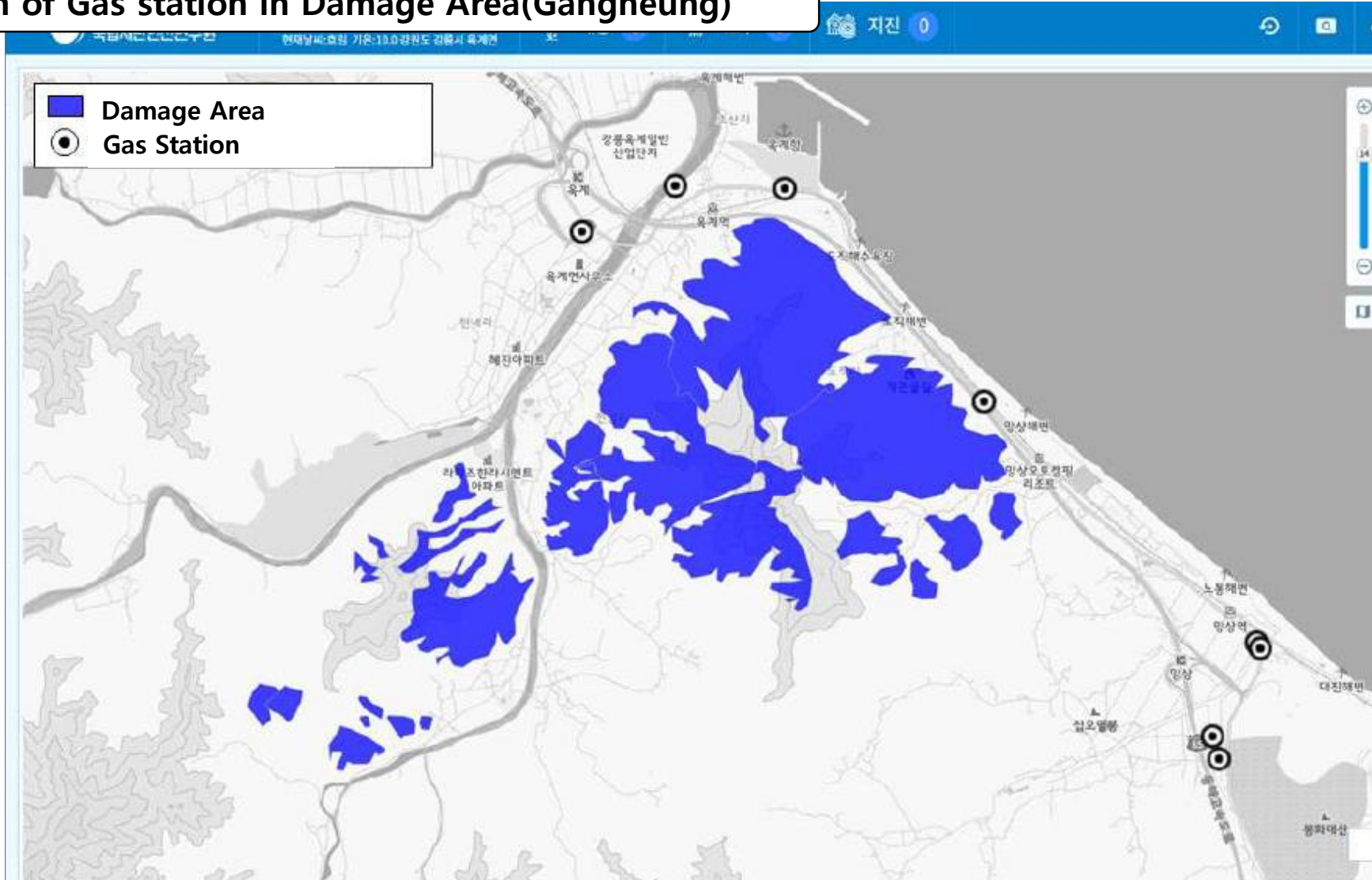
Position of Gas station in Damage Area(Sokcho, Goseong)





Ongoing Activities (Disaster analysis – Forest Fire)

Position of Gas station in Damage Area(Gangneung)



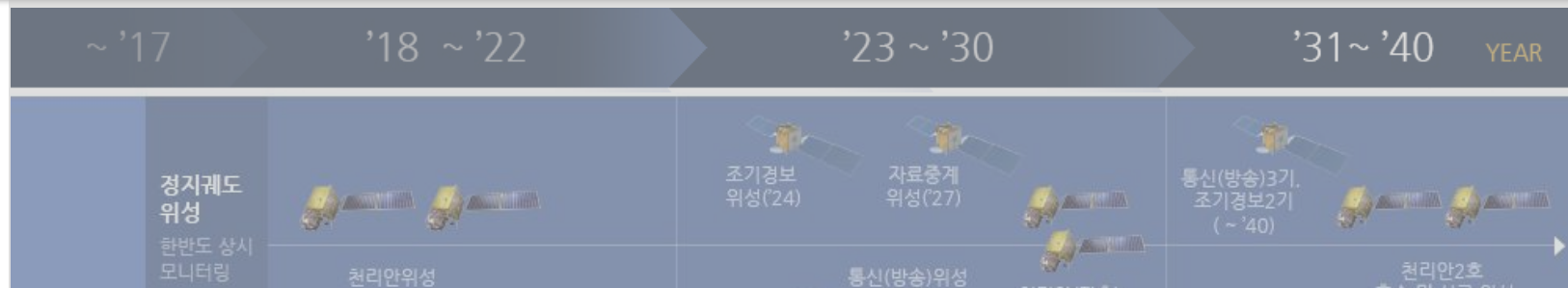


Long-term Plan for Satellite Development

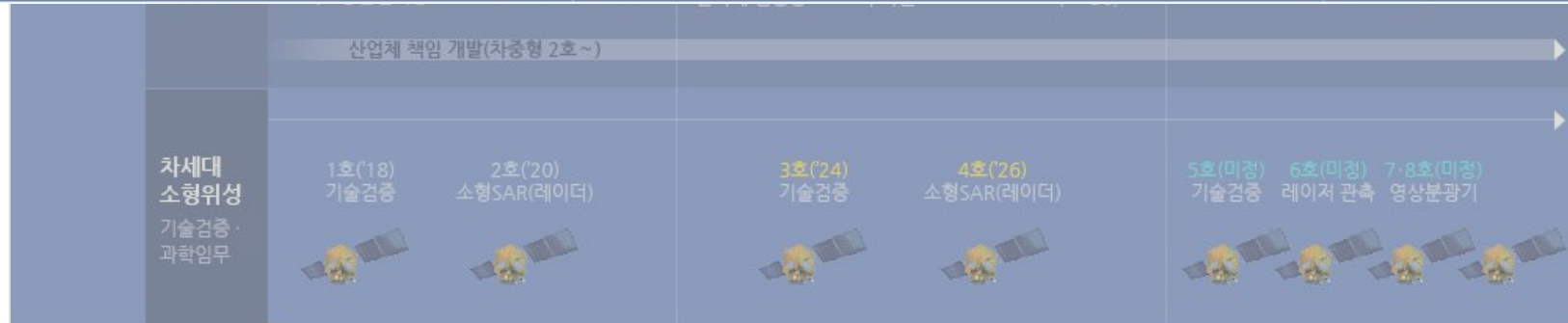




Long-term Plan for Satellite Development



Disaster response plan based satellite





Future Plans

- » **To strengthen** our international cooperation system through active involvement in different international organizations including SA and IC.
- » **To excavate and conduct** international joint research programs to share information and technology in disaster management.
 - * The NDMI holds an international disaster prevention seminar in every year
- » **To enhance** understand position of each agency in connection with various activity such as exchange program and training course.
- » **To contribute** promptly to analyzing and providing more satellite data as the data analysis node(DAN) of Sentinel Asia

Thank you for your attention!



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