Remote Sensing Data User Group

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Our Scope

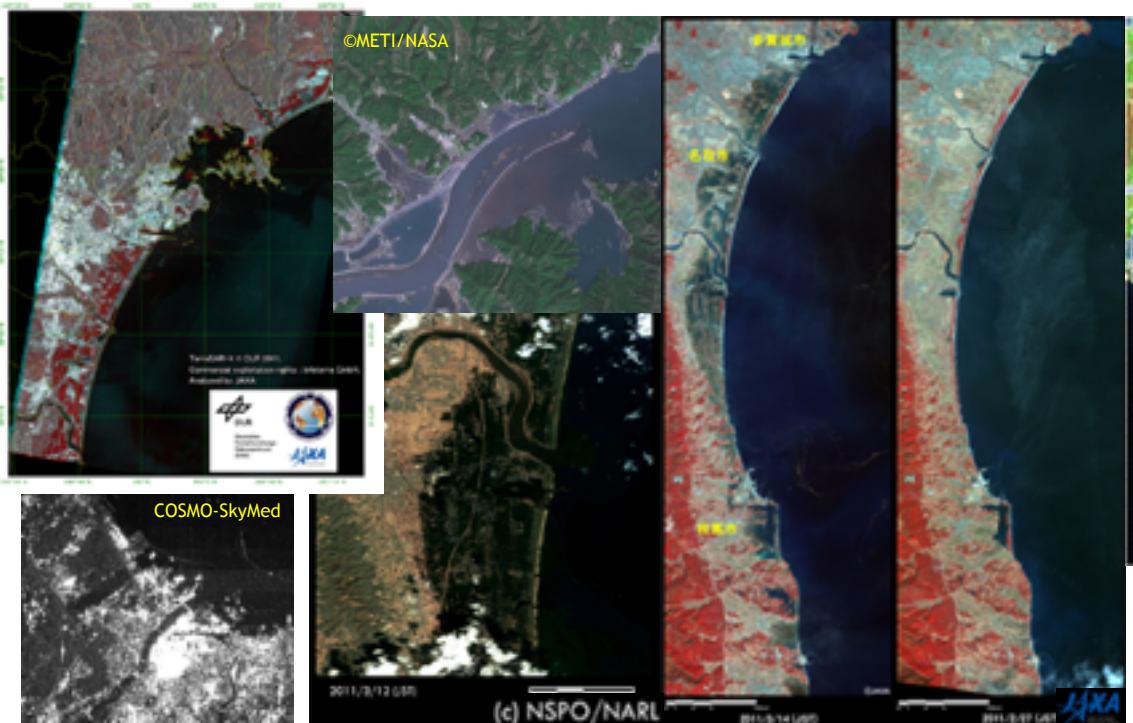
Earth remote sensing is a promising space mission that contributes to monitor disasters, environment and so on. Since most of nano-satellites carry cameras that observe earth images. Increase in nano-satellites during the last decade will enable more frequent earth observation, which has been required many **geo-spatial data** users. However, the characteristics of cameras are quite different among nano-satellites. Furthermore, geometric and radiometric calibrations are needed for data utilization.

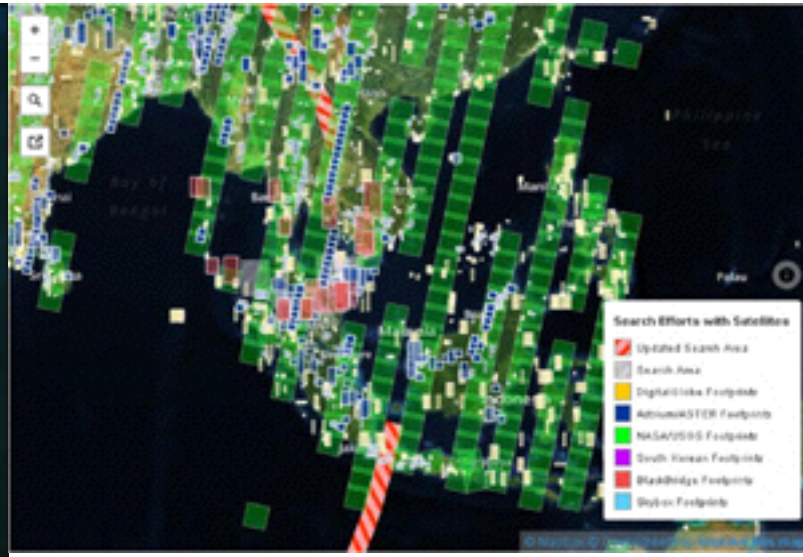
The Remote Sensing Data User Group intends to develop the methodology to use cameras on board nano-satellites for remote sensing research. Discussion of **software toolboxes** will be also carried out, which makes a way to expand data utilization of remote sensing data obtained by nano-satellites. To extend our corporation in UNISEC-Global, individual research areas and research themes are discussed.

Disaster & Accident

- About 5,000 scenes of remote sensing data are supplied for 2011 Tohoku Earthquake via the Disaster Charter, which collect the data with “Best effort”.

- Many satellite images are used to find the Malaysian airplane.





Discussion of Software

- Open Source
  - GRASS
- Free Software
  - MultiSpec (Purdue Univ.)
- Commercial Software
  - ENVI-IDL
  - Arc-GIS
  - ERDAS IMAGINE
- Made in UNISEC
  - C and C++
  - Python
  - Matlab

Discussion on Data

National & Commercial Satellites

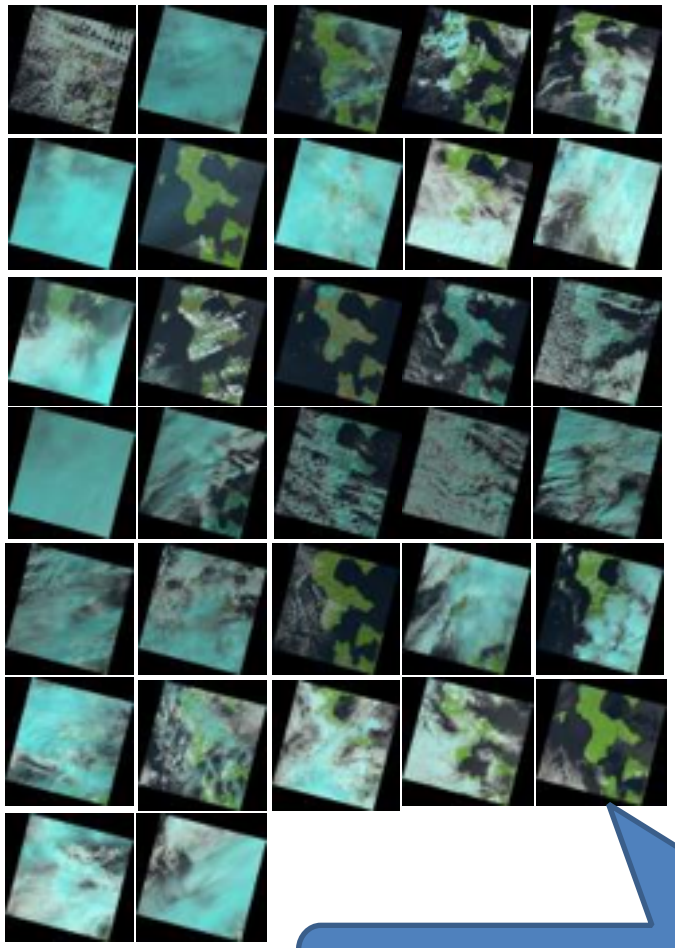
- Open and free data, such as Landsat and Sentinel.
- Any free data will do. We can share the data.
- Ask an educational program with UNISEC for commercial data.

UNISEC Satellites

- Information exchange of UNISEC satellites.
- Do not let the ground station people work so hard to acquire data. “Good effort” will do.

Landsat Data

2013/04/17-2014/10/29 (1.5 years)

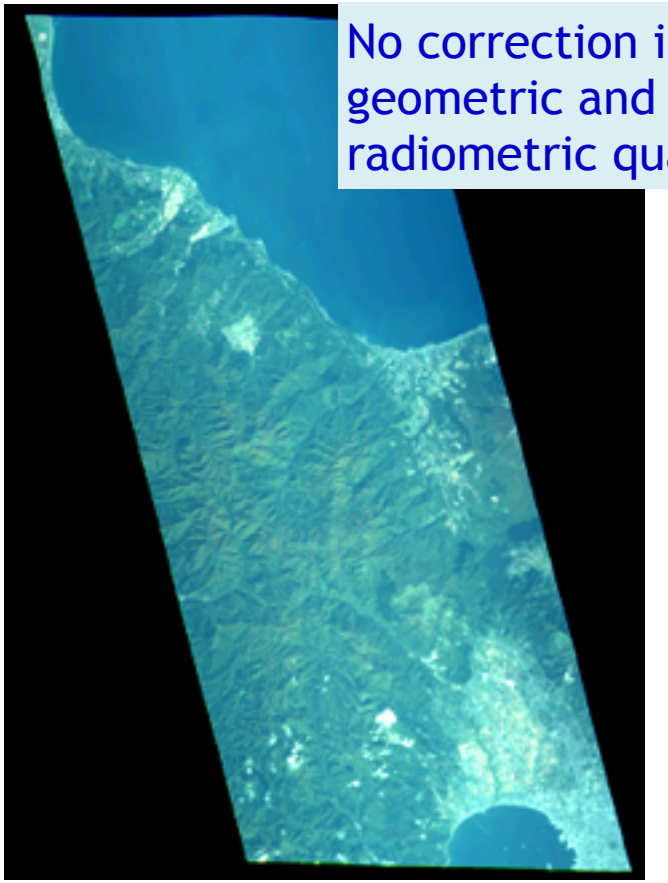


Landsat-8（USGS）

- Open & Free data
- Ortho-rectified
- Radiometrically calibrated
- Observation every 16 day
- Cloud coverage
- Spatial resolution of 30 m

Small Satellite Data

Landsat 2013/10/10　Hodoyoshi 2014/10/23



No correction in terms of geometric and radiometric quality.

Comparison of Images

Landsat 2013/10/10 Hodoyoshi 2014/10/23

3 km

Co-registered to Landsat image.

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