

## B05-O28

### WILDFIRE MONITORING UTILIZING NEW SATELLITE SENSORS

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Wild fire is not only natural disaster, but also one of massive causes of deforestation or also source of greenhouse gases. Especially in Boreal forest, wildfire burns huge area for dry weather in late spring and early summer. However, population density is limited in this area. Therefore, wildfire monitoring utilizing satellite products is quite efficient way in this region as well as tactics of fire agencies.

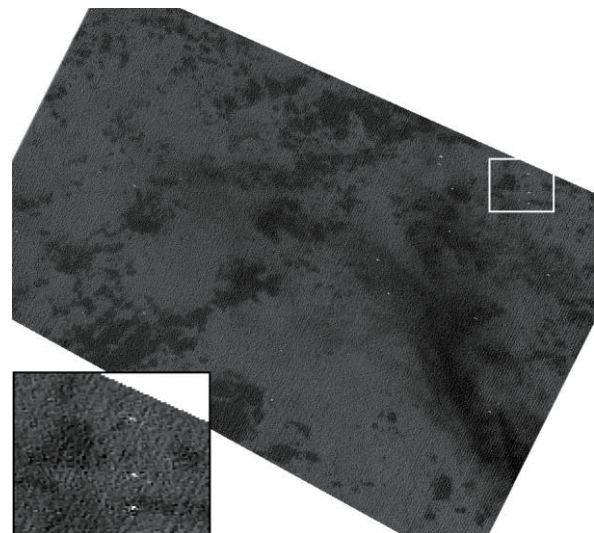
Under such situation, several mid-high resolution infrared sensors are to be launched by Japanese organizations until 2017, including two sensors (ALOS-2/CIRC\*, UNIFORM-1/BOL\*) launched on 24 May 2014. All of these sensors have resolution between 150m and 250m and are able to identify the fire location with 500m accuracy. Combining existing sensors, we can estimate fire locations almost every day in near future. This will cause drastically change will happen on the geolocation accuracy from current fire information by MODIS or VIIRS. Figure 1 shows an example of wildfire observation by CIRC. Author developed wildfire detection algorithm for CIRC only with thermal infrared imagery. As well as fire location, soil moisture contents and other satellite products are under consideration, available for fire risk estimation.

Those fire related satellite products should change fire suppression tactics drastically in near future. Toward such change of use, author is developing wildfire monitoring system including fire mapping as well as fire detection.

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#### Abbreviation

**ALOS-2:** Advanced Land Observing Satellite-2  
**CIRC:** Compact Infrared Camera  
**UNIFORM:** UNiversity International FORmation Mission  
**BOL:** microBOLometer



**Figure 1: CIRC thermal infrared image in Alaska (2014 Aug 12, latitude=62.9N Longitude: 141.0W)**