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JAXA's global environmental monitoring dataset derived from space-borne optical sensors

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Japan Aerospace Exploration Agency (JAXA) started to receive satellite data of around Japan acquired by Moderate Resolution Imaging Spectroradiometer (MODIS) onboard NASA's polar orbiting earth observing satellite, Terra and Aqua at Hatoyama receiving station since June 28, 2004. Oceanic geophysical parameters such as ocean color and aerosol optical thickness over ocean and so on have been generated from the MODIS data and opened to the public in near real-time through JAXA's web page (MODIS Near real time homepage http://kuroshio.eorc.jaxa.jp/ADEOS/mod_nrt/). New parameters, i.e., photosynthetically available radiation (PAR) and snow cover extent (SCE) of around Japan area, are started to be generated and their brows images and binary data have been distributed every half month on a JAXA's earth environmental monitoring web site (JAXA Satellite Monitoring for Environmental Studies: JASMES <http://kuroshio.eorc.jaxa.jp/JASMES/index.html>) since December 2008. In 2009 the analysis area of JASMES parameters is extended to global area using the data of 5km resolution calibrated radiance archived at NASA's ftp site and additional geophysical parameters (water stress trend (WST) and wildfire hotspots (WF)) were added. In 2010 MODIS data received at Thailand are also being introduced in the JASMES system and three geophysical parameters (normalized difference vegetation index (NDVI), chlorophyll-a (CLA), aerosol optical thickness(AOT)) are under preparation. Thus JASMES will have three analysis area (Japan, Thailand, and global) and seven geophysical parameters (PAR, SCE, WST, WF, NDVI, CLA, and AOT) in the beginning of JFY2011.

Keywords: satellite observation, optical sensor, photosynthetically available radiation, snow cover, water stress, wildfire