Environmental monitoring and disaster predicting service based on HRPT, CHRPT and MODIS satellite data

Gy. Juhász (1), G. Molnár (2,3), Cs. Ferencz (3), G. Timár (3) and B. Székely (2,3)

(1) Aeronet Engineering Consulting Ltd., Szeged, Hungary (jgyula2006@gmail.com) (2) Christian Doppler Laboratory of the Institute of Remote Sensing and Photogrammetry, Technical University of Vienna, Austria (3) Dept. of Geophysics and Space Science, Eötvös University of Budapest, Hungary (spacerg@sas.elte.hu)

The satellite receiving station of the Eötvös Loránd University, Budapest, Hungary, was upgraded to receiving the 250 m spatial resolution MODIS data in Autumn 2004. This enabled a consortium of the university and a Hungarian SME (Aeronet Ltd.) to develop an Internet-based service platform to provide the overview data of the received HRPT (NOAA), CHRPT (FengYun) and MODIS (Terra & Aqua satellites) data. Developing a new land surface temperature (LST) estimating algorithm, we are able to provide wildfire data as well as standard products, eg. vegetation indices, vegetation index time series for pre-programmed area, in this case the counties of Hungary. The system had its trial period during the extreme heat wave of July 2007 in Central Europe, providing data on the heat stress and drought hitting the agriculture. The quick fall of greenness data predicted well the increased probability of wildfires in the central part of the country. Now the system is in operating phase, providing geo-referenced overview datasets and value-added maps of the region on daily basis. The service has been developed with the financial support of grant 'GVOP-3.3.1-05/1.-2005-04-0009' and 'Hungarian Space Office TP277'.