COMPARISON OF MONTHLY MAXIMUM NDVI OBTAIED FROM TERRA/MODIS AND AQUA/MODIS OVER HIROSHIMA

Yoshinari Oguro[1], Seiji Ito[2]

[1]Hiroshima Institute of Technology (HIT),

2-1-1 Miyake, Saeki-ku, Hiroshima 731-5193 Japan, y.oguro.yx@it-hiroshima.ac.jp

[2]Hiroshima Institute of Technology (HIT),

2-1-1 Miyake, Saeki-ku, Hiroshima 731-5193 Japan, s.itoh.us@it-hiroshima.ac.jp

Abstract: First, we collected three kind of the spatial resolution of MODIS Level 1B data (1KM, HKM, QKM) of all the Terra satellite and the Aqua satellite which observed over the Hiroshima Prefecture of Japan for three years from January 1, 2010 to December 31, 2012. Next, we generated the satellite imagery data sets for the three years using these data. Finally, we investigated a transition of the monthly maximum NDVI over Itsukushima located in the northwest of Hiroshima Bay as a vegetation area from the generated data sets. Here, the differences of daily earth-sun distance and the differences in solar zenith angle between the morning observation of Terra/MODIS and the afternoon observation of Aqua/MODIS can be disregarded, since the formula of NDVI is defined by the ratios of objective's reflectance.

As a result, the monthly maximum NDVIs went up approximately 0.02 each data set in order of 1KM, HKM, and QKM, and the difference among the three NDVIs was approximately 0.04. Moreover, the annual mean values of the monthly maximum NDVIs in 2010 is the highest of the three years from 2010 to 2012, although it was the almost same values in 2011 and 2012. This result was in agreement with the daylight-hours data of Hiroshima city. Further, NDVI of Terra/MODIS of morning observation was higher approximately 0.01 than the values of Aqua/MODIS of afternoon observation.

Keyword : Monthly NDVI, Morning Path, Afternoon Path, Three Years Data Set

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Lalitya Narieswari[1], Dadan Ramdani[2], ….

[1]Geospatial Information Agency (BIG),

Jl. Raya Jakarta-Bogor Km. 46, Cibinong, Bogor, lalitya_naries@bakosurtanal.go.id

[2]Institut Tekhnologi Bandung (ITB),

Jl. Ganesha 10, Bandung 40132 Indonesia, dadanramdani@students.itb.ac.id

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Keyword : (5 Words Maximum)