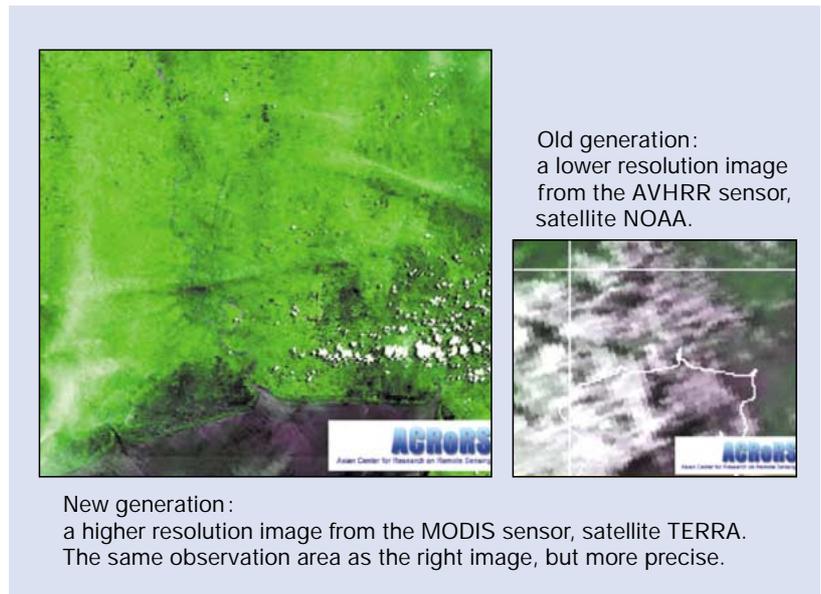


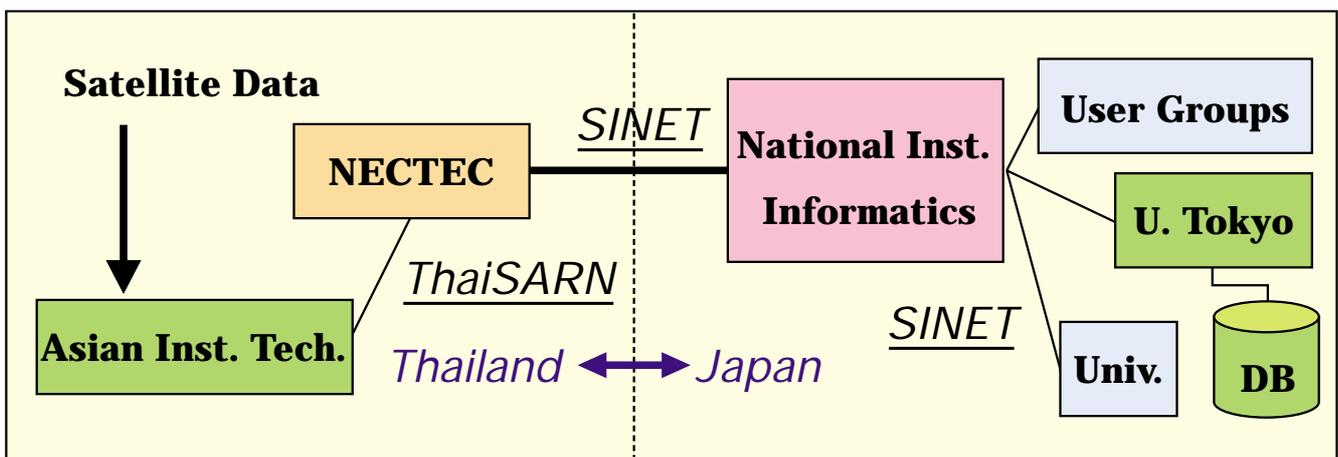
Near Real-Time International Sharing of Remote Sensing Data on the Internet

Recent advances in remote sensing toward (1) higher resolution, (2) more spectral bands and (3) higher temporal frequency, have increased the amount of satellite data. We receive to cope with ever increasing amount of satellite data, challenging research topics include the archival of data, the sharing of data among people, and the extraction of useful information from data. In this short article, we address the issue of sharing remote sensing data on the Internet for the near real-time monitoring of earth environment.

Toward this goal, we, National Institute of Informatics (NII), formed a research group that consists of researchers in Japan and Thailand, in which core members are from Institute of Industrial Science, University of Tokyo, and Asian Center for Research on Remote Sensing (ACRoRS), Asian Institute of Technology (AIT). The idea is to build an international network infrastructure for



sharing satellite data, as illustrated in the schematic diagram below. On this network, Japanese and Thai researchers have started to share MODIS data from TERRA satellite as shown above, and other environmental satellite data such as NOAA AVHRR data.



The important component of this network is the SINET international link between Japan and Thailand. This link has been connecting NII and NECTEC (Thailand) since 1994 for promoting the exchange of academic information between both countries. By connecting this international link to domestic academic networks (SINET / ThaiSARN), satellite data is now being exchanged between Japanese and Thai researchers just after the reception of data from satellites. Thus the sharing of satellite data on the Internet has significantly

improved the extent and agility of environmental research in both countries.

NII is involved in this project with research interests in the application of network, image processing, and data mining research to real-world problems. Those research areas are of fundamental importance in the informatics community, and we believe the sharing and information extraction of environmental data is one of the key applications for the informatics community to apply state-of-the-art ideas and to contribute to the society.

Research & Education

On the other hand, other members, University of Tokyo and ACRORS, have started a WWW-based service to deliver satellite data to the general public, with the future plan of extending the service to various real-world monitoring purposes such as forest fire detection, flood monitoring, earthquake/volcano monitoring, agricultural crop

estimation, and land-use monitoring. Since those monitoring applications are closely tied to social issues, the development of an easy-to-use interface for non-experts is another important research topic to improve accessibility to the data.

*(Asanobu Kitamoto, Research Associate, □
Research Center for Testbeds and Prototyping)*