

## Development of a educational material with remote sensing data

# Hidetoshi Miura[1], Shinzi Huzikawa[1], Soichiro Tanaka[1], Kazuhiro Yamamoto[2], Yasushi Arakawa[2]

[1] Dowa Engineering CO., LTD., [2] ERSDAC

<http://www.dec.co.jp/>

### 1. Introduction

The Sougou Gakushu (Period of Integrated Study) class has recently started in the curriculum of elementary school through high school. Responding to this system, motivational discussions have been going among the educators, and various teaching programs have been proposed. However, the actual situation is that most of educators feel difficulty in struggling and producing the contents for Sougou Gakushu. In this study, a set of educational material, including application software and booklets, has been developed cooperated with Natural History Museum and Institute, Chiba, with involving the opinions from education related professionals, and also examined on promotional strategy in the educational market.

### 2. Remote sensing application

The developed educational material consists of image processing software, satellite image collection book, and text book. The image processing software composed of View-image function and Process-image function, and equips JPG and TIFF output function, so that learner can operate at their skill level, and output their processed image for presentation study.

The image collection book composed of Remote Sensing no shikumi (How remote sensing work?) and Eisei Gazou no Shokai (Satellite image gallery) for the learner's fundamental understanding and introducing how satellite can capture the industry, nature, and environment on the ground.

The text book, which provides educator the software instruction and recommendation for usage in lecture, composed of Explanation, Image introduction, Exercise, Recommendation, and Others.

### 3. Verification

Several experimental lectures in middle school and high school, and questionnaires to teachers regarding science and social study have held in January to February, 2003 respectively. Status in those remote sensing data usage in classes and computer equipment, reaction from the students, and comments to the developed application have collected according to these result.

### 4. Training course for educators.

A course for training on developed software and text book has held to staffs of museum and educators regarding science and social study, which is also planned to be held in next year.

### 5. Summary

In this study, a set of remote sensing application has developed as a practical model for applying satellite data for education. Since the application has developed as a proto-type to build up the basic concept, the contents has focused only to the industry, natural and environment of Chiba prefecture, however, it could be possible to keep up with another prefecture/region if the contents are exchanged to them.

From now on, the review and modification of the application should be necessary based on the results from experimental lecture and questionnaire, and training course for educators and some tool development for inexperienced educators are also necessary. Addition to above, web-site which can accept question or data order should be regarded in order to put this business into action.