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Afforestation Business Model Using Satellite Data Selected for Japan Aerospace Exploration Agency “Space Open Lab”

Sumitomo Forestry Co. Ltd. (Ryu Yano, President; head office: Chiyoda-ku, Tokyo) has been examining novel afforestation business models to respond to the global-scale environmental issue of global warming, and to contribute to local communities and industries which require timber resources.

Sumitomo Forestry is now pursuing a new satellite-based afforestation business model which will utilize data from Earth observation satellites. This unprecedented approach is expected to fundamentally resolve various problems which presently challenge afforestation works. The Japan Aerospace Exploration Agency (JAXA)*¹ has selected “Development of an Afforestation Business Model for Developing Nations Using Satellite Data”—which Sumitomo Forestry jointly proposed with Hiroshima Institute of Technology—under the JAXA FY 2008 first round Space Open Lab projects organized by the Space Open Lab Secretariat in the Industrial Collaboration Department. Under this program, Sumitomo Forestry is working toward establishing satellite-based afforestation technologies.

1. Need for Development of a New Afforestation Business Model

There are growing calls for advancing afforestation activities in developing nations which have suffered severe deforestation. However, developing nations have not compiled comprehensive environmental data on topography, vegetation, soil, weather and land use, and because newly collecting such data would require vast amounts of time and labor, large-scale land use plans (for example, plans covering areas as large as Tokyo Prefecture) presently cannot be prepared with an accurate overview of the overall conditions.

Moreover, even though there are a large number of companies throughout the world that are eager to carry out afforestation projects in developing nations, such projects are abandoned in some cases because of the huge expenditures of time, money and labor required for site surveys and other tasks.

Afforestation projects fail when they are implemented without sufficient site surveys, and in the worst cases inappropriate afforestation may induce environmental destruction.

The satellite afforestation business model seeks to resolve these issues. If the topography, vegetation, soil, weather and land use patterns of large areas slated for afforestation can be objectively evaluated with a high level of accuracy, it may become possible to realize afforestation projects with minimal environmental impact.

2. Expected Effects from Developing the Satellite Afforestation Business Model

In the environmental field, the satellite afforestation business model should deter tropical forest reduction and check global warming. Socially, the model should contribute to regional economies, especially in developing nations, with the creation of new employment accompanying the expansion of appropriate afforestation projects. Highly accurate afforestation planning is also expected to reduce environmental impact. The model will contribute to industry by providing a stable supply of plantation timber without destroying natural forests, amid keen concerns that timber resources are being depleted. The model should also play a major role in the implementation and monitoring of Clean Development Mechanism (CDM)*² afforestation projects, which are presently attracting a great deal of attention.

***1. Japan Aerospace Exploration Agency (JAXA)**

The Japan Aerospace Exploration Agency (JAXA) is Japan's only space development and research organ. JAXA was established in October 2003 through the merger of the Institute of Space and Astronautical Science (ISAS), the National Aerospace Laboratory (NAL), and the National Space Development Agency of Japan (NASDA).

***2. Clean Development Mechanism (CDM)**

The Clean Development Mechanism (CDM) is a system allowing industrialized nations to provide funds and technologies for projects that reduce emissions in developing nations in exchange for emissions rights determined according to reductions.

3. Schedule

Sumitomo Forestry will work toward establishing the satellite afforestation business model by first verifying its effectiveness as an afforestation project development assistance tool. Sumitomo Forestry will start by adopting several afforestation areas in Indonesia where it plans to carry out afforestation as models and using these to confirm the accuracy and reliability of satellite data based estimation methods.

[Reference]

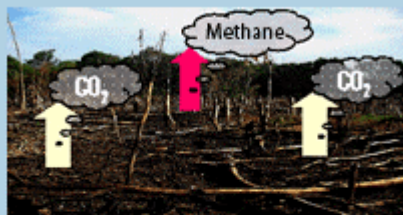
Japan Aerospace Exploration Agency Press Release (March 26, 2008)

FY 2008 First Round Space Open Lab Projects



Joint Research Proposal: "Development of an Afforestation Business Model for Developing Nations Using Satellite Data"

Peat Bog



Afforestation

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Outline

Promoting afforestation activities is important as a means to absorb the great volume of carbon dioxide released into the atmosphere from deforestation. The use of satellite data for afforestation is desirable because the afforestation areas are huge and the required environmental data is insufficient.

This project examines and verifies the utility of methods analyzing various types of environmental data (peat soil, tree crown diameter, tree height, topography, etc.) based on data from Earth observation satellites, toward developing an afforestation business model using satellite data.