



TRAINING AND DIALOGUE PROGRAMS

GENERAL INFORMATION ON

**Satellite Remote Sensing Data Analysis Technology for
Disaster/Environmental Monitoring**
災害・環境監視のための衛星リモートセンシングデータ解析技術
JFY 2010

<Type: Trainers Training / 類型 : 人材育成普及型>

NO. J10-00636 / ID. 1080068

From June to December 2010

Phases in Japan: From August 3, 2010 to September 11, 2010

This information pertains to one of the Training and Dialogue Programs of the Japan International Cooperation Agency (JICA), which shall be implemented as part of the Official Development Assistance of the Government of Japan based on bilateral agreement between both Governments.

I. Concept

Background

In Asian and other developing countries disasters occur frequently and damages caused by such disaster tend to increase, hence, supports for measures against disaster damages are needed. In addition, environment disruption caused by a rapid industrialization and urbanization have become a severe problem and environment conservation has emerged as an important issue. In 2004, a strategy for the encouragement of the earth observation had been adopted by the Council for Science and Technology Policy (CSTP) and “The 10-Year Implementation Plan for The Global Earth Observation System of Systems (GEOSS)” was adopted in the third Earth Observation Summit in 2005. The government of Japan intends to make positive contribution for GEOSS in three fields: global warming and carbon cycling changes, climate and water circulation changes, and disaster. Human resource development for developing countries is one of the fundamental strategies regarding earth observation.

Images remotely sensed by earth observation satellites describe real states of the earth surface irrespective of national borders, and those play an important role in grasping the whole picture for disaster management and environment conservation, measures for the future, and reconstruction planning. In the areas where clouds tend to cover the land surfaces throughout a year, an optical sensor merely acquire land surface images. Whereas, by utilizing the Synthetic Aperture Radar (SAR), land surface data can be acquired regardless of weather and sunlight conditions. By analyzing SAR data, disaster/environment damages can be understood widely and the results of analysis will be important information for planning measures against disaster.

In this program, the participants will acquire necessary skills for SAR data analysis and become able to provide precious information for disaster management and problems of environment-related organizations, and as a result, the participants can contribute to environment/disaster monitoring.

For what?

This program aims for remote sensing experts from disaster/environment-related agencies of Asian and other developing countries to improve Synthetic Aperture Radar (SAR) and other data analysis capability.

For whom?

This program is offered to organizations responsible for remote sensing data analysis related to disaster/environmental monitoring in hopes of improving remote sensing data analysis, especially SAR technology. And it is desirable that the organizations are prepared or planning systems and working environments to propagate and make use of the learned techniques.

How?

1. Nominees should submit required documents as screening criteria for the selection of participants.
2. Selected participants shall have opportunities to learn technologies to analyze SAR data and other remote sensing data as a tool leading to solutions for disaster/environmental problems, through lectures and various kinds of hands on training. At the end of the Core Phase in Japan, participants will practice digital image analysis based on their selected topics using learned technologies and make output presentations.
3. After participants go back to his/her home countries, participating organizations are required to submit their respective outputs to JICA.

II. Description

1. Title (J-No.): Satellite Remote Sensing Data Analysis Technology for Disaster/Environmental Monitoring (J10-00636)

2. Period of program

Duration of whole program: June to December 2010

Preliminary Phase: June to August 2010

(in a participant's home country)

Core Phase in Japan: August 3 to September 11, 2010

Finalization Phase: September to December 2010

(in a participant's home country)

3. Target Countries

Argentina, Bhutan, Brazil, Cambodia, India, Indonesia, Malaysia, Pakistan, Sri Lanka, Thailand

4. Program Objective

This program enables technicians and researchers to analyze SAR and other remote sensing data as a tool leading to solutions for disaster/environmental problem in their respective countries.

5. Overall Goal

The participating organizations can analyze remote sensing data by themselves, and results of analysis will be utilized as a tool leading to solutions for disaster/environmental problem in their respective countries.

6. Output

To achieve the above Program Objective, participants are expected;

- 1) To be able to explain the principle and analysis method of SAR and other data,
- 2) To be able to carry out basic and advanced processing of SAR data,
- 3) To be able to apply SAR and other data to disaster/environmental monitoring and integrate the data into map information, and
- 4) To be able to make case study analysis and report the result by using SAR and other data.

7. Eligible / Target Organization

This program is designed for Governmental organizations hoping for disaster/environment monitoring by means of improving remote sensing data analysis, especially SAR technology. And it is desirable that the organizations are prepared or planning systems and working environments that facilitate propagation and utilization of learned techniques.

8. Total Number of Participants: 10

9. Language to be used in this program: English

10. Contents

This program consists of the following components. Details on each component are given below:

| Preliminary Phase in a participant's home country | |
|---|--|
| June 2010 to August 2010 | |
| <i>Selected participants make required preparation for the Program in the respective countries.</i> | |
| Modules | Activities |
| 1) Self study 2) Preparation for Presentation about Questionnaire (area of his/her interest)* | 1) The participants are requested to understand and practice how to use following free software. <ul style="list-style-type: none">• Google Earth http://earth.google.com/• QGIS(Quantum GIS) http://qgis.org/• PolsarPRO http://earth.esa.int/polsarpro/install.html• ASF Mapready http://www.asf.alaska.edu/reference/howtoinstallmapready• MultiSPEC |

| | |
|--|--|
| | <p>http://cobweb.ecn.purdue.edu/~biehl/MultiSpec/Index.html</p> <p>2) Each participant is requested to prepare his/her presentation material for Presentation in Power Point.</p> |
|--|--|

* Questionnaire (area of his/her interest): See ANNEX 2 “Questionnaire”

| Core Phase in Japan | | |
|--|---|--------------|
| August 3, 2010 to September 11, 2010 | | |
| <i>Participants dispatched by the organizations attend the Program implemented in Japan.</i> | | |
| Unit | Contents | Hours |
| Presentation about Questionnaire(area of his/her interest) | - Share present situation and respective issues | 2.5 |
| Principles and analysis method of SAR and other data | - Introduction to remote sensing | 1.5 |
| | - ALOS system -Bus, Sensor | 2.5 |
| | - Case study for disaster/environmental monitoring(SAR&Optical) | 2.5 |
| | - ALOS data product | 1.0 |
| | - ALOS data search | 1.5 |
| | - Methodology consultation and discussion for participant's Case study analysis | 2.5 |
| | - Principle of SAR | 2.5 |
| | - Principle of SAR data correction | 2.5 |
| Basic and advanced processing of SAR data | - Principle of interferometric SAR (InSAR) | 2.5 |
| | - Principle of polarimetric SAR (PolSAR) | 2.5 |
| | - SAR image interpretation | 20.0 |
| | - Radiometric correction, Geometric correction | |
| | - Image processing from raw data | |
| - InSAR analysis | | |
| - PolSAR analysis | | |
| Site Visit | - Earth Observation Center (EOC) or Earth Observation Research Center (EORC), Japan Aerospace Exploration Agency (JAXA) | 5.0 |
| | - | |
| Integration of disaster/environmental | - Analysis of SAR and optical data for disaster & environment monitoring | 20.0 |

| | | |
|--|--|------|
| SAR and other data into geographic information | - Integrated use of the analysis result and map information | |
| | - Applied analysis of SAR and other data for disaster & environmental monitoring (Flood, Landslide, Earthquake, Volcano and Forestry) - Integrated use of the analysis result and map information | 20.0 |
| Output Presentation by using SAR and other data analysis | - Case study analysis with respective countries' data | 20.0 |
| | - Presentation and discussion | 5.0 |

NOTE: The above contents are subject to minor changes, if necessary
For more details, please see the following curriculum.

Satellite Remote Sensing Data Analysis Technology for Disaster/Environmental Monitoring in JFY2010

| Lec=Lecture Prc=Practice | | 9-Aug | 10-Aug | 11-Aug | 12-Aug | 13-Aug | 16-Aug | 17-Aug | 18-Aug | 19-Aug |
|--------------------------|-------------------------------------|---|---|--|--|------------------|---------------------------------------|------------------------------------|--------------------------------|--------------------------------|
| Output | | To be able to explain the principle and analysis method of SAR and other data SAR & Optical | | | | | | | | |
| Data | | To be able to carry out basic and advanced processing of SAR SAR | | | | | | | | |
| AM | Lec: Introduction to remote sensing | Lec: Case study for disaster/ environmental monitoring (SAR&Opt) | Lec: ALOS data product for participants' case study analysis | Lec: SAR remote sensing -Principle and applications- | Lec: SAR remote sensing -Principle and applications- | Palsar Processor | Lec: Principle of Interferometric SAR | Lec: Principle of Polarimetric SAR | | |
| PM | Lec: ALOS system (Bus, Sensor) | Presentation about area of interest (by participants) | Methodology consultation and discussion for participants' case study analysis | Lec: Radiometric & Geometric correction of PALSAR data | Prc: Analysis of PALSAR level 1.0 & 1.5 data | Palsar Fringe | Prc: Interferometric SAR Analysis | Prc: Interferometric SAR analysis | Prc: Polarimetric SAR analysis | Prc: Polarimetric SAR analysis |
| Place | | | | | | RESTEC | Photoshop & Open source RS software | PolSAR Pro | | |

Arrowed line shows softwares used in lecture/practice

| Lec=Lecture Prc=Practice | | 20-Aug | 23-Aug | 24-Aug | 25-Aug | 26-Aug | 27-Aug | 28-Aug | 30-Aug | 31-Aug |
|--------------------------|--|---|---|---|---|---|--------------------------------------|---------------|---|--|
| Output | | To be able to apply SAR and other data to disaster/environmental monitoring and integrate the data into map information | | | | | | | | |
| Data | | To be able to apply SAR and other data to disaster/environmental monitoring and integrate the data into map information | | | | | | | | |
| AM | Site Visit Earth Observation Research Center (EORC) or Earth Observation Center (EOC), Japan Aerospace Exploration Agency (JAXA) | Lec: Analysis of SAR and optical data for Agriculture | Lec: Analysis of SAR and optical data for Agriculture | Lec: Analysis of SAR and optical data for Agriculture | Lec: Analysis of SAR and optical data for disaster/environmental monitoring | Lec: Analysis of SAR and optical data for disaster/environmental monitoring | Field survey for disaster monitoring | Move to Tokyo | Lec: Analysis of SAR data for Flood and Landslide | Lec: Analysis of SAR data for Forestry |
| PM | | Prc: Analysis of SAR and optical data for Agriculture & Integrated use of the analysis result and map information | Prc: Analysis of SAR and optical data for Agriculture & Integrated use of the analysis result and map information | Prc: Analysis of SAR and optical data for Agriculture & Integrated use of the analysis result and map information | Prc: Analysis of SAR and optical data for disaster/environmental monitoring | Prc: Analysis of SAR and optical data for disaster/environmental monitoring | | | Prc: Analysis of SAR data for Flood and Landslide & Integrated use of the analysis result and map information | Prc: Analysis of SAR data for Forestry |
| Place | JAXA | | Hiroshima Institute of Technology | | | | | | | RESTEC |

| Lec=Lecture Prc=Practice | | 1-Sep | 2-Sep | 3-Sep | 6-Sep | 7-Sep | 8-Sep | 9-Sep | 10-Sep |
|--------------------------|---|--|--|--|--|--|--|--|--|
| Output | | To be able to make case study analysis and report the result SAR | | | | | | | |
| Data | | To be able to make case study analysis and report the result SAR | | | | | | | |
| AM | Lec: Analysis of SAR data for Volcano | Lec: Analysis of SAR data for Earthquake | Lec: Analysis of SAR data for Earthquake | Lec: Analysis of SAR data for Earthquake | Lec: Analysis of SAR data for Earthquake | Lec: Analysis of SAR data for Earthquake | Lec: Analysis of SAR data for Earthquake | Lec: Analysis of SAR data for Earthquake | Lec: Analysis of SAR data for Earthquake |
| PM | Prc: Analysis of SAR data for Volcano & Integrated use of the analysis result and map information | Prc: Analysis of SAR data for Earthquake | Prc: Analysis of SAR data for Earthquake | Prc: Case study analysis with respective countries' data | Prc: Case study analysis with respective countries' data | Prc: Case study analysis with respective countries' data | Prc: Case study analysis with respective countries' data | Prc: Case study analysis with respective countries' data | Prc: Case study analysis with respective countries' data |
| Place | | | | RESTEC | RESTEC | RESTEC | RESTEC | RESTEC | JICA |

Aug 9-12, 16am, 18am...Contents for Output 1
 Aug 13-19(except 16am, 18am)...Contents for Output 2
 Aug 20 to Sep 2...Contents for Output 3
 Sep 3-9...Contents for Output 4
 * including Google Earth & Open source GIS software

| Finalization Phase in a participant's home country | |
|---|--|
| September 2010 to December 2010 | |
| <i>Participants disseminate their case study analysis to the related organizations and make teaching materials.</i> | |
| Modules | Activities |
| <u>Participant</u> 1) Presentation of his/her output 2) Report how to use output to JICA Tokyo. | 1) Each participant is required to make an output presentation in his/her organization. 2) Each participant is required to report how to use output by 30th November, 2010. |

III. Conditions and Procedures for Application

1. Expectations for the Participating Organizations

- (1) This program is designed primarily for organizations that intend to address specific issues or problems identified in their operation. Participating organizations are expected to use this program for those specific purposes.
- (2) This program is enriched with contents and facilitation schemes specially developed in collaboration with relevant prominent organizations in Japan. These special features enable the program to meet specific requirements of applying organizations and effectively facilitate them toward solutions for the issues and problems.
- (3) As this program is designed to facilitate organizations to come up with concrete solutions for their issues, participating organizations are expected to ensure enough time for the participants to carry out the activities of the Preliminary Phase described in section II-10.
- (4) Participating organizations are also expected to make the best use of the results achieved by their participants in Japan by carrying out the activities of the Finalization Phase described in section II-10.

2. Nominee Qualifications

Applying Organizations are expected to adequately select nominees. Nominees must;

- (1) be university graduates, or the equivalent with a fundamental knowledge of physics and mathematics,
- (2) be technicians or researchers in the field of remote sensing, associated with organizations of disaster/environmental management,
- (3) have more than three (3) years experiences in optical digital data/image analysis,

- but have little experience in SAR digital data/image analysis,
- (4) be under forty (40) years of age in principle,
 - (5) have a good command of English in speaking and writing, (Note: When the evidence of language proficiency tested by a registered body is presented, the applicant would be prioritized against others)
 - (6) must be in good health, both physically and mentally, to participate in the Program in Japan. There is higher risk for pregnant women and people with chronic diseases to cause serious medical consequences when infected with the new Influenza A (H1N1) virus according to the past cases. Under the pandemic situations of the new Influenza, pregnant applicants shall not be accepted for the time being. And applicants who suffer from chronic diseases, such as respiratory illness, cardiac disease, metabolic disease (diabetes, etc), renal dysfunction and immune insufficiency (systemic steroid administration, etc), shall not be accepted in principle. However, for those applicants with the chronic diseases, if they and their organizations express strong interest in participating in training programs, JICA shall accept them as an exceptional case after receiving a letter of consent from themselves and their organizations. Please ask national staffs in JICA office for the details.
 - (7) not be serving in any form of military service.

3. Required Documents for Application

(1) Application Form

The Application Form is available at the respective countries' JICA offices or the Embassies of Japan.

(2) Supplement to Application Form (Annex 1)

(3) Questionnaire (Annex 2)

Each nominee is required to submit Supplement to Application Form and Questionnaire pursuant to the format/contents indicated in the Annex 1 and 2 respectively.

(4) Nominee's English Score Sheet

If nominees have any official documentation of English ability (e.g., TOEFL, TOEIC, IELTS), please attach it (or a copy) to the Application Form.

NOTE: As "Supplement to Application Form (Annex 1)" and "Questionnaire (Annex 2)" are important references for screening of nominees, application without submission of Annex 1 and 2 will not be duly considered as qualified.

4. Procedure for Application and Selection

(1) Submitting the Application Documents:

Closing date for application to the JICA Tokyo International Center in JAPAN, the organizer of this program: **June 24, 2010**

Note: Please confirm the closing date set by the respective countries' JICA offices or Embassies of Japan of your country to meet the final date in Japan.

(2) Selection

After receiving the document(s) through due administrative procedures in the respective governments, the respective countries' JICA offices (or Embassies of Japan) shall conduct screenings, and send the documents to the JICA Tokyo International Center. Selection shall be made by the JICA Tokyo International Center in consultation with the organizations concerned in Japan based on submitted documents according to qualifications.

The organization with intention to utilize the opportunity of this program will be highly valued in the selection.

(3) Notice of Acceptance

Notification of results shall be made by the respective countries' JICA offices (or Embassies of Japan) to the respective Governments by **not later than July 2, 2010.**

5. Conditions for Attendance:

- (1) to observe the schedule of the program,
- (2) not to change the program subjects or extend the period of stay in Japan,
- (3) not to bring any members of their family,
- (4) to return to their home countries at the end of the program in Japan according to the travel schedule designated by JICA,
- (5) to refrain from engaging in political activities, or any form of employment for profit or gain,
- (6) to observe the rules and regulations of their place of accommodation and not to change the accommodation designated by JICA, and
- (7) to participate the whole program including a preparatory phase prior to the program in Japan.

IV. Administrative Arrangements

1. Organizer:

JICA Tokyo International Center (JICA TOKYO)

2. Implementing Partner: Remote Sensing Technology Center of Japan (RESTEC)

Address: ROPPONGI FIRST BLDG., 12F

1-9-9 Roppongi, Minato-ku, Tokyo 106-0032, Japan

URL http://www2.restec.or.jp/top_e.html

3. Travel to Japan

(1) **Air Ticket:** The cost of a round-trip ticket between an international airport designated by JICA and Japan will be borne by JICA.

(2) **Travel Insurance:** Term of Insurance: From arrival to departure in Japan.

*the traveling time outside Japan shall not be covered.

4. Accommodation in Japan

JICA will arrange the following accommodations for the participants in Japan:

JICA Tokyo International Center (JICA TOKYO)

Address: 2-49-5 Nishihara, Shibuya-ku, Tokyo 151-0066, Japan

TEL: 81-3-3485-7051 FAX: 81-3-3485-7904

(where “81” is the country code for Japan, and “3” is the local area code)

If there is no vacancy at JICA TOKYO, JICA will arrange alternative accommodations for the participants. Please refer to facility guide of TIC at its URL,

<http://www.jica.go.jp/english/contact/domestic/pdf/welcome.pdf>

5. Expenses

The following expenses will be provided for the participants by JICA:

(1) Allowances for accommodation, living expenses, outfit, and shipping

(2) Expenses for study tours (basically in the form of train tickets).

(3) Free medical care for participants who become ill after arriving in Japan (costs related to pre-existing illness, pregnancy, or dental treatment are not included)

(4) Expenses for program implementation, including materials

(5) For more details, please see p. 9-16 of the brochure for participants titled “KENSHU-IN GUIDE BOOK,” which will be given to the selected participants before (or at the time of) the pre-departure orientation.

6. Pre-departure Orientation

A pre-departure orientation will be held at the respective countries’ JICA offices (or Embassies of Japan), to provide participants with details on travel to Japan, conditions of the workshop, and other matters.

V. ANNEXES:

1. Supplement to Application Form
2. Questionnaire

3. How did you use the data?

- Interpretation of digital image How many years? ()
- Digital data/image processing How many years? ()
- Others () How many years? ()

Referring to the above answer, please specify the usages:

- Geometric correction
- Land cover classification
- Vegetation index
- Temperature mapping
- Data fusion (Pansharpen, etc.)
- SAR image processing
- 3D image generation
- Combination of R/S and GIS
- Image interpretation
- Others ()

4. What kind of software have you used?

- Remote Sensing Analysis Software
Please specify name ()
- GIS software
Please specify name ()
- SAR Processor
Please specify name ()
- Others
Please specify name ()

Experiences of the computer

What kind of computer system have you used?

- Windows How many years? ()
- Unix How many years? ()
- Linux How many years? ()
- Macintosh How many years? ()
- Other System () How many years? ()

Questionnaire

This Form is specifically written for respective nominees.

Each nominee is requested to answer following questions regarding the area of his/her interest (topics concerning disaster/environmental monitoring which he/she is interested to analyze with SAR data) and submit it to JICA by June 24, 2010 with Application Form.

It should be typewritten in single spacing A4 size paper in English.

At the end of this program, you have a session (Case Study) to analyze actual digital data/images of PALSAR (Phased Array type L-band Synthetic Aperture Radar).

In order to make this session more effective, kindly reply to the following questions.

Based on your answer, we'd like to prepare available data/images of occurrences which took place after May 16, 2006 when official distribution of ALOS data was started.

NOTE:

- (1) At the beginning of the program, you have an opportunity to have a presentation concerning your response to this questionnaire.
- (2) After the presentation, you have time to exchange your point of view with RESTEC lecturers on selecting appropriate PALSAR data and expected approach to your case study.

Questions

1. Name& E-mail address
2. Topics concerning disaster/environmental monitoring which you are interested to analyze with PALSAR data
e.g., Flood, Landslide, Deforestation, etc.
3. Geographical characters of where the incidents happened for each topic
 - (1) Name of place on map
 - (2) Precise center coordinates in latitude and longitude of the area of your interest
 - (3) Precise 4-corner coordinates in latitude and longitude of the area of your interest

4. Date of occurrences

NOTE:

- (1) All of your answers to the questions 3. (1), (2), (3) and 4. are indispensable for us to arrange suitable data for your case study. So please prepare and answer them.
- (2) It is highly recommendable to select your topics from actually-occurred, disaster/environmental incidents after May 16, 2006 in your country.
- (3) The topics which you are interested in may not be necessarily accepted;
 - a. if they were the case with no appropriate PALSAR data, or
 - b. if they were topics beyond the method of SAR analysis, or
 - c. depending on the size of area of your interest.

5. The topics in the following table for each participating country are those we assume suitable for your analysis; please supply the information as indicated for question No.3 and 4, if topics are different from your answers of above 2.

| Country | topics |
|-----------|---|
| Argentina | 1) Flood 2) Forest Fire 3) Earthquake 4) Volcano |
| Bhutan | 1) Flood |
| Brazil | 1) Deforestation 2) Flood |
| Cambodia | 1) Flood |
| India | 1) Flood 2) Earthquake |
| Indonesia | 1) Flood 2) Forest Fire 2) Earthquake 4) Volcano |
| Malaysia | 1) Deforestation 2) Flood |
| Pakistan | 1) Flood 2) Earthquake |
| Sri Lanka | 1) Flood |
| Thailand | 1) Flood |

For Your Reference

JICA and Capacity Development

The key concept underpinning JICA operations since its establishment in 1974 has been the conviction that “capacity development” is central to the socioeconomic development of any country, regardless of the specific operational scheme one may be undertaking, i.e. expert assignments, development projects, development study projects, training programs, JOCV programs, etc.

Within this wide range of programs, Training Programs have long occupied an important place in JICA operations. Conducted in Japan, they provide partner countries with opportunities to acquire practical knowledge accumulated in Japanese society. Participants dispatched by partner countries might find useful knowledge and re-create their own knowledge for enhancement of their own capacity or that of the organization and society to which they belong.

About 460 pre-organized programs cover a wide range of professional fields, ranging from education, health, infrastructure, energy, trade and finance, to agriculture, rural development, gender mainstreaming, and environmental protection. A variety of programs are being customized to address the specific needs of different target organizations, such as policy-making organizations, service provision organizations, as well as research and academic institutions. Some programs are organized to target a certain group of countries with similar developmental challenges.

Japanese Development Experience

Japan was the first non-Western country to successfully modernize its society and industrialize its economy. At the core of this process, which started more than 140 years ago, was the “adopt and adapt” concept by which a wide range of appropriate skills and knowledge have been imported from developed countries; these skills and knowledge have been adapted and/or improved using local skills, knowledge and initiatives. They finally became internalized in Japanese society to suit its local needs and conditions.

From engineering technology to production management methods, most of the know-how that has enabled Japan to become what it is today has emanated from this “adoption and adaptation” process, which, of course, has been accompanied by countless failures and errors behind the success stories. We presume that such experiences, both successful and unsuccessful, will be useful to our partners who are trying to address the challenges currently faced by developing countries.

However, it is rather challenging to share with our partners this whole body of Japan’s developmental experience. This difficulty has to do, in part, with the challenge of explaining a body of “tacit knowledge,” a type of knowledge that cannot fully be expressed in words or numbers. Adding to this difficulty are the social and cultural systems of Japan that vastly differ from those of other Western industrialized countries, and hence still remain unfamiliar to many partner countries. Simply stated, coming to Japan might be one way of overcoming such a cultural gap.

JICA, therefore, would like to invite as many leaders of partner countries as possible to come and visit us, to mingle with the Japanese people, and witness the advantages as well as the disadvantages of Japanese systems, so that integration of their findings might help them reach their developmental objectives.



CORRESPONDENCE

For enquiries and further information, please contact the JICA office or the Embassy of Japan. Further, address correspondence to:

Tokyo International Center,
Japan International Cooperation Agency
(JICA TOKYO)

Address : 2-49-5, Nishihara, Shibuya-ku, Tokyo 151-0066, Japan

TEL : 81-3-3485-7051 FAX : 81-3-3485-7904

3. How did you use the data?

- Interpretation of digital image How many years? ()
- Digital data/image processing How many years? ()
- Others () How many years? ()

Referring to the above answer, please specify the usages:

- Geometric correction
- Land cover classification
- Vegetation index
- Temperature mapping
- Data fusion (Pansharpen, etc.)
- SAR image processing
- 3D image generation
- Combination of R/S and GIS
- Image interpretation
- Others ()

4. What kind of software have you used?

- Remote Sensing Analysis Software
Please specify name ()
- GIS software
Please specify name ()
- SAR Processor
Please specify name ()
- Others
Please specify name ()

Experiences of the computer

What kind of computer system have you used?

- Windows How many years? ()
- Unix How many years? ()
- Linux How many years? ()
- Macintosh How many years? ()
- Other System () How many years? ()

Questionnaire

This Form is specifically written for respective nominees.

Each nominee is requested to answer following questions regarding the area of his/her interest (topics concerning disaster/environmental monitoring which he/she is interested to analyze with SAR data) and submit it to JICA by June 24, 2010 with Application Form.

It should be typewritten in single spacing A4 size paper in English.

At the end of this program, you have a session (Case Study) to analyze actual digital data/images of PALSAR (Phased Array type L-band Synthetic Aperture Radar).

In order to make this session more effective, kindly reply to the following questions.

Based on your answer, we'd like to prepare available data/images of occurrences which took place after May 16, 2006 when official distribution of ALOS data was started.

NOTE:

- (1) At the beginning of the program, you have an opportunity to have a presentation concerning your response to this questionnaire.
- (2) After the presentation, you have time to exchange your point of view with RESTEC lecturers on selecting appropriate PALSAR data and expected approach to your case study.

Questions

1. Name& E-mail address
2. Topics concerning disaster/environmental monitoring which you are interested to analyze with PALSAR data
e.g., Flood, Landslide, Deforestation, etc.
3. Geographical characters of where the incidents happened for each topic
 - (1) Name of place on map
 - (2) Precise center coordinates in latitude and longitude of the area of your interest
 - (3) Precise 4-corner coordinates in latitude and longitude of the area of your interest

4. Date of occurrences

NOTE:

- (1) All of your answers to the questions 3. (1), (2), (3) and 4. are indispensable for us to arrange suitable data for your case study. So please prepare and answer them.
 - (2) It is highly recommendable to select your topics from actually-occurred, disaster/environmental incidents after May 16, 2006 in your country.
 - (3) The topics which you are interested in may not be necessarily accepted;
 - a. if they were the case with no appropriate PALSAR data, or
 - b. if they were topics beyond the method of SAR analysis, or
 - c. depending on the size of area of your interest.
5. The topics in the following table for each participating country are those we assume suitable for your analysis; please supply the information as indicated for question No.3 and 4, if topics are different from your answers of above 2.

| Country | topics |
|-----------|---|
| Argentina | 1) Flood 2) Forest Fire 3) Earthquake 4) Volcano |
| Bhutan | 1) Flood |
| Brazil | 1) Deforestation 2) Flood |
| Cambodia | 1) Flood |
| India | 1) Flood 2) Earthquake |
| Indonesia | 1) Flood 2) Forest Fire 2) Earthquake 4) Volcano |
| Malaysia | 1) Deforestation 2) Flood |
| Pakistan | 1) Flood 2) Earthquake |
| Sri Lanka | 1) Flood |
| Thailand | 1) Flood |