

APPENDIX A

INSTRUCTION OF
THE PROPOSAL COVER SHEET AND SCHEDULE

Note)

Proposals are to be written in either English or Japanese.

Please refer to the Section 4.3 of the guide documents, either “2nd_EO-RA_guide_E.pdf” or “2nd_EO-RA_guide_J.pdf”, for the detailed instructions.

Proposal Cover Sheet (1/2)
For JAXA 2nd Research Announcement on the Earth Observations

Proposal No.	_____ (Leave Blank for JAXA Use)
Proposal Title	
Research category: <i>Check one category that is most suitable for your proposal.</i>	
Algorithm Development: <input type="checkbox"/> GCOM-W Algorithm <input type="checkbox"/> GCOM-C Algorithm <input type="checkbox"/> GPM Algorithm <input type="checkbox"/> MOLI Algorithm <input type="checkbox"/> AMSR3 Algorithm	
Calibration / Validation: <input type="checkbox"/> GCOM-W Cal./Val. <input type="checkbox"/> GCOM-C Cal./Val. <input type="checkbox"/> GPM Cal./Val. <input type="checkbox"/> ALOS-3 Cal./Val. <input type="checkbox"/> ALOS-4 Cal./Val. <input type="checkbox"/> MOLI Cal./Val. <input type="checkbox"/> EarthCARE Cal./Val.	
Application Research: <input type="checkbox"/> GCOM-W Application <input type="checkbox"/> GCOM-C Application <input type="checkbox"/> GPM Application <input type="checkbox"/> ALOS-2 Application	

Principal Investigator (PI)

Name		Job Title	
Department			
Institution			
Address			
Country			
E-mail			
Telephone			
Facsimile			

Co – Investigator (CI)

Name	Institution	Telephone	E-mail

Budget (yen in thousands) *Input the calculated total budget (Direct Cost Total + Overhead)*

JFY2019	JFY2020	JFY2021	TOTAL

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(Leave Blank for JAXA Use)

Authorizing Official for The Research Agreement: *Signature*

(Name and Title)

(Organization)

Proposal Cover Sheet (2/2)

Name of PI	
Proposal Title	
Abstract: <i>Less than 500 words in English (or 1,500 characters in Japanese)</i>	

Research Schedule

JFY	2019				2020				2021			
Month	4-6	7-9	10-12	1-3	4-6	7-9	10-12	1-3	4-6	7-9	10-12	1-3
Milestones <i>(Meetings, experiments, reports, etc.)</i>												
Activities <i>(Indicate periods of ramified research activities identified in your proposal)</i>												

APPENDIX B

INSTRUCTION OF
THE RESOURCE REQUIREMENTS

Note)

Proposals are to be written in either English or Japanese.

Please refer to the Section 4.3 of the guide documents, either “2nd_EO-RA_guide_E.pdf” or “2nd_EO-RA_guide_J.pdf”, for the detailed instructions.

BUDGET SUMMARY (EXAMPLE)

In the case of a foreign currency used for the budget, indicate the exchange rate used on the top of this summary seat, for example, 1 US dollar = 110 Japanese yen.

1. Personnel Expenses (unit: yen in thousands)

	2019	2020	2021	Total
<i>Part-time job for DSD data analysis</i>	320 <i>(40x8)</i>	320 <i>(40x8)</i>	320 <i>(40x8)</i>	960 <i>(120*8)</i>

2. Purchases

2.1 Computers / Peripheral Equipment (unit: yen in thousands)

ITEM	2019	2020	2021	Total

2.2 Software (unit: yen in thousands)

ITEM	2019	2020	2021	Total

2.3 Expendable Materials and Supplies (unit: yen in thousands)

ITEM	2019	2020	2021	Total
<i>8mm tape (112m)</i>	60	60	50	170
<i>CD-R</i>	100	100	100	300
<i>MO (640MB)</i>	10	10	15	35
<i>A4 Paper (package of 500 sheets)</i>	2	2	2	6
<i>CD-RW Drive</i>	50	50		100

3. Subcontracts (unit: yen in thousands)

ITEM	2019	2020	2021	Total
<i>Software development for DSD data analysis</i>	300	600	1,500	2,400

4. Travel Expenses (unit: yen in thousands)

Departure Point – Destination (number of travelers)	2019	2020	2021	Total
<i>Tokyo – Washington, D.C. (1 person)</i>	600		600	1,200
<i>Tokyo – Paris (1 person)</i>	650	650		1,300
<i>Tokyo – London (1 person)</i>		650	650	1,300
<i>Tokyo – Osaka (1 person)</i>		35	35	70

5. Observation Equipment (unit: yen in thousands)

ITEM	2019	2020	2021	Total
<i>Micro Rain Radar</i>	1,500			1,500

6. Satellite Data (unit: yen in thousands)

Name of Satellite / Sensors	Distributor	Purpose	Cost			
			2019	2020	2021	Total

7. Other Data (unit: yen in thousands)

Name of Data Sets	Distributor	Purpose	Cost			
			2019	2020	2021	Total

8. Others (unit: yen in thousands)

ITEM	2019	2020	2021	Total

DIRECT COST TOTAL (unit: yen in thousands)	3,592	2,477	3,272	9,341
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Regarding Overhead Cost, check either of the following boxes:

- Unnecessary
- Deductible with special procedures (e.g. submission of a certain application document from JAXA)
- Indispensable (20% of direct cost. Please input the calculated overhead cost below.)

OVERHEAD (unit: yen in thousands)	718	495	654	1,868
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DATA REQUIREMENTS

1. JAXA-Archived Satellite Datasets

(JERS-1, ADEOS, TRMM, Aqua/AMSR-E, ADEOS-II, ALOS, GOSAT, GCOM-W, GPM, ALOS-2, GCOM-C)

Name of Satellite / Sensor	Quantity (scenes)	Purpose

2. JMA Datasets

(Global Analysis Data, Global Forecast Data (24-hr forecast), AMeDAS data, Ground Radar data, Rainfall analysis data, Daily SST data)

Name of Product	Period	Purpose

Please refer to the following “B.2 Instructions for data requirements”.

B.1 Instructions for budget summary

Provide a budget summary by cost element (Personnel Expenses, Computers/Peripheral equipment, Software, Expendable Materials and Supplies, Subcontracts, Travel Expenses, Observation Equipment, Satellite Data, Other Data, and Others), sorted by Japanese fiscal year as shown in the example. An annual summary budget should also appear on the first page of the Proposal Cover Sheet.

- (1) Personnel expenses
Enter the expenses for part-time workers here as the total cost calculated by multiplying the unit cost per day by the number of days. For part-time workers, use your own cost estimates.
- (2) Computers/peripheral equipment/software
Enter the lease and rental cost of computers and/or peripheral equipment. Note that JAXA has the right to change specifications of all equipment. Also enter the cost of software here.
- (3) Expendable materials and supplies
Enter the quantity of each item, following the example.
- (4) Subcontracts
Provide the cost of subcontracts to outside companies or organizations here.
- (5) Travel expenses
Describe the proposed domestic and/or international travel including information on destination and number of days/number of times (or travelers).
- (6) Observation equipment
Enter the costs of observation equipment(s) including installation cost.
- (7) Satellite data
Investigators requesting satellite data other than JAXA-owned or archived data (listed in the next section) should provide cost information here.
- (8) Other data
Enter the costs for data other than satellite data.
- (9) Others
Enter the costs for publication and others here.
- (10) Direct cost total
Enter the costs summed up above.
- (11) Overhead
Check one of the boxes, and if the overhead is indispensable for the organization of PI, enter the number of ratio to the direct costs and the calculated overhead amount.

B.2 Instructions for data requirements

JAXA-owned satellite data are listed below. JAXA will provide requested data judged necessary for the proposed research, subject to availability of data processing.

- Japanese Earth Resources Satellite (JERS) (global)
- Advanced Earth Observing Satellite (ADEOS)
- Tropical Rainfall Measuring Mission (TRMM)
- Advanced Microwave Scanning Radiometer for EOS (AMSR-E) aboard EOS-Aqua Satellite
- Advanced Earth Observing Satellite-II (ADEOS-II)
- Advanced Land Observing Satellite (ALOS) (Valid number of scenes per year from JAXA archives)
- Greenhouse Gases Observing Satellite (GOSAT)
- Global Change Observation Mission - Water (GCOM-W)
- Global Precipitation Measurement (GPM)

- Advanced Land Observing Satellite-2 (ALOS-2) (Valid number of scenes per year from JAXA archives)
- Global Change Observation Mission - Climate (GCOM-C)

Note)

GOSAT-2, EarthCARE, ALOS-3, ALOS-4, and MOLI will be added by revision of the Agreement pursuant to Article 34 when provision of data becomes available.

Data availability can be checked on JAXA's Earth Observation Satellite Data Distribution Service (linked from EORC website, <https://www.eorc.jaxa.jp/en/distribution/>).

JAXA also archives meteorological data, which are provided by the Japan Meteorological Agency (JMA), under the data exchange agreement between JAXA and JMA. PIs who want to use following JMA data in their analysis within the purpose of proposed research should indicate their data requests in the Data Requirement sheet, as shown in page B-3. JAXA will determine provision of necessary JMA data in accordance with the research proposal.

- JMA Global Analysis Data
- JMA Global Forecast Data (24-hour forecast)
- JMA AMeDAS 10-minute meteorological data
- JMA ground-based radar data (radar reflectivity)
- JMA Rainfall Analysis data
- JMA Merged satellite and in situ data Global Daily Sea Surface Temperatures (MGDSST)

APPENDIX C
ASSOCIATED TERMS AND CONDITIONS
OF RESEARCH AGREEMENTS
(FOR THE EARTH OBSERVATION RESEARCH
ANNOUNCEMENT)

2nd EARTH OBSERVATION RESEARCH ANNOUNCEMENT COMMISSIONED RESEARCH AGREEMENT BETWEEN THE JAPAN AEROSPACE EXPLORATION AGENCY AND THE RESEARCH ORGANIZATION (C-2 ~ C-13)

2nd EARTH OBSERVATION RESEARCH ANNOUNCEMENT COLLABORATIVE RESEARCH AGREEMENT (FUNDED) BETWEEN THE JAPAN AEROSPACE EXPLORATION AGENCY AND THE RESEARCH ORGANIZATION (C-14 ~ C-25)

2nd EARTH OBSERVATION RESEARCH ANNOUNCEMENT COLLABORATIVE RESEARCH AGREEMENT (NON-FUNDED) BETWEEN THE JAPAN AEROSPACE EXPLORATION AGENCY AND THE RESEARCH ORGANIZATION (C-26 ~ C-36)

COMMISSIONED RESEARCH AGREEMENT
FOR THE EARTH OBSERVATION MISSION
BETWEEN
THE JAPAN AEROSPACE EXPLORATION AGENCY (JAXA)
AND
THE RESEARCH ORGANIZATION
(FOR THE SECOND RESEARCH ANNOUNCEMENT)

JAPAN AEROSPACE EXPLORATION AGENCY

2nd EARTH OBSERVATION RESEARCH ANNOUNCEMENT COMMISSIONED RESEARCH AGREEMENT

This agreement ("Agreement") is entered into between the Japan Aerospace Exploration Agency, established under the provision of the Law Concerning the Japan Aerospace Exploration Agency on October 1, 2003, represented by its President and having its principal office at 7-44-1 Higashimachi, Jindaiji, Choufu-shi, Tokyo, Japan ("JAXA") and a research organization ("Research Organization", "RO") that submitted an application form for the below described research activities to JAXA, hereinafter collectively referred to as "the Parties".

WITNESSETH

WHEREAS, JAXA issued the Research Announcement ("RA") to engage in research activities directly related to retrieval algorithms for geophysical products, product validation, and data application of earth observation satellites, and the Research Organization applied pursuant to such RA;

WHEREAS, JAXA accepted the Research Organization's proposal that was in response to the RA, delivered the confirmation sheet and JAXA further desires to utilize such proposal in JAXA's project; and

WHEREAS, JAXA desires to commission the Research Organization to engage in the above research activities.

NOW, THEREFORE, in consideration of the mutual agreements hereinafter set forth, and for other good and reasonable consideration, the receipt and adequacy of which are hereby acknowledged, the Parties hereby agree as follows:

Article 1. Definition

1. The following capitalized terms in this Agreement shall have the following meanings.
 - (1) "Research Results" means the technical results and scientific knowledge derived from the implementation of the Research Projects pursuant to this Agreement, including all inventions, ideas, designs, literary works, algorithms (e.g. Technological development accompanied by Program/Data to embody such algorithms), and technical know-how.
 - (2) "Intellectual Property Rights" generated in the course of implementation of the Agreement means the following:
 - (i) Industrial Property Rights (as defined below);
 - (ii) Potential Industrial Property Rights (as defined below); and
 - (iii) Program/Data Copyrights (as defined below)."Industrial Property Rights" means all domestic and foreign patents, utility models, and industrial designs.
"Potential Industrial Property Rights" means all domestic and foreign application rights for patents, utility models, or industrial designs.
"Program/Data Copyrights" means all domestic and foreign copyrights related to computer programs, software and databases.
 - (3) "Commissioned Research Plan" means the plan described in Attachment 1 of the Application Form for the Earth Observation Research Announcement Commissioned Research Agreement (hereinafter "Application Form").
 - (4) "Research Period" means the research period as described in the Commissioned Research Plan. In accordance with the provisions of this Agreement, in the event that the Agreement ended prior to the completion date of the research originally set, the date the Agreement ends shall be read as the research period.
 - (5) "Annual Evaluation" means JAXA's annual review, which is carried out by JAXA before the end of the Japanese fiscal year during which the Agreement was concluded. At the end of each

fiscal year, the review is conducted through the RO's presentation at workshops and meetings as well as based on the Progress Report.

- (6) "Earth Observation Satellite Data" means data sets obtained from satellites, which are retained by JAXA at the time of execution of this Agreement. The available data sets including names of satellites or sensors, observation period that can be offered, and observation areas listed in the Attachment of this Agreement.
- (7) "Meteorological Data" means the data provided by the Japanese Meteorological Agency.
2. In this Agreement, "Invention etc." contains multiple meanings: When it is a subject of patent rights it refers to an invention; when it is a subject of a utility model it refers to an idea; when it is a subject of the rights for industrial design, literary work of program and database, it refers to a creation; when it is a subject of algorithm and technological know-how it refers to proposition.
3. In this Agreement, "utilization" of Intellectual Property Rights and Research Results refer to the acts specified in paragraph 3 of Article 2 of the Patent Act, paragraph 2 of Article 3 of the Utility Model Act, paragraph 3 of Article 2 of the Design Act, and Article 21 and 27 of the Copyright Act (including the use of the secondary publication created by JAXA), as well as the use of algorithm and technical know-how.
4. In this Agreement, "PI" (Principal Investigator) refers to the person who submitted the research proposal to this Research Announcement and who is also the RO employee selected to be responsible for the implementation of the accepted Research Project. "CI" means "Co-Investigator" who supports the research activities represented by the PI. Name of the PI and CI (hereinafter "Commissioned Researchers") and their affiliated organization will be shown in the "Commissioned Research Plan".

Article 2. Purpose and Scope of Research Projects

The RO shall implement the following tasks.

- (1) The RO shall conduct the research activities ("Research Projects") in accordance with the Statement of Work issued by JAXA ("Statement of Work") and the Commissioned Research Plan.
- (2) The RO shall respond to requests from JAXA and attend required meetings hosted by JAXA such as the workshop at the end of each fiscal year.
- (3) The RO shall report the Research Results and progress of the research at the annual workshops and meetings hosted by JAXA.
- (4) Each year before the end of the Agreement Period, the RO shall deliver JAXA the Research Results acquired during the effective term of the Agreement in the form of a Progress Report in accordance with the Statement of Work. The Progress Report shall contain the deliverable Research Results specified in the Statement of Work. In addition, upon the completion of the research period, the RO shall deliver JAXA the Progress Report regarding the Research Results acquired during the whole of the commissioned research period. In such a case, the RO will not be required to deliver another Progress Report for the final year of the Agreement.

Article 3. Effective Term and Renewal

1. The Agreement shall be concluded upon the acceptance through the issuance of the Confirmation Sheet by JAXA for the application submitted by the RO using the application form, and the Agreement shall become effective as per the date prescribed on the Confirmation Sheet issued by JAXA and shall continue to be in effect until the end of the present Japanese fiscal year ("Agreement Term"). In case of a conflict between the Confirmation Sheet and this Agreement, the terms and conditions stipulated in the Confirmation Sheet will supersede this Agreement.
2. The Agreement Term shall be renewed for one Fiscal Year provided that JAXA approves an extension of the research period in the Annual Evaluation; provided, however, that the Parties mutually agree upon the amount to be paid by JAXA for the extended period; further provided, however, the RO shall submit a renewal Application Form to JAXA and JAXA shall approve by issuing a new Confirmation Sheet. Thereafter the procedure shall be the same as above.

Article 4. Annual Evaluation

1. JAXA shall conduct an Annual Evaluation regarding the contents of the Agreement fairly at the end of the Agreement Term.
2. In the event that the results of the evaluation were fail in the Annual Evaluation, the provisions

in Article 30 (“Incompleteness of Performance”) shall be applied.

Article 5. Commissioned Researchers

1. The RO shall let the researchers listed in the Commissioned Research Plan engage in this commissioned research.
2. The RO shall undertake necessary measures to ensure that all the commissioned researchers comply with the contents of the Agreement.
3. In the event that the RO intends to add new CIs, the RO shall obtain prior written consent from JAXA and the RO shall undertake necessary measures to ensure that such personnel comply with the contents of the Agreement.
4. In the event that the PI dies, retires from the RO, takes a leave of absence from work, or can no longer engaged in the RO for any other reasons, JAXA may terminate this Agreement. Provided, however, if the RO designates a researcher who belongs to the RO as the PI’s successor and JAXA approves the succession, the parties may amend this Agreement, with the succeeding researcher being a new PI. The terms and conditions of the amendment to this Agreement shall be determined separately upon mutual consultation and consent.

Article 6. Prohibition of Re-commission

1. The RO shall not commission the whole Research Projects to a third party (hereinafter “Subcontract”). The RO may, however, subcontract part of it upon prior written application to JAXA and approval from JAXA. Should there be a case where subcontractors further re-commission the Research Projects to a third party, the company name, address and scope of business of such third party are required to be submitted to the RO in writing.
2. If the RO subcontracts the Research Projects in accordance with the preceding paragraph, any act of all the third parties involved in the subcontract, which includes a contractor and commissioned party of the RO, re-commissioned party, subcontractor and supplier at any tier, in connection with the subcontractor shall be deemed to be an act of the RO and the RO shall be responsible therefor.
3. In the event that the RO subcontract part of the Agreement, the RO shall enter an agreement with the subcontractor regarding the items necessary for the RO to comply with the contents of the Agreement as well as the items specified by JAXA.

Article 7. Research Funding

1. JAXA shall make advance payment of the “Research Funding” stated in the Confirmation Sheet or Continuous Confirmation Sheet, which is issued in accordance with Article 3, to the RO as a necessary research expense to carry out the Agreement.
2. JAXA shall, within thirty (30) days from the date when they receive an invoice duly issued by the RO, make payment for the Research Funding described in the previous paragraph.
3. If RO wishes to reallocate expenses between Expense Item Categories for more than 50% increase or decrease (3,000,000 Japanese yen, in case the amount of 50% is less than 3,000,000 Japanese yen), RO shall obtain a written approval from JAXA in advance.
4. Provided, however, that the RO shall not conduct the reallocation of budget between the general administrative expenses and the direct expenses.
5. In case that JAXA fails to pay the Research Funding within the above period, the RO may request JAXA to pay default interest of six (6) percent per annum on such unpaid amount for the period from the immediately succeeding day of due date for payment to the date of actual payment.
6. If the interest on late payment calculated following the preceding paragraph is less than 10,000 Japanese yen, JAXA shall be exempt from payment of such interest. Where there is a fraction of that amount and if it is less than 1,000 yen, such a fraction shall be omitted.

Article 8. Accounting

RO shall maintain books to record expenses according to items and store documents to prove such expenses. In addition, RO shall keep all the accounting documents for seven (7) years after the end of the contract counting from next fiscal year. JAXA may request RO to submit a copy of such books and documents to clarify the expenses, and RO shall respond to such requests from JAXA.

Article 9. Submission of Completion Notice and Performance Report

1. Upon the completion of the tasks stipulated in Article 2, the RO shall create a completion notice and submit it to JAXA before the end of the Agreement Period.
2. In the event that the research expenses, stated in paragraph 1 of Article 7, exceed one (1) million Japanese yen, RO shall submit a Financial Report containing the expenses breakdown to JAXA within 61 days after the end of contract.

Article 10. Determining the Contract Amount

1. Upon the receipt of the Performance Report stipulated in paragraph 2 in the previous Article, JAXA shall adjust the expenses within the limit of the original contract amount in accordance with the present Article, Article 11 (Investigation of Actual Expenses) and Article 12 (Return of Paid Research Funding), determine and notify the RO of the final contract amount.
2. In the calculation of the actual expenses, the general administrative expenses ratio shall be calculated by using the ratio applied at the time the contract was concluded.

Article 11. Investigation of Actual Expenses

In determining the contract amount stipulated in paragraph 1 in the previous Article, JAXA shall investigate whether the actual expenses conform with the contents of the contract and accompanied conditions, and if necessary, request that the RO submit reports or materials to be referenced, or provide consent for JAXA to enter the RO's office to inspect the books and relevant documents.

Article 12. Return of Paid Research Funding

1. After the payment by the method stipulated in paragraph 1 and 2 of Article 7, if the amount already paid exceeds the final contract amount determined through the process stipulated in paragraph 1 of Article 10, JAXA shall reclaim the excess amount from the RO.
2. In the case of the previous paragraph, the RO shall remit such funds within thirty (30) days from the date when the RO receives an invoice issued by JAXA with regard to such funds.
3. In the event there is no return made by the RO within the set time limit as described in the preceding paragraph, the provisions of paragraph 5 and 6 of Article 7 shall be applied.

Article 13. Ownership of the Rights to the Acquired Equipment

1. The ownership of the equipment acquired with the Research Funding in accordance with paragraph 1 of Article 7 shall be retained by JAXA. However, upon mutual agreement between JAXA and the RO the ownership of the equipment may be transferred to the RO.
2. The RO shall create a ledger for the equipment mentioned in the previous paragraph and manage the equipment with the care of a good manager. When the contract ends, the RO must submit to JAXA a list of acquired property.

Article 14. Providing of the Earth Observation Satellite Data and Rights

1. JAXA will provide the RO with the Earth Observation Satellite Data necessary for the implementation of the Agreement free of charge via internet.
 - (1) JAXA may not provide all of the Earth Observation Satellite Data, which the RO may request due to limitations on the capacity of the JAXA equipment or resources; Amongst the Earth Observation Satellite Data, which the RO may request JAXA, the each standard data collected from the Advanced Land Observing Satellite (ALOS) and the Advanced Land Observing Satellite-2 (ALOS-2) shall be limited by JAXA evaluating the Commissioned Research Plan;
 - (2) JAXA does not guarantee a specific quality or the timely provisions of the Earth Observation Satellite Data and will not be liable for any deterioration of quality and delay in providing the Data;
 - (3) JAXA will not be liable for any situation whereby the Earth Observation Satellite Data cannot be supplied to the RO due to faults relating to the satellites, limitations on their operations, or for any other reason; and
 - (4) RO shall bear the costs of media and shipment if RO requests that JAXA provide the Earth Observation Satellite Data via physical media.
2. With respect to the handling of the Earth Observation Satellite Data provided by JAXA, the RO shall follow the conditions below:

- (1) RO may not duplicate the Earth Observation Satellite Data for any purpose other than creating a backup. However, this excludes the duplication to provide for the Commissioned Researchers stated in Article 5 and the re-commissioned party (hereinafter “PI etc.”) stated in Article 6 that are necessary for the implementation of the Agreement;
 - (2) The RO may not disclose the Earth Observation Satellite Data except the PI etc.;
 - (3) The RO shall use the provided the Earth Observation Satellite Data solely for the purpose stipulated in the Agreement; and
 - (4) The RO shall return or otherwise appropriately keep the Earth Observation Satellite Data in accordance with the instruction of JAXA upon the termination of this Agreement.
3. Any rights relating to the Earth Observation Satellite Data provided by JAXA to the RO shall confirm to the following;
- a) JAXA retains the intellectual property rights of all the Earth Observation Satellite Data, except for ALOS PALSAR data of which METI is the joint owner;
 - b) If value-added products (modified products with high-level processing which are irreversible to standard data. High-level data processing includes data analysis or combining multiple-satellite data, image processing based on external information, and physical quantity conversion.) are solely developed by RO out of Earth Observation Satellite Data, in the course of executing the Research Projects, RO retains the intellectual property rights of such value-added products;
 - c) Except for cases under paragraph b), all Intellectual Property Rights of the data or product developed by modifying the Earth Observation Satellite Data shall be owned by JAXA; and
 - d) In case RO uses the modified Earth Observation Satellite Data for commercial purposes, RO shall notify JAXA and comply with a license condition to be set by JAXA.

Article 15. Providing of Meteorological Data and Rights

1. JAXA will provide the RO with the Meteorological Data necessary for the implementation of the Agreement free of charge.
2. The rights concerning the Meteorological Data provided by JAXA shall not be transferred to the RO through the supply. In addition, for the handling of the Data, the RO will follow the instruction of JAXA.
3. The RO may not disclose the provided Meteorological Data to any third party.
4. The RO shall use the provided Meteorological DATA solely for the purpose of the Agreement.
5. The RO shall return or otherwise appropriately keep the Meteorological Data in accordance with the instruction of JAXA upon the termination of this Agreement.

Article 16. Providing of Technical Data

1. JAXA will provide the RO with the technical data such as satellite operation data and ground verification data owned by JAXA as well as Program/Data, excluding the Earth Observation Satellite Data and the Meteorological Data (hereinafter “Technical Data”) that are necessary for the implementation of the Agreement free of charge, allow the RO to use it, and provide advice when required.
2. The RO shall not use the Technical Data provided by JAXA for any other purpose than to fulfill the purpose of the Agreement, and must not disclose it to anyone but the PI etc.
3. After the completion of the research period, the RO shall return or otherwise dispose of the Technical Data provided by JAXA following the instruction from JAXA.

Article 17. Ownership of the Research Results

1. Of the Research Results that the RO acquired through the implementation of the Agreement, the ownership of the Research Results specified by JAXA in the Statement of Work shall belong to JAXA. Such Research Results do not include the data that is proved to have had been possessed by the RO at the time of concluding this Agreement.
2. The copyright of the documents, which include the rights regulated in Article 27 and 28 of the Copyright Act, that JAXA specified to be delivered by the RO shall be transferred to JAXA at the point of delivery. In this case, the RO shall not exercise the moral rights.
3. In addition to paragraph 1, for the purpose of confirming the progress of the Research Projects, JAXA may demand to show all the Research Results acquired through the implementation of the

Agreement.

4. JAXA shall obtain the prior written consent of the RO in case JAXA plans to disclose the Research Results (excluding the delivered Research Results) that was presented or submitted by the RO.
5. The RO shall obtain the prior written consent of JAXA if the RO plans to disclose the Research Results, the ownership of which belongs to JAXA, to a third party.

Article 18. Usage of the Research Results

1. Of the Research Results acquired through the implementation of the Agreement, JAXA may use the Research Results other than the one specified in paragraph 1 of the previous Article free of charge only for the purpose of its research development including the case for allowing a third party, which includes partners of joint research projects, to use the Research Results for its own purpose, as well as for its own peaceful and non-commercial purposes.
2. Of the Research Results acquired through the implementation of the Agreement, the RO may use the Research Results other than those delivered in accordance with paragraph 1 of the previous Article free of charge only for the purpose of its research development including the case for allowing a third party to use the Research Results for its own purpose, as well as for its own peaceful and non-commercial purposes, upon the prior consent of JAXA.

Article 19. Industrial Property Rights

1. The RO shall report the existence of Potential Industrial Property Rights generated in the course of the Research Projects, if any, and submit a document with such information to JAXA without delay, as well as taking a procedure to apply for its Industrial Property Rights following JAXA's instructions. If the RO is successfully granted such Industrial Property Rights, it shall notify JAXA without delay.
2. The RO shall consult JAXA each time regarding important matters concerning the application procedure for the Industrial Property Rights described in the previous Article.
3. The expense incurred in applying to the Industrial Property Rights as described in paragraph 1 shall be JAXA's responsibility.
4. In the event the invention etc. that are generated by the commissioned researchers stipulated in Article 5 are properties subject to registration for the Industrial Property Rights under the name of the duty of the commissioned researchers, the RO concludes the Agreement that stipulates the right to apply for the Industrial Property Rights concerning such invention belongs to the RO shall be concluded with the commissioned researcher, or set the rules for regulating the duties of the employees regarding such a matter.
5. If the technology developed by the RO due to the implementation of the Research Projects is recognized as an invention, JAXA, if necessary, may succeed the right to apply for the Industrial Property Rights from the RO and make an application for such Potential Industrial Property Rights to be registered Industrial Property Rights in JAXA's name, after receiving the materials required for the application from the RO.

Article 20. Foreign Application for Industrial Property Rights

The provisions of the previous Article shall be applied to the application for Industrial Property Rights abroad and the preservation of rights.

Article 21. Ownership of Industrial Property Rights

1. The RO shall transfer the Industrial Property Rights obtained in compliance with paragraph 1 of Article 19. In this case, the cost for the transfer shall be included in the Research Funding stipulated in paragraph 1 of Article 7.
2. If the RO requests a license to use the Industrial Property Rights assigned to JAXA under the preceding paragraph or applied by JAXA under paragraph 5 of Article 19, JAXA will grant the RO such a license unless it is reasonable for it to be deemed to be inappropriate. The conditions for the approval shall be determined by mutual agreement between the Parties as necessary.
3. With regard to the Industrial Property Rights stipulated in paragraph 1 of Article 19, if the RO, before obtaining the Rights, wishes to use it for any purpose other than that of the Agreement, or wishes to grant its use to a third party, shall consult JAXA as necessary.

4. In accordance with the provisions in paragraph 1, JAXA, based on the criteria determined by JAXA, shall bear the total or a portion of the costs, which the RO should pay the commissioned researcher who created the technology, which is subject to the Industrial Property Rights transferred from the RO and the Right to receive the transferred Industrial Property Rights from the RO stipulated in paragraph 5 of Article 19.

Article 22. Ownership of Program/Data Copyrights

1. Upon the completion of the Agreement, the RO shall notify JAXA without delay in the event that the RO creates a program and/or database (hereinafter "Program/Data") that may potentially constitute the Program/Data copyrights. In this case, the Program/Data that the Statement of Work specifies its delivery shall be excluded from the notification stipulated in this Article.
2. The RO shall transfer the copyrights of the Program/Data, including the rights stipulated in Article 27 and 28 of the Copyrights Act, acquired through the implementation of this Agreement to JAXA. The cost for this transfer shall be included in the Research Funding stipulated in paragraph 1 of Article 7. Regarding the Program/Data of which the RO already had its rights prior to the conclusion of the Agreement as well as among the know-how, routine, subroutine and modules that are commonly used by similar program the RO specified, copyrights of such products are retained by the RO but not transferred to JAXA.
3. In the event that the RO transfer copyrights to JAXA, if the product subject to the copyright is created by the RO, the RO waives any related moral rights. If it is created by a third party but not by the RO, the RO shall take measures to prevent the third party from using any related moral rights.
4. If the RO requests a license to use the Program/Data copyrights assigned to JAXA, JAXA will grant the RO such a license unless it is reasonable for it to be deemed to be inappropriate. The conditions for the approval shall be determined by mutual agreement between the Parties as necessary.
5. In the event that programs are modified/adapted not by JAXA or the RO but by a third party, JAXA shall bear the responsibility related to the use of such programs and the RO shall not be responsible for any liability caused by such programs.
6. With regard to the know-how, routine, subroutine and modules utilized commonly by similar programs, the copyrights of which are retained by the RO in accordance with paragraph 2 of this Article, the RO shall approve JAXA of a royalty-free right to use such products in the form of the program acquired through the implementation of the Agreement without consent from the RO. Such used by JAXA shall include the right of JAXA to grant a third party the right to use the know-how, routine, subroutine and modules without paying any royalties to the RO.

Article 23. Use of Facilities

1. The RO may use JAXA's facilities and equipment (hereinafter "Facilities") free of charge upon the prior consent of JAXA if there is a necessity for the implementation of the Agreement.
2. In the event of using JAXA's Facilities, the RO shall use the Facilities in compliance with all the regulations stipulated by JAXA.

Article 24. Bringing in Instruments

If necessary for the implementation of the Agreement, the RO may bring instruments and other items into JAXA's facilities with the prior consent of JAXA. In such a case the RO shall be in compliance with all the regulations stipulated by JAXA.

Article 25. Delivery of Rental Items, Storage and Return

1. If required to implement the Agreement, JAXA shall lend the RO any instruments and other items owned by JAXA.
2. At the time of delivery of the instruments and items for lending (hereinafter "Rental Items") in accordance with the preceding paragraph, JAXA shall submit a delivery note to the RO and the RO shall submit a receipt to JAXA.
3. In the event that the RO received the delivery of the Rental Items, the RO shall confirm the presence of any abnormality regarding the list of articles and numbers. If a lack of quantity or abnormality including inappropriate quality and standard for use, with the Rental Items is found,

the RO shall notify JAXA of the matter immediately and seek further instruction.

4. The RO shall manage and use the Rental Items delivered with the care of a good manager and shall use items solely for the purpose of the Agreement.
5. The RO shall maintain books of receipts and shipment as well as management regarding the Rental Items delivered, record and organize the receipts, and always make the situation of the Rental Items clear.
6. In the event that the Rental Items are lost or damaged, the RO shall report this to the lender without delay.
7. In the event that all or part of the Rental Items become unnecessary due to the completion of the whole or part of the Agreement as well as of any amendment or termination of the Agreement, the RO shall notify JAXA and undertake a procedure to return the Rental Items in compliance with JAXA's instruction without delay.

Article 26. Confidentiality

1. In this Agreement, "Confidentiality Information" means those that are applicable to any of the following items.
 - (1) Amongst the outcome as a result of the Agreement, any documents with an indication of confidential notice, tangible objects such as samples, or regardless of its form in tangible or intangible, any items that have been confirmed in writing as Confidential Information by JAXA and the RO.
 - (2) Any information that a party discloses or presents as confidential in the forms of document, drawing, photograph, test piece, sample, magnetic tape, and floppy disk.
2. JAXA and the RO must manage Confidential Information properly and may not leak or disclose to anyone other than those involved in the Agreement. However, any information that is applicable to any of the following items may be an exception:
 - (1) Information that is already known to the public when disclosed by the disclosing party;
 - (2) Information that becomes known to the public after the disclosure by the disclosing party without intentional misconduct of the receiving party;
 - (3) Information that the receiving party already had before the disclosure by the disclosing party and that is able to verify this fact;
 - (4) Information with proof that the receiving party acquires legally from a duly authorized third party not subject to confidentiality obligations;
 - (5) Information and materials that the receiving party independently acquire without utilizing information obtained from the disclosing party and that are able to verify this fact;
 - (6) Information with written consent from the disclosing party for the disclosure and the publication; or
 - (7) Information that is required to be disclosed by applicable laws, judgment or order of a competent court. In this case, the receiving party shall promptly notify the disclosing party of the necessity of disclosure.
3. The confidentiality obligation under paragraph 2 shall remain effective for a period of five (5) years after the termination of the Agreement. However, this period of keeping confidentiality may be extended or shortened by mutual agreement between JAXA and the RO.

Article 27. Publication of Research Results

1. The RO shall be able to present or publish the Research Results, which were acquired through the implementation of the Agreement and delivered in accordance with paragraph 1 of Article 17; provided, however, in compliance with the obligation of Confidentiality Information stated in Article 26 (hereinafter "publication of Research Results").
2. In the case of the preceding paragraph, the RO shall notify JAXA with a written document and obtain written consent from JAXA prior to the publication of Research Results. JAXA will not unreasonably withhold consent from the publishing party's request.
3. When JAXA receives the notification mentioned in the previous paragraph, if the judgment that the notification contains contents, which potentially cause a loss of anticipated benefit by being published, JAXA shall notify the RO in writing, and the RO shall consult with JAXA. The RO may not publish the part that has been notified as contents, which potentially cause a loss of anticipated benefit by being published as described in this paragraph without consent from

JAXA.

4. The RO shall state in the publication of the Research Results that such results have been obtained pursuant to this Agreement and identify the owner of the rights to the Earth Observation Satellite Data and Meteorological Data used in such publication.
5. After disclosing or publishing the Research Results that belong to the RO, the RO shall provide JAXA with a copy of the publication as soon as possible. JAXA is entitled to a royalty-free right to use, photocopy and distribute the provided publications unless the copyright of such publication is owned by an academic society.

Article 28. Security

Upon the implementation of the Agreement, the RO shall take security measures in accordance with the JAXA's regulations and must follow JAXA's instruction.

Article 29. Impossibility of Performance

1. In the event it becomes impossible for the RO to carry out all or any part of the Agreement due to reasons attributable to the RO, JAXA may terminate all or any part of the Agreement.
2. In the case of the termination of the Agreement following the previous paragraph, JAXA shall apply the provisions in paragraph 1 of Article 12 mutatis mutandis and demand the restitution of the disused amount.
3. In the case of the termination of the Agreement in accordance with Article 1, JAXA, based on paragraph 3 of Article 32, shall be able to demand the RO incur a penalty.

Article 30. Incompleteness of Performance

1. If the performance of the RO for the Agreement is confirmed not to be following the purpose of the Agreement due to the liability of the RO, JAXA may claim the RO subsequent completion by setting an appropriate period.
2. In the event that there is no prospect of the completion of the performance by the RO in accordance with the Agreement despite the claim made for the subsequent completion stipulated in paragraph 1, JAXA may terminate all or part of this Agreement.
3. In case the termination of the Agreement is performed in accordance with the preceding paragraph, JAXA shall apply the provisions in paragraph 1 of Article 12 and claim a return of the amount of Research Funding that becomes unnecessary.
4. In case the termination of the Agreement is performed in accordance with paragraph 2 above, JAXA may claim the RO incur a penalty in accordance with paragraph 3 of Article 32.

Article 31. Extension of the Delivery Deadline

1. In case there is an acceptable reason for not fulfilling the obligation until the delivery deadline, the RO may in advance propose JAXA such a reason and planned delivery date and apply for an extension to the delivery deadline in writing. In this case, if the extension of the delivery deadline is approved as not to hinder the achievement of the objective of the Agreement, JAXA may approve the extension.
2. In the event the RO does not fulfill the obligation by the scheduled delivery date, JAXA may terminate all or any part of the Agreement.
3. If the Agreement is terminated as set forth in the preceding paragraph, JAXA shall apply the provisions of paragraph 1 of Article 12 and claim a refund of any unexpended Research Funding.
4. If the Agreement is terminated as set forth in paragraph 2, JAXA in compliance with paragraph 3 of Article 32 shall claim the RO incur a penalty.

Article 32. Termination of the Agreement

1. In the event of any of the following conditions, JAXA and the RO may terminate the Agreement.
 - (1) Upon the consent of both JAXA and the RO.
 - (2) When the other party commits a dishonest or inequitable act and the breaching party fails to offer any satisfactory remedial measures within seven (7) days after receiving demands for corrective action.
 - (3) When the other party violates any of the terms and conditions of this Agreement provided that

the breaching party fails to offer any satisfactory remedial measures within seven (7) days after receiving demands for corrective action.

- (4) When the events stipulated in paragraph 5 (transfer of the PI) of Article 4 occurs and there is no one who engages in this joint research project at the RO.
- (5) When unavoidable circumstances occur such as a natural disaster.
- (6) When the RO sends a written notice to JAXA in accordance with the paragraph 2 of Article 34.
2. Upon the termination of the Agreement, the RO shall submit to JAXA all work in progress and completed work based on the research carried out prior to the termination.
3. In the event that the Agreement is terminated in accordance with number 2 or 3 of paragraph 1, JAXA and the RO may claim the other party a penalty equivalent to 10% of the Research Funding stipulated in paragraph 1 of Article 7, which corresponds to the contents of the termination above. However, if the amount of the penalty is less than 10,000 Japanese yen, the payment of such penalty is not required. Where there is a fraction of that amount and if it is less than 1,000 yen, such a fraction shall be omitted.
4. Neither JAXA nor the RO shall claim any compensation in case the termination of the Agreement is exercised in accordance with number 5 of paragraph 1 of the present Article.

Article 33. Effective Term of the Agreement

1. Effective Term of the Agreement shall be the period stipulated in Article 3.
2. Even after the end of the Effective Term of the Agreement stipulated in the previous paragraph, provisions in paragraph 2 and 3 of Article 14 (Providing of the Earth Observation Satellite Data and Rights), paragraph 2 to 5 of Article 15 (Providing of Meteorological Data and Rights), Article 16 (Providing of Technical Data), Article 18 (Usage of the Research Results) to 22 (Ownership of the Copyrights of Program/Data), and Article 27 (Publication of Research Results) continues to be effective for the duration of the continuance of the rights stated in the present Article. Provisions of Article 26 (Confidentiality) and Article 27 (Publication of Research Results) possess the terms effect stipulated in the present Article.

Article 34. Amendment of the Agreement

1. JAXA can amend the contents of this Agreement. In such a case, JAXA announces the amended contents by posting it to the website operated by JAXA, and thereafter the Agreement is handled based on the amended contents.
2. In the case the RO has a legitimate reason for not agreeing with the amendment of the previous paragraph, the RO may terminate the Agreement by notifying JAXA in writing within thirty (30) days from the date the amended contents were posted on the website.

Article 35. Governing Law

The Agreement shall be governed and interpreted under the laws of Japan.

Article 36. Language

All communications between JAXA and the RO under this Agreement shall be either in Japanese or English.

Article 37. Consultation

In the event that any doubt arises with regard to provisions that are not included in the Agreement, it shall be resolved upon mutual agreement between JAXA and the RO as necessary.

Attachment “Earth Observation Satellite Data”

Name of Satellite or Sensor	Observation Period (YYYY/MM/DD)	Observable Area
JERS (Japanese Earth Observation Satellite)	1992/09/01 ~1998/10/11	Global
ADEOS (Advanced Earth Observation Satellite)	1996/10/15 ~1997/06/29	Global
TRMM (Tropical Rainfall Measuring Mission)	1997/12 ~2015/04	Global (PR: Approximately 36°S-36°N. TMI and VIRS: Approximately 38°S-38°N)
AMSR-E (Advanced Microwave Scanning Radiometer for EOS-Aqua satellite)	2002/06/19 ~2011/10/04	Global
ADEOS-II (Advanced Earth Observing Satellite-II)	2003/01 ~2003/10	Global
ALOS (Advanced Land Observing Satellite) * number of scenes limited	2006/05/16 ~2011/04/22	Global
GOSAT (Greenhouse Gases Observing Satellite)	2009/04/23~	Global
GCOM-W (The Global Change Observation Mission - Water)	2012/07~	Global
GPM (Global Precipitation Measurement)	2014/03~	Global (DPR: Approximately 66°S-66°N. GMI: Approximately 68°S-68°N)
ALOS-2 (Advanced Land Observing Satellite-2) * number of scenes limited	2014/08/04~	Global
GCOM-C (The Global Change Observation Mission-Climate)	2018/01~	Global

* GOSAT-2, EarthCARE, ALOS-3, ALOS-4, and MOLI will be added by revision of the Agreement pursuant to Article 34 when provision of data becomes available.

COLLABORATIVE RESEARCH AGREEMENT (FUNDED)
FOR THE EARTH OBSERVATION MISSION
BETWEEN
THE JAPAN AEROSPACE EXPLORATION AGENCY (JAXA)
AND
THE RESEARCH ORGANIZATION

(FOR THE SECOND RESEARCH ANNOUNCEMENT)

JAPAN AEROSPACE EXPLORATION AGENCY

**2nd EARTH OBSERVATION RESEARCH ANNOUNCEMENT
COLLABORATIVE RESEARCH AGREEMENT (FUNDED)**

This agreement ("Agreement") is entered into between the Japan Aerospace Exploration Agency, established under the provision of the Law Concerning the Japan Aerospace Exploration Agency on October 1, 2003, represented by its President and having its principal office at 7-44-1 Higashimachi, Jindaiji, Choufu-shi, Tokyo, Japan ("JAXA") and a research organization ("Research Organization", "RO") that submitted an application form for the below described research activities to JAXA, hereinafter collectively referred to as "the Parties".

WITNESSETH

WHEREAS, JAXA issued the Research Announcement ("RA") to engage in collaborative research activities directly related to retrieval algorithms for geophysical products, product validation, and data application of earth observation satellites, and the Research Organization applied pursuant to such RA;

WHEREAS, JAXA accepted the Research Organization's proposal that was in response to the RA, delivered the confirmation sheet to the Research Organization and JAXA further desires to utilize such proposal in JAXA's project; and

WHEREAS, JAXA desires to engage in the above research activities in collaboration with the Research Organization.

NOW, THEREFORE, in consideration of the mutual agreements hereinafter set forth, and for other good and reasonable consideration, the receipt and adequacy of which are hereby acknowledged, the Parties hereby agree as follows:

Article 1. Definitions

1. The following capitalized terms shall have the following meanings:

- (1) "Research Results" means the technical results and scientific knowledge derived from the implementation of the Research Projects pursuant to this Agreement, including all inventions, ideas, designs, literary works, algorithms, and technological developments, such as programs, that can execute the algorithm(s).
- (2) "Intellectual Property Rights" generated in the course of implementation of the Agreement means the following:
 - (i) Industrial Property Rights (as defined below);
 - (ii) Potential Industrial Property Rights (as defined below); and
 - (iii) Program/Data Copyrights (as defined below).

"Industrial Property Rights" means all domestic and foreign patents, utility models, and industrial designs.

"Potential Industrial Property Rights" means all domestic and foreign application rights for patents, utility models, or industrial designs.

"Program/Data Copyrights" means all domestic and foreign copyrights related to computer programs, software and databases.

- (3) "Collaborative Research Plan" means the plan described in the Application for Collaborative Research Agreement for the GCOM ("Application").
- (4) "Research Period" means a period described in the Collaborative Research Plan. Based on the regulations of this Agreement, in case this Agreement is terminated before the completion date of the Research Period, such date of termination of the Agreement shall be the final date of the Research Period.
- (5) "Annual Evaluation" means evaluation by JAXA for the results achieved within the year in which this Agreement was concluded. JAXA evaluates the results by reports presented at the research presentation meeting by the Research Organization and Research Results Report (as

defined below).

- (6) "Earth Observation Satellite Data" means data sets obtained from satellites which are retained by JAXA at the time of execution of this Agreement. The available data sets (including names of satellites, sensors, observation period that can be offered, and observation areas) are listed in Attachment A of this Agreement.
- (7) "Meteorological Data" means data sets provided by the Japan Meteorological Agency pursuant to the agreement between JAXA and the Japan Meteorological Agency.
2. In this Agreement, "Invention, etc." means an invention in terms of a subject of patent rights, a utility model in terms of a subject of utility model rights, a creation in terms of a subject of copyrights such as design rights and programs, and ideas in terms of a subject of algorithm and know-how.
3. In this Agreement, "utilization" of the intellectual property rights and Research Results means act defined in Article 2, Paragraph 3 of the Patent Act, act defined in Article 2, Paragraph 3 of the Utility Model Act, act defined in Article 2, Paragraph 3 of the Design Act, enforcement of right defined in Articles 21 and 27 of Copyright Act (including utilization of secondary work created by JAXA or the Research Organization), and use of algorithm and know-how.
4. In this Agreement, "Principal Investigator" ("PI") means the Research Organization employee who submitted the proposal in response to the RA and was selected to be responsible for the Research Projects. "Co-Investigator" ("CI") means a person who supports the PI in performing the Research Projects with approval by JAXA. Names, affiliation, and other information concerning PI and CI (collectively "Collaborative Researchers") shall be described on the Collaborative Research Plan.

Article 2. JAXA's Performance for Research Projects and the Research Organization's General Responsibilities for Research Projects

1. JAXA shall make reasonable efforts to perform the following tasks related to the Research Projects:
 - a) Deliver the Earth Observation Satellite Data and Meteorological Data required for performing the Collaborative Research to the Research Organization free of charge;
 - b) Hold research presentation meetings for checking progress of the research and other necessary meetings; and
 - c) Evaluate the Research Result Report submitted at the end of fiscal year for the Annual Evaluation.
2. For the purpose of ensuring the Research Organization's performance of the above obligations, the Research Organization shall perform certain actions including, but not limited to:
 - a) The Research Organization shall conduct and complete the Research Projects in accordance with the Collaborative Research Plan;
 - b) Participate in necessary workshops and meetings for the Research Projects such as the research presentation meeting hosted by JAXA at the end of the fiscal year;
 - c) Participate in the research presentation meeting hosted by JAXA every year to report on the the Research Results and progress of research to JAXA; and
 - d) Deliver a report of all the Research Results obtained during the fiscal year by the end of each fiscal year to JAXA. Furthermore, at the completion of the research period, the Research Organization shall report all the Research Results obtained throughout the entire period of the Collaborative Research in the Final Report and submit it to JAXA. In this case, the Research Organization does not need to separately submit an annual report for the final year of the term. Any report stipulated in this paragraph shall be sent by mail in the form of one hard copy and one CD-ROM containing such report in PDF format.

Article 3. Finalization and Renewal of the Contract

1. The Agreement shall become effective as of the date of the issuance of the Confirmation Sheet prescribed by JAXA in response to an application by the Research Organization. Period of the Agreement shall be the period described in the Confirmation Sheet issued by JAXA. In case of a conflict between the Confirmation Sheet and this Agreement, the terms and conditions stipulated in the Confirmation Sheet will supersede this Agreement.
2. The Research Organization may renew the Agreement by one fiscal year, provided that JAXA

approves an extension of the research period in the Annual Evaluation and the Parties mutually agree upon the amount to be paid by JAXA for such extended period; further provided, however, the Research Organization shall submit a renewal Application Form to JAXA and JAXA shall issue a new Confirmation Sheet. Thereafter the procedure shall be the same as above.

Article 4. Researchers

1. The Research Organization shall cause the Collaborative Researchers listed on the Collaborative Research Plan to participate in the Collaborative Research.
2. JAXA shall allow those who are listed on the Collaborative Research Plan to participate in the Research Projects.
3. The Research Organization shall ensure all the Collaborative Researchers engaging in the Research Projects act in accordance with the terms and conditions of the Agreement.
4. In the event that the Research Organization intends to newly select or add CIs, the Research Organization shall first notify to JAXA by a written form in advance and obtain the consent of JAXA for such personnel. The Research Organization shall take necessary measures to cause such CI to follow the Collaborative Research Agreement.
5. In the event that the PI dies, retires from the Research Organization, takes a leave absent from work, or come to be no longer engaged in the Research Projects, the Research Organization shall immediately notify to JAXA as such and JAXA may at its sole discretion terminate this Agreement; provided however, if the Research Organization designates a researcher who belongs to the Research Organization as the PI's successor and JAXA approves the succession, the Parties may amend this Agreement, with the succeeding researcher being a new PI. The terms and conditions of the amendment to this Agreement shall be determined upon mutual consultation and consent.

Article 5. Subcontract

1. The Research Organization shall not re-commission the whole Research Projects to a third party ("Subcontract"). Provided, however, that the Research Organization may re-commission part of it upon a written prior application to JAXA and a prior written approval of JAXA. Should there be a case where subcontractors re-commission part of the Research Projects to a third party, the company name, address and scope of business of such third party are required to be submitted to the Research Organization in writing.
2. If the Research Organization re-commissions the Research Projects to a third party at any tier (contractor or subcontractor, including any company of any stage of the Projects in connection with the subcontract) of the Research Organization, act of such subcontractor, or, any act of such third party in connection with the subcontract shall be deemed to be an act of the Research Organization and the Research Organization shall be fully responsible therefor.
3. If the Research Organization re-commissions part of the Research Projects to a third party, the Research Organization shall conclude an agreement with the subcontractor on issues necessary for the Research Organization to comply with the Agreement and on issues designated by JAXA.

Article 6. Research Funding

1. The Confirmation Sheet issued on the basis of Article 3 identifies the amount of funding to be provided by JAXA to the Research Organization for the Research Projects ("Research Funding") and JAXA shall pay such amount to the Research Organization in advance.
2. JAXA shall, within thirty (30) days from the date when JAXA receives an invoice duly issued by the Research Organization, make payment for the Research Funding.
3. If RO wishes to reallocate expenses between Expense Item Categories for more than 50% increase or decrease (3,000,000 Japanese yen, in case the amount of 50% is less than 3,000,000 Japanese yen), RO shall obtain a written approval from JAXA in advance.
4. Provided, however, that the Research Organization shall not conduct the reallocation of budget between the general administrative expenses and the direct expenses.
5. In case that JAXA fails to pay the Research Funding within the above period, the Research Organization may request JAXA to pay default interest of six (6) percent per annum on such unpaid amount for the period from the immediately succeeding day of due date for payment to the date of actual payment.

6. If the interest on late payment is less than 10,000 yen, JAXA shall be exempt from payment of such interest and if there is any amount less than 1,000 yen, such amount shall be rounded off.

Article 7. Accounting

RO shall conduct accounting of the Research Funding stipulated in Article 6.2. RO shall maintain books to record expenses according to items and store documents to prove such expenses. In addition, RO shall keep all the accounting documents for seven (7) years after the end of the contract counting from next fiscal year. JAXA may request RO to submit a copy of such books and documents to clarify the expenses, and RO shall respond to such requests from JAXA.

Article 8. Submission of Financial Statement

In the event that the research expenses, stated in paragraph 1 of the previous Article, exceed one (1) million Japanese yen, RO shall submit a Financial Report containing the expenses breakdown to JAXA within 61 days after the end of contract.

Article 9. Determination of Contract Amount

1. Upon the receipt of the Performance Report stipulated in paragraph 2 in the previous Article, JAXA shall adjust the expenses within the limit of the original contract amount in accordance with the present Article, Article 10 (Investigation of Actual Expenses) and Article 11 (Return of Paid Research Funding), determine and notify the Research Organization of the final contract amount.
2. In the calculation of the actual expenses, the general administrative expenses ratio shall be calculated by using the ratio applied at the time the contract was concluded.

Article 10. Investigation of Actual Expenses

For determination of contract amount stipulated in Paragraph 1 of the previous Article, JAXA shall check whether the amount spent matches the content and conditions of the Agreement. If necessary, JAXA requests the Research Organization to submit reference materials or report, or to investigate books and relevant documents in the offices of the Research Organization.

Article 11. Return of Paid Research Funding

1. After the payment by the method stipulated in paragraph 1 and 2 of Article 6, if the amount already paid exceeds the final contract amount determined through the process stipulated in paragraph 1 of Article 9, JAXA shall reclaim the excess amount from the Research Organization.
2. In the case of the previous paragraph, the Research Organization shall remit such funds within thirty (30) days from the date when the Research Organization receives an invoice issued by JAXA with regard to such funds.
3. In the event there is no return made by the Research Organization within the set time limit as described in the preceding paragraph, the provisions of paragraph 5 and 6 of Article 6 shall be applied.

Article 12. Ownership of the Rights to the Acquired Equipment

1. The ownership of the equipment acquired with the Research Funding in accordance with paragraph 1 of Article 6 shall be retained by JAXA. However, upon mutual agreement between JAXA and the Research Organization the ownership of the equipment may be transferred to the Research Organization.
2. The Research Organization shall create a ledger for the equipment mentioned in the previous paragraph and manage the equipment with the care of a good manager. When the Agreement ends, the Research Organization must submit to JAXA a list of acquired property.

Article 13. Providing of Earth Observation Satellite Data by JAXA

1. JAXA will provide the Research Organization with the Earth Observation Satellite Data for the Research Projects free of charge via internet in accordance with Article 2, Paragraph 1, Item 2 subject to the following conditions:
 - a) The Research Organization agrees and accepts that JAXA may not provide all the Earth Observation Satellite Data which the Research Organization may request due to

restrictions in the allowance range of JAXA's equipment and in resources.

Note that amongst the Earth Observation Satellite Data, which the Research Organization may request JAXA, the each standard Data collected from the Advance Land Observing Satellite (ALOS) and the Advance Land Observing Satellite-2 (ALOS-2) shall be limited by JAXA evaluating the Collaborative Research Plan;

- b) JAXA does not guarantee a specific quality or the timely provisions of the Earth Observation Satellite Data and does not take responsibility for quality and delay of provisions of such data;
 - c) JAXA reserves the right to curtail or suspend Earth Observation Satellite Data supply to the Research Organization due to faults or difficulties relating to the satellites, limitations on their operations, or any other reasons and JAXA shall be exempt from any responsibility for such curtailing and for suspension; and
 - d) Research Organization shall bear the costs of media and shipment if Research Organization requests that JAXA provide the Earth Observation Satellite Data via physical media.
2. With respect to the Earth Observation Satellite Data provided by JAXA, the Research Organization shall:
- a) Not duplicate the Earth Observation Satellite Data except for the purpose of backup. However, this excludes duplication for distributing to authorized Collaborative Researchers stipulated in Article 4 and subcontractors stipulated in Article 5 ("PIs, etc." collectively) which are necessary for the Collaborative Research Project;
 - b) Not provide or disclose the Earth Observation Satellite Data except to PIs, etc.;
 - c) Only use the Earth Observation Satellite Data for the singular purpose of advancing the efforts of the Research Projects; and
 - d) Return or otherwise appropriately manage the Earth Observation Satellite Data upon completion of this Agreement, according to the directives of JAXA.
3. Any rights regarding the Earth Observation Satellite Data provided by JAXA shall conform to the following:
- a) JAXA retains the intellectual property rights of all the Earth Observation Satellite Data, except for ALOS PALSAR data of which METI is the joint owner;
 - b) If value-added products (modified products with high-level processing which are irreversible to standard data. High-level data processing includes data analysis or combining multiple-satellite data, image processing based on external information, and physical quantity conversion.) are solely developed by Research Organization out of Earth Observation Satellite Data, in the course of executing the Research Projects, Research Organization retains the intellectual property rights of such value-added products;
 - c) If Research Organization and JAXA jointly modify the Earth Observation Satellite Data which is provided by JAXA and develop any value-added products, Research Organization and JAXA will discuss the allocation of rights to the value-added products in consideration to degree of contribution or other factors to be considered;
 - d) Except for cases under paragraph b) and paragraph c), all Intellectual Property Rights of the data or product developed by modifying the Earth Observation Satellite Data shall be owned by JAXA; and
 - e) In case Research Organization uses the modified Earth Observation Satellite Data for commercial purposes, Research Organization shall notify JAXA and comply with a license condition to be set by JAXA.

Article 14. Providing of Meteorological Data by JAXA

1. For the purpose of performing the Research Projects, JAXA will attempt to provide the Research Organization with the Meteorological Data based on Article 2, Paragraph 1, Item 1.
2. Any rights relating to the Meteorological Data provided by JAXA to the Research Organization shall not be transferred to the Research Organization by such provisions. In terms of the intellectual property rights of the data, the Research Organization shall follow instructions of JAXA.
3. The Research Organization may not disclose the provided Meteorological Data to any third party except for PIs, etc.
4. The Research Organization shall use the provided Meteorological Data solely for the purpose of

conducting the Research Projects.

5. The Research Organization shall return or otherwise appropriately keep the Meteorological Data in accordance with the instructions of JAXA upon the termination of this Agreement.

Article 15. Disclosure of Technical Data

1. To the extent feasible, each party shall disclose and allow use of all necessary technical information, programs, etc. ("Technical Data"), which does not include the Earth Observation Satellite Data and the Meteorological Data, necessary for performing the Collaborative Research free of charge. The Parties will undertake to handle expeditiously any request for the Technical Data presented by the other party.
2. The Technical Data shall be used by the receiving party only for the purpose of fulfilling the receiving party's responsibilities under this Agreement and shall not be disclosed to any third party except for PIs, etc.
3. According to directives of the furnishing party, the receiving party shall return or otherwise dispose of Technical Data provided under the Agreement upon completion of the activities under the Agreement.

Article 16. Usage of Research Results

1. All Research Results obtained through the course of the Collaborative Research may be used for non-commercial and peaceful purposes by the Parties (or by the third party including for JAXA or the Research Organization) ("Jointly-Owned Research Results") without consent of the Research Organization.
2. With regard to copyrights in the Final Reports submitted by the Research Organization to JAXA, JAXA may freely use, edit, copy, and distribute such reports. In this case, the Collaborative Researchers shall waive any related moral rights to the copyrights in the Final Reports.

Article 17. Ownership of Research Results

1. Both Parties shall solely own the rights of the Research Results if JAXA or the Research Organization solely generates such Research Results in the course of the Research Projects.
2. The Parties shall jointly own the rights to the Research Results obtained through the course of the Collaborative Research and the ownership of such results shall be determined upon mutual agreement between the Parties, taking into consideration the degrees of contribution by JAXA and the Research Organization.

Article 18. Application etc. of Intellectual Property Rights

1. JAXA or the Research Organization shall give the other party prompt written notice of Intellectual Property Rights generated, such as the Invention, Utility Model, and Creation, in the course of the Collaborative Research and discuss the ownership of such generated Intellectual Property Rights, as well as whether it is necessary to submit an application for registration of such Intellectual Property Rights.
2. JAXA and/or Research Organization shall take any necessary procedures for any Industrial Property Rights owned by and/or held by each Collaborative Researchers (including invention etc. jointly generated by such Joint Researcher and JAXA or the Research Organization) to be transferred by such Joint Researcher to JAXA or the Research Organization.
3. If JAXA or the Research Organization solely generates Potential Intellectual Property Rights in the course of the Research Projects ("Solely-Owned Intellectual Property Rights"), the party may take steps to apply for the registration of the resulting Intellectual Property Rights as solely-owned ones, provided that it shall obtain prior confirmation of the other party. In this case, expenses for application and rights preservation shall be borne by the party solely holding the Intellectual Property Rights.
4. In the event that the Parties jointly generate an invention etc., and submit an application for Intellectual Property Rights to such invention, the Parties shall enter into a separate joint ownership agreement ("Joint Ownership Agreement") and jointly perform submission of the application and other procedures according to the Joint Ownership Agreement. In this case, expenses for application and rights preservation shall be borne by the both JAXA and the Research Organization depending on the degree of ownership.

Article 19. Application of Intellectual Property Rights Overseas

1. Regulations of the previous Article shall apply to the case of application and rights preservation of the Intellectual Property Rights in foreign countries.
2. In the event of an application of the Intellectual Property Rights jointly owned by the Parties pursuant to Paragraph 4 of the previous Article, the Parties shall discuss whether it is necessary to submit an application for registration of such Intellectual Property Rights.

Article 20. Utilization of Jointly-Owned Intellectual Property Rights

In case either of the Parties utilizes the Jointly-Owned Intellectual Property Rights, such party shall obtain a consent from the other party in advance and pay utilization fee as set forth in a separate utilization agreement, except for the case stipulated in Article 15.

Article 21. License of Utilization of Jointly-Owned Intellectual Property Rights to Third Party

1. The Parties may grant to any third party a license to use the Jointly-Owned Intellectual Property Rights, provided, however that the relevant party shall obtain the written prior consent of the other party, and determine the licensing terms after discussion with the other party.
2. In the case of granting a license to use the Jointly-Owned Intellectual Property Rights to a third party as in the previous Paragraph, the relevant party shall collect the usage fee from such third party as set forth in the separate usage agreement. The usage fee to be collected from the third party shall be distributed between the Parties pro rata in proportion to their respective interests in those rights.

Article 22. Transfer of Interests to Jointly-Owned Intellectual Property Rights

1. The Parties may transfer their respective interests to the Jointly-Owned Intellectual Property Rights generated in the course of the Collaborative Research only to their respective designees after discussion between the Parties. Such transfer may be carried out pursuant to a separate transfer agreement. In this event, the Parties shall cause its designee to succeed to all of its rights and obligations with respect to those Intellectual Property Rights.
2. If JAXA or the Research Organization disclaims its interests in the Jointly-Owned Intellectual Property Rights, the relevant party shall give the other party prior notice thereof and transfer its interests to the other party, only if the other party wishes to acquire it.

Article 23. Improved Invention

If JAXA or the Research Organization alters or improves the Jointly-Owned Intellectual Property within one (1) year from the application for registration of the original Jointly-Owned Intellectual Property Rights, the party shall provide a written notice without delay to the other party describing the alterations or improvements. Ownership and other issues of the Intellectual Property Rights concerning the altered or improved invention shall be determined through discussion between the Parties.

Article 24. Designation of Know-How

1. After mutual agreement by the Parties, JAXA and the Research Organization shall promptly designate as know-how the Research Results which are appropriately to be treated as know-how ("Know-How").
2. For designation of Know-how, a period during which the Research Results are designated to be Know-How shall be specified.
3. After designating the Know-How, such Know-How shall be kept in confidence in principle, for five (5) years commencing on the day immediately following the date of the completion of this Agreement; provided, however, that JAXA and the Research Organization may extend or shorten that period upon mutual agreement.

Article 25. Utilization of Facilities, etc.

1. The Parties may use facilities and equipment ("Facilities") of the other party free of charge with a prior consent from the other party if it is necessary for implementation of the Research Projects.
2. The Parties shall follow rules and regulations of the other party in case of using the Facilities of the other party.

Article 26. Installation of Equipment

1. The Parties may, if necessary for implementation of the Research Projects, install necessary equipment and other materials into the facility of the other party with a prior consent from the other party. In this case, the party which installs such equipment shall follow the rules and regulations of the other party.
2. In the event that JAXA or the Research Organization uses the material etc. installed by the other party (Installed Material), such party shall obtain a prior consent of the other party and shall not use the Installed Material for other purposes than the Research Projects.
3. In the event that JAXA or the Research Organization loses or damages the Installed Material, such party should immediately notify the other party such fact irrespective of the reason.

Article 27. Delivery, Storage, and Returning of Lent Equipment

1. The Parties may lend machinery or other material to the other party if it is required for implementation of the Research Projects.
2. Upon delivery of the machinery or other material ("Lent Equipment") lent in accordance with the previous Paragraph, owner of the Lent Equipment ("Lessor") shall submit the other party a Note of Delivery and the other party shall submit the Lessor a receipt.
3. The Parties shall confirm items, amount, etc. of the Lent Equipment upon delivery of the Lent Equipment and if there is a shortage in the amount or any defect (including ones whose quality and/or specification does not meet the requirement), JAXA or the Research Organization shall notify such fact to the Lessor and receive an instruction from the Lessor.
4. JAXA and the Research Organization shall manage and use the Lent Equipment with the care of a good manager and should not use the Lent Equipment for the purposes other than the Research Projects.
5. JAXA and the Research Organization shall keep the record of usage and management of the Lent Equipment to record delivery, usage, and returning of the Lent Equipment for the purpose of clarifying the condition of the Lent Equipment.
6. In the case of loss or damage to the Lent Equipment, JAXA and the Research Organization shall immediately notify the fact to the Lessor without delay.
7. The party shall notify the Lessor if any of the Lent Equipment becomes unnecessary due to the reasons such as completion, change, or termination of whole or part of the Research Projects and shall take returning procedures according to the instruction from the Lessor.

Article 28. Confidentiality

1. In this Agreement, "Confidential Information" means any information that corresponds to any of the following:
 - (1) Any information that includes documents classified "Confidential", any material object such as a sample, or any information, either material or immaterial, which JAXA and the Research Organization agreed to handle as the Confidential Information by a written agreement, obtained in the course of these Research Projects; or
 - (2) Any information disclosed or distributed to the other party as Confidential Information in the form of a document, a drawing, a photograph, a specimen, a sample, a magnetic tape, a floppy disk, or the like for the purpose of the Research Projects.
2. The Parties shall appropriately keep the Confidential Information secret, and shall not disclose or divulge any Confidential Information to any party other than those who engage in the Research Projects; provided, however, that any information which corresponds to any of the following is not included in the Confidential Information.
 - a) Information that is already known to the public when disclosed by the disclosing party;
 - b) Information that becomes known to the public after the disclosure by the disclosing party without intentional misconduct or negligence of the receiving party;
 - c) Information that the receiving party already had before the disclosure by the disclosing party;
 - d) Information that the receiving party acquires from a duly authorized third party not subject to confidentiality obligations;
 - e) Information that the receiving party independently develops without utilizing information obtained from the disclosing party;

- f) Information with a prior written consent of the disclosing party for the disclosure and the publication; or
 - g) Information that is required to be disclosed by applicable laws, judgment or order of a competent court. In this case, the receiving party shall promptly notify the disclosing party of the necessity of disclosure.
3. The confidentiality obligation under this Article shall remain effective for a period of five (5) years after the termination of the Agreement. However, this period of keeping confidentiality may be extended or shortened by mutual agreement between JAXA and the Research Organization.

Article 29. Publication of Research Results

1. The Parties may disclose or publish the Research Results obtained in the course of the Research Projects (Publication of Research Results”) provided that such publishing party follows the obligations stipulated in Article 28.
2. In the case of the previous Paragraph, before publishing, JAXA or the Research Organization (“the publishing party”) shall provide the other party with a written document regarding the description of the subjected Research Results to be published and request a written consent of the other party. The other party will not unreasonably withhold consent from the publishing party's request for such publication.
3. The other party, upon receiving the notice, will request correction of the content of the publication in a written form if it is judged that such content includes a portion which may lead to the loss of the future interest of the other party and the publishing party shall consult with the other party about such portion. The publishing party may not publish the portion which the other party notified as having possibility of resulting in the loss of the future interest of the other party without consent of the other party.
4. The Research Organization shall state in the publication that such Research Results have been obtained pursuant to this Agreement and identify the owner of the rights to the Earth Observation Satellite Data and Meteorological Data used in such publication.
5. The period during which the notification pursuant to Paragraph 2 is required shall be one (1) year from the day following the day of termination of the Agreement. However, this period may be extended or shortened by mutual agreement between JAXA and the Research Organization.
6. JAXA and the Research Organization shall provide the other party with a copy of the publication immediately after the disclosure or publishing of such publication. Each party is entitled to an irrevocable and royalty-free right to use the provided publications, unless the copyright of such publication is owned or held by an academic society.

Article 30. Security

In the course of the Collaborative Research, the Parties shall take necessary procedures for maintaining an order in the areas managed by each party, ensuring appropriate and smooth operation of the research, and ensuring protection of important assets and information (security).

Article 31. Termination of the Contract

1. The Parties may terminate the Agreement in any case that corresponds to any one of the following. In such a case, the Parties agree to waive any claim against the other.
 - (1) Upon the consent of both JAXA and the Research Organization;
 - (2) When the other party commits a dishonest and/or inequitable act; provided, that breaching party fails to offer any effective and satisfactory remedial measures within seven (7) days after receiving demands for corrective action from the harmed party;
 - (3) When the other party breaches the Agreement; provided, that breaching party fails to offer any effective and satisfactory remedial measures within seven (7) days after receiving demands for corrective action from the harmed party;
 - (4) When the Research Organization loses a person who engages in the Research Projects due to the reasons described in Paragraph 5 of Article 4 such as transfer of the PI;
 - (5) When an inevitable reason such as a natural disaster arises; or
 - (6) When the RO sends a written notice to JAXA in accordance with the paragraph 2 of Article 33.
2. In a case where the Agreement is terminated due to the reasons described in the previous

Paragraph, JAXA shall request refund of the funding which is no longer necessary pursuant to Paragraph 1 of Article 11.

3. The Parties shall waive any claim against the other if the Agreement is terminated pursuant to Paragraph 1, Item 5 of this Article.
4. Upon the termination of the Agreement, the RO shall promptly submit to JAXA all work in progress and completed work based on the research carried out prior to the termination.

Article 32. Effective Term

1. The effective term of the Agreement shall be the period set forth in Article 3.
2. Termination of this Agreement shall not affect a Party's continuing obligation under Paragraph 2 and 3 of Article 13 (Providing and Rights of Earth Observation Satellite Data by JAXA), Paragraph 2 to 5 of Article 14 (Providing and Rights of Meteorological Data by JAXA), Paragraph 3 of Article 15 (Exchange of Technical Information etc.), and Article 16 (Usage of Research Results) through Article 22 (Transfer of interests to Jointly-Owned Intellectual Property Rights) during the effective period of rights set forth in each Article and Paragraph while Article 23 (Improved Invention), Article 24 (Designation of Know-How), Article 28 (Confidentiality) and Article 29 (Publication of Research Results) shall be effective during the period set forth in each Article.

Article 33. Amendment of the Agreement

1. JAXA can amend the contents of this Agreement. In such a case, JAXA announces the amended contents by posting it to the website operated by JAXA, and thereafter the Agreement is handled based on the amended contents.
2. In the case the Research Organization has a legitimate reason for not agreeing with the amendment of the previous paragraph, the Research Organization may terminate the Agreement by notifying JAXA in writing within thirty (30) days from the date the amended contents were posted on the website.

Article 34. Governing Law

The Agreement shall be governed and interpreted under the laws of Japan.

Article 35. Language

All communications between JAXA and the Research Organization under this Agreement shall be either in Japanese or English.

Article 36. Consultation

In the event that any doubt arises with regard to provisions that are not included in the Agreement, it shall be resolved upon mutual agreement between JAXA and the Research Organization as necessary.

Attachment “Earth Observation Satellite Data”

Name of Satellite or Sensor	Observation Period (YYYY/MM/DD)	Observable Area
JERS (Japanese Earth Observation Satellite)	1992/09/01 ~1998/10/11	Global
ADEOS (Advanced Earth Observation Satellite)	1996/10/15 ~1997/06/29	Global
TRMM (Tropical Rainfall Measuring Mission)	1997/12 ~2015/04	Global (PR: Approximately 36°S-36°N. TMI and VIRS: Approximately 38°S-38°N)
AMSR-E (Advanced Microwave Scanning Radiometer for EOS-Aqua satellite)	2002/06/19 ~2011/10/04	Global
ADEOS-II (Advanced Earth Observing Satellite-II)	2003/01 ~2003/10	Global
ALOS (Advanced Land Observing Satellite) * number of scenes limited	2006/05/16 ~2011/04/22	Global
GOSAT (Greenhouse Gases Observing Satellite)	2009/04/23~	Global
GCOM-W (The Global Change Observation Mission - Water)	2012/7~	Global
GPM (Global Precipitation Measurement)	2014/03~	Global (DPR: Approximately 66°S-66°N. GMI: Approximately 68°S-68°N)
ALOS-2 (Advanced Land Observing Satellite-2) * number of scenes limited	2014/08/04~	Global
GCOM-C (The Global Change Observation Mission-Climate)	2018/1~	Global

* GOSAT-2, EarthCARE, ALOS-3, ALOS-4, and MOLI will be added by revision of the Agreement pursuant to Article 33 when provision of data becomes available.

COLLABORATIVE RESEARCH AGREEMENT (NON-FUNDED)
BETWEEN
THE JAPAN AEROSPACE EXPLORATION AGENCY (JAXA)
AND
THE RESEARCH ORGANIZATION
(FOR THE SECOND RESEARCH ANNOUNCEMENT)

JAPAN AEROSPACE EXPLORATION AGENCY

**2nd EARTH OBSERVATION RESEARCH ANNOUNCEMENT
COLLABORATIVE RESEARCH AGREEMENT (NON-FUNDED)**

This agreement ("Agreement") is entered into between the Japan Aerospace Exploration Agency, established under the provision of the Law Concerning the Japan Aerospace Exploration Agency on October 1, 2003, represented by its President and having its principal office at 7-44-1 Higashimachi, Jindaiji, Choufu-shi, Tokyo, Japan ("JAXA") and a research organization ("Research Organization", "RO") that submitted an application form for the below described research activities to JAXA, hereinafter collectively referred to as "the Parties".

WITNESSETH

WHEREAS, JAXA issued the Research Announcement ("RA") to engage in collaborative research activities directly related to retrieval algorithms for geophysical products, product validation, and data application of earth observation satellites, and the Research Organization applied pursuant to such RA;

WHEREAS, JAXA accepted the Research Organization's proposal that was in response to the RA, delivered the confirmation sheet to the Research Organization and JAXA further desires to utilize such proposal in JAXA's project; and

WHEREAS, JAXA desires to engage in the above research activities in collaboration with the Research Organization.

NOW, THEREFORE, in consideration of the mutual agreements hereinafter set forth, and for other good and reasonable consideration, the receipt and adequacy of which are hereby acknowledged, the Parties hereby agree as follows:

Article 1. Definitions

1. The following capitalized terms shall have the following meanings:

- (1) "Research Results" means the technical results and scientific knowledge derived from the implementation of the Research Projects pursuant to this Agreement, including all inventions, ideas, designs, literary works, algorithms, and technological developments, such as programs, that can execute the algorithm(s).
- (2) "Intellectual Property Rights" generated in the course of implementation of the Agreement means the following:
 - (i) Industrial Property Rights (as defined below);
 - (ii) Potential Industrial Property Rights (as defined below); and
 - (iii) Program/Data Copyrights (as defined below)."Industrial Property Rights" means all domestic and foreign patents, utility models, and industrial designs.
"Potential Industrial Property Rights" means all domestic and foreign application rights for patents, utility models, or industrial designs.
"Program/Data Copyrights" means all domestic and foreign copyrights related to computer programs, software and databases.
- (3) "Collaborative Research Plan" means the plan described in the Application for Collaborative Research Agreement for the GCOM ("Application").
- (4) "Research Period" means a period described in the Collaborative Research Plan. Based on the regulations of this Agreement, in case this Agreement is terminated before the completion date of the Research Period, such date of termination of the Agreement shall be the final date of the Research Period.
- (5) "Annual Evaluation" means evaluation by JAXA of the research results achieved at the end of each Japanese fiscal year, in order to assess the progress of the research.

- (6) "Earth Observation Satellite Data" means data sets obtained from satellites which are retained by JAXA at the time of execution of this Agreement. The available data sets (including names of satellites, sensors, observation periods that can be offered, and observation areas) are listed in Attachment A of this Agreement.
- (7) "Meteorological Data" means data sets provided by the Japan Meteorological Agency pursuant to the agreement between JAXA and the Japan Meteorological Agency.
2. In this Agreement, "Invention, etc." means inventions in terms of items subject to patent rights, utility models in terms of items subject to utility model rights, creations in terms of items subject to copyrights such as design rights and programs, and ideas in terms of items subject to algorithms and know-how.
3. In this Agreement, "utilization" of the intellectual property rights and Research Results means activities defined in Article 2, Paragraph 3 of the Patent Act, activities defined in Article 2, Paragraph 3 of the Utility Model Act, activities defined in Article 2, Paragraph 3 of the Design Act, enforcement of rights defined in Articles 21 and 27 of the Copyright Act (including utilization of secondary work created by JAXA or the Research Organization), and use of algorithms and know-how.
4. In this Agreement, "Principal Investigator" ("PI") means the Research Organization employee who submitted the proposal in response to the RA and was selected to be responsible for the Research Projects. "Co-Investigator" ("CI") means a person who supports the PI in performing the Research Projects with approval by JAXA. Names, affiliation, and other information concerning the PI and CI (collectively "Collaborative Researchers") shall be described in the Collaborative Research Plan.

Article 2. JAXA's Performance for Research Projects and the Research Organization's General Responsibilities for Research Projects

1. JAXA shall make reasonable efforts to perform the following tasks related to the Research Projects:
 - a) Deliver the Earth Observation Satellite Data and Meteorological Data required for performing the Collaborative Research to the Research Organization free of charge;
 - b) Hold research presentation meetings (Research Presentation Meeting) to check progress of the research and other necessary meetings; and
 - c) Carry out an Annual Evaluation based on the report made in the Research Presentation Meeting stipulated in the previous Paragraph, or written reports similar to the one stipulated therein.
2. For the purpose of ensuring the Research Organization's performance of the above obligations, the Research Organization shall perform certain actions including, but not limited to:
 - a) Conduct and complete the Research Projects in accordance with the Collaborative Research Plan;
 - b) Participate in the Research Presentation Meeting hosted by JAXA every fiscal year in response to the request from JAXA;
 - c) Report on the Research Results and progress of research in the Research Presentation Meeting stipulated in the previous Paragraph, or submit in a written form to JAXA by the day before the Annual Evaluation that JAXA implements every fiscal year;
 - d) Deliver a report of all the Research Results obtained during the fiscal year by the end of each fiscal year to JAXA. Furthermore, upon completion of the research period, the Research Organization shall report all the Research Results obtained throughout the entire period of the Collaborative Research in the Final Report and submit it to JAXA. In this case, the Research Organization does not need to separately submit an annual report for the final year of the term; and
 - e) Alternatively may substitute the submission of a thesis published during the Research Period for the submission of the report of Research Results.

Article 3. Finalization of the Contract

The Agreement shall become effective as of the date of the issuance of the Confirmation Sheet prescribed by JAXA in response to an application by the Research Organization. The period of the Agreement shall be the period described in the Confirmation Sheet issued by JAXA. In case of a

conflict between the Confirmation Sheet and this Agreement, the terms and conditions stipulated in the Confirmation Sheet will supersede this Agreement.

Article 4. Researchers

1. The Research Organization shall ensure that the Collaborative Researchers listed in the Collaborative Research Plan to participate in the Collaborative Research.
2. JAXA shall allow those who are listed in the Collaborative Research Plan to participate in the Research Projects.
3. The Research Organization shall ensure that all the Collaborative Researchers engaging in the Research Projects act in accordance with the terms and conditions of the Agreement.
4. In the event that the Research Organization intends to newly select or add CIs, the Research Organization shall first notify JAXA in written form in advance and obtain the consent of JAXA for such personnel. The Research Organization shall take necessary measures to cause such CI to follow the Collaborative Research Agreement.

Article 5. Research Funding

Each party shall bear the necessary costs of fulfilling its own responsibilities under this agreement.

Article 6. Ownership of the Rights to the Acquired Equipment

Equipment acquired by each party in the course of the Research Projects shall be owned by the party who purchased such equipment.

Article 7. Providing of Earth Observation Satellite Data by JAXA

1. JAXA will provide the Research Organization with the Earth Observation Satellite Data for the Research Projects free of charge via internet in accordance with Article 2, Paragraph 1, a) subject to the following conditions:
 - a) The Research Organization agrees and accepts that JAXA may not provide all the Earth Observation Satellite Data which the Research Organization may request due to rights restrictions of JAXA's equipment and resource limitations;
Note that amongst the Earth Observation Satellite Data, which the Research Organization may request JAXA, the each standard Data collected from the Advanced Land Observing Satellite (ALOS) and the Advance Land Observing Satellite-2 (ALOS-2) shall be limited by JAXA evaluating the Collaborative Research Plan;
 - b) JAXA does not guarantee a specific quality or the timely provision of the Earth Observation Satellite Data and does not take responsibility for the quality or any delay of provision of such data;
 - c) JAXA reserves the right to curtail or suspend Earth Observation Satellite Data supply to the Research Organization due to faults or difficulties relating to the satellites, limitations on their operations, or any other reasons, and JAXA shall be exempt from any responsibility for such curtailing or suspension; and
 - d) Research Organization shall bear the costs of media and shipment if Research Organization requests that JAXA provide the Earth Observation Satellite Data via physical media.
2. With respect to the Earth Observation Satellite Data provided by JAXA, the Research Organization shall:
 - a) Not duplicate the Earth Observation Satellite Data except for the purpose of backup. However, this excludes duplication for distributing to authorized researchers engaged in the Research Project as stipulated in Article 4 and subcontractors stipulated in Article 4 ("Collaborative Researchers" collectively) which are necessary for the Collaborative Research Project;
 - b) Not provide or disclose the Earth Observation Satellite Data except to the Collaborative Researchers;
 - c) Only use the Earth Observation Satellite Data for the singular purpose of advancing the efforts of the Research Projects; and
 - d) Return or otherwise appropriately manage the Earth Observation Satellite Data upon completion of this Agreement, according to the directives of JAXA.
3. Any rights regarding the Earth Observation Satellite Data provided by JAXA shall conform to