

Annex List

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Project Design Matrix (PDM)

ANNEX1

Narrative Summary	Objectively Verifiable Indicators	Means of Verification	Important Assumptions							
(Overall Goal B) Thematic maps for environmental conservation and hazard prevention are prepared by IGRM.	<ol style="list-style-type: none"> 1. The area covered by the thematic maps is expanded. 2. The types of the thematic map increases. 3. Users (other government organizations) are able to access the thematic maps easily. 	<ol style="list-style-type: none"> 1. Number of the thematic maps made 2. Types of thematic map made 3. Questionnaires to the users 								
(Project Purpose B) IGRM understands how to utilize advanced satellite data such as ASTER and/or PALSAR in environmental or hazardous area study.	<ol style="list-style-type: none"> 1. V and VI of the fields of technology transfer are acquired by the C/Ps concerned. 	<ol style="list-style-type: none"> 1. Monitoring sheet for technology transfer 	<ol style="list-style-type: none"> a. C/Ps acquire the method of thematic mapping with field verification. b. Personnel and budget are allocated to continue operations for thematic mapping after the Project ends. c. System for distributing the thematic maps is established. 							
(Output B) <ol style="list-style-type: none"> 1. System for utilizing satellite data is established. 2. Equipment and advanced satellite data are managed and maintained properly. 3. IGRM geologists understand how to utilize advanced satellite data such as ASTER and/or PALSAR in environmental or hazardous area study. 	<ol style="list-style-type: none"> 1. (Same as Output A) 2. (Same as Output A) 3. (Same as Project Purpose B) 	/	/							
(Activities) <ol style="list-style-type: none"> 3-1. Teach C/Ps how to conduct environmental analysis by ASTER and/or PALSAR data 3-2. Teach C/Ps how to conduct hazardous area detection and analysis by ASTER and/or PALSAR data 3-3. Teach C/Ps how to conduct field survey to verify the results of environmental and hazardous area analysis 	Inputs									
	<table border="1" style="width: 100%;"> <thead> <tr> <th style="text-align: center;">Japanese side</th> <th style="text-align: center;">Argentine side</th> </tr> </thead> <tbody> <tr> <td>a. Dispatch of Experts (Long-term) -Chief advisor -Coordinator -Digital image processing -Geological remote sensing (Short-term) -Environmental analysis -Hazardous area analysis</td> <td>a. Buildings and Facilities b. Allocation of C/P c. Preparation of Equipment d. Local Costs</td> </tr> <tr> <td>c. Training of C/P in Japan</td> <td></td> </tr> <tr> <td>d. Provision of Equipment -RS data processing system -Field survey equipment -ASTER data</td> <td></td> </tr> </tbody> </table>	Japanese side		Argentine side	a. Dispatch of Experts (Long-term) -Chief advisor -Coordinator -Digital image processing -Geological remote sensing (Short-term) -Environmental analysis -Hazardous area analysis	a. Buildings and Facilities b. Allocation of C/P c. Preparation of Equipment d. Local Costs	c. Training of C/P in Japan		d. Provision of Equipment -RS data processing system -Field survey equipment -ASTER data	
Japanese side	Argentine side									
a. Dispatch of Experts (Long-term) -Chief advisor -Coordinator -Digital image processing -Geological remote sensing (Short-term) -Environmental analysis -Hazardous area analysis	a. Buildings and Facilities b. Allocation of C/P c. Preparation of Equipment d. Local Costs									
c. Training of C/P in Japan										
d. Provision of Equipment -RS data processing system -Field survey equipment -ASTER data										

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Project Design Matrix (PDM)

ANNEX1

Project Name: Regional Geological Mapping with Advanced Satellite
 Argentine Republic
 Duration of the Project: From March 1, 2001 to February 28, 2005
 Prepared by: Both sides after discussion based on the draft of the Japanese side

Implementing Agency:
 -Argentine Geological and Mining Survey (SEGEMAR)
 -Japan International Cooperation Agency (JICA)

Target Area: The whole country of the Argentine Republic
 Target Group: Geologists who are engaged in thematic mapping with remote sensing in SEGEMAR

Narrative Summary	Objectively Verifiable Indicators	Means of Verification	Important Assumptions
(Super Goal A) Geological maps and thematic maps prepared by IGRM are utilized by mining investors in Argentine.			
(Overall Goal A) Geological maps and thematic maps for mineral exploration using advanced satellite data are prepared by IGRM.	1. The area covered by the geological maps and thematic maps is expanded. 2. The types of the thematic map increase. 3. Users (other government organizations and private companies) are able to access the thematic maps easily.	1. Number of the geological maps and thematic maps made 2. Types of the thematic map made 3. Questionnaires to the users	a. Prices of metals do not decrease drastically. b. Administrative measures necessary for promoting mining investments (e.g. improvement of the mining rights management system) are carried out.
(Project Purpose A) IGRM is able to utilize advanced satellite data such as ASTER and/or PALSAR in order to make geological maps and thematic maps for mineral exploration.	1. 8 sheets of 1:100,000 geological maps and 2 sheets of metallogenic maps are made using ASTER and/or PALSAR data. 2. Quality of geological maps and thematic maps are improved by using ASTER and/or PALSAR data. 3. Efficiency of geological mapping and thematic mapping are increased by using ASTER and/or PALSAR data.	1. Number of geological maps and thematic maps made 2-1. Evaluation by Japanese experts 2-2. Evaluation by Evaluation Committee 2-3. Questionnaires to geologists of DGR and DRGM 3-1. Evaluation by Japanese experts 3-2. Evaluation by Evaluation Committee 3-3. Questionnaires to geologists of DGR and DRGM	a. Personnel and budget are allocated to continue operations for thematic mapping after the Project ends. b. System for distributing the thematic maps is established.
(Output A) 1. System for utilizing satellite data is established. 2. Equipment and advanced satellite data are managed and maintained properly. 3. IGRM geologists have enough technology to utilize advanced satellite data such as ASTER and/or PALSAR on geological and thematic mapping for mineral exploration. 4. Usefulness of the remote sensing data is understood by the persons concerned and users through seminars and workshops.	1-1. Enough C/Ps of adequate qualification are allocated. 1-2. Enough budgets is allocated and disbursed properly. 2-1. Operation and maintenance plan for equipment and satellite data is made and implemented. 2-2. Enough budgets for operating and maintaining the equipment and the satellite data is allocated and disbursed. 2-3. Enough knowledge on operating and maintaining the equipment is acquired by the C/Ps. 3. I-IV, VII of the fields of technology transfer are acquired by the C/Ps concerned. 4-1. Many persons concerned and users participate in the seminars and workshops. 4-2. Usefulness of remote sensing data is understood by the participants in the seminars and workshops.	1. Records and plans of inputs 2-1. Operation and maintenance plan for equipment 2-2. Budget plan and record of disbursement for operating and maintaining the equipment 2-3. Monitoring sheet for technology transfer 3. Monitoring sheet for technology transfer 4-1. Number of participants in the seminars and workshops 4-2. Questionnaires to the participants in the seminars and workshops	a. C/Ps continue to work at IGRM.
(Activities) 1-1 Allocate staff as planned 1-2 Make the plan of operations 1-3 Make the budgetary plans 1-4 Make and implement the monitoring and evaluation plan 1-5 Operate the joint coordinating committee 2-1 Make and implement equipment operation and maintenance plan 2-2 Establish and operate data management systems 2-3 Procure and install necessary equipment 2-4 Allocate budget for operation and maintenance of the equipment 2-5 Teach C/Ps how to operate and maintain the equipment 3-1. Training for hardware and software 3-2. Introduce interpretation examples by using ASTER simulation data 3-3. Teach C/Ps how to process ASTER data 3-4. Teach C/Ps how to use DEM data 3-5. Teach C/Ps how to make alteration mineral maps and lithological maps 3-6. Teach C/Ps how to conduct field surveys for alteration minerals mapping and lithological mapping 3-7. Teach C/Ps how to perform integrated geological interpretation using ASTER data 3-8. Teach C/Ps how to analyze PALSAR data 3-9. Teach C/Ps how to analyze hyperspectral data 4-1 Hold seminars and workshops	Inputs		Pre-conditions
	Japanese side	Argentine side	
	a. Dispatch of Experts (Long-term) -Chief advisor -Coordinator -Digital image processing -Geological remote sensing (Short-term) -Installation of DEM software -Introduction of ASTER -Installation of data Management system -PALSAR data analysis -Hyper spectral analysis b. Training of C/P in Japan c. Provision of Equipment -RS data processing system -Field survey equipment -ASTER data	a. Buildings and Facilities b. Allocation of C/P c. Preparation of Equipment d. Local Costs	

THE PERFORMANCE SURVEY LIST AND EVALUATION GRID

I. THE PERFORMANCE SURVEY LIST

I. PROJECT A

	Objective Verification Indicator	Necessary Information, Data	Data Collection Method
The degree of achievement of the Overall Goal (Forecast)	<p>1. Has the areas covered by the geological maps and thematic maps been expanded?</p> <ul style="list-style-type: none"> How large the area has been expanded after the start of the project? Is there a long-term plan for expanding the covered area? <p>2. Has the ASTER data been utilized for the purposes?</p> <ul style="list-style-type: none"> What types of thematic maps have been increased, and how many? Have advanced satellite data been used to make those types of maps? <p>3. Are the user able to access all the thematic maps easily?</p> <ul style="list-style-type: none"> Can users obtain the maps by what kind of procedures and the amount of money? Has any user utilized the maps? Who did utilized the maps? Are there any economical and/or labor-saving advantages for the users? What do the users think of the procedures and efficiency? Are the users opinions reflected on those mentioned above? 	<ul style="list-style-type: none"> The IGRM's record on mapping, and the mapping plan The areas newly mapped and the areas will be mapped. Were the ASTER data utilized for the maps, and will be utilized in future? <p>2. Number of new types of maps prepared.</p> <ul style="list-style-type: none"> Comparisons advanced satellite data used with maps prepared. Technical assessment by experts <p>3. Documents and/or the homepage relating to acquisition procedures of the thematic maps.</p> <ul style="list-style-type: none"> Records of map orderers and/or users User's (cf. private company, research institute, university) opinions 	Materials Review Interview
Achievement of the Plan	<p>1. Have 8 sheets of 1:100,000 geological maps and 2 sheets of 1:250,000 metallogenic maps been made?</p> <p>2. Have the ASTER data contributed to improve the qualities of the geological maps and the thematic maps?</p>	<p>1. Number of the geological maps and thematic maps made after March, 2001.</p> <ul style="list-style-type: none"> The evaluation of quality of the maps and the usefulness ASTER data for the maps. <p>2. Comparisons ASTER data used with maps prepared</p> <ul style="list-style-type: none"> List in the point of improvement Evaluation by IGRM staff other than C/Ps, and Japanese Experts. 	Materials Review Interview with, and/or questionnaires to Japanese Experts, C/Ps, IGRM staff.

<p>The degree of achievement of the Output</p>	<p>3. How much did the efficiency of the mapping works vary according to the use of the ASTER data in what kind of sites?</p> <p>1-1. How has the allocation of the C/Ps and the Experts been planned and carried out?</p> <ul style="list-style-type: none"> If there are some changes among the plans, what are the reason for changes? Were the C/Ps and Japanese Experts allocated according to each plan? (fiming, the number) Are the C/Ps and Japanese Experts(Including short-term experts) adequate both in quality and quantity? Did bad influences by the defect of the C/P and/or Experts allocation arise? <p>1-2. How are local costs, facilities and equipment planned and carried out?</p> <ul style="list-style-type: none"> Were there big changes in comparison with the original plan? What are the reasons? Were facilities, equipment and local cost arranged as planned? Were there no big change in the original plan? What are the reasons? Have local costs facilities, equipment been adequate both in the quality and in quantity? Did bad influences by the defect of local costs facilities, equipment arise? <p>2-1 Have the equipments been utilized and maintained based on the plan?</p> <p>2-2 Has enough budget for operating and maintaining the equipment been allocated and disbursed?</p> <p>2-3 How have the technology on operating and maintaining the equipment been transferred?</p> <ul style="list-style-type: none"> How much knowledge of operating and maintaining the equipment has been acquired by each C/P? <p>3. Have <input type="checkbox"/> IV, <input type="checkbox"/> of the fields of technology transfer progressed according to the original Plan of Operations?</p> <ul style="list-style-type: none"> Have the technology been transferred adequately? Does each C/P utilize the technology transferred adequately? <p>4-1 How many times were seminars and workshops held?</p>	<p>3. Evaluation by the staff in charge of mapping who have a long-term experience and Japanese Experts</p> <p>1-1. Plans and Records on personnel allocation of C/Ps and Japanese Experts.</p> <ul style="list-style-type: none"> Evaluation by C/Ps and Japanese Experts Project performance Reports Monitoring sheet for technology transfer <p>1-2. Plans and Records on local costs, facilities and equipment</p> <ul style="list-style-type: none"> Evaluation by C/Ps and Japanese Experts Project Performance Reports Monitoring sheet for technology transfer <p>Plan of Operations and Records of technology transfer</p> <ul style="list-style-type: none"> Documents prepared for technology transfer. Project Performance Reports. Monitoring sheet for technology transfer Self-evaluation by C/P <p>Plan of Operations and Records of technology transfer</p> <ul style="list-style-type: none"> Documents prepared for technology transfer. Project Performance Reports. Monitoring sheet for technology transfer Self-evaluation by C/P <p>The number of seminars and workshops and participant</p>	<p>Interview with, and/or questionnaires to IGRM staff and Japanese Experts.</p> <p>Materials Review Interview with, and/or questionnaires to C/Ps and Japanese Experts</p> <p>Materials Review Interview with, and/or questionnaires to C/Ps and Japanese Experts</p> <p>Materials Review Interview with, and/or questionnaires to C/Ps and Japanese Experts.</p> <p>Materials Review Interview with, and/or questionnaires to C/Ps and Japanese Experts.</p> <p>Materials Review Interview with, and/or questionnaires to C/Ps and Japanese Experts.</p>
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	<ul style="list-style-type: none"> How many people did attend the seminars and workshops? And what are their occupations and organizations? How were the responses of participants? Have any information activities for the ASTER data application been carried out? The number of experts (long-term, short-term), and their expertise. The number of C/Ps, and their expertise. Equipment provided and expense. Local cost C/P training in Japan 	<ul style="list-style-type: none"> The results of a questionnaire on seminars and workshops The evaluation by participants. Inquiry lists 	<ul style="list-style-type: none"> questionnaires to C/Ps and Japanese Experts
Inputs		<ul style="list-style-type: none"> Plans and Records of actual numbers Project Performance Reports 	Materials Review

2. PROJECT B

	Objective Verification Indicator	Necessary Information, Data	Data Collection Method
The degree of achievement of the Overall Goal (Forecast)	<ol style="list-style-type: none"> Has the areas covered by and thematic maps for environmental conservation and hazard prevention been expanded? <ul style="list-style-type: none"> How large the area has been expanded after the start of the project? Is there a long-term plan for expanding the covered area? Has the ASTER data been utilized for the purpose? <ul style="list-style-type: none"> What types of thematic maps have been increased, and how many? Have advanced satellite data been used to make those types of maps? Are the user able to access all the thematic maps easily? <ul style="list-style-type: none"> Can users obtain the maps by what kind of procedures and the amount of money? Has any user utilized the maps? Who did utilize the maps? Are there any economical and/or labor-saving advantages for the users? What do the users think of the procedures and efficiency? <p>Are the users opinions reflected on those mentioned above?</p>	<ul style="list-style-type: none"> The IGRM's record on mapping, and the mapping plan The areas newly mapped and the areas will be mapped. Were the ASTER data utilized for the maps, and will be utilized in future? 	Materials Review Interview
Achievement		<ul style="list-style-type: none"> Number of new types of maps prepared. Comparisons advanced satellite data used with maps prepared Technical assessment by experts 	Materials Review Interview
		<ul style="list-style-type: none"> Documents and/or the homepage relating to acquisition procedures of the thematic maps Records of map orderers and/or users User's (other government organization) opinions 	Materials Review Interview

Achievement

Plan of Operations and Records of technology
Materials Review

<p>of the Plan</p> <p>The degree of achievement of the Project Purpose</p>	<p>transfer progressed according to the original Plan of Operations?</p> <ul style="list-style-type: none"> Have the technology been transferred adequately? Does each C/P utilize the technology transferred adequately? 	<p>transfer</p> <ul style="list-style-type: none"> Documents prepared for technology transfer. Project Performance Reports. Monitoring sheet for technology transfer Self-evaluation by C/P 	<p>Interview with, and/or questionnaires to C/Ps and Japanese Experts.</p>
<p>The degree of achievement of the Output</p>	<p>1-1. How has the allocation of the C/Ps and the Experts been planned and carried out?</p> <ul style="list-style-type: none"> If there are some changes among the plans, what are the reason for changes? Were the C/Ps and Japanese Experts allocated according to each plan? (timing, the number) Are the C/Ps and Japanese Experts (including short-term experts) adequate both in quality and quantity? Did bad influences by the defect of the C/P and/or Experts allocation arise? <p>1-2. How are local costs, facilities and equipment planned and carried out?</p> <ul style="list-style-type: none"> Were there big changes in comparison with the original plan? What are the reasons? Were facilities, equipment and local cost arranged as planned? Were there no big change in the original plan? What are the reasons? Have local costs facilities, equipment been adequate both in the quality and in quantity? Did bad influences by the defect of local costs facilities, equipment arise? <p>2-1 Have the equipments been utilized and maintained based on the plan?</p> <p>2-2 Has enough budget for operating and maintaining the equipment been allocated and disbursed?</p> <p>2-3 How have the technology on operating and maintaining the equipment been transferred?</p> <ul style="list-style-type: none"> How much knowledge of operating and maintaining the equipment has been acquired by each C/P? 	<p>1-1. Plans and Records on personnel allocation of C/Ps and Japanese Experts.</p> <ul style="list-style-type: none"> Evaluation by C/Ps and Japanese Experts Project performance Reports Monitoring sheet for technology transfer <p>1-2. Plans and Records on local costs, facilities and equipment</p> <ul style="list-style-type: none"> Evaluation by C/Ps and Japanese Experts Project Performance Reports Monitoring sheet for technology transfer 	<p>Materials Review Interview with, and/or questionnaires to C/Ps and Japanese Experts</p> <p>Materials-Review Interview with, and/or questionnaires to C/Ps and Japanese Experts</p> <p>Materials Review Interview with, and/or questionnaires to C/Ps and Japanese Experts.</p>
<p>Inputs</p>	<ul style="list-style-type: none"> The number of experts (long-term, short-term), and their expertise. The number of C/Ps, and their expertise. Equipment provided and expense. Local cost C/P training in Japan 	<ul style="list-style-type: none"> Plans and Records of actual numbers Project Performance Reports 	<p>Materials Review</p>

3. Common with PROJECT A and B

	Objective Verification Indicator	Necessary Information, Data	Data Collection Method	
<p>Process Implement</p>	<p>The progress condition of the activities.</p>	<ul style="list-style-type: none"> Monitoring and Evaluation Reports, Quarterly Reports Evaluation by IGRM executive, Japanese Experts and C/Ps 	<ul style="list-style-type: none"> Materials Review Interview with IGRM executives Interview with, and/or questionnaires to C/Ps and Japanese Experts. 	
	<p>The implementation of project monitoring</p>	<ul style="list-style-type: none"> Has the structure of the monitoring prepared, and being done as planned? Have the result of the monitoring been transmitted to the whole of the Project? Have the result of the monitoring been reflected on the activities? Were the PDM and/or the details activities modified? How has the Project coped with the change in the Important Assumptions? 	<ul style="list-style-type: none"> Monitoring and Evaluation Reports, Quarterly Reports Evaluation by C/P leader and Chief adviser. The degree of transmission to C/Ps and Japanese Experts. 	<ul style="list-style-type: none"> Materials Review Interview with C/P leader and Chief Adviser. Interview with, and/or questionnaires to C/Ps and Japanese Experts.
	<p>Relationship between the experts and C/Ps.</p>	<ul style="list-style-type: none"> Were the lines of communication between the experts and C/Ps established? How has the Project be coping with the problem between C/Ps and the experts? Have the result of the meetings improved the project activities? Are there concrete examples? Do the C/Ps carryout the Project independently actively? 	<ul style="list-style-type: none"> Evaluation by C/Ps and Japanese Experts Monitoring and Evaluation Reports, Quarterly Reports 	<ul style="list-style-type: none"> Interview with C/Ps and Japanese Experts Materials Review
	<p>Were beneficiaries interested in the Project?</p>	<ul style="list-style-type: none"> Do the IGRM staff members understand the contents of the technology transfer, and do they cooperate the Project positively? Do the SEGEMA staff members join the seminars and/or workshops under the auspices of the Project positively? 	<ul style="list-style-type: none"> Self-evaluation by IGRM staff members, IGRM executives, SEGEMAR staff members and C/Ps The results of a questionnaire on seminars and workshops The degree of concern of the SEGEMAR staff members 	<ul style="list-style-type: none"> Interview with staff members of SEGEMAR and IGRM. Materials Review
<p>Ownership of implementing Agency of the project, Argentina side.</p>	<ul style="list-style-type: none"> Has the executive of the Implementing Agency participate in the Project activities aggressively? Have the disbursements of the budget carried out securely? Has the Implement Agency allocated C/Ps as planned, and paid attention in such the way to prevent the hindrance for the project management? 	<ul style="list-style-type: none"> Evaluation by C/Ps and Japanese Experts Monitoring and Evaluation Reports, Quarterly Reports 	<ul style="list-style-type: none"> Interview with C/Ps and Japanese Experts Materials Review 	

II. EVALUATION GRID (PA: Project A PB: Project B)

	Evaluation Questions		Criterion/Method	Necessary Information, Data	Information Source	Data Collection Method
	Item	Sub item				
<p>Relevance (Consistency with the needs of the recipient country. Does it have relevance as assistant activities of Japan?)</p>	Does the Overall Goal agree in the development policy on the Argentina side?			<ul style="list-style-type: none"> Are there any changes in the government strategy which makes mining the key industries of the country? (PA) Has the policy (in such cases as the deregulation) that promotes mining investment been evolved? (PA) National strategy for conserving the environment (PB) The status of promoting the policy for environment monitoring. (PB) 	<ul style="list-style-type: none"> National Plan, policy, law and rule, standard. The conception of the SEGEMAR executives Project Document 	<ul style="list-style-type: none"> Material Review Interview
	<ul style="list-style-type: none"> Was the selection of the target group suitable? (PA)(PB) Can we expect the rifle effect on any people except for the target group? 	<ul style="list-style-type: none"> Is the scale of the target group appropriate? 		<ul style="list-style-type: none"> The ratio of mapping persons between target group and other SEGEMAR staff. The opinion of persons/parties concerned Do the related groups, especially mining industries, show keen interest in this Project? (PA) Do the government offices other than SEGEGAR show keen interest in this Project? (PA) (PB) Are there any sectors other than mining and environment sector that show interest in ASTER data applications? 	<ul style="list-style-type: none"> Actual results table Project Document SEGEMAR/GCRM executives, Experts The degree of concern of the mining industries and the government offices other than SEGEMAR A result of questionnaire investigation of the seminars and workshops 	<ul style="list-style-type: none"> Material Review Interview Material Review Interview

<p>Does the Project Purpose agree in the needs on the Argentina side?</p>		<p>Have the aspirations of the mining industries to explore and/or to develop the mineral resources been increased? (PA) Do the requirement of the nation and/or the public on the environmental protection and the prevention of disasters rise? (PB)</p>	<p>• The degree of concern of the mining industries, the SEGEMAR staff members and other governmental organization concerned. • Evaluation by C/P leaders and IGRM staff members</p>	<p>Interview</p>
<p>Does it have validity as a Japanese government undertaking?</p>	<p>Is it in line with the Japanese assistance policy?</p> <p>Is there comparative predominance of the Japanese technology?</p>	<p>• Relevance with the Japanese important assistance field for the Argentina. • Relevance with the Country specific Project Plan of JICA • The technological level of Japan in the field of remote sensing</p>	<p>• Assistance policy for Argentina • The Country specific Project Plan of JICA • Domestic Assistance Committee</p>	<p>• Material Review Interview</p>
<p>Have the Outputs been achieved?</p>		<p>(As mentioned in the actual results table)</p>	<p>(Actual results table)</p>	<p>Material Review</p>
<p>Effectiveness- (Can we get expected effect by the execution of the Project? Can we say that the Project is effective?)</p>	<p>Have the IGRM been able to utilize the ASTER data for geological and thematic mapping? (PA)</p> <p>Are the ASTER data useful for geological and thematic mapping?</p> <p>What kind of thematic maps does the IGRM intend to make by using the ASTER data?</p>	<p>• The degree of acquisition of knowledge and skill. • Has the reliability of the geology maps and the thematic maps been increased by the use of the ASTER data? • Has the efficiency of mapping been achieved? • Long-term plan on environmental or hazardous area mapping</p>	<p>• Evaluation by Expert • Self-evaluation by C/P • Evaluation by SEGEMAR executives and C/Ps • Evaluation by users • Long-term plan or conception</p>	<p>• Material Review • Questionnaire • Interview • Questionnaire • Interview • Material Review • Questionnaire • Interview</p>
<p>Has IGRM understood how to use utilize the ASTER data in environmental or hazardous area study? (PB)</p>	<p>Has the Project Outputs contributed to the achievement of the Project Purpose? (PA) (PB)</p>	<p>• The ratio of C/P who has transferred the technologies. • The opinion of persons/parties concerned</p>	<p>• Monitoring and Evaluation Report • Project Performance Report • Experts, C/P • C/Ps • Experts • Maintenance records</p>	<p>• Material Review • Questionnaire • Interview</p>
	<p>• Have the equipment utilized? (PA) (PB)</p>	<p>• The equipment utilized for mapping and training and that of availability.</p>		<p>• Material Review • Questionnaire • Interview</p>

				<ul style="list-style-type: none"> • Have the workshops and/or seminars contributed? (PA) 	<ul style="list-style-type: none"> • Have the persons concerned understood the usefulness of the ASTER data for mapping? 	<ul style="list-style-type: none"> • Record of workshops and seminars • Comment of the participants 	<ul style="list-style-type: none"> • Material Review • Questionnaire • Interview
Are there any factors that contribute to other business?					<ul style="list-style-type: none"> • The opinion of persons/parties concerned • Information on process implement 	<ul style="list-style-type: none"> • SEGEMAR executives • C/Ps • Experts 	<ul style="list-style-type: none"> • Questionnaire • Interview
Were there any factors that obstruct the Project Purpose?	Do the C/Ps continue to work at IGRM? (Important Assumption)	Are there any other obstructions?		<ul style="list-style-type: none"> • Retirement and/or transference • Reasons of retirement and/or transference 	<ul style="list-style-type: none"> • SEGEMAR executives 	<ul style="list-style-type: none"> • Interview 	
				<ul style="list-style-type: none"> • The opinion of persons/parties concerned • Information on process implement 	<ul style="list-style-type: none"> • SEGEMAR executives • C/Ps • Experts 	<ul style="list-style-type: none"> • Questionnaire • Interview 	

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	Evaluation Questions		Criterion/ Method	Necessary Information, Data	Information Source	Data Collection Method
	Item	Sub-item				
Efficiency (Was the Project efficient?)	<ul style="list-style-type: none"> Were the timing of the Inputs adequate, both in quality and quantity from the viewpoint of achieved Outputs? (PA) (PB) 	<ul style="list-style-type: none"> Were the number of experts, fields of expertise and the periods of dispatch adequate? Were the number and type of equipment, and the timing of setting adequate? 	<ul style="list-style-type: none"> As for the actual results, comparison between the plan and results is done 	<ul style="list-style-type: none"> Actual results of dispatch Level of knowledge and technology The degree of effort and enthusiasm to transfer the technologies. The opinion of persons/parties concerned 	<ul style="list-style-type: none"> Actual result table C/Ps Experts 	<ul style="list-style-type: none"> Material Review Questionnaire Interview
		<ul style="list-style-type: none"> As for the C/P training, in Japan, were the number of trainees, and field, contents, period and timing of training adequate? As for the C/Ps, number, are the arrangement and competence for the task adequate? 				
	<ul style="list-style-type: none"> As for the building and facilities, were there any problems with quality, size or convenience? Was the size of Project cost adequate? 	<ul style="list-style-type: none"> As for the actual results, comparison between the plan and results is done 	<ul style="list-style-type: none"> Actual results of C/P arrangement The level of basic knowledge and technology required for the technical transfer. The degree of effort and enthusiasm to acquire the transferred technologies. The opinion of persons/parties concerned The conditions of the building and facilities Location and arrangement of the equipment The opinion of persons/parties concerned 	<ul style="list-style-type: none"> Actual results table Monitoring and Evaluation Report Experts C/Ps 	<ul style="list-style-type: none"> Material Review Questionnaire Interview 	
						<ul style="list-style-type: none"> As for the building and facilities, were there any problems with quality, size or convenience? Was the size of Project cost adequate?
<ul style="list-style-type: none"> In comparison with similar project, were the cost adequate? (PA) (PB) 	<ul style="list-style-type: none"> Were the total cost input adequate? 	<ul style="list-style-type: none"> Comparison with the similar project 	<ul style="list-style-type: none"> Total cost input The item of Outputs, number of beneficiaries 	<ul style="list-style-type: none"> Budget and actual results C/Ps Experts 	<ul style="list-style-type: none"> Material Review Questionnaire Interview 	
				<ul style="list-style-type: none"> Actual results of C/P training in Japan. The opinion of persons/parties concerned. 	<ul style="list-style-type: none"> Actual result table Experts C/Ps 	<ul style="list-style-type: none"> Material Review Questionnaire Interview
				<ul style="list-style-type: none"> Actual results of C/P arrangement The level of basic knowledge and technology required for the technical transfer. The degree of effort and enthusiasm to acquire the transferred technologies. The opinion of persons/parties concerned The conditions of the building and facilities Location and arrangement of the equipment The opinion of persons/parties concerned 	<ul style="list-style-type: none"> Actual results table Monitoring and Evaluation Report Experts C/Ps 	<ul style="list-style-type: none"> Material Review Questionnaire Interview
				<ul style="list-style-type: none"> The budget and actual results of local cost in each year The opinion of persons/parties concerned. 	<ul style="list-style-type: none"> Equipment location map. C/Ps Experts 	<ul style="list-style-type: none"> Direct observation Material Review Questionnaire Interview
				<ul style="list-style-type: none"> Total cost input The item of Outputs, number of beneficiaries 	<ul style="list-style-type: none"> Budget and actual results C/Ps Experts 	<ul style="list-style-type: none"> Material Review Questionnaire Interview
				<ul style="list-style-type: none"> Director of ICRM, C/P leader 	<ul style="list-style-type: none"> Director of ICRM, C/P leader 	<ul style="list-style-type: none"> Interview

	<p>Were there any factors that obstruct the efficiency?</p>	<p>Is the unit cost of mapping adequate?</p>		<ul style="list-style-type: none"> • The unit cost of geological and thematic mapping. • The unit cost of mapping of similar project. • Could acquire the output which corresponded with the cost? • The opinion of persons/parties concerned 	<ul style="list-style-type: none"> • C/P leader • Experts • Evaluation report on the similar project • Monitoring and Evaluation Report • Project performance report • C/Ps, Experts 	<p>Interview</p> <ul style="list-style-type: none"> • Material Review • Questionnaire • Interview
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	Evaluation Questions		Criterion/ Method	Necessary Information, Data	Information Source	Data Collection Method
	Item	Sub-item				
<p>Impact (Is there indirect or ripple effect by the project execution?)</p>	Will the Overall Goal be achievable?	<p>Will the geological and thematic maps for mineral exploration be prepared? (PA)</p> <p>Will the thematic maps for environmental conservation and hazard prevention be prepared? (PB)</p>	<p>• Has the plan/conception for geological and thematic mapping been prepared</p> <p>• Have the expectation of the existence of Argentina mineral resources by the mining industries been rising?</p> <p>• Have the released geological maps and thematic maps been increasing?</p> <p>• Has the plan/conception for thematic maps preparation been made?</p> <p>• Does the public needs rise?</p>	<p>• Long, Mid-term Plan/Conception IGRM</p> <p>• Mine developers</p> <p>• C/Ps</p>	<p>• Material Review</p> <p>• Interview</p>	
	Are there other ripple effects? (PA) (PB)	<p>Have the research and the development of equipment for advanced satellite data been increased in Argentina?</p> <p>Have the plans utilize advanced satellite data been promoted in other government offices, institute or organization?</p>	<p>• The opinion of persons/parties concerned</p>	<p>• SEGEMAR staff</p> <p>• Staff member of other governmental organizations</p> <p>• C/Ps</p>	<p>• Questionnaire</p> <p>• Interview</p>	
	Is a degree of contribution of the project against the impact revelation high? (PA) (PB)	Are there any cooperation among other governmental offices, institutes and organizations with the ASTER data use?	<p>• The opinion of persons/parties concerned</p>	<p>• SEGEMAR staff members</p> <p>• Staff member of other governmental offices, institutes and organizations</p> <p>• C/Ps</p>	<p>Interview</p>	

	Are there unexpected positive and/or influence those are not written in the PDM?			<ul style="list-style-type: none"> • The opinion of persons/parties concerned 	<ul style="list-style-type: none"> • SECEMAR members • Staff member of other governmental offices, institutes and organizations • C/Ps, Experts 	Interview
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	Evaluation Questions		Criterion/Method	Necessary Information, Data	Information Source	Data Collection Method
	Item	Sub-item				
Sustainability (Does the effect after cooperation finished?)	Is the positioning of the utilization of remote sensing data in IGRM definite? (PA) (PB)	Government support for organization and systems (forecast).		<ul style="list-style-type: none"> Are there any changes in the government strategy which makes mining the key industries of the country? Are there any changes in the environmental conservation and/or that of monitoring policy? Does the factor that is expected a strategy change exist? Will the project be supported continuously by federal and provincial government, and users? Is the connection with other government offices examined? Is the connection with the neighboring countries possible? 	<ul style="list-style-type: none"> National Plan, Mining/environmental Policy. Opinion of SEGEMAR executives Project Document Mid-term Evaluation Comment by SEGEMAR, IGRM, other government offices and users 	<ul style="list-style-type: none"> Material Review Interview
	Does the organization has the ability to maintain the project? (PA) (PB)	The support/cooperation of the related organization and/or industries.		<ul style="list-style-type: none"> Is the function of each division define? Is the arrangement of C/Ps proper to carry out activities smoothly? Will the C/Ps be able to work continuously, after the project completion? Have the results of project monitoring reflected in the Project? The opinion of persons/parties concerned 	<ul style="list-style-type: none"> Long-term plan / conception Monitoring and Evaluation Report IGRM, C/Ps, Experts 	<ul style="list-style-type: none"> Material Review Interview
	The fixity of the technology, and the structure of diffusion. (PA) (PB)	Are the financial conditions sufficient?	Does Agency examine the method which creates fund and leads the Project to achieve the Overall Goal?	<ul style="list-style-type: none"> Will the budget which is appropriate for carrying out the Project activities smoothly be secured Will the Agency or the Government continue financial support after the completion of the Project The opinion of persons/parties concerned Independence source of revenue securing plan. The opinion of persons/parties concerned 	<ul style="list-style-type: none"> Table of the budget IGRM C/Ps Experts Long-term financial plan IGRM, C/Ps, Experts 	<ul style="list-style-type: none"> Material Review Interview Material Review Interview

		<ul style="list-style-type: none"> Have the C/Ps been able to process the ASTER data and able to interpret the geology? (PA only) Have the C/Ps been understood the utilization of ASTER data in environmental or hazardous area study? (PB only) 	Comparison with before and after	<ul style="list-style-type: none"> Evaluation by the Experts. Self-evaluation by C/Ps 	<ul style="list-style-type: none"> Monitoring and Evaluation Report Experts, C/Ps 	<ul style="list-style-type: none"> Material Review Interview
		<ul style="list-style-type: none"> Will the transferred technology be extended throughout the Implementing Agency? Have the equipment been managed and maintained adequately? 		<ul style="list-style-type: none"> Is there a plan for technical transfer at the Implementing Agency? The opinion of persons/parties concerned 	<ul style="list-style-type: none"> IGRM executives, C/P leader 	<ul style="list-style-type: none"> Material Review Interview
				<ul style="list-style-type: none"> Opinion on management and maintenance Is the structure of the replacement and/or expansion of facilities and equipment examined 	<ul style="list-style-type: none"> C/Ps, Experts IGRM executives, C/P leader 	<ul style="list-style-type: none"> Questionnaire Interview
	Others.			(The factor that obstruct the Sustainability, which becomes clear in the investigation process)	-	-

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List of Experts

List of Long-term Japanese Experts

Name	Position	Duration
1 Katsumi Yokokawa	Chief Advisor	2001/3/2~2005/3/1
2 Koji Yamaguchi	Coordinator	2001/3/2~2005/3/1
3 Manabu Kaku	Digital Image Processing	2001/3/2~2005/3/1
4 Itoshi Kohno	Geological Remote Sensing	2001/3/2~2003/6/23
5 Kiyoharu Nakashima	Geological Remote Sensing	2003/9/10~2005/2/28

List of Short-term Japanese Experts

Name	Activity	Duration
1 Hiroshi Hyodo	Installation of Data Management Systems.	2001/7/30~2001/8/13
2 Seiichi Hara	ASTER DEM Processor Library	2001/7/30~2001/8/13
3 Ryo Nakajima	ASTER Level 3A Processor	2001/7/30~2001/8/13
4 Yoshiki Ninomiya	Status of next generation sensors	2001/8/19~2001/8/31
5 Hiroyuki Fujisada	ASTER sensor specification, Level-1 Data Processing	2001/9/22~2001/10/6
6 Yasushi Yamaguchi	ASTER sensor specification/geological application	2001/9/23~2002/10/6
7 Hiroji Tsu	ASTER SWIR-Cross talk Correction	2002/3/31~2002/4/15
8 Akira Iwasaki	Status of next generation sensors	2002/3/31~2002/4/15
9 Hidehisa Watanabe	Installation and instruction of discrimination software	2002/7/13~2002/8/17
10 Hideyuki Tonooka	The installation and guidance of T/Eseparation algorithm	2002/8/3~2002/8/17
11 Tsunéo Matsunaga	TIR application	2002/10/19~2002/11/3
12 Isao Saito	The status of PALSAR development and the introduction of InSAR technology	2002/10/19~2002/11/3
13 Yasushi Yamaguchi	ASTER Data application to geology	2003/3/11~2003/3/20
14 Minoru Urai	GIS Application for the natural resources potential Map	2003/3/11~2003/3/20
15 Yoshifumi Yasuoka	The Guidance of Vegetation Monitoring by ASTER	2003/7/9~2003/7/18
16 Mituharu Tokunaga	The Installation and Guidance of Classification / Comparison Algorithm	2003/7/9~2003/8/8
17 Yoshiaki Shibata	The Examination of Geological Interpretation	2003/8/10~2003/9/4
18 Masao Moriyama	The Installation and Guidance of Atmospheric	2003/7/29~2003/8/11
19 Yasushi Watanabe	Study of Metallogeny using ASTER	2003/8/27~2003/9/22
20 Takashi Ooka	The Examination for the Natural Resources Exploration	2003/9/1~2003/9/22
* Tomoji Sanga	Environmental monitoring(Land Slide)	2004/4/10~2004/4/29
* Kazuyo Hirose	Environmental technique of remote sensing(Land submergence)	2004/4/10~2004/4/329
21 Kazuya Okada	Interpretation of Hydrothermal Alterations with ASTER Data	2004/6/5~2004/7/1
22 Koji Ueda	Interpretation of clay classifications in sedimentary	2004/7/4~2004/7/30

* Project Consult Team

LIST OF EQUIPMENT

No.	YEARS	NAME OF EQUIPMENT	QUANTITY	PRICE	PLACE OF STORAGE	FREQUENCY OF USE	CONDITION	REMARKS
LH-01	2001	Work Station (SUN Ultra 80 Model 4450 with SLIN StorEdge A1000 SLIN)	1 set	7,978,460	RS/GIS	A	A	
LH-02	"	Network Server (Sun Enterprise 220R)	1 set	1,387,553	RS/GIS	A	A	
LH-03	"	Note PC (IBM Thinkpad T20-2547)	2 set	1,142,526	RS/GIS	A	A	
LH-04	"	47X+10/100 Base-TX LAN	1 set	5,392,828	RS/GIS	A	A	
LH-05	"	Network Printer (Xerox SC55)	1 set	5,473,902	RS/GIS	A	A	
LH-06	"	Network Color Printer (Xerox Docucolor 12)	1 set	2,052,925	RS/GIS	A	A	
LH-08		InkJet Color Plotter (Hewlett Packard Design Jet 5000ns)	6	374,184	RS/GIS	A	A	
LH-09	2002	Power Supply (APC Smart UPS)	1	1,050,000	RS/GIS	A	A	
LH-10	"	Protect. (EPSON-ELP810)	4	496,000	RS/GIS	A	A	
LH-11	"	Hard Disc (MAXTOR)	1 set	663,000	RS/GIS	A	A	
LH-12	"	Desktop PC (HP-x4000)	1	132,000	RS/GIS	A	A	
LH-13	"	Color Monitor (HP-p1130)	1	140,400	RS/GIS	A	A	
LH-14	2003	Hard Disc (Internal HDD)	1 set	256,300	RS/GIS	A	A	
LH-15	"	Desktop PC (IBM Net Vista M42)	6	300,000	RS/GIS	A	A	
LH-16	"	Hard Disc (INTERNAL HDD)	4	600,000	RS/GIS	A	A	
LH-17	"	RAM Memory (Kingston KTH-X733)	2	90,000	RS/GIS	A	A	
LH-18	"	RAM Memory (Kingston KTH-XU800)	2	76,000	RS/GIS	A	A	
LG-01	2001	RAM Memory (Samsung PC800)	4 set	3,439,684	RS/GIS	A	A	
LG-02	"	GPS (Geoxplorer 3 (Tumble))	1 set	9,519,090	RS/GIS	A	A	
LG-03	"	FT-IR Portable Spectrometer (Designs & Prototypes I02)	1 set	7,481,472	RS/GIS	A	A	
LG-04	"	Field Portable Spectroradiometer	2 set	1,142,526	RS/GIS	A	A	
LG-05	2002	Note PC (IBM Thinkpad T20-2547)	2 set	800,000	RS/GIS	A	A	
LG-06	"	47X+10/100 Base-TX LAN	2 set	600,000	RS/GIS	A	A	
JH-01	"	Note PC (Sony PCG-SRX7)	4 set	5,000,000	RS/GIS	A	A	
LS-01	2001	Mobile Accessories (Memory Stick, memory Writer, Battery pack, Battery charger, case)	4	3,967,288	RS/GIS	A	A	
LS-02	"	Desktop (HP Visualize P-Class) ENV/IDL for Windows Noesis for Windows	4	2,041,472	RS/GIS	A	A	
LS-03	"	ERDAS Imagine 8.4 professional for	2	2,358,512	RS/GIS	A	A	

LS-04	"	ERDAS Imagine 8.4 OrthoRadar, StereoSAR, IESAR	1	2,551,275	RS/GIS	A	A
LS-05	"	ERDAS Imagine 8.4 Vector	1	521,594	RS/GIS	A	A
LS-06	"	ERDAS Imagine 8.4 Virtual GIS	1	521,594	RS/GIS	A	A
LS-07	"	ERDAS Imagine 8.4 OrthoBASE	1	827,747	RS/GIS	A	A
LS-08	"	ERDAS Imagine 8.4 ATCOR2	1	638,952	RS/GIS	A	A
LS-09	"	PCI InSAR Interferometric SAR	2	2,058,878	RS/GIS	A	A
LS-10	"	PCI Advanced Precision Processor (APP)	2	2,058,878	RS/GIS	A	A
LS-11	"	ArcView Ver.3.2	2	571,486	RS/GIS	A	A
LS-12	"	ArcView Image Analyst	2	918,458	RS/GIS	A	A
LS-13	"	ArcView Spatial Analyst	2	918,458	RS/GIS	A	A
LS-14	"	Lahav Fortran/C Compiler	1	238,357	RS/GIS	A	A
LS-15	"	Sun Forte C++ Personal Edition	1	202,060	RS/GIS	A	A
LS-16	"	Sun Forte Fortran Desktop Edition	1	151,489	RS/GIS	A	A
LS-17	"	Humming Bird Exceed 7.0	6	258,528	RS/GIS	A	A
LS-18	"	Adobe Photoshop 6.0	6	442,902	RS/GIS	A	A
LS-19	"	Adobe Illustrator 9.0	6	293,904	RS/GIS	A	A
LS-20	"	Symantec(Norton) System Works 2001	6	48,984	RS/GIS	A	A
LS-21	"	Micro soft. office 2000 Pro	6	264,648	RS/GIS	A	A
LS-22	"	Micro soft. Visual C++6.0Pro	1	60,951	RS/GIS	A	A
LS-23	2002	Satellite Image Navigation	1	100,000	RS/GIS	A	A
LS-24	"	ENVI 3.5	2	1,300,000	RS/GIS	A	A
LS-25	"	LANDSAT 5 TM, 7 TM	3 set	1,800,000	RS/GIS	A	A
LS-26	2003	ENVI 3.5	1	817,500	RS/GIS	A	A
LS-27	"	Symantec(Norton) System Works 2002	1	23,400	RS/GIS	A	A
JS-01	2001	ASTER Software GMDMS	1	1,400,000	RS/GIS	A	A
JS-02	"	ASTER Software DEM	1	1,400,000	RS/GIS	A	A
JS-03	"	ASTER Software LEVEL 3	1	1,400,000	RS/GIS	A	A
JS-04	"	ASTER Software GCP LIBRARY	1	1,400,000	RS/GIS	A	A
JS-05	2002	ASTER DATA (Level 1A, 1B, 2A02, 2A03 2B03 2B04 2B05)	3set	300,000	RS/GIS	A	A
JS-06	"	DATA(JERS-1/SAR Level 0, Level 2, 1)	3 set	600,000	RS/GIS	A	A
JS-07	"	Software ATCOTT	1	1,600,000	RS/GIS	A	A
JS-09	"	Software D-IFP	1	1,600,000	RS/GIS	A	A
JS-08	"	Software Modtran	1	100,000	RS/GIS	A	A
JS-09	2003	ASTER DATA (Level 1A)	230	2,366,700	RS/GIS	A	A
JS-10	"	ASTER DATA (Level 1A)	133	1,368,570	RS/GIS	A	A
JS-11	2004	ASTER DATA (Level 1A)	119	1,224,510	RS/GIS	A	A

EH-01	2001	Desktop (DELL OptiPlexGX150)	1set	250,000	RS/GIS	A	A
EH-02	"	Desktop (Kavak XU800)	1set	918,800	RS/GIS	A	A
EH-03	"	Desktop (DELL Dimension8100)	2set	1,550,000	RS/GIS	A	A
EH-04	"	Digital Camera (NIKON COOLPIX990)	2set	218,500	RS/GIS	A	A
EH-05	"	Printer PM-880C	1	47,700	RS/GIS	A	A
EH-06	"	Printer PM-3500C	3	208,200	RS/GIS	A	A
EH-07	"	Transformer (Hakko 220/100V 1KVA)	1	19,000	RS/GIS	A	A
EH-08	"	Transformer (100~240→100V 1KVA SU-	2	34,200	RS/GIS	A	A
EH-09	"	Transformer (240/100V 1000VA CP240-10)	1	17,000	RS/GIS	A	A
EH-10	"	PC INTERFACE KIT (PK-UC1N)	1	17,100	RS/GIS	A	A
EH-11	"	SCANNER (EPSON GT-8700F)	1	40,800	RS/GIS	A	A
EH-12	"	MO DRIVE (MOF-SM640/UN)	1	44,600	RS/GIS	A	A
EH-13	"	SCSI CABLE (KB-SPPO6)	1	4,000	RS/GIS	A	A
EH-14	2002	Scanner (EPSON Expression 1640XL	1	559,560	RS/GIS	A	A
EH-15	2003	Stereoscope (Sokia)	1	150,000	RS/GIS	A	A
EH-16	"	Pickhammer (400g)	1	10,000	RS/GIS	A	A
EH-17	"	Barometer (6000m)	1	47,000	RS/GIS	A	A
EH-18	"	Clincompas (220g)	2	8,000	RS/GIS	A	A
EH-19	"	Fierdbag	1	7,000	RS/GIS	A	A
ES-01	2001	Software (MS-Windows2000Pro.)	2	51,000	RS/GIS	A	A
ES-02	"	Software (MS-Office2000Pro.)	1	61,800	RS/GIS	A	A
ES-03	"	Software (AdobePhotoShop6.0)	1	93,000	RS/GIS	A	A
ES-04	"	Software (AdobePhotoShop6.0j)	2	205,500	RS/GIS	A	A
ES-05	"	Software (Norton SystemWorks20001)	4	57,200	RS/GIS	A	A
ES-06	2004	ASTER DATA (L1B.3A1)	2	41,580	RS/GIS	A	A
ES-07	2004	ASTER DATA (Level.1)	12	123,000	RS/GIS	A	A

(H:Hardware,S:Software,G:Field,J:From Japan,L:Local,E:Expert)
Frequency of Use(A:Always,B:Often,C:Sometimes)
Condition(A:Good,B:Fair,C:Bad)

Assignment of Counterpart/Training in Japan

Note: In case a counterpart's employment is temporary, enter "a" in Remarks

No.	Name of Counterpart	Field	Present Post Post at assignment time	Period of Assignment		Training in Japan					Duration
				From	To	Year	Name of Training Course	Year	Name of Training Course	Year	
1	Mr. Roberto F. N. Page Mr. Pedro Alcantara	PROJECT DIRECTOR	President of SEGBAR Executive Secretary of SEGBAR	March 01, 2001	May 31, 2002	2001	Utilization of Remote Sensing	2002	Utilization of Remote Sensing	2002	2/2/2003~2/15/2003
2	Mr. José E. Mendía Mr. Roberto F. N. Page	PROJECT MANAGER	Director of GRM	March 01, 2001	May 31, 2002	2001	Utilization of Remote Sensing	2001	Utilization of Remote Sensing	2001	5/20/2001~6/2/2001
3	Ms. Graciela Marín	REMOTE SENSING COORDINATOR	Acting Director of RS&GIS	March 01, 2001	March 2, 2005	2001	Utilization of Remote Sensing	2001	Utilization of Remote Sensing	2001	5/20/2001~6/7/2001
4	Mr. Antonio Lizuain Mr. José E. Mendía	GEOLOGICAL COORDINATOR	Director of DGR	March 01, 2001	May 31, 2002	2001	Utilization of Remote Sensing	2002	Utilization of Remote Sensing	2002	5/19/2002~6/1/2002
5	Mr. Eduardo Zappettini	MINERAL RESOURCES COORDINATOR	Director of DRGM	June 01, 2002	March 2, 2005	2004	Utilization of Remote Sensing	2004	Utilization of Remote Sensing	2004	7/3/2004~7/23/2004
6	Mr. Omar Lepido	HAZARD/ENVIRONMENTAL COORDINATOR	Director of DGAA	March 01, 2001	March 2, 2005	2003	Utilization of Remote Sensing	2003	Utilization of Remote Sensing	2003	5/17/2003~6/1/2003
7	Ms. Inés Di Tommaso	Full time	RS processing	March 01, 2001	March 2, 2005	2001	Remote Sensing Technology	2001	Remote Sensing Technology	2001	5/8/2001~7/22/2001
8	Ms. Silvia Castro Godoy	Full time	RS processing	March 01, 2001	March 2, 2005	2002	ASTER Data Processing for Geological Mapping	2002	ASTER Data Processing for Geological Mapping	2002	5/19/2002~7/27/2002
9	Ms. Cintia Marqueti	Full time	RS processing	March 01, 2001	March 2, 2005	2003	ASTER Data Processing for Geological Mapping	2003	ASTER Data Processing for Geological Mapping	2003	5/17/2003~7/30/2003
10	Mr. Diego Azcurra	Full time	RS processing	March 01, 2001	March 2, 2005	2004	ASTER Data Processing for Geological Mapping	2004	ASTER Data Processing for Geological Mapping	2004	6/5/2004~8/8/2004
11	Ms. Malena Mazzitelli	Full time	RS processing	March 01, 2001	March 2, 2005						
12	Mr. Norberto G. Candaosa	Part time	GIS&RS processing	March 01, 2001	March 2, 2005	2003	Remote Sensing Technology	2003	Remote Sensing Technology	2003	5/8/2001~7/22/2001
13	Ms. Lilianna Gambandé	Part time	GIS&RS processing	March 01, 2001	March 2, 2005	2004	Remote Sensing Technology	2004	Remote Sensing Technology	2004	5/8/2001~7/22/2001
14	Mr. Carlos Gabriel Asato	Part time	Corporate GIS Administrator	March 01, 2001	March 2, 2005						
15	Ms. Paulina Abre Ms. Pamela Bouyon	Part time	RS processing	March 01, 2001	December 27, 2001						
16	Mr. Damián Bonanno	Part time	RS processing	March 01, 2001	December 30, 2001						
17	Ms. Roxana Matuk Mr. Xavier Ibanez Mr. Gustavo Mercado	Part time	RS&GIS Network Administrator PC Support	January, 2003	March 2, 2005						

2001 GEOSAT-AR Project Costs

Infrastructure of the project sector	9,500.00	Pesos
Customs duty and services for equipments	10,242.00	Pesos
Conference fee	1,840.00	Pesos
Air tickets/transportation	1,370.48	Pesos
Field Allowances	2,436.00	Pesos
Communication	10,000.00	Pesos
Consumables (paper, ink, toner, CD, other)	3,000.00	Pesos
Others	640.00	Pesos
	39,028.48	Pesos
1 US\$=1\$(pesos)=120¥	4,683,417.60	Pesos

2002 GEOSAT-AR Project Costs

Infrastructure of the project sector	0.00	Pesos
Customs duty and services for equipments	1,300.00	Pesos
Conference fee	560.00	Pesos
Air tickets/transportation	4,182.95	Pesos
Field Allowances	27,506.23	Pesos
Field operative cost (others)	4,045.00	Pesos
Communication	10,000.00	Pesos
Consumables (paper, ink, toner, CD, other)	4,700.00	Pesos
Inscription	1,000.00	Pesos
	53,294.18	Pesos
1 US\$=1\$(pesos)=120¥		

2003 GEOSAT-AR Project Costs

Air tickets/transportation/Field Allowances	89,831.50	Pesos
Internet service	17,880.00	Pesos
Conference fee	380.00	Pesos
Miscellaneous expenses	9,914.46	Pesos
Communication	6,100.00	Pesos
Consumables (paper, ink, toner, CD, other)	42,881.56	Pesos
Inscription	0.00	Pesos
	166,987.52	Pesos
1 US\$=2.9\$(pesos)=110¥		

2004 GEOSAT-AR Project Costs

Air tickets/transportation/Field Allowances	45,399.89	Pesos
Equipment	3,177.46	Pesos
Conference fee	0.00	Pesos
Miscellaneous expenses(Equipment Maintenance	21,686.64	Pesos
Communication	0.00	Pesos
Consumables (paper, ink, toner, CD, other)	12,015.13	Pesos
	82,279.12	Pesos
1 US\$=2.9\$(pesos)=110¥		

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Plan of Operations for Advanced Remote Sensing Technology Project

OUTPUT	ACTIVITY	Calendar Year												REMARKS	
		1999				2000				2001					
		I	II	III	IV	I	II	III	IV	I	II	III	IV	In Charge	
A1. Technology transfer system is established	1-1 Allocate staff as planned														CA
	1-2 Make the plan of operation														CA
	1-3 Make the budgetary plans														CA
	1-4 Make and implement the monitoring and evaluation plan														CA
	1-5 Oversee the joint coordinating committee														CA
	2-1 Make and implement equipment operation and maintenance plan														CA
	2-2 Establish and operate data management system														CA
	2-3 Procure and install necessary equipment														CA
	2-4 Allocate budget for operation and maintenance of equipment														CA
	2-5 Instruct C/P on operation and maintenance of equipment														CA
A2. Equipment and related software are operated and maintained properly	3-1 Training for hard ware and software														CA
	3-2 Introduce interpretation exercises by using ASTER simulation data														CA
	3-3 Instruct C/P on ASTER data processing														CA
	3-4 Instruct C/P on utilization of ASTER DEM														CA
	3-5 Instruct C/P on alteration mapping and alias content mapping by ASTER data														CA
	3-6 Instruct C/P on field survey for alteration mapping alias content mapping														CA
	3-7 Instruct C/P on integrated geological interpretation by ASTER data														CA
	3-8 Instruct C/P on PALISAR data analysis														CA
	3-9 Instruct C/P on hyperspectral data analysis														CA
	A3. USGS C/Ps are able to make thematic maps advanced remote sensing data such as ASTER and/or PALISAR	4-1 Hold seminars and workshops													
1. Instruct C/P on Environmental analysis by using ASTER and/or PALISAR															CA
2. Instruct C/P on hazardous area analysis using ASTER and/or PALISAR															CA
3. Instruct C/P on field survey for environmental/hazardous area study															CA
4. Utilize maps of the remote sensing data to be understood by the persons concerned and users through seminars															CA
5.3 C/Ps of NOAA are able to make thematic maps advanced remote sensing data such as ASTER and/or PALISAR in environmental or hazardous area study															CA
6. Utilize maps of the remote sensing data to be understood by the persons concerned and users through seminars															CA
7. Utilize maps of the remote sensing data to be understood by the persons concerned and users through seminars															CA
8. Utilize maps of the remote sensing data to be understood by the persons concerned and users through seminars															CA

No. of technology transfer	Kaku	Activity	Cintia	Diego	Ines	Silvia	Toal Score	Final Goal	Final Score
I		Data handling and fundamental concept of earth resources satellite data							
I-1		Introduction to new hardware and software							
I-1-a		Hardware management	C	B	C	C	25	BBCC	30
I-1-b		Software handling(remote sensing,GIS,others)	B-	B+	B	B-	38.33	BBBB	40
I-1-c		Data management(raw data,image products)	B+	A-	B+	B+	48.34	AABB	50
I-2		Basic concept of remote sensing and its application to geological use							
I-2-a		Visible and near-infrared (VNIR),and short-wave infrared (SWIR) sensing	A-	A-	A-	A-	53.32	AABB	50
I-2-b		Thermal infrared(TIR)sensing	B	B	B+	A-	45	AABB	50
I-2-c		Stereoscopic image and digital elevation mode(DEM)	B+	B+	A-	B+	48.34	AABB	50
I-2-d		Microwave sensing	C	C	C	C	20	BBCC	30
I-2-e		Satellite platform,orbit,data acquisition	B-	B-	B-	B-	33.32	BBCC	30
I-2-f		Case studies of geological mapping based on various remote sensing data	C+	C	B	C	26.67	AABB	50
I-3		Effective use of ASTER data from pre-launch studies	B	B	B	B	40	AABB	50
II		Digital image processing and thematic mapping of alteration minerals and lithology with silica index by ASTER							
II-1		Pre-processing(data loading,line replacing,geometric correction,mosaicking)	A-	A-	A-	A-	53.32	AABB	50
II-2		Image enhancement(stretching,filtering,statistical treatment,fast fourier transform, others)	A-	A-	A-	A-	53.32	AAAB	55
II-3		SWIR analysis							
II-3-a		Methodology to obtain apparent reflectance	B	B	B	B	40	AAAB	55
II-3-b		Construction and management of spectral library	C	C	C	C	20	AAAA	60
II-3-c		Methodology of mapping alteration minerales(binary encoding, spectral angel mapping, matched filtering,spectral unmixing, others)	A-	A-	A-	A-	53.32	AAAB	55
II-4		TIR analysis							
II-4-a		Separation of emissivity from temperature	B	B	B	A-	43.33	CCCC	20
II-4-b		Silica abundance estimation based on emissivity spectra	B	B	B	A-	43.33	AABB	50
III		Application of ASTER data to geological mapping and mineral resources exploration							
III-1		VNIR,SWIR							
III-1		Image Processing	A-	A-	A-	A-	53.32	AABB	50
III-1-a		Three-dimensional interpretation of common hydrothermal systems	B	B	A	B	45	BBBB	40
III-1-b		Geological interpretation based on SWIR mapping results	B+	B+	B+	B	45.01	AAAB	50
III-1-c		Field verification for improving mapping quality	B+	B+	A-	B+	48.34	AABB	50
III-1-d		Operation of spectrometer and data acquisition of reflectance spectra in the field	B	B	A-	B	43.33	AAAB	55
III-2		TIR							
III-2		Image Processing	B	B	B	A-	43.33	AABB	50
III-2-a		Extraction of silica-introduced portion in hydrothermal systems	C	C	B	B	30	AAAB	55
III-2-b		Lithologic interpretation based on emissivity spectra	C	C	B	B	30	AAAB	55
III-2-c		Field verification for improving mapping quality	N	N	B	B	20	AAAA	60
III-2-d		Operation of radiometer and data acquisition of emissivity spectra	C	C	B	B	30	AAAB	55
III-3		DEM							
III-3		Image Processing	B+	B+	B+	B+	45.68	BBCC	30
III-3-a		Data handling and analytical method	C	C	C	C	20	BBBB	40

III-3-b	⊙		Geological analysis by DEM	C	C	C	C	20	BBBB	40
III-4	⊙		Integration of remote sensing analysis and geological field survey							
III-4		⊙	Image Processing	B-	B-	B+	B-	36.66	BBCC	30
III-4-a	⊙		Comprehensive analysis of VNIR/SWIR/TIR mapping results	C	C	B	C	25	AAAB	40
III-4-b	⊙		Integrated interpretation of geology and mineral resources (mineral potential analysis)	C	C	B	C	25	AAAB	40
IV	△	△	Microwave analysis using PALSAR data							
IV-1		△	Data handling and image processing(data loading, noise mitigation, correction of distortion, mosaicking others)	N	N	N	N	0		
IV-2			Land use analysis(forest analysis)by radar polarimetry	N	N	N	N	0		
IV-3			Topographic analysis by radar interferometry	N	N	N	N	0		
V	△	△	Introduction to environmental analysis using ASTER and /or PALSAR data							
V-1		△	Land use analysis(provisional)	C	C	C	C	20		
V-2		△	Vegetation index analysis(provisional)	C	C	C	C	20		
V-3		△	Soil index analysis(provisional)	C	C	C	C	20		
VI	△	△	Introduction to hazardous area analysis using ASTER and/or PALSAR data							
VI-1		○	Flood level observation(provisional)	N	B	N	N	10		
VI-2			Coastal line monitoring(provisional)	N	N	N	N	0		
VI-3			Drought monitoring(provisional)	N	N	N	N	0		
VI-4		○	Volcano monitoring	N	N	N	A-	13.33		
VI-5			Land slide monitoring(provisional)	N	N	B	B	20		
VII	△	△	Introduction to hyperspectral data analysis	N	N	N	N	0		
Total								1350		1515

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Progress of the situation of the GEOSAT-AR Project (Sep. 2004)

ANNEX-9

List of geological map and thematic map using ASTER data

Geological Map (1:100,000)

	Name of Area	Date of start	Date of finish	Data process	Workshop	Field Survey	Mapping Report	Digitization
GM1	Aguilar 2366-22	Feb. 2002	Oct. 2004					
GM2	Andagalá 2766-27	Feb. 2002	Dec. 2004					
GM3	Cerro Abanico 4169-17 (Los Menudos)	Feb. 2002	Sep. 2004					
GM4	Famatina 2969-18	Feb. 2002	Oct. 2004					
GM5	Gañzu Lauquén 4169-18 (Los Menudos)	Aug. 2003	Dec. 2004					
GM6	Sañogasto 2969-24 (Chilecito)	Aug. 2003	Dec. 2004					
GM7	Co. Chaparro 2969-16	Aug. 2003	Nov. 2004					
GM8	Las Pampas 4572-12 Cerro Stephen 4572-10	Dec. 2002	Nov. 2004					
GM9	Paraje El Zeballos 4772-16	Aug. 2003	Jan. 2005					
GM10	Antofalla 2569-30	Jun. 2004	Jul. 2005					
GM11	Barreal 3169-27	Jun. 2004	Jul. 2005					
GM12	Estación Musters 4166-09	Jun. 2004	Jul. 2005					
GM13	Corredor Bioceánico(2)	Aug. 2003	Jul. 2004					
GM14	Malargue	Mar. 2004	Sep. 2005					

Metallogenic Map

	Name of Area	Date of start	Date of finish	Data process	Workshop	Field Survey	Mapping Report	Digitization
MM1	Farrallon Negro	Feb. 2002	Jul. 2003					
MM2	Maliman 2969-III	Feb. 2002	Dec. 2004					
MM3	Paramillos	Nov. 2003	Dec. 2004					

Environmental and Hazardous Analysis

	Name of Area	Day of start	Day of finish	Data process	Workshop	Field Survey	Mapping Report	Digitization
HM1	Picasa	Aug. 2003	Dec. 2004					
HM2	Monitoring Volcano	Jun. 2003	Feb. 2005					
HM3	Monitoring Copahue	Jun. 2003	Feb. 2005					
HM4	Mendoza River Basin	Abr. 2003	Jul. 2004					
HM5	Tupungatito	Jun. 2003	Jul. 2004					
HM6	San Carlos Bariloche	Jun. 2004	Jul. 2005					

Other Project using ASTER Data (Technical advice)

	Name of Area	Day of start	Day of finish	Data process	Workshop	Field Survey	Mapping Report	Digitization
P1	La Hoyada	Mar. 2004	Sep. 2005					
P2	Sierra de Velasco	Mar. 2004	Sep. 2005					
P3	Ceolitas	Mar. 2004	Sep. 2005					
P4	Puesto La Peña	Mar. 2004	Sep. 2005					
P6	Casero	Mar. 2004	Sep. 2005					
P7	Depósito Loésicos	Mar. 2004	Sep. 2005					
P8	Oeste Neuquen	Mar. 2004	Sep. 2005					
P9	Río Colorado	Mar. 2004	Sep. 2005					
P10	El Bolsón	Mar. 2004	Sep. 2005					
P11	Esquel	Mar. 2004	Sep. 2005					

Others (Short time Expert)

	Name of Area	Day of start	Day of finish	Data process	Workshop	Field Survey	Mapping Report	Digitization
EX1	Calingasta	Jun. 2004	Sep. 2005					
EX2	Infiernillo	Jun. 2004	Sep. 2005					
EX3	Neuquen	Jul. 2004	Sep. 2005					

 Finish  Working

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Datos ASTER requeridos al SEGEMAR

1. Ventas

Persona Física u Empresas	Contacto	Áreas solicitadas	Escenas ASTER
MMAJ		Bolivia-Perú	15
UNLP - YPF	J. C. Gómez	Cuenca Neuquina hasta Ñirihuau	45
UNLP	J. C. Gómez	Áreas en Colombia, Perú y Bolivia	10
JICA - Ong	Srta. Tsujikawa	Parque Iguazu	6
JICA - Ong	Srta. Tsujikawa	Formosa	34
JICA - INA Tecnologías sustentables para la Prevención de la Contaminación	Dr. Kuriyagawa		
UBA -Desarrollo de Prospectos Mineros	D. Perez	Río Gallegos	2
Río Tinto Mining Exploration Ltd.	A. Caballero	Santa Cruz	2
Río Tinto Mining Exploration Ltd.	A. Caballero	Peru	2
Río Tinto Mining Exploration Ltd.	A. Caballero	Bolivia	30
Río Tinto Mining Exploration Ltd.	A. Caballero	San Juan	2
Río Tinto Mining Exploration Ltd.	A. Caballero	Neuquen	6
Río Tinto Mining Exploration Ltd.	A. Caballero	Varias	10
JMB Ingeniería Ambiental	P. Tarela	Caleta Olivia	1
Anglogold	C. Riveros	Maliman	8
New Phoenix	F. Nullo		3
P. Tchilinguirian	P. Tchilinguirian	Neuquen	2
HIDROAR S.A. - Cecir	P. Tarela	Ría de Río Gallegos	1
Barrick	W. Perez	Famatina, Los Menucos (varios)	2
Minera Solitario	G.de la Vega	San Juan	1
Minera Aguilar	Belbedere	San Juan	1
Minera Agua Rica	G. Cruz	Catamarca	5
	J. C. Gómez	Áreas en Mendoza, Santa Cruz y T.d.Fuego	—
UNLP		Catamarca	—
Río Tinto Mining Exploration Ltd.	A. Caballero	Bogota, Bucaramanga y Cucuta	—
Ser. Geol. Colombia/MAP-GAC	Stasiuk	Aconcagua, Ciudades, Volcanes, Temuco, Mumuil Malal, varias	—
SERNAGEOMIN/MAP-GAC	C. Muñoz	Catamayo, Poechos, Yucamaneý	—
Ser.Geol. Peru/MAP-GAC	A. Guzmán	Candarave, Machu Pichu	—
	Martínez	La Paz, Cochabamba, Tarija, Cordillera Occidental	—
Serv. Geol. Bolivia/MAP-GAC	H. García		—
Serv. Geol. Ecuador / MAP-GAC	E. Espinoza	2 áreas	—
	O. Coelho	Ichisgualasto (S. Juan, Argentina), Carajás e Itajaí Catarina (Brasil)	—
UNISINOS-RS Brasil			—
BHPBilliton	A. Goncalves	Cordillera Negra, Peru	—
Dir. Min. Neuquen	M. Palacios	Este de Neuquen	—
CEDIAC-UNCu	P. Euillades	NW de Brasil (DEM)	—

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2. Imágenes para investigación, tesis y cursos.

Organismos	Contacto	Áreas solicitadas	Escenas ASTER
FCEN – UBA (varias Tesis)	V. Ramos	Mendoza	4
IGME – IAA	Nemesio, R.d.Valle,	Antártida	2
Universidad de Salta	(Varias tesis)	Salta	15
Universidad de Córdoba (dos tesis)	Viramonte	Salta	4-6
Universidad de Salta	Viramonte	Curso de Volcanismo	6
Univ. Nac. Tucuman	Aceñolaza	Jujuy	1
U.N. de La Plata- Univ. Francia	Pinilla	Buenos Aires	10
Proyecto ECOATLAS	H. Puga	Mendoza	2
UBA- FFE	N. Marlenko	Sant a Fe	1
UNLujan	C. Serafini	Ciudades	9
UBA-FCEN	D. Perez	San Juan (Procesamiento)	10
Univ. Nac. San Juan	G. Suvires	Rodeo-Iglesia y Barreal-Calingasta.	—
UBA- FCEN	S.Marcomini	Costa Bonaerense	—
Univ. Nac. Tucuman	Aceñolaza	Jujuy	—
Universidad de Salta	Viramonte	Salta	—
CONICET-UBACyT	D. Olivera	Antofagasta de la Sierra	—
Universidad de Salta	Montero-Hongn	Salta	—
Universidad de San Luis	Sruoga (tesista)	La Carolina, San Luis	—




List of SEGEMAR geological and thematic projects		
ITEM	PROJECT	REGION
	DGR - GEOLOGICAL MAP 1:250.000	
1	Susques	NOA
2	Santa Maria	NOA
3	Tres Lagos	Patagonia
4	Lago Buenos Aires	Patagonia
5	Rawson	Patagonia
6	Paso de Pino Hachado	Patagonia
7	Junin de los Andes	Patagonia
8	Catriel	Patagonia
9	Conesa y Viedma	Centro y Pat
10	Barreal	Cuyo
11	Villa Union	Cuyo
12	Pastillos	Cuyo
13	Neuquen	Patagonia
14	Laguna Grande	Patagonia
15	El Chalten	Patagonia
16	Caseros, Pringles	Centro
17	El Calafate	Patagonia
18	Concordia y Nogoya	NEA
19	Recreo	Centro
20	Villa Mercedes	CUYO
21	Rio Cuarto	Centro
22	Salta	NOA
23	Monte Aymond, Monte Dinero y Rio Grande	Patagonia
24	Pto.Coig y Pto.Santa Cruz	Patagonia
25	Chos Malal	Patagonia
26	Colonia Julia y 3963 IV	Centro y Pat
27	Oberá	NEA
28	Villa Angela y Corrientes	NEA
29	San Martín	CUYO
30	San Martín de los Andes	Patagonia
31	Gral Acha	Patagonia
32	Tandil	Centro
33	Monte Caseros	NEA
34	Curuzu Cuatia	NEA
35	Clorinda	NEA
36	Bella Vista	NEA
	DGR - GEOLOGICAL MAP 1:100.000	
37	Cerro Meridiano	PAT
38	Cerro Vanguardia	PAT

39	Chorriaca	PAT
40	Cerro Abanico	PAT
41	Colonia Ganzu Lauquen	PAT
42	Las Pampas	PAT
43	Villa de Soto	CENTRO
44	Famatina	CENTRO
45	Chilecito	CENTRO
46	Cerro Chaparro	CUYO
47	Andalgala	NOA
48	Aguilar	NOA
49	El Zeballos, pro. de Santa Cruz	PAT
50	Lago La Plata y Rio Senguerr	PAT
51	Mirasol	PAT
52	Andacollo	PAT
	DGR – REGIONAL GEOLOGICAL PROJECTS	
53	Tierra del Fuego	PAT
54	Patagonia	PAT
55	Chaco	NEA
56	SIG del area fronteriza Argentina- Chile	NOA-CUYO
57	Preparacion base geologica 1:100,000 del area Corredor Bioceanico	CUYO
58	Monitoreo Vn. Copahue	PAT
59	Area Vn. Tupangatito-Cuenca Rio Blanco -Rio Tupungatto	CUYO
60	Area Corredor Bioceanico entre polvaredas y Las Cuevas	CUYO
61	Vulcanismo Mesozoico y Terciario prov. Del Chubute	PAT
62	Potencial Geoturistico volcanes neuquinos	PAT
63	Cartas Geologicas al millon:Patagonia	PAT
64	Formosa	NEA
65	Santa Fe	NEA
66	Plataforma Submarina	
67	Carta geologicas 1:1000.000 Norte Grande	NOA
	DRGM - MINERAL RESOURCES MAP 1:250.000	
68	CMM S.A de los Cobres	NOA
69	CMM Socompa	NOA
70	Potencial metalogenico de areas inversion tectonica	NOA
71	Alteraciones hidrot.NOA	NOA
72	CMI Tucuman	NOA
73	CMM Po. San Francisco	NOA
74	Proyecto YMAD	NOA
75	CMM Pastillos	CUYO
76	CMICordoba	CENTRO
77	CMM Ojo de Agua	CENTRO
78	CMI San Juan	CUYO
79	CMM San Rafael	Cuyo

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80	CMM Embalse El Nihuil	CUYO
81	CMM Agua Escondida	CUYO
82	CMI San Rafael	CUYO
83	CMI Sierra Grande	PAT
84	CMI Grl Roca	PAT
85	CMI Neuquen	PAT
86	CMI Olavarria	CENTRO
87	Mapa de Minerales Industriales de Argentina	
88	Boratos	
89	Sales	
90	Mapa Metalogenico de America del Sur	
91	CMM Antofalla	NOA
92	Potencial ceolotas La Rioja	CUYO
93	CMM La Rioja	CUYO
94	CMM Tinogasta	CUYO
95	CMM Maliman	CUYO
96	CMI Mendoza	CUYO
97	Potencial rs.Ornamentales Sta.Cruz	PAT
98	Potencial rs.Min. Industriales Chubut	PAT
99	CMM Esquel	PAT
100	Metalogenia del oro en Argentina	CUYO
101	CMM Pirquitas	NOA
102	CMM Susques	NOA
103	CMM Fiambala	NOA
104	CMI Concepcion	NOA
105	CMM Chepes	CUYO
106	CMM Cruz del Eje	CENTRO
107	Evaluacion Minerales Industriales Corredor Bioceanico-MZA	CUYO
108	CMM Malargue	CUYO
109	Distrito Paramillos	CUYO
110	CMI Zapala	PAT
111	Evaluacion del potencial Salinas de Buenos Aires	CENTRO
112	CMM Trevelin	PAT
113	CMI Gualequaychu	NEA
114	CMI Piruquitas	NOA
115	CMI Susques	NOA
116	CMI Cruz del Eje	CENTRO
117	Metalogenia del Batoloto de Achala	CENTRO
118	Evaluacion Salinas Grandes	CUYO
119	Evaluacion de potencial minerales industriales	CUYO
120	Mapa metalogenico Neuquen	PAT
121	CMI Ing.Jacobacci	PAT
122	Potencial en sales de potasio de la Cuenca Neuquina	PAT
123	Evaluacion salinas Rio Negro	PAT
124	CMM Valcheta	PAT

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125	Mapa metalogenico Rio Negro	PAT
126	Mapa metalogenico Chubut	PAT
127	Mapa metalogenico Santa Cruz	PAT
128	Proyecto Petrominera Chubut	PAT
129	Proyecto ?Petrominera Chubut	PAT
130	Proyecto Fomicruz	PAT
131	SIG Metalogenia y Recursos Minerales Area fronteriza Argentina-Chile	
132	CRM 1:1.000.000 MERCOSUR	
133	CRM 1:1.000.000 Chile-Argentina	
	DRGM – GEOCHEMISTRY MAPS	
134	CGQ Cu, Pb y Zn La Quiaca	NOA
135	CGQ Cu, Pb y Zn Cachi	NOA
136	CGQ Cu, Pb y Zn Lib. Grl. San Martin	NOA
137	CGQ Cu, Pb Y Zn Salta	NOA
138	CGQ Cu, Pb Y Zn Metan	NOA
139	CGQM La Quiaca	NOA
140	CGQM Cachi	NOA
141	CGQM Ltr. Grl. San Martin	NOA
142	CGQM Salta	NOA
143	Interpretacion geoquimica del a Hoja Piriquitas	NOA
144	CGQ Cu, Pb y Zn Santa Maria	NOA
145	CGQ Cu, Pb y Zn Tucuman	NOA
146	CGQ Cu, Pb y Zn Belen	NOA
147	CGQ Cu, Pb y Zn Concepcion	NOA
148	CSQMSanta Maria	NOA
149	GQ Proyecto YMAD	NOA
150	CGQM Pastillos	CUYO
151	CGQ Cu, Pb y Zn Santa Rosa de Conlara	CUYO
152	CGQ Cu, Pb y Zn Villa Mercedes	CUYO
153	CGQ Cu, Pb y Zn Villa Ojo de Agua	CENTRO
154	CGQM Villa Ojo de Agua	CENTRO
155	CGQM Sta. Rosa de Conlara	CUYO
156	CGQM Villa Maria	CENTRO
157	CGQM Bellville	CENTRO
158	CGQM Villa Mercedes	CUYO
159	CGQM Maliman	CUYO
160	CGQ Cu, Pb y Zn Malargue	CUYO
161	GQ Areas de reserva Plan Cordillerano	CUYO
162	CGQ Cu, Pb y Zn Esquel	PAT
163	CGQM Esquel	PAT
164	CGQM Trevelin	PAT
165	CGQM Tucuman	NOA
166	CGQM Concepcion	NOA
167	CGQM Gdr. Costa	PAT

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168	Cartas Geoquimicas area JICA	NOA
169	CGQM Villa Dolores	CENTRO
170	GQ Corredor Bioceanico-Mendoza	CUYO
171	Atlas geoquimico del Neuquen	PAT
	DRGM - GEOPHYSIS	
172	Carta de Geologia soloda Antofalla	NOA
173	Geofisica Proyecto YMAD	NOA
174	Digitalizacion Geofisica Cuenca Neuquina	PAT
175	Contrato SEGEMAR-FUGRO	
176	Carta gravimetrica SAN JUAN	CUYO
177	Geologia solida La Pampa	PAT
178	Geofisica Area La Pampa	PAT
179	Geofisica Area Pie de Palo	CUYO
180	Geofisica Area Villa Dolores	CENTRO
181	Geofisica AreaNEA	NEA
182	Anomalia geofisicas del Bloque de San Rafael	CUYO
183	Evaluacion geofisico-geologica Valcheta	PAT
184	Digitalizacion Geofisica Santa Cruz	PAT
185	Mapa magnetico de la Provincia de Buenos Aires	CENTRO
	DRGM - GEOTHERMY	
186	Evaluacion potencial geotermico Basavilvaso-Entre Rios	NEA
187	Evaluacion potencial geotermico Gualeguaychu	NEA
188	Evaluacion potencial geotermico Nogoya -Entre Rios	NEA
189	Evaluacion potencial geotermico Concepcion del Uruguay	NEA
190	Analisis y evaluacion de la informacion geotermal de San Luis	CUYO
191	Potencial geotermico San Ignacio Misiones-geologia	NEA
192	Potencial geotermico San Ignacio Misiones-geofisica	NEA
193	Potencial geotermico Larroude y Guiatrache- La Pampa-Geologia	PAT
194	Potencial geotermico Larroude y Guiatrache- La Pampa-Geofisica	PAT
195	Potencial geotermico Capilla del Monte-Geologia	CENTRO
196	Potencial geotermico Capilla del Monte-Geofisica	CENTRO
197	Geofisica area geotermico San Pedro-Jujuy-Geofisica Aguas Calientes	NOA
198	Geofisica area geotermico San Pedro-Jujuy-Geofisica El Palma	NOA
199	Geofisica area geotermico San Pedro-Jujuy-Geofisica Laguna	NOA
200	Potencial geotermico Carlos Pellegrini-San.Fe-Geologia	CENTRO
201	Potencial geotermico Carlos Pellegrini-San.Fe-Geofisica	CENTRO
202	Potencial geotermico Santa Rosa de Conlara-Geologia	CUYO
203	Potencial geotermico Santa.Rosa de Conlara-Geofisica	CUYO
	DGAA - GEOLOGICAL HAZARDS MAPS	
204	CPG Escalante	PAT
205	CPG Pto.Madryn	PAT
206	CPG Gualeguaychu	NEA-Centro

207	CPG Gral.Roca	PAT
208	CPG Esquel	PAT
209	CPG Villa Dolores	CENTRO
210	CPG Caleta Olivia	PAT
211	CPG Bariloche	PAT
212	CPG Concepcion	NOA
	DGAA - ENVIRONMENTAL BASE MAPS	
213	CLBA Tandil	CENTRO
214	CLBA Concepcion	NOA
215	CLBA Posadas	NEA
216	CLBA Cta. Olivia	PAT
	DGAA - QUATERNARY MAPS	
217	Carta Santa Fe	NEA
218	Carta San Justo	NEA
219	Carta Lincoln	CENTRO
220	Sintesis Cuaternaria de la Llanura Chaco Pampa	CENTRO
	DGAA - GEO-HAZARS RESEARCH PROJECTS	
221	Pelig.Costera C.Rivadavia	PAT
222	Pelig.Playa Belvedere Criv.	PAT
223	Pelig.Geol.Volcan Copahue	PAT
224	Pelig.Sismica Sierra de Valazco	CUYO
225	Estudio Procesos Activos 1:100.000 del area Corredor Bioceanico	CUYO
226	Estab.Talud entre Polvaredas y Las Cuenvas(escala 1:50.000)	CUYO
227	Estab. Talud Entre Polvaredas y la Ciudad de Mendoza(escala 1:50.000)	CUYO
228	Estudio LBA area Mendoza del corredor bioceanico	CUYO
229	Geomorfologia 1:100.000 del area Corredor Bioceanico	CUYO
	DGAA - GEO-ENVIRONMENTAL STUDY AREAS	
230	SIG de Estudios Geoambientales	NEA-PAT
231	Estudio Geoambiental de San Ignacio-Misiones	NEA
232	Estudio Geoambiental de San Carlos de Bariloche	PAT
233	Riesgo Ecologico Lag.Esquel	PAT
	DGAA - GEOMORPHOLOGICAL MAPS	
234	Mapa Geomorfologico Olavarria 1:250.000	CENTRO
235	Mapa Geomorfologico Tandil 1:250.000	CENTRO
236	Mapa Geomorfologico Caseros Pringles 1:250.000	CENTRO
237	Mapa Geomorfologico de la provincia de La Pampa 1:750.000	CENTRO
238	Mapa Geomorfologico de la provincia de Santa Cruz 1:1.000.000	PAT

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List of new SEGEMAR Projects using ASTER data			
Item	Project	Region	DGR,DRGM.DGAA Staff
1	La Hoyada (hydrothermal alterations)	Catamarca Province	Liliana Martinez (Tucumán) Marta Godeas (8° piso)
2	Sierra de Velasco (Geo-hazards)	La Rioja Province	Maria A. González (8° piso) Manuela Elissondo (8° piso)
3	Ceolitas (zeolite discrimination)	La Rioja Province	Ramón Carrizo (La Rioja) Eva Donnari (8° piso)
4	Puesto La Peña (hydrothermal alterations)	Mendoza Province	Eduardo Zappettini (8° piso)
5	Malargue (hydrothermal alterations)	Mendoza Province	a designar
6	Proyecto Caseros, Coronel Suárez, Coronel Pringles, Olavaria (geomorphological map)	Buenos Aires Province	Mariana Gutierrez (10° piso)
7	Depósitos loésicos del sur de la llanura pampeana (geological map)	Buenos Aires and Rio Negro Provinces	Mariela Echeverria (10° piso)
8	Peligrosidad y Ordenamiento Territorial en el sector centro oeste neuquino (Geo-hazard map)	Neuquén Province	A designar
9	Río Colorado (Geological map)	Río Negro Province	Alicia Folgueras (10° piso)
10	Remoción en masa y planificación territorial en la región de El Bolsón (Geo-hazard map)	Chubut and Rio Negro Provinces	Fernando Pereyra (8° piso)
11	Remoción en masa y planificación territorial en la región de Esquel (Geo-hazard map)	Chubut Province	Alejandra Tejedo (8° piso) Roxana Chavez (8° piso)