

AGENCY FOR INTERNATIONAL DEVELOPMENT PROJECT AUTHORIZATION AND REQUEST FOR ALLOTMENT OF FUNDS PART I		1. TRANSACTION CODE <input type="checkbox"/> A - ADD <input checked="" type="checkbox"/> C - CHANGE <input type="checkbox"/> D - DELETE	PAF 2. DOCUMENT CODE 5
3. COUNTRY/ENTITY DS/ST, RDA 7, Type B		4. DOCUMENT REVISION NUMBER <input type="checkbox"/>	
5. PROJECT NUMBER (7 digits) <input type="text" value="931-1166"/>	6. BUREAU/OFFICE A. SYMBOL: DSB B. CODE: <input type="text" value="08"/>	7. PROJECT TITLE (Maximum 40 characters) <input type="text" value="Remote Sensing for Resource Assessment"/>	
8. PROJECT APPROVAL DECISION ACTION TAKEN <input checked="" type="checkbox"/> A - APPROVED <input type="checkbox"/> D - DISAPPROVED <input type="checkbox"/> DE - DEAUTHORIZED		9. EST. PERIOD OF IMPLEMENTATION YRS. <input type="text" value="0"/> <input type="text" value="4"/> QTRS. <input type="text" value=""/>	

10. APPROVED BUDGET AID APPROPRIATED FUNDS (\$000)									
A. APPROPRIATION	B. PRIMARY PURPOSE CODE	PRIMARY TECH. CODE		E. 1ST FY <u>77</u>		H. 2ND FY <u>78</u>		K. 3RD FY _____	
		C. GRANT	D. LOAN	F. GRANT	G. LOAN	I. GRANT	J. LOAN	L. GRANT	M. LOAN
(1) FN	751 I	776		1,780		1,595			
(2)									
(3)									
(4)									
TOTALS									

A. APPROPRIATION	N. 4TH FY _____		Q. 5TH FY _____		LIFE OF PROJECT		11. PROJECT FUNDING AUTHORIZED (ENTER APPROPRIATE CODE(S)) 1 = LIFE OF PROJECT 2 = INCREMENTAL, LIFE OF PROJECT	A. GRANT	B. LOAN
	O. GRANT	P. LOAN	R. GRANT	S. LOAN	T. GRANT	U. LOAN			
(1)					3,375			2	
(2)									
(3)									
(4)									
TOTALS									
								C. PROJECT FUNDING AUTHORIZED THRU FY <input type="text" value="7"/> <input type="text" value="8"/>	

12. INITIAL PROJECT FUNDING ALLOTMENT REQUESTED (\$000)				13. FUNDS RESERVED FOR ALLOTMENT				
A. APPROPRIATION	B. ALLOTMENT REQUEST NO. _____			TYPED NAME (Chief, SER/FM/FSD)				
	C. GRANT	D. LOAN						
(1)				SIGNATURE				
(2)								
(3)				DATE				
(4)								
TOTALS								

14. SOURCE/ORIGIN OF GOODS AND SERVICES
 000 941 LOCAL OTHER _____

15. FOR AMENDMENTS, NATURE OF CHANGE PROPOSED

This amendment changes the FY77 and FY78 funding.

FOR PPC/PIAS USE ONLY	18. AUTHORIZING OFFICE SYMBOL	17. ACTION DATE	18. ACTION REFERENCE (Optional)	ACTION REFERENCE DATE
		MM DD YY		MM DD YY

PROJECT AUTHORIZATION AND REQUEST FOR ALLOTMENT OF FUNDS

PART II

(AMENDMENT #2)

ENTITY: DS Bureau
PROJECT: Remote Sensing for Resource Assessment and Management
PROJECT NUMBER: 931-1166

AID financing in the amount of \$1,595,000 is authorized for the following FY 1978 remote sensing activities:

- (1) a portable Landsat receiving station in Africa (\$1,000,000);
- (2) sponsoring in-country remote sensing training (\$100,000);
- (3) supporting the Twelfth International Symposium on Remote Sensing of Environment in Manila (\$45,000);
- (4) arranging for high-level greeting from U.S. by satellite communications (\$20,000);
- (5) assess the spread of deserts (\$130,000);
- (6) analyze rice crop by satellite radar SEASAT measurements during the cloudy, monsoon season (\$100,000); and
- (7) to estimate crop harvests by Landsat analysis (\$200,000).

Approved 

Disapproved _____

Date 1-24-78

References:

1. Approved Project Paper dated December 14, 1976
2. PAF Part II dated 12/29/76
3. Amendment #1 to PAF dated 8/26/77

Clearance:

DS/PPU:RSimpson  Date 1/18/78

DS/OST:CKPaul:ep:12/13/77:X59165

12/13/77

Remote Sensing for Resource Assessment
Project 931-1166

BUDGET STATUS

	FY77 (\$000)	FY78 (\$000)
I. Grants & Tech. Support		
A. ERIM	400	
B. Computer Prog. (LARS)	8	
C. Workshop - EROS Data Center	3	
D. PASA (USGS)	89	
E. Portable Ground Station		1,000
F. Mission Support - demos., data, etc.		100
G. Manila Symposium		45
H. Desert Monitoring		130
I. SEASAT Demonstration		100
J. Crop Forecast		200
K. Manila Communications Satellite Broadcast	<u>500</u> ^{1/}	<u>1,595</u> ^{3/}
II. East Africa Center		
A. PROAG	960	
B. Admin. Reservation	<u>40</u> ^{1/}	<u>80</u> ^{1/}
III. Training		
A. Phase I	<u>135</u> ^{2/}	<u>65</u> ^{2/}
	TOTAL	\$1,635 \$1,740
	GRAND TOTAL	\$3,375

APPROVAL STATUS

1/ Approved by DA/AID in original PAF	\$1,580
2/ Training Approved in PAF Amendment #1	200
3/ Requested in PAF Amendment #2	1,595
	\$3,375

DS/OST:RFlynn:ep

ACTION MEMORANDUM

To: AA/DS, Mr. Sander Levin Date: JAN 16 1978
Thru: DS/PPU, Mr. Robert Simpson *RS*
From: DS/OST, Henry A. Arnold */s/*
Subject: Remote Sensing for Resource Assessment and
Management, Project

Problem: Your approval is needed for FY'78 obligation of \$1,595,000 for subject project.

Background: This project approved by the DA/AID on December 29, 1976, calls for a total FY 1977 and 1978 funding of \$3,375,000. To date, a total of \$1,780,000 was authorized for FY 1977/1978 obligation in the original PAF and PAF Amendment #1 (Attachment B). These funds provided Africa's regional remote sensing training center, utilization grants, field support and training. There remains in the project \$1,595,000 that requires AA/DS authorization to obligate in FY 1978.

Discussion: Attachment C "Budget and Approval Status" lists seven remote sensing sub-projects we plan to implement in FY 1978 under the grants and technical support portion of this project. Below is a brief description of these sub-projects.

We and the Africa Bureau are currently discussing with NASA setting up a portable Landsat receiving station in Upper Volta which is the site of a regional training and user application center. NASA will consider lending us \$1,000,000 worth of equipment free to demonstrate getting Landsat imagery to thirty African countries which haven't received images for over two years. Our funding of \$1,000,000 under a PASA with NASA would be to get the portable station to Africa, maintain and operate it, and process the data for one year. DSB and Africa are also presently discussing portable station activities after the first year, with the understanding that some of the '79 remote sensing funds transferred to AFR from DSB are to be used for the \$280,000 per year operating costs of the station.

We plan to spend \$100,000 under PASAs or contracts to support Mission requests for workshops and training courses. We have done this in the past using the U.S. Geological Survey's mobile training staff from the EROS Data Center.

We intend to obligate \$45,000 under a sole source contract with ERIM to support the Twelfth International Symposium on Remote Sensing of Environment in Manila (see Attachment E for justification). This will be the first time this series of symposia has been held outside of the U.S. There is a high level of interest in both the U.S. and the Philippines; President Marcos is giving the Keynote address and U.S. Deputy Assistant Secretary Heginbotham, Asia Bureau Asst. Administrator Sullivan, and Secretary Andrus are all fully supporting it and our participation. Our office is represented on the executive committee and the program of the symposium. In addition, we plan to have a high level official from the U.S. address the symposium via a satellite link. We request approval for \$20,000 to fund the filming and broadcast.

As a result of the U.N. Conference on Desertification last August in Nairobi, the U.S. stated that we would be willing to monitor the progressive encroachment of deserts on agricultural land using Landsat imagery. We plan to initiate a small \$130,000 competitive contract for this purpose in western Africa this year. We are presently holding meetings with the Sahel Desk and AFR/DR to define a FY'79 desert monitoring activity as part of OST's remote sensing of tropical agriculture project. The FY'78 contract described above is to determine what phenomena associated with desertification can be recognized on Landsat imagery in preparation for the '79 project. NASA has been participating in these meetings and has expressed interest in working with AID on this problem of desertification. This cooperation would take the form of funding, manpower to perform image analysis at NASA centers, and Landsat images when we wanted them.

Next spring a new satellite, SEASAT will be launched to monitor the state of the oceans. In addition, SEASAT radar will be turned on over land. The data received can be used by the developing countries for the following purposes: marine resource studies applicable to fisheries, for monitoring coastal erosion, for weather predictions and to study geological structure and assess crop acreage. This satellite's data will provide the potential for saving lives in monsoon-prone coastal areas. We plan to budget \$100,000 under a competitive contract to assess the value of this new technology for developing countries.

We have discussed with the U.S. Department of Agriculture a \$200,000 PASA using Landsat in Tunisia and Sudan for predicting crop harvests based on acreage and yield measurements during the growing season. We are also exploring this important application with both Missions. The Department of Agriculture

feels that crop forecasting using Landsat is sufficiently promising that a demonstration of the technique is warranted this year. Development of a FY 1979 project "Remote Sensing in Agriculture" depends upon the outcome of this demonstration in FY 1978 and we are discussing this possibility with the Sudan mission.

In summary, all of our remote sensing activities for FY'78 are being designed with the Africa, Near East, and Asia Bureaus. The Africa Bureau's '79 activities will build upon the limited demonstrations we initiate in '78 and will not duplicate them.

Recommendation: That you sign the attached PAF Amendment #2.

Attachments:

- A. PAF Amendment #2
- B. Original PAF & PAF Amendment #1
- C. Budget and Approval Status
- D. Project Paper
- E. Sole Source Justification for ERIM

Clearance:

AFR/DR:JBlumgart (in draft) 1/12/78
NE/TECH:EPike (in draft) 1/11/78
ASIA/TR/SDP:AJacobs (indraft) 1/10/78

DS/OST:CKPaul:ep:1/13/78:X59165

PD-AAK-388-B1

8/26/77

(TI: 3:0)
App 9A, Ch 9, HB 3

AGENCY FOR INTERNATIONAL DEVELOPMENT PROJECT AUTHORIZATION AND REQUEST FOR ALLOTMENT OF FUNDS PART I		1. TRANSACTION CODE <input checked="" type="checkbox"/> C A = ADD C = CHANGE D = DELETE	PAF 2. DOCUMENT CODE 5
3. COUNTRY/ENTITY TAB TA/OST, RDA 7, Type B		4. DOCUMENT REVISION NUMBER <input type="checkbox"/>	
5. PROJECT NUMBER (7 digits) [931-1166]	6. BUREAU/OFFICE A. SYMBOL TAB	7. PROJECT TITLE (Maximum 40 characters) [Remote Sensing For Resource Assessment]	
8. PROJECT APPROVAL DECISION ACTION TAKEN <input type="checkbox"/> A = APPROVED <input type="checkbox"/> D = DISAPPROVED <input type="checkbox"/> DE = DEAUTHORIZED		9. EST. PERIOD OF IMPLEMENTATION YRS. [0] [4] QTRS. []	

2p.

10. APPROVED BUDGET AID APPROPRIATED FUNDS (\$000)									
A. APPROPRIATION	B. PRIMARY PURPOSE CODE	PRIMARY TECH. CODE		E. 1ST FY <u>77</u>		H. 2ND FY <u>78</u>		K. 3RD FY	
		C. GRANT	D. LOAN	F. GRANT	G. LOAN	I. GRANT	J. LOAN	L. GRANT	M. LOAN
(1) FN	751	776		1,635		1,740			
(2)									
(3)									
(4)									
TOTALS				1,635		1,740			

A. APPROPRIATION	N. 4TH FY		Q. 5TH FY		LIFE OF PROJECT		11. PROJECT FUNDING AUTHORIZED (ENTER APPROPRIATE CODE(S)) 1 = LIFE OF PROJECT 2 = INCREMENTAL LIFE OF PROJECT	A. GRANT	B. LOAN
	O. GRANT	P. LOAN	R. GRANT	S. LOAN	T. GRANT	U. LOAN			
(1)					3,375				
(2)									
(3)									
(4)									
TOTALS					3,375				
							C. PROJECT FUNDING AUTHORIZED THRU	FY [7] [8]	

12. INITIAL PROJECT FUNDING ALLOTMENT REQUESTED (\$000)			13. FUNDS RESERVED FOR ALLOTMENT		
A. APPROPRIATION	B. ALLOTMENT REQUEST NO. _____		TYPED NAME (Chief, SER/FM/FSD)		
	C. GRANT	D. LOAN			
(1) FN	3,375				
(2)					
(3)					
(4)			SIGNATURE _____		
TOTALS	3,375		DATE _____		

14. SOURCE/ORIGIN OF GOODS AND SERVICES 000 941 LOCAL OTHER _____

15. FOR AMENDMENTS, NATURE OF CHANGE PROPOSED
This amendment changes the FY77 and FY78 funding.

FOR PPC/PIAS USE ONLY	16. AUTHORIZING OFFICE SYMBOL	17. ACTION DATE	18. ACTION REFERENCE (Optional)	ACTION REFERENCE DATE
		MM DD YY		MM DD YY

PROJECT AUTHORIZATION AND REQUEST FOR ALLOTMENT OF FUNDS

PART II

(AMENDMENT #1)

ENTITY: TA Bureau
PROJECT: Remote Sensing for Resource Assessment and Management
PROJECT NUMBER: 931-1166

The original PAF approved by the DA/AID on December 29, 1976, authorized \$1.58 million and delegated authority to the AA/TA to authorize additional sub-projects up to a total of \$3,375 million.

AID grant financing in the amount of \$200,000 is authorized for Phase I of the training segment of this project for the purpose of testing different training methods for remote sensing technology transfer to developing countries. These methods would include short term workshops and seminars in the U.S. and abroad, longer term courses in U.S. universities, on-the-job training, and some mix of the above. This amendment brings the current total authorized for this project to \$1.78 million.

A description for Phase II of the training segment of this project as well as a description for the remaining grants and technical support sub-projects will be necessary prior to further authorization of funds (\$1,595,000).

Approved Maynard Baker for C. Jensen

Disapproved _____

Date: AUG 26

References:

1. Approved Project Paper dated December 14, 1976

Clearance:

TA/PPU: R. Simpson 5/1/77, Date 8/24/77

TA/OST:R.Flynn:dsl:8/22/77

PD-AAK-388-C1 12/8/76

AGENCY FOR INTERNATIONAL DEVELOPMENT PROJECT AUTHORIZATION AND REQUEST FOR ALLOTMENT OF FUNDS PART I		1. TRANSACTION CODE <input type="checkbox"/> A : ADD <input checked="" type="checkbox"/> C : CHANGE <input type="checkbox"/> D : DELETE	PAF 2. DOCUMENT CODE 5
3. COUNTRY/ENTITY DS/ST RDA 7, Type B		4. DOCUMENT REVISION NUMBER <input type="text" value="3"/>	
5. PROJECT NUMBER (7 digits) <input type="text" value="931-1166"/>		6. BUREAU/OFFICE A. SYMBOL B. CODE DSB <input type="text" value="10"/>	
7. PROJECT TITLE (Maximum 40 characters) <input type="text" value="Remote Sensing for Resource Assessment"/>		8. PROJECT APPROVAL DECISION ACTION TAKEN <input type="checkbox"/> A APPROVED <input type="checkbox"/> D - DISAPPROVED <input type="checkbox"/> DE DEAUTHORIZED	
9. EST. PERIOD OF IMPLEMENTATION YRS. <input type="text" value="0"/> <input type="text" value="4"/> QTRS. <input type="text" value=""/>			

10. APPROVED BUDGET AID APPROPRIATED FUNDS (\$000)									
A. APPROPRIATION	B. PRIMARY PURPOSE CODE	PRIMARY TECH. CODE		E. 1ST FY 77		H. 2ND FY 78		K. 3RD FY 79	
		C. GRANT	D. LOAN	F. GRANT	G. LOAN	I. GRANT	J. LOAN	L. GRANT	M. LOAN
(1) FN	751	776		1,635		1,594		500	
(2)									
(3)									
(4)									
TOTALS				1,635		1,594		500	

A. APPROPRIATION	N. 4TH FY		O. 5TH FY		LIFE OF PROJECT		11. PROJECT FUNDING AUTHORIZED (ENTER APPROPRIATE CODE(S)) 1 = LIFE OF PROJECT 2 = INCREMENTAL LIFE OF PROJECT	A. GRANT	B. LOAN
	C. GRANT	P. LOAN	R. GRANT	S. LOAN	T. GRANT	U. LOAN			
(1)					3,729				
(2)									
(3)									
(4)									
TOTALS					3,729				
								C. PROJECT FUNDING AUTHORIZED THRU FY <input type="text" value="7"/> <input type="text" value="9"/>	

12. INITIAL PROJECT FUNDING ALLOTMENT REQUESTED (\$000)				13. FUNDS RESERVED FOR ALLOTMENT				
A. APPROPRIATION	B. ALLOTMENT REQUEST NO. _____							
	C. GRANT	D. LOAN		TYPED NAME (Chief, SER/FM/FSD)				
(1)				SIGNATURE				
(2)				DATE				
(3)								
(4)								
TOTALS								

14. SOURCE/ORIGIN OF GOODS AND SERVICES
 000
 941
 LOCAL
 OTHER _____

15. FOR AMENDMENTS, NATURE OF CHANGE PROPOSED

This amendment requests authorization for FY 79 funds of \$500,000.

FOR PPC/PIAS USE ONLY	16. AUTHORIZING OFFICE SYMBOL	17. ACTION DATE	18. ACTION REFERENCE (Optional)	ACTION REFERENCE DATE
		MM DD YY		MM DD YY

PROJECT AUTHORIZATION AND REQUEST FOR ALLOTMENT OF FUNDS

PART II

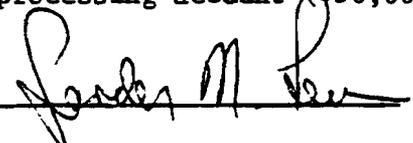
(AMENDMENT #3)

ENTITY : DS Bureau
PROJECT : Remote Sensing for Resource Assessment
and Management
PROJECT NUMBER: 931-1166

I hereby authorize \$500,000 in grant funds for a one-year continuation of the subject project. The total approved funding level for this project is hereby increased from \$3,229,000 to \$3,729,000, with the understanding that (1) the project will be evaluated prior to consideration of additional authorizations, and (2) that prior to obligations in FY 1979 beyond March the \$3,229,000 committed in FY 1978 and 1977 will be reviewed for possible deobligations.

The \$500,000 is authorized for the following FY 1979 remote sensing activities:

- (1) Seminars and Symposia: (\$253,000)
 - (a) Special LDC remote sensing seminar to be appended to Thirteen International Symposium on Remote Sensing of Environment, Ann Arbor, Michigan, Spring 1979 (\$53,000);
 - (b) Fourteenth International Symposium on Remote Sensing of Environment, San Jose, Costa Rica, Spring 1980 (\$100,000);
 - (c) Three seminars on remote sensing applications to agriculture and desertification, in Asia, Africa, and Latin America (\$100,000);
- (2) SEASAT radar applications for mapping LDC natural resources information (\$150,000);
- (3) LDC training in U.S. thru DS/IT (\$47,000);
- (4) LANDSAT image acquisition and special processing account (\$50,000).

Approved 

Disapproved _____

Date 12-8-78

ACTION MEMORANDUM FOR THE ASSISTANT ADMINISTRATOR

THRU: DAA/DS, Dr. John I. Bruce DATE: 11/20/78
DS/PO, Mr. Robert Simpson *ies**

FROM: DS/ST, Henry A. Arnold *H.A. Arnold*

Problem: Your approval is needed for FY'79 obligation of \$500,000 for the Remote Sensing for Resource Assessment Project, 931-1166. Since we are ready to obligate funds for projects (1)(a), (1)(b), (2), and portions of (3) and (4) below, your approval is requested so that we can obligate a major portion of these funds in the first quarter of FY '79. Please note under (3) that three Bolivians are planning to enter the LARS/Purdue short course from December 4-8.

Background: The original Project Paper planned for a total funding of \$9.3 million, with \$3 million each in FY 1979 and 1980. The DA/AID, with recommendations from R&DC, approved on December 29, 1976, a funding level of \$3,375,000 for FY 1977 and 1978. DS/ST transferred \$290K of the FY 1979 funds set aside for this project to the regional bureaus. The \$500,000 remaining to DS/ST was never officially approved for this project, and we are thus requesting approval to obligate this money as described below to carry out special remote sensing projects which transcend regional bureaus' specific interests.

DS/ST is planning to conduct a full project review on Remote Sensing for Resource Assessment in February 1979. This has not been done to date because the first funding was not obligated under this project until about one year ago, and reports of the first completed activities (the ERIM Grants Activity) were just received two months ago in AID/W. Any project reviews before this time would not have had sufficient results from the three activity areas (grants and technical support, East African Center, and training) to allow adequate evaluation.

A total of \$1,780,000 was authorized for FY 1977/1978 obligation in the original PAF and PAF Amendment #1 (Attachment 1). These funds provided Africa's regional remote sensing training center, utilization grants, field support and training. PAF Amendment #2 (Attachment 2), signed by you January 24, 1978, authorized \$1,595,000 in FY 1978 for grants and field support activities up to the authorized total of \$3,375,000.

Discussion: Attachment 3 is the PAF Amendment #3, Parts I and II, for the FY 1979 authorization of \$500,000. Attachment 4 is the proposed budget and authorization status for FY's 1977, 78, and 79.

The Remote Sensing Resource Assessment activities we propose to carry out in FY 1979 are described below:

(1) Seminars and Symposia: \$253,000

(a) Seminar on Remote Sensing Applications and Technology Transfer for International Development \$53,000

This seminar is proposed to be held in conjunction with the Thirteenth International Symposium on Remote Sensing of Environment, to be held April 1979 in Ann Arbor, Michigan. Since there will be numerous remote sensing professionals at the Thirteenth Symposium in Ann Arbor, we decided to take advantage of this attendance by hosting a 4-day workshop covering remote sensing applications of interest to AID: ground water hydrology, desertification, geological mapping, and agricultural monitoring and statistical sampling techniques. The United Nations will also contribute funds to this workshop as they did to the one appended to the Manila Symposium. This seminar, in addition to (b) below, will be awarded to ERIM on a predominant capability basis (Attachment 5).

(b) Fourteenth International Symposium on Remote Sensing of Environment, San Jose, Costa Rica: \$100,000

The second of this famous international symposium series to be conducted outside of the United States, based on the unqualified success of the first one held outside of the United States in Manila. You will recall that we funded the Environmental Research Institute of Michigan (ERIM) \$45,000 last April for the purpose of conducting the Twelfth Symposium in Manila, where you presented the luncheon speech. We agreed after that symposium that DS/ST would continue to support ERIM in conducting these international symposia when held outside of the United States. This symposium is being coordinated by ERIM through the USAID Mission in Costa Rica, with the Mission Director, Stephen Knaebel, taking a personal and active interest in its success. ERIM has had several discussions in San Jose with GOCR officials and the Government has decided to fund over \$100,000 to support the Symposium. DS/ST has had numerous discussions with Ms. Penelope Farley of the Costa Rica Desk about the latest developments in plans for the Symposium.

* Contractual
arrangement needs
further work.
Case for selection
of ERIM not clear.
PDS

(c) Agriculture and Desertification Seminars:
\$100,000

A competitive contract, this activity will present in LDCs tentative results of agriculture and desertification applications of remote sensing. The purpose of these seminars will be to alert Asia, Africa, and Latin America of problems associated with crop assessment and the spread of deserts. The seminars will also allow wide participation in, and presentation of, AID's upcoming projects in agriculture and desertification. It is expected that USAID missions and LDCs will help pay participant costs.

(2) SEASAT Applications in LDCs: \$150,000

This activity was originally approved in FY 1978 by Attachment 2 at a level of funding of \$100,000 for monitoring rice in cloudy, monsoon areas of the developing world. Because the launch of SEASAT was postponed until June 1978, and because SEASAT data of the LDCs was quite limited before the satellite failed two weeks ago, DS/ST decided not to explore further any applications of this promising technology. We never discussed this application with any contractor. ERIM, a prime contractor to NASA on the SEASAT and one of two centers of excellence in the processing of radar data (ERIM uses optical Fast Fourier Transforms and the Jet Propulsion Laboratory (JPL) uses digital techniques), surveyed the files of existing SEASAT imagery and discovered that images had been obtained over Costa Rica and Haiti. ERIM's proposal was sent into DS/ST and is truly unsolicited. The purpose of the proposal is to assess the value of this high resolution (25 meters--Landsat is 80 meters), cloud-penetrating technology in assessing agriculture and other natural resources in Haiti and Costa Rica, and thereby evaluate its potential in future spacecraft to all the LDCs. This activity falls within the long range goals of AID's remote sensing program.

This activity has been discussed with and approved by Ms. Penelope Farley, Costa Rica Desk Officer, and Mr. Edward Nadeau, Haiti Desk Officer, who both feel the activity is important for mapping resources in these countries. Until NASA approval is officially granted, we feel it best not to discuss activity with Missions or government officials. When approval is granted, we will work with country planners. Project has been discussed by telephone with Costa Rica Mission Director Stephen Knaebel, who urges DSB to carry out this SEASAT project with GOCR remote sensing scientists.

(3) LDC Remote Sensing Training: \$47,000

The Office of International Training (OIT) is committed to funding certain types of training. In discussions with DS/ST remote sensing staff, OIT indicated that they feel it more appropriate that DS/ST continue to fund special training in the U.S., but that OIT would be more than happy to provide logistical support for the trainees (handling PIO/P's from Missions, arranging orientations for trainees in AID/W, etc.). We already have requests to bring 3 Bolivians for special computer training in image analysis at LARS/Purdue (\$6,038). These are the same resource managers from GEOBOL with whom we and USAID/La Paz have worked for over three years. Because the LARS "visiting scientist" program is scheduled for December 4-8, there is a sense of urgency in authorizing our FY'79 funds. In addition, the American Association for the Advancement of Science (AAAS) has requested us to grant funding for U.S. training of several Indians in remote sensing (roughly \$12,000). These types of requests will continue throughout the fiscal year and are of course impossible to predict. Current frequency of requests indicate that \$47,000 for Mission support will be required.

(4) Landsat Image Account: \$50,000

This is a continuing account which we have under a PASA with the U.S. Geological Survey EROS Data Center. It was previously funded at a rate of roughly \$30,000 per year. We have this means at our disposal to purchase Landsat imagery and tapes, and have them specially processed if necessary, and provide them to the regional bureaus, AID missions, and LDC resource managers. Since the prices of this imagery are increasing, and the demand increasing, we expect that we will be funding more and better processed images than we have in the past.

Recommendation: That you sign the attached PAF Amendment #3.

Attachments:

- 1. Original PAF and PAF Amendment #1
- 2. PAF Amendment #2
- 3. PAF Amendment #3
- 4. Budget Status for FY 1977, 1978, 1979
- 5. Two Predominant Capability Justifications for ERIM

Clearances: ASIA/TR: ECarlson *(initials)* Date 11/17/78
 LAC/DR: CPeasely *(initials)* Date 11/17/78
 AFR/DR: JBlumgart *(initials)* Date 11/17/78