LACIE-00711
JSC-10817

LARGE AREA CROP INVENTORY EXPERIMENT (LACIE)

NASA NOAA USDA

(E79-10125) LARGE AREA CROP INVENTORY EXPERIMENT (LACIE). DATA ACQUISITION, PREPROCESSING AND TRANSMISSION SUBSYSTEM (DAPTS) DETAILED PROCEDURES (NASA) 62 p HC A04/MF A01 CSCL 02C G3/43
N79-18392
Unclas
00125

DATA ACQUISITION, PREPROCESSING and TRANSMISSION SUBSYSTEM (DAPTS) DETAILED PROCEDURES

National Aeronautics and Space Administration
LYNDON B. JOHNSON SPACE CENTER
Houston, Texas
JANUARY 1976

FOREWORD

This document provides the detailed procedures to support one of the sub-objectives of the LACIE Operation Plan Phase II (LACIE-C00606) dated September 1975.

It provides the step-by-step procedures necessary to accomplish an orderly flow of data through the Data Acquisition, Preprocessing and Transmission Subsystem (DAPTS).

There are two primary areas for which procedures are developed and presented. The first is the flow of data from the various subsystems, through DAPTS to NASA Goddard Space Flight Center for the Purposes of ordering Landsat data acquisition and preprocessing. The second is the ordering and transmission to Integrated Storage, Retrieval, and Reformatting Subsystem of agricultural and meteorological data.

for Tom White

Paul Weitz
Deputy Chief of Operations AES

TABLE OF CONTENTS

GLOSSARY

AA	Accuracy Assessment
AI	Analyst Interpeter
ADP	Automatic Data Processing
ASCS	Agricultural Stabilization and Conservation Service
CAMS	Classification and Mensuration Subsystem
CAS	Crop Assessment Subsystem
CCT	Computer-Compatible Tape
C&I	Cataloging and Indexing
DAPTS	Data Acquisition, Preprocessing, and Transmission Subsystem
DPA	Data Processing Analyst
DPR	Data Product Request
DR	Discrepancy Report
DSAD	Data Systems Analysis Directorate
EOD	Earth Observations Division
ERPO	Earth Resources Program Office
ERTS	Earth Resources Technology Satellite
FAS	Foreign Agricultural Service
FSO	Facilities Support Office (EOD)
GSFC	Goddard Space Flight Center
ICD	Interface Control Document
IE	Information Evaluation
ISRRS	Information Storage, Retrieval, and Reformatting Subsystem

FIGURES

ITS	Intensive Test Site
JSC	Johnson Space Center
JSC Interface tape	A CCT compiled at JSC to initiate the GSFC preprocessing system or revise a previous order for preprocessing.
LACIE	Large Area Crop Inventory Experiment
Landsat	Land Satellite (Formerly ERTS)
LEC	Lockheed Electronics Company
LOS	LACIE Operations Supervisor
LPDL	LACIE Physical Data Library
MSS	Multispectral Scanner
NASA	National Aeronautics and Space Administration
NDPF	NASA Data Processing Facility
NOAA	National Oceanic and Atmospheric Administration
OCC	Operations Control Center
PFC	Production Film Converter
QA	Quality Assurance
RAG	Regional Analysis Group
RECP	Request for Engineering Change Proposal
RTCC	Real-Time Computer Complex
RTEB	Research, Test and Evaluation Branch
S&AD	Science and Applications Directorate
SPE	System Performance Evaluation
SS	Sample Segment
TBD	To Be Determined

TBS	To Be Supplied
TWX	Transmit/Teletype
USDA	United States Department of Agriculture
WMO	Worldwide Meteorological Organization
YES	Yield Estimate Subsystem

SECTION 1.0
INTRODUCTION

1.1 PURPOSE

The document discusses the flow of work and the detailed procedures involved to satisfy user data requests in an accurate and timely manner for both Landsat and non-Landsat data requirements. Descriptions are limited in this volume to those functions within the operational charter of the Data Acquisition, Preprocessing and Transmission Subsystem (DAPTS). All functions of data acquisition and preprocessing beyond the DAPTS interfaces to other subsystems will be described in those subsystems.

1.2 SCOPE

The techniques and organizations involved in the data acquisition, preprocessing and transmission are detailed in the following sections for both Landsat (2.0) and non-Landsat (3.0 and 4.0). Landsat Initial Orders flow of data that interfaces with the other subsystems is shown in figure 1-1. The Reorder/Change Order data flow is shown in figure 1-2. Section 2 is organized to follow this data flow. Section 3 presents the non-Landsat Agriculture data flow detailed in figure 1-3. Section 4 presents the other non-Landsat data, as detailed in the meteorological flow chart (fig. 1-4).

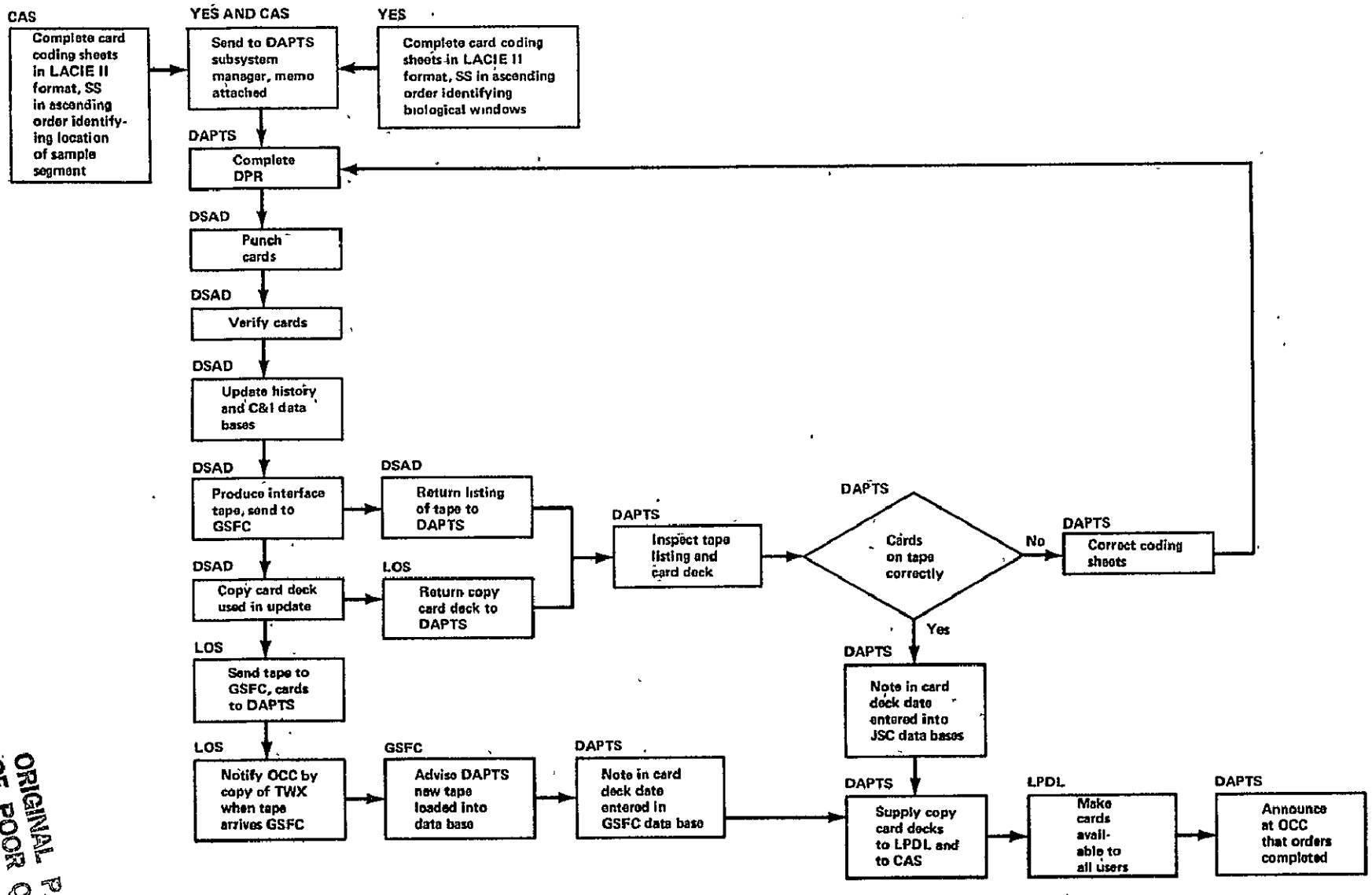

Figure 1-1.- DAPTS Landsat Initial Order procedure.

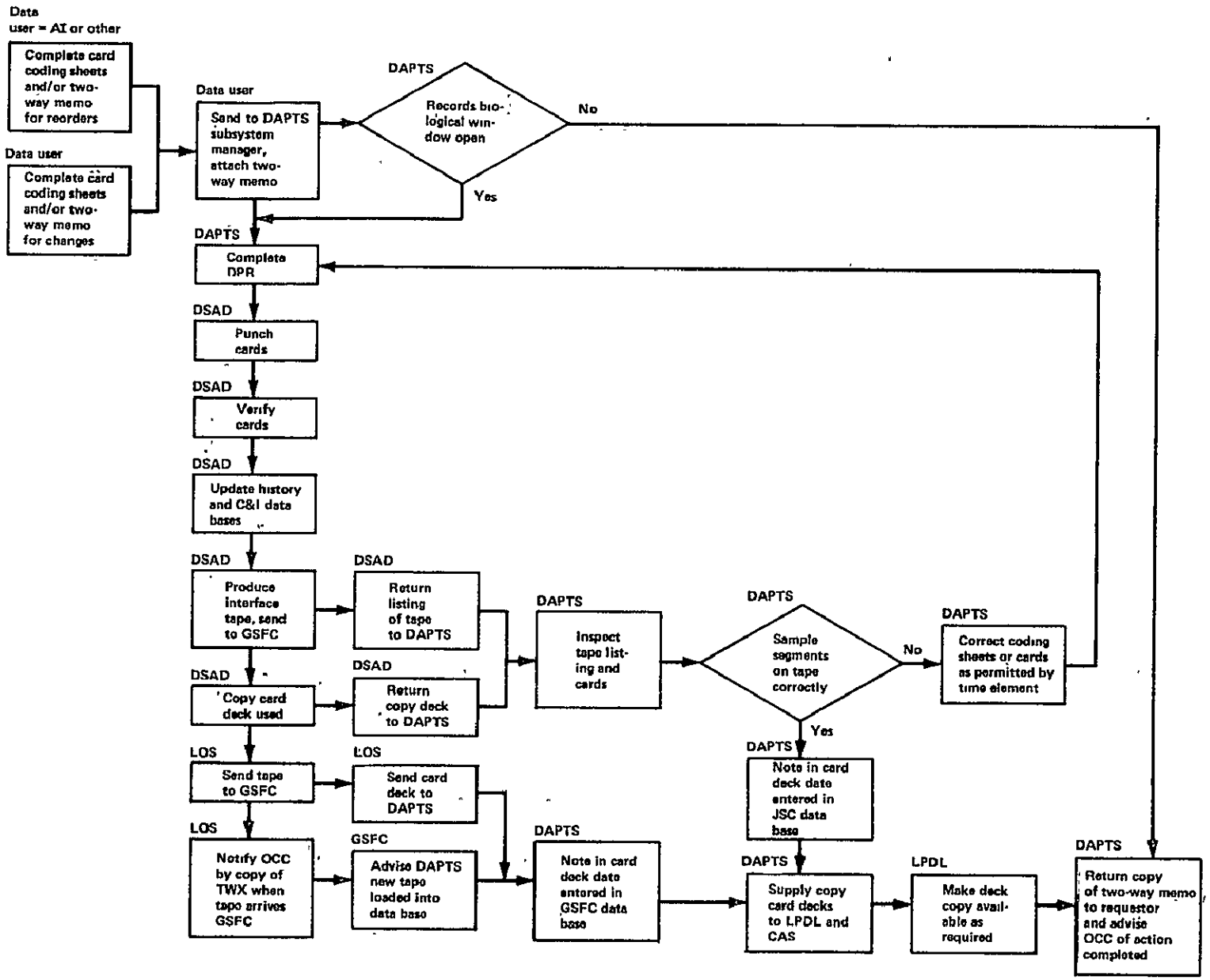

Figure 1-2.- DAPTS Landsat Reorder/Change Order procedure.

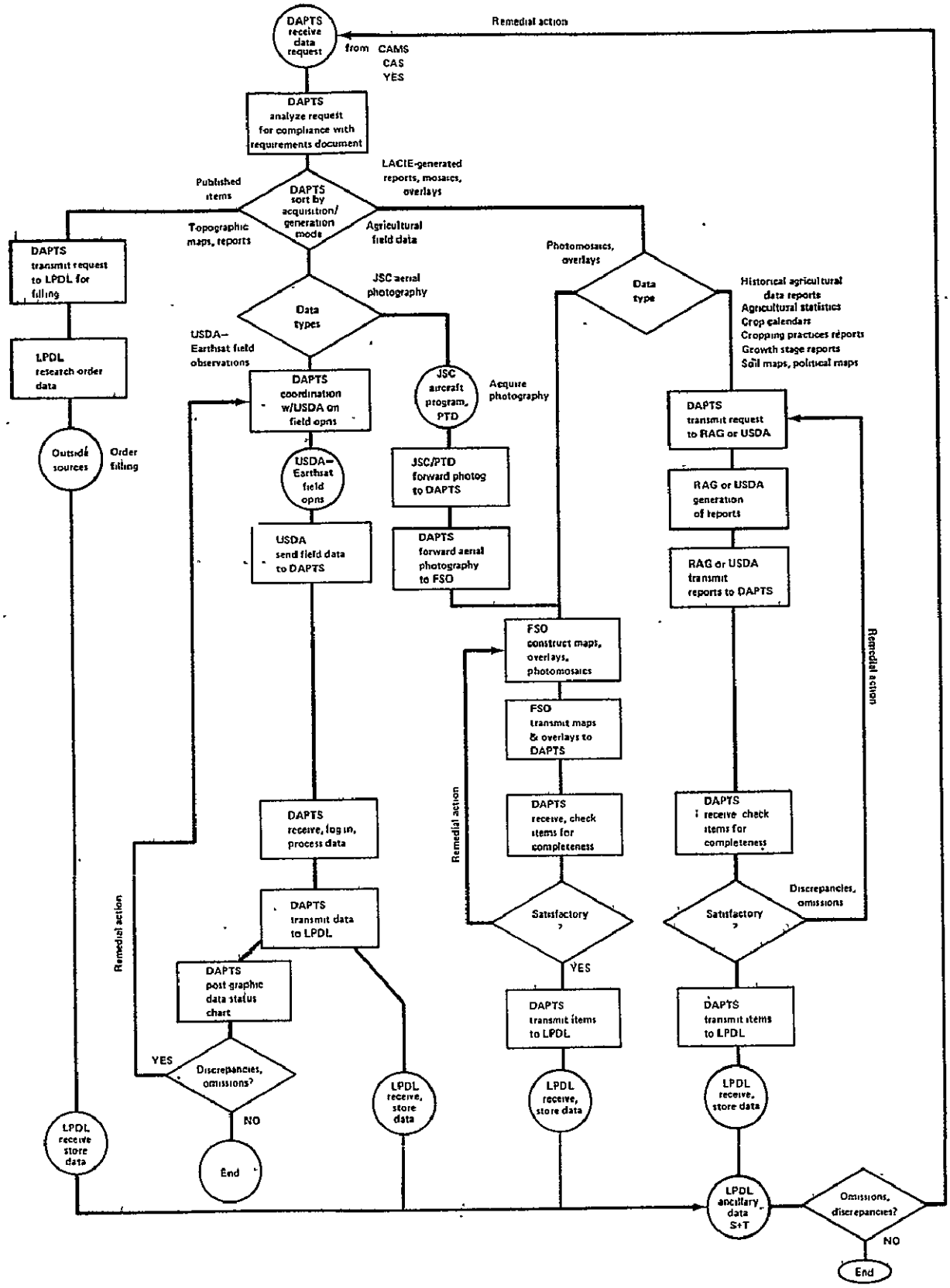

Figure 1-3.- DAPTS agricultural data procedures.

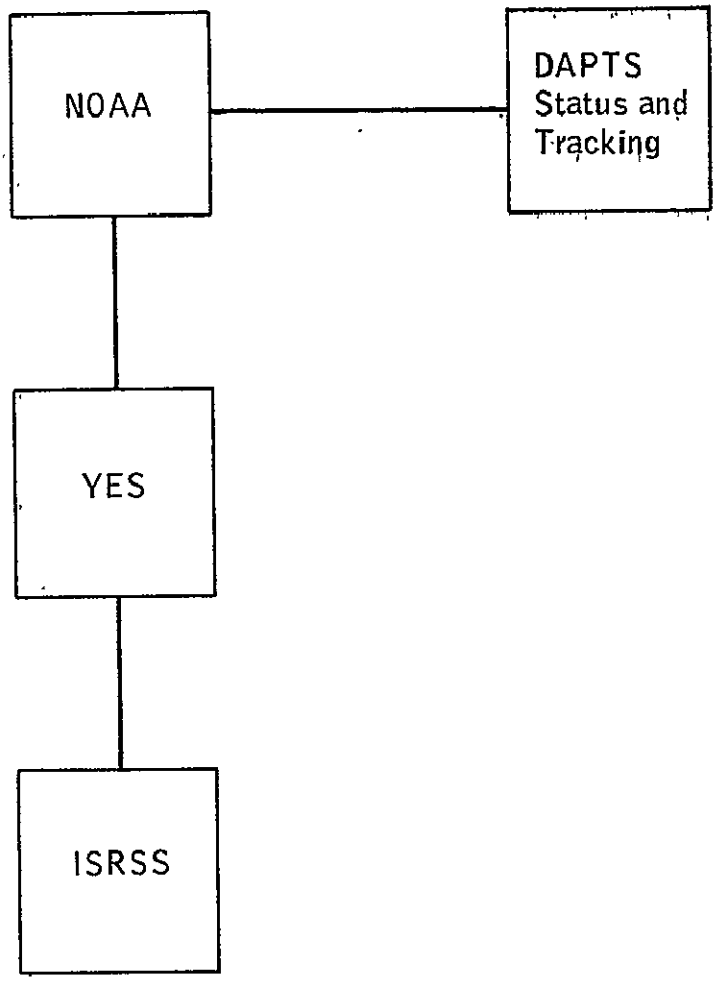

Figure 1-4.- DAPTS meteorological data procedure.

SECTION 2.0
LANDSAT DATA ACQUISITION AND PREPROCESSING

2.1 JSC/GSFC INTERFACE TAPE PREPARATION

2.1.1 Coding Sheets

The sample selection committee consisting of representatives from the LACIE subsystems agree on the number of segments that will be worked in each LACIE phase in accordance with section 3.0 of the LACIE Operational Plan (C00606). Priorities between the selected segments; classification as to winter or spring wheat; and designations such as intensive test sites, training segments, or ordinary segments are established. The chief of the sample selection committee advises the DAPTS subsystems manager by memo of the numbers and the priority of the selected segments. CAS and YES subsystems will respectively supply to DAPTS, on card coding sheets or on cards, in LACIE II format, the segment locations and biological windows. The segment numbers should be listed in ascending order.

2.1.2 Data Product Request

Upon receipt of initial orders from YES and CAS (see fig. 1-1), DAPTS checks for any obvious errors and prepares a Data Product Request (DPR). The DPR will specify that the cards be punched and verified, that the cards be loaded into the History and C&I data base, that a certain specified label be put on the resulting JSC/GSFC interface tape, that a listing be made from the interface tape for DAPTS, and that four card deck copies be supplied to DAPTS. The tape listing that is supplied to DAPTS will be checked for content and to determine that it is in the format specified in the JSC/GSFC Interface Control Document. The four card decks are checked for accuracy and distributed - two copies to DAPTS, one copy to the LPDL, and one copy to CAS. The card deck copy maintained at the LPDL can be used by anyone on a checkout basis. The two card deck copies maintained by DAPTS are used in identifying

needed information to non-Landsat DAPTS and for reorders/change orders.

2.1.3 Reorder/Change Order

2.1.3.1 General problems.- A user identifying a problem with cloud cover, misregistration, improperly located segment, etc. can reorder/change order (see fig. 1-2). In reordering/changing a small number of segments, a two-way memo directed to the DAPTS subsystems manager is acceptable. Ten or more segments to be reordered/changed should be coded in LACIE II format and attached to the memo. The memo must always explain the reason for the reorder/change order to prevent working the problems more than once. The reorder/change order is handled within DAPTS and at DSAD in the same manner as the initial orders (above), except no duplicated cards are requested from DSAD or distributed by DAPTS. DAPTS updates the initial order decks to reflect reorders/change orders.

2.1.3.2 Biological windows.- The major cause for changing biowindows is abnormal weather. Biowindows for spring segments need to stay open later when cold weather prohibits maturity of the wheat, or biowindows for winter wheat segments need to remain closed as snow-cover requires. The YES subsystem has developed a model to be used in supplying updates to the crop calendar at 2-week intervals. Although not now a part of the DAPTS subsystem, a computerized algorithm will be developed, if required, to convert these crop calendar updates to biological window changes. This will permit DAPTS to respond in a timely manner to the crop calendar changes. The input to the biowindow program will be the output from the crop calendar update program. The biowindow program will then output change cards suitable for generating change transactions to DSAD as discussed in section 2.1.3.1.

Another major change to the biowindows can result as better foreign information becomes available. Biowindows for India segments were based on information from various states.

District information became available resulting in changes to all biowindows. These updates are supplied by YES, and the change procedure is initiated. As indicated under reorder procedures above, DAPTS reorders from GSFC to satisfy requirements until the biowindow closes. After the biowindow closes, the user supplies a DPR to DSAD, to generate the necessary film products, resulting in more overall effort than if DAPTS could have made the reorder. This only holds true when dealing with designated training segments.

2.1.3.3 Geographical locations.- Latitude and longitude changes through the data bases assume the old locations were invalid. Therefore, the old segment is entirely deleted from the history and C&I data bases, and a delete is recorded on the interface tape.
If a change in latitude or longitude is specified, the registration to a previously established reference segment will be destroyed, regardless of the magnitude of the change.

2.1.3.4 Special acquisitions.- On very special and high priority acquisitions, the orbital path of the satellite can be checked and determination made concerning the possibility of obtaining data reorders. This is not normally necessary, for several reasons. The DSAD data base does not permit passage of segment reorders after the biowindows have closed. All intensive test site and training segment data are available from DSAD storage with enough effort.

As indicated above, orbital intervals are not normally considered in data ordering/reordering. The orbital intervals are considered only in special high-priority situations. Reorders identified in time to pass DSAD before the biowindows close will normally be filled.

2.1.3.5 Retrospective orders.- Data orders for retrospective data can be handled by the system, although this mode of operation is not desired because it causes GSFC to operate in an

inefficient mode. They can only process one retrospective segment in the same time it takes to process 10 normal segments.

In the event that retrospective data is desired, a change transaction must be made which redefines the biowindows for the segments in question, so that they cover the desired period of retrospective processing. In addition, a new tape must be generated in GSFC that includes only those segments for which retrospective data is desired. This should be accompanied by a memo, indicated by the DAPTS subsystem manager to GSFC detailing the retrospective data order.

2.2 DATA TAPE RECEIPT, SECURING, ARCHIVING, ALERTS

By an early-morning telephone communication, GSFC daily advises the number of segments and the number of tapes ready for shipment. These numbers are repeated at the OCC meeting. GSFC repeats the same information by TWX as the tapes are actually put into shipment. A packing list enclosed with the tapes will identify the segments. Normally, tapes shipped from GSFC in the morning will arrive at the DDC (Bldg. 12) in the evening and in building 30 for making copies the same night.

2.3 CONTENTS AND ACCURACY CHECK

After significant updates to the their data base, GSFC forwards a listing from the data base to DAPTS. DAPTS verifies this listing against original information received from CAS and YES.

2.4 REGULAR LANDSAT IMAGERY

2.4.1 Request Initiation

Subsystem representatives may initiate requests for Landsat Full-Frame imagery, which are forwarded to DAPTS, and shall be in conformance with the LACIE Requirements Document (vol. IA).

2.4.2 Implementation

The FSO orders the Full-Frame imagery according to its internal procedures (Task 5.2.3 of the FSO Implementation Plan).

SECTION 3.0
AGRICULTURAL DATA ACQUISITION AND PREPROCESSING

3.1 MAP ORDERING

3.1.1 Political Subdivision Maps

3.1.1.1 Request initiation.- DAPTS provides USDA with a list of the countries for which map coverage is desired and the scale required, in conformance with the LACIE Requirements Document (vol. IC) and volume II of the NASA/USDA ICD.

3.1.1.2 Implementation.- The USDA LACIE Project Office orders the maps according to its internal procedures. If maps are not available at the desired scale(s), then DAPTS is notified and an alternative set of requirements is generated that considers the availability of the maps.

3.1.1.3 DAPTS transmittal to ISRRS.- DAPTS transmits political subdivision maps received from USDA to LPDL, as the representative of ISRRS, using the following procedure.

A. Personnel fill out a "DAPTS Historical Agricultural Data Transmittal Report - Form B" sheet for the item(s) being transmitted. The following entries are made on the transmittal report:
   1. Date: date of transmittal to ISRRS.
   2. Number: transmittal number; see item B, below.
   3. DAPTS manager: name of DAPTS (non-Landsat) subsystem manager, plus name of person filling out forms.

   In the body of the form, one line is filled out for each item as follows:
   4. Personnel check "Political Subdivision Map."
   5. The USDA control number is entered in the space provided.
   6. Under "description," identifying information is entered, including map title, country, scale, and source.

B. Personnel assign a DAPTS-transmittal-to-ISRRS number from the "DAPTS transmittal to ISRRS" notebook. They write this number on

the "DAPTS Historical Agricultural Data Transmittal Report - Form B," and enter a brief description of the political subdivision map(s) in the notebook.

C. DAPTS personnel physically carry the political subdivision maps and transmittal form to the LPDL and give them to the designated Data Manager representative. They secure the representative's signature on the form, then make two xerographic copies of the form, and give the copies to the Data Manager representative.

D. The DAPTS personnel return the original of the transmittal form to the DAPTS subsystem manager for duplication and distribution.

3.1.2 Soil Maps

3.1.2.1 Request initiation.- DAPTS provides USDA with a list of the country(ies) and/or region(s) for which soil maps are required, and the scale required, in conformance with the LACIE Requirements Document (vol. IC) and volume II of the NASA/USDA ICD.

3.1.2.2 Implementation.- The USDA LACIE Project Office orders the maps according to its internal procedures. If maps are not available at the desired scale, then DAPTS is notified and an alternative set of requirements is generated that considers the availability of the maps.

The maps acquired are forwarded as required to the mapping section of the Earth Observations Data Products Department for reformatting as required to meet project specifications.

3.1.2.3 DAPTS transmittals to ISRRS.- DAPTS transmits soil maps received from USDA to LPDL, as the representative of ISRRS, using the following procedure,

A. Personnel fill out a "DAPTS Historical Agricultural Data Transmittal Report - Form B" sheet for the item(s) being transmitted. The following entries are made on the transmittal report:

1. Date: date of tranmittal to ISRRS.

2. Number: transmittal number; see item B, below.
3. DAPTS manager: name of DAPTS (non-Landsat) subsystem manager, plus name of person filling out form.

In the body of the form, one line is filled out for each item as follows:

4. Personnel check "soil map."
5. The USDA control number is entered in the space provided.
6. Under "description", identifying information is entered, including map title, country, subordinate political subdivision, scale, and source.

B. Personnel assign a DAPTS-transmittal-to-ISRRS number from the "DAPTS transmittals to ISRRS" notebook. They write this number on the "DAPTS Historical Agricultural Data Transmittal Report - Form B", and enter a brief description of the soil map(s) in the notebook.

C. DAPTS personnel physically carry the soil map(s) and transmittal form to the LPDL and give them to the designated LPDL representative. They secure the representative's signature on the form, then make two xerographic copies of the form, and give the copies to the LPDL representative.

D. The DAPTS personnel return the original of the transmittal form to the DAPTS subsystem manager for duplication and distribution.

3.1.3 Topographic Maps

3.1.3.1 Request initiation.- DAPTS provides FSO with a list, by country, of sample segments, their latitude and longitude, plus the scales and number of copies required.

3.1.3.2 Implementation.- LPDL personnel research, order, receive, process, and disseminate topographic maps according to their internal procedures. If maps are not available at the desired scale, then DAPTS and CAMS are notified and an alternative set of requirements is generated that considers the availability of the maps.

3.2 HISTORICAL AGRICULTURAL DATA

3.2.1 Agricultural Publications

3.2.1.1 Request initiation.- DAPTS provides USDA with a list of reports desired, by title and personal or corporate author, and other required identifying information.

3.2.1.2 Implementation.- The USDA LACIE Project Office orders the publications according to its internal procedures. If the desired reports are not available, DAPTS is notified and an alternate set of requirements is generated that considers the availability of the reports.

3.2.1.3 DAPTS transmittals to ISRRS.- DAPTS transmits agricultural publications received from USDA to LPDL, as the representative of ISRRS, using the following procedures.

A. Personnel fill out a "DAPTS Historical Agricultural Data Transmittal Report - Form B" sheet for the item(s) being transmitted. The following entries are made on the transmittal report:
   1. Date: date of transmittal to ISRRS.
   2. Number: transmittal number; see item B, below.
   3. DAPTS manager: name of DAPTS (non-Landsat) subsystem manager, plus name of person filling out form.

In the body of the form, one line is filled out for each item as follows:
   4. Personnel check "Agricultural Publications."
   5. The USDA control number is entered in the space provided.
   6. Under "description", identifying information is entered, including title, volume, number (if applicable), and source.

B. Personnel assign a DAPTS - transmittal-to-ISRRS number from the "DAPTS transmittals to ISRRS" notebook. They write this number on the "DAPTS Historical Agricultural Data Transmittal Report - Form B", and enter a brief description of the publication(s) in the notebook.

C. DAPTS personnel physically carry the publications and transmittal form to the LPDL and give them to the designated LPDL representative. They secure the representative's signature on the form, then make two xerographic copies of the form, and give the copies to the LPDL representative.

D. The DAPTS personnel return the original of the transmittal form to the DAPTS subsystem manager for duplication and distribution.

3.2.2 Agricultural Statistics

3.2.2.1 Request initiation.- CAMS/AI, CAMS/DPA, YES, or CAS representatives may initiate requests for agricultural statistics, which are forwarded to DAPTS. DAPTS requests their items from the data-generating organization. The geographic areas to be covered and type of statistics are specified in the DAPTS request, in conformance with the LACIE Requirements Document (vol. IC) and NASA/USDA ICD (vol. II).

3.2.2.2 Implementation.- Agricultural statistics are developed using reference data sources, recalculated and reformatted as necessary to meet project requirements. If data for producing the desired statistics are not available, DAPTS is notified and an alternate set of requirements is generated that considers the availability of source data. They are transmitted to DAPTS for forwarding to the requestor.

3.2.2.3 DAPTS transmittals to ISRRS.- Under current conditions, DAPTS transmits Agricultural Statistics Reports received from the Regional Analysis Section or USDA to LPDL, as the representative of ISRRS, using the following procedure.

A. Personnel fill out a "DAPTS Historical Agricultural Data Transmittal Report" sheet for the item(s) being transmitted. The following entries are made on the transmittal report:

1. Date: date of transmittal to ISRRS.

2. Number: transmittal number; see item B, below.
3. DAPTS manager: name of DAPTS (non-Landsat) subsystem manager, plus name of person filling out form.

In the body of the form, one line is filled out for each item as follows:

4. Site: name of the LACIE test site to which the report applies.
5. Segment: LACIE sample segment number.
6. Report type: personnel check Ag. Statistics. It is permissible to use one report to transmit different types of reports for the same segment.
7. Under "Remarks," the number of copies and persons designated for distribution are indicated.

B. Personnel assign a DAPTS-transmittal-to-ISRRS number from the "DAPTS transmittals to ISRRS" notebook. They write this number on the "DAPTS Historical Agricultural Data Transmittal Report" form, and enter a brief description of the report type(s) and geographic area coverage in the notebook.

C. DAPTS personnel physically carry the reports and transmittal report form to the LPDL and give them to the designated LPDL representative. They secure the representative's signature on the form, then make two xerographic copies of the form, and give the copies to the LPDL representative.

D. The DAPTS personnel return the original of the transmittal form to the DAPTS subsystem manager for duplication and distribution.

3.2.3 Crop Calendars

3.2.3.1 Request initiation.- CAMS/AI, CAMS/DPA, YES, or CAS representatives may initiate requests for historical (adjustable) crop calendars, which are forwarded to DAPTS. DAPTS requests the items from the data-generating organization. DAPTS supplies the sample segment numbers and geographic locations (latitude and longitude), or strata identification for which crop calendars are required.

3.2.3.2 Implementation.- Historical (adjustable) crop calendars are prepared using reference data sources, reformatted as necessary to meet project requirements as defined in the LACIE Requirements Document (vol. IC) and NASA/USDA ICD (vol. II). The crop calendars are transmitted to DAPTS for forwarding to the requestor.

3.2.3.3 DAPTS transmittals to ISRRS.- Under current conditions, DAPTS transmits crop calendars received from the Regional Analysis Section or USDA to LPDL, as the representative of ISRRS, using the following procedure.

A. Personnel fill out a "DAPTS Historical Agricultural Data Transmittal Report" sheet for the item(s) being transmitted. The following entries are made on the transmittal report:
   1. Date: date of transmittal to ISRRS.
   2. Number: transmittal number; see item B, below.
   3. DAPTS manager: name of DAPTS (non-Landsat) subsystem manager, plus name of person filling out form.

In the body of the form, one line is filled out for each item as follows:
   4. Site: name of the LACIE test site to which the report applies.
   5. Segment: LACIE sample segment number.
   6. Report type: personnel check Historical Crop Calendar. It is permissible to use one report to transmit different types of reports for the same segment.
   7. Under "Remarks," the number of copies and persons designated for distribution are indicated.

B. Personnel assign a DAPTS-transmittal-to-ISRRS number from the "DAPTS transmittals to ISRRS" notebook. They write this number on the "DAPTS Historical Agricultural Data Transmittal Report" form, and enter a brief description of the report type(s) and geographic area coverage in the notebook.

C. DAPTS personnel physically carry the reports and transmittal report form to the

LPDL and give them to the designated LPDL representative. They secure the representative's signature on the form, then make two xerographic copies of the form, and give the copies to the LPDL representative.

D. The DAPTS personnel return the original of the transmittal form to the DAPTS subsystem manager for duplication and distribution.

3.2.4 Cropping Practices Reports

3.2.4.1 Request initiation.- CAMS/AI, CAMS/DPA, YES, or CAS representatives may initiate requests for cropping practices reports, which are forwarded to DAPTS. DAPTS requests the items from the data-generating organization. DAPTS supplies the sample segment numbers and geographic location (latitude and longitude), or strata identification for which cropping practices information is required.

3.2.4.2 Implementation.- Cropping practices reports are prepared, using standard reference materials, formatted as necessary to meet project requirements as set forth in the LACIE Requirements Document (vol. IC) and NASA/USDA ICD (vol. II). If materials for producing the cropping practices reports are not available, DAPTS is notified and an alternate set of requirements is generated that considers the availability of source materials. The cropping practices reports are transmitted to DAPTS for forwarding to the requestor.

3.2.4.3 DAPTS transmittals to ISRRS.- Under current conditions, DAPTS transmits Cropping Practices Reports received from the Regional Analysis Section or USDA to LPDL, as the representative of ISRRS, using the following procedure.

A. Personnel fill out a "DAPTS Historical Agricultural Data Transmittal Report" sheet for the item(s) being transmitted. The following entries are made on the transmittal report:
   1. Date: date of transmittal to ISRRS.
   2. Number: transmittal number; see item B, below.

3. DAPTS manager: name of DAPTS (non-Landsat) subsystem manager, plus name of person filling out form.

In the body of the form, one line is filled out for each item as follows:

4. Site: name of the LACIE test site to which the report applies.
5. Segment: LACIE sample segment number.
6. Report type: personnel check Summary of Cropping Practices. It is permissible to use one report to transmit different types of reports for the same segment.
7. Under "Remarks," the number or copies and persons designated for distribution are indicated.

B. Personnel assign a DAPTS-transmittal-to-ISRRS number from the "DAPTS Transmittals to ISRRS" notebook. They write this number on the "DAPTS Historical Agricultural Data Transmittal Report" form, and enter a brief description of the report type(s) and geographic area coverage in the notebook.

C. DAPTS personnel physically carry the reports and transmittal report form to the LPDL and give them to the designated LPDL representative. They secure the representative's signature on the form, then make two xerographic copies of the form, and give the copies to the LPDL representative.

D. The DAPTS personnel return the orginal of the transmittal form to the DAPTS subsystem manager for duplication and distribution.

3.2.5 Growth Stage Reports

3.2.5.1 Request initiation.- CAMS/AI, CAMS/DPA, YES, or CAS representatives may initiate requests for growth stage reports, which are forwarded to DAPTS. DAPTS requests the items from the USDA LACIE Project Office in accordance with volume II of the NASA/USDA ICD.

3.2.5.2 Implementation.- Growth stage reports are prepared, based on information on current crop conditions obtained from USDA county agents and

foreign sources as available. The format is as contained in the LACIE Requirements Document (vol. IC) and NASA/USDA ICD (vol. II). If data are not available for production of the growth stage reports, DAPTS is notified and an atternate set of requirements generated that considers the availablity of data. The reports are transmitted to DAPTS for forwarding to the requestor.

3.2.5.3 DAPTS transmittals to ISRRS.- DAPTS transmits Growth Stage Reports received from the USDA to LPDL, as the representative of ISRRS, using the following procedure.

A. Personnel fill out a "DAPTS Historical Agricultural Data Transmittal Report" sheet for the item(s) being transmitted. The following entries are made on the transmittal report:
   1. Date: date of transmittal to ISRRS.
   2. Number: transmittal number; see item B, below.
   3. DAPTS manager: name of DAPTS (non-Landsat) subsystem manager, plus name of person filling out form.

In the body of the form, one line is filled out for each item as follows:
   4. Site: name of the LACIE test site to which the report applies.
   5. Segment: LACIE sample segment number.
   6. Report type: in case of Growth Stage Reports, personnel write this category in on the form. It is permissible to use one report to transmit different types of reports for the same segment.
   7. Under "Remarks," the number of copies and persons designated for distribution are indicated.

B. Personnel assign a DAPTS-transmittal-to-ISRRS number from the "DAPTS Transmittals to ISRRS" notebook. They write this number on the "DAPTS Historical Agricultural Data Transmittal Report" form, and enter a brief description of the report type(s) and geographic area coverage in the notebook.

C. DAPTS personnel physically carry the reports and transmittal report form to the

LPDL and give them to the designated LPDL representative. They secure the representative's signature on the form, then make two xerographic copies of the form, and give the copies to the LPDL representative.

D. The DAPTS personnel return the original of the transmittal form to the DAPTS subsystem manager for duplication and distribution.

3.3 CURRENT AGRICULTURAL DATA

3.3.1 FAS Reports

3.3.1.1 Request initiation.- DAPTS has provided USDA with a list of the reports desired in volume II of the NASA/USDA ICD.

3.3.1.2 Implementation.- The USDA LACIE Project Office orders the reports according to its internal procedures for delivery to DAPTS. If the desired reports are not available, DAPTS is notified and an alternate set of requirements is generated that considers the availability of the reports.

3.3.1.3 Transmittal to ISRRS.- DAPTS transmits FAS reports received from USDA to LPDL, as the representative of ISRRS, using the following procedure.

A. Personnel fill out a "DAPTS Historical Agricultural Data Transmittal Report - Form B" sheet for the item(s) being transmitted. The following entries are made on the transmittal report:

1. Date: data of transmittal to ISRRS.
2. Number: transmittal number; see item B, below.
3. DAPTS manager: name of DAPTS (non-Landsat) subsystem manager, plus name of person filling out form.

In the body of the form, one line is filled out for each item as follows:

4. Personnel check "agricultural publication."
5. The USDA control number is entered in the space provided.

6. Under "description", identifying information is entered, including title, volume, number, and source.

B. Personnel assign a DAPTS-transmittal-to-ISRRS number from the "DAPTS transmittal to ISRRS" notebook. They write this number on the "DAPTS Historical Agricultural Data Transmittal Report - Form B," and enter a brief description of the FAS report(s) in the notebook.

C. DAPTS personnel physically carry the FAS reports and transmittal form to the LPDL and give them to the designated LPDL representative. They secure the representative's signature on the form, then make two xerographic copies of the form, and give the copies to the LPDL representative.

D. The DAPTS personnel return the original of the transmittal form to the DAPTS subsystem manager for duplication and distribution.

3.3.2 Weekly Crop Bulletin

3.3.2.1 Request initiation.- DAPTS requests that USDA provide Weekly Crop Bulletins, based on requirements of the CAMS/AI, CAMS/DPA, YES, and CAS elements, as set forth in the LACIE Requirements Document (vol. IC) and NASA/USDA ICD (vol. II).

3.3.2.2 Implementation.- The USDA LACIE Project Office will order and disseminate the reports according to its internal procedures. USDA will not deliver Weekly Weather and Crop Bulletins as they are issued during the crop year. They will deliver all reports for a specific crop year at the end of that year.

3.3.2.3 Transmittal to ISRRS.- DAPTS transmits Weekly Crop Bulletins received from USDA to LPDL, as the representative of ISRRS, using the following procedure,

A. Personnel fill out a "DAPTS Historical Agricultural Data Transmittal Report-Form B" sheet for the item(s) being transmitted. The following entries are made on the transmittal report:

1. Date: date of transmittal to ISRRS.
2. Number: transmittal number; see item B below.
3. DAPTS manager: name of DAPTS (non-Landsat) subsystem manager, plus name of person filling out form.

In the body of the form, one line is filled out for each item as follows:

4. Personnel check "agricultural publication."
5. The USDA control number is entered in the space provided.
6. Under "description," identifying information is entered, including title, volume, number, and source.

B. Personnel assign a DAPTS-transmittal-to-ISRRS number from the "DAPTS transmittals to ISRRS" notebook. They write this number on the "DAPTS Historical Agricultural Data Transmittal Report - Form B", and enter a brief description of the weekly crop Bulletin(s) in the notebook.

C. DAPTS personnel physically carry the Weekly Crop Bulletin(s) and transmittal form to the LPDL representative. They secure the representative's signature on the form, then make two xerographic copies of the form, and give the copies to the LPDL representative.

D. The DAPTS personnel return the original of the transmittal form to the DAPTS subsystem manager for duplication and distribution.

3.4 AGRICULTURAL FIELD DAT

3.4.1 Aerial Photography

3.4.1.1 Request initiation.- DAPTS requests high altitude photographic missions to be scheduled once yearly over each Intensive Test Site. The preferred data acquisition times are requested based upon typical crop calendar data for each site location.

3.4.1.2 Implementation.- Aerial photography of the Canadian sites will be provided by USDA (based upon currently existing U.S.-Canada data exchange agreements). ERPO will schedule the

photography of U.S. sites with either the NASA JSC WB-57 or the Ames Research Center U-2 aircraft.

3.4.1.3 DAPTS transmission to ISRRS.- DAPTS does not transmit the ITS aerial photography directly to ISRRS upon receipt. Instead, the photography is sent to the FSO for use in constructing photomosaics. Upon completion of the photomosaics, DAPTS transmits the photography under covering two-way memorandum to LPDL for storage and retrieval if necessary.

3.4.2 Aerial Photomosaics

3.4.2.1 Request initiation.- Based on the requirement from RTEB, DAPTS will deliver the duplicate original aerial photography to the FSO which will produce a semi-controlled 1:24,000 mosaic for each Intensive Test Site.

3.4.2.2 Implementation.- DAPTS transmits under a covering memorandum the color-IR positive transparencies to the FSO. The FSO will then be responsible for preparing the 1:24,000 scale mosaic. This will be made either externally under contract to the FSO or internally by the Mapping Section of the Earth Observations Data Products Department.

3.4.2.3 DAPTS transmission to ISRRS.- After the Mapping Section of the Earth Observations Data Products Department returns the completed photomosaics to DAPTS, DAPTS transmits them under covering two-way memorandum to LPDL for storage and retrieval as necessary. Distribution to project users is as specified in the "DAPTS non-Landsat (historical agricultural data) output product list" attachment to the NASA/JSC-USDA ICD.

3.4.3 Fields Change Maps

3.4.3.1 Request initiation.- DAPTS has been requested by CAMS and RTEB to determine the boundaries of all fields in each Intensive Test Site.

3.4.3.2 Implementation.- The local ASCS office in each county containing an Intensive Test Site is provided (by DAPTS) with the following data:

A. One copy of the most recent aerial photography (1:24,000 scale).
B. One copy of the corresponding 1:24,000 scale transparent overlay showing field boundaries and numbers from the last previous survey.
C. Field maps made from the overlay.

During the ITS field boundary survey the ASCS personnel mark the maps with the current field boundaries and renumber those fields whose boundaries differ from the previous survey. One copy of the marked up map is submitted to DAPTS.

3.4.3.3 DAPTS transmission to ISRRS.- DAPTS personnel process and prepare covering documentation on Field Change Maps and other ITS ground truth reports before transmitting them to ISRRS/LPDL for reproduction and distribution.

A. The reports are picked up from a designated tray in the office of the DAPTS subsystem manager (for non-Landsat data).
B. Personnel determine the LACIE sample segment number for the ITS covered by the map, and write this number with a felt-tip pen in the upper left-hand corner. If the report is more than one page, personnel count the pages and write page numbers in the upper right-hand corner (i.e., p. 1 of 3, p. 2 of 3, etc.). A black or red pen is recommended for best reproduction (blue or green should not be used).
C. Each map is logged into the "LACIE ITS Ground Truth Report Log Notebook," one line per map, and determined as follows:
   1. Date received (by DAPTS): date picked up from subsystem manager's office.
   2. Test Site no.: ITS number, from the map.
   3. County: from the map.
   4. Segment no: as previously annotated on upper left-hand corner of report.
   5. Ground observation date: taken from the map. Sometimes this has been omitted, in which case the date

received, in parentheses, is substituted, and is also printed on the map.

6. Ground observation number: usually not indicated on Fields Change Maps; if so, leave blank.
7. Landsat pass date: usually not indicated on Fields Change Maps; if so, leave blank.
8. Report type: enter "FCM."
9. No. of pages: number of map pages; usually only one for a Fields Change Map.
10. Date sent to ISRRS; see item E, below.

D. Transmittal sheet preparation: Fields Change Maps may be transmitted separately as a group, or along with other ground truth reports. Usually the latter is the case, since different types of ground truth reports usually arrive simultaneously from the field teams.

Maps and reports are usually sorted out and arranged in order of LACIE segment number before filling out the transmittal sheets, for case in assembling and checking data sets.

The form used is the "DAPTS Intensive Test Site Data Transmittal Report Ground Truth Periodic Observations Data". It is filled out as follows:

1. Date: date the data are to be transmitted to LPDL.
2. Number: transmittal number; see item E, below.
3. DAPTS manager: name of DAPTS (non-Landsat) subsystem manager, plus name of person filling out the form.

In the body of the form, one line is filled out for each map being transmitted as follows:

4. Site: Intensive Test Site number (from the map).
5. Segment: LACIE sample segment number.
6. Observation date: as given on the map. If omitted, the receipt date is entered to provide an approximate identification.

7. "Fields Change Maps" is checked.

E. Assignment of transmittal number: A transmittal number is assigned from the "DAPTS Transmittals to ISRRS" notebook, and entered on the transmittal form by "Number." A brief description of the map or report type(s) and segment number(s) being transmitted is entered in the notebook.

The transmittal number, along with the date the item(s) are being transmitted to ISRRS/LPDL, is entered in the "LACIE ITS Ground Truth Report Log Notebook," under "Date sent to ISRRS."

F. Physical transmittal of data sets to ISRRS/LPDL: The Fields Change Maps are taken, along with the DAPTS transmittal, to LPDL. They are given to the designated LPDL representative. The LPDL representative's signature is secured on the form. LPDL personnel then handle reproduction and distribution of the maps according to their internal procedures.

G. Disposition of DAPTS transmittal sheet: Two copies of the DAPTS transmittal sheet are made and given to the LPDL representative. The original of the transmittal sheet is returned to the DAPTS subsystem manager for duplication and distribution.

H. Disposition of map originals and copies (excl. LPDL copies): As part of the LPDL reproduction and distribution activity, the map original and two copies are returned to DAPTS. The originals of the maps, and one copy, are filed in the DAPTS (non-Landsat) subsystem manager's office. One copy of each report is filed in the DAPTS administrator files.

I. Updating ITS data status chart: DAPTS personnel plot observation date(s) and DAPTS processing dates on the chart in the DAPTS subsystem manager (for non-Landsat data) office.

3.4.4 Ground Truth Inventory Form

3.4.4.1 Request initiation.- CAMS and RTEB require Ground Truth Inventory Data which includes field boundary locations and field identification.

3.4.4.2 Implementation.- ASCS personnel conduct the field surveys and acquire the inventory data. A survey is conducted twice yearly in those test sites growing winter wheat. One survey will be scheduled for the fall just after planting and will identify only fall-planted fields. Another survey in the spring, late enough for all spring crops to be planted, but before winter wheat harvest will identify boundaries and inventory all fields. For those sites growing only spring wheat, one complete survey will be conducted, after spring wheat planting. The inventory data includes a field change map and the following field identification information:

A. Field number (identified on the change map).
B. Field acreage (measured).
C. Land use crop code.
D. Field irrigation information (if applicable).
E. Type and quantity of fertilizers used (if any).
F. Planting date.

One set of all inventory data is submitted to DAPTS.

3.4.4. DAPTS transmission to ISRRS.- DAPTS personnel process and prepare covering documentation on Ground Truth Inventory Forms and other ITS ground truth reports before transmitting them to ISRRS/LPDL for reproduction and distribution.

A. The reports are picked up from a designated tray in the office of the DAPTS subsystem manager (for non-Landsat data).
B. Personnel determine the LACIE sample segment number for the ITS covered by the report, and write this number with a felt-tip pen in the upper left-hand corner. If the report is more than one page, personnel

count the pages and write page numbers in the upper right-hand corner (i.e., p. 1 of 3, p. 2 of 3, etc.). A black or red pen is recommended for best reproduction (blue or green should not be used).

C. Each report is logged into the "LACIE ITS Ground Truth Report Log Notebook," one line per report, and determined as follows:
   1. Date received (by DAPTS): date picked up from subsystem manager's office.
   2. Test Site no.: ITS number, from the body of the report.
   3. County: from the report.
   4. Segment no.: as previously annotated on upper left-hand corner of report.
   5. Ground observation date: taken from the report; usually is a range of days. Sometimes this has been omitted, in which case the date received, in parentheses, is substituted, and is also printed on the report.
   6. Ground observation number: given on the report.
   7. Landsat pass date: should be on the report; if not, to be left blank.
   8. Report type: the notation "GTIF" is entered.
   9. No. of pages: number of pages in the report.
   10. Date sent to ISRRS; see item E, below.

D. Transmittal sheet preparation: Ground Truth Inventory Forms may be transmitted separately as a group, or along with other ground truth reports and maps. Usually the latter is the case, since different types of ground truth reports usually arrive simultaneously from the field teams.

Reports are usually sorted out and arranged in order of LACIE segment number before filling out the transmittal sheets, for ease in assembling and checking data sets.

The form used is the "DAPTS Intensive Test Site Data Transmittal Report Ground Truth Periodic Observations Data." It is filled out as follows:

1. Date: date the data are to be transmitted to LPDL.

2. Number: transmittal number; see item E, below.
3. DAPTS manager: name of DAPTS (non-Landsat) subsystem manager, plus name of person filling out the form.

In the body of the form, one line is filled out for each report being transmitted as follows:

4. Site: Intensive Test Site number (from the report).
5. Segment: LACIE sample segment number.
6. Observation date: as given on the report. If omitted, the receipt date is entered to provide an approximate identification.
7. "Ground Truth Inventory Forms" is checked.

E. Assignment of transmittal number: A transmittal number is assigned from the "DAPTS Transmittals to ISRRS" notebook, and entered on the transmittal form by "Number." A brief description of the report type(s) and segment number(s) being transmitted is entered in the notebook.

The transmittal number along with the date the item(s) are being sent to ISRRS/LPDL, is entered in the "LACIE IFS Ground Truth Report Log Notebook," under "Date sent to ISRRS."

F. Physical transmittal of data sets to ISRRS/LPDL: The reports are taken, along with the DAPTS transmittal, to LPDL. They are given to the designated LPDL representative. The LPDL representative's signature is secured on the form. LPDL personnel then handle reproduction and distribution according to their internal procedures.

G. Disposition of DAPTS transmittal sheet: Two copies of the DAPTS transmittal sheet are made and given to the LPDL representative. The original of the transmittal sheet is returned to the DAPTS subsystem manager for duplication and distribution.

H. Disposition of report originals and copies (excl. LPDL copies): As part of the LPDL reproduction and distribution activity, the report original and two copies are returned

to DAPTS. The originals of the reports, and one copy, are filed in the DAPTS (non-Landsat) subsystem manager's office. One copy of each report is filed in the DAPTS administrator files.

I. Updating ITS data status chart: DAPTS personnel plot observations date(s) and DAPTS processing dates on the chart in the DAPTS subsystem manager (for non-Landsat data) office.

3.4.5 Ground Truth Photography

3.4.5.1 Request initiation.- Ground truth photography is part of the periodic crop condition data required by YES and RTEB.

3.4.5.2 Implementation.- Crop condition data is acquired at 18-day intervals, synchronous with Landsat-2 passes over each test site. This data includes 35 mm color slides with site and field identification, photo location, scale and calibrated reflectance plate. These color slides are transmitted to DAPTS.

3.4.5.3 DAPTS Transmission to ISRRS.- ITS ground truth photography is processed and transmitted to ISRRS/LPDL as detailed below.

A. Boxes of 35 mm. film slides are picked up from a designated tray in the office of the DAPTS subsystem manager for non-Landsat data.

B. The ITS photographs and the film boxes are annotated as follows. Usually, the ITS number and observation number are already on the film boxes when received. If not, the county name and observation number are determined by examination of the notebook page which should be visible in the field of view of one of the slides in the box. Personnel write the LACIE sample segment number corresponding to that ITS, plus the ITS number and observation number if not already on the box.

The slides themselves are each annotated with the LACIE sample segment number, ITS number, field number, and observation

number. Each slide is examined visually, and the ITS identification and observation number verified. The field number is read off from the right-hand page of the notebook in the photograph. This information is printed with a black felt-tip pen across the top of the slide holder in the following format:

SS1978	Fld 125
ITS31	Obs. 5

After a box of slides has been processed, The number of slides is counted, and this number is jotted on the outside of the box.

If the field number and/or observation number is not identifiable in the photograph, the slide holder is labeled with the sample segment and ITS numbers, plus observation number if determinable from associated slides, plus "Field?".

C. Sorting and stacking of film boxes: The ITS film boxes are lined up in order of LACIE sample segment number, and in order of observation number for a given site if more than one observation is represented.

D. Logging in: Each box of ITS slides is logged in individually in the "LACIE ITS Ground Truth Report Log Notebook," one line per box of slides, as follows:

1. Date received (by DAPTS): date picked up from subsystem manager's office.
2. Test Site no.: ITS number, from the outside of the box of slides.
3. County: name of county corresponding to the ITS number.
4. Segment no.: LACIE sample segment number, from the outside of the box of slides.
5. Ground observation date: can be omitted.
6. Ground observation number: from the outside of the box of slides.
7. Landsat pass date: usually omitted.
8. Report type-no. of pages - date sent to ISRRS: As much of this space as needed is used to enter "35 mm. slides (number

of slides in the box), box number ____." The box number is the processor's identification number on the box, to distinguish multiple boxes of slides for the same site and observation number.

In cases where the press of events warrants, it may be desirable to label the boxes and count the number of slides, then log in the boxes, and later examine and annotate the individual slides.

E. Transmittal sheet preparation: Ground Truth Photography film sets are usually transmitted separately from other ground truth data.
The form used for transmittal is the "DAPTS Intensive Test Site Data Transmittal Report Ground Truth Periodic Observations Data." It is filled out as follows:

1. Date: Date the data are to be transmitted to LPDL.
2. Number: transmittal number; see item F, below.
3. DAPTS manager: name of DAPTS (non-Landsat) subsystem manager, plus name of person filling out the form.

In the body of the report, one line is filled out for each box of film slides being transmitted as follows:

4. Site: Intensive Test Site number (from outside of the box of slides).
5. Segment: LACIE sample segment numbers (from outside of the box of slides).
6. Observation date: Usually omitted.
7. Under "Remarks": The box number (processor's number) is entered along with the number of slides; e.g., "Box 5978-2;21 slides."

F. Assignment of transmittal number: A transmittal number is assigned from the "DAPTS Transmittals to ISPRS" notebook and entered on the transmittal form by "Number". An entry is made briefly identifying the data transmitted as ITS Ground Truth Photography, and list of the ITS numbers covered.

The transmittal number, along with the date the photographs are being transferred to ISRRS/LPDL, is entered in the "LACIE ITS Ground Truth Report Log Notebook," under "Date sent to ISRRS."

G. Physical transmittal of films to ISRRS: The film sets are taken, along with the DAPTS transmittal form, to LPDL. They are given to the designated LPDL representative. The LPDL representative's signature is secured on the form.

H. Disposition of DAPTS transmittal sheet: Two copies of the DAPTS transmittal sheet: are made and given to the LPDL representative. The original of the transmittal sheet is returned to the DAPTS subsystem manager for duplication and distribution.

I. Updating ITS data status charts: Plot nominal Landsat observation date for the film sets, and DAPTS processing date(s) on the chart in the DAPTS subsystem manager (for non-Landsat data) office.

3.4.6 Ground Truth Periodic Observation Reports

3.4.6.1 Request initiation.- Crop condition data, required by YES and RTEB, is acquired at 18-day intervals, synchronous with Landsat-2 passes over each test site.

3.4.6.2 Implementation.- Personnel at the winter wheat sites begin monitoring activity in April and those in spring wheat sites begin in May and continue until wheat harvest is completed. Approximately 50 fields per site are selected from the inventory data available for each site. The following types of information are acquired from the selected fields in each test site:

A. Growth stage.
B. Percent ground cover.
C. Plant height.
D. Surface moisture.
E. Weed growth.
F. Field operations (status of fallow fields).
G. Growth/Yield detractants.
H. Stand quality rating.

3.4.6.3 DAPTS Transmission to ISRRS.- DAPTS personnel process and prepare covering documentation on Ground Truth Periodic Observation Reports and other ITS ground truth reports before transmitting them to ISRRS/LPDL for reproduction and distribution.

A. The reports are picked up from a designated tray in the office of the DAPTS subsystem manager (for non-Landsat data).

B. Personnel determine the LACIE sample segment number for the ITS covered by the report, and write this number with a felt-tip pen in the upper left-hand corner. If the report is more than one page, personnel count the pages and write page numbers in the upper right-hand corner (i.e., p. 1 of 3, p. 2 of 3, etc.). A black or red pen is recommended for best reproduction (blue or green should not be used).

C. Each report is logged into the "LACIE ITS Ground Truth Report Log Notebook," one line per report, and determined as follows:

1. Date received (by DAPTS): data picked up from subsystem manager's office.
2. Test Site no.: ITS number, from the body of the report.
3. County: from the report.
4. Segment no.: as previously annoted on upper left-hand corner of report.
5. Ground observation date: taken from the report; may be one day or a range of days. Sometimes this has been omitted, in which case the date received, in parentheses, is substituted, and is also printed on the data item.
6. Ground observation number: indicated on the report.
7. Landsat pass date: should be indicated on the report; if not, leave blank.
8. Report type: the notation "GTPOF" is entered.
9. No. of pages: number of pages in the report.
10. Date sent to ISRRS; see item E, below.

D. Transmittal sheet preparation: Ground truth periodic Observation Reports may be transmitted separately as a group, or along

with other ground truth reports. Usually the latter is the case, since different types of ground truth reports usually arrive simultaneously from the field teams.

Reports are usually sorted out and arranged in order of LACIE segment number before filling out the transmittal sheets, for ease in assembling and checking data sets.

The form used is the "DAPTS Intensive Test Site Data Transmittal Report Ground Truth Periodic Observations Data," and is filled out as follows:

1. Date: date the data are to be transmitted to LPDL.
2. Number: transmittal number; see item E, below.
3. DAPTS manager: name of DAPTS (non-Landsat) subsystem manager, plus name of person filling out the form.

In the body of the form, one line is filled out for each report being transmitted as follows:

4. Site: Intensive Test Site number (from the report).
5. Segment: LACIE sample segment number.
6. Observation date: as given on the report. If omitted, the receipt date is entered to provide an approximate identification.
7. Check "Ground Truth Periodic Observation Forms."

E. Assignment of transmittal number: A transmittal number is assigned from the "DAPTS Transmittals to ISRRS" notebook, and entered on the transmittal form by "Number." A brief description of the report type(s) and segment number(s) being transmitted is entered in the notebook.

The transmittal number, along with the date the item(s) are being transmitted to ISRRS/LPDL, is entered in the "LACIE ITS Ground Truth Report Log Notebook," under "Date sent to ISRRS."

F. Physical transmittal of data sets to ISRRS/LPDL: The reports are taken, along with the DAPTS transmittal, to LPDL. They are given to the designated LPDL representative. The LPDL representative's signature is secured on the form. LPDL personnel then handle reproduction and distribution according to their internal procedures.

G. Disposition of DAPTS transmittal sheet: Two copies of the DAPTS transmittal sheet are made and given to the LPDL representative. The original of the transmittal sheet is returned to the DAPTS subsystem manager for duplication and distribution.

H. Disposition of report originals and copies (excl. LPDL copies): As part of the LPDL reproduction and distribution activity, the report original and two copies are returned to DAPTS. The originals of the reports, and one copy, are filed in the DAPTS (non-Landsat) subsystem manager's office. One copy of each report is filed in the DAPTS administrator files.

I. Updating ITS data status chart: DAPTS personnel plot observation date(s) and DAPTS processing dates on the chart in the DAPTS subsystem manager (for non-Landsat data) office.

3.4.7 Rainfall Measurements Form

3.4.7.1 Request Initiation.- Rainfall data is required by YES and RTEB for use with other crop condition data.

3.4.7.2 Implementation.- This data is acquired at U.S. sites only (by the local ASCS personnel), from a network of rainfall guages spaced over the test site at approximately one per square mile. These are read after each rainfall and the recorded data is transmitted to DAPTS.

3.4.7.3 DAPTS transmission to ISRRS.- DAPTS personnel process and prepare covering documentation on Rainfall Measurements Form and other ITS ground

truth reports before transmitting them to ISRSS/LPDL for reproduction and distribution.

A. The reports are picked up from a designated tray in the office of the DAPTS subsystem manager (for non-Landsat data).

B. Personnel determine the LACIE sample segment number for the ITS covered by the report, and write this number with a felt-tip pen in the upper left-hand corner. If the report is more than one page, personnel count the pages and write page numbers in the upper right-hand corner (i.e., p.1 of 3, p.2 of 3, etc.). A black or red pen is recommended for best reproduction (blue or green should not be used).

C. Each report is logged into the "LACIE ITS Ground Truth Report Log Notebook," one line per report, and determined as follows:

1. Date received (by DAPTS): date picked up from subsystem manager's office.
2. Test Site no.: ITS number may be written on the report; often it is not, in which case it must be determined from the associated labeled reports, and written on.
3. County: from the report, or deduced as above.
4. Segment no.: as previously annotated on upper left-hand corner of report.
5. Ground observation date: taken from the report; may be one day, or a range of days. Sometimes this has been omitted, in which case the date received, in parentheses, is substituted, and is also printed on the data item.
6. Ground observation number: usually not given on rainfall reports, as these usually cover a wide range of days.
7. Landsat pass date: usually not given on rainfall reports; if so it is left blank.
8. Report type: the notation RGRF is entered.
9. No. of pages: number of pages in the report.
10. Date sent to ISRRS; see item E, below.

D. Transmittal sheet preparation: Rainfall Measurements Form may be transmitted separately as a group, or along with other ground truth reports. Usually the latter is the case, since different types of ground truth reports usually arrive simultaneously from the field teams.

Reports are usually sorted out and arranged in order of LACIE segment number before filling out the transmittal sheets, for ease in assembling and checking data sets.

The form used is the "DAPTS Intensive Test Site Data Transmittal Report Ground Truth Periodic Observations Data"; it is filled out as follows:

1. Date: date the data are to be transmitted to LPDL.
2. Number: transmittal number; see item E, below.
3. DAPTS manager: name of DAPTS (non-Landsat) subsystem manager, plus name of person filling out the form.

In the body of the form, one line is filled out for each report being transmitted as follows:

4. Site: Intensive Test Site number from the report; see comments under item C, above.
5. Segment: LACIE sample segment number.
6. Observation date: as given on the report. If omitted, the receipt date is entered to provide an approximate identification.
7. Check "Rain Gauge Form."

E. Assignment of transmittal number: A transmittal number is assigned from the "DAPTS Transmittals to ISRRS" notebook, and entered on the transmittal form by "Number." A brief description of the report type(s) and segment number(s) being transmitted is entered in the notebook.

The transmittal number, along with the date the item(s) are being transmitted to ISRRS/LPDL, is entered in the "LACIE ITS

Ground Truth Report Log Notebook," under "Date sent to ISRRS."

F. Physical transmittal of data sets to ISRRS/LPDL: The forms are taken, along with the DAPTS transmittal, to LPDL. They are given to the designated LPDL representative. The LPDL representative's signature is secured on the form. LPDL personnel then handle reproduction and distribution according to their internal procedures.

G. Disposition of DAPTS transmittal sheet: Two copies of the DAPTS transmittal sheet are made and given to the LPDL representative. The orginal of the transmittal sheet is returned to the DAPTS subsystem manager for duplication and distribution.

H. Disposition of report originals and copies (excl. LPDL copies): As part of the LPDL reproduction and distribution activity, the form original and two copies are returned to DAPTS. The originals of the reports, and one copy, are filed in the DAPTS (non-Landsat) subsystem manager's office. One copy of each report is filed in the DAPTS administrator files.

I. Updating ITS data status chart: DAPTS personnel plot observation date(s) and DAPTS processing dates on the chart in the DAPTS subsystem manager (for non-Landsat data) office.

3.4.8 Solar Radiometer Coding Form

3.4.8.1 Request initiation.- Atmospheric transmission data (measured in terms of atmospheric optical depth) is measured at the U.S. sites only for YES and RTEB.

3.4.8.2 Implementation.- ASCS personnel at each Intensive Test Site have been supplied with a solar radiometer instrument by NASA-JSC/EOD and have been instructed in its use. Weather conditions permitting, this data is taken at the time of each Landsat-2 overpass and is forwarded to DAPTS.

3.4.8.3 DAPTS transmission to ISRRS.- DAPTS personnel process and prepare covering documentation on Solar Radiometer Coding Forms and other ITS ground truth reports before transmitting them to ISRRS/LPDL for computer processing and distribution.

A. The forms are picked up from a designated tray in the office of the DAPTS subsystem manager (for non-Landsat data).

B. Personnel determine the LACIE sample segment number for the ITS covered by the form, and write this number with a felt-tip pen in the upper left-hand corner. A black or red pen is recommended for best reproduction (blue or green should not be used).

C. Each form is logged into the "LACIE ITS Ground Truth Report Log Notebook," one line per form, and determined as follows:
   1. Date received (by DAPTS): date picked up from subsystem manager's office.
   2. Test Site no.: ITS number, from the body of the form.
   3. County: from the form.
   4. Segment no.: as previously annotated on upper left-hand corner of report.
   5. Ground observation date: taken from the form. Sometimes this has been omitted, in which case the date received, in parentheses, is substituted, and is also printed on the form.
   6. Ground observation number: usually not given on Solar Radiometer Forms; this space is left blank.
   7. Landsat pass date: usually not given on Solar Radiometer Forms; this space is left blank.
   8. Report type: The notation "SRCF" is entered.
   9. No. of pages: usually one page.
   10. Date sent to ISRRS; see item E, below.

D. Transmittal sheet preparation: Solar Radiometer Coding Forms may be transmitted separately as a group, or along with other ground truth reports. Usually the latter is the case, since different types of

ground truth reports usually arrive simultaneously from the field teams.

Forms are usually sorted out and arranged in order of LACIE segment number before filling out the transmittal sheets, for ease in assembling and checking data sets.

The form used is the "DAPTS Intensive Test Site Data Transmittal Report Periodic Observations Data"; it is filled out as follows:

1. Date: date the data are to be transmitted to LPDL.
2. Number: transmittal number; see item E, below.
3. DAPTS manager: name of DAPTS (non-Landsat) subsystem manager, plus name of person filling out the form.

In the body of the form, one line is filled out for each report being transmitted as follows:

4. Site: Intensive Test Site number (from the report).
5. Segment: LACIE sample segment number.
6. Observation date: as given on the form. If omitted, the receipt date is entered to provide an approximate identification.
7. Check "Solar Radiometer Coding Form."

E. Assignment of transmittal number: A transmittal number is assigned from the "DAPTS Transmittals to ISRRS" notebook, and entered on the transmitted form by "Number." A brief description of the report type(s) and segment number(s) being transmitted is entered in the notebook.

The transmittal number, along with the date the item(s) are being transmitted to ISRRS/LPDL, is entered in the "LACIE ITS Ground Truth Report Log Notebook," under "Date sent to ISRRS."

F. Physical transmittal of data sets to ISRRS/LPDL: The original of the solar radiometer form is taken, along with the DAPTS transmittal, to LPDL. It is given to the designated LPDL representative. The

LPDL representative's signature is secured on the form. LPDL personnel then handle computer processing and distribution according to their internal procedures.

G. Disposition of DAPTS transmittal sheet: Two copies of the DAPTS transmittal sheet are made and given to the LPDL representative. The original of the transmittal sheet is returned to the DAPTS subsystem manager for duplication and distribution.

H. Disposition of Solar Radiometer Form copies (excl. LPDL original): As part of the LPDL activity, the form original and two copies are returned to DAPTS. One copy of the form is filed in the DAPTS (non-Landsat) subsystem manager's office. One copy of each form is filed in the DAPTS administrator files.

I. Updating ITS data status chart: DAPTS personnel plot observation date(s) and DAPTS processing data on the chart in the DAPTS subsystem manager (for non-Landsat data) office.

3.4.9 Yield Form

3.4.9.1 Request initiation.- A yield determination is made for selected fields in each Intensive Test Site, as required by YES.

3.4.9.2 Implementation.- The wheat yield data is acquired for selected fields from among the set of fields used for the periodic crop condition observations. This data includes:

A. Field number
B. Stand quality evaluation
C. Comments on yield influencing factors
D. Harvest date
E. Wheat yield in bushels/acre

The yield data is acquired by ASCS personnel and forwarded to DAPTS.

3.4.9.3 DAPTS transmission to ISRRS.- DAPTS personnel process and prepare covering documentation on Yield Forms and other ITS ground truth reports before transmitting them to ISRRS/LPDL for reproduction and distribution.

A. The reports are picked up from a designated tray in the office of the DAPTS subsystem manager (for non-Landsat data).

B. Personnel determine the LACIE sample segment number for the ITS covered by the report, and write this number with a felt-tip pen in the upper left-hand corner. If the report is more than one page, personnel count the pages and write page numbers in the upper right-hand corner (i.e., p. 1 of 3, p. 2 of 3, etc.). A black or red pen is recommended for best reproduction (blue or green should not be used).

C. Each report is logged into the "LACIE ITS Ground Truth Report Log Notebook," one line per report, and determined as follows:

1. Date received (by DAPTS); date picked up from subsystem manager's office.
2. Test Site no.: ITS number, from the body of the report.
3. County: from the report.
4. Segment no.: as previously annotated on upper left-hand corner of report.
5. Ground observation date: taken from the report; usually a range of days. Sometimes this has been omitted, in which case the date received, in parentheses, is substituted, and is also printed on the report.
6. Ground observation number: not applicable to Yield Forms; is left blank.
7. Landsat pass date: not applicable to Yield Forms; is left blank.
8. Report type: the notation "YF" is entered.
9. No. of pages: number of pages in the report.
10. Date sent to ISRRS; see item E, below.

D. Transmittal sheet preparation: Yield Forms may be transmitted separately as a group, or along with other ground truth reports. Usually the latter is the case, since different types of ground truth reports usually arrive simultaneously from the field teams.

Reports are usually sorted out and arranged in order of LACIE segment number before filling

out the transmittal sheets, for ease in assembling and checking data sets.
The transmittal sheet used is the "DAPTS Intensive Test Site Data Transmittal Report Ground Truth Inventory Data." It is filled out as follows:

1. Date: date the data are to be transmitted to LPDL.
2. Number: transmittal number; see item E, below.
3. DAPTS manager: name of DAPTS (non-Landsat) subsystem manager, plus name of person filling out the form.

In the body of the form, one line is filled out for each report being transmitted as follows:

4. Site: Intensive Test Site number (from the report).
5. Segment: LACIE sample segment number.
6. Check "Yield Estimation Forms."
7. Under "Remarks": The notation "5 copies" is entered.

E. Assignment of transmittal number: A transmittal number is assigned from the "DAPTS Transmittals to ISRRS" notebook, and entered on the transmittal form by "Number." A brief description of the report type(s) and segment number(s) being transmitted is entered in the notebook.

The transmittal number, along with the date the item(s) are being sent to ISRRS/LPDL, is entered in the "LACIE ITS Ground Truth Report Log Notebook," under "Data sent to ISRRS."

F. Physical transmittal of data sets to ISRRS/LPDL: The reports are taken, along with the DAPTS transmittal form, to LPDL. They are given to the designated LPDL representative. The LPDL representative's signature is secured on the form. LPDL personnel then handle reproduction and distribution according to their internal procedures.

G. Disposition of DAPTS transmittal sheet: Two copies of the DAPTS transmittal sheet are made and given to the LPDL representative. The original of the transmittal sheet is returned to the DAPTS subsystem manager for duplication and distribution.

H. Disposition of report originals and copies (excl. LPDL copies): As part of the LPDL reproduction and distribution activity, the report original and two copies are returned to DAPTS. The originals of the reports, and one copy, are filed in the DAPTS (non-Landsat) subsystem manager's office. One copy of each report is filed in the DAPTS administrator files.

I. Updating ITS data status chart: DAPTS personnel plot observation date(s) and DAPTS processing dates on the chart in the DAPTS subsystem manager (for non-Landsat data) office.

3.5 THEMATIC OVERLAYS

3.5.1 Intensive Test Site Fields Identification Overlay

3.5.1.1 Request initiation.- A 1:24,000 scale transparent overlay is required by CAMS and RTEB for each ITS. DAPTS requests that FSO prepare overlays keyed to the latest 1:24,000 scale aerial photography available.

3.5.1.2 Implementation.- FSO is responsible for producing the 1:24,000 scale photomosaic using the aerial photography supplied by DAPTS. On completion of the mosaics, FSO will use the ASCS marked-up field boundary maps and the Ground Truth Inventory Data to prepare transparent overlays showing field boundaries and identification numbers.

3.5.1.3 DAPTS transmittion to ISRRS.- Transmission is as follows:

A. Transmittal sheet preparation: After Mapping Section personnel return the completed overlay to DAPTS, DAPTS personnel prepare covering documentation for transmittal to ISRRS/LPDL. The form used for transmittal is the "DAPTS Intensive Test Site Data Transmittal Report Ground Truth Inventory Data." Other types of information in this category may be transmitted along with the overlay(s),

using the same copy of the form. The form is filled out as follows:

1. Date: date the data are to be transmitted to ISRRS/LPDL.
2. Number: transmittal number; see item B, below.
3. DAPTS manager: name of DAPTS (non-Landsat) subsystem manager, plus name of person filling out the form.

In the body of the report, one line is filled out for each overlay being transmitted as follows:

4. Site: Intensive Test Site number (from the overlay title information).
5. Segment: LACIE sample segment number corresponding to the Intensive Test site covered by the overlay.
6. Check "Clear Field Bound. Overlay."
7. Under "Remarks": the number of copies of the overlay being transmitted is entered.

B. Assignment of transmittal number: A transmittal number is assigned from the "DAPTS Transmittals to ISRRS" notebook, and entered on the transmittal form by "Number." A brief description of the overlay (Test Site number, type) and other items being transmitted is entered in the notebook.

C. Physical transmittal of overlays to ISRRS/LPDL: The overlay(s) plus any other materials being transmitted are taken, along with the DAPTS transmittal form, to LPDL. They are given to the designated LPDL representative. The LPDL representative's signature is secured on the form.

D. Disposition of DAPTS transmittal sheet: Two copies of the DAPTS transmittal sheet are made and given to the LPDL representative. The original of the transmittal sheet is returned to the DAPTS subsystem manager (non-Landsat) for duplication and distribution.

E. Disposition of DAPTS copy of overlay: One copy of the overlay is filed in the DAPTS (non-Landsat) subsystem manager's office.

3.5.2 Spring/Winter Wheat Regions Overlap Overlay

3.5.2.1 Request initiation.- CAS and YES require map overlays showing the winter/spring wheat overlap regions for the U.S.A., U.S.S.R., and People's Republic of China (PRC). DAPTS requests that USDA prepare overlays based on the most current information.

3.5.2.2 Implementation.- USDA is responsible for production of the spring/winter wheat overlap regions overlays. Reference maps and publications are used for preparation of work copies of the overlays, which are then redrafted in the scales and formats required as detailed in the LACIE Requirements Document (vol. IC). The completed overlays are transmitted to DAPTS.

3.5.2.3 DAPTS transmittals to ISRRS.- Transmission is as follows:

A. Transmittal sheet preparation: After the completed overlay is returned to DAPTS, DAPTS personnel prepare covering documentation for transmittal to ISRRS/LPDL. The form used for transmittal is the "DAPTS Historical Agricultural Data Transmittal Report" sheet. The form is filled out as follows:
   1. Date: date the data are to be transmitted to ISRRS/LPDL.
   2. Number: transmittal number; see item B, below.
   3. DAPTS manager: name of DAPTS (non-Landsat) subsystem manager, plus name of person filling out the form.

In the body of the form, one line is filled out for each overlay being transmitted as follows:

   4. The spaces for "Site" and "Segment" are used to indicate the country covered by the overlay.
   5. Under "Remarks" the notation "Spring/Winter Wheat Regions Overlap Overlay" is entered, plus the number of copies being transmitted.

As in the case of other historical agricultural data, the same form may be used to

simultaneously transmit crop calendars, etc., along with overlays.

B. Assignment of transmittal number: A transmittal number is assigned from the "DAPTS Transmittals to ISRRS" notebook, and entered on the transmittal form by "Number". A brief description of the overlay (including country covered), and any other associated data items being simultaneously transmitted is entered in the notebook.

C. Physical transmittal of overlays to ISRRS/LPDL: The overlays and any associated data are taken, along with the DAPTS transmittal form, to LPDL. They are given to the designated LPDL representative. The LPDL representative's signature is secured on the form.

D. Disposition of data transmittal sheet: Two copies of the DAPTS transmittal sheet are made and given to the LPDL representative. The original of the transmittal sheet is returned to the DAPTS subsystem manager (non-Landsat) for duplication and distribution.

E. Disposition of DAPTS copy of overlay: One copy of the overlay is filed in the DAPTS (non-Landsat) subsystem manager's office.

SECTION 4.0
METEOROLOGICAL DATA ACQUISITION AND PREPROCESSING

4.1 HISTORICAL METEOROLOGICAL DATA ORDERS

4.1.1 Weather Observation Data (Tabular)

4.1.1.1 Request initiation.- The LACIE/DAPTS Historical Meteorological Requirements document vol. IE or an approved RECP will define requests for tabular weather observations data.

4.1.1.2 Implementation.- The NOAA-NASA-USDA Interface Control Document or an approved RECP will define the implementation plan for tabular weather observation data.

4.1.1.3 Transmittal to ISRRS

4.1.1.3.1 Data used by YES: NOAA will provide YES with tabular weather observation data as defined in the Historical Meteorological Requirements document vol. IE. YES/NOAA will provide DAPTS with the following information:

A. Originator of this data
B. Originators control number (if any)
C. Number of copies
D. Date of transmittal to YES
E. Date received by YES
F. Format

YES will transmit tabular weather observation data to ISRRS

4.1.1.3.2 Data used by other subsystems: NOAA/YES will provide DAPTS/ISRRS with tabular weather observation data for use by other sub-systems as defined in the Historical Meteorological Requirements document vol. IE.

4.1.2 Weather Observation Data (Electronic)

4.1.2.1 Request Initiation.- The LACIE/DAPTS Historical Meteorological Requirements document vol. IE or an approved RECP will define requests for electronic weather observation data.

4.1.2.2 Implementation.- The NOAA-NASA-USDA Interface Control Document or an approved RECP will

define the implementation plan for electronic weather observation data.

4.1.2.3 Transmittal to ISRRS

4.1.2.3.1 Data used by YES: NOAA will provide YES with electronic weather observation data as defined in the Historical Meteorological Requirements document vol. IE. YES/NOAA will provide DAPTS with the following information:

A. Originator of this data
B. Originator control number
C. Number of copies
D. Date of transmittal to YES
E. Date received by YES
F. Format

Yes will transmit electronic observation data to ISRRS.

4.1.2.3.2 Data used by other subsystems: NOAA/YES will provide DAPTS/ISRRS with electronic weather observation data for use by other sub-systems as defined in the Historical Meteorological Requirements document vol. IE.

4.1.3 Satellite Imagery Data

4.1.3.1 Request Initiation.- The LACIE/DAPTS Historical Meteorological Requirements document vol. IE or an approved RECP will define requests for satellite imagery data.

4.1.3.2 Implementation.- The NOAA-NASA-USDA Interface Control Document or an approved RECP will define the implementation plan for satellite imagery data.

4.1.3.3 Transmittal to ISRRS

4.1.3.3.1 Data used by YES: NOAA will provide YES with satellite imagery data as defined in the Historical Meteorological Requirements document vol. ID. YES/NOAA will provide DAPTS with the following information:

A. Originator of this data.
B. Originator control number
C. Number of copies
D. Date of transmittal to YES

E. Date received by YES
F. Format
Yes will transmit satellite imagery data to ISRRS

4.1.3.3.2 Data used by other subsystems: NOAA/YES will provide DAPTS/ISRRS with satellite imagery data for use by other subsystems as defined in the historical Meteorological Requirements document vol. ID.

4.2 REAL TIME METEOROLOGICAL DATA ORDERS

4.2.1 Weather Observation Data (Tabular)

4.2.1.1 Request initiation.- The LACIE/DAPTS Real Time Meteorological Requirements document vol ID or an approved RECP will define requests for tabular weather observation data.

4.2.1.2 Implementation.- The NOAA-NASA-USDA Interface Control Document or an approved RECP will define the implementation plan for tabular weather observation data.

4.2.1.3 Transmittal to ISRRS

4.2.1.3.1 Data used by YES: NOAA will provide YES with tabular weather observation data as defined in the Real Time Meteorological Requirements document vol ID. YES/NOAA will provide DAPTS with the following information:
A. Originator of this data
B. Originator control number
C. Number of copies
D. Date of transmittal to YES
E. Date received by YES.
YES will transmit tabular weather observation data to ISRRS

4.2.1.3.2 Data used by other subsystems: NOAA/YES will provide DAPTS/ISRRS with tabular weather observation data for use by other sub-systems as defined in the Real Time Requirements document vol ID.

4.2.2 Weather Observation Data (Electronic)

4.2.2.1 Request initiation.- The LACIE/DAPTS Real Time Meteorological Requirements document vol ID or an approved RECP will define requests for electronic observation data.

4.2.2.2 Implementation.- The NOAA-NASA-USDA Interface Control Document or an approved RECP will define implementation plan for electronic weather observation data.

4.2.2.3 Transmittal to ISRRS

4.2.2.3.1 Data used by YES: NOAA will provide YES with electronic weather observation data as defined in the Real Time Meteorological Requirements document vol ID. YES/NOAA will provide DAPTS with the following information:

A. Originator of this data
B. Originator control number
C. Number of copies
D. Date transmitted to YES
E. Date received by YES
F. Format

YES will transmit electronic weather observation data to ISRRS.

4.2.2.3.2 Data used by other subsystems: NOAA/YES will provide DAPTS/ISRRS with electronic weather observation data for use by other sub-systems as defined in the Real Time Meteorological Requirements document vol ID.

4.2.3 Satellite Imagery Data

4.2.3.1 Request initiation.- The LACIE/DAPTS Real Time Meteorological Requirements document or an approved RECP will define requests for satellite imagery data.

4.2.3.2 Implementation.- The NOAA-NASA-USDA Interface Control Document or an approved RECP will define the implementation plan for satellite imagery data.

4.2.3.3 Transmittal to ISRRS

4.2.3.3.1 Data used by YES: NOAA will provide YES with satellite imagery data as defined in the Real Time Requirements document vol ID. YES/NOAA will provide DAPTS with the following information:

A. Originator of this data
B. Originator control number
C. Number of copies
D. Date of transmittal to YES
E. Date received by YES
F. Format

YES will transmit satellite imagery data to ISRRS.

4.2.3.3.2 Data used by other subsystems: NOAA/YES will provide DAPTS/ISRRS with satellite imagery data for use by other sub-systems as defined in the Real Time Meteorological Requirements document vol. ID.

SECTION 5.0
REFERENCE DOCUMENTS

The following reference documents are applicable to the extent specified herein:

A. GSFC/JSC Interface Control Document, LACIE 00701, dated March 20, 1975

B. USDA/NASA Interface Control Document Vol.-1: Operational Field Data, LACIE C00705, dated Sept. 1975.

C. USDA/NASA Interface Control Document-Vol.-II: Current and Historical Agricultural Date, LACIE C00707, dated Sept. 1975.

D. DAPTS Requirement Documents

LACIE C00200 Vol. 1A	Landsat Data Requirements
LACIE C00200 Vol. 1B	Field Data Requirements
LACIE C00200 Vol. 1C	Historical Agricultural Data Requirements
LACIE C00200 Vol. 1D	Real Time Meteorological Data Requirements
LACIE C00200 Vol. 1E	Historical Meteorological Data Requirements

E. NOAA/NASA/USDA Interface Control Document, LACIE C00710, dated Dec. 1975.

F. LACIE Facilities Support Office (FSO) Implementation Plan, LACIE 00607, dated Sept. 1975.

☆ U S. GOVERNMENT PRINTING OFFICE: 1975—671-548/1051

LACIE PROJECT OFFICE
NASA, L.B. Johnson Space Center
Houston, TX 77058

Change Distribution List
LACIE-00711 Rev. A
November 8, 1977

The attached are revised pages to the DAPTS Detailed Procedures document. In order to update your document, remove the applicable pages and replace with the attached pages.

SF12/C. R. Davis
SF2/R. B. Erb
F. G. Hall
SF3/J. W. Dietrich (3)
D. E. Pitts
SF4/G. L. Gutschewski (3)
W. E. Hensley
R. O. Hill
B. J. Jackson
W. E. McAllum
R. L. Patterson
B. E. Spiers
J. M. Sulester
T. T. White

LEC/ W. P. Bennett
B. L. Carroll
C. j. Cassoni
O. G. Hunter
J. L. Knoedler (2)
E. Laity (10)
T. F. Mackin
J. Morgan
E. F. Shover
P. C. Swanzy
J. A. Zeilke

PURPOSE

The document discusses the flow of work and the detailed procedures involved to satisfy user data requests in an accurate and timely manner for both Landsat and non-Landsat data requirements. Descriptions are limited in this volume to those functions within the operational charter of the Data Acquisition, Preprocessing and Transmission Subsystem (DAPTS). All functions of data acquisition and preprocessing beyond the DAPTS interfaces to other subsystems will be described in those subsystems.

SCOPE

The techniques and organizations involved in the data acquisition, preprocessing and transmission are detailed in the following sections for both Landsat (1.0) and non-Landsat (2.0 and 3.0). Landsat Initial Orders flow of data that interfaces with the other subsystems is shown in figure 1-1. The Reorder/Change Order data flow is shown in figure 1-2. Section 1 is organized to follow this data flow. Section 2 presents the non-Landsat agriculture data flow detailed in figure 1-3. Section 3 presents the blind site procedure and data flow detailed in figure 1-4.

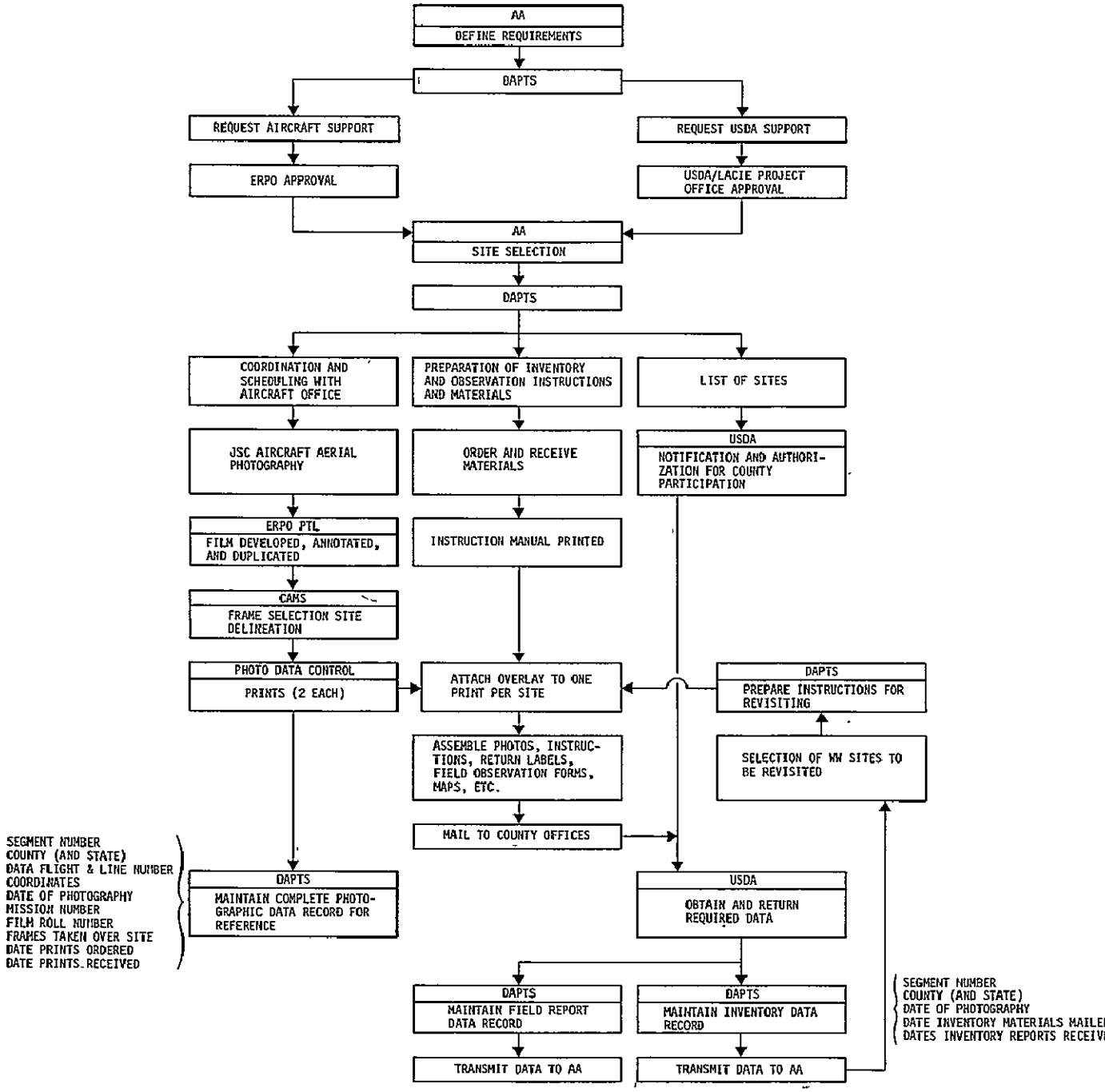

Figure 1-4.— Blind site procedural flow.

SECTION 3.0

BLIND SITE DATA ACQUISITION

1.0 Request Initiation

The requirement and request to obtain detailed data from selected operational segments are made by Accuracy Assessment.

2.0 Implementation

The data acquisition is a coordinated effort between LACIE/DAPTS, CAMS, JSC Aircraft, and the USDA.

3.0 Procedures

As illustrated in figure 1-4, the procedure for acquiring blind site data is as follows:

A. Accuracy Assessment defines the requirements for the blind site activity for the current year.

B. DAPTS prepares requests for aircraft support for obtaining areal photographs and for USDA support to obtaining field data.

C. Upon receipt of approval for the requested support, Accuracy Assessment picks the blind sites to be observed and transmits this information to DAPTS.

D. DAPTS provides the USDA the list of sites, and they notify the counties involved and authorize participation.

E. DAPTS prepares detailed instructions for the crop inventory to be taken at the site and for periodic observations throughout the growing season.

F. The instruction manual is printed and data collection materials ordered prior to assembly and mailing.

G. DAPTS coordinates flight schedules with the aircraft office. Flights are flown and film is developed and sent to DAPTS.

H. Developed film is sent to CAMS which selects appropriate frame and identifies the segment area on the frame.

I. DAPTS orders two enlarged prints of the segment area.

J. DAPTS maintains a complete photographic data record for reference, including
   1. Segment number
   2. County (and state)

3. Data flight and line number
4. Coordinates
5. Date of photography
6. Mission number
7. Film roll number
8. Frames taken over site
9. Date prints ordered
10. Date prints received

K. A frosted, acetate overlay is attached to one of the prints for each site.

L. A packet of photos, instructions, maps, return labels, and observation forms is assembled for each site and mailed to the appropriate USDA county office for data collection.

M. Data are received and logged into one of two data records by DAPTS. The inventory data record consists of
1. Segment number
2. County (and state)
3. Date of photography
4. Date inventory materials mailed
5. Date inventory reports received

The field report data record consists of
1. Segment number
2. County (and state)
3. Date observation materials mailed
4. Dates the observation reports were received versus reference numbers for the Landsat passes

N. The received data are transmitted to Accuracy Assessment and copies of transmittal memos are kept by DAPTS.

O. Accuracy Assessment specifies which winter wheat sites are to be revisited.

P. DAPTS prepares inventory instructions and photographs as before and mails the packets to the county offices.

Q. Data are received and logged by DAPTS.

R. Data are transmitted to Accuracy Assessment.