First ISCCP Regional Experiment (FIRE) Atlantic Stratocumulus Transition Experiment (ASTEX) European Remote Sensing Satellite (ERS-1) Langley DAAC Data Set Document

Summary:

The First ISCCP Regional Experiments have been designed to improve data products and cloud/radiation parameterizations used in general circulation models (GCMs). Specifically, the goals of FIRE are (1) to improve basic understanding of the interaction of physical processes in determining life cycles of cirrus and marine stratocumulus systems and the radiative properties of these clouds during their life cycles and (2) to investigate the interrelationships between the ISCCP data, GCM parameterizations, and higher space and time resolution cloud data.

To-date, four intensive field-observation periods were planned and executed: a cirrus IFO (October 13 - November 2, 1986); a marine stratocumulus IFO off the southwestern coast of California (June 29 - July 20, 1987); a second cirrus IFO in southeastern Kansas (November 13 - December 7, 1991); and a second marine stratocumulus IFO in the eastern North Atlantic Ocean (June 1 - June 28, 1992). Each mission combined coordinated satellite, airborne, and surface observations with modeling studies to investigate the cloud properties and physical processes of the cloud systems.

All data sets discussed in this document were produced by European Remote Sensing Satellite (ERS-1). These data sets are:

- FIRE_AX_ERS1_ALTIMTR
- FIRE_AX_ERS1_MCRWRAD
- FIRE_AX_ERS1_SCTRMTR
- FIRE_AX_ERS1_WINDS (not available at this time)

Table of Contents:

1. Data Set Overview:

Data Set Identification:

FIRE_AX_ERS1_ALTIMTR	First ISCCP Regional Experiment (FIRE) Atlantic Stratocumulus Transition Experiment (ASTEX) European Remote Sensing Satellite (ERS-1)
FIRE_AX_ERS1_MCRWRAD	First ISCCP Regional Experiment (FIRE) Atlantic Stratocumulus Transition Experiment (ASTEX) European Remote Sensing Satellite (ERS-1) Microwave Radiometer Data (FIRE_AX_ERS1_MCRWRAD)
FIRE_AX_ERS1_SCTRMTR	First ISCCP Regional Experiment (FIRE) Atlantic Stratocumulus Transition Experiment (ASTEX) European Remote Sensing Satellite (ERS-1) Wind Scatterometer Data (FIRE_AX_ERS1_SCTRMTR)
FIRE_AX_ERS1_WINDS	First ISCCP Regional Experiment (FIRE) Atlantic Stratocumulus Transition Experiment (ASTEX) European Remote Sensing Satellite (ERS-1) Wind Data (FIRE_AX_ERS1_WINDS)

Data Set Introduction:

See Summary above.

Objective/Purpose:

...

Summary of Parameters:

FIRE_AX_ERS1_ALTIMTR	Wave Height Wind Speed
FIRE_AX_ERS1_MCRWRAD	Brightness Temperature Wave Height Wave Speed
FIRE_AX_ERS1_SCTRMTR	Wind Direction Wind Speed
FIRE_AX_ERS1_WINDS	

Discussion:

...

Related Data Sets:

...

2. Investigator(s):

Investigator(s) Name and Title:

...

Title of Investigation:

First ISCCP Regional Experiment (FIRE)

Contact Information:

Laurence Eymard
CETP
Universite St Quentin - Versailles

10-12 av. de l'Europe
78140 Velizy
FRANCE
Phone: 33 1 39 25 49 02
FAX: 33 1 39 25 49 22
Email: INTERNET - Laurence.Eymard@cetp.ipsl.fr

3. Theory of Measurements:

...

4. Equipment:

Sensor/Instrument Description:

Collection Environment:

...

Source/Platform:

FIRE_AX_ERS1_ALTIMTR	ERS-1
FIRE_AX_ERS1_MCRWRAD	ERS-1
FIRE_AX_ERS1_SCTRMTR	ERS-1
FIRE_AX_ERS1_WINDS	

Source/Platform Mission Objectives:

...

Key Variables:

FIRE_AX_ERS1_ALTIMTR	Wave Height Wind Speed
FIRE_AX_ERS1_MCRWRAD	Brightness Temperature Wave Height Wave Speed
FIRE_AX_ERS1_SCTRMTR	Wind Direction Wind Speed
FIRE_AX_ERS1_WINDS	

Principles of Operation:

...

Sensor/Instrument Measurement Geometry:

...

Manufacturer of Sensor/Instrument:

...

Sensor/Instrument:

FIRE_AX_ERS1_ALTIMTR	RADAR ALTIMETER
FIRE_AX_ERS1_MCRWRAD	MICROWAVE RADIOMETER RADAR ALTIMETER
FIRE_AX_ERS1_SCTRMTR	WIND SCATTEROMETER
FIRE_AX_ERS1_WINDS	

Calibration:

Specifications:

...

Tolerance:

...

Frequency of Calibration:

...

Other Calibration Information:

...

5. Data Acquisition Methods:

...

6. Observations:

Data Notes:

...

Field Notes:

...

7. Data Description:

Spatial Characteristics:

Spatial Coverage:

Data Set Name	Min Lat	Max Lat	Min Lon	Max Lon
FIRE_AX_ERS1_ALTIMTR	22.47	42.63	-34.40	-10.17
FIRE_AX_ERS1_MCRWRAD	23.00	43.00	-35.00	-10.00
FIRE_AX_ERS1_SCTRMTR	22.20	42.94	-34.83	-10.15
FIRE_AX_ERS1_WINDS				

Spatial Coverage Map:

There are no maps available for these data sets.

Spatial Resolution:

FIRE_AX_ERS1_ALTIMTR : N/A
FIRE_AX_ERS1_MCRWRAD : N/A
FIRE_AX_ERS1_SCTRMTR : 300 Km
FIRE_AX_ERS1_WINDS

Projection:

...

Grid Description:

...

Temporal Characteristics:

Temporal Coverage:

Data Set Name	Begin Date	End Date
FIRE_AX_ERS1_ALTIMTR	06-01-1992	06-15-1992
FIRE_AX_ERS1_MCRWRAD	05-30-1992	07-01-1992
FIRE_AX_ERS1_SCTRMTR	06-01-1992	06-29-1992
FIRE_AX_ERS1_WINDS		

Temporal Coverage Map:

There are no maps available for these data sets.

Temporal Resolution:

Each granule for all of the data sets consist of one day of data.

Data Characteristics:

Parameter/Variable:

...

Variable Description/Definition:

...

Unit of Measurement:

...

Data Source:

...

Data Range:

...

Sample Data Record:

...

8. Data Organization:

Data Granularity:

A general description of data granularity as it applies to the IMS appears in the EOSDIS Glossary.

Data Format:

All data are in Native binary format.

9. Data Manipulations:

Formulae:

Derivation Techniques and Algorithms:

...

Data Processing Sequence:

Processing Steps:

...

Processing Changes:

...

Calculations:

Special Corrections/Adjustments:

...

Calculated Variables:

...

Graphs and Plots:

There are no graphs or plots available for these data sets.

10. Errors:

Sources of Error:

...

Quality Assessment:

Data Validation by Source:

...

Confidence Level/Accuracy Judgement:

...

Measurement Error for Parameters:

...

Additional Quality Assessments:

...

Data Verification by Data Center:

The Langley DAAC performs an inspection process on this data received by the data producer via ftp. The DAAC checks to see if the transfer of the data completed and were delivered in their entirety. An inspection software was developed by the DAAC to see if the code was able to

read every granule. The code also checks to see if every parameter of data falls within the ranges which are included in the granule. This same code extracts the metadata required for ingesting the data into the IMS. If any discrepancies are found, the data producer is contacted. The discrepancies are corrected before the data are archived at the DAAC.

11. Notes:

Limitations of the Data:

...

Known Problems with the Data:

...

Usage Guidance:

...

Any Other Relevant Information about the Study:

...

12. Application of the Data Set:

...

13. Future Modifications and Plans:

There are no plans for future modifications of these data sets.

14. Software:

Software Description:

There are sample read software available for these data sets. The codes are written in C. A makefile and readme file are also available. These files allow the users to compile and work with the data easily.

Software Access:

The software can be obtained through the Langley DAAC. Please refer to the contact information below. The software can also be obtained at the same time the user is ordering these data sets.

15. Data Access:

Contact Information:

Langley DAAC User and Data Services Office
NASA Langley Research Center
Mail Stop 157D
Hampton, Virginia 23681-2199
USA
Telephone: (757) 864-8656
FAX: (757) 864-8807
E-mail: support-asdc@earthdata.nasa.gov

Data Center Identification:

Langley DAAC User and Data Services Office
NASA Langley Research Center
Mail Stop 157D
Hampton, Virginia 23681-2199
USA
Telephone: (757) 864-8656
FAX: (757) 864-8807
E-mail: support-asdc@earthdata.nasa.gov
URL: http://eosweb.larc.nasa.gov

Procedures for Obtaining Data:

The Langley DAAC Information Management System (IMS) is an on-line system that features a graphical user interface (GUI) which allows users to query the Langley DAAC data set holdings, to view pre-generated browse products, and to order specific data products. Users may also request data by letter, telephone, electronic mail (INTERNET), or personal visit.

The Langley DAAC User and Data Services (UDS) staff provides technical and operational support for users ordering data. The Langley DAAC Handbook is available in a postscript file through the IMS for users who want detailed information about the Langley DAAC holdings. Users may also obtain a copy by contacting:

Langley DAAC User and Data Services Office
NASA Langley Research Center
Mail Stop 157D
Hampton, Virginia 23681-2199
USA
Telephone: (757) 864-8656
FAX: (757) 864-8807
E-mail: support-asdc@earthdata.nasa.gov
URL: http://eosweb.larc.nasa.gov

Data Center Status/Plans:

The Langley DAAC will continue to archive this data. There are no plans to reprocess.

16. Output Products and Availability:

There are no output products available at this time.

17. References:

Sorlie, S., February 1993. "Langley DAAC Handbook." NASA Langley Research Center, Hampton, Virginia.

18. Glossary of Terms:

EOSDIS Glossary.

19. List of Acronyms:

NASA - National Aeronautics Space Administration
URL - Uniform Resource Locator

EOSDIS Acronyms.

20. Document Information:

Document Revision Date:
October 07, 1996; May 28, 1997; August 15, 1997; November 24, 1997
Document Review Date:
October 07, 1996
Document ID:
...
Citation:
...
Document Curator:
Langley DAAC User and Data Services Office
Telephone: (757) 864-8656
FAX: (757) 864-8807
E-mail: support-asdc@earthdata.nasa.gov