First ISCCP Regional Experiment (FIRE) International Satellite Cloud Climatology Project (ISCCP) DX Cloud Product - Revised Algorithm 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 the 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 system.
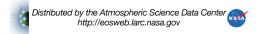
This document covers the First ISCCP Regional Experiment (FIRE) International Satellite Cloud Climatology Project (ISCCP) DX Cloud Products.

- FIRE_AX_ISCCP_DX
- FIRE_CI1_ISCCP_DX
- FIRE_CI2_ISCCP_DX
- FIRE_MS_ISCCP_DX

Table of Contents:

1. Data Set Overview:

Data Set Identification:

FIRE_AX_ISCCP_DX:	First ISCCP Regional Experiment (FIRE) Atlantic Stratocumulus Transition Experiment (ASTEX) International Satellite Cloud Climatology Project (ISCCP) DX Cloud Product - Revised Algorithm Data (FIRE_AX_ISCCP_DX)
FIRE_CI1_ISCCP_DX:	First ISCCP Regional Experiment (FIRE) Cirrus 1 International Satellite Cloud Climatology Project (ISCCP) Stage DX Pixel Level Cloud Product - Revised Algorithm Data (FIRE_CI1_ISCCP_DX)
FIRE_CI2_ISCCP_DX:	First ISCCP Regional Experiment (FIRE) Cirrus 2 International Satellite Cloud Climatology Project (ISCCP) Stage DX Pixel Level Cloud Product - Revised Algorithm Data (FIRE_CI2_ISCCP_DX)
FIRE_MS_ISCCP_DX:	First ISCCP Regional Experiment (FIRE) Marine Stratocumulus ISCCP Stage DX Pixel Level Cloud Product - Revised Algorithm Data (FIRE_MS_ISCCP_DX)

Data Set Introduction:

A subset of the ISCCP Stage DX Cloud Product (Revised Algorithm) are included for the FIRE experiment regions.

Objective/Purpose:

...

Summary of Parameters:

Albedo
Clouds
Pressure
Radiance
Reflectance
Temperature

Discussion:

...

Related Data Sets:

ISCCP_DX_NAT

2. Investigator(s):

Investigator(s) Name and Title:

William B. Rossow
NASA/GISS
2880 Broadway
New York, NY 10025
USA
Phone: (212) 678-5567
FAX: (212) 678-5552
Email: clwbr@nasagiss.giss.nasa.gov

Title of Investigation:

First ISCCP Regional Experiment (FIRE)

Contact Information:

Alison W. Walker
NASA/GISS
2880 Broadway

New York, NY 10025
USA
Phone: (212) 678-5542
FAX: (212) 678-5552
Email: alison@haboob.giss.nasa.gov

3. Theory of Measurements:

...

4. Equipment:

Sensor/Instrument Description:

Collection Environment:

...

Source/Platform:

FIRE_AX_ISCCP_DX	METEOSAT-4
	NOAA-11
	NOAA-12
FIRE_CI1_ISCCP_DX	GOES-6
	NOAA-9
FIRE_CI2_ISCCP_DX	GOES-7
	NOAA-11
	NOAA-12
FIRE_MS_ISCCP_DX	GOES-6
	NOAA-9
	NOAA-10

Source/Platform Mission Objectives:

...

Key Variables:

Albedo
Clouds
Pressure
Radiance
Reflectance
Temperature

Principles of Operation:

...

Sensor/Instrument Measurement Geometry:

...

Manufacturer of Sensor/Instrument:

...

Sensor/Instrument:

FIRE_AX_ISCCP_DX	AVHRR
	MIR
FIRE_CI1_ISCCP_	AVHRR

DX	VISSR
FIRE_CI2_ISCCP_	AVHRR
DX	VISSR
FIRE_MS_ISCCP_	AVHRR
DX	VISSR

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	Sources	Min Lat	Max Lat	Min Lon	Max Lon
FIRE_AX_ISCCP _DX	METEOSAT-4	10.00	40.00	-40.00	-5.00
	NOAA-11	10.10	39.90	-39.90	-5.10
	NOAA-12	10.10	39.90	-39.90	-5.10
FIRE_CI1_ISCCP _DX	GOES-6	37.50	47.50	-102.50	-80.00
	NOAA-9	37.50	47.50	-102.50	-80.00
FIRE_CI2_ISCCP _DX	GOES-7	25.00	50.00	-125.00	-75.00
	NOAA-11	25.00	50.00	-125.00	-75.00
	NOAA-12	25.00	50.00	-125.00	-75.00
FIRE_MS_ISCCP _DX	GOES-6	30.00	40.00	-137.50	-117.50
	NOAA-9	30.00	40.00	-137.50	-117.50
	NOAA-10	30.00	40.00	-137.50	-117.50

Spatial Coverage Map:

There are no maps available for this data set.

Spatial Resolution:

...

Projection:

...

Grid Description:

...

Temporal Characteristics:

Temporal Coverage:

Data Set Name	Begin Date	End Date
FIRE_AX_ISCCP_DX	06-01-1992	06-30-1992
FIRE_CI1_ISCCP_DX	10-01-1986	10-31-1986
FIRE_CI2_ISCCP_DX	11-01-1991	12-31-1991
FIRE_MS_ISCCP_DX	07-01-1987	07-31-1987

Temporal Coverage Map:

There are no maps available for this data set.

Temporal Resolution:

...

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:

This data set is in native binary format. Each granule consists of the entire collection of the data (one month).

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 this data set.

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:

...

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

Procedures for Obtaining Data:

The Langley DAAC Information Management System (IMS) is an on-line system that features a graphical user interface (GUI) that allows 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:

...

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; November 24, 1997
Document Review Date:
        ...
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