First ISCCP Regional Experiment (FIRE) University of Utah Polarization Diversity LIDAR (PDL) 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.

This document provides information for the following data sets:

- FIRE_CI2_UTAH_PDL
- FIRE_ETO_UTAH_PDL

Table of Contents:

1. Data Set Overview:

Data Set Identification:

FIRE_CI2_UTAH_PDL:	First ISCCP Regional Experiment (FIRE) Cirrus 2 University of Utah Polarization Diversity LIDAR (PDL)
FIRE_ETO_UTAH_PDL:	First ISCCP Regional Experiment (FIRE) Extended Time Observations (ETO) University of Utah Polarization Diversity LIDAR (PDL)

Data Set Introduction:

...

Objective/Purpose:

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.

Summary of Parameters:

FIRE_CI2_UTAH_PDL: Aerosol Backscattering Coeff
FIRE_ETO_UTAH_PDL: Lidar Relative Backscatter

Discussion:

...

Related Data Sets:

...

2. Investigator(s):

Investigator(s) Name and Title:

Dr. Kenneth Sassen
Meteorology Department
University of Utah
811 W. B. Browning Bldg.
Salt Lake City, UT 84112
Phone: (801) 585-9492
FAX: (801) 585-3681
E-mail: ksassen@atmos.met.utah.edu

Title of Investigation:

First ISCCP Regional Experiment (FIRE).

Contact Information:

Dr. Kenneth Sassen
Meteorology Department
University of Utah
811 W. B. Browning Bldg.
Salt Lake City, UT 84112
Phone: (801) 585-9492
FAX: (801) 585-3681
E-mail: ksassen@atmos.met.utah.edu

3. Theory of Measurements:

...

4. Equipment:

Sensor/Instrument Description:

Collection Environment:

...

Source/Platform:

Ground Station

Source/Platform Mission Objectives:

...

Key Variables:

FIRE_CI2_UTAH_PDL : Aerosol Backscattering Coeff
FIRE_ETO_UTAH_PDL : Lidar Relative Backscatter

Principles of Operation:

...

Sensor/Instrument Measurement Geometry:

...

Manufacturer of Sensor/Instrument:

...

Sensor/Instrument:

LIDAR

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_CI2_UTAH _PDL	37.06	37.06	-95.34	-95.34
FIRE_ETO_UTA H_PDL	40.77	40.77	111.82	111.82

Spatial Coverage Map:

...

Spatial Resolution:

FIRE_CI2_UTAH_PDL: 30m Vertical
FIRE_ETO_UTAH_PDL: 75m Vertical

Projection:

...

Grid Description:

...

Temporal Characteristics:

Temporal Coverage:

Data Set Name	Begin Date	End Date
FIRE_CI2_UTAH_PDL	11-21-1991	12-06-1991
FIRE_ETO_UTAH_PDL	03-12-1992	09-08-1997

Temporal Coverage Map:

...

Temporal Resolution:

FIRE_CI2_UTAH_PDL: 10 seconds
FIRE_ETO_UTAH_PDL: 2 minutes

Data Characteristics:

Parameter/Variable:

FIRE_CI2_UTAH_PDL : Aerosol Backscattering Coeff
FIRE_ETO_UTAH_PDL : Lidar Relative Backscatter

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:

The 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:

...

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:

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 to investigate the interrelationships between the ISCCP data, GCM parameterizations, and higher space and time resolution cloud data.

13. Future Modifications and Plans:

...

14. Software:

Software Description:

...

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
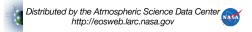Mail Stop 157D
Hampton, Virginia 23681-2199
USA
Telephone: (757) 864-8656
FAX: (757) 864-8807
E-mail: support-asdc@earthdata.nasa.gov
URL: http://eosweb.larc.nasa.gov

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 provides multiple interfaces to access its data holdings. The graphical and character user interfaces allow users to search and order data; and web interfaces allow direct access to some data holdings for immediate downloading or placing media orders, for searching the data holdings, and downloading electronically available holdings, and for ordering prepackaged CD-ROMs and videocassettes. All of these methods are easily obtained from the Langley DAAC web site.

Data Center Status/Plans:

The Langley DAAC will continue to archive this data.

16. Output Products and Availability:

...

17. References:

A Bibliography for the FIRE Project can be found on the FIRE Home Page.

18. Glossary of Terms:

EOSDIS Glossary.

19. List of Acronyms:

EOSDIS Acronyms.

20. Document Information:

Document Revision Date:
August 19, 1997; November 24, 1997; August 1998
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