

First ISCCP Regional Experiment (FIRE) Cirrus 2 High Spectral Resolution Lidar (HSRL) / Volume Imaging Lidar (VIL) 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 seek 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 provides information for the following three data sets:

- FIRE_CI2_HSRL
- FIRE_CI2_VIL_RTI
- FIRE_CI2_VIL_SCAN

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1. Data Set Overview:

Data Set Identification:

FIRE_CI2_HSRL:



FIRE_CI2_VIL_RTI:

Resolution Lidar (HSRL) Data (FIRE_CI2_HSRL)

First ISCCP Regional Experiment (FIRE) Cirrus 2 Volume Imaging Lidar (VIL) Altitude vs. Time (RTI) Data (FIRE_CI2_VIL_RTI)

FIRE_CI2_VIL_SCAN:

First ISCCP Regional Experiment (FIRE) Cirrus 2 Volume Imaging Lidar (VIL) Cirrus Scan Data (FIRE_CI2_VIL_SCAN)

Data Set Introduction:

FIRE_CI2_HSRL

This data set contains images of cirrus clouds advected over the HSRL during FIRE Cirrus 2 in Coffeyville, Kansas. These images consist of both the lidar backscatter and the depolarization ratio of backscatter radiation.

FIRE_CI2_VIL_RTI

This data set contains altitude vs. time images (RTIs) of cirrus clouds collected during FIRE Cirrus 2 at Coffeyville, Kansas. The images were sampled at 5 km intervals in the cross wind scans.

FIRE_CI2_VIL_SCAN

This data set contains images of cirrus cloud scans of 120 km extent both along the wind and across the wind (at the cirrus clouds heights). These images were collected during FIRE Cirrus 2 in Coffeyville, Kansas.

Objective/Purpose:

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Summary of Parameters:

Aerosols
Albedo
Clouds
Ice

Discussion:

...

Related Data Sets:

...

2. Investigator(s):

Investigator(s) Name and Title:

...

Title of Investigation:

First ISCCP Regional Experiment (FIRE)

Contact Information:

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3. Theory of Measurements:

...

4. Equipment:

Sensor/Instrument Description:

Collection Environment:

...

Source/Platform:

GROUND STATION

Source/Platform Mission Objectives:

...

Key Variables:

Aerosols
Clouds
Ice

Principles of Operation:

...

Sensor/Instrument Measurement Geometry:

...

Manufacturer of Sensor/Instrument:

...

Sensor/Instrument:

FIRE_CI2_HSRL	HSRL
FIRE_CI2_VIL_RTI	VIL
FIRE_CI2_VIL_SCAN	VIL

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_HSRL	37.10	37.10	-95.57	-95.57
FIRE_CI2_VIL_R TI	36.93	36.93	-95.60	-95.70
FIRE_CI2_VIL_S CAN	36.93	36.93	-95.60	-95.70

Spatial Coverage Map:

...

Spatial Resolution:

...

Projection:

...

Grid Description:

...

Temporal Characteristics:

Temporal Coverage:

Data Set Name	Begin Date	End Date
FIRE_CI2_HSRL	11-22-1991	12-06-1991
FIRE_CI2_VIL_RTI	11-17-1991	12-06-1991
FIRE_CI2_VIL_SCAN	11-18-1991	12-06-1991

Temporal Coverage Map:

...

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:

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:

Images are not 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:

...

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:

Sample software is not available for any of these data sets.

Software Access:

If you have any questions, please contact the Langley DAAC. (See below.)

15. Data Access:



Contact Information:

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

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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
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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:

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Document Curator:

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