# First ISCCP Regional Experiment (FIRE) Cirrus 2 Cross-chain LORAN Atmospheric Sounding System (CLASS) 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 system.
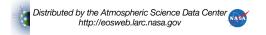
## Table of Contents:

## 1. Data Set Overview:

**Data Set Identification:**

| | |
|---|---|
| **FIRE_CI2_CLASS_SONDE**: | First ISCCP Regional Experiment (FIRE) Cirrus 2 Cross-chain LORAN Atmospheric Sounding System (CLASS) Data (FIRE_CI2_CLASS_SONDE) |

**Data Set Introduction:**

The Cross-chain LORAN Atmospheric Sounding System (CLASS) sonde data were collected in four locations: Arkansas City, KS; Coffeyville, KS: Iola, KS; and Muskegee, OK.

**Objective/Purpose:**

...

**Summary of Parameters:**

Geopotential Height
Humidity
Pressure
Temperature
Wind Direction
Wind Speed

**Discussion:**

...

**Related Data Sets:**

...

# 2. Investigator(s):

## Investigator(s) Name and Title:

David Starr

## Title of Investigation:

First ISCCP Regional Experiment (FIRE)

## Contact Information:

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E-mail: STARR@CLIMATE.GSFC.NASA.GOV

# 3. Theory of Measurements:

...

# 4. Equipment:

## Sensor/Instrument Description:

**Collection Environment:**

...

**Source/Platform:**

GROUND STATION

**Source/Platform Mission Objectives:**

...

**Key Variables:**

Geopotential Height
Humidity
Pressure
Temperature
Wind Direction
Wind Speed

**Principles of Operation:**

...

**Sensor/Instrument Measurement Geometry:**

...

**Manufacturer of Sensor/Instrument:**

...

**Sensor/Instrument:**

RAWINSONDE

# 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_CLASS_SONDE | 35.65 | 38.00 | -97.16 | -95.35 |

**Spatial Coverage Map:**

...

**Spatial Resolution:**

...

**Projection:**

...

**Grid Description:**

...

## Temporal Characteristics:

**Temporal Coverage:**

| Data Set Name | Begin Date | End Date |
| --- | --- | --- |
| FIRE_CI2_CLASS_SONDE | 11-06-1991 | 12-07-1991 |

**Temporal Coverage Map:**

...

**Temporal Resolution:**

...

## Data Characteristics:

**Parameter/Variable:**

Each record contains 21 variables. Variables are separated by white space(s). These variables with their units are listed in order below.

Variable Name
Time into launch (minutes)
Pressure (mb)
Temperature (C)
Dewpt - dewpoint temperature (C)
RH - relative humidity ()
Uwind (m/s)
Vwind (m/s)
Wspd - wind speed (m/s)
Dir - wind direction (degrees)
dZ (m/s)
Longitude (degrees)
Latitude (degrees)
Range (km)
Angle (degrees)
Altitude (m)
Qp (mb)
Qt (c)
Qh ()
Qu (m/s)
Qv (m/s)
Quv (m/s)

**Variable Description/Definition:**

...

**Unit of Measurement:**

See Parameter/Variable section above.

**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.

NCAR class sonde data consist of 29 granules. The granule is named ci2_XXX_date, where XXX is the site id, and date the temporal coverage of the collected data. Each granule has multiple ASCII data files. The date and time of the soundings have been coded into the file names. Each class sonde file is named "imddhhMM.sta", where m is the month (values [1-9, a-c]; b=Nov), dd the day of month, hh the hour sounding start (GMT was used for CaPE), MM the minute for sounding start (hhMM is approximate), and sta the 3-letter station ID.

## Data Format:

The data are in ASCII 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 browse images.

## 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.

**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:**

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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) 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.

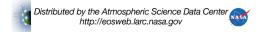# 17. References:

Not available at this time.

# 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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    October 07, 1996; May 28, 1997; November 24, 1997
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**Document Curator:**
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