

# First ISCCP Regional Experiment (FIRE) Marine Stratocumulus United Kingdom Meteorological Office (UKMO) C-130 Aircraft 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 systems.

This document provides information for the FIRE\_MS\_UKMO\_C130 data set.

## Table of Contents:

1. [Data Set Overview](#)
2. [Investigator\(s\)](#)
3. [Theory of Measurements](#)
4. [Equipment](#)
5. [Data Acquisition Methods](#)
6. [Observations](#)
7. [Data Description](#)
8. [Data Organization](#)
9. [Data Manipulations](#)
10. [Errors](#)
11. [Notes](#)
12. [Application of the Data Set](#)
13. [Future Modifications and Plans](#)
14. [Software](#)
15. [Data Access](#)
16. [Output Products and Availability](#)
17. [References](#)
18. [Glossary of Terms](#)
19. [List of Acronyms](#)
20. [Document Information](#)

## 1. Data Set Overview:

### Data Set Identification:

**FIRE\_MS\_UKMO\_C130:**

First ISCCP Regional Experiment (FIRE) Marine Stratocumulus  
United Kingdom Meteorological Office (UKMO) C-130 Aircraft Data  
(FIRE\_MS\_UKMO\_C130)



## Data Set Introduction:

These data were collected by the United Kingdom Meteorological Office (UKMO) from the Meteorological Research Flight C-130 Aircraft. This data set is a 16 HZ time series data set.

## Objective/Purpose:

...

## Summary of Parameters:

CO2 Temperature  
Dew/Front Point Temperature  
Humidity  
Irradiance  
Liquid Water Content  
Pressure  
Temperature  
Wind Direction  
Wind Speed

## Discussion:

...

## Related Data Sets:

...

## 2. Investigator(s):

### Investigator(s) Name and Title:

...

### Title of Investigation:

First ISCCP Regional Experiment (FIRE) Marine Stratocumulus United Kingdom Meteorological Office (UKMO)

### Contact Information:

M. Gill Martin  
Y46 Building  
DRA (Aerospace)  
Farnborough, Hampshire  
GU14 6TD  
UK  
Phone: (44) 1252-395416  
FAX: (44) 1252-376588  
E-mail: gmmartin@email.meto.govt.uk

## 3. Theory of Measurements:

...

## 4. Equipment:

### Sensor/Instrument Description:

### Collection Environment:

...

### Source/Platform:



**Source/Platform Mission Objectives:**

...

**Key Variables:**

CO2 Temperature  
Dew/Front Point Temperature  
Humidity  
Irradiance  
Liquid Water Content  
Pressure  
Temperature  
Wind Direction  
Wind Speed

**Principles of Operation:**

...

**Sensor/Instrument Measurement Geometry:**

...

**Manufacturer of Sensor/Instrument:**

...

**Sensor/Instrument:**

CHILLED MIRROR  
FSSP  
HOT-WIRE  
MCRW REFRACTOMETER  
PLATINUM RESISTANCE  
PRESSURE TRANSDUCER  
PRT-4  
PYRANOMETER  
PYRGEOMETER  
RADIOMETER  
WIND SENSOR

**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:**

<u>Data Set Name</u>	<u>Min Lat</u>	<u>Max Lat</u>	<u>Min Lon</u>	<u>Max Lon</u>
FIRE_MS_UKM O_C130	29.00	35.00	-126.00	-116.00

**Spatial Coverage Map:**

...

**Spatial Resolution:**

...

**Projection:**

...

**Grid Description:**

...

**Temporal Characteristics:**

**Temporal Coverage:**

<u>Data Set Name</u>	<u>Begin Date</u>	<u>End Date</u>
FIRE_MS_UKMO_C130	07-07-1987	07-18-1987

**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 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 to modify these data sets.

**14. Software:**

**Software Description:**

Sample read software is available for this data set.

**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 this data set.

**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](mailto: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](mailto: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 dataset 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](mailto: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](mailto:support-asdc@earthdata.nasa.gov)

