

# HAIC-HIWC Project & Data Management Web Site


HAIC High Altitude Ice Crystals

High Ice Water Content Study HIWC

January 15, 2014 to March 15, 2014 Project Location: Darwin, Australia

**Project Description:**

The purpose of the High Altitude Ice Crystals - High Ice Water Content (HAIC - HIWC) International field campaign was to collect cloud data in deep convective clouds to fulfill the industry and scientific objectives, as outlined in the HIWC Science Plan and the HAIC Description of Work. In particular the flight test campaign provided 99<sup>th</sup> percentile total water content statistics and other relevant parameters of such clouds, as a function of distance scale, to industry and regulators.




The Falcon 20 (SAFIRE) research aircraft landing in Darwin, Australia

The field campaign was the result of an international collaboration between the HAIC and HIWC projects, with the funding support of the European Union's Seventh Framework Programme (FP7/2007-2013), EASA and FAA, and involved necessary expertise in a wide range of skills (airframes, engine manufacturers, equipment & systems suppliers, research institutes and academics, meteorological services and SME's able to provide specific knowledge, service, or support in specific areas) and the main stakeholders in the field, whether they were based in Europe, North America, Australia or Japan.

The HAIC field experiment out of Darwin took place January - March 2014.

The HAIC and HIWC projects brought the Falcon 20 (SAFIRE) research aircraft to Darwin equipped with

- active remote sensing measurements (multibeam 95GHz Doppler cloud radar and lidar), providing 3D high-resolution characterization of the dynamical and microphysical properties of ice clouds in situ, and
- a state-of-the-art in situ microphysics Package.



The Falcon 20 (SAFIRE) research aircraft

This experiment provided the first modern extensive data set of the core and non-core areas of tropical oceanic deep convection and less vigorous tropical continental convection and as such was a unique resource for fundamental research, new industrial developments of detection and/or awareness technologies and for the regulation makers to assess the icing envelope for glaciated conditions as defined in FAA NPRM10-10 and EASA NPA2012-22/23.

All photos copyright University Corporation for Atmospheric Research unless otherwise noted.

**DIGITAL MEDIA**  
HAIC-HIWC Field Catalog Photo Album (*password required*)

**CONTACT INFORMATION**  
**Principal Investigators:**  
Julie Haggerty NCAR/EOL

- Project Description
- Logistics
- Data Access & Field Catalog
- Documentation
- Meetings and Presentations
- Publications
- Education and Outreach
- Related Web Pages
- Participants

[http://www.eol.ucar.edu/field\\_projects/haic-hiwc/](http://www.eol.ucar.edu/field_projects/haic-hiwc/)

# HAIC-HIWC DATASET MASTER LIST (ARCHIVE)



## DATA BY CATEGORY

- [Aircraft](#)
- [Ancillary](#)
- [Land Based](#)
- [Lightning](#)
- [Model](#)
- [Radar](#)
- [Satellite](#)
- [Upper Air](#)

[Back to HAIC-HIWC](#)

Email comments & questions to  
[codiac@ucar.edu](mailto:codiac@ucar.edu)

## HAIC-HIWC Data Sets



Data Set Name (Responsible Group/PIs shown in parentheses)	Date Posted	Info
<b>Aircraft</b>		
<a href="#">Aircraft Meteorological Data Reports (AMDAR) and Aircraft Communications Addressing and Reporting System (ACARS) Data [(ESRL-GSD)]</a>		
<b>Aircraft: SAFIRE Falcon 20</b>		
<a href="#">Cloud Imaging Probe (CIP) Data [(SAFIRE)]</a>		
<a href="#">Isokinetic Probe (IKP) Total Water Concentration (TWC) Data [(SAFIRE)]</a>		
<a href="#">Precipitation Imaging Probe (PIP) Data [(SAFIRE)]</a>		
<a href="#">Cloud Droplet Probe (CDP) Data [(SAFIRE)]</a>		
<a href="#">Flight Tracks [(NCAR-EOL)]</a>		
<a href="#">French Doppler Radar RASTA Data [(SAFIRE)]</a>		
<a href="#">French Falcon Flight Track Data (txt) [(SAFIRE)]</a>	2014-10-23	
<a href="#">French Falcon Isokinetic Evaporator Probe (IKP2) Data [Strapp, Walter (MetAnalytics Inc.)]</a>	2014-10-08	
<a href="#">French Falcon Monitoring Data [(SAFIRE)]</a>	2014-10-30	
<a href="#">French Falcon Total Water Content (TWC) Data [(SAFIRE)]</a>	2014-10-23	
<a href="#">PLANET Total Water Concentration (TWC) and Temperature Data [(SAFIRE)]</a>		

## HAIC-HIWC Archived and Expected Datasets (or in progress....)

- ❖ ALPHA 2-input Total HIWC Interest \*
- ❖ ALPHA 3-input Total HIWC Interest \*
- ❖ Vaisala GLD-360 Lightning Data
- ❖ **GPATS Lightning Data**
- ❖ **BoM Lightning Data (SPDB)**
- ❖ Access-R Model Pressure Data in (MDV \*, **NetCDF**)
- ❖ Access-R Model Surface Data in (MDV \*, **NetCDF**)
- ❖ Access-R Model Pressure Derived Data in (MDV \*, **NetCDF**)
- ❖ Access-R Model Surface Derived Data in (MDV \*, **NetCDF**)
- ❖ MTSAT-2 Overshooting Tops Product (MDV \*, **SPDB**)
- ❖ MTSAT-1R Overshooting Tops Product Rapid Scan (MDV \*, **SPDB**)
- ❖ **Australian BoM High Vertical Resolution Rawinsonde Data**
- ❖ N. Australia 3D Mosaic Radar Data (MDV \*), C-POL, and Individual Radars?
- ❖ NASA Langley MTSAT-2 Satellite Cloud Products (MDV \*, **NetCDF**)
- ❖ NASA Langley MTSAT-2 Satellite Cloud Products Derived Data (MDV \*, **NetCDF**)
- ❖ NASA Langley MTSAT-1R Satellite Cloud Products Rapid Scan (MDV \*, **NetCDF**)
- ❖ NASA Langley MTSAT-1R Satellite Cloud Products Rapid Scan Derived Data (MDV \*, **NetCDF**)
- ❖ DOE/ARM Darwin Site Data
- ❖ **Falcon-20 Flight Track and Instrumentation Data**
- ❖ **IKP Aircraft Data**
- ❖ **Regional Rawinsonde and Surface GTS Data**
- ❖ **COSMIC Soundings**

Currently available in Archive

\* Reprocessing/QC