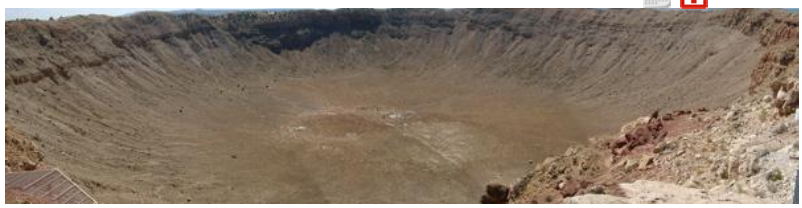

30 Minute ISFS Data for METCRAXII

30 Minute ISFS Data for METCRAXII

These data contain surface meteorology measurements of the Integrated Surface Flux System (ISFS) during the second Meteor Crater Experiment (METCRAXII), at the Barringer Meteor Crater, Arizona, during October of 2013.

For general information about the operations of the ISFS during METCRAXII see https://www.eol.ucar.edu/content/isfs-metcraxii.

The ISFS 30 minute dataset contains means and derived quantities of variables measured by the NCAR ISFS.

See the tables at https://www.eol.ucar.edu/content/isfs-metcraxii for information on the sensors that were deployed.

The data are stored in NetCDF files. Information on the NetCDF file format and software is available at http://www.unidata.ucar.edu/software/netcdf/. Information specfic to ISFS NetCDF files is available at https://www.eol.ucar.edu/content/isfs-netcdf-files.

30 Minute Dataset and Download URL

The dataset is available for download at this URL: http://data.eol.ucar.edu/codiac/dss/id=386.006.

The 30 minute dataset contains the following quantities. H, LE and u* were computed using tilt-corrected eddy covariances.

Table of 30 minute variables

Variable Name	Description
H.3m.{far,near,flr}	Sensible heat at 3 meters at far, near and crater floor towers
LE.3m.{far,near,flr}	Latent heat
u*.3m.{far,near,flr}	Friction velocity
T.2m.{far,flr} RH.2m.{far,flr} P.2m.{far,flr}	Mean temperature, relative humidity and pressure at 2 meters at far and crater floor
T.3m.near RH.3m.near P.3m.near	3 meters at the near tower
rhoDry.2m.{flr,far} rhoDry.3m.near	Density of dry air
Rsw.{in,out}.{far,near,flr}	Incoming, outgoing short wave radiation
Rlw.{in,out}.{far,near,flr}	Incoming, outgoing infrared radiation
Rsw.{global,dfs}.{near,flr}	Incoming global and diffuse short wave radiation at near site and crater floor.
Rsum.{far,near,flr}	Net radiation (sum of Rsw and Rlw) at each site,
Gsfc.{far,near,flr}	Surface heat flux

Quality Control, Corrections, Derivations

The QC procedure was the same as noted for the 5 minute tilt-corrected dataset. For details, see the documentation for that dataset

NetCDF File Names

Each NetCDF file contains one week data, from 00:00 UTC of the data contained in the file name. The file names are of the form "isfs_30min_YYYYMMDD.nc", where YYYYMMDD is the start year, month and day in UTC.

Time Representation

The **base_time** variable contains one value, the time of the start of the file, as a number of POSIX (non-leap) seconds since 1970 Jan 1, 00:00 UTC.

Values for each time-varying measurement will be found in the NetCDF files, as a variable with a **time** dimension. The time dimension will be 336 for a complete file, the number of 30 minute periods in a week.

The **time** variable contains the time to be associated with each sample, in units of seconds since **base_time**, or 00:00 UTC of the day. Each time value is the middle of the averaging period, and will have values of 900 (00:15:00 UTC), 2700 (00:45:00), etc.

Dimensions

The NetCDF dimensions in each file are:

Dimension name	size	description
time	336	number of 30 minute periods in a week
site	5	index for the five ISFS sites at METCRAXII: flr, rim, base, near, far

Short Name Attributes

Each measured variable will have a **short_name** NetCDF attribute. The field before the first period in the **short_name** is a generic variable name, such as **T** for temperature, **or Rsw** for short wave radiation.

NetCDF Variable Names

The actual NetCDF variable names will have underscores, '_', in place of periods and single quotes. Therefore a variable with a **short_name** attribute **H.3m.near** will have a NetCDF variable name of **H_3m_near**.

Units

Variables have a NetCDF attribute specifying the units of the measurement.

Missing Data

The missing data value is 10^{37}. A missing value indicates the sensor was not reporting or that one or more of the variables in the derivation is missing at the corresponding time.

‹ ISFS at METCRAXII up 30 Second ISFS Data for METCRAXII ›