PLOWS 2008-2009 Field Catalog

- Reports/Summaries (Status, Mission, and Operations)
  257 documents and image files (0.20 GB)
- Research Platform Products (Aircraft, Surface, Lidar, Upper Air)
  193 image files (9.70 MB)
- Operational Products (Satellite, Surface, Radar, Upper Air)
  305,928 image files (20.38 GB)
- Model Output Imagery (Analysis and Forecast Fields)
  116,579 image files (9.46 GB)

- TOTALS: 422,957 Files (30.04 GB)

http://catalog.eol.ucar.edu/plows_08-09/
Some of the significant changes/additions for the PLOWS 2009-2010 Field Catalog:

- Extend radar/satellite sectors to the northwest.
- WSR-88D Level III Echo Tops product.
- TDWR products
- Canadian and SREF ensemble products.
- ECMWF products.
- Model simulated reflectivity products.
- RUC hourly analyses.
- UIUC WRF products
- Aircraft products

http://catalog.eol.ucar.edu/plows_09-10/
## PLOWS Data Sets

### Data Set Name (Responsible Group/PIs shown in parentheses) | Date Posted | Info
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**Aircraft**
- Aircraft: NSF/NCAR C-130

**Hydrology**

### Hydrology: Precipitation
- NCEP/NCAR U.S. Gauge Daily Precipitation Data (NCAR|EOL)
- NCEP/NCAR U.S. Gauge Daily Hourly Precipitation Data (NCAR|EOL)
- NCEP/NCAR U.S. Gridded Gauge Daily Hourly Precipitation (4 km) (NCAR|EOL)
- NCEP/NCAR U.S. Gridded Multi-Sensor Precipitation (4 km) (NCAR|EOL)
- NCEP/NCAR U.S. Gridded Radar Estimated Precipitation with no bias removed (NCAR|EOL)
- NCEP/NCAR U.S. Precipitation Auxiliary Station Data (NCAR|EOL)
- NOAA NCEP Stage III Hourly Precipitation Imagery (NOAA|NCEP)
- NOAA NCEP Stage III Hourly Precipitation Imagery (NOAA|NCEP)

### Hydrology: Precipitation: Snow
- NOAA NCEP Stage III Snow Depth Imagery (NOAA|NCEP)
- NOAA NCEP Stage III Snow Water Equivalent Imagery (NOAA|NCEP)
- NOAA NCEP Snow Data Assimilation System (NOSASS) Data (NOAA|NCEP)
- NOAA NCEP Western Great Lakes Snow Depth Imagery (NOAA|NCEP)
- NOAA NCEP Western Great Lakes Snow Water Equivalent Imagery (NOAA|NCEP)

**Land Based**

**Land Based: Lightning**
- Mobile Integrated Precipitation System (MIPS) Electric Field/HiData [University of Alabama-Huntsville]

**Land Based: Mesonet**
- Automated Surface Observing Systems (ASOS): 1-minute Data (NCAR|EOL)
- GTS Surface Hourly Observations Global (0fpa) (NCAR|EOL)
- GTS Surface Synoptic Observations Global (0fpa) (NCAR|EOL)
- Iowa Automated Weather Observing System (IAAWS): 1-minute Data (Iowa State University)
- Iowa Mesonet Surface Mspc Imagery (Iowa State University)
- LDAT Surface METAD Data (METAD format) (NCAR|EOL)
- MADE Data (METAD format) (NOAA|EOL)
- MADE Data (METAD format) (NOAA|EOL)

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[http://data.eol.ucar.edu/master_list/?project=PLOWS](http://data.eol.ucar.edu/master_list/?project=PLOWS)
PLOWS Data Archive (Operational Data Sets)

Upper Air
- NWS high resolution (1 or 6 sec) radiosonde
- Multi-Agency Profiler
- GTS Radiosonde (man/sig)

Surface
- ASOS 1-minute
- Iowa AWOS 1-minute
- MADIS Mesonet
- GTS METAR and SYNOP

Precipitation/Snow
- NCEP/EMC Stage IV Precipitation Data
- NWS Cooperative Observer Daily Data
- NOHRSC Snow Data Assimilation System Data (link)

Satellite
- GOES-12 1km visible PLOWS sector (netCDF)
- GOES-12 4km all channels PLOWS sector (netCDF)

Radar
- WSR-88D Level II (link)
- WSR-88D Level III (link)

Model
- NOMADS (link)
PLOWS Data Archive (MADIS)

IADOT (10 min)
INDOT (10 min)
KSDOT (15 min)
KYDOT (5 min)
MNDOT (10 min)
NDDOT (hourly)
NEDOT (20 min)
WIDOT (hourly)
UPR
IEM (20 min)
MOCAWN (5 min)
MQT Meso (30 min)
Non-Federal AWOS (5 min)
GPSMET/DDMET (15 min)
HADS (hourly)
NOS (6 min)
RAWS (15 min)
APRSWXNET (15 min)
AWX (15 min)
GLOBE (daily)
WXforYou (15 min)

http://data.eol.ucar.edu/master_list/?project=PLOWS
NCEP/EMC Stage IV Precipitation

Gage Hourly and Daily Precipitation
4km gridded gage only hourly precipitation (grib)
4km gridded multi-sensor (gage and bias-corrected radar) hourly precipitation (grib)

NWS Cooperative Observer Daily Data

Daily Max/Min temperature, precipitation and snowfall.

NOAA/NOHRSC Snow Data Assimilation System (SNODAS)

Integrates snow data from satellite, airborne platforms and ground stations.

1km gridded data of snow covered area, snow depth and snow water equivalent.

http://data.eol.ucar.edu/master_list/?project=PLOWS
PLOWS Data Archive (GOES Satellite)

2008-2009 1km GOES-12 Visible Sector

2008-2009 4km GOES-12 All Channel Sector

http://data.eol.ucar.edu/master_list/?project=PLOWS
NOAA National Operational Model Archive & Distribution System

http://nomads.ncdc.noaa.gov/

Archives include:

NAM - 12 km resolution; 4/day; 0-60hr forecast; CONUS
GFS – 1 degree resolution; 4/day; 0-180hr forecast; Global
GFS – 0.5 degree resolution; 4/day; 0-180hr forecast; Global
RUC – 20km resolution; hourly; 0-3, 6, 9, 12 hr forecast; CONUS
RUC – 13km resolution; hourly; 0-3, 6, 9, 12 hr forecast; CONUS
A **composite dataset** is a collection (over some time period and region) of similar data (e.g. surface meteorological, soundings, precipitation) from a variety of operational and research sources, put into a common format, and passed through a uniform quality control.

Why does NCAR/EOL develop composites?
- Provides data in a uniform format with QC.
- Allows determination of network/site problems.
- Useful for model applications.
- Prevents duplication of effort.

http://data.eol.ucar.edu/master_list/?project=PLOWS
Upper Air (Sounding):

Native (highest) Resolution (979 soundings)

- NWS -- 1 second resolution (7 stations; 829 soundings; GPS winds)
- NWS -- 6 second resolution (1 station; 109 soundings; Radiotheodolite winds)
- NCAR/EOL MISS -- 1 second resolution (2 locations; 14 soundings; GPS winds)
- University of Missouri -- 10 second resolution (3 locations; 27 soundings; GPS winds)

5-mb Resolution
Other composite data sets that NCAR/EOL has developed in the past:

- Surface Meteorological composite (1 min, 5 min, 20 min, hourly)

- Precipitation composite (15 min, hourly, daily)

Any interest in PLOWS 2009-2010 composite data sets?

http://data.eol.ucar.edu/master_list/?project=PLOWS
Hourly Surface Met Composite
T-REX Hourly Surface Composite Development

Gross Limit Checks

Horizontal QC

Examine Statistics

Visual

T-REX Hourly Surface Composite
Components of a possible PLOWS Surface Meteorological Composite Data Set

MADIS Mesonets
METAR (ASOS/AWOS/etc)

MISS Surface Met
MIPS Surface Met

Illinois Climate Network
Illinois Department of Transportation
High Plains Climate Network
Soil Climate Analysis Network
State Air Quality Networks
WI AWON
GLERL Network
PAAWS (Indiana)
St. Louis University Mesonet

http://data.eol.ucar.edu/master_list/?project=PLOWS
Summary and Data Issues

Finalize PLOWS 2008-2009 Archive

High Resolution and 5mb Sounding Composite data sets completed Sept 2009.

Finalize products and other requirements for PLOWS 2009-2010 Field Catalog

Real-time products from the aircraft/ground systems in field catalog?

Finalize additional data archive requirements for PLOWS 2009-2010

Surface meteorological or precipitation composites for PLOWS 2009-2010?