2013 NOAA MADIS Plans
MADIS – The Meteorological Assimilation Data Ingest System

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Providing Value-Added Observations to the Meteorological Community

NOAA Mission

NOAA's mission increasingly demands advanced data management processes, including data integration, to achieve interoperable, accessible, and readily usable observational data.

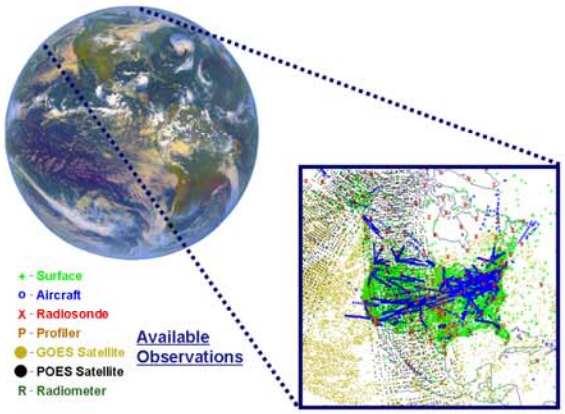
MADIS Goal

A more usable, complete, accurate, timely, and higher density observational infrastructure for use in local weather warnings and products, numerical weather prediction, and use by the greater meteorological community.

MADIS Provides

- Access to real-time and archived data sets
- Uniform data formats, observation units, and time stamps
- Observational Quality Control (QC)
- Network-enabled distribution with server-site sub-setting
- Authentication for proprietary data
- User documentation and help desk support

MADIS Data Sets



MADIS observations covering North America

MADIS Data Scope

- 66,127 stations from over 160 surface networks producing nearly 13 million observations per day
- 154 Profiler sites (>200,000 observations per day)
- >450,000 aircraft observations per day
- Plus global radiosonde and satellite observations

The MADIS Team

NWS/OST&NCEP

Transition/Operations

Tim Mcclung, Steven Pritchett, Curtis Marshall, Ben Kyger, Daniel Starosta, Rebecca Cosgrove, and Wen Meng

NESDIS/NCDC

Archive

John Bates, Drew Saunders, and Philip Jones

OAR/ESRL/GSD

Transition/R&D/Conduit to Operations

Greg Pratt, Leon Benjamin, Thomas Kent, Gopa Padmanabhan, and Leigh Cheatwood-Harris

Providers

Observations and Metadata

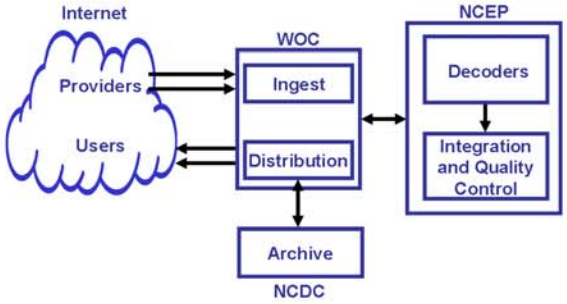
http://madis.noaa.gov/mesonet_providers.html

National Mesonet (NM)
Mobile Platform Environmental Data (MoPED)
Clarus

MADIS Google Displays

Surface Temperatures | *Metadata SensorML*

MADIS Final Operating Capability



ESRL/GSD MADIS software is being ported to a distributed environment hosted at NOAA's WOC, NCEP, and NCDC with GSD supporting a research-to-operations testbed hosted at GSD.

MADIS Users Include…

- NWS Forecast Offices and National Centers
- OAR, NESDIS, NOS
- NCAR, NASA, DOE, FAA, DOT
- Hundreds of private companies
- International meteorological centers
- >200 universities
- Public

MADIS Future Plans

- Reach Full Operating Capability (FOC) for real-time processing within the NWS
- Work with NESDIS to transition the MADIS archive capabilities into operations at NCDC
- Work with Federal Highway Administration *Clarus* team to fully transition *Clarus* capabilities into MADIS
- FAA NextGen/NWS AWIPS data discovery/dissemination capable
- Conduit for efficient transfer of research and development to operations
  - Additional data sets – (FAA 1 minute ASOS, *Clarus, …)*
  - Advanced data query and web services
  - Improved data/metadata standards
  - Improved QC and station monitoring
  - Open source development environment
  - Extend QC algorithms to meet operational and research needs