

MADIS Quality Control Prototype: a system for improving real time weather observations

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STATISTICS FOR WEEK 07003 TO 07007, 8-1-AM-2007 TO 7-31-AM-2007
DATA ACQUISITION: 0000 0000 0000 0000

ORIGID	SLP	TEMP	WIND	WIND DIR	WIND GUST	WIND DIR	WIND GUST	PERCENT	BEAUF	WIND
ORIGID	TEMPA	1.000	2.0	-2.0	0.0	0.0	0.0	0.0	0.0	0.0
ORIGID	DD	1.000	0	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
ORIGID	FF	1.000	0	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
ORIGID	DEWPT	1.000	0	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
ORIGID	ALTY	0	0	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
ORIGID	SLP	0	0	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
ORIGID	TEMP	1.000	0	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
ORIGID	DD	1.000	0	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
ORIGID	FF	1.000	0	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
ORIGID	DEWPT	1.000	0	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
ORIGID	ALTY	0	0	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000

MADIS quality text files contain quality statistics for station observations. For this prototype 9 weeks of reports for 5 networks were ingested into a spatial database at NGDC and made accessible to users through several web based views.



Station	Param	Unit	Value	Quality	Time	Network
SWNF1	TEMP	°C	15.0	100	2007-01-01 00:00	SWNF
SWNF1	WIND	m/s	2.0	100	2007-01-01 00:00	SWNF
SWNF1	WIND DIR	°	0	100	2007-01-01 00:00	SWNF
SWNF1	WIND GUST	m/s	0	100	2007-01-01 00:00	SWNF
SWNF1	DEWPT	°C	10.0	100	2007-01-01 00:00	SWNF
SWNF1	SLP	hPa	1013.25	100	2007-01-01 00:00	SWNF
SWNF1	TEMP	°C	15.0	100	2007-01-01 01:00	SWNF
SWNF1	WIND	m/s	2.0	100	2007-01-01 01:00	SWNF
SWNF1	WIND DIR	°	0	100	2007-01-01 01:00	SWNF
SWNF1	WIND GUST	m/s	0	100	2007-01-01 01:00	SWNF
SWNF1	DEWPT	°C	10.0	100	2007-01-01 01:00	SWNF
SWNF1	SLP	hPa	1013.25	100	2007-01-01 01:00	SWNF

DATA ACCESS and VISUALIZATION:
The Meteorological Assimilation Data Ingest System (MADIS) retrieves and integrates weather observations from ~ 150 mesonet networks, and generates statistics that measure the quality of the observations. For this prototype, nine weeks of quality statistics were ingested into an NGDC database, spatially enabled, and made available to users through a variety of web interfaces. These interfaces include an ArcIMS interactive map viewer, Google Maps and Google Earth viewers, and several report views of the quality statistics. These views were implemented to increase the accessibility and usability of MADIS quality control statistics for the purpose of improving the accuracy and reliability of weather observations.



ISO REPORT GENERATION:
The Interface Database (IDB) is an NGDC tool for generating dynamic web pages. Below the IDB is generating a series of search and display web pages for the purpose of creating user defined ISO data quality reports. A report is produced by selecting a combination of dates, stations, and parameters for a given network. This selection produces a human readable HTML view of the result set. A machine readable ISO view of the results set (beef) can be generated by clicking the ISO link. The ISO generator combines the beef with quasi-static metadata (bun) to produce a standard ISO report.

Select network, date, station and parameter

Query results are displayed in an html table

ISO DQ snippet (beef) is created from the query results set

Standard ISO Data Quality Report: DQ_Scope

Standard ISO Data Quality Report: DQ_QuantitativeResult

