METdata
An Integrated Software For Operational Meteorological Data

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The meteorological assistance at the Italian Antarctic Station “Mario Zucchelli” is supported by a number of dedicated instruments installed nearby the airstrips. In addition, data, acquired for different purposes – e.g. research projects are used by the Operation Manager for monitoring meteorological conditions.
Data coming from different sources and relayed through different communication systems need to be assembled and managed. Outputs from several communication protocols and standards are transmitted through:

- wired lines
- radio-modem
- LAN
- satellite links.
In order to give the Meteo Officer a simple, easy-to-use and complete access to all observations, the renewal of the meteorological monitoring system has been carried on during the past years across the runways of the Italian Antarctic Station, and a suitable software, called the “METdata” system, was implemented and installed at Mario Zucchelli Station’s Operation Room.

It can **acquire, display and store** meteorological parameters **received from local weather stations** (radio-modem and wired serial lines) **and from remote weather stations** (Iridium satellite terminals). Additional data are acquired by dedicated servers and managed by METdata by means of the Station’s LAN.

The software was developed in LabVIEW 7.1.0 environment.
Functionalities of the METdata System: Visualization...

- Visualization of cloud base height and statistical meteorological parameters from cloud layer depth
- Visualization of Synop reports from the all-strap ultrasonic anemometer
- Visualization of Sky status

Image of a window with settings options and a meter.
Functionalities of the METdata System: Remote Control...

Redundant system for the remote station data call.
In order to avoid possible loss of data due to poor satellite link, it’s possible to force a direct serial data call through the Operation Manager’s Iridium Terminal, or a net call by means of other Iridium Terminal(s), through the Station’s LAN.
Acquired Meteorological Data are stored with a 1 min frequency and it’s possible to perform 1 hour file production.

All the data are visualized on our web site and they are available upon request.
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More information and data download:
http://www.climantartide.it

Thank You