Dear MAGDAS Hosts:

In this issue of the newsletter, I briefly make an introduction to the "temperature drift problem" of the MAGDAS instrument that was manufactured by Meisei Electric.

Ideally, a magnetometer should only be sensitive to changes in the ambient magnetic field. It should be insensitive to all else.

Alas, our MAGDAS is not an ideal machine.
Some units are fairly impervious to changes of ambient temperature. But some units are sensitive to changes of ambient temperature. Which means the magnetic data changes as the air warms up in the day time and air cools down in the night time. If the day and night time temperature difference is ten degrees or more, some units react considerably to this diurnal change.

Here at SERC, we (Professor Yumoto and his staff and students) have developed basically two countermeasures for this problem.

One, mitigate the changes in the ambient temperature with "drift countermeasures". Please see attached pdf. These countermeasures have been implemented around the world for MAGDAS units that have the temperature drift problem. The idea is to heavily insulate the sensor --- with styrofoam and water bottles. In this way, the temperature of the sensor only changes one or two degrees between day and night.

Two, take out the effect of temperature changes. The MAGDAS sensor contains a thermometer. Using this temperature data, we can subtract the effect of temperature drift from the magnetic data.

All of the above can be explained in greater detail. However, the intent here was just to make an introduction by showing the attached photographs ... science is not always pretty.

Respectfully,
George Maeda
Editor-In-Chief.

-------------------------------------end of MAGDAS newsletter.
MAGDAS SENSOR HOUSE
IN
DARWIN
AUSTRALIA

PREPARED BY GM FOR
MAGDAS NEWSLETTER NO. 10
HERMANUS
SOUTH AFRICA

350 liters of water.

PREPARED BY GM FOR MAGDAS NEWSLETTER NO. 10
MAGDAS AT TGG (NORTHERN PHILIPPINES)

MANY LAYERS OF WATER BOTTLES!!

DATA LOGGER

PREPARED BY GM FOR MAGDAS NEWSLETTER NO. 10