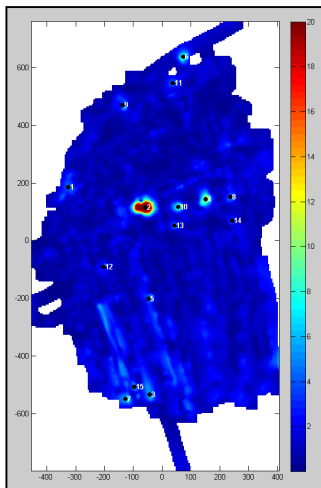
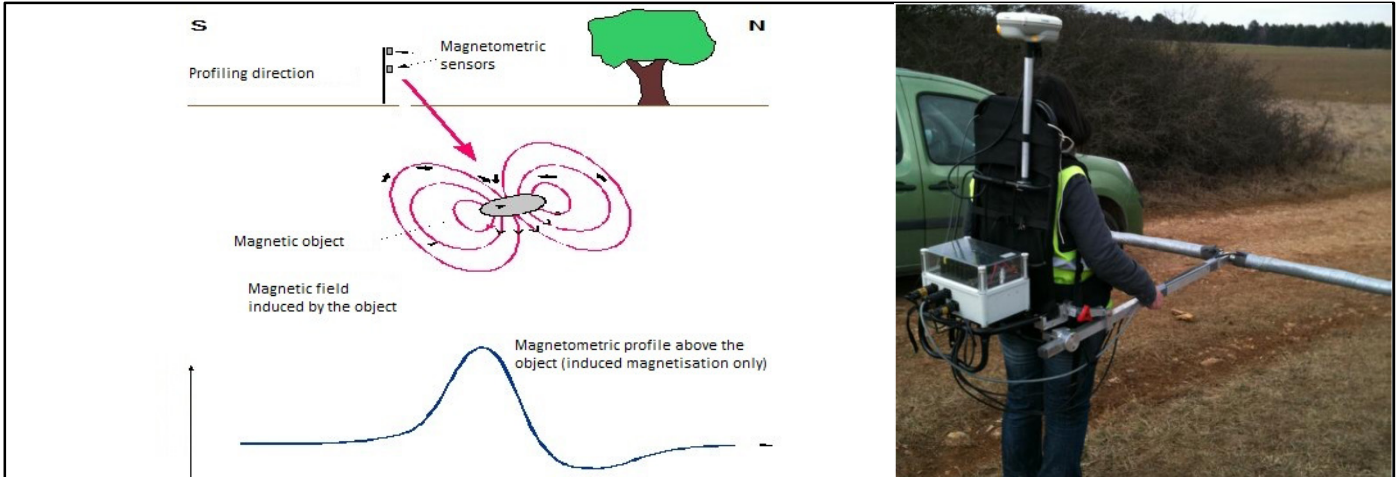




SOLDATA
GEOPHYSIC

SURFACE MAGNETOMETRY



Surface magnetometry, whether on land or in water, is implemented to detect and characterise buried ferromagnetic structures.

The method is 'passive' because it measures changes in the ambient magnetic field, without trying to change or amplify it.

Applications

- Geological prospecting: ferromagnetic minerals
- Civil engineering: characterisation of steel or reinforced concrete structures
- Dredging: detection of wrecks etc.
- Detection of pyrotechnics
- Archaeology
- Contaminated land

Steel rebar, foundations, some cables and some geological formations are ferromagnetic and induce relatively high and therefore measurable variations of the geomagnetic field. The surrounding soil is generally not magnetic.

Magnetometer sensors are used to measure changes in the total magnetic field, in the form of maps or profiles.

It is possible to collect information about sources of disturbance of the magnetic field through specific methods of data processing. The model of a dipole is considered to be characterised by its position and intensity of magnetisation. The calculation algorithm uses inversion to find the position and intensity of the magnetisation that best corresponds to the data. The latitude-longitude position is thus determined, as well as a depth of the dipole at the origin of the magnetic anomaly.

After the survey, our clients can carry out excavations to clarify the origin of anomalies, or to extract these obstructions for future development of the study area.



Legend

1. Principle of magnetometry and implementation of ground survey
2. Example of mapping
3. Implementation of marine survey

Key figures

- 1 to 5 sensors in parallel
- 50 cm between sensors
- Many hectares surveyed per day

SDG Equipment

- Bartington probes
- Cart or harness
- Encoder or GPS
- Acquisition case
- PC

- Boat with sonar
- Possible coupling with sub-bottom profiler