Collection, quality control and delivery of ground-based magnetic data during ESA’s Swarm mission

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Ground-based magnetic data are used in a variety of ways when analysing satellite data. Selecting satellite data often involves the use of magnetic disturbance indices derived from ground-based stations and inverting satellite magnetic data for models of fields from various sources often requires ground-based data. Ground-based data can also be valuable independent data for validation purposes.

We summarise data collection and quality control procedures in place at the British Geological Survey for global ground-based observatory and repeat station data. Whilst ongoing participation in the ICSU World Data System and INTERMAGNET facilitates this work, additional procedures have been specially developed for the Swarm mission. We describe these in detail.