THE MODERN GLOBAL NETWORK OF MAGNETIC OBSERVATORIES AND INTERMAGNET

Jeffrey J. Love

US Geological Survey, Geomagnetism Program, Denver Colorado,
http://geomag.usgs.gov

The global network of magnetic observatories represents a unique collective asset for the scientific community. Since observatory data record a wide range of physical phenomena, they are also used for a wide range of applications. Historically, magnetic observatories were established to support global magnetic-field mapping projects, but since the dawn of the space age and the International Geophysical Year, observatory data have become increasingly important for the analysis and monitoring of the ionosphere and magnetosphere. The diversification and expansion of the observatory-data user community has brought demands for data that meet new and more stringent standards. In cooperation with the many institutes that support magnetic observatories, Intermagnet has been helping to coordinate and facilitate observatory modernization and improve their operation. Since its inception in 1987, Intermagnet has grown to include the collaboration of 52 institutes from 41 countries that support over 100 observatories. Intermagnet's original concentration was on the production of fully-calibrated and carefully-processed 1-minute resolution data. While this remains a high priority, important new focus areas include prompt dissemination of data and 1-second-resolution data. In the future, the discipline of geomagnetism is likely to become more integrated, with the traditional internal and external-field divide merging into the continuum that the Earth's magnetic field actually is. Mapping, monitoring, and analysis of the geomagnetic field will be made across a wide range of spatial and temporal scales. With this change will come new opportunities for the community of magnetic observatories.

Observatories, data, history

Jeffrey J. Love, US Geological Survey, Geomagnetism Program, Denver, CO 80225, USA, tel: 1-303-273-8540, fax: 1-303-273-8600, e-mail: jlove@usgs.gov