Recent Activities Of The World Data Centre ForGeomagnetism (Edinburgh)

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British Geological Survey
WDC Geomagnetism (Edinburgh)

- Geomagnetic observatory annual, hourly, minute means
- Global & local magnetic model information
- Land, marine, aeromagnetic and repeat stations survey
- Solar & geomagnetic indices
-Analogue magnetograms
- Historical yearbooks, memoirs, logs etc.
- Ship-borne data
- Observatory metadata
WDC Geomagnetic Observatory
Data Holdings
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IPY – International Polar Year
IQSY – International Quiet Sun Year
IMS – International Magnetospheric Study
BAAS – British Association for the Advancement of Science
WDC Data Access

http://wdc.bgs.ac.uk/catalog/master.html
WDC Data Portal

Geomagnetism Data Portal

WDC Catalogue Search
Use the controls below to search for data. You can filter the results by: station name or IAGA code (hourly or 1-minute values), and geographical coordinates of station (by drawing a bounding box).

Datasets matching your selection criteria will be listed in the right-hand panel. You can view a plot result by clicking on the ‘plot’ icon that appears when you hover over a result. Data may be downloaded by checking the required datasets, choosing a data format from the drop-down menu, then clicking ‘download’.

Filter by station: Station name or IAGA code
Filter by year range: 1932 - 2015

Dataset Type: Hourly 1-Minute

Data formats offered
- IAGA2002
- WDC
- XML
- JSON
- CSV
WDC Data Portal – Web Service

- Client side (Data portal) – web application using AngularJS and jQuery
- Server side – RESTful web service

**EXAMPLES (not available yet)**

Retrieve list of all observatories
http://app.geomag.bgs.ac.uk/wdc/stations

Retrieve observatory metadata
http://app.geomag.bgs.ac.uk/wdc/stations/kak

Retrieve data set

Search catalogue
http://app.geomag.bgs.ac.uk/wdc/catalogue/search?minYear=2000&maxYear=2014&frequencyTypes=MINUTE
Science – examples

• Contribute to geomagnetic field modelling such as the International Geomagnetic Reference Field (IGRF) and World Magnetic Model (WMM)

• ESA Swarm Expert Support Laboratory – high-quality hourly means suitable for modelling

• Space weather - extreme event analysis to estimate likely maxima in geomagnetic activity levels
Data Quality Control

• Data inspected on receipt from data providers
• Obvious errors corrected (original data retained)
• Feedback to data providers

Data correction campaigns for science also carried out.
Historic data digitisation

www.bgs.ac.uk/data/Magnetograms
Historic data digitisation

GRW Carrington - Yearbook vs Magnetogram Data - D

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WDC on the move

Under construction..
Charles Lyell Centre
Heriot-Watt University
WDC on the move

Analogue records will be transported to and stored at BGS Head Office in Keyworth

System of access and retrieval at WDC Edinburgh to be established
Preparing for office relocation – moving WDC paper records

Before

- Custom archive-quality boxes
- Catalogued
- Bar-coded

After
Thank You

Please visit us at:
www.wdc.bgs.ac.uk