Recent Activities Of The World Data Centre For Geomagnetism (Edinburgh)

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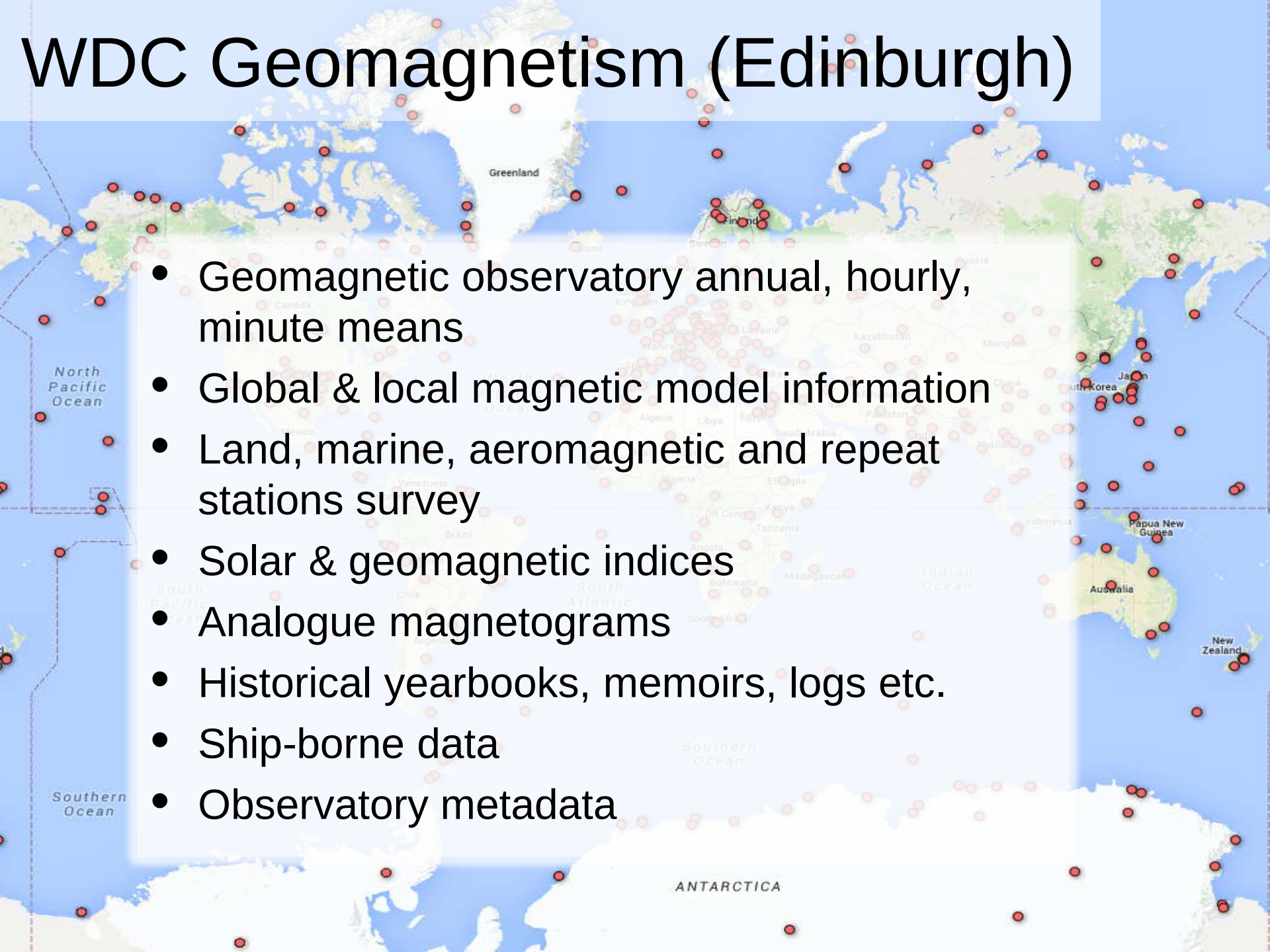
British Geological Survey

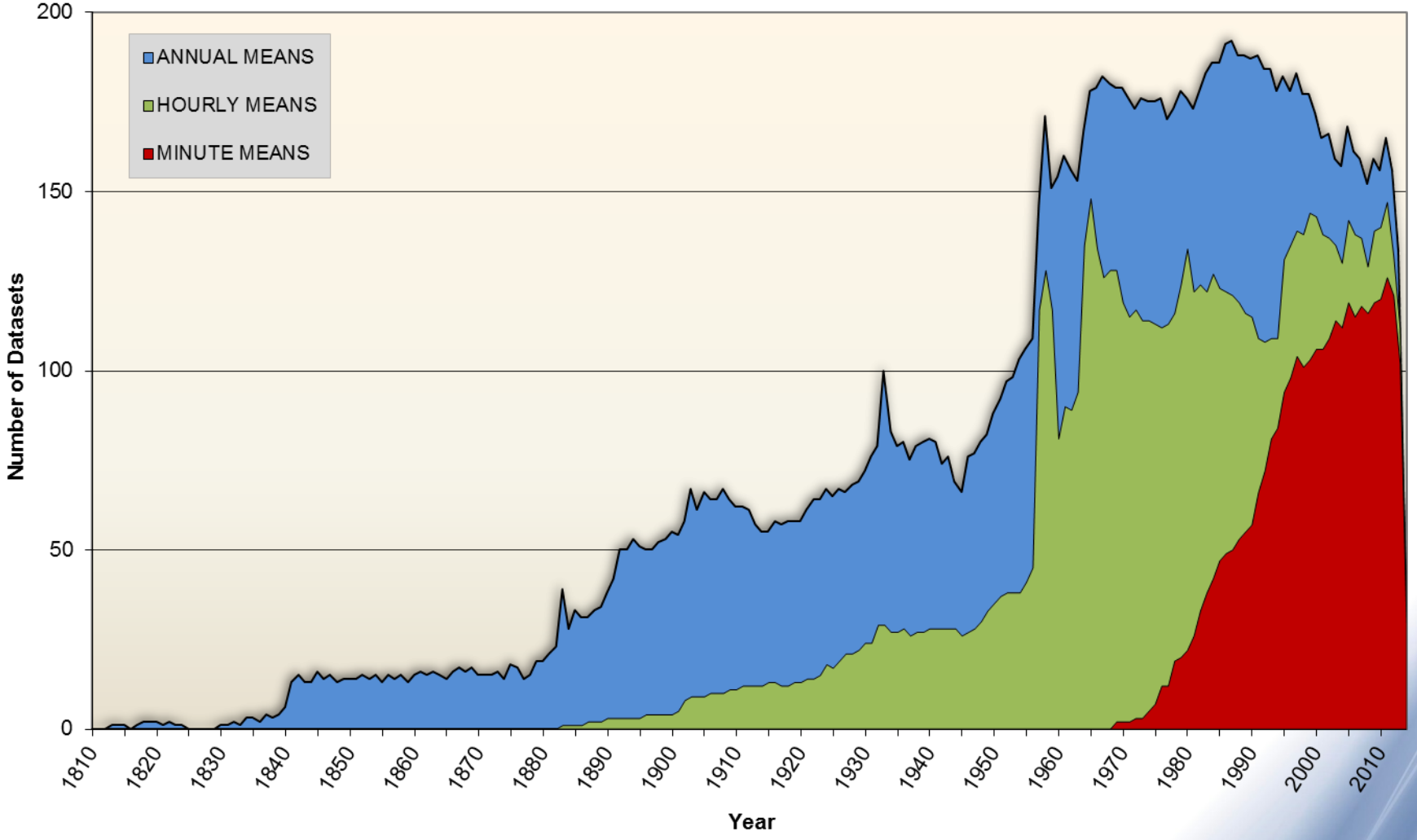
SCOSTEP-WDS Workshop on
'Global Data Activities for the Study of Solar-Terrestrial Variability'
28-30th Sep 2015 Tokyo, Japan

WDC Geomagnetism (Edinburgh)

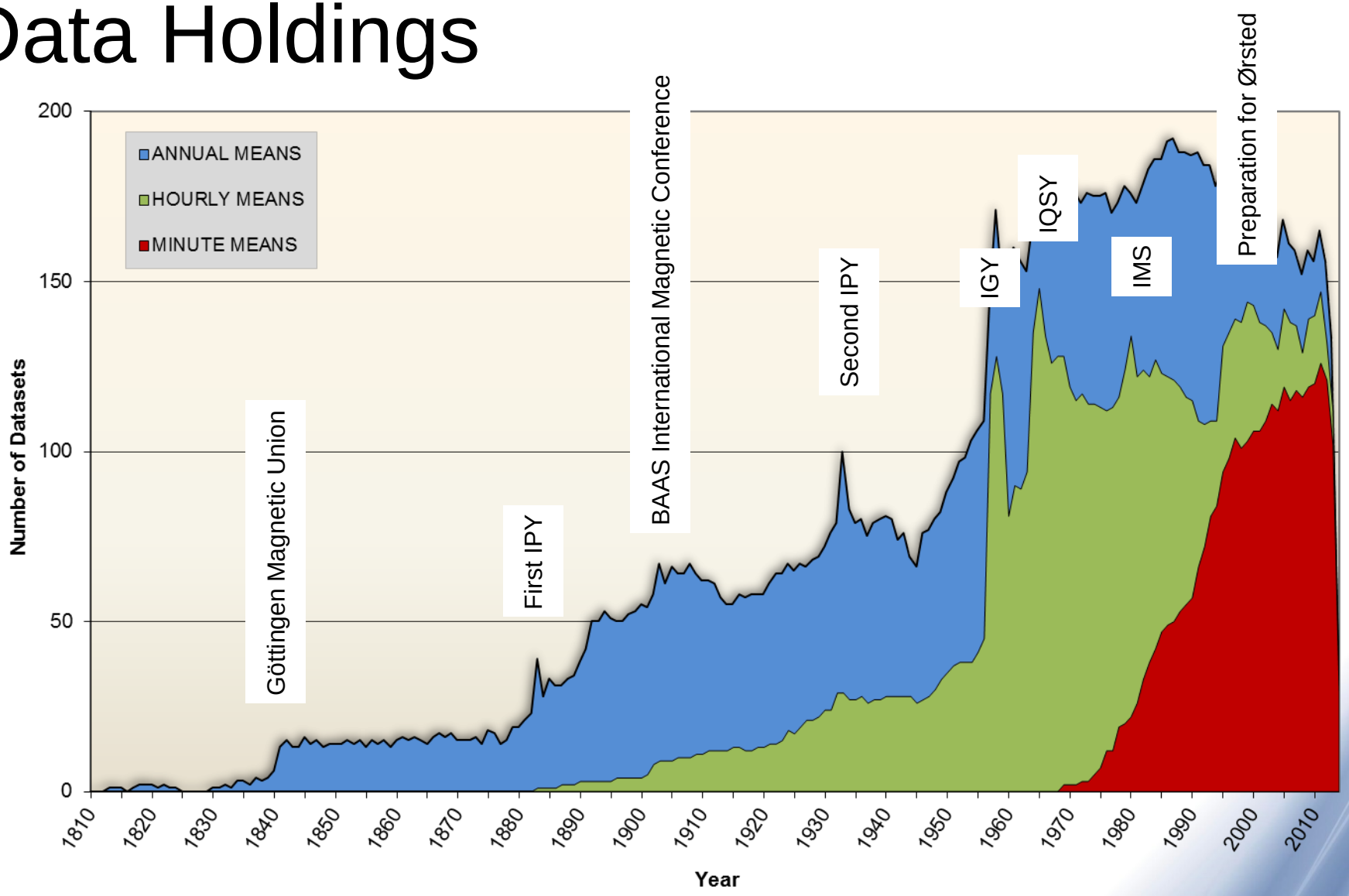


- Geomagnetic observatory annual, hourly, minute means
- Global & local magnetic model information
- Land, marine, aeromagnetic and repeat stations survey
- Solar & geomagnetic indices
- Analogue magnetograms
- Historical yearbooks, memoirs, logs etc.
- Ship-borne data
- Observatory metadata

WDC Geomagnetic Observatory Data Holdings

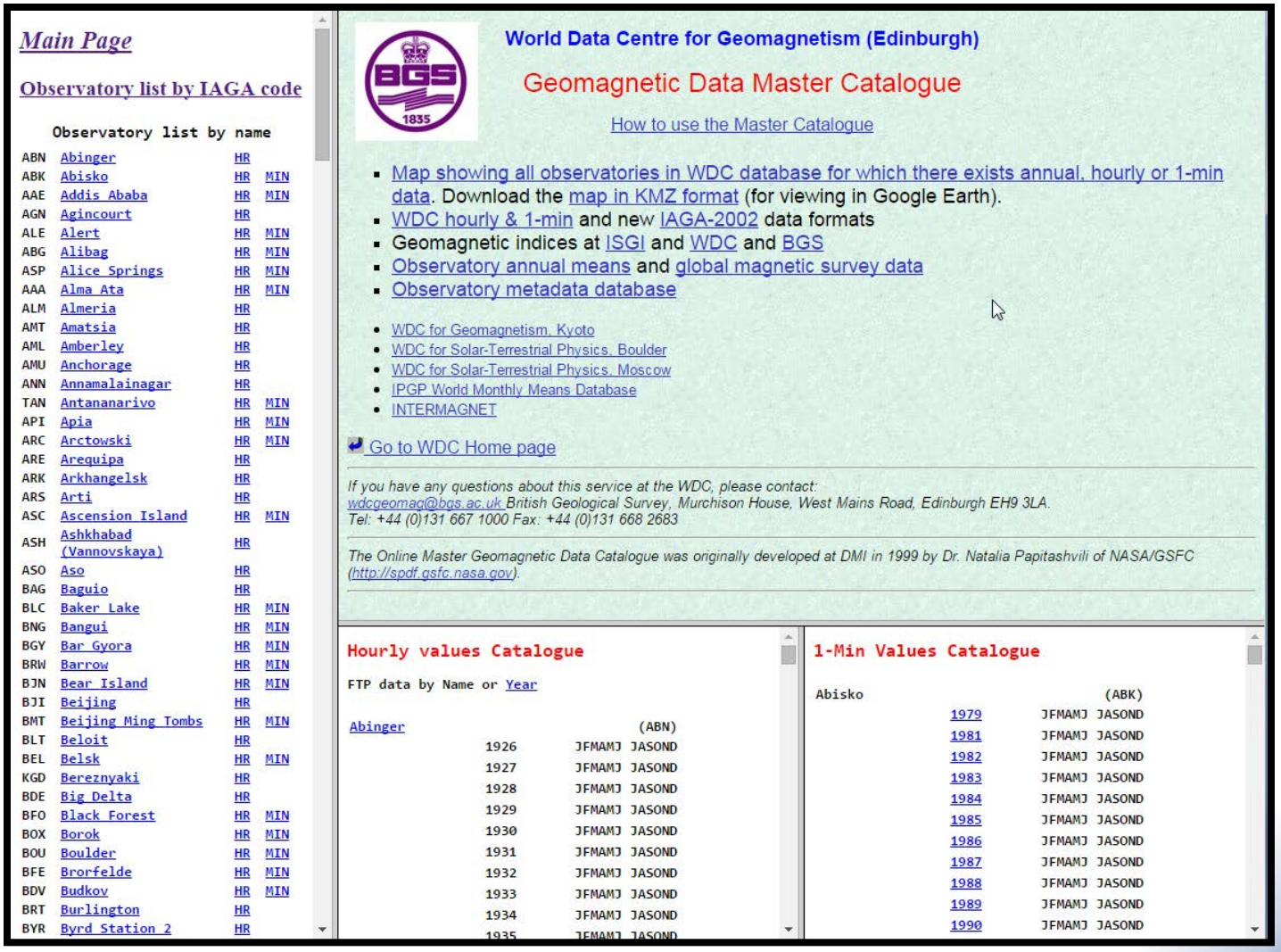


WDC Geomagnetic Observatory Data Holdings



IPY – International Polar Year
IQSY – International Quiet Sun Year
BAAS – British Association for the Advancement of Science
IGY – International Geophysical Year
IMS – International Magnetospheric Study

WDC Data Access



Main Page

Observatory list by IAGA code

Observatory list by name

ABN	Abinger	HR	
ABK	Abisko	HR	MIN
AAE	Addis Ababa	HR	MIN
AGN	Agincourt	HR	
ALE	Alert	HR	MIN
ABG	Alibag	HR	MIN
ASP	Alice Springs	HR	MIN
AAA	Alma Ata	HR	MIN
ALM	Almeria	HR	
AMT	Amatsia	HR	
AML	Amberley	HR	
AMU	Anchorage	HR	
ANN	Annamalainagar	HR	
TAN	Antananarivo	HR	MIN
API	Apia	HR	MIN
ARC	Arctowski	HR	MIN
ARE	Arequipa	HR	
ARK	Arkhangelsk	HR	
ARS	Arti	HR	
ASC	Ascension Island	HR	MIN
ASH	Ashkhabad (Vannovskaya)	HR	
ASO	Aso	HR	
BAG	Baguio	HR	
BLC	Baker Lake	HR	MIN
BNG	Bangui	HR	MIN
BGY	Bar Gyora	HR	MIN
BRW	Barrow	HR	MIN
BJN	Bear Island	HR	MIN
BJI	Beijing	HR	
BMT	Beijing Ming Tombs	HR	MIN
BLT	Beloit	HR	
BEL	Belsk	HR	MIN
KGD	Bereznyaki	HR	
BDE	Big Delta	HR	
BFO	Black Forest	HR	MIN
BOX	Borok	HR	MIN
BOU	Boulder	HR	MIN
BFE	Brorfelde	HR	MIN
BDV	Budkov	HR	MIN
BRT	Burlington	HR	
BYR	Byrd Station 2	HR	

World Data Centre for Geomagnetism (Edinburgh)

Geomagnetic Data Master Catalogue

How to use the Master Catalogue

- Map showing all observatories in WDC database for which there exists annual, hourly or 1-min data. Download the map in KMZ format (for viewing in Google Earth).
- WDC hourly & 1-min and new IAGA-2002 data formats
- Geomagnetic indices at ISGI and WDC and BGS
- Observatory annual means and global magnetic survey data
- Observatory metadata database

- WDC for Geomagnetism, Kyoto
- WDC for Solar-Terrestrial Physics, Boulder
- WDC for Solar-Terrestrial Physics, Moscow
- IPGP World Monthly Means Database
- INTERMAGNET

Go to WDC Home page

If you have any questions about this service at the WDC, please contact:
wdcgeomag@bgs.ac.uk British Geological Survey, Murchison House, West Mains Road, Edinburgh EH9 3LA.
Tel: +44 (0)131 667 1000 Fax: +44 (0)131 668 2683

The Online Master Geomagnetic Data Catalogue was originally developed at DMI in 1999 by Dr. Natalia Papitashvili of NASA/GSFC (http://spdf.gsfc.nasa.gov).

Hourly values Catalogue

FTP data by Name or Year

Abinger (ABN)

1926	JFMAMJ JASOND
1927	JFMAMJ JASOND
1928	JFMAMJ JASOND
1929	JFMAMJ JASOND
1930	JFMAMJ JASOND
1931	JFMAMJ JASOND
1932	JFMAMJ JASOND
1933	JFMAMJ JASOND
1934	JFMAMJ JASOND
1935	JFMAMJ JASOND

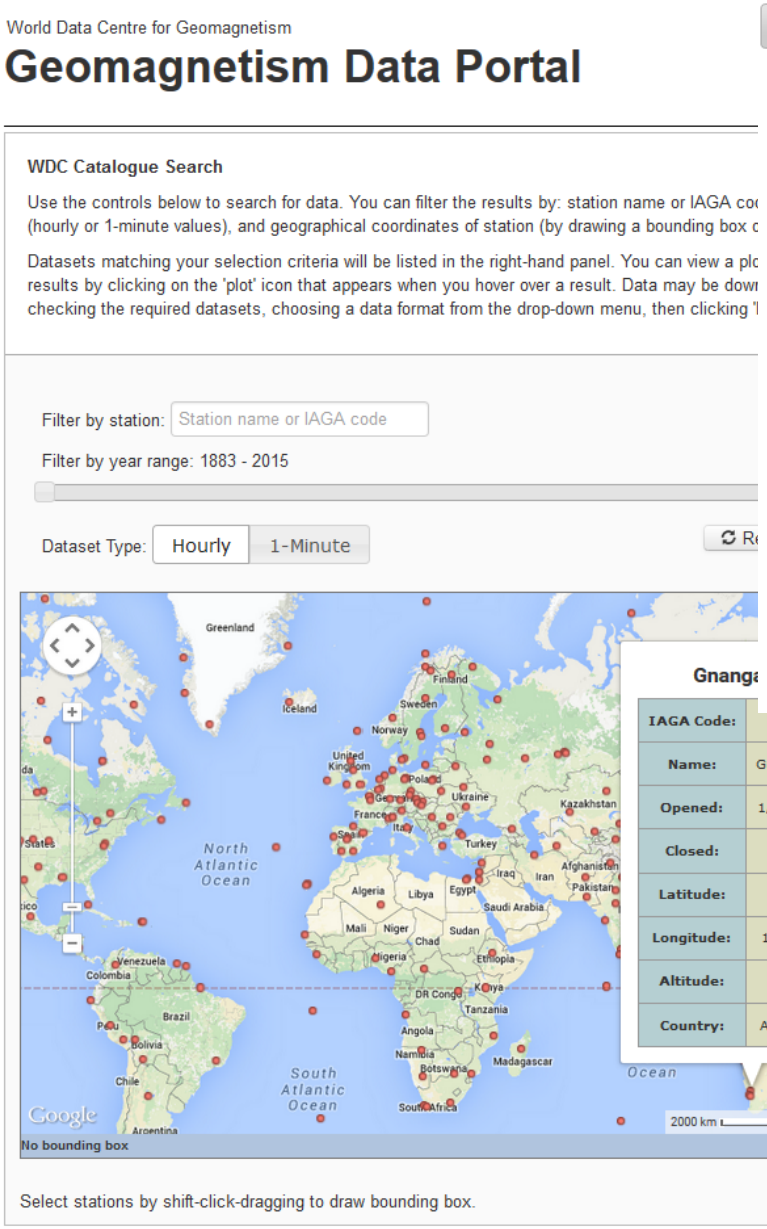
1-Min Values Catalogue

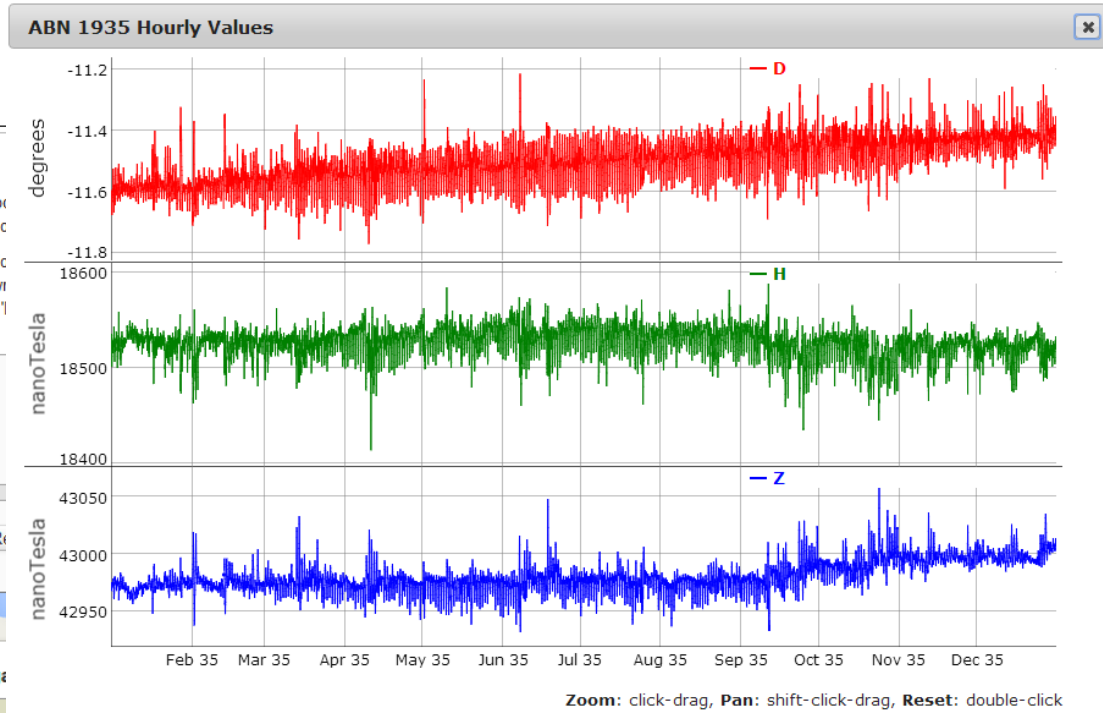
Abisko (ABK)

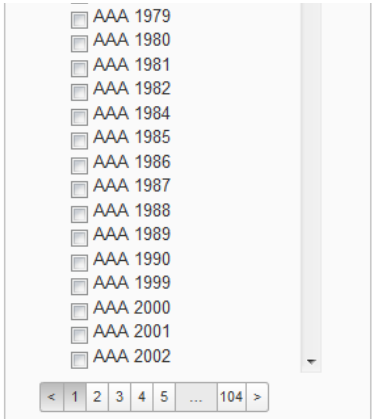
1979	JFMAMJ JASOND
1981	JFMAMJ JASOND
1982	JFMAMJ JASOND
1983	JFMAMJ JASOND
1984	JFMAMJ JASOND
1985	JFMAMJ JASOND
1986	JFMAMJ JASOND
1987	JFMAMJ JASOND
1988	JFMAMJ JASOND
1989	JFMAMJ JASOND
1990	JFMAMJ JASOND

http://wdc.bgs.ac.uk/catalog/master.html

WDC Data Portal







Data formats offered

- IAGA2002
- WDC
- XML
- JSON
- CSV

www.wdc.bgs.ac.uk/dataportal

WDC Data Portal – Web Service

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

EXAMPLES

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
http://app.geomag.bgs.ac.uk/wdc/datasets/hour/esk2013?media=iaga2002

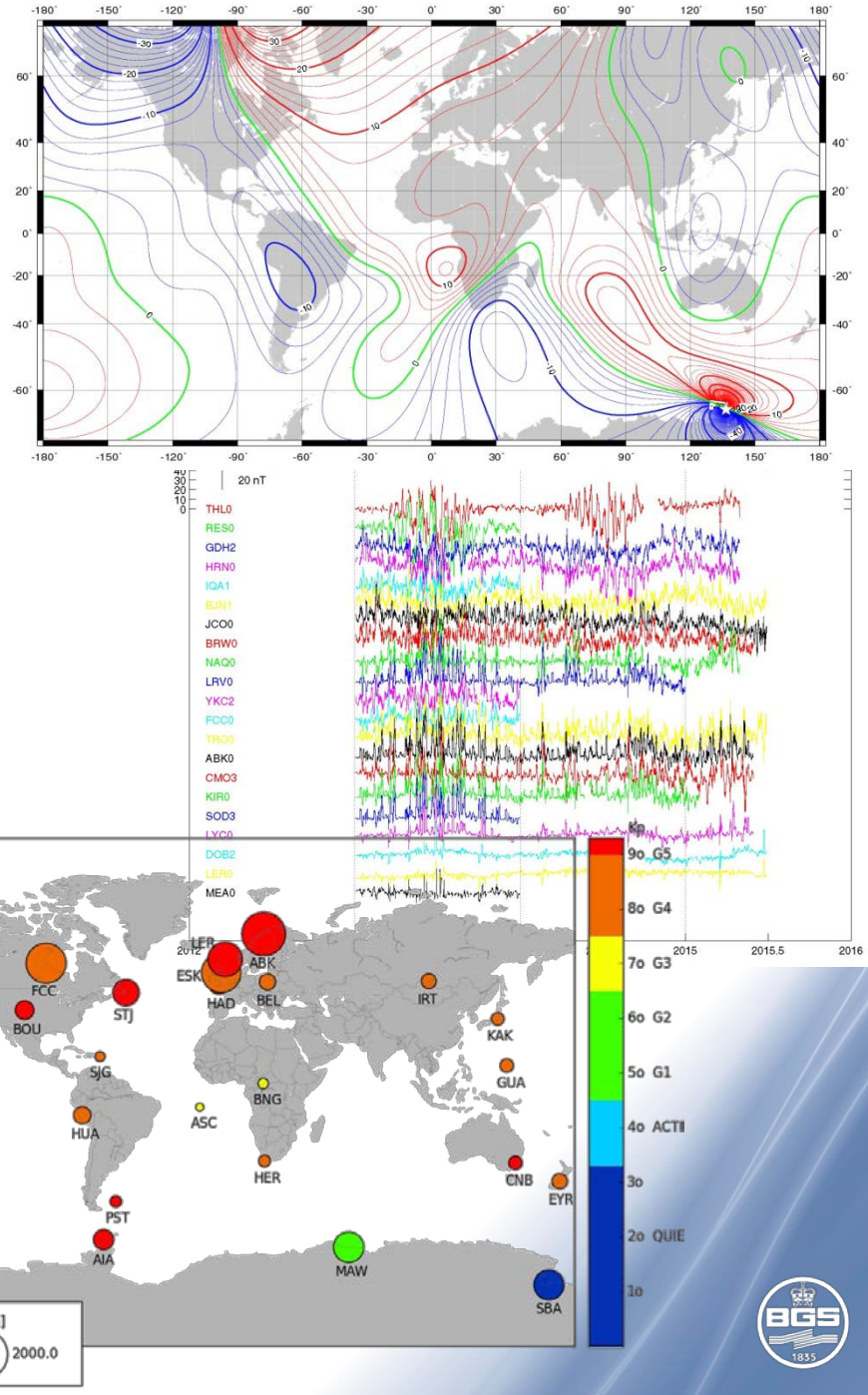
Search catalogue
http://app.geomag.bgs.ac.uk/wdc/catalogue/search?minYear=2000&maxYear=2014&frequencyTypes=MINUTE

Science – examples

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

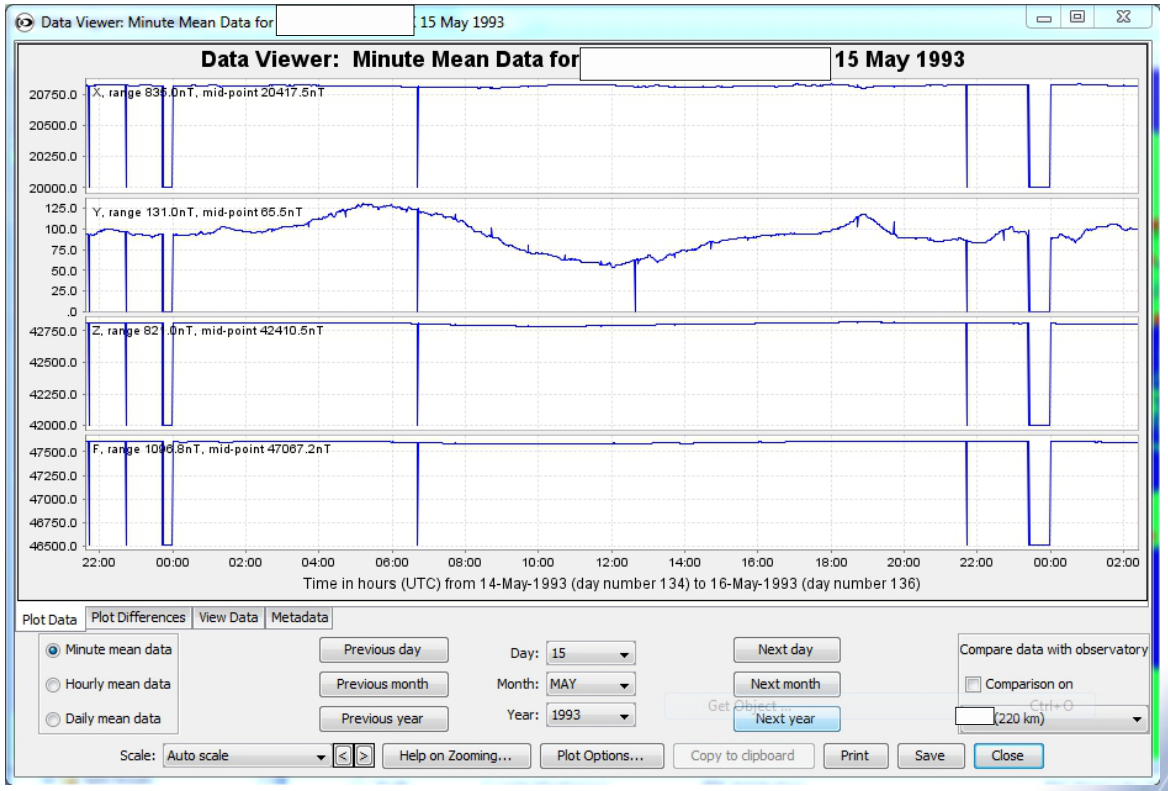
- ESA Swarm Expert Support Laboratory – high-quality hourly means suitable for modelling

- Space weather - extreme event analysis to estimate likely maxima in geomagnetic activity levels



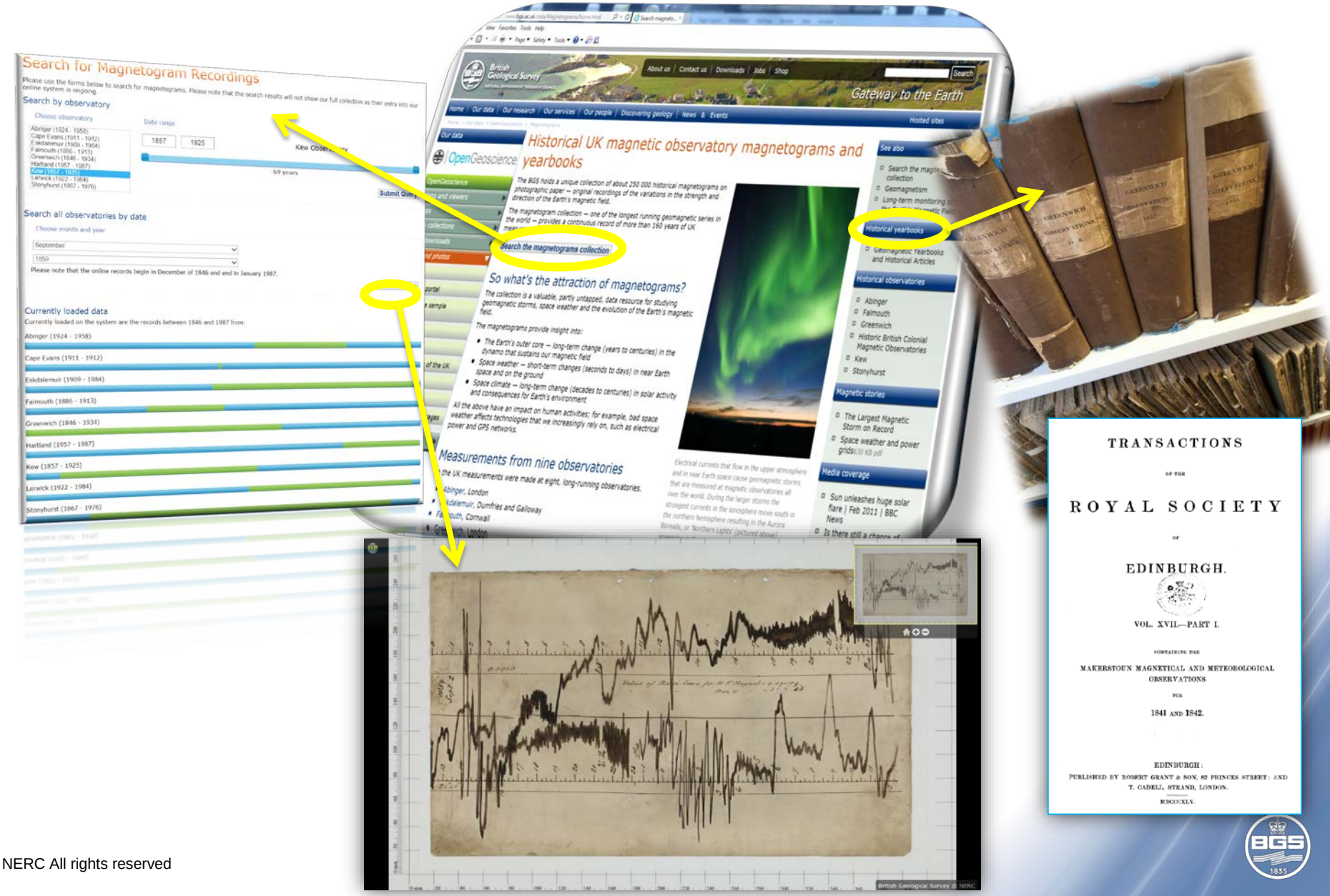
Data Quality Control

- 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



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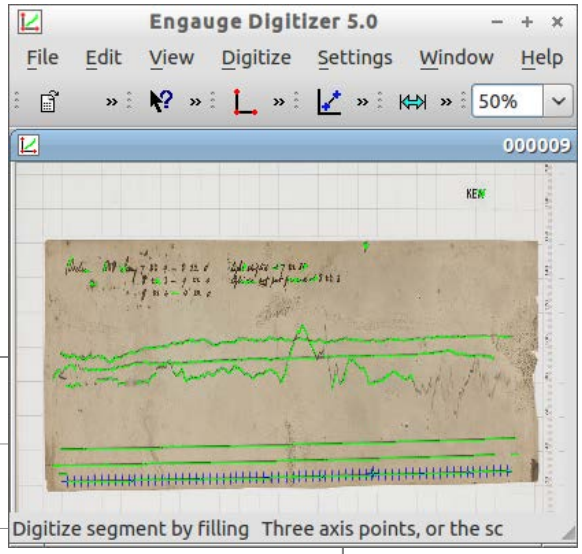
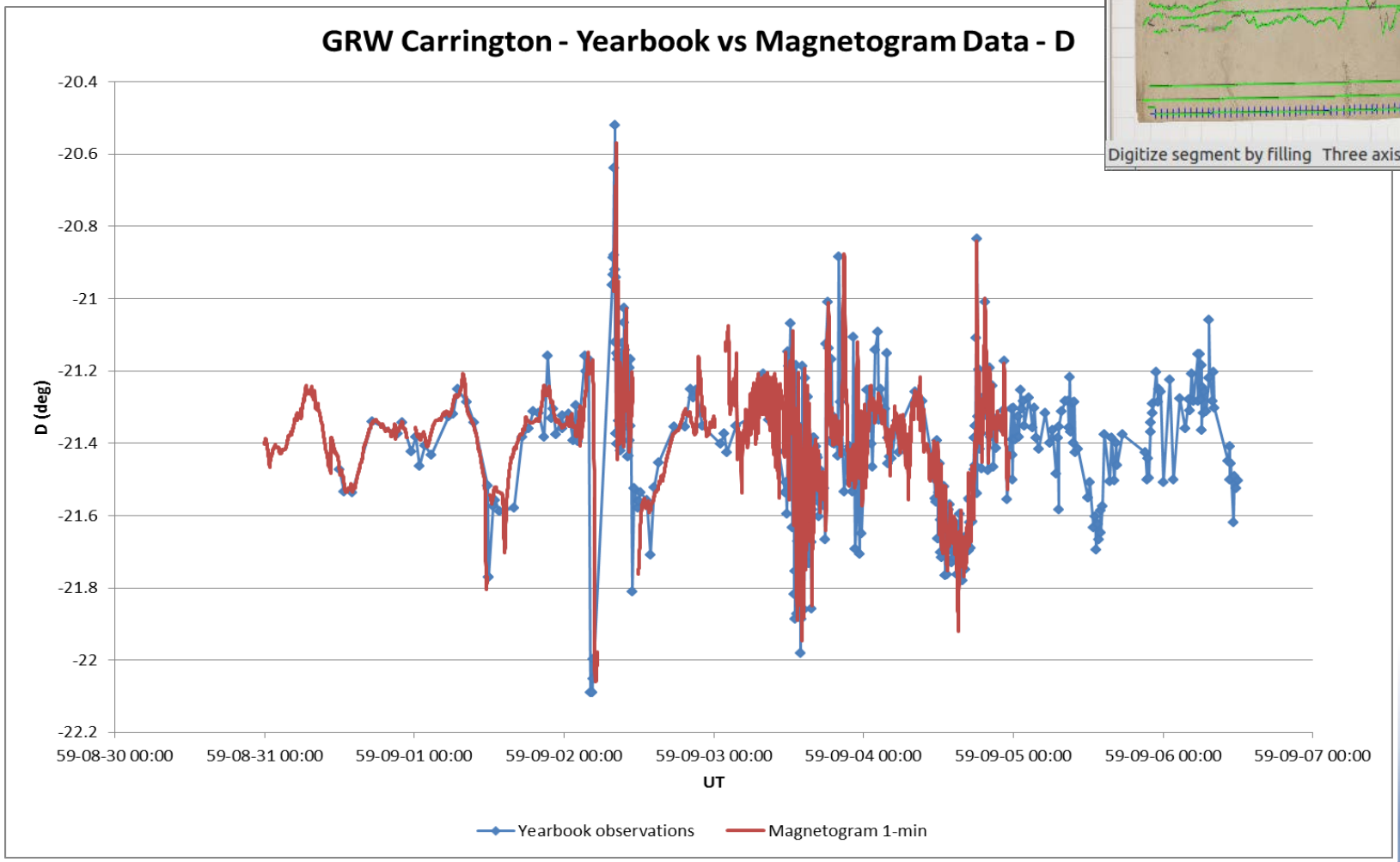
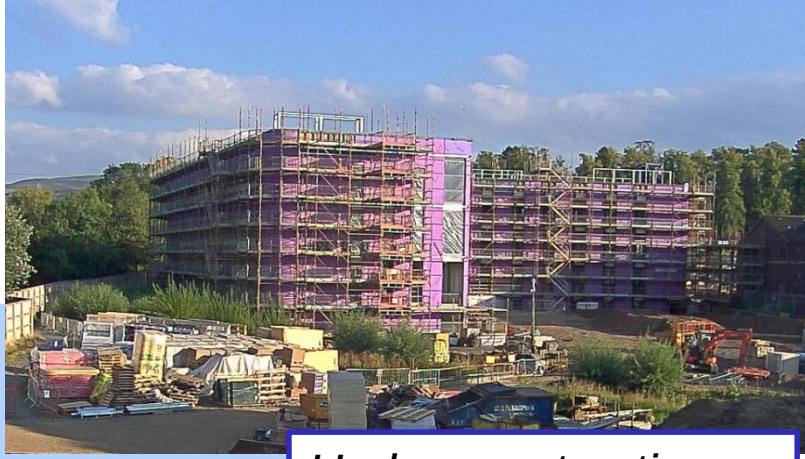




WDC on the move



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

After

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

Thank You

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

History of WDC for Geomagnetism Edinburgh