New BGS IMOs
Increasing the global coverage of high standard magnetic observatories

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Global coverage of observatories
Observatory instruments

• GDAS system: DTU Fluxgate Magnetometer, GSM90 Proton Precession Magnetometer, Logging PC
• Absolute D/I fluxgate theodolite
• GSM90 PPM
Data Processing

• Communications / real-time data retrieval to Edinburgh via network link
• Daily (variometer-, preliminary- and QD-data)
• Absolute observations made every two weeks
• Monthly (regular baseline updates, provisional results published in monthly bulletins)
• Yearly (final baseline revision and QC-checks)

[More on BGS data processing this afternoon: see Reay et. al. in session A39, at 14:15]
Sable Island Observatory (SBL)
1999 – present

Geographic: 43°55'55.6"N 299°59'25.8"E
Geomagnetic: 53°18'36"N 015°19'41"E
5m above MSL.
SBL baseline over a number of years
Observed (hourly means) & modelled (BGS 2015) magnetic field at SBL
King Edward Point Observatory (KEP)
2011- present

Geographic: 54° 16'55.7"S 32° 30'25.6"E
Geomagnetic: 46° 09'47"S 02° 50'42"E
7m above MSL
KEP baseline since the observatory opened
South Atlantic Anomaly (SAA)
Observed (hourly means) & modelled (BGS 2015) magnetic field at KEP
Total intensity has decreased ~30% (39000 → 28000nT) since 1880
Declination has changed by ~9° since 1880
SV in declination
SV in total intensity

Total field (nT/yr)

Date


SGE2  KEP  PST  IGRF12
Summary & future activities

• IMO status awarded in October 2014
• QD- data produced and delivered on a next day basis
• Continue close monitoring of baseline stability
• > 4 years of KEP and > 14 years of SBL data are available for scientific research
• SBL already used by David Boteler for GIC studies
• Geomagnetic activity index production
• Study geomagnetic pulsations