



## **Analysis of the BGS Swarm magnetospheric models and ground observatory products**

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The British Geological Survey (BGS) is responsible for the fast-track magnetospheric field model product (MMA\_SHA\_2F), geomagnetic observatory data (AUX\_OBS\*2\_) products and Level 2 CAT-1 product validation, as part of the consortium of institutes making up the Swarm DISC. The fast-track magnetospheric field model product is generated automatically and disseminated on a daily basis after receipt of the Swarm L1b files. With almost four years of accumulated models, we examine on the longer-term behaviour of the magnetospheric field with regards to stability in comparison to the Dst/Est index and present early results from the development of an improved model using a combination of Swarm and observatory data. The observatory hourly-mean (AUX\_OBS\_2\_) data product is updated every 3 months using a selection of definitive and quasi-definitive data from observatories around the world. Since Swarm was launched, good quality data from about 120 observatories are available. BGS started issuing new observatory data products in October 2016 with a 4-day lag. Regular updates are made if new data are found. These products consist of 1-second observatory (AUX\_OBSS2\_) and 1-minute (AUX\_OBSM2\_) quasi-definitive data from the start of the Swarm mission, and are made available on the BGS anonymous FTP server at [ftp://ftp.nerc-murchison.ac.uk/geomag/Swarm/AUX\\_OBS/](ftp://ftp.nerc-murchison.ac.uk/geomag/Swarm/AUX_OBS/). A summary of temporal and spatial coverage of all observatory data products is provided.