GREAT BRITAIN
National Report 2026

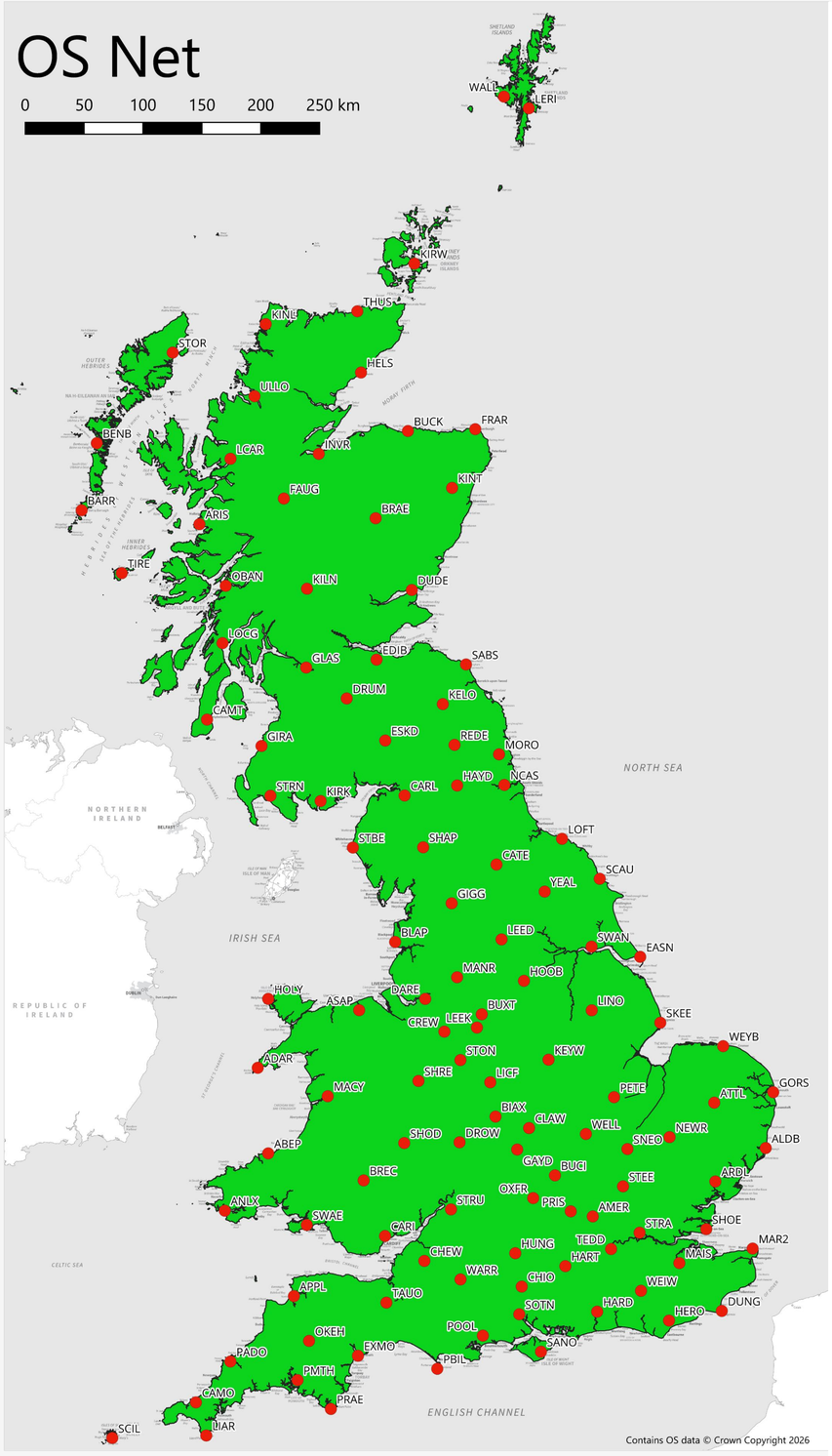
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Ordnance Survey



OS Net®

The OS Net network contains 118 stations, runs on the Trimble Pivot Platform (TPP)™ software and delivers RTK corrections via mobile internet to approximately 200 Ordnance Survey surveyors. Commercial RTK services are also available via Ordnance Survey commercial partners. Public, free of charge RINEX data is distributed via the OS DataHub (*https://osdatahub.os.uk/downloads/osnet*)

EPN and EPOS data submissions

The current OS Net EPN submissions are hourly RINEX v3 data (GPS+GLO+GAL+BDS) from stations ADAR, ARIS, CHIO, DARE, INVR, LERI, PMTH, SCIL, SHOE and SNEO.
Data from the entire OS Net network is also submitted to the EPOS archive (*https://gnss-epos.eu/*) and all OS Net station log files are managed and made available via the M3G facility (*https://gnss-metadata.eu/*). The historic OS Net data (back to year 2000) archive is also at EPOS.
Stations DARE, INVR, HERT and SHOE also provide real time data. Real time data from any other OS Net station is not possible due to conflict with OS Net partner's commercial operations.
Non-OS Net stations contributing hourly data to EPN are the BGS SGF hosted IGS stations HERS and HERT and Newcastle University station MORP.

GNSS Interference monitoring and analysis

OS Net raw GNSS spectrum data feeds are integrated with OS Net RTCM data. The spectrum data analysis is automated using machine learning and AI techniques to automatically recognise, alert for and categorise interference events.
Along with the interference being categorised, the receiver's real time PNT response to interference is also being studied.
Interference / jamming is perhaps more prevalent than expected. CORS are usually protected from serious impacts by the robust receiver tracking and multi constellation/observable operation, but the inherent GNSS vulnerabilities remain.
The interference monitoring system has detected up to 57,000 events per week, in the last 12 months, across the OS Net network on bands L1, L2, L5 and E6.
The importance of having robust GNSS is highlighted by the cost estimate for a loss of GNSS in the UK to be £1.4bn / day.

Recent activity

OS Net

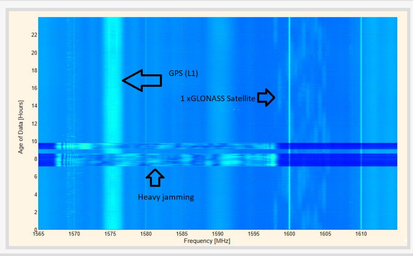
Upgrading the comms lines at most stations has improved data stream latency and 4G mobile data links act as a back up to the wired lines.
Plans are in place to increase the number of stations, notably replacing the long term (since ~2000) station at Kings Lynn. Agreements are being sought with nationwide agencies (e.g. National Highways) that may be able to give access to suitable locations for new OS Net stations.
A new data processing flowline is being developed in Bernese GNSS Software® that will eventually produce OS Net time series and hopefully allow for future solution contribution to EUREF projects.

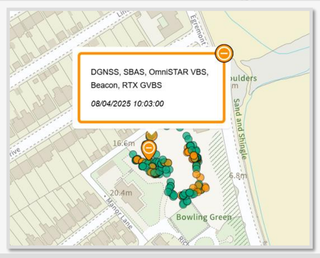
Planned national mapping system, coordinate reference frame and height system update

The public consultation on a new national mapping grid (ETRS89 + new projection) continues with the plans recently being presented publicly for the first time (at GeoBusiness 2026). Detailed technical analysis has been carried out to fully assess the impacts on map data of the change to the mapping coordinate system and analysis is ongoing on some of the geometry impacts (e.g. reversibility of the process to ensure topology is not broken).
An update to GB's ETRS89 realisation is planned but awaits the findings of the EUREF study group on the future of ETRS89.
An update to the GB height system is planned – a move away from 100 year old MSL based datum to a gravimetric geoid model (aligned to current MSL). The possibility of having a combined British Isles (UK and Ireland) onshore and offshore height model will be investigated.

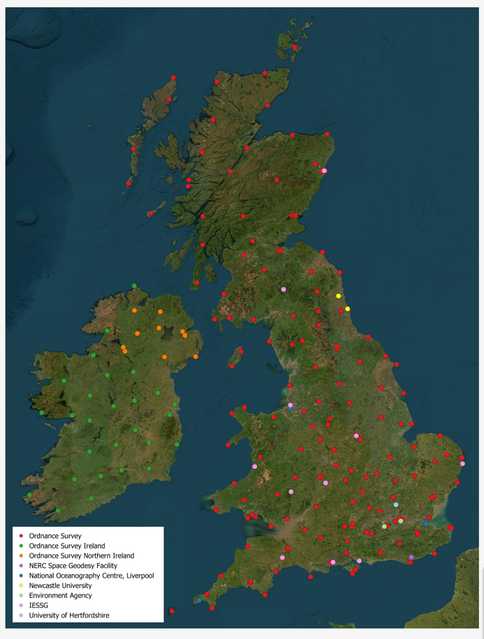
UN-GGIM and "Geodesy Supply Chain" activities

To align with the UN-GGIM "Geodesy Supply Chain" initiative (*https://www.un.org/globalgeospatial/sites/default/files/2026-03/20240605-hidden_risk_policy_brief_0.pdf*) the UK has instigated a cross Government PNT and Geodesy working group that brings together all agencies involved in PNT and Geodesy activities in the UK. The aim is to increase collaboration and strengthen and expand UK geodesy and create stronger links between the responsible agencies and higher-level Government departments.





BGS Facilities – BIGF and SGF



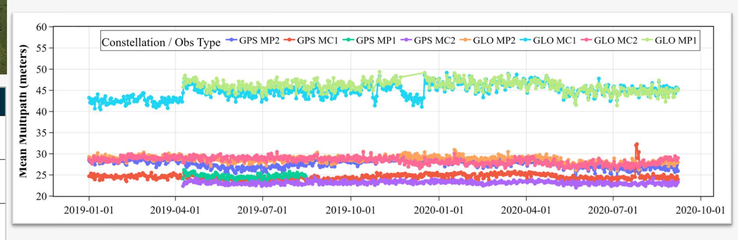
British Isles Continuous GNSS Facility (BIGF)

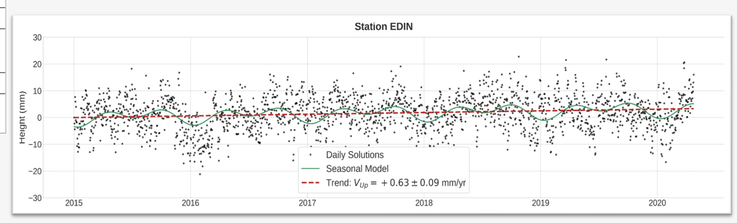
The British Isles Continuous GNSS Facility (BIGF), hosted by the British Geological Survey (BGS), represents over two decades of continuous GNSS measurements across the UK and Ireland using ~160 operational stations. BIGF is now entering a modernisation phase, expanding automated quality-control procedures and developing a renewed open-access data platform.

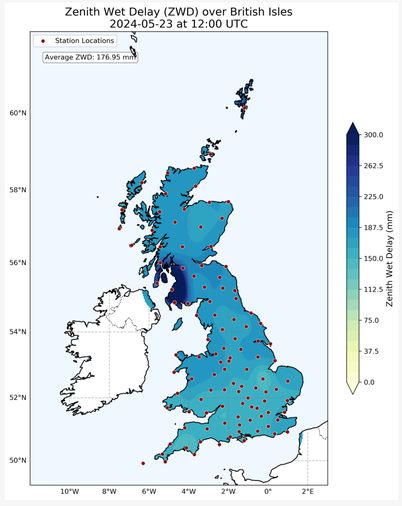
BIGF consolidates GNSS observations from multiple contributing networks, integrating diverse data streams into a harmonised archive with standardised quality control and availability monitoring. The archive comprises multi-constellation observations including GPS, GLONASS, Galileo, BeiDou, QZSS, and NavIC. Multi-constellation tracking enhances positioning accuracy, redundancy, and the long-term robustness of geodetic products.

Recent focus has been on re-establishing the creation of GNSS time series for each station. BIGF quality assessment is implemented using the Anubis GNSS data quality control tool, providing systematic validation of RINEX observation files prior to archival. The automated QC workflow evaluates data completeness, cycle-slip detection, multipath indicators, observation statistics, and constellation-specific performance metrics. Example plots of multipath and time series are shown for station EDIN and ZWD over the entire region:

Source	No. of Stations	Available datasets	Availability
OSNET	114	Daily 30s [RINEX 2 & 3] Hourly 1hz [RINEX 2 & 3]	1996 – Present
OSI/ OSNII	40	Daily 30s [RINEX 2 & 4] Hourly 05s [RINEX 2]	2004 - Present
Newcastle University	2	Daily 30s [RINEX 2]	1996 - Present
NOCL	2	Daily 30s [RINEX 2]	1997 - Present
NSGF	2	Daily 30s [RINEX 2]	1997-Present
Environment Agency	2	Daily 30s [RINEX 2]	1997-2022
IESSG	16	Daily 30s [RINEX 2]	1998 -2022
University of Hertfordshire	1	Daily 30s [RINEX 2]	2013 - 2022







Space Geodesy Facility (SGF) at Herstmonceux

The SGF is part of the 'Multi-hazards and resilience' global challenge, under Geodesy and Earth Observation, in the BGS. It is funded through 'National Capability and Public Good' by the Natural Environment Research Council (NERC).

The SGF is part of the International Laser Ranging Service (ILRS) and International GNSS Service (IGS) networks. It is appointed by the ILRS as one of the eight ILRS Analysis Centres and was awarded by the Global Geodetic Observing System (GGOS) the status of 'New Technology SLR Site'. The site hosts ILRS SLR site HERL, two IGS GNSS sites HERS and HERT, and an absolute gravimetry station. Data from HERS and HERT are also being used by PhD students in the School of Engineering, Newcastle University in their research projects, such as the investigation of site-specific multipath error for different GNSS constellations, and the study of constellation-specific repeating error sources

