

## BAS Geospatial Data Strategy

The location of almost all BAS activity and data is of tremendous importance. Spatial data, tools and GIS technologies are critical to the effective delivery of BAS activity, to enable science, to ensure a safe and efficient polar operation, to manage its distributed estate and physical assets and to plan for future building developments. The value of spatial data will become greater especially during a period of transformation.

Through the continued development and adoption of spatial tools and GIS technologies, data and information can be unified through location to allow greater exploitation and provide a backbone for a common operating picture.

The BAS Geospatial Data Strategy aims to provide a framework for maximising the impact of spatial data and technologies to support BAS Science, Operations, Business and Transformation. It reflects wider goals set by the UK Government to Unlock the Power of Spatial and support innovation<sup>1</sup>. It will aim to align with and support BAS Digital Transformation.

### Goals

1. Maintain a BAS capability for primary spatial data capture, including GNSS and airborne survey.
2. Establish a single source of truth for essential baseline geospatial datasets required to support all BAS activity.
3. Develop a consistent and common foundation for spatial data management, based on Q-FAIR<sup>1</sup> principles, common standards and infrastructure.
4. Enable the exploitation and innovative use of spatial data through development of new applications, collaborative projects and outcomes of requirement reviews.
5. Promote spatial literacy, skills and solutions through planned training and engagement activities.

### Why is this important to BAS?

Spatial data and GIS technologies are already widely used at BAS. However, there is potential in all areas to increase the value to BAS by enabling new science, supporting decision making and more efficient operations.

BAS recognises the need to grow and transform how it derives value from digital assets and is currently developing a new Digital Strategy. A vast amount of BAS data and information is tied to location, requiring consideration of how this aspect can be managed and exploited.

The rationale and approach for each goal is described below.

1. Maintain a BAS capability for primary spatial data capture, including GNSS and airborne survey.

Collection of data in the polar regions is expensive and logistically difficult, often requiring specialist equipment. BAS therefore needs to maintain an independent capability to acquire primary spatial data

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<sup>1</sup> Findable, Accessible, Interoperable, Reusable and of the right Quality

(including GNSS, terrestrial and airborne survey) since this cannot be outsourced to third party operators.

2. Establish a single source of truth for essential baseline geospatial datasets required to support all BAS activity.

Authoritative single instances of spatial datasets ensure that any use of the data is underpinned by the most up to date, complete and accurate information available. This avoids concerns over the use of datasets that may be out of date and of unknown quality, increasing user trust and confidence in spatial data. Single Source of truth datasets also encourage the breakdown of information silos, enable clear identification of data ownership and governance.

3. Develop a consistent and common foundation for spatial data management, based on Q-FAIR principles, common standards and infrastructure.

There are many data systems in place at BAS that hold and manage spatial data. Integration with new systems will require open standards and solutions to ensure the connection between datasets can be made, avoiding duplication and reducing maintenance.

Employing solutions that implement open standards for spatial data storage, management and sharing ensures interoperability between existing and new systems.

Spatial data should be easy to find, and users should be able to obtain information on the datasets to inform them of their choice to use it. Equally, spatial data needs to be accessible by many different people, for different users and through different applications, some of which cannot be anticipated.

Spatial data sharing can also accelerate collaboration and innovation and promote transparency. It also leads to increasing use of spatial data assets for detailed analytics leading to organizational efficiency gains.

4. Enable the exploitation and innovative use of spatial data through development of new applications, collaborative projects and outcomes of requirement reviews.

BAS has a wide remit, from science, field operations to estates management, infrastructure transformation. Appropriate interfaces to spatial data will enable the maximum value to be gained from spatial data assets. Interfaces should be part of an improved and continuously reviewed spatial data infrastructure.

Requirements for exploitation of spatial data will vary and increase over time, whilst developments in mapping technologies and the wider digital landscape will provide opportunities for new ways to exploit our spatial data assets.

5. Promote spatial literacy, skills and awareness through planned training and engagement activities.

To realise the potential of digital spatial data and technologies, staff need to be equipped with the right skills and spatial literacy. Investing time to ensure geospatial capability is shared among staff across BAS and key users of spatial data will ensure the tools and data are used to the maximum potential.

Increasing spatial literacy and awareness in BAS will also reinforce the need for continued investment in geospatial skills, capability and supporting digital infrastructure.

