

# Geographic Information System Administration Activities for the Geological Survey Division (2025 – 2026)

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The Geographic Information System Administrator is responsible for developing and maintaining the Geoscience and Mines Branch (GMB) Geographic Information System environment, as well communicating data to the public through interactive web applications.

## Infrastructure Modernization

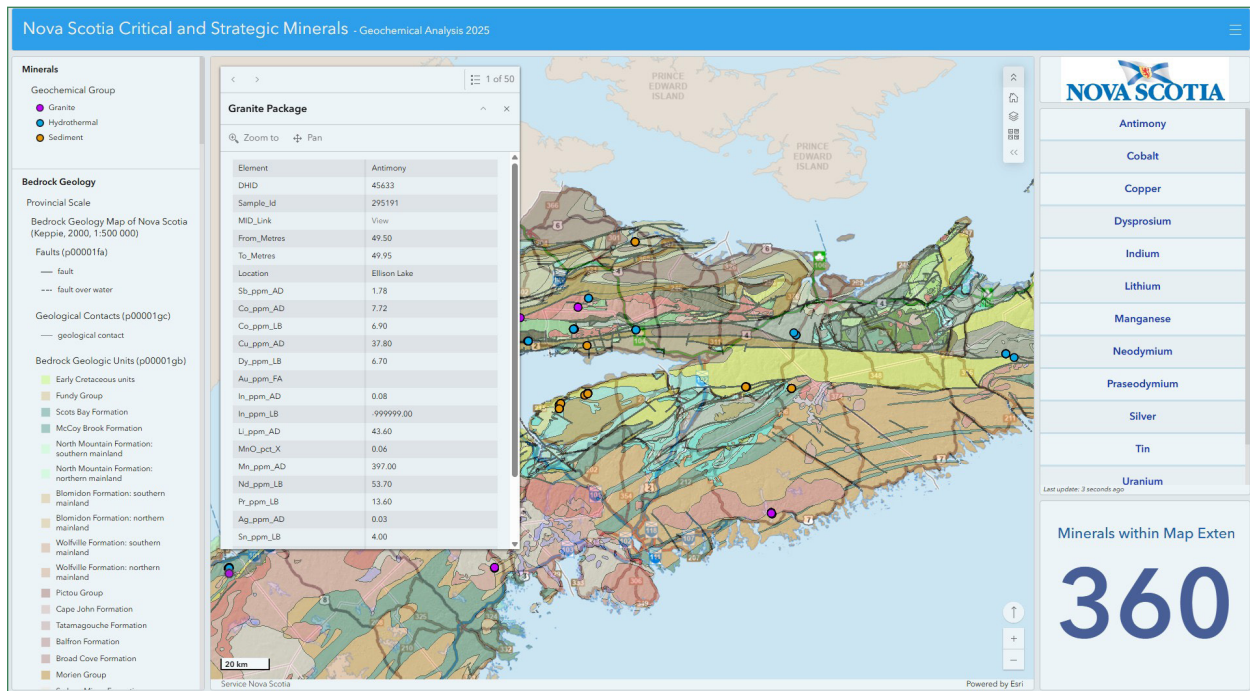
The existing GMB ArcGIS Enterprise infrastructure is currently running version 10.4. A new 12-server, multi-tier, modernized ArcGIS Enterprise system was built alongside the legacy environment and completed in March 2025. As part of this upgrade, two SQL database servers were also implemented.

These new servers support the transition from file geodatabases to a centralized enterprise database system. Data migration is currently underway, with the Drillhole, Mineral Occurrences (MOD), and Abandoned Mines Openings (AMO) datasets successfully migrated to date. In parallel with migration efforts, new data schemas are being developed to ensure the system is intuitive, efficient, and scalable for future use. The new Fisher system will operate alongside the legacy environment until its planned retirement in 2026.

## Web Applications

### ArcGIS Dashboard

An ArcGIS Dashboard was developed to support drill core results from the Geochemical Characterization of Historical Drill Core Throughout Nova Scotia project, which was conducted with funding from the Critical Minerals Geoscience and Data (CMGD) initiative (Figure 5). It was first launched at the Prospectors and Developers Association of Canada (PDAC) convention in 2025 to showcase new geochemical analysis results. Phase two drill results have now been received and will be incorporated into the dashboard, with a full release planned for 2026. It provides an interactive display of Nova Scotia's critical and strategic minerals alongside their associated geochemical data, overlaid on the province's bedrock geology. This tool enables users to explore and interpret complex datasets in a clear, spatially integrated format.



**Figure 5.** Nova Scotia Critical and Strategic Minerals Dashboard.

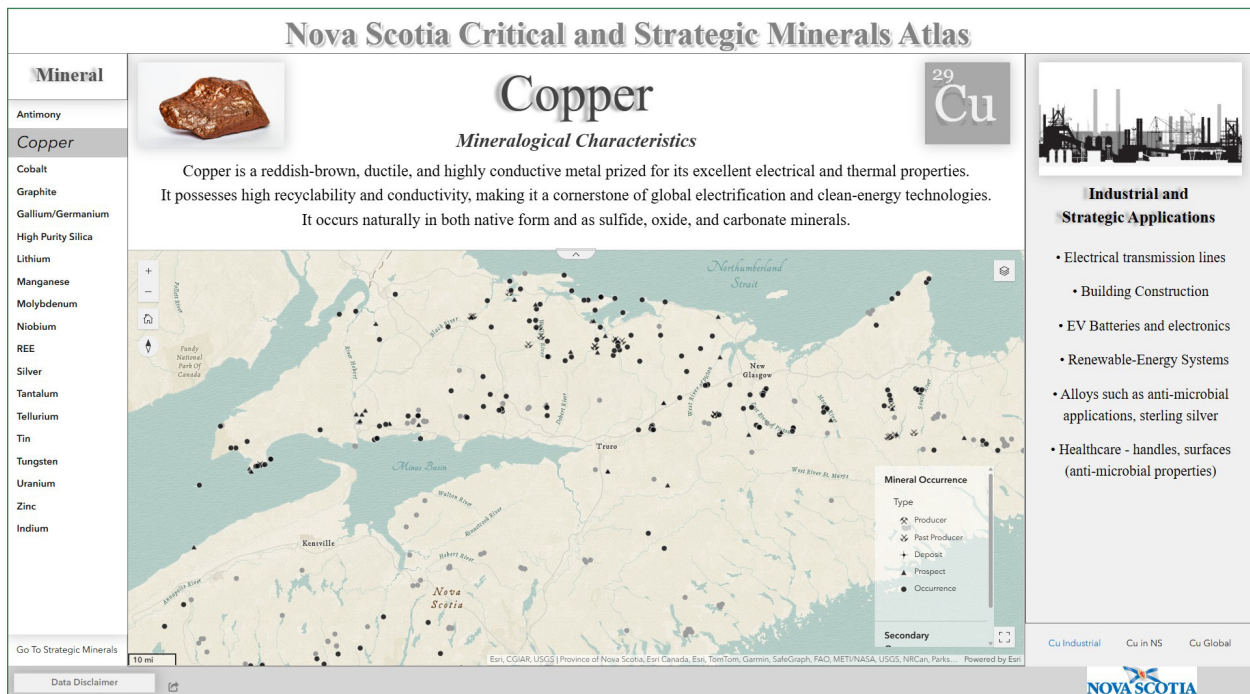
## ArcGIS Experience Builder

Work has begun to migrate our existing web applications, to ERSI's ArcGIS Experience Builder. With this new application, we can transform how geoscience information is delivered to the public by moving beyond static maps to fully interactive, user-centered web applications. By seamlessly integrating maps, data, and storytelling into a single, intuitive interface, Experience Builder makes complex geological information more accessible and engaging for everyone, from industry professionals to students and the public. Its flexibility and responsive design allow us to tailor applications for a wide range of uses, from showcasing mineral resources to communicating environmental insights in real time, ultimately enhancing transparency, supporting better decision-making, and strengthening public understanding of our geoscience work

The [Nova Scotia Critical and Strategic Minerals Atlas](#) is our first application to be built within Experience Builder (Figure 6). It is an interactive, user-friendly web application designed to inform and engage the public. It enables users to explore which minerals have been identified as critical or strategic in Nova Scotia, along with the historical and industrial contexts that define their importance. The Atlas integrates the Province's Mineral Occurrences Database (MOD), providing access to over 3,200 metallic and non-metallic mineral records across Nova Scotia ranging from small occurrences to defined

deposits with records being added and updated continually. Occurrences are filtered by status, from deposits through to past producers. Secondary commodity locations are also highlighted. When a user clicks on a location, detailed site information appears, including geological attributes and associated data and users can directly access the MOD report for that occurrence.

Each commodity includes a brief synopsis of their respective mineralogical properties, geological environment, and notable occurrences within Nova Scotia. The application also highlights how each mineral contributes to both Nova Scotia's economy and broader global industries.



**Figure 6.** Nova Scotia Critical and Strategic Minerals Atlas.