

Addressing challenges with exploration datasets to generate usable mineral potential maps

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Mineral potential mapping using GIS can pose many challenges in terms of data availability (eg. non-existent information, lack of digital data, limited understanding of mineral system) and data quality (eg. inaccurate locations or attributes, inhomogeneous mapping detail, incomplete coverage). As the quality of a mineral potential map is limited by the quality of the input data, it is affected by data availability and quality. These challenges are not limited to frontier or greenfields regions, but are the issues are often compounded by having multiple problems within the same dataset, which is uncommon in datasets from more explored and data-rich areas. Using several case studies, this analysis shows how mineral potential mapping can be successfully applied in regions with multiple data challenges in order to generate targets with high potential for hosting a mineral deposit. The data is evaluated using multiple statistical techniques, and the results validated by their ability to predict the location of known mineralization.