



Integrated Exploration Platform: An Interactive Multi-Data Interpretation Tool

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With the recent increase of geoscientific data being made publically available, it becomes increasingly difficult to efficiently analyse all the data and incorporate it into a single coherent interpretation. The Integrated Exploration Platform is a GIS module that aims to facilitate multi-data interpretation through innovative visualisation and assistive tools to provide improved geological clarity in mineral exploration datasets. We introduce an interactive blending paradigm, where different data can be simultaneously perused, to better facilitate the interpretation of complex information from multiple data sources. Blending combines datasets to form a single image in a way that effectively represents each dataset. In addition, each of these blending tools is used in an interactive manner through control of a blending cursor within each tool. Moving this cursor will change the component weighting of each dataset in the blend.

The interactivity of blending the data is important in conveying information. For image blending to be useful in multi-data interpretation, it is important for associations between features and individual input images to remain identifiable and distinct within the blend. The exploratory movements made by the user in interacting with a blending tool are crucial in achieving this. Ultimately, interactivity can provide more information from within a single dataset and better reveal correlations between datasets than typical static blended images. We have developed a family of different multi-image blending tools that are integrated into the Integrated Exploration Platform. These have been designed to support different types of data critical to mineral exploration, such as geophysical data, radiometric data, and ASTER data, with the intention that other data types will be accounted for in the near future.