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Geophysical Footprint Analysis of Gold Deposits: A Regional Study in the Baixada Cuiabana Gold District

Genesson Delmondes (University of Brasília), Marcelo Henrique Leão Santos (UnB), Weliton Borges (UnB)

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Introduction

The Baixada Cuiabana region, located in the state of Mato Grosso, is one of Brazil's main gold districts. The growing demand for more efficient mineral exploration methods highlights the need for approaches that reduce costs and risks during exploration. This study aims to identify the geophysical footprint of gold deposits associated with sulfides, contributing to the development of a regional-scale exploration model.

Method

Aerogeophysical data from magnetometry and gamma-ray spectrometry, corresponding to the Cuiabá Aerogeophysical Project, were used. These datasets were integrated with petrophysical information obtained from drill cores in the region.

Results and Conclusion

The integration of geophysical methods enabled the identification of zones favorable to the occurrence of gold mineralization. The identified anomalies were correlated with known geological structures, supporting the recognition of new potential occurrences in the Baixada Cuiabana region.