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A favourable topographical characteristics for locating Fe deposits in Fujian Province of China

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The topographical characteristics for locating mineral deposits are resulted from the interaction between the burial of mineral deposits, tectonic uplift and exhumation by erosion. Exploring the topographical characteristics are significant for understanding the conservation and variation of mineral deposits and for further mineral exploration. In this study, the characteristics of landscapes for locating Fe polymetallic deposits in Fujian Province of China were studied. The topographical parameters which include elevation, slope, and aspect are estimated based on the digital elevation model (DEM) data at a 30 m resolution. A total of 271 Fe deposits are randomly divided into two datasets. Each dataset contains a half of the total number of mineral deposits. The mean values of elevation, slope, and aspect at locations where Fe deposits occurred were calculated for these two datasets, respectively. The *t*-test was applied to examine whether or not there are different for the values of mean for elevation, slope, and aspect, respectively. The favourable topographical characteristics for locating Fe deposits in Fujian Province of China were summarized. The findings in this study provide a topographical environment in search for mineralization and benefit further mineral exploration in the study area.

