

## **Análise de métodos de determinação de limiares e interpoladores em dados geoquímicos de superfície aplicada a exploração de hidrocarbonetos**

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This work examined the distribution of geochemical data from surface (gaseous hydrocarbons), geochemical outliers data, identified by various methods, and compared deterministic interpolation methods (minimum curvature and the inverse square of the distance) and geostatistical (kriging). The measurements obtained in the field were analyzed by classical descriptive statistics and spacial. Statistical analysis showed that the geochemical data of hydrocarbon gases do not follow in general, a lognormal distribution or a normal one. Methods to identify outliers in the geochemical data were reviewed and tested. The rule [ $\text{mean} \pm 2 \text{ standard deviations (sdev)}$ ] used to estimate the threshold values dividing background of anomalous data, hitherto used since its introduction in the 60s, showed different results of the proposed method in which it should identify approximately 2 1/2% of data on each end. The median ( $\text{med}$ )  $\pm 2$  median absolute deviations ( $\text{mad}$ ), the boxplot and 98 th percentile, appeared to be more appropriate in the estimates of threshold and the determination of the extent of background data. However, each can result in different values of threshold. The interpolation of these data in order to generate surface maps through geostatistical method, which is based on the kriging interpolation, takes into account the characteristics of spatial autocorrelation of regional variables, which showed better results than the deterministic methods.