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Determination the Relationship Between Geological and Seismological Parameters

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Determination the relationship between effective parameters used in tectonic and seismotectonic, is very important to drawing different geological and Seismological maps.Typically , however , the attribute measurements gathered do only not correlated but also influenced with each other as well. Thus, in many instances , the attributes are interwined in such a way that when analyzed individually they yield little information about the region under investigation.Typically, however the degree of correlation of these parameters with each other and their relationship to tectonic and seismotectonic zonings play and important role in earth sciences studies. In order to detect the degree of association of these parameters, the multivariate statistical methods (data reduction) have been used . The results indicate that some parameter, such as the regional bouger anomaly, the elevation, the gravity and the free air anomaly have high correlation with each other. The results also denote that the free air anomaly and the isostatic anomaly exhibit more significant relationships with the earthquake activity in Iran.The results further suggest that despite abundant use of a- and b-values(Gutenburg-Rishter formula) in seismology pattern recognition, these parameters have low correlation with magnitudes of earthquakes. These results should be considered in the studies of geologic history and development, tectonic and seismotectonic zoning.

Keywords: Relationship, Geological and Seismological Parameters, Multivariate Statistical Methods.