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El Nino phenomenon and its relationship with climate variability in the province of Cusco

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The present investigation was carried out with the purpose of analyzing the relationship between the El Nino phenomenon and the climatic variability in the Province of Cusco, 1964 - 2018, for this the historical data of precipitation and temperature provided by the National Meteorological Service were taken. Hydrology (SENAMHI) of Peru belongs to the Kayra station and data from the El Nino Coastal Index (ICEN) given by the Geophysical Institute of Peru. The study is transversal, correlational, and not experimental. The technique used is documentary and the data sheet as instruments. In relation to the behavior of the precipitation this tends to decrease in a general way in the presence of El Nino, specifically from February to November and an increase is shown in January and December. The anomalous values of precipitation occur in January. The monthly behavior of the average and minimum temperature, with similar, rising from July to February and decreasing from March to June, as the maximum temperature rises as the magnitude of El Nino increases, maximum for October. In relation to minimum temperatures there is no significant difference with or without El Nino. It was determined at 95% confidence that there is a significant and negative relationship between ICEN and precipitation, with the degree of correlation of 59.35%, it was also determined that there is no relationship between the minimum temperature-re and the ICEN, that there is a relationship between the average temperature and the ICEN, the degree of correlation being 93.88%, that there is a relationship between the ICEN and the maximum temperature, with a degree of correlation of 99.62%. In relation to the behavior of the ICEN, it is given that the greater its magnitude in its warm condition, the longer it lasts.

Biography

Fernando Pariguana Huayllani has done Bachelor in Geological Engineering from the National Universi-ty of San Antonio Abad of Cusco, specializing in Geochemistry, Structural Geology and Metallogeny

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