



## **Climatic Characterization Of Ecuadorian Littoral Zone**

Jorge Rene Hurtado Pindal (1), Edgar Fabian Espitia Sarmiento (1), and Fabian Suntaxi Aluisa (2)

(1) Amazon Regional University (IKIAM), (2) Escuela Superior Politécnica del Litoral (ESPOL)

The definition of climatic homogeneous zones is an important element of hydrometeorological characterization of a region. The availability of information from meteorological station located in the Ecuadorian littoral zone has a lack, which makes their characterization a difficult process. The existence of projects that provide global climate information can contribute to supply this need. In the present study, a climatic (temperature and precipitation) characterization is presented for the littoral zone of Ecuador. For this purpose, it was used two sources of information: World Clim data base and the records from the National Meteorology and Hydrology Institute of Ecuador (NMHIE) for the time period of 1950 - 2000. The methodology of regionalization was done by using three algorithms: the Iterative Self-Organizing Data Analysis (ISODATA), cluster analysis and regional vector. The data set form World Clim was processed with the algorithm ISODATA, meanwhile the data records of the NMHIE was processed by using the cluster and regional vector method. The results of the algorithm ISODATA reveal three climatic zones, which were validated by the other two methodologies. The ISODATA algorithm characterization is consist with the cluster analysis and regional vector method. Both data sets reveal the same three homogeneous climatic zones.

**Keywords:** Climatic regionalization, the Iterative Self-Organizing Data Analysis, cluster analysis, regional vector.