Classification of Water Masses in Chabahar Bay Using Clustering Method

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Abstract

Nowadays, with the huge amount of data generated daily on oceanography parameters and development of marine data recording systems, new methods are required in order to process the available data in timely fashion. It is obvious that analysis of large data sets with the aim of distinguishing and interpreting patterns is not usually an easy task. When dealing with high volume processes, data mining is a practical method commonly considered by analysts to discover useful patterns among data sets effectively. Clustering is one of the popular data mining methods which are widely used in physical oceanography. In this research, a two-step algorithm is considered for clustering the stations in Chabahar Bay. A neural network is also used to investigate the influences of temperature and salinity on tempo-spatial distribution of Sigma-T. For this purpose, 11 networks are created in Clementine software (one for each month) and the results indicate an exception in November. The plotted contours in Surfer software confirm the data mining results.

Keywords*: Chabahar, Sigma T, Data mining, Clustering, Neural network, Clementine, Surfer.*