최대엔트로피 생태모델을 이용한 갈라파고스해양의 생태구조 분석 연구

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Species distribution models help identify areas for the development of populations or communities to prevent extinctions, especially in the face of the global environmental change. This study model the potential distribution of the spiny lobster, phytoplankton and zooplankton communities using the maximum entropy algorithm in Galapagos Islands – Ecuador during three monitoring's. Principal component analysis was used to reduce the spatial autocorrelation of presence data and the multi-collinearity of the environmental predictors. MaxEnt generated maps with high predictive capability for spiny lobster (AUC > 0.97), phytoplankton (AUC > 0.64), and zooplankton (AUC > 0.62) during all monitoring's. The distribution of the communities are defined by minimum temperature, sea surface temperature, precipitation and relative humidity during the three monitoring's. In general the best habitat suitability corresponded to spiny lobster communities in which the points of occurrence covered a greater environmental variability.