Business Intelligence and Business Analytics for supporting decision strategies: facing extreme events

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Business intelligence is the field of knowledge that encompasses a wide range of methodologies, processes, and technologies that generate information and knowledge to support decision-making in any organization. Within this field is business analytics, which specifically refers to the use of analytical techniques that make it possible to achieve the purpose of business intelligence. In line with this idea, the Climate Center of the Institute of Meteorology has focused its attention on the intense cyclonic activity that has occurred in Cuba recently, which is considered extreme weather events. Therefore, a research project was conducted on the climatology of cyclonic activity, its variability, and its long-term trend, since the greatest natural disasters recorded in the history of our country have been associated with tropical cyclones. This motivated the Climate Center, as part of its project, to update the TkHURS software (statistical software used to calculate hurricane return periods) in order to obtain return periods and calculate estimated frequencies by fitting a Poisson model to the variable that counts the number of hurricanes per year that have struck Cuba during the period from 1791 to 2023, based on the Chronology of Tropical Cyclones and the General Weather Reports, following a working methodology for the software that enables the Cuban government to make decisions aimed at protecting the population and economic resources from this type of extreme event.