

**MANGLE Tool Technology for Teaching and Preservation Extreme Environments in Coastal Areas of Buenaventura - Colombia.** Sandra Garay<sup>1</sup>, Germán Sarmiento<sup>2</sup> and Ricardo Acosta<sup>3, 1,2,3</sup> Fundación San Mateo [saligaes@gmail.com](mailto:saligaes@gmail.com)<sup>1</sup>, [gsarmiento@funsanmateo.edu.co](mailto:gsarmiento@funsanmateo.edu.co)<sup>2</sup>, [cdtec@funsanmateo.edu.co](mailto:cdtec@funsanmateo.edu.co)<sup>3</sup>.

**Introduction:** The incorporation of Information Technology and Communication ( TIC's ) in different educational rather than an option or necessity contexts is today a challenge not only by the demands of a globalized society but by the current characteristics of the teaching-learning process due to new and varied forms of access to knowledge. Likewise it is expected that all projects involving TIC's is of great benefit to students and impact their knowledge and their environment (BID, 2010) [1].

Considering the above is " MANGLE technological tool for teaching and preservation of extreme environments in coastal areas of Buenaventura - Colombia " as a proposal that seeks to merge all the resources of technology and communications in a system of collective learning that impacts environmental and educational level specifies a community of coastal areas in Buenaventura – Colombia strengthening the knowledge and preservation of Mangle as extreme environment of great importance in the region. Developing STEM earth sciences become important in the educational curriculum and the cultural social and educational context of the community.

In this research, a virtual learning system that meets specific contents and pedagogical and technological resources for the dissemination of Mangle and its preservation as extreme environment design virtual education platform is developed through the implementation of different computer applications programming and graphic design low-cost, open source.

Implementation and monitoring of educational and environmental impact of the platform in the educational community college Jose Ramon Bejarano , through interaction and feedback with students and teachers of the institution.

This research takes an important role not only in the pedagogical and technological field but also in the dissemination of earth science and astrobiology as key-stones in contemporary curricula, involving students in all levels of education and make an impact on a significant positive environmental and cultural heritage of coastal regions of Colombia.

MANGLE, being a technological tool easily disseminated through the internet looking to expand its impact to other coastal areas of the country and Latin

America [2], managing to consolidate academic networks around the preservation of this ecosystem[3].



**References:** [1] Eugenio Severin (2010) *BID Tecnología de la información y la comunicación en educación, marco conceptual e indicadores*. [2] Martin H. (2012) *las tic como oportunidad de inclusión social en américa latina y El caribe* [3] Rodrigo B and Sandra M. (2012) *algae asociated to a mangrove in the colombian pacific.Municipio buenaventura - valle del cauca*