

## Loss Quantification Archaeological Sites in Watershed Due to the Use and Occupation of Land

**Authors :** Elissandro Voigt Beier, Cristiano Poletto

**Abstract :** The main objective of the research is to assess the loss through the quantification of material culture (archaeological fragments) in rural areas, sites explored economically by machining on seasonal crops, and also permanent, in a hydrographic subsystem Camaquã River in the state of Rio Grande do Sul, Brazil. The study area consists of different micro basins and differs in area, ranging between 1,000 m<sup>2</sup> and 10,000 m<sup>2</sup>, respectively the largest and the smallest, all with a large number of occurrences and outcrop locations of archaeological material and high density in intense farm environment. In the first stage of the research aimed to identify the dispersion of points of archaeological material through field survey through plot points by the Global Positioning System (GPS), within each river basin, was made use of concise bibliography on the topic in the region, helping theoretically in understanding the old landscaping with preferences of occupation for reasons of ancient historical people through the settlements relating to the practice observed in the field. The mapping was followed by the cartographic development in the region through the development of cartographic products of the land elevation, consequently were created cartographic products were to contribute to the understanding of the distribution of the absolute materials; the definition and scope of the material dispersed; and as a result of human activities the development of revolving letter by mechanization of in situ material, it was also necessary for the preparation of materials found density maps, linking natural environments conducive to ancient historical occupation with the current human occupation. The third stage of the project it is for the systematic collection of archaeological material without alteration or interference in the subsurface of the indigenous settlements, thus, the material was prepared and treated in the laboratory to remove soil excesses, cleaning through previous communication methodology, measurement and quantification. Approximately 15,000 were identified archaeological fragments belonging to different periods of ancient history of the region, all collected outside of its environmental and historical context and it also has quite changed and modified. The material was identified and cataloged considering features such as object weight, size, type of material (lithic, ceramic, bone, Historical porcelain and their true association with the ancient history) and it was disregarded its principles as individual lithology of the object and functionality same. As observed preliminary results, we can point out the change of materials by heavy mechanization and consequent soil disturbance processes, and these processes generate loading of archaeological materials. Therefore, as a next step will be sought, an estimate of potential losses through a mathematical model. It is expected by this process, to reach a reliable model of high accuracy which can be applied to an archeological site of lower density without encountering a significant error.

**Keywords :** degradation of heritage, quantification in archaeology, watershed, use and occupation of land

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