Paper ID: 51986
student

30th IAA SYMPOSIUM ON SPACE AND SOCIETY (E5)
Space Assets and Disaster Management (4)

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SPACE TECHNOLOGIES USED IN THE MANAGEMENT AND RISK REDUCTION OF NATURAL DISASTER IN LATIN AMERICA: A SYSTEMATIC LITERATURE REVIEW

Abstract

The use of space technologies as an effective tool to manage and reduce the risks of natural disasters is recognized by several areas of knowledge. Such technologies provide significant services mostly unnoticed on the daily life. They include remote sensing, meteorology and positioning and navigation systems. In this way it is possible to produce, record and disseminate information in real time. Examples of benefits implemented by space technologies are: indication of escape routes in critical situations, provision of in-situ observation networks, real-time data transfer for decision making, information on preventive parameters for flood alerts and parameters used for monitoring and evaluation of drought severity based on geospatial and in-situ data. In this context, this paper aims to present the analysis and results of a systematic literature review on the use of space technologies in the management and risk reduction of natural disaster in Latin America over the last 10 years. The following questions are addressed: what are the available and most used space technologies for disaster management in Latin America? How could the use of these technologies help reduce the risk of natural disasters? Three indexed databases (Scopus, Web of Science and Advanced Technologies and Aerospace Collection) were considered encompassing articles with peer review published in periodicals or annals under selected criteria. Quantitative and qualitative aspects were considered during the analysis, providing an overview about the application of space technologies in the context of interest. The results achieved with this analysis provide a comprehensive view of the state of the art and they are a support for the development of future studies on the subject. In addition, they can inform new practices to reduce risk and impact of natural disasters in Latin America.