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**Progress on marine data management in a developing country: the case of the
marine climatology of Ecuador**

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The Oceanographic Institute of the Ecuadorian Navy has been collecting oceanographic and marine meteorological data since 1950. At the beginning, the data was stored in hard copy storage systems: later a basic database system was developed to store both oceanographic and meteorological data. This caused some problems, such as loss of data, difficulties in recovering data and deficient usage of storage capacity. In early 2000 a project to improve the data management system was developed. This project started by data archaeology to recover hard-copied oceanographic and meteorological data: the process produced the digitizing of 25 years of cruises and land stations data and at the same time developed a robust database based on the Oracle operating system. The data acquisition process was increased by the implementation of oceanographic data buoys and automated meteorological land stations, which transmit on a real time basis a great amount of data. This proved the necessity of a data quality control system for both historical and new data. The quality control system was developed and created to work jointly with the database system. At this moment, most of the data are marked with our quality control tool that uses international flag standards. Another important part of the system consists of the metadata implementation in order to establish a mechanism to allow data interchange and distribution. Currently, with the implementation of the project, researchers from many institutions of Ecuador have the capacity to create elaborate, reliable and accurate data products, such as the new marine climatology of the Ecuadorian sea that was developed using the acquisition, storage, and processing data system. This local climatology is being used to determine anomalous weather and climate patterns derived from ocean and atmosphere extreme events such as El Niño and La Niña, which cause huge economical and social impacts in Ecuador.