A framework for the management of the spatial data quality information

Naveen Kumar Sidda[1], Sameer Saran[1], Ivana Ivanova[2], P.L.N Raju[1] and V.K. Dadhwal[1]

[1]Indian Institute of Remote Sensing (NRSC), ISRO, Dehradun (UA) - 248001

[2]Geo-information Processing, Faculty of International Institute for Geo-Information Science and Earth Observation (ITC), University of Twente, The Netherlands

Email: sameer@iirs.gov.in

Abstract: This work aims to highlight the key issues with the communication of the data quality information. Metadata conveys significant information regarding the assets of the spatial datasets. This is of textual information and follows some industry specific terminologies. However, user still feels that the quality information provided could not able to cater their needs. Also the metadata is not able to elucidate on the quality of datasets, chosen for their intended applications. The effective communication of the data quality still remains an issue, which needs to be addressed. By integrating, the concepts of data warehousing and Geo-spatial information systems, users are able to comprehend on the data quality and dataset in an intuitive manner. In this paper we proposed a data quality tool, which is built using two different concepts , namely,Geo-spatial information systems, and Online Analytical Processing (OLAP) in a web environment. The tool helps the users in communicating the data quality of a dataset both in spatial and non-spatial graphical format. It communicates the quality information through visual explanations, which will aid the user in getting insight about the quality of the dataset. It structures and records the data quality at various levels of details. The research also led to compare and recommend on the quality report from the tool for metadata.