

Quality Analysis of OpenStreetMap and Digital Elevation Data Based North-Western Nigeria

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SUMMARY

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Open Source geospatial data is an easily accessible data available to the public without any restrictions. Open source was founded by Open Source Initiative(OSI) in 1998, to promote education, awareness and public advocacy for the betterment of the society and data itself. Open source aims to create a free digital map of the world through the engagement of participants. Open source initiative save cost, time and resources for mapping projects. Development of fast computers, availability of remote sensing data, engineering techniques, GIS-softwares, instrumentation and space program made mapping easier by non-professionals. Therefore, It's the duties of surveyors and cartographer to always analyse the quality of open source data and validate it for application by the users. However, to date there has been no systematic analysis of the quality of open source data. This study intends to analyse the quality Shuttle Radar Topographical Mission (SRTM) of Sunshine Quarry Site in Igabi Local Government Area of Kaduna State Nigeria acquired through GPS Visualizer online utility and OpenStreetMap of Katsina metropolis. This was achieved by comparing the digital elevation data with Differential GNSS heights and the OpenStreetMap with street guide of Katsina metropolis made by the author, to analyse the accuracy of position, naming, type and completeness of OpenStreetMap. guide map of Katsina metropolis and surveying data were utilized for these analysis. The outcomes of the study revealed that the shift of road position is within allowable limit and the accuracy of an attribute and classification of the road is 98%. Also the open source digital elevation achieved 95% quality and its therefore good for hydrological analysis and preliminary design of engineering structures This study recommended the analysis of the quality of open source data before application to ascertain its quality.

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