

Enhancing Geodetic Controls for Secure Geospatial Data Quality and Integrity in Uganda

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SUMMARY

Uganda is moving towards the middle-income status. This is achieved through investments in the various sectors of the economy. The country is considering the Geospatial Sector as key in sustainable development and to achieve the National and International Development Goals. Geospatial data is key in fostering development because it provides a wide-range of use such as in infrastructure, agriculture, research, education, security, intelligence and conservation. The Surveys and Mapping Department of the Ministry of Lands, Housing and Urban Development of Uganda established a network of forty (40) Continuously Operating Reference Stations (CORS) that provide Global Navigation Satellite System (GNSS) data consisting of carrier phase and code range measurements in support of three-dimensional positioning, meteorology, space weather, and geophysical applications throughout Uganda.

While the first phase of 12 stations permitted to tie the Uganda Reference Frame to ITRF as recommended by UN GGIM resolution and to process transformation parameters from ARC60 to ITRF, the 28 new station permits now to cover the full country with new services. Indeed, the Surveyors, GIS users, Engineers, Scientists, and the Public at large that collect GPS or GNSS data and use them for free. The UGRF CORS data will improve the precision of positioning both in real time and post processing. The Users will also take advantage of online processing that can be used by non-specialist to easily get accurate position in the Ugandan National Reference System with only one receiver.

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