

Acquiring River Bathymetric Data as Input for Agno River LIDAR DEM

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SUMMARY

ABSTRACT: Typhoon Parma struck the Philippines in September 2009 which brought incessant rains and massive inundation causing an estimated US\$570 million damage. Among the river systems that swelled in Luzon is the Agno River Basin which is the fifth largest river system in the country. Determining its river bathymetry is essential for computing discharge which could be used for flood modelling and eventually, early warning systems for its communities. A GNSS network was established in the province on August 1-13, 2012 by occupying first and second order reference points using GNSS receivers. Riverbed elevation data was acquired by mounting a single-beam echo sounder paired with a roving GNSS receiver in a continuous topo mode utilizing PPK survey technique on a boat while traversing the river. The data was used in order to complete the LiDAR DEM of the basin for hydraulic analysis. Aside from early warning systems derived from its hydrologic model, the LIDAR DEM with river bathymetry data could be used by the local key agencies for resource management, improved urban planning and disaster mitigation.

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