COMPARISON BETWEEN CALIBRATE AND NON-CALIBRATE MANNING 'N' VALUE FOR FLOOD INUNDATION MAPPING

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AUTHOR'S DECLARATION

I declare that the work in this dissertation was carried out in accordance with the regulation of Universiti Teknologi MARA. It is original and is the result of my own work, unless otherwise indicated or acknowledged as referenced work. This thesis has not been submitted to any other academic institution or non- academic institution for any degree or qualification.

I, hereby, acknowledge that I have been supplied with the Academic Rules and Regulations for Under Graduate, Universiti Teknologi MARA, Regulating the conduct of my study and research.

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ABSTRACT

In the years2010, the heavy flood are hit two state which is Kedah and Perlis cause form heavy rainfall occur October until December. Padang Terap, Kedah was chose as the dominion research because that area are affected worth cause heavy flood during November 2010. The aim of this study is (1) To generate flood inundation mapping using DEM data for calibrated and non-calibrated data, (2)To compare the flood depth between manning 'n' value for calibrated and non-calibrated flood inundation mapping and (3)To validate calibrated and non-calibrated manning 'n' value flood inundation mapping with ground truth data. HEC-GeoRAS is the software are used to perform river analysis. Steady flow that perform on HECRAS software to generate flood inundation by certain parameter that used which is channel and flood plain of manning 'n' value. Five interval cross section which is 100m 200m 300m 400m and 500m running for each calibrate and non-calibrate flood inundation mapping. The result indicated the flood inundation mapping for each five cross section base discharge and manning 'n' value. Water Surface Elevation elaborated by comparison observation and predicted result. RMSE and MAE result for validated the flood depth calibrate and non-calibrate flood inundation mapping. Comparison flood area coverage between predicted by model and ground truth data. The result of this study will benefit by provide real able and meaningful information relate to flood.

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