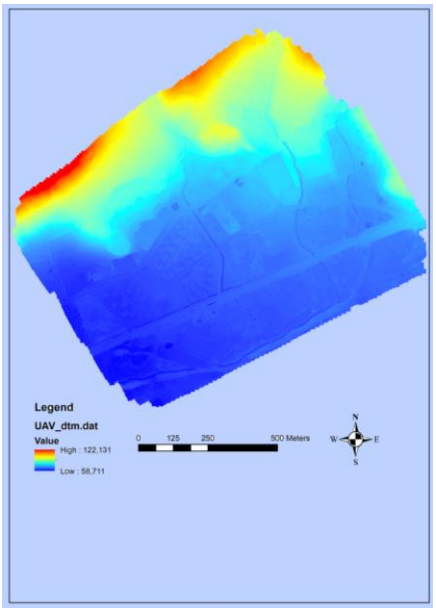

Figure 6. The UAV based DTM

5. CONCLUSION

This paper indicates the capability of UAVs, which is an alternative data collection technology, in a geomatic application in a small area by means of DTM generation with. Comparing with traditional manned airborne platforms, they reduce the working costs and minimize the danger of reaching to risky study sites, with sufficient accuracy. In fact, the UAV systems have lots of advantages (low-cost, real time, high temporal and spatial resolution data, etc.) which are very important for not only geomatic but also various disciplines. The application indicates that the UAV combined digital camera systems can allow to collect usable data for geomatic applications. The study shows that UAV based data can be used for DTM generation by photogrammetric techniques with a vertical accuracy of 17.1 cm. It can be stated that the UAV Photogrammetry can be used in engineering applications with the advantages of low-cost, time conservation, minimum field work, and competence accuracy. Moreover the created 3D model is satisfactory to realize topography with texture. On the other hand, except GCP some parameters such as weather, vibrations, lens distortions, and software directly affects the process and model accuracy. Beyond all these, the UAVs system is not fully automated and still needs a user decision. Future studies may offer an automated approach for UAVs that minimizes the user attraction.

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