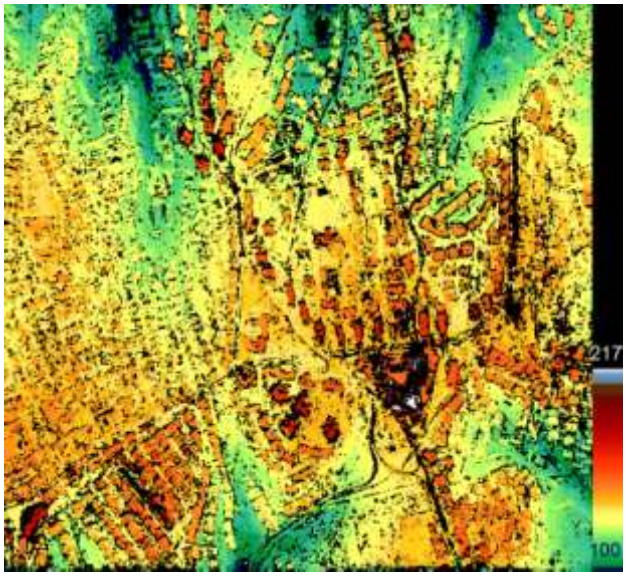

Figure 9. Colour coded SGM point cloud

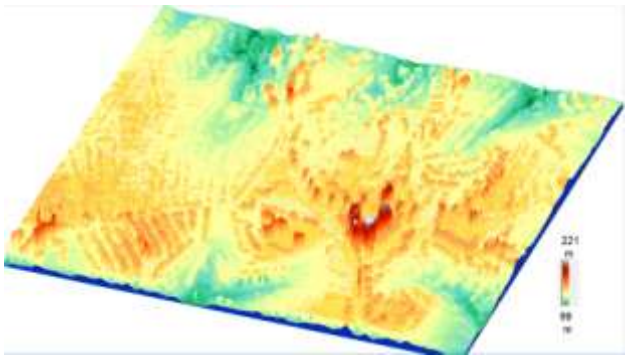
Figure 10. 3D-view to the SGM-DSM

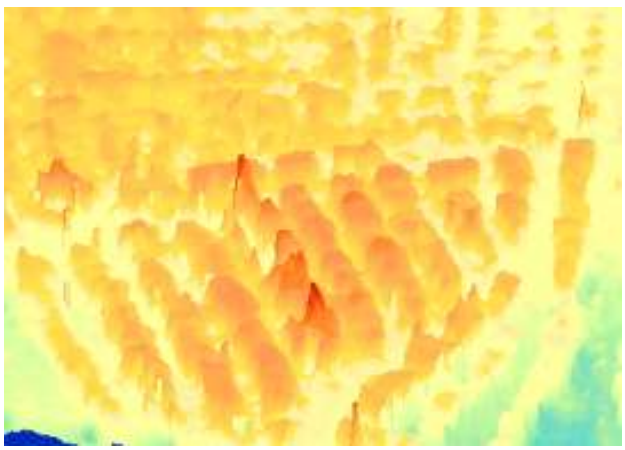
Figure 11. Detail of the 3D-view to the SGM-DSM

The 3D-view to the generated SGM-DSM (figures 10 and 11) show the potential and the limitation of the semi global matching with the 0.71m GSD Kompsat-3 stereo model with a base to height relation of 1:1.23. With a smaller angle of convergence of the stereo model the occlusions could be smaller, resulting in a better description of the buildings.

4. CONCLUSION

The generation of height models for disaster management is time critical, so the procedure has to be checked in advance. For Kompsat-3 images it became clear, that L1R images have to be used, at least before the announced improvement of the generation of this image product by KARI.

A smaller angle of convergence, corresponding to a smaller base to height relation, reducing the occlusion, would have some advantages for the height determination of the streets in the build up area. Nevertheless with the Kompsat-3 stereo pair satisfying results have been achieved. For getting a satisfying description of the 3D variation in such a densely build up area as Istanbul, the semi global matching has to be used. With the area based matching an overview to the height model can be generated, but this cannot describe the building details.

From the same area also a WorldView-4 stereo model is available. Of course with 31cm GSD more details as with the 71cm GSD of Kompsat-3 can be generated by semi global matching, but finally this is a question of economy and required details.

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