

Interactive comment on “A geomorphology based approach for digital elevation model fusion – case study in Danang City, Vietnam” by T. A. Tran et al.

J. Hofierka (Referee)

jhofierka@gmail.com

Received and published: 13 May 2014

General comments: This paper proposes a DEM fusion technique to minimize errors in two commonly used DEMs: SRTM and GDEM. The paper is well structured with clearly defined objectives. However, I have found some parts poorly explained or supported by the data and figures. Some issues have been already raised by previous referees.

Specific comments:

1. p. 260, line 26: Please explain how did you produce a "reference DEM". The contour data were used for interpolation by RST, while flat areas were interpolated by IDW? What you mean by (dense) "spot heights" in flat areas? Did you merge 2 DEMs computed by these 2 different interpolation methods into one reference DEM?

C100

2. p. 266, line 13: Please explain what you did here: "Based on the above investigations, the elevation for GDEM and SRTM with respect to reference DEM were recalculated. The calculation was executed by r.mapcalc function in GRASS GIS software with the base map of land cover." Can you include a formula used in this calculation and explain how you used a map algebra here?

3. The fusion algorithm presented on p. 268, eq. 1 might produce reasonable results for most applications, however, I doubt if this is sufficient for terrain analysis using 1st order parameters such as slope and more importantly 2nd order parameters such as curvatures. Please include 2 color figures showing slope and surface curvature maps derived from the final, fused DEM. This is also an issue raised by the referee X. Song ("terraces").

Interactive comment on Earth Surf. Dynam. Discuss., 2, 255, 2014.

C101