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Interactive comment on "LIDAR vs. GEODAS land elevation data in hurricane induced inundation modelling" *by* M. Peng et al.

M. Peng et al.

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Thank you very much for the comments and suggestions! This short paper can be simply viewed, as you put in the review, as a warning sign for those who use land elevation data abusively in coastal inundation modeling.

Generally, the low precision and resolution of GEODAS data overestimates tropical storm induced inundation in numerical modeling. This is especially true in coast where man-made seawalls and other buildings are constructed. For example, the Outer Banks (the chain island in Fig. 1b) which separates the Pamlico Sound and the ocean in the CAPES region serves as a levee to prevent gravity wave energy from transporting into the sound. The fine elevation feature of this chain island is not reflected in GEODAS data. The modeling is handled in a way that inundation difference is entirely due to elevation data input. Of course, such difference varies with the storm's size,

strength and moving speed for a given region. The cross-coast depth profile, or the bathymetry, has the same vertical precision in the two data sets, so it is not selected as an influencing factor.

As suggested by the editor, land elevation of larger areas will be provided in the revised paper to show that the elevation difference of LIDAR and GEODAS in the selected domain has the same order as in the surrounding area. Validation will be performed in the way as in our reply to Referee#1.

Interactive comment on Ocean Sci. Discuss., 4, 399, 2007.