

Interactive comment on “Evaluation of coastal vulnerability to flooding: comparison of two different methodologies adopted by the Emilia-Romagna Region (Italy)” by L. Perini et al.

Anonymous Referee #3

Received and published: 17 August 2015

1. SGSS has defined three scenarios excluding wave run-up. The major requirement of these is to have a simplified method to estimate flooding risk. However, authors have found, extension of flooding is over estimated in the central and under estimated at some part of the south. Do you think that excluding of wave run-up is partly responsible for these discrepancies? Also, according to the analyses, I believe, SGSS approach provides rough estimation of flooding risk while the method prior to EU Directive provides relatively high accuracy of predictions.

2. Pg 4336, In 14 ‘The SGSS will improve the 15 methodology developed so far by updating the analysed return periods with more recent datasets and evaluating the

C1510

combined probability of occurrence of storms and surge levels. However, this was not feasible within the time-scale set by the EU directive.’ Why EU time-scale is not feasible, better to specify the time-scale.

3. Beach evolution during storms (e.g. lowering of dune crest levels) which is important in developing passages of inland flows was not considered in your analysis though you have mentioned in the discussion some studies have shown the importance. What impacts for you findings are expected if you considered the beach evolution, specially the area of sandy beach/dune system without coastal protection structures? I believe, this is even more aggravated if there is a series of storms (even with low return levels) compared to that of a strong single event (high return level) (see for example Dissanayake et al., 2015a,b).

Interactive comment on Nat. Hazards Earth Syst. Sci. Discuss., 3, 4315, 2015.