Ocean Science
Discussions

Interactive comment on "A century of sea level data and the UK's 2013/14 storm surges: an assessment of extremes and clustering using the Newlyn tide gauge record" *by* M. P. Wadey et al.

M. P. Wadey et al.

m.p.wadey@soton.ac.uk

Received and published: 24 October 2014

Dear Joanne,

Thanks for your interest in our paper and comments. As we stated in the introduction section, second to last paragraph, this paper was intended as a simple first step in analysing clustering and in essence is aimed at highlighting the importance of the topic and promoting discussion. Conventionally, defences are designed and assessed by engineers using return periods of individual high waters, with less emphasis on the damage caused by sequences and lack of recovery time. Our simple approach demonstrates that the 2013/14 season was exceptional in the last century, as it contains the

largest number of ≥ 5 year high waters in a season, and the second largest number of ≥ 1 year high waters. But, we agree, you make a valid point; further work does need to be done to put this into a more robust statistical framework and this is something we recommend for further research. We have started to make progress on a statistical analysis, using all available records for the UK. We have initially fitted extreme value distributions to estimate the joint probability between water level height and inter-event spacing. However, this is beyond the scope of the current paper and we hope will be published as a following paper in the coming year. To avoid any confusion, we have modified the publication and remove the word 'significant', as it can give incorrect connotations, given that our results have not been statistically analysed to determine significance, explicitly.

All the best,

Matthew, Ivan and Jenny

Interactive comment on Ocean Sci. Discuss., 11, 1995, 2014.