Comment 1: The authors have very carefully addressed all referee comments and the revised paper appears well suited for publication in HESS.

Response 1: We would like to thank both reviewers for their helpful comments – we feel that they have helped to improve the manuscript significantly.

Comment 2: Figure 11: y-axis label should be changed to "Exceedance probability (%)" (reason: percentiles (like quantiles) refer to the value of a variable x (here duration) with a given probability)

Response 2: Change in label and figure caption made as requested.

Comment 3: Line 541: Change text to: "Figure 11 shows the empirical distributions of ..."
Response 3: Text changed as suggested as follows " Figure 11 shows the empirical distribution of D, M and I for clusters CL1, CL2 and CL4. Drought duration (Fig. 11) in all three clusters is highly positively skewed with many short drought events and relatively few long drought events."

Comment 4: Line 733: Use term forecasting rather than prediction

Response 4: Text changed as requested to now read "For example, forecasts of groundwater levels 1 to 3 months out are currently undertaken in the UK for selected sites using a black-box, lumped parameter model (Jackson et al. 2013; Mackay et al. 2014; Hydrological Outlooks, 2015) driven by probabilistic estimates of future rainfall. Regional inferences of future groundwater levels are then based on qualitative interpretations of the individual sites. Applying similar modelling systems to mean cluster hydrographs that are representative of spatially coherent regions of groundwater drought response instead of individual site specific hydrographs could enable more rigorous forecasts of the spatial distribution of groundwater drought."