**Hydrology and
Earth System
Sciences**

Discussions

HESSD

Interactive
comment

Interactive comment on "Benchmarking Ensemble Streamflow Prediction skill in the UK" by Shaun Harrigan et al.

Anonymous Referee #1

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General Comments:

Overall the paper is well written and makes a positive contribution to the scientific literature within this field. It is well balanced, set out clearly and has a good range of figures. The authors need to address whether they are referring to 'forecasts' or 'projections'. Without conditioning ESP results according to forecast large scale climatic influences i.e. NAO then the results should be termed 'projections' not 'forecasts'. I recommend than with minor revisions the paper should be accepted.

Specific Comments:

1. The paper on many occasions refers to 'ESP forecasts', however as this method is not driven by a meteorological forecast it would be better to refer to these as 'ESP

Projections'.

2. Page 5 lines 11-17: There needs to be greater in depth discussion as to the results presented in Table 2 in the context of other studies. Are the calibration results better than other models/studies?

3. Page 6 Section 3.4: a. Please can the authors clarify what river flow metric are the skill scores being applied to? Is it the skill in comparing the mean daily river flow on a future day 1 day/3day/1 week/2 week etc ahead? Or is it the volume of discharge over the next day/3 days, 1 week/2 weeks,. . .12 months? b. Did the authors consider using RoC scores to assess skill? Please indicate in the discussion why these were not used.

Technical Corrections:

Page 2 line 10: The Environment Agency implemented operational ESP groundwater level projections in March 2012.

Page 3 line 28: 'NHMP 2017' is the wrong font size

Page 4 line 9: 'hydro climatic regions' – how have these been defined and by whom? please include the reference for their designation.

Page 4 line 13: There are no major sandstone aquifers in Southern England.

Page 4 line 16:' highly productive' – please can you provide an explanation to this term

Page 5 line 7: need to define a UK water year (starting 1st October in year in question)

Page 8 lines 14-15, Page 10 lines 28-29 Page 13 lines 9 and 10: There is generally little variation in monthly rainfall across the year – spring and summer are not necessarily significantly drier. It's the greater evaporative demands in the spring and summer which drives the transition referred to.

Page 11 line 8: The location of the Mole at Kinnersley Manor will not be known by

most readers .It would be better to include the location of all sites mentioned in the text on Figure 1 rather than the insert to Figure 2 which does not include the Mole at Kinnersley Manor.

Figure 1: Include names of sites referred to in the text and Figure 2.

Figure 3: Consider a non linear x axis scale to allow readers to view sub monthly skill results – this is not possible with a linear scale.

Figure 8: axis labels are absent on all x and y axis – is this because they are dimensionless, if not please can these be included on the figure?