

# ***Interactive comment on “Streamflow forecast sensitivity to air temperature forecast calibration for 139 Norwegian catchments” by Trine J. Hegdahl et al.***

## **Anonymous Referee #1**

Received and published: 6 November 2018

### General comments:

This is a well written paper. It investigates the impact of temperature forecasts on streamflow forecast skill, especially considering the effect of pre-processing of temperature ensemble forecasts. The study is based on forecasts for a large number of catchments in Norway, thus providing a very comprehensive and systematic analysis. The paper provides an important contribution to the research and practical application of ensemble meteorological forecasts for streamflow forecasting.

### Detailed comments:

1. Page 2, line 16-17. There are different ways of producing meteorological ensemble

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forecasts. Typically, also model physics are perturbed.

2. Page 5, line 18-19. Not clear here how catchment average precipitation and temperature are estimated. Are they based on the SeNorge data sets? If so, is it then necessary to apply elevation corrections for the model calibration, since elevation corrections have been applied for producing the SE Norge data sets?

3. Page 6, line 17-20. Why use a daily time step for the streamflow forecasts? Meteorological forecasts with a 6-hour time step are available.

4. Page 7, line 4-6. For the quantile mapping, a critical issue is the mapping of forecasts outside the range of observed data. How is this done?

5. Page 8, line 12-13. Alternatively, you could use persistent forecast as benchmark. This would be more appropriate for evaluating short-term forecast skill.

6. Page 12, section 5.3. There are a lot of repetitions in this section. I suggest including discussion on spatial patterns in sections 5.1 and 5.2.

Technical corrections:

1. Page 2, line 30. Evensen (2003) not in reference list.

2. Page 4, line 27. “og” -> “and”

3. Page 11, line 20 and 24. Delete “Ivar”.

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Interactive comment on Hydrol. Earth Syst. Sci. Discuss., <https://doi.org/10.5194/hess-2018-373>, 2018.

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