We would like to thank Spencer Sawaske for his feedback and constructive suggestions on this manuscript. We think that revisions based on the reviewers' comments will further improve our work. Below we give point-by-point responses to the comments (blue and italic).

*General Comments*

*This is a sound and timely paper that builds on established methods and previous work of others and examines important water resource issues with management implications in the face of climate change. There is a thorough introduction and discussion of methods. The analysis is based on a very large sample size of existing gages which strengthens the validity of the results and conclusions. Methods used in the analysis are well documented and established procedures in the field. There is a detailed appendix and appropriate and easily interpretable figures. I particularly appreciated figure 5, a very compelling illustration of the impacts of start and end year on trend analyses.*

*Specific Comments*

*The study includes data from presumably a wide range of catchment types based on the spatial distribution of gages. However, the only catchment attribute discussed is a measure of porosity. I would have preferred some greater detail of catchment geology, land use/vegetation, and geomorphic characteristics to differentiate the study basins.*

Indeed, there is a larger number of potential controls that influence hydrologic processes on catchment scale. Here we chose those factors that are most likely to influence long term changes in minimal baseflow. We differentiated only three hydrogeological classes to maintain a sufficient sample size and this appeared the most straightforward classification to explore first-order controls. There is of course more lithological diversity across Germany. One possible predictor would be the hydraulic conductivity. There are some estimates covering the whole study area, but uncertainty is very high. For example, the estimates of GLHYMPS (Gleeson et al., 2014) and HÜK200 (BGR and SGD, 2016) differ up to six orders of magnitudes for many parts of Germany. Classifying more detailed meaningful categories with enough samples each, would be a major ground work required and thus beyond the scope of this paper. We suggest to discuss this issue in more detail, but currently see no easy alternative to be used. However, for the revisions we will add land use categories and a terrain-based measure as further characteristics to differentiate study basins.

*I don't fully understand the use of the "scenario-neutral" term. Although emissions specific scenarios are not discussed, only one trajectory is analyzed (reduced summer precip. and increase winter precip.). It would be interesting to test the baseflow impacts of varied changes in seasonal precipitation pattern.*

We agree that other scenarios could be tested easily. Instead we opted to test only a generalized probable future change, as all projections agree on this general scenario (reduced summer precipitation and increased winter precipitation). The term scenario-neutral was branded first by Prudhomme et al. (2010) for tests that do not follow strict climate model runs, but we agree that we deviate from their more substantial sensitivity test/response surfaces and it may hence be better to change the terminology. However, as our test scenario is independent from the magnitude of change which depends on the model and emission scenario, the analysis is in a way "scenario neutral".
It is not in the scope of our study to identify changes due to theoretical combinations of precipitation changes but to predict the changes under certain assumptions that are common to all scenarios. Therefore, we decided not to include further scenarios.

*How are summer low flows in the Alpine foothills projected to change? Although minimum flows currently occur in winter, low flows in summer can have greater water resources and ecological implications.*

This is an important point and we will include the implications for summer low-flows in this area in the revised version. Due to the short response times many catchments in the Alpine foothills are likely to have reduced summer low-flows under the test scenario.

*It was important to note in section 5.2 that: "Catchments' characteristics response times were assumed to remain constant". Although likely outside the scope of this article, it would be nice to explore this more and the implications on baseflow recession.*

For climate change impact studies, the choice of boundary conditions is often critical. Catchment characteristics (e.g. response times) can generally be assumed to be independent from climate. However, recent studies found that over a longer term these catchment characteristics are also related to climate and so climate change might impact them as well (e.g. Troch et al., 2015; Saft et al., 2016). This is often referred to as catchment coevolution. Unfortunately, complexity of these processes is high and therefore not easily predictable for a large range of conditions like they occur in Germany. Therefore, we assume constant response times but agree, that this would be an interesting topic for further research and suggest to include it more in the discussion.

*Technical Corrections*

*5.2, line 1 should be dependent rather than depending.*

Will be corrected.

*This is an easily readable and well formatted text..*

**References:**

BGR and SGD: Bundesanstalt für Geowissenschaften und Rohstoffe and Staatliche Geologische Dienste (2016), Hydrogeologische Übersichtskarte von Deutschland 1:200.000, Oberer Grundwasserleiter (HÜK200 OGWL). Digitaler Datenbestand, Version 3.0. – Hannover.

Gleeson, T., N. Moosdorf, J. Hartmann, and L. P. H. van Beek (2014), A glimpse beneath earth's surface: Global HYdrogeology MaPS (GLHYMPS) of permeability and porosity, Geophys. Res. Lett., 41, 3891–3898, doi:10.1002/2014GL059856.

Prudhomme, C., R.L. Wilby, S. Crooks, A.L. Kay, N.S. Reynard (2010), Scenario-neutral approach to climate change impact studies: Application to flood risk, J Hydrol, 390, 198-209, doi:10.1016/j.jhydrol.2010.06.043

Saft, M., M. C. Peel, A. W. Western, and L. Zhang (2016), Predicting shifts in rainfall-runoff partitioning during multiyear drought: Roles of dry period and catchment characteristics, Water Resour. Res., 52, 9290‑9305, doi:10.1002/2016WR019525.

Troch, P. A., T. Lahmers, A. Meira, R. Mukherjee, J. W. Pedersen, T. Roy, and R. Valdés-Pineda (2015), Catchment coevolution: A useful framework for improving predictions of hydrological change?, Water Resour. Res., 51, 4903–4922, doi:10.1002/2015WR017032.