#	Comment	Answer
1	MAJOR: The authors have developed a point-scale modelling system and have emphasised throughout the paper that this type of analysis has several advantages over a grid-based modelling system. Point-scale analysis can have some advantages, but with the current availability of computing and storage facilities, grid-based analysis has become very feasible even at 30 m resolution (e.g. Vergopolan et al., 2021, https://doi.org/10.1038/s41597-021-01050-2). Furthermore, point scale analysis does not consider lateral movement of water, which is particularly important over shallow soils and sloping terrain. Therefore, grid-based systems have also advantages with respect to point-scale simulations. The discussion of the limitations of the proposed approach should be clarified and the comparison with grid-based analysis should be made more fair.	Agreed partly. We will add a discussion section on point vs grid based soil moisture simulations for forest areas with regard to resolution, data input, pros and cons, plausibility and user orientation. A few extra features of the point-based system which are not mentioned in the text include the following ones. For forest managers the actual data availability at the point (particularly detailed soil information and its near real time as well as retrospectacle hydrological behaviour) is much more of usage as the generalised grid-based information, everything else is often redundant. Further, point modelling has the advantage that we can update point information (input parameters) and/or add new points (soil profiles) easily and at any time without having to dismantle the entire model concept. The point approach therefore offers an open space approach for continuous improvement. Point display has more practical advantages because additional information from the site (soil profile and soil properties, climate summary, topography information) fits into the display, not to forget the helpful background (aerial, OSM, forest site maps etc). On the other hand, grid-based simulations are easily for postprocessing and comparison to other similar system outputs. Regarding grid-based soil moisture estimates from Vergopolan et al. 2021. This is a reanalysis dataset (with application of modelling and several stages of downscaling techniques), which is not a daily operational framework, therefore is not comparable regarding the computational powers behind. Further, data from the satellite sensors used in the study typically have a depth penetration of up to 5 cm on the clear ground and do not work in the forested areas, not to mention, that probably the setup and chosen soil parameterisation dataset did not account for the difference in humus and mineral horizons physical properties in forests. Yes, the used 1D model could not adequately represent lateral flows (especially inflow) on the sloped terrain and we will address it in the discussion. However, this is not so critical for the

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		study sites, since approximately 75% of forest floors (at least in Saxony) are characterised by predominant vertical seepage water movement and here LWF BROOK90 works better than, for example, the grid-based SWAT or TOPMODEL. Finally, lateral inflows and outflows, which are the main advantage of grid-based models, have to use a good quality DTM. In Central Europe, DEMs (and therefore streamflow networks) are massively covered with artefacts due to the strong anthropogenic influence (bridges, forest roads, mining traces, dams, culverts, ditches) and would have to be extensively cleaned up in order to actually achieve the alleged accuracy of soil moisture modelling, which is problematic for dense vegetation covered areas. Finally, accurate correction for tree height to produce high-resolution DTM is possible only with laser/drone scans due to high heterogeneity of the forest stand.
2	MAJOR: In the abstract it reads "soil moisture monitoring framework … which addresses the main limitations and problems of the existing monitoring systems.". This is not demonstrated at all in the paper.	Agreed, we elaborate this in a new discussion section (see also comment below). As the primary stakeholders and users of the system are forest managers of different administrative levels, we gather direct feedback from them. And they agreed that the existing systems are too coarse in resolution, which was the main point of the development of this point-based modelling system with point-based soil information data from National Forest Inventory and high-resolution local soil map (1:10 000, where the smallest area-mapping unit is about 0.5 ha), rather than generalised soil maps of coarser resolution (1:1 000 000). Nevertheless, there are hardly any directly quotable sources to be found to this problem (only 'practical experience' and 'expert knowledge') and we could only summarise and mention this feedback. From the point of view of soil hydrology, however, there is also a need to map the high spatio-temporal heterogeneity of soil moisture, which is largely controlled by the local variability of physical soil properties, topography and

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		vegetation. (e.g. https://doi.org/10.1029/2022WR032719 or https://doi.org/10.1016/j.foreco.2016.12.024 or https://doi.org/10.1016/j.foreco.2020.118671). Therefore, our approach is to link the data available at the plot level with the best available model parameters and modelling techniques at the same spatial scale.
3	MAJOR: Two soil moisture modelling systems were mentioned in the introduction, the German Drought Monitor and the German Weather Service Soil Moisture Viewer. These systems have high resolution, 4 km and 1 km respectively, not so different from the point modelling system developed in this study, note that the average distance of the rain gauge is 5 km and more for the other meteorological data. I believe that a comparison should be made between the simulation carried out in this study and these systems. Through this analysis, the potential added value of the developed monitoring system can be evaluated.	Agreed partly. The more detailed comparison will be added in the new discussion section, while information in the introduction will be reduced (current L55-65). All three systems use more or less the same meteorological data (main difference are quality-control and interpolation techniques). Currently, the online version of German Drought Monitor uses the MHm model, which possesses limitations with regard to evaporation representation and 1:1 000 000 resolution soil map. The German Weather Service Soil Moisture Viewer uses LWF-BROOK90 (same as in the presented setup) model for forests and a 1:1 000 000 resolution soil map. The system was updated after the manuscript submission (before it was only for croplands). It is questionable whether the average distance of 5 km to the rain gauge dictates the resolution of the product. For instance, German Drought Monitor uses regular-grid-interpolation inputs and has no variability due to soil or meteorological datasets within a grid (4 km), while the presented framework will still possess point-wise variability due to higher resolution of soil dataset and variable distance to the meteostations for each point. Exact build-up of the second system is unfortunately unknown, but presumably the above mentioned statement holds for it as well (at least regarding variability due to soil dataset). Raster-based simulation at the resolution of the used soil dataset will require a grid of 10 m, which is implausible for the implementation due to computational power requirement and technical problems of the result representation (in an interactive and not just raster-based way).

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		The raw simulation data from the two systems is not open-sourced (only post-processed and converted in indexes and presented via picture-based format). We will make requests to corresponding authors of these two systems. If the data will not be available, we will be able to make only a qualitative analysis and discussion of the setups, which from our point of view will still be enough to conclude on the potential added value of the presented framework.
4	MAJOR: A major and important issue is the lack of validation. Only one figure, not discussed, with a comparison to a single soil moisture station. In addition, the paper also reports long-term averages of evaporation per forest type. How accurate are the evaporation estimates? How accurate are the soil moisture estimates? In order to be published, the paper should perform a robust validation of the simulations.	Agreed partly, the main purpose of the presented paper is not about robust validation, but about presenting the system itself. Besides, it is mentioned in the text (L 236-239), that the soil moisture pilot version of the setup was already validated (for different forest types and grass) based on soil moisture measurements in Saxony (http://dx.doi.org/10.1127/metz/2023/1155). Additionally, we want to point out, that due to high heterogeneity of the soils in the region, direct comparison of measured soil moisture with simulations from nearby BWI point could lead to unexpected results, even if the vegetation above is completely the same, due to possible differences in soil structure and profile depth. Evaporation was validated similarly to the presented setups (with original BROOK90 model, which has the same evaporation module) for 5 eddy-covariance towers in Saxony (https://doi.org/10.5194/hess-26-3177-2022). Nevertheless, we will add an extra section to the results with validation of the soil moisture and evaporation components using available data of approximately 15 stations (forest climate stations and FLUXNET/ICOS towers) and nearby simulated BWI points.

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5	MODERATE: The text contains several errors, and some parts are unclear (see specific comments for some of them). Acronyms are not defined. Many references are in German. Four figures are in German. This can't be accepted in an international journal. The figures should be translated into English and the German references should be avoided or minimised.	Agreed, unclear parts and errors mentioned below will be revised and specific acronyms will be checked and their number reduced to minimum. Figures 13 and 14 (current numbering) will be erased since new sections are planned (i.e. validation) and the platform will be illustrated with updated Figures 11 and 12 (current numbering). Either the Figures themselves will be translated or the platform becomes an English lite version, we are considering technical solutions for this.
6	MODERATE: The model is described in Section 3.1. Several modules are mentioned, e.g. vegperiod, betamode, b90, ... However, a detailed description of these modules is missing. The reader is lost and, for example, it's unclear how the values of the model parameters were assigned. How many parameters? The model description needs to be improved.	Agreed partly, the main principles of mentioned modules are presented in the text (L150-152 and L161-166). We will revise and enhance to a certain extent the description, however providing a full description of them in the text is unnecessary from our point of view, as the potential reader could always refer to a provided reference and it shifts the focus of the section. Additionally, we suggest putting a 'summary' table on the model parameterization in the Appendix.
7	L71: "with an operational climate data". It's not climate, but meteorological data. To be corrected throughout the paper.	Agreed, will be corrected and checked throughout the text.
8	Figure 1 caption: Specify acronyms.	Agreed, will be added.
9	L92: The size of the investigated area should be specified.	Agreed, will be added. It is about 55000 km2.
10	L128: What is the "REST-API access"?	Agreed, will be clarified.
11	L135-136: The sentence is unclear, and it should be revised.	Agreed, will be revised.
12	L140: What does LWF stand for? Check all acronyms.	Agreed, will be added. LWF stands for 'Landesanstalt für Wald und Forstwirtschaft' Bayern, where the original model was first modified.
13	L188: Why are some stations filtered? What do the authors mean with "filtered"?	Agreed, will be clarified. Station list available for the whole of Germany was reduced based on spatial (study region plus 30 km buffer zone) and

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14	L190: Which criteria should be matched?	temporal (data availability within the last 10 years period) principles.
15	L191-193: The sentence is unclear, and it should be revised.	Agreed, will be clarified.
16	L201: It's not clear for which period the soil moisture data are simulated from the system. Here it reads 5 months, later in the text 30-year period. It must be clarified.	Agreed, will be clarified. In operational mode we simulate 10 years each day. 30-years simulations were done once to calculate quantile REW values for each plot. Here we mean that tests of the meteorological data retrieval for 10-year simulations during the June-October 2023 period did not show large deviations in station data availability. This means that up-to-date data for each used variable is almost stable regarding the number of stations.
17	L08-209: Approximate distance for rain gauge equal to 5 km, more than 10 km for other meteo data. The actual resolution of the simulated soil moisture cannot be less than 5 km.	Agreed partly, see comment #3. The resolution of the meteorological forcing does not necessarily dictate the resolution of the soil moisture simulations. For each simulated point within the same BWI plot, meteorological input will be different due to different distances, even if the original station data picked by the filter is the same. Moreover, each point has its own geographical features, including topography and soils. These two factors bring enough variability and confirm the higher output resolution compared to grid-based products. Furthermore, based on our previous study for the evaporation component, it was found that the variability and uncertainty of the parameterization datasets is higher than the uncertainty of the meteorological data (https://doi.org/10.5194/hess-26-3177-2022).
18	L226-227: It's unclear if NA values are present or not in the data. Please revise the sentence.	Agreed, will be clarified. So far we did not experience such a case, while for each plot 1) stations in 30 km buffer with more than 5% on NA are removed 2) typically more than one station for plot inside the buffer 3) for 1-day-lag data 30 km buffer is expandable if NA appear So typically, after all these steps there is no NA data inside. However, if it happened (i.e. for wind

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		or sunshine duration data, as the station network is sparse; or there is an update failure by certain DWD stations) this simplified gap-filling algorithm was added out of precaution, so 100% no NA meteorological data appear in the forcing.
19	L233-235: The sentence is unclear, and it should be revised.	Agreed, will be revised.
20	L270: I don't agree that raster-based simulations do not account for local conditions, it depends on the grid size. Please revise (see the first general comment).	Agreed, will be revised.
21	L273-274: I don't believe the two examples "illustrate the advantage of the point-based framework". This part should be revised.	Agreed, will be revised.
22	L335: What is the time period of the long-term simulations?	Agreed, will be added. Time-period is 1990-2020.