This study provides an accurate and reliable, global 36 km, 8-day synthetic SMAP SM products from 1979 to 2015. This is a valuable dataset for the evaluation of historical events. I have some questions about the dataset you achieved in your article

Thank you for the comments. We are going to reply item-by-item to each comment.

1. How to achieve data synthesis toward those different data sources?
   
   \textit{Reply:}
   
   \textit{Considering the spatial gaps in the daily SMAP data, we adopted 8-day composited method to acquire a more complete spatial coverage by averaging the valid SM data. Thank you for the comment.}

2. It seems that the analysis of data in this volume is time-consuming. Could you please provide more details about the data analysis platform that you used here? Such as software or any other online platform.
   
   \textit{Reply:}
   
   \textit{Indeed, the time cost of this work is related high. We used Matlab to generate the RF_SMAP dataset. For the simulation of one scene data, it takes about 300 seconds. The processed operator is Intel(R) Xeon(R) Silver 4110 CPU @ 2.10GHz.}

In addition, there are some minor issues with the manuscript details:

1. In Figure 1, the site location is not clear.
   
   \textit{Reply:}
   
   \textit{Thank you for the comment, we have revised the Figure 1 and enlarged the size of the sample points to clear illustrate the site location.}

\begin{figure}[h]
\centering
\includegraphics[width=\textwidth]{figure1.png}
\caption{Locations of the in-situ data in Experiments 1 and 2.}
\end{figure}

2. Is the reconstruction of SM data before 2015? Why do you use sites from 2015-2016 to validate pre-2015 data in the abstract?
Thank you for the suggestion. For the unclear description in the abstract, we are going to revise revised. In fact, the validation of reconstruction before 2015 was adopted the in-situ data before 2015 as the reference (Experiment 2). The in-situ data from 2015-2016 were used in Experiment 1. Experiment 1 aimed to demonstrate the predicted method (evaluate the performance of RF_SMAP during the period of real SMAP).

3. I think the flowchart is kind of too simple to express the details of dataset production.

Reply:
Thank you for the suggestion. We have revised this point in advance and increased the readability of Figure 3.

Figure 3. The prediction process of the RF_SMAP dataset at a time.