This study investigates the ability of surface and root-zone soil moisture from multiple reanalysis and remote-sensing products in representing drought events in recent 20 years globally, and compares their differences in describing various drought metrics. Overall, this paper provides a comprehensive reference for selecting datasets for drought study. Although the authors have made a major revision in the whole storyline and figures, but I still suggest a major revision before publication. The main suggestions are as follows.

General comments:

1. Throughout the whole paper, the quantitative evaluation is still not sufficient, and there are too many qualitative statements, Such as Line 395, conclusions and abstract. For the multiple datasets used in the study, such reanalysis is clearly enough to readers.

2. Figure 7: It is better to show their differences with respect to the baseline dataset, and thus it is easier to capture their abilities. In addition, the statistical results, such as RMSE and patter correlation coefficients, can also be presented in this way.

3. Figure 8: I think it is more reasonable to intercompare the datasets for each drought events than all events.

4. Figure. 10: Except for the long-term trend, drought events are also largely affected by the interannual variability. Hence I suggest the authors add the relevant evaluation for the interannual variability.

Specific comments:

The numbers under all colorbars are too small, and it is better for the units of trend to transformed to *** $(20yr)^{-1}$