Referee #2

The study is well-organized and innovative, with its originality stemming from the use of GRACE and GRACE-FO terrestrial water storage (TWS) data as an independent approach for evaluating the accuracy of precipitation products. The authors computed Drought Recovery Times (DRT) from Total Water Storage Anomaly (TWSA) data using two different approaches. The first approach, referred to as the "storage deficit" method, relies solely on TWSA data, while the second, the "required precipitation amount" method, integrates TWSA with precipitation data. Two TWSA products, JPL and G3P, were utilized for these calculations. Additionally, the authors evaluated the discrepancies in DRT results between the two TWSA products. I have only a few minor comments for the authors may consider:

Authors: Thank you for your positive feedback. In this version, we have revised the text by addressing your comments. Our responses are given below in red while the reviewer's comments are given in black.

Minor Comments:

-Line 285: Which correlation method did you use, Can you please name it? (e.g. Pearson's correlation)

Authors: We used Pearson's correlation coefficient. To clarify this point, we have now revised the following text in the manuscript (Section 2.5):

"Following the study of Singh et al. (2021), we estimated not only regression coefficients (i.e., β0 and β1) but also the Pearson's correlation coefficient (r) between cdPA and dTWSA, as well as maximum drought length for each pixel utilizing 19 years of monthly data spanning from 2002 to 2020. We classified the r values as follows: no or insignificant correlation (0.0–0.13), weak correlation (0.14–0.39), moderate correlation (0.40–0.69), and strong correlation (0.70–1.0)."

-Line 298: Please verify the figure numbers, as they might need to be labeled as 2b and 2d

Authors: Thank you for your comment. The references should be Figures 2c and 2d. However, to improve the clarity of the relevant section, we have now revised the text in the manuscript (Section 3.1) as follows:

"GPCC (Fig. 2d, JPL mascon&GPCC) affected correlations to a larger extent than GPCP (Fig. 2c, JPL mascon&GPCP), in particular over places with less dense in situ networks. Given the standard deviation values of correlation differences (Figs. 2c and 2d) due to switching from GPCP to GPCC, the variability was higher in Fig. 2d (global average: 0.21) than in Fig. 2c (global average: 0.14)."

-The paper uses numerous abbreviations and technical terms, so it is recommended to include a glossary of full forms for the abbreviations after the conclusion.

Authors: To clarify the abbreviations, we have added the full forms glossary for the abbreviations as a table in the manuscript (Appendix A):

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Table A1. The full forms glossary for the abbreviations

cdPA	Cumulative Detrended Precipitation Anomaly
cPA	Cumulative Precipitation Anomaly
DRT	Drought Recovery Time
dTWSA	Deviation of Storage
G3P	Global Gravity-based Groundwater Project
GPCC	Global Precipitation Climatology Center
GPCC FDM	Global Precipitation Climatology Center Full Data Monthly Product
GPCP	Global Precipitation Climatology Project
JPL mascons	Jet Propulsion Laboratory Mass Concentration blocks
scPA	Smoothed Cumulative Precipitation Anomaly
TWS	Terrestrial Water Storage
TWSA	Terrestrial Water Storage Anomaly

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Overall, this research is well-structured and presents a state-of-the-art contribution to hydrology by highlighting the potential of GRACE and GRACE-FO data in evaluating precipitation products and drought characteristics. Addressing the minor comments provided will further strengthen the manuscript's impact.

Authors: Thank you for your encouraging words.