

Second review of "China Coastal GNSS Network: Advancing Precipitable Water Vapor Monitoring and Applications in Climate Analysis" by Zhilu Wu et al. June 2025

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General Comments.

I think this paper is close to ready for publication. I have made a few corrections to the language. My only concern, as I noted before, are the limits on the PWV values. 0 mm values of PWV at a coastal near-sea-level station are not physically possible. If other groups employing these data have similar results, this does not imply the correct calculation of GNSS PWV. For example, Yuan et al. (2023) note that erroneous values in water content are found in high elevations zones, the Arctic/Antarctica, etc... These geographic locations are extremely different from the Chinese coast. I doubt the coldest northern site could even drop below 3mm in this region where sea-surface temperatures do not fall below freezing. Your Figure 11b shows these erroneous minimum values, but Figure 13 demonstrates that it is very improbable that your lower latitude sites approach 0mm or even 5mm. Likewise, the northern data at 40N latitude with maximums greater than 75mm are highly unlikely even with remnants of a typhoon. Remember, clouds and heavy rain can effect the wet delay (Solheim et al. 2019 among others) among other errors that may be associated with the reanalysis data. You should employ more rigid limits, let's say, 3mm to 80mm and then separate these extreme values to understand if they result from errors entering into the PWV calculation. This error analysis is interesting in itself. But I will let the Editor assess the importance of this issue and whether you should carry out an additional analysis.

Specific Comments.

Line 33. I assume you want to write "...numerical weather prediction assimilation (Gendt et al., 2004) and extreme weather forecasting (Tsushima and Ohta, 2014)."

Line 43. Remove the word "Therefore", it is unnecessary in this context.

Line 46. Write "...and the ground-based observation network operated by China Meteorological Administration (CMA) (Bai et al., 2021)."

Line 49. Write "dataset from 12,552 ground-based GNSS stations..."

Line 116 Write " A batch least-squares estimation method was used to...."

Line 165 Which stations and when do your near coastal, sea-level station values approach 0.72 mm? These relatively warm waters along the Chinese coast cannot result in PWV near 0.72mm. Your lowest values PWV should always be above 3mm, you need to check this more carefully or better justify that including values below 3mm is correct.

Line 249 Write "...most of its match-ups occur in Spring."

Line 354 Remove "Besides" it is not correct in this context. Perhaps you mean, " In addition, ..."