

➤ **AC to Referee #2** (Submitted on 28 Feb 2024):

The authors have addressed my major concerns. One suggestion: The new trend and seasonality analysis in section 1.2.4 should better be performed site by site. This will highlight how the performance of the products differ across the spatial domain, which will be more informative than the overall measures based on the singular spectrum decomposition. I suggest the authors report site-wise metrics in the manuscript.

**AC:** We greatly appreciate the suggestion. In the following responses, the line numbers will be based on the updated version without highlights.

**New Contents (Line 846 to 854):**

**Table 1** Comparison of CAMELE results at 13 continuous 10-year observational sites: (a) Comparison of Linear trend; (b) KGE values for monthly seasonality.

Site Name	Observation	(a) Linear Trend (mm/yr) (2004-2014)		(b) KGE of seasonality	
		CAMELE (0.1)	CAMELE (0.25)	CAMELE (0.1)	CAMELE (0.25)
BE_Lon	0.15	0.06	0.05	0.65	0.71
CH_Lae	-0.33	-0.36	-0.35	0.80	0.80
CH_Oe2	0.25	0.37	0.67	0.85	0.49
CZ_BK1	-0.44	-0.53	-0.66	0.54	0.71
DE_Gri	0.11	0.03	0.24	0.61	0.54
DE_Kli	0.68	0.77	0.85	0.78	0.52
FR_Gri	0.41	0.36	0.55	0.71	0.55
GF_Guy	-0.47	-0.50	-0.45	0.77	0.73
IT_BCi	0.21	0.25	0.28	0.61	0.56
IT_NoE	0.11	0.02	0.04	0.61	0.51
US_GLE	-0.14	-0.17	-0.01	0.64	0.49
US_SRM	-0.42	-0.45	-0.63	0.52	0.61
ZM_Mon	0.16	0.22	0.09	0.56	0.51

Furthermore, we present the linear trend estimated by CAMELE from 2004 to 2014 at 13 sites, along with the KGE values for monthly seasonality. The results indicate that regardless of the resolution, whether  $0.1^\circ$  or  $0.25^\circ$ , the trends estimated by CAMELE are consistent with the observed trends, with minor difference. In comparison to the observed monthly seasonality, the KGE values exceed 0.5 at all sites, with some sites exceeding 0.7, indicating that CAMELE can effectively capture the seasonal variations.

➤ **AC to Referee #3** (Submitted on 30 Jan 2024):

The authors have greatly improved the manuscript. I am generally satisfied with their extensive responses and the additional material, though they tended to be too elaborate thus making the revised manuscript even longer. As such, I only have some minor [technical] comments regarding the captions, citations, abbreviations. The authors need to make these more complete.

1. For instance, in Figures 11 and 12, the caption should be complete to indicate “variation of average \*ET\* with latitude”
2. LN[277] \*evapotranspiration in-place-of “latent heat values to \*evaporation”
3. Lu et al. (2021) 's >> Lu et al.'s (2021) [APA style] ;

Keep the same citation style throughout (some citations contain doi's while others do not): [1179] \*ECMWF, S. P.\*: In IFS documentation CY40R1 Part IV: Physical Processes, ECMWF:1179 Reading, UK, 111–113, 2014, - what is S. P.? also no doi (<https://doi.org/10.21957/vr0gh9gt9>) [1218] Gupta, H. V., Kling, H., Yilmaz, K. K., and Martinez, G. F.: Decomposition of the mean squared error and NSE performance criteria: Implications for improving hydrological modelling, *Journal of hydrology*, 377, 80–91, 2009 – no doi (<https://doi.org/10.1016/j.jhydrol.2009.08.003>)

**AC:** We greatly appreciate the comments. In the responses, the line numbers will be based on the updated version without highlights. All questions have been addressed and the references are updated to Copernicus style using official links in Zotero (<https://www.zotero.org/styles?q=id%3Acopernicus-publications>):

**Revised Contents:**

**[Line 764-766]:**

“**Figure 11** Global distribution of multi-year daily average ET at 0.1° for CAMELE, ERA5L, FluxCom, and PMLv2, depicted alongside corresponding variation curves of multi-year daily average ET with latitude.”

**[Line 790-792]:**

“**Figure 121** Global distribution of multi-year daily average ET at 0.25° for CAMELE, ERA5L, FluxCom, and PMLv2, depicted alongside corresponding variation curves of multi-year daily average ET with latitude.”

**[Line 158]:** “...Lu et al.'s (2021) global...”

**[Line 277]:** “...converted the latent heat values to evapotranspiration...”