

Non-Ignorable Differences in NIRv-Based Estimations of Gross Primary Productivity Considering Land Cover Change and Discrepancies in Multisource Products

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Text S1. Comparison between the site EC data and the experimental results

We collated eddy-covariance (EC) observed daily gross primary productivity (GPP) as the field observations to investigate the outperformance of our results. The CN-HaM and CN-Ha2 were obtained from the FLUXNET2015^[1] and the CF-HBG_S01 was obtained from the ChinaFLUX^[2]. The geographical locations and details of the three EC flux towers were shown in Figure S1 and Table S1, respectively.

The employment of the EC month observed GPP data supported the comprehensive validation of our method. The simulation GPP was extracted in light of the central location of the EC site and the surrounding eight pixels. The RMSE value based on the static scheme is 141.197 gCm⁻²month⁻¹. The RMSE value based on the dynamic scheme decreased by 37% against that based on the static scheme.

Table S1. Details of the three EC flux towers (CN-HaM, CF-HBG_S01, and CN-Ha2) in the Yellow River Basin employed in this study. Note that GRA refers to grassland and SHR refers to shrubland.

| Site code | Site name | IGBP | Latitude | Longitude | Time scale | Reference |
|------------|-------------------------------|------|----------|-----------|-------------------------|--------------------|
| CF-HBG_S01 | Chinaflux Haibei grassland | GRA | 37.6653 | 101.3311 | 2003-2005; 2008-2010 | Yu et al. (2021) |
| CN-HaM | Haibei Alpine Tibet site | GRA | 37.6975 | 101.2733 | 2002-2004 | Kato et al. (2006) |
| CN-Ha2 | Haibei Shrubland | SHR | 37.6086 | 101.3269 | 2003-2005 | Li et al. (2016) |

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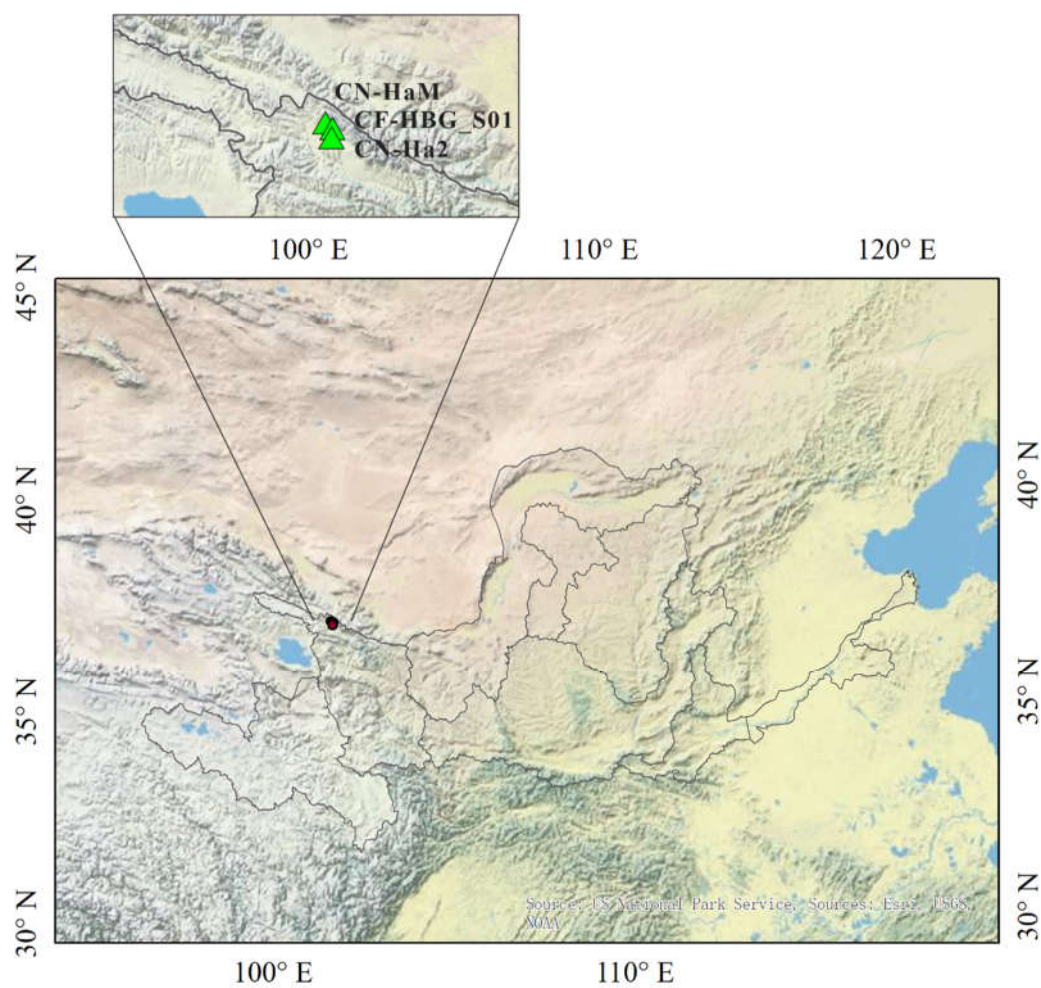


Figure S1. Geographical location of the three EC flux towers (CN-HaM, CF-HBG_S01, and CN-Ha2) in the Yellow River Basin employed in this study.

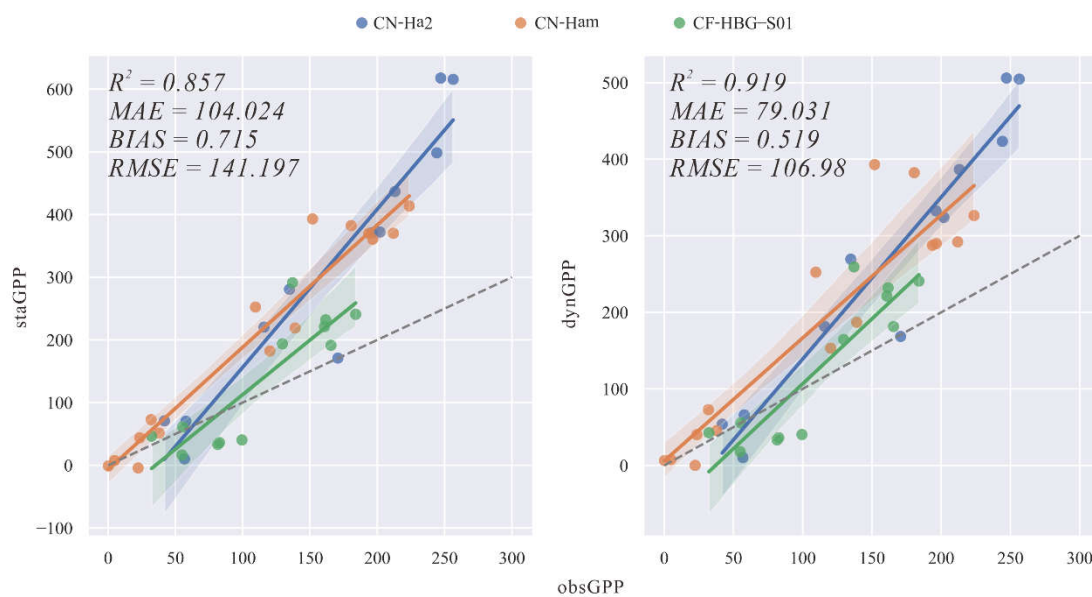


Figure S2. Scatter plots between the observed EC GPP against MODIS monthly static and dynamic schemes. The blue orange and green points represent CN-Ha2, CN-Ham and CF-HBG_S01 site, respectively.

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References

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