AGCPP: All-day Global Cloud Physical Properties dataset with 0.07° resolution retrieved from geostationary satellite imagers covering the period from 2000 to 2022

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15 **Introduction**

This supplementary material, Fig. S 1, Fig. S 2, Fig. S 3, and Fig. S 4 in the article comprise the complete AGCPP DJF, MAM, JJA, and SON seasonal average results for 2020–2022.
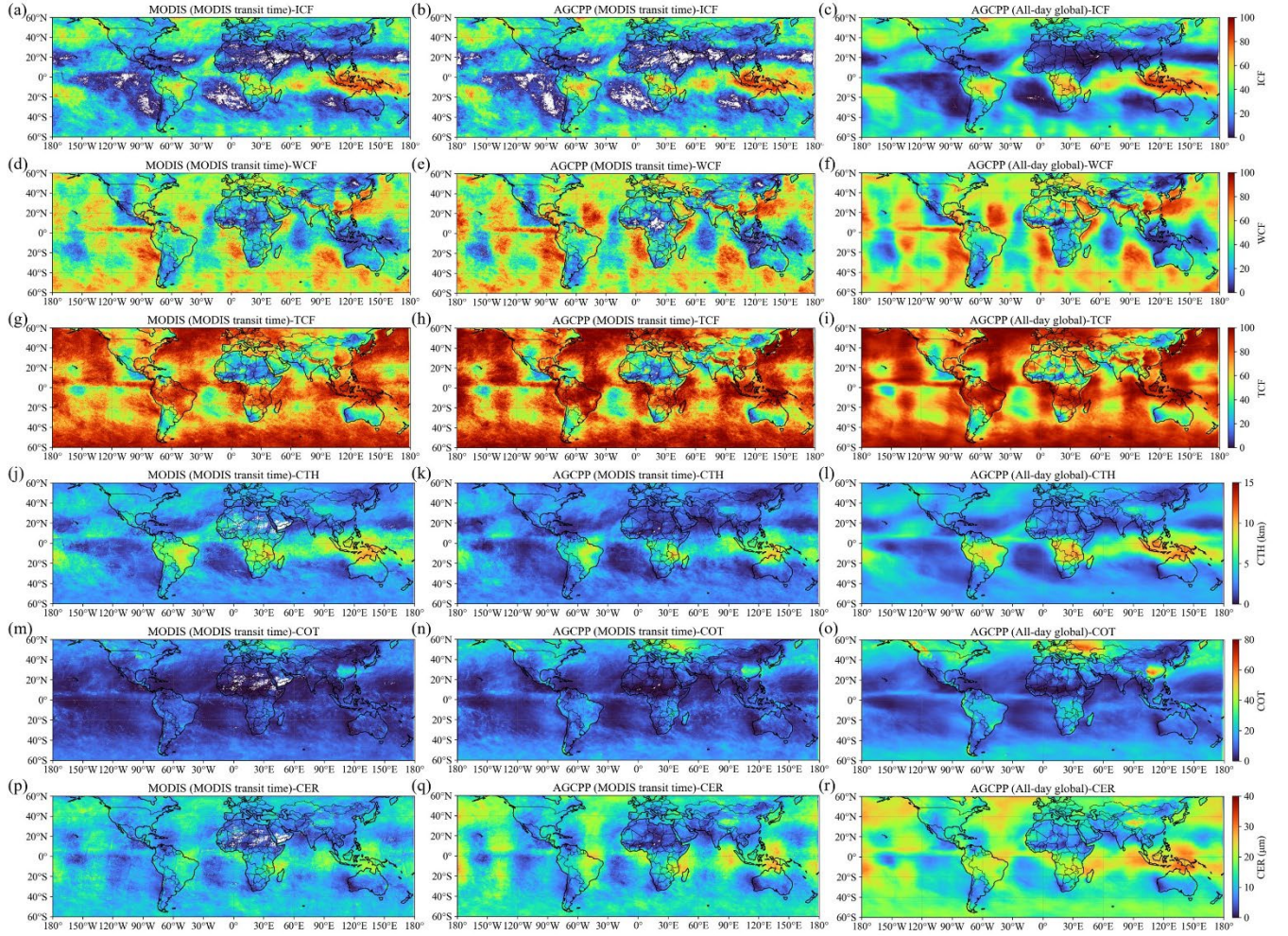
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Figure S1

Figure S 1. The spatial distribution of global cloud physical products for the DJF season average from 2020 to 2022, respectively: ICF (a–c), WCF (d–f), TCF (g–i), CTH (j–l), COT (m–o), and CER (p–r). Vertically, these are the seasonal averages of the MODIS official cloud products with a 1.5 h transit time interval (a, d, g, j, m, p), the seasonal averages of AGCPP at the same MODIS transit time and coverage location (b, e, h, k, n, q), and the seasonal averages of AGCPP's all -day global products at all times (c, f, i, l, o, r).
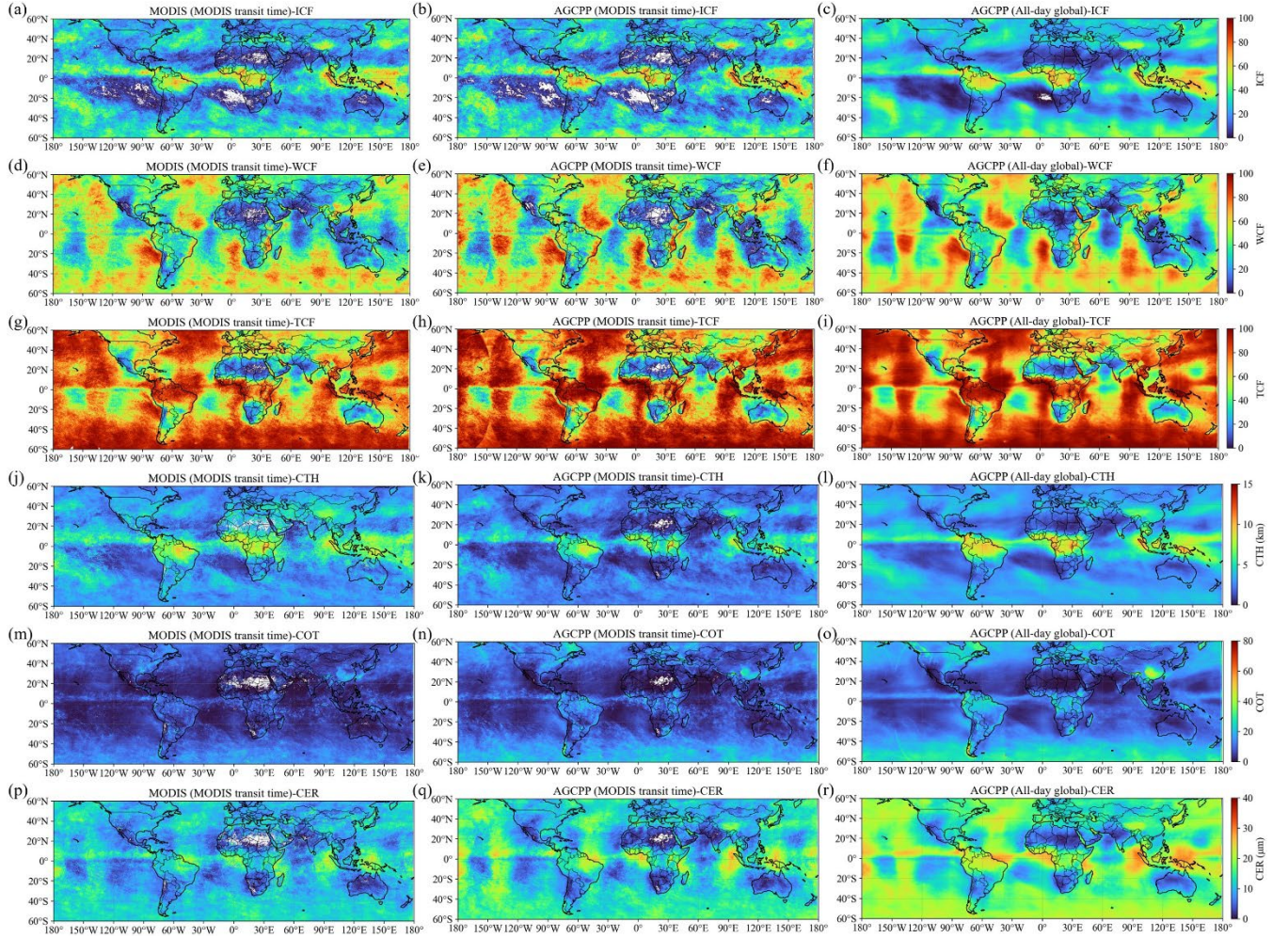
Figure S2

Figure S 2. The spatial distribution of global cloud physical products for the MAM season average from 2020 to 2022, respectively: ICF (a–c), WCF (d–f), TCF (g–i), CTH (j–l), COT (m–o), and CER (p–r). Vertically, these are the seasonal averages of the MODIS official cloud products with a 1.5 h transit time interval (a, d, g, j, m, p), the seasonal averages of AGCPP at the same MODIS transit time and coverage location (b, e, h, k, n, q), and the seasonal averages of AGCPP's all -day global products at all times (c, f, i, l, o, r).
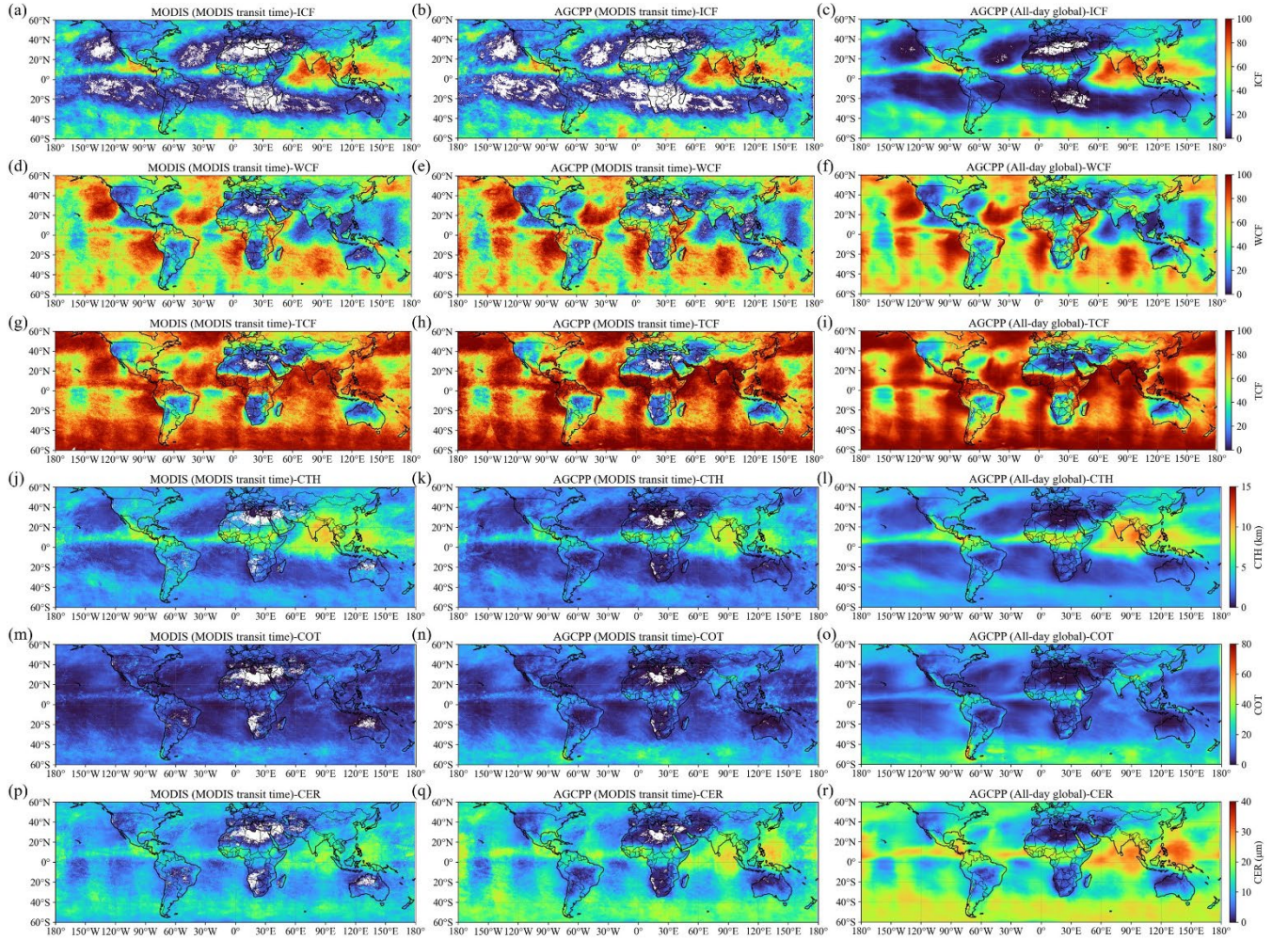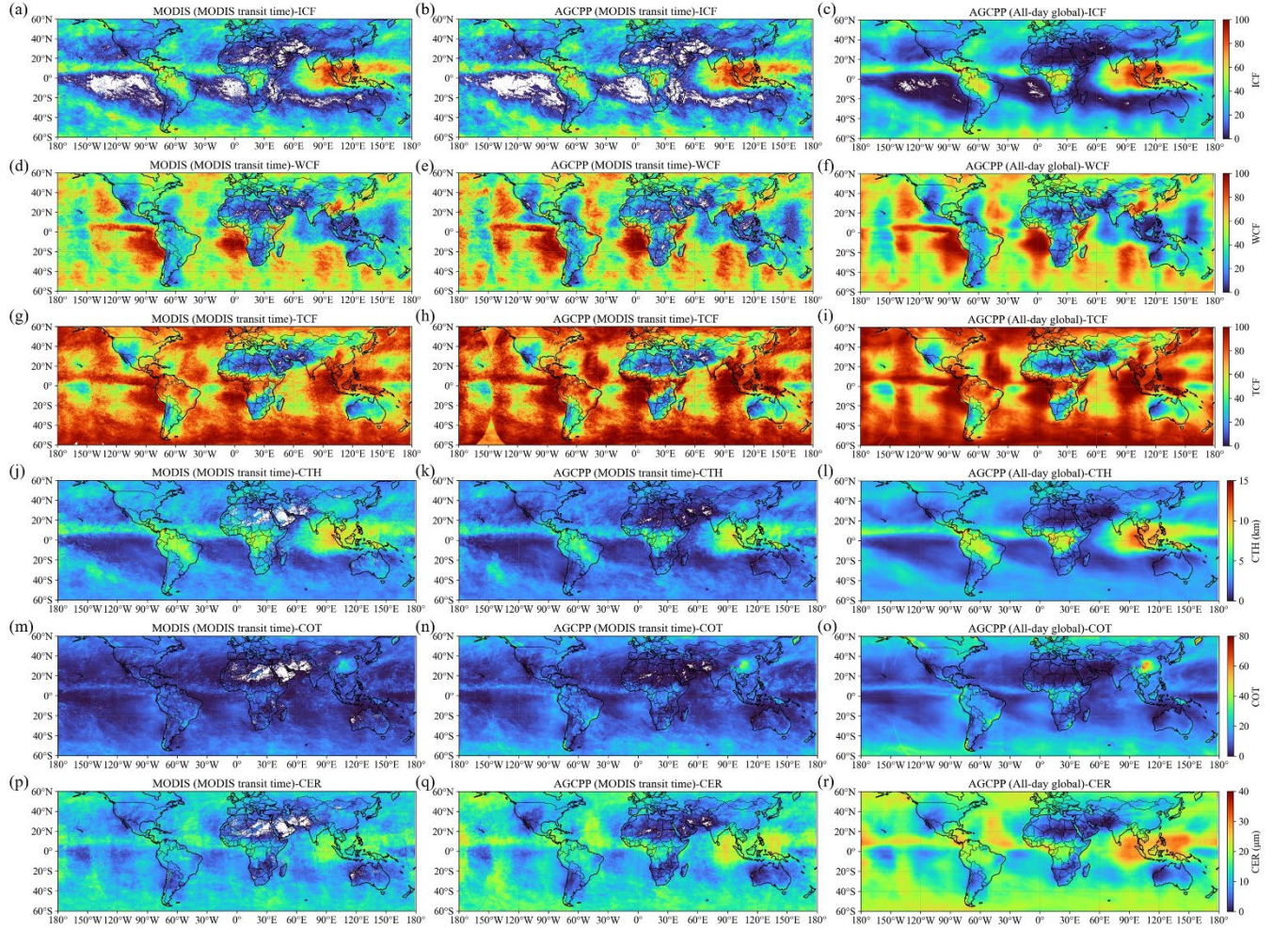
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Figure S3

Figure S 3. The spatial distribution of global cloud physical products for the JJA season average from 2020 to 2022, respectively: ICF (a–c), WCF (d–f), TCF (g–i), CTH (j–l), COT (m–o), and CER (p–r). Vertically, these are the seasonal averages of the MODIS official cloud products with a 1.5 h transit time interval (a, d, g, j, m, p), the seasonal averages of AGCPP at the same MODIS transit time and coverage location (b, e, h, k, n, q), and the seasonal averages of AGCPP's all -day global products at all times (c, f, i, l, o, r).

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Figure S 4. The spatial distribution of global cloud physical products for the SON season average from 2020 to 2022, respectively: ICF (a–c), WCF (d–f), TCF (g–i), CTH (j–l), COT (m–o), and CER (p–r). Vertically, these are the seasonal averages of the MODIS official cloud products with a 1.5 h transit time interval (a, d, g, j, m, p), the seasonal averages of AGCPP at the same MODIS transit time and coverage location (b, e, h, k, n, q), and the seasonal averages of AGCPP's all -day global products at all times (c, f, i, l, o, r).