Supplementary Materials

1. Data Validation

1.1 Comparison with Existing Research

To ensure the accuracy of our results, we conducted a comparison with findings from other researchers. Research on consumer carbon footprints remains limited at present. A search on Web of Science using keywords such as "carbon emissions," "consumption," and "carbon footprint" revealed that most studies on consumer carbon footprints relied on data from 2007 to 2012, constrained by limitations in MRIO data availability. A few studies utilized data from 2015, 2017, and 2018. In terms of methodology, studies employing the MRIO approach to calculate consumer carbon footprints were conducted in 2007, 2012, 2015, and 2017, owing to MRIO data limitations. In 2018, the IPCC sectoral approach was used to calculate carbon emissions, leading to significant discrepancies due to methodological inconsistencies. Consequently, some comparisons were made using the ratio of consumer carbon emissions to total emissions from respective studies. To validate our findings, we referred to authoritative papers at various scales, including per capita consumer carbon emissions in urban and rural China for 2015 and 2016, the total consumption-based carbon emissions of China, and emissions data for several municipal and county-level cities. The comparison results are presented in Table 1.

Table 1. Studies on CO_2 emissions from household consumption in China

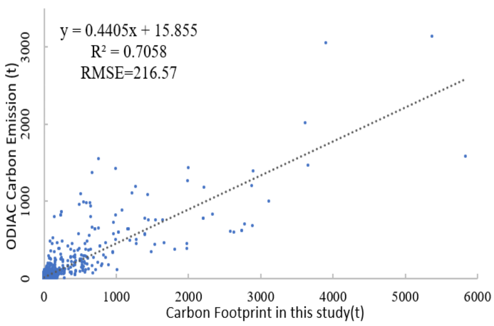
Region	**CO_2 emission**		Year	Our study	error rate	Methodology and data source	Reference
	Total	Average					
Hubei		6.29 tC (Urban) 2.1 tC t(Rural)	2015	**5.86 tC (Urban) 2.0 tC (Rural) 2015**	-6.84% -4.76%	MRIOA, China Family Panel Survey (CFPS)	(Liu and Zhang, 2022)
China		1.80 tC (Rural)	2012	**1.72 Tc (Rural) 2015**	-4.44%	IOA, National IOT National Bureau of Statistics of China	(Wang et al., 2019)
China		3.12 tC (Urban) 1.56 tC t(Rural)	2012	**3.25 Tc (Urban) 1.72 Tc (Rural) 2015**	4.17% 10.26%	MRIOA, 30 regions (province) study regions corresponding to GMAs China Energy Statistical Yearbook	(Wu et al., 2019)
China	3700.21 Mt		2015	**3681.19 Mt**	-0.51%	EEMRIO, population distribution,	(Ma et al., 2022)
	3763.29		2017	**3757.10**	-0.16%		

	Mt			**Mt**		consumption expenditure	
China		2.0 tC (Rural)	2018	**1.74Tc (Rural) 2017**	-13%	MRIO	(Sun et al., 2021)
Guangzhou	37.71 Mt		2012	**32.16 Mt**	14.72%	City-level MRIO	(Qian et al., 2022)
Shenzhen	50.52 Mt			**47.64 Mt**	5.71%		
Dongguan	16.67 Mt			**19.13 Mt**	-14.79%		
Foshan	14.12 Mt			**19.39 Mt**	-37.28%		
Nanning	12.84 Mt			**10.86 Mt**	15.40%		
Liuzhou	11.91 Mt			**10.2 Mt**	14.38%		
Guiyang	15.27 Mt			**14.96 Mt**	2.09%		
Changxing, Zhejiang	1.82 Mt		2015	**2.0 Mt**	-9.89%	energy, IPPU, AFOLU, and waste-related carbon emissions	(Long et al., 2021)
	1.96 Mt		2017	**2.16 Mt**	-10.20%		
Jintang, Sichuan	1.3 Mt		2015	**1.52 Mt**	-16.92%		
	1.06 Mt		2017	**1.24 Mt**	-16.98%		
Wuan, Hebei	3.74 Mt		2015	**4.99 Mt**	-33.62%		
	4.73 Mt		2017	**5.05 Mt**	-6.88%		
Qingcheng, Gansu	1.32 Mt		2015	**1.17 Mt**	11.36%		
	1.2 Mt		2017	**1.08 Mt**	10.00%		

Overall, the differences in results are minimal, with the exception of a 33% error observed in Wu'an City, Hebei Province, in 2015. Errors in the remaining results are below 17%, with some as low as 0.16%. Errors in per capita carbon emissions are generally lower than those in total carbon emissions. The comparison results suggest that the findings of our study are consistent with those of previous research, demonstrating strong reliability.

1.2 Comparison with ODIAC Data for Validation

In the current study, most carbon footprint (CF) estimation studies lack clear consistency. To ensure data validity, we compared the experimental results with ODIAC data provided by the Center for Global Environmental Research (CGER), Japan(Oda et al., 2018), in collaboration with Oak Ridge National Laboratory, USA. The ODIAC dataset has a spatial resolution of 1 km × 1 km and includes global emissions data spanning 1980 to 2020. As shown in Fig. 9, our results exhibit strong agreement with the overall spatial trends of the ODIAC data, with an R^2 value of 0.7058. However, the root mean square error (RMSE) is relatively high at 216.57, primarily due to differences in spatial resolution between the two datasets. Compared to other studies, our overall trends align more closely with research of similar scope, such as Zhou(Zhou et al., 2022).



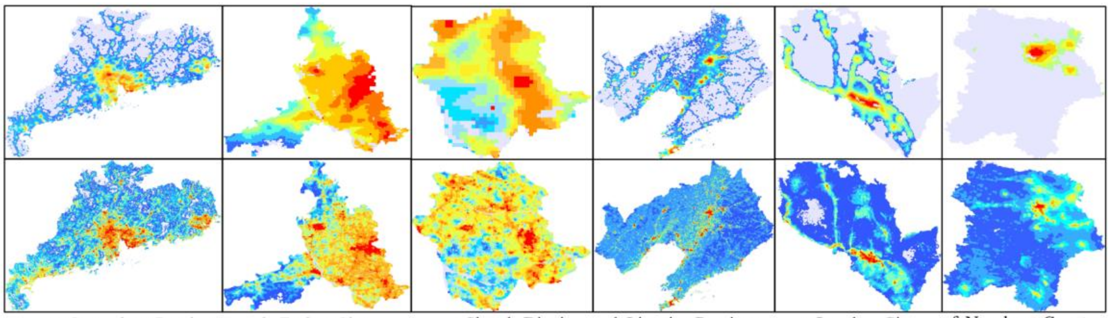


Figure.2 Comparison of this study with ODIAC data

Despite the similarity in spatial trends between the ODIAC data and our study, the spatial effects in ODIAC are significantly weaker compared to our results. Our results were compared and validated against ODIAC data at multiple scales, including different levels within Guangdong Province in southern China, such as Foshan City and Shunde District, and across diverse regions in China, including Liaoning Province in northeast China, Lanzhou City in Shaanxi Province in the west, and Nanzhang County in Hubei Province in central China. This comparison highlights the effectiveness of using varying research scales across different regions of China and underscores the presence of regional disparities. The validation results indicate that the overall trends are largely consistent, and hotspot regions are effectively identified. In terms of detail, the hotspot regions identified in our study demonstrate finer resolution, clearer directionality, and higher data refinement compared to ODIAC data. Notably, in areas outside urban centers, especially at the county level (Fig. 2c and 2f), ODIAC primarily represents partial urban areas, whereas our study effectively captures the distribution of carbon footprints in rural regions, emphasizing its value as a supplement to existing emission inventories.

1.3 Uncertainty Analysis

The uncertainties in this research arise from the following aspects. First, the MRIO model used to calculate regional trade consumption data is not entirely reliable, as it assumes industry homogeneity and uniform pricing across all sectors. Other studies investigating the reliability of MRIO results on a global scale found that independent models were within a margin of error of ±5% in developed countries(Heinonen et al., 2020).

Second, data uncertainty arises from determining the proportion of consumption CF for county-level cities based on the provincial MRIO table. The absence of city-level and county-level MRIO tables introduces additional uncertainty due to the limited granularity of the data. Additionally, due to limitations in global built-up area data, the 2017 CF is estimated using 2018 built-up area data, with an uncertainty range of 1.06%–3.6%, depending on annual built-up area growth and urbanization rates.

Monte Carlo simulations were conducted to calculate the uncertainty of consumption CF for

2,800 county-level cities in China. A total of 20,000 simulations were performed to analyze the uncertainty of estimated emissions in each region. It was assumed that both activity data and emission factors follow a normal distribution. The results indicate that the uncertainty for all cities is below 10%, which falls within the acceptable range of uncertainty. The lowest uncertainty is observed in Jing'an District, Shanghai (1.2%), while the highest is in Ejina Banner, Inner Mongolia (9.38%).

2. Research Results and Figures

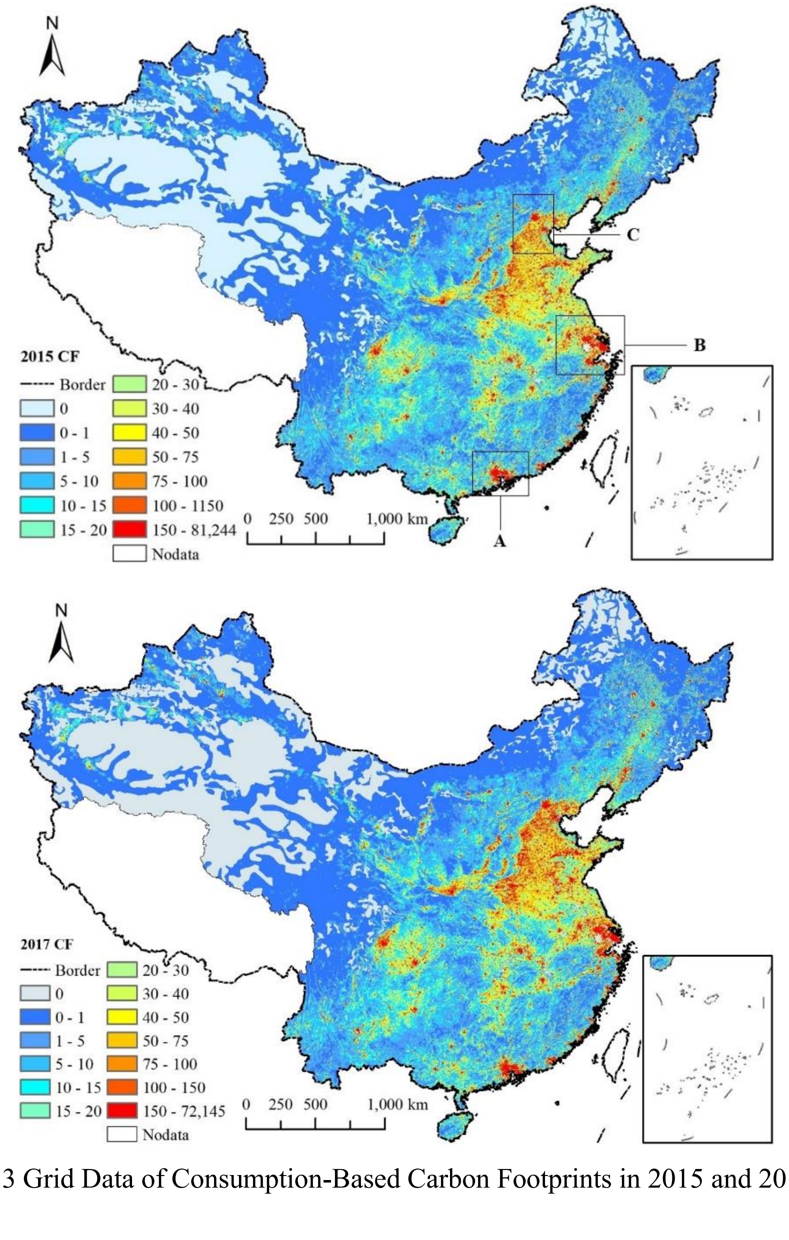


Figure 3 Grid Data of Consumption-Based Carbon Footprints in 2015 and 2017

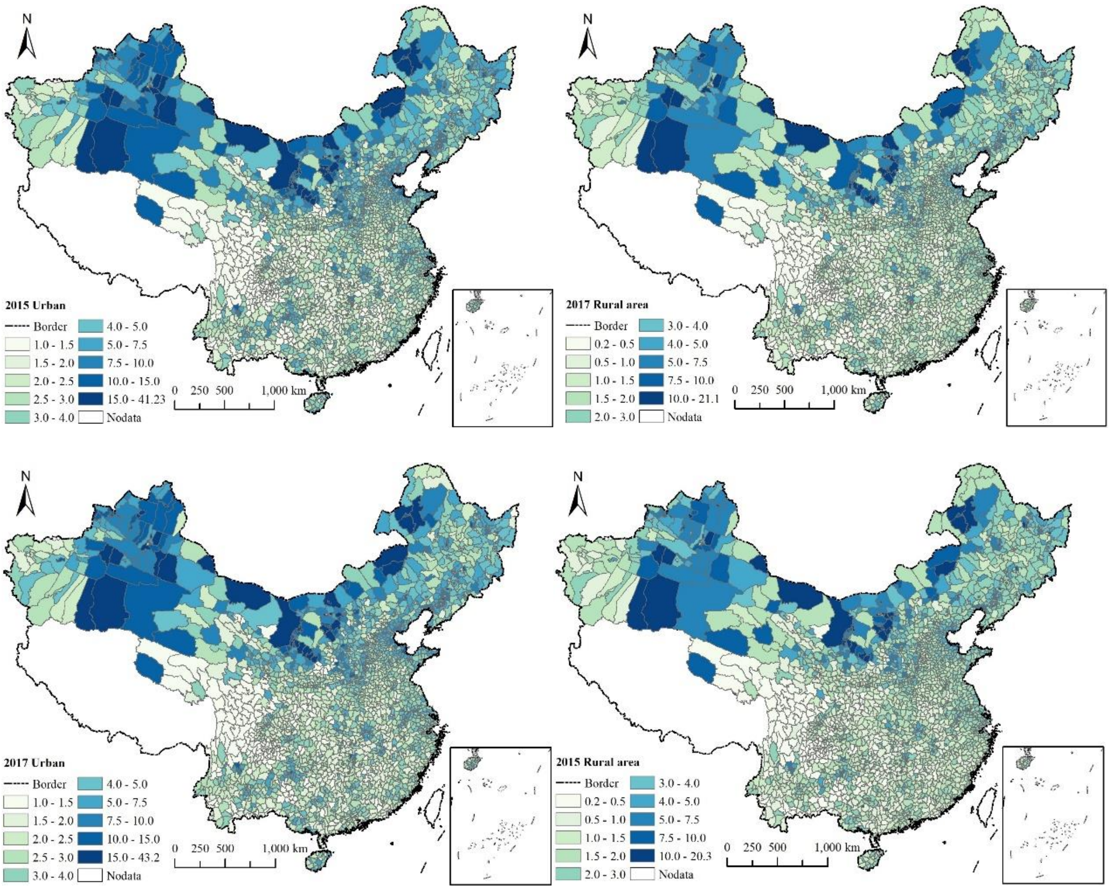


Figure 4 Urban and Rural Per Capita Carbon Footprint Distribution at County-Level Regions in 2015 and 2017

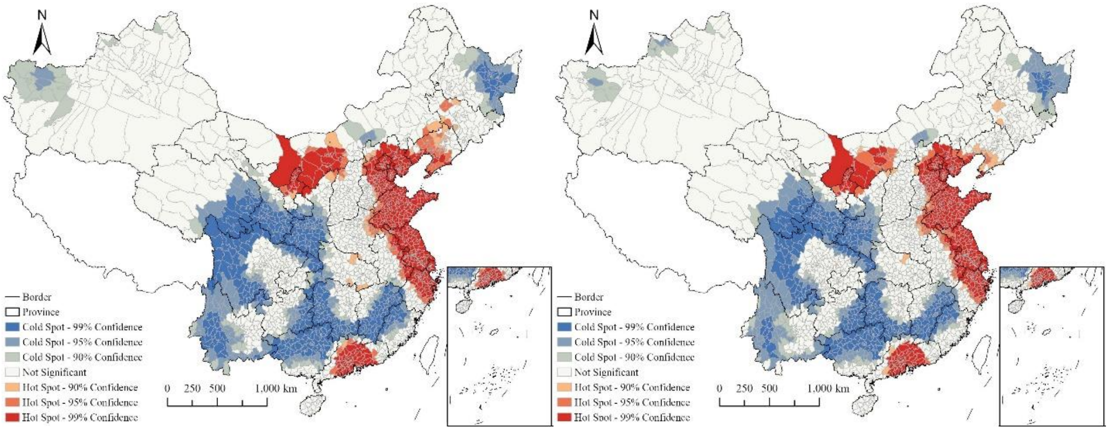


Figure 5 Hotspot Analysis of Total County-Level Carbon Emissions in 2015 and 2017

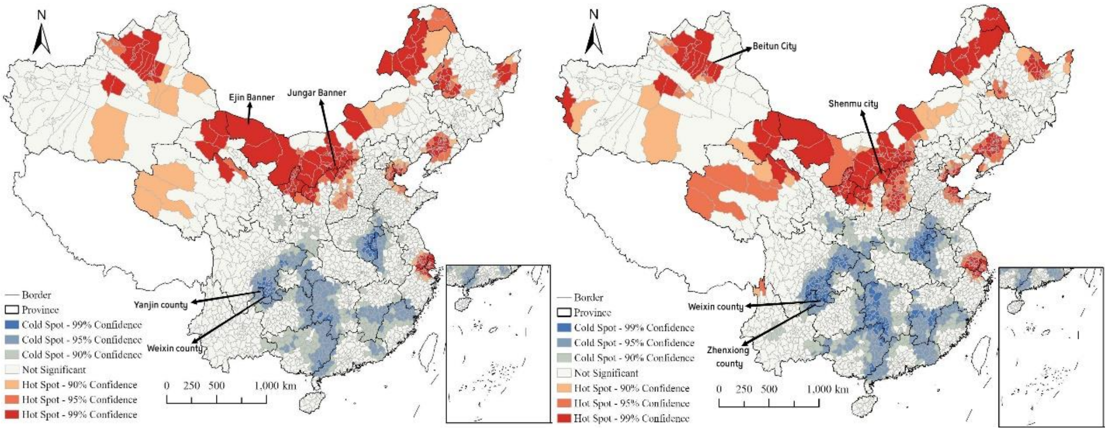


Figure 6 Hotspot Analysis of Per Capita County-Level Carbon Footprints in 2015 and 2017

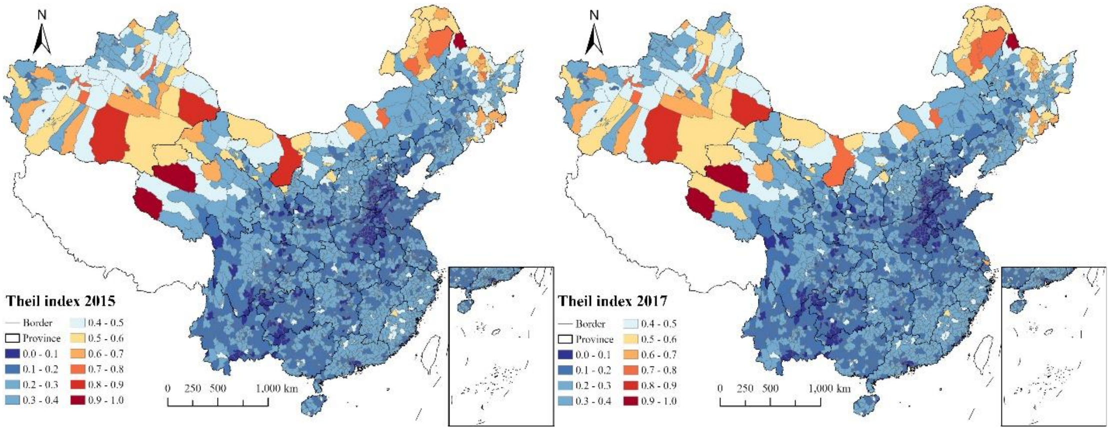


Figure 7 Theil Index of County-Level Carbon Footprints in 2015 and 2017

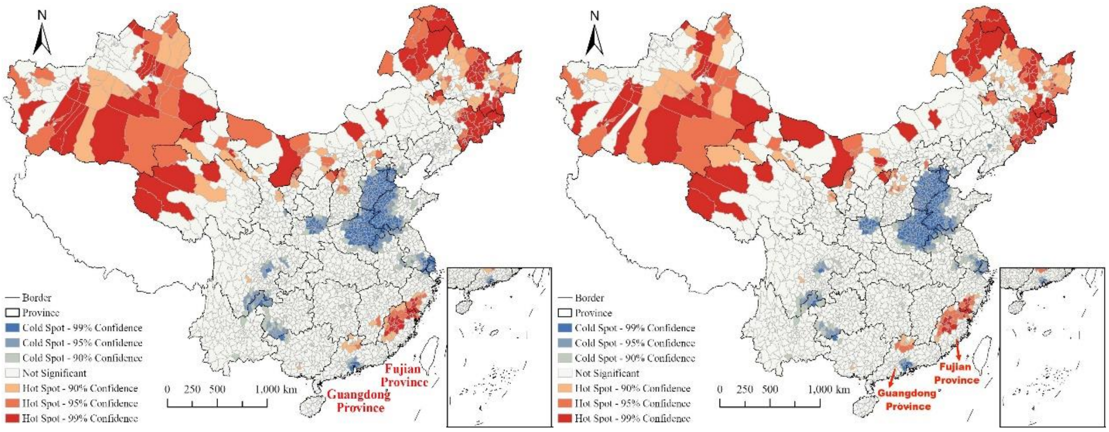


Figure 8 Hotspot Analysis of Theil Index for County-Level Carbon Footprints in 2015 and 2017

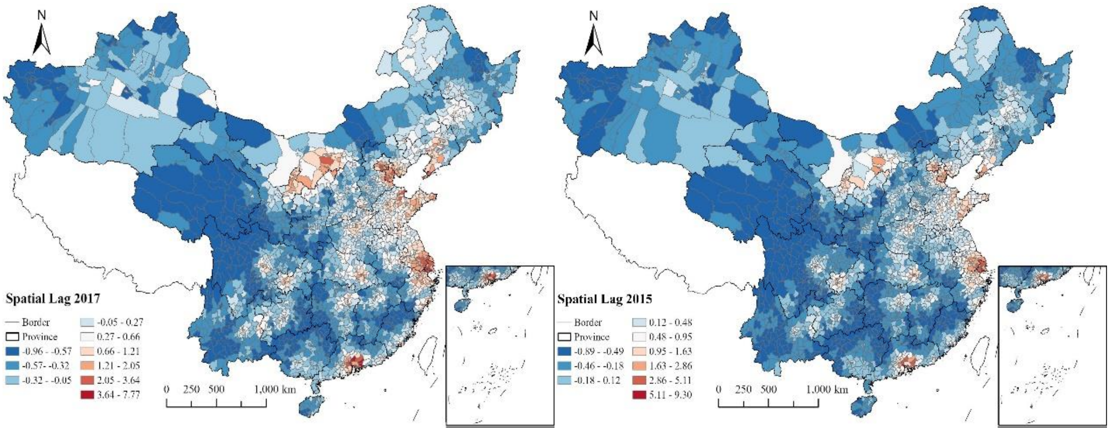


Figure 9 Spatial Lag Analysis of County-Level Carbon Emissions and Disposable Income

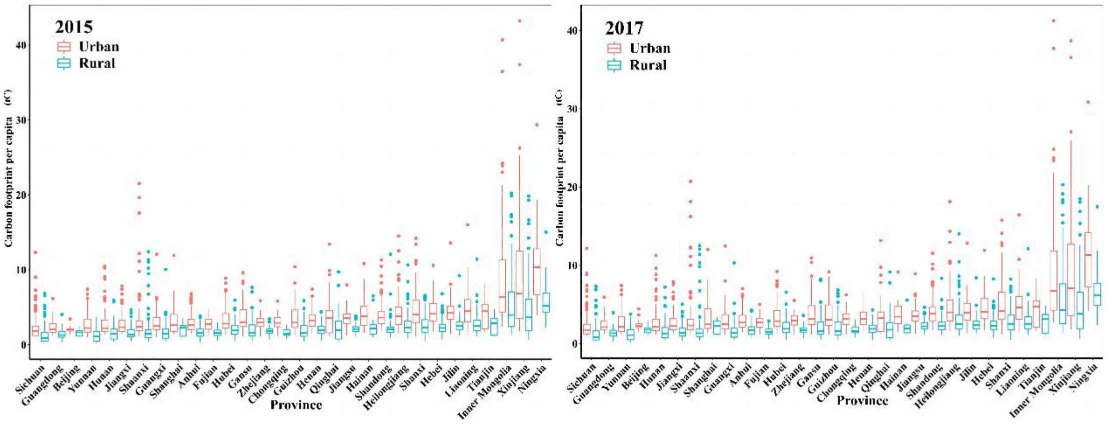


Figure 10 Boxplots of Urban and Rural Per Capita Carbon Footprints Across Chinese Provinces

3. Results of Theil Index Calculation

				2015	2017			
Between Provinces Nationwide				0.0838	0.0918			
Between Cities Nationwide				0.1774	0.1891			
Between Counties Nationwide				0.3304	0.3476			
province	2015	2017						
Jilin	0.1491	0.1525						
Liaoning	0.2646	0.2301						
Heilongjiang	0.1971	0.1970						
Shanghai	0.1904	0.1718						
Anhui	0.1638	0.1619						
Shandong	0.1145	0.1311						
Jiangsu	0.1381	0.1397						
Jiangxi	0.2764	0.2603						
Henan	0.1410	0.1463						
Zhejiang	0.2499	0.2422						

Hubei	0.2567	0.2775						
Hunan	0.2774	0.2679						
Fujian	0.3042	0.3003						
InnerMongolia	0.3011	0.3264						
Beijing	0.2725	0.2586						
Tianjin	0.1495	0.1564						
Shanxi	0.2593	0.2536						
Hebei	0.1942	0.1869						
Guangdong	0.4770	0.4663						
Guangxi	0.2401	0.2393						
Hainan	0.2138	0.1708						
Ningxia	0.1566	0.1553						
Xinjiang	0.3299	0.3283						
Gansu	0.2684	0.2701						
Shaanxi	0.3261	0.3256						
Qinghai	0.4489	0.4157						
Yunnan	0.3040	0.2748						
Sichuan	0.3380	0.3598						
Guizhou	0.3631	0.3393						
Chongqing	0.1772	0.1714						
Prefecture-LevelCity	2015	2017	Prefecture-LevelCity	2015	2017	Prefecture-LevelCity	2015	2017
Qitaihe	0.1321	0.1313	Guangzhou	0.0793	0.0285	Baise	0.1767	0.1739
Sanya	0.1992	0.2248	Qingyang	0.1315	0.1222	Yiyang	0.1384	0.1242
Sanming	0.1712	0.1576	Langfang	0.1162	0.1223	Yancheng	0.0361	0.0298
Sanmenxia	0.1694	0.1679	Yan'an	0.2908	0.2862	Panjin	0.1203	0.0935
Shangrao	0.0830	0.0811	Yanbian	0.0749	0.0908	Meishan	0.3230	0.3410
Dongying	0.2590	0.2546	Kaifeng	0.0493	0.0960	Shizuishan	0.0122	0.0124
Zhongwei	0.1183	0.0671	Zhangjiakou	0.2364	0.2955	Shijiazhuang	0.1392	0.1387
Linxia	0.0735	0.0488	Zhangjiajie	0.3037	0.2904	Fuzhou	0.1534	0.1658
Linfen	0.3593	0.3682	Zhangye	0.3387	0.3474	Qinhuan	0.0993	0.0733

						gdao		
Linyi	0.0664	0.0787	Guangzhou	0.0684	0.0571	Honghe	0.2611	0.2639
Lincang	0.0911	0.1036	Dehong	0.0714	0.0754	Shaoxing	0.0785	0.0761
Dandong	0.1156	0.0973	Dezhou	0.0495	0.0436	Suihua	0.1265	0.1166
Lishui	0.2237	0.2199	Deyang	0.1043	0.0902	Mianyang	0.2993	0.2892
Lijiang	0.1047	0.1251	Xinzhou	0.1256	0.1327	Liaocheng	0.0483	0.0617
Ulanqab	0.0844	0.0785	Huaihua	0.1653	0.1513	Zhaoqing	0.1642	0.1601
Wuhai	0.1474	0.1595	Nujiang	0.2646	0.1880	Zigong	0.0360	0.0343
Urumqi	0.1748	0.1946	Enshi	0.3293	0.2807	Zhoushan	0.3707	0.3686
Leshan	0.2507	0.2627	Huizhou	0.1226	0.1210	Wuhu	0.0758	0.1029
Jiujiang	0.0925	0.0799	Chengdu	0.1103	0.1169	Suzhou	0.0874	0.0875
Yunfu	0.0652	0.0591	Yangzhou	0.0352	0.0202	Maoming	0.1040	0.1420
Bozhou	0.0265	0.0945	Chengde	0.0829	0.0830	Jingzhou	0.0546	0.0466
Yichun	0.2459	0.2793	Fuzhou	0.3498	0.3241	Jingmen	0.0362	0.0472
Ili	0.1998	0.1992	Fushun	0.0962	0.1206	Putian	0.0319	0.0456
Foshan	0.1901	0.1627	Jieyang	0.0901	0.0750	Heze	0.0604	0.0535
Jiamusi	0.0819	0.0826	Panzhihua	0.0699	0.0875	Pingxiang	0.1816	0.1826
Baoding	0.1457	0.1400	Wenshan	0.0852	0.1127	Yingkou	0.2138	0.1811
Baoshan	0.1679	0.1913	Xinxiang	0.1029	0.0963	Huludao	0.1636	0.0855
Xinyang	0.1615	0.1469	Xinyu	0.2893	0.2952	Bengbu	0.0658	0.0618
Kizilsu	0.0611	0.1178	Wuxi	0.2201	0.1403	Hengshui	0.0638	0.0643
Karamay	0.3647	0.4746	Rizhao	0.0569	0.0776	Hengyang	0.1672	0.1671
Lu'an	0.0710	0.1064	Kunming	0.2605	0.1691	Quzhou	0.0377	0.0418
Liupanshui	0.2178	0.2026	Changji	0.1799	0.1746	Xiangyang	0.1507	0.1606
Lanzhou	0.2023	0.2032	Zhaotong	0.2573	0.3024	Xishuangbanna	0.1169	0.1530
Xing'an	0.1127	0.1107	Jinzhong	0.2478	0.2288	Xining	0.1861	0.1244
Neijiang	0.0222	0.0233	Jincheng	0.2003	0.1900	Xi'an	0.0854	0.0775
Liangshan	0.2917	0.3169	Pu'er	0.1474	0.1423	Xuchang	0.0474	0.0489
Baotou	0.4400	0.3482	Jingdezh	0.1216	0.1094	Guigang	0.0227	0.0227

			en					
Beijing	0.2725	0.2586	Qujing	0.0877	0.0838	Guiyang	0.1636	0.1377
Beihai	0.1116	0.1194	Shuozhou	0.0666	0.0756	Hezhou	0.2014	0.1340
Shiyan	0.1567	0.1474	Chaoyang	0.0493	0.0411	Ziyang	0.1040	0.1405
Nanjing	0.1441	0.1497	Benxi	0.0787	0.0773	Ganzhou	0.2190	0.2142
Nanchong	0.0566	0.0586	Laibin	0.1180	0.1193	Chifeng	0.1404	0.1458
Nanning	0.1913	0.1815	Hangzhou	0.2328	0.2462	Liaoyuan	0.0040	0.0072
Nanping	0.1618	0.1595	Songyuan	0.1435	0.1676	Liaoyang	0.3187	0.2388
Nanchang	0.1976	0.1748	Guoluo	0.1548	0.1616	Dazhou	0.0763	0.0763
Nantong	0.0718	0.0677	Zaozhuang	0.1491	0.1501	Yuncheng	0.1346	0.1327
Nanyang	0.0761	0.0730	Liuzhou	0.2199	0.1893	Lianyungang	0.0300	0.0331
Bortala	0.1838	0.1610	Zhuzhou	0.0713	0.0673	Diqing	0.1867	0.1762
Xiamen	0.0298	0.0266	Guilin	0.1618	0.1687	Tonghua	0.1007	0.0910
Shuangyashan	0.2409	0.1963	Meizhou	0.0636	0.0584	Tongliao	0.2493	0.2561
Taizhou	0.1563	0.1490	Wuzhou	0.1122	0.1254	Suining	0.1321	0.1224
Hefei	0.0482	0.0361	Chuxiong	0.2775	0.2717	Zunyi	0.3246	0.2139
Ji'an	0.0982	0.0998	Yulin(ShaanxiProvince)	0.5118	0.5021	Xingtai	0.1278	0.1170
Jilin	0.0258	0.0222	Wuwei	0.3797	0.3721	Handan	0.2313	0.1752
Turpan	0.2497	0.1555	Wuhan	0.1302	0.1306	Shaoyang	0.1204	0.1288
Lvliang	0.2091	0.2034	Bijie	0.0534	0.0451	Zhengzhou	0.1231	0.1093
Wuzhong	0.1285	0.1260	Yongzhou	0.1393	0.1579	Chenzhou	0.1053	0.0929
Zhoukou	0.0189	0.0153	Hanzhong	0.1690	0.1965	Ordos	0.1922	0.3329
Hulunbuir	0.1992	0.2317	Shantou	0.1661	0.1538	Ezhou	0.1809	0.2587
Hohhot	0.1782	0.1633	Shanwei	0.1202	0.1144	Jiuquan	0.2408	0.2119
Hotan	0.1440	0.1675	Jiangmen	0.0801	0.0667	Chongqing	0.1772	0.1714
Xianning	0.1874	0.1845	Chizhou	0.2956	0.2914	Jinhua	0.1800	0.1862
Xianyang	0.1228	0.1350	Shenyang	0.2424	0.1492	Jinchang	0.0747	0.0719

Hami	0.3904	0.4272	Cangzhou	0.1574	0.1576	Qinzhou	0.3077	0.2990
Harbin	0.1372	0.1288	Hechi	0.1320	0.1391	Tieling	0.1433	0.1339
Tangshan	0.0883	0.0735	Heyuan	0.0836	0.0762	Tongren	0.1834	0.1833
Shangqiu	0.0429	0.0402	Quanzhou	0.2181	0.2169	Tongchuan	0.0809	0.0709
Shangluo	0.0782	0.0900	Tai'an	0.0238	0.0279	Tongling	0.0804	0.0502
Kashgar	0.1399	0.1324	Taizhou(JiangsuProvince)	0.0659	0.0512	Yinchuan	0.0414	0.0318
Jiaxing	0.0187	0.0255	Luzhou	0.0720	0.0675	Xilingol	0.1291	0.1230
Siping	0.1776	0.1487	Luoyang	0.1465	0.1522	Jinzhou	0.2214	0.1816
Guyuan	0.2709	0.2103	Jinan	0.1335	0.1320	Zhenjiang	0.0701	0.0673
Tacheng	0.2809	0.2790	Jining	0.0567	0.1224	Changchun	0.0168	0.0324
Greater	0.0102	0.0093	Haidong	0.1703	0.1057	Changsha	0.1350	0.1101
Datong	0.3491	0.4004	Haibei	0.0649	0.0894	Changzhi	0.1431	0.1815
Daqing	0.0925	0.0950	Hainan	0.1541	0.1873	Fuxin	0.2646	0.3027
DaliBai	0.1697	0.1912	Haikou	0.0347	0.0357	Fuyang	0.0213	0.0232
Dalian	0.2861	0.2730	Haixi	0.1565	0.1552	Fangchenggang	0.0557	0.0411
Tianshui	0.1249	0.1247	Zibo	0.0802	0.0806	Yangjiang	0.0168	0.0183
Tianjin	0.1495	0.1564	Huaibei	0.0717	0.0625	Yangquan	0.5858	0.4938
Taiyuan	0.0562	0.0522	Huainan	0.1116	0.1101	Aksu	0.3979	0.3979
Weihai	0.0121	0.0086	Huai'an	0.0589	0.0790	Altay	0.1369	0.1441
Loudi	0.0551	0.0586	Shenzhen	0.3181	0.3223	Aba	0.2066	0.2069
Xiaogan	0.1326	0.1378	Qingyuan	0.3291	0.3601	AlxaLeague	0.1901	0.2679
Ningde	0.2813	0.2765	Wenzhou	0.2388	0.2134	Longnan	0.0944	0.1168
Ningbo	0.1334	0.1121	Weinan	0.0588	0.0586	Suizhou	0.1372	0.1329
Anqing	0.0588	0.0638	Huzhou	0.0245	0.0144	Ya'an	0.1926	0.1889
Ankang	0.3643	0.4043	Xiangtan	0.1966	0.1414	Qingdao	0.1752	0.1689
Anyang	0.1197	0.1142	Xiangxi	0.2669	0.2700	Anshan	0.3000	0.3062
Anshun	0.1780	0.1709	Zhanjiang	0.0765	0.0698	Shaoguan	0.0464	0.0483
Dingxi	0.0821	0.0967	Chuzhou	0.0389	0.0338	Ma'ansh	0.0792	0.0491

						an		
Yibin	0.4041	0.3936	Binzhou	0.0672	0.0619	Zhumadian	0.0693	0.1160
Yichang	0.1981	0.2499	Luohe	0.0295	0.0307	Jixi	0.1842	0.2059
Yichun	0.2490	0.2539	Zhangzhou	0.2080	0.2128	Hebi	0.1449	0.1420
Baoji	0.2039	0.2623	Weifang	0.0839	0.0597	Hegang	0.3626	0.3523
Xuancheng	0.2117	0.2122	Chaozhou	0.1439	0.0554	Yingtan	0.0302	0.0312
Suzhou(AnhuiProvince)	0.1813	0.1611	Puyang	0.1278	0.1096	Huanggang	0.1093	0.1054
Suqian	0.0172	0.0125	Yantai	0.0935	0.0891	Huangnan	0.0634	0.0539
Yueyang	0.1107	0.1257	Jiaozuo	0.0822	0.0858	Huangshan	0.1539	0.1495
Chongzuo	0.1365	0.1261	Mudanjiang	0.0486	0.0419	Huangshi	0.3398	0.3440
Bazhong	0.0559	0.0189	Yulin(GuangxiProvince)	0.0733	0.0842	Heihe	0.1264	0.1221
Bayannur	0.2292	0.2284	Yushu	0.3804	0.3591	Qiandongnan	0.4096	0.4106
Bayingolin	0.3655	0.3785	Yuxi	0.1889	0.1934	Qiannan	0.1321	0.1349
Changzhou	0.1614	0.1015	Zhuhai	0.0335	0.0337	Qianxinan	0.5543	0.5424
Changde	0.1797	0.1818	Gannan	0.0847	0.0933	Qiqihar	0.0819	0.0745
Pingliang	0.2468	0.2537	Garze	0.3198	0.3139	Longyan	0.1393	0.1330
Pingdingshan	0.1140	0.1113	Baicheng	0.0933	0.1051			
Guangyuan	0.2154	0.2217	Baishan	0.1580	0.1646			
Guang'an	0.1340	0.0719	Baiyin	0.1486	0.1466			

References

Heinonen, J., Ottelin, J., Ala-Mantila, S., Wiedmann, T., Clarke, J., Junnila, S., 2020. Spatial consumption-based carbon footprint assessments - A review of recent developments in the field. Journal of Cleaner Production 256, 120335. https://doi.org/10.1016/j.jclepro.2020.120335

Liu, G., Zhang, F., 2022. China's carbon inequality of households: Perspectives of the aging society and urban-rural gaps. Resources, Conservation and Recycling 185, 106449. https://doi.org/10.1016/j.resconrec.2022.106449

Long, Z., Zhang, Z., Liang, S., Chen, X., Ding, B., Wang, B., Chen, Y., Sun, Y., Li, S., Yang, T., 2021. Spatially explicit carbon emissions at the county scale. Resources, Conservation and Recycling 173, 105706. https://doi.org/10/gkgnfn

Ma, R., Zheng, X., Zhang, C., Li, J., Ma, Y., 2022. Distribution of CO2 emissions in China's supply chains: A sub-national MRIO analysis. Journal of Cleaner Production 345, 130986. https://doi.org/10.1016/j.jclepro.2022.130986

Oda, T., Maksyutov, S., Andres, R.J., 2018. The Open-source Data Inventory for Anthropogenic CO_2, version 2016 (ODIAC2016): a global monthly fossil fuel CO_2 gridded emissions data product for tracer transport simulations and surface flux inversions. Earth System Science Data 10, 87–107. https://doi.org/10.5194/essd-10-87-2018

Qian, Y., Zheng, H., Meng, J., Shan, Y., Zhou, Y., Guan, D., 2022. Large inter-city inequality in consumption-based CO2 emissions for China's pearl river basin cities. Resources, Conservation and Recycling 176, 105923. https://doi.org/10.1016/j.resconrec.2021.105923

Sun, M., Chen, G., Xu, X., Zhang, L., Hubacek, K., Wang, Y., 2021. Reducing Carbon Footprint Inequality of Household Consumption in Rural Areas: Analysis from Five Representative Provinces in China. Environ. Sci. Technol. 55, 11511–11520. https://doi.org/10/gm5vrs

Wang, S., Fang, C., Sun, L., Su, Y., Chen, X., Zhou, C., Feng, K., Hubacek, K., 2019. Decarbonizing China's Urban Agglomerations. Annals of the American Association of Geographers 109, 266–285. https://doi.org/10.1080/24694452.2018.1484683

Wu, S., Lei, Y., Li, S., 2019. CO2 emissions from household consumption at the provincial level and interprovincial transfer in China. Journal of Cleaner Production 210, 93–104. https://doi.org/10.1016/j.jclepro.2018.10.356

Zhou, Y., Chen, M., Tang, Z., Zhao, Y., 2022. City-level carbon emissions accounting and differentiation integrated nighttime light and city attributes. Resources, Conservation and Recycling 182, 106337. https://doi.org/10.1016/j.resconrec.2022.106337