



Supplement of

Historical nitrogen fertilizer use in China from 1952 to 2018

Zhen Yu et al.

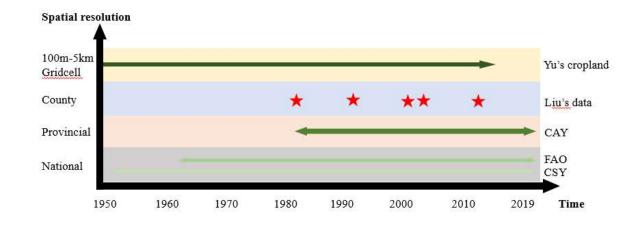
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- 1 Fig. S1 Supplementary information showing the datasets used for reconstruction and
- 2 spatialization of nitrogen fertilizer use in China.
- 3 Fig. S2 Supplementary information showing nitrogen fertilizer use rate in major crop types from
- 4 1952 to 2018 using data of nearby provinces for gap-filling.
- 5 Fig. S3 Supplementary information showing nitrogen fertilizer use rate in major crop types from
- 6 1952 to 2018 using data of national averages for gap-filling.
- 7 Fig. S4 Supplementary information showing total nitrogen fertilizer input for each major crop
- 8 types from 1952 to 2018 using data of nearby provinces for gap-filling.
- 9 Fig. S5 Supplementary information showing total nitrogen fertilizer input for each major crop
- 10 types from 1952 to 2018 using data of national averages for gap-filling.

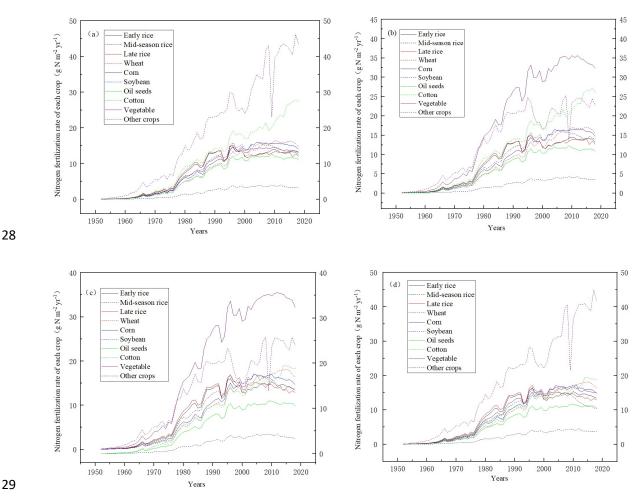
12 Fig. S1 Supplementary information showing the datasets used for reconstruction and

- 13 spatialization of nitrogen fertilizer use in China. (Yu's cropland: the cropland data reconstructed
- in Yu et al., (2021); Liu' data: crop rotation maps from Liu et al., (2018); CAY: Chinese
- 15 Agricultural Yearbook; FAO: FAO statistical database obtained from http://faostat.fao.org; CSY:
- 16 Chinese Statistical Yearbook).

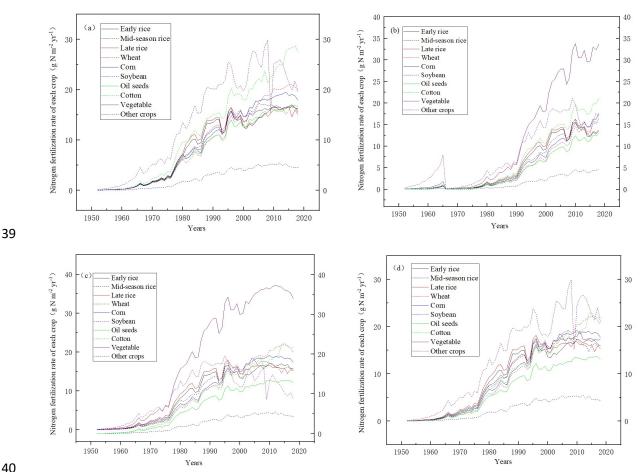


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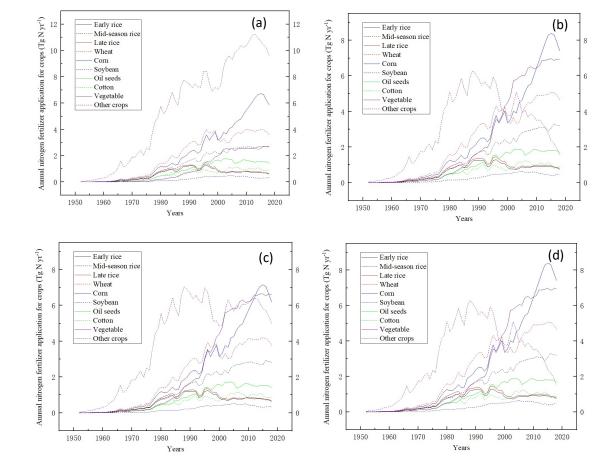
19 Fig. S2 Supplementary information showing nitrogen fertilizer use rates in major crop types in China from 1952 to 2018 using data of nearby provinces for gap-filling. (panel a: N fertilizer rate 20 of vegetable is the average of all other crops (except 'Other crops'), and compound fertilizers 21 contains 16% of N; panel b: N fertilizer use rates of vegetable is the average of all other crops 22 (except 'Other crops'), and compound fertilizer contains 33% of N; panel c: N fertilizer rate of 23 vegetable is 3.3 times of the average rate of all other crops (except 'Other crops'), and compound 24 fertilizer contains 16% of N; panel b: N fertilizer rate of vegetable is 3.3 times of the average rate 25 26 of all other crops (except 'Other crops'), and compound fertilizer contains 33% of N; Unit: g N $m^{-2} yr^{-1}$) 27



30 Fig. S3 Supplementary information showing nitrogen fertilizer use rates in major crop types in 31 China from 1952 to 2018 using data of national averages for gap-filling. (panel a: N fertilizer use rate of vegetable is the average of all other crops (except 'Other crops'), and compound fertilizer 32 contains 16% of N; panel b: N fertilizer rate of vegetable is the average of all other crops (except 33 'Other crops'), and compound fertilizer contains 33% of N; panel c: N fertilizer use rates of 34 vegetable is 3.3 times of the average rate of all other crops (except 'Other crops'), and compound 35 fertilizer contains 16% of N; panel b: N fertilizer use rate of vegetable is 3.3 times of the average 36 37 rate of all other crops (except 'Other crops'), and compound fertilizer contains 33% of N; Unit: g N m⁻² yr⁻¹) 38



41 Fig. S4 Supplementary information showing total nitrogen fertilizer input for each major crop types from 1952 to 2018 using data of nearby provinces for gap-filling. (panel a: N fertilizer use 42 rates of vegetable is the average of all other crops (except 'Other crops'), and compound 43 fertilizer contains 16% of N; panel b: N fertilizer rate of vegetable is the average of all other 44 crops (except 'Other crops'), and compound fertilizer contains 33% of N; panel c: N fertilizer 45 rate of vegetable is 3.3 times of the average rate of all other crops (except 'Other crops'), and 46 compound fertilizer contains 16% of N; panel b: N fertilizer use rates of vegetable is 3.3 times of 47 48 the average rate of all other crops (except 'Other crops'), and compound fertilizer contains 33% of N; Unit: Tg N yr⁻¹) 49



53 Fig. S5 Supplementary information showing total nitrogen fertilizer input for each major crop types from 1952 to 2018 using data of national averages for gap-filling. (panel a: N fertilizer rate 54 of vegetable is the average of all other crops (except 'Other crops'), and compound fertilizer 55 contains 16% of N; panel b: N fertilizer use rates of vegetable is the average of all other crops 56 (except 'Other crops'), and compound fertilizer contains 33% of N; panel c: N fertilizer use rates 57 of vegetable is 3.3 times of the average rate of all other crops (except 'Other crops'), and 58 compound fertilizer contains 16% of N; panel b: N fertilizer use rates of vegetable is 3.3 times of 59 60 the average rate of all other crops (except 'Other crops'), and compound fertilizer contains 33% of N; Unit: Tg N yr⁻¹) 61

