

Supplementary Information for:

The impact of precipitation deficit and urbanization on variations in water storage in the Beijing-Tianjin-Hebei urban agglomeration

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Supplementary Figures

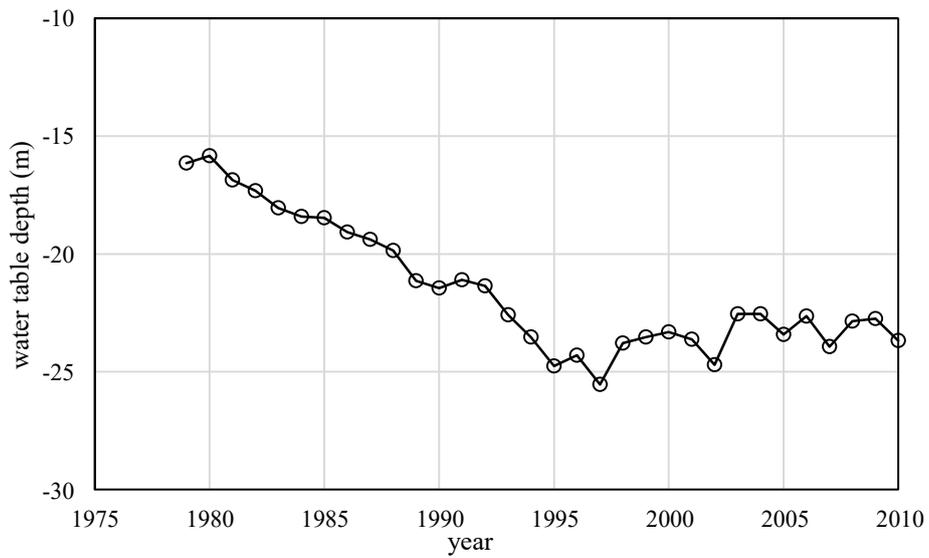


Figure S1. The yearly water table depth of the Jing-Jin-Ji plain from 1980 to 2010 (Li et al., 2017b).

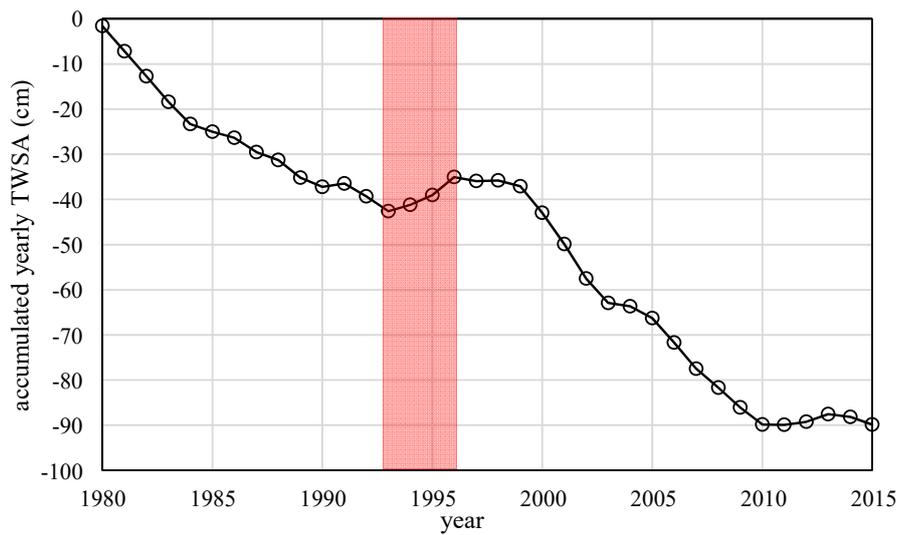


Figure S2. The accumulated yearly TWSA from 1980 to 2010s, where red bar mark the year from 1992 to 1995.

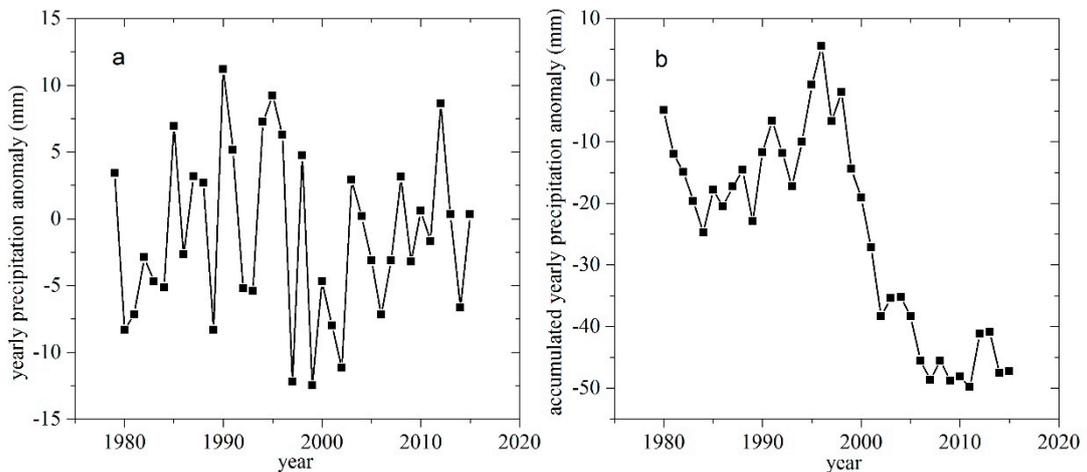


Figure S3. (a) The yearly precipitation anomaly from 1979 to 2010s; (b) The accumulated yearly precipitation anomaly from 1980 to 2010s.

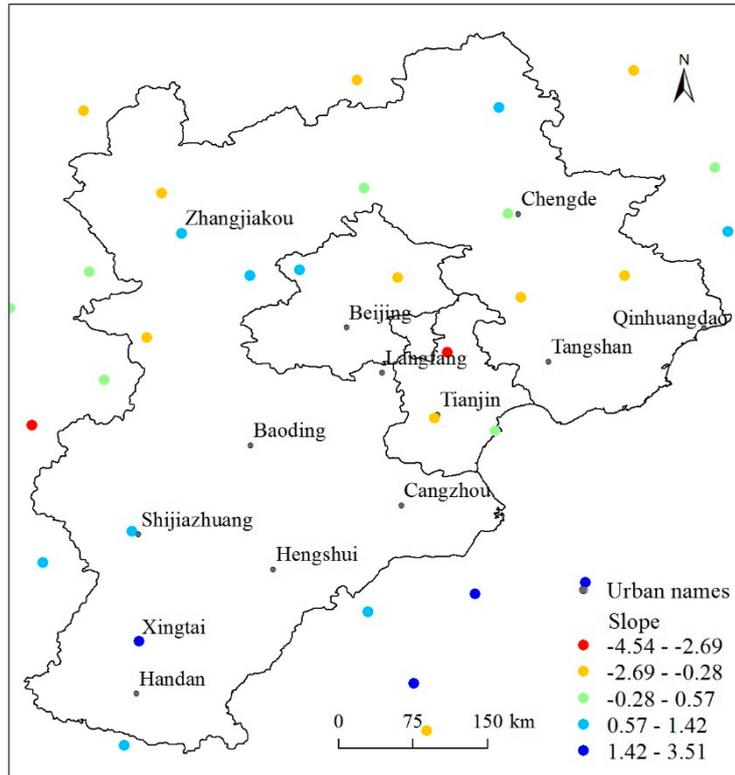


Figure S4. Change in precipitation based on observation stations from 1979 to 2015 in the Jing-Jin-Ji area, as estimated by linear regression.

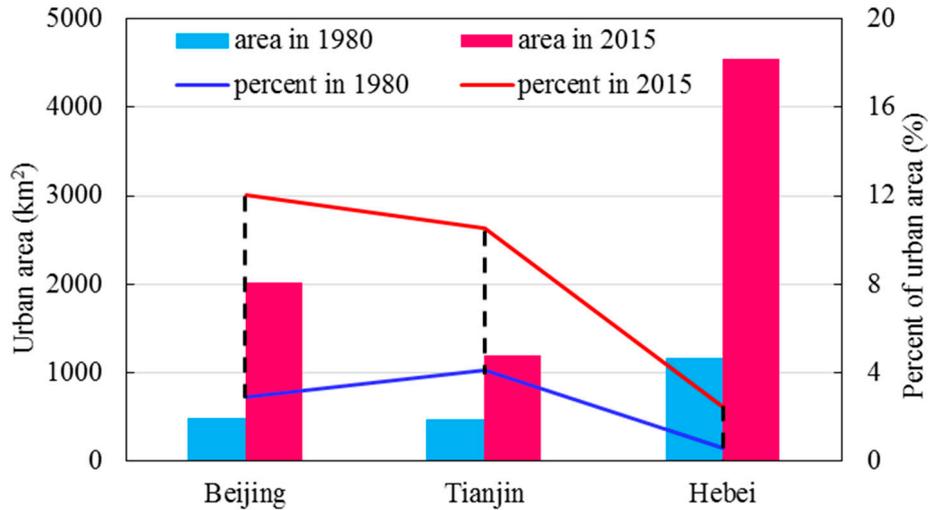


Figure S5. The urbanization process of Beijing, Tianjin and Hebei in 1980 and 2015. Land cover maps of the Jing-Jin-Ji region in 1980 and 2015 were obtained and urban areas (bars) and percentages of urban areas (lines) of Beijing, Tianjin and Hebei were calculated in 1980 and 2015.

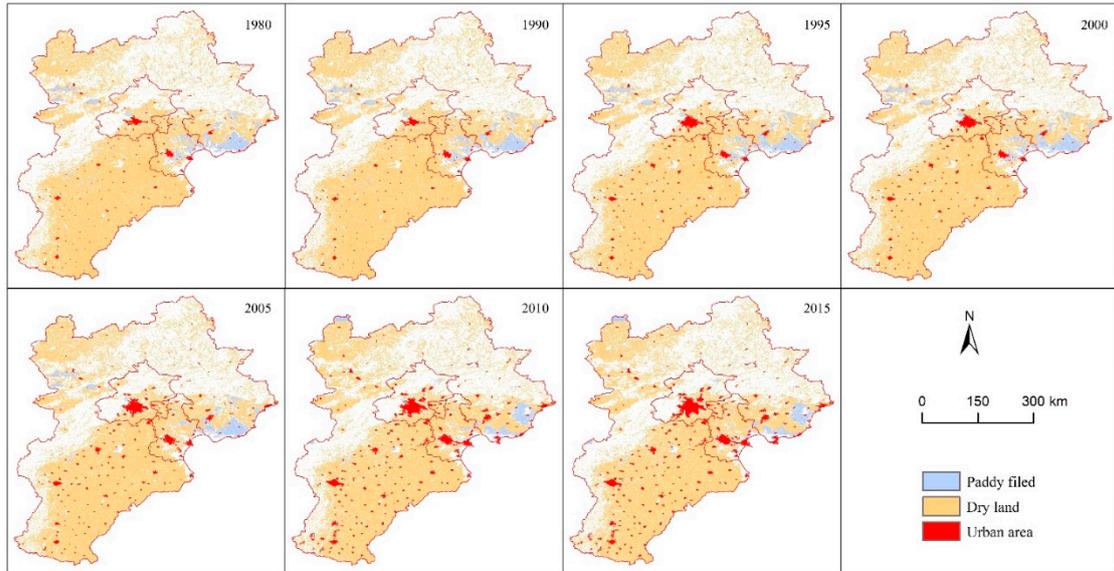


Figure S6. The process of urbanization in the Jing-Jin-Ji region from 1980 to 2015.

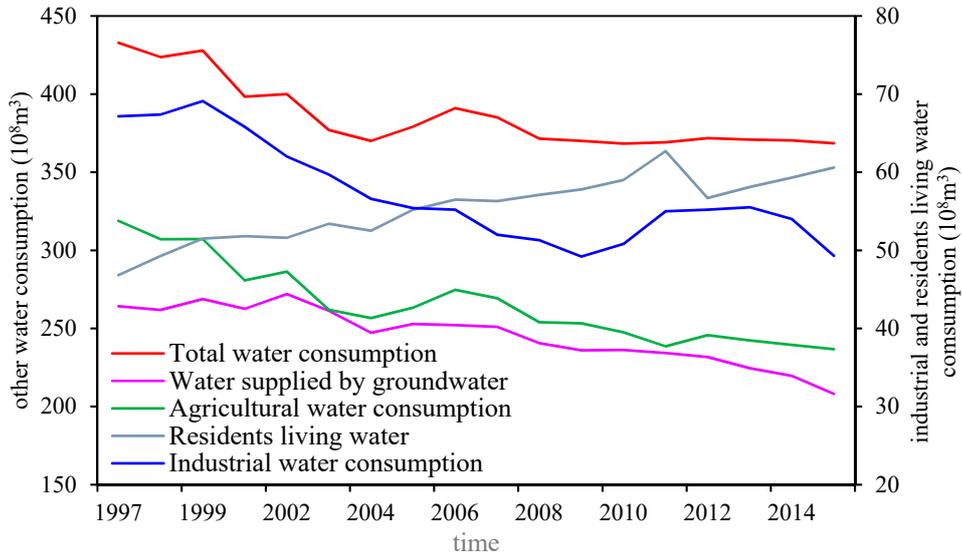


Figure S7. Water consumption utilized for agricultural, living and industrial purposes from 1998 to 2015 and groundwater supplies.

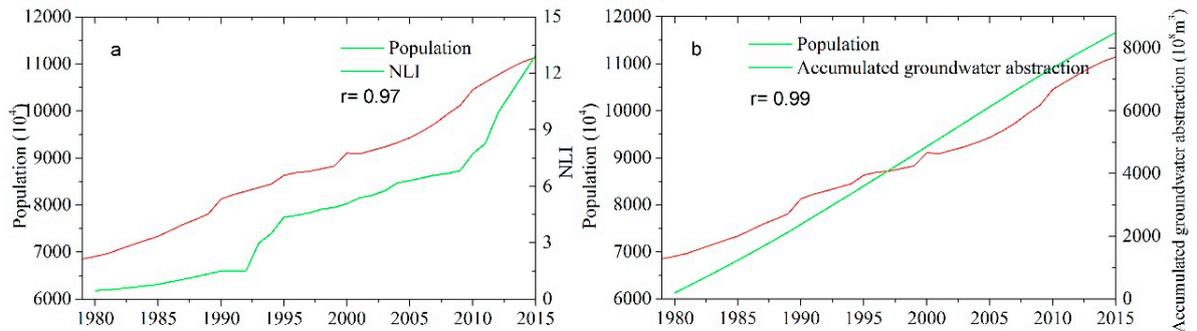


Figure S8. (a) The correlation between population and NLI; (b) The correlation between population and accumulated groundwater abstraction.

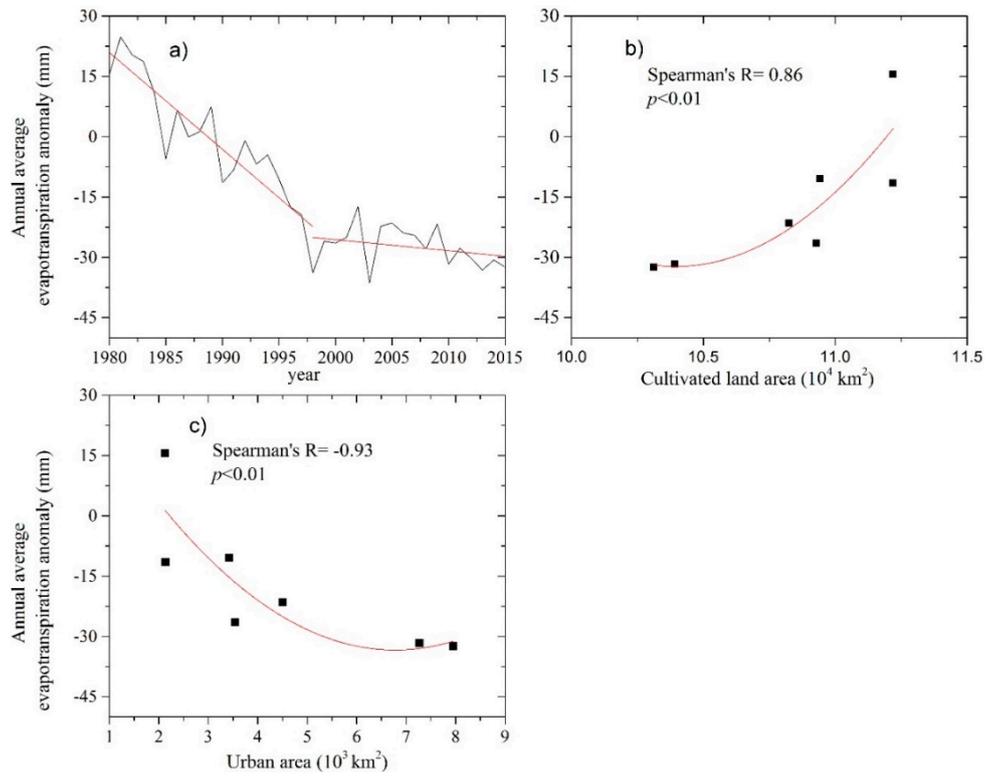


Figure S9. Variation in the annual evapotranspiration average and its relationship with LUCC. (a) The trend and variability of annual evapotranspiration anomaly average in the Jing-Jin-Ji region from 1980 to 2015; (b) The relationship between cultivated land area and evapotranspiration; (c) The relationship between urban areas and evapotranspiration.