Table S1. Land use and land cover classes used in this study (red color)

|  |  |  |
| --- | --- | --- |
| **6 classes\*** | **25 classes\*\*** | **Description** |
| Cropland | Dry land | Cropland for cultivation without irrigating facilities. |
|  | Paddy land | Cropland that has enough water supply and irrigation facilities for planting paddy rice, lotus etc. |
| Grassland | Dense grassland | Canopy coverage > 50%. |
|  | Moderate grassland | Canopy coverage between 20% and 50%. |
|  | Sparse grassland | Canopy coverage between 5% and 20%. |
| Woodland | Forest | Canopy coverage > 30%. |
|  | Shrub | Canopy cover > 40%. |
|  | Wood | Canopy coverage between 10% to 30%. |
|  | Others | Other lands such as alpine desert and tundra. |
| Water bodies | Stream and rivers | Lands covered by rivers and stream. |
| Lakes | Lands covered by lakes. |
| Reservoir | Man-made facilities for water reservation. |
| Permanent ice and snow | Lands covered by perennial snowfields and glaciers. |
| Beach and shore | Lands between high tide level and low tide level. |
| Bottomland | Lands between normal water level and flood level. |
| Built-up land | Urban built-up | Lands used for urban. |
|  | Rural settlements | Lands used for settlements in villages. |
|  | Others | Lands used for factories, quarries, mining, oil-field slattern outside cities and lands for special uses such as transportation and airport. |
| Bare land | Bare soil | Bare exposed soil with less than 5% vegetation cover. |
|  | Bare rock | Bare exposed rock with less than 5% vegetation cover. |
|  | Sandy land | Sandy land covered with less than 5% vegetation cover. |
|  | Gobi | Gravel covered land with less than 5% vegetation cover. |
|  | Salina | Lands with salina accumulation and sparse vegetation. |
|  | Swampland | Lands with a permanent mixture of water and herbaceous or woody vegetation that cover extensive areas. |
|  | Others | Other lands such as alpine desert and tundra. |

Note: this table is adapted from Liu et al. (2005)

\* The overall of the six classes was > 93%

\*\* The overall accuracy of the 25 classes was > 90%

Une image contenant texte, carte

Description générée automatiquement

Figure S1 Spatial distribution of land use in northern Shaanxi, 1988 – 2015

Une image contenant arbre, texte, carte

Description générée automatiquement

Figure S2 Spatial distribution of *C* values in northern Shaanxi, 1988 – 2015