Supplementary for

A Full-Life-Cycle Modeling Framework for Cropland Abandonment Detection Based on Dense Time Series of Landsat-Derived Vegetation and Soil Fractions

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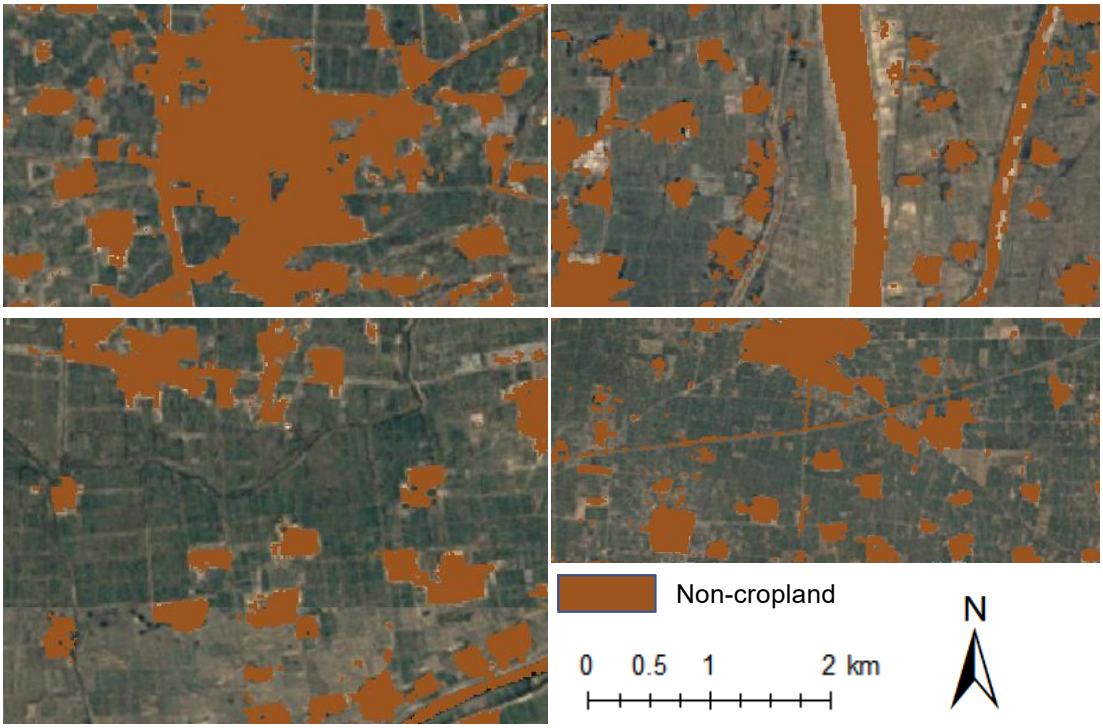


Figure S1 cropland boundaries overlaid on Google Earth images in 2000.

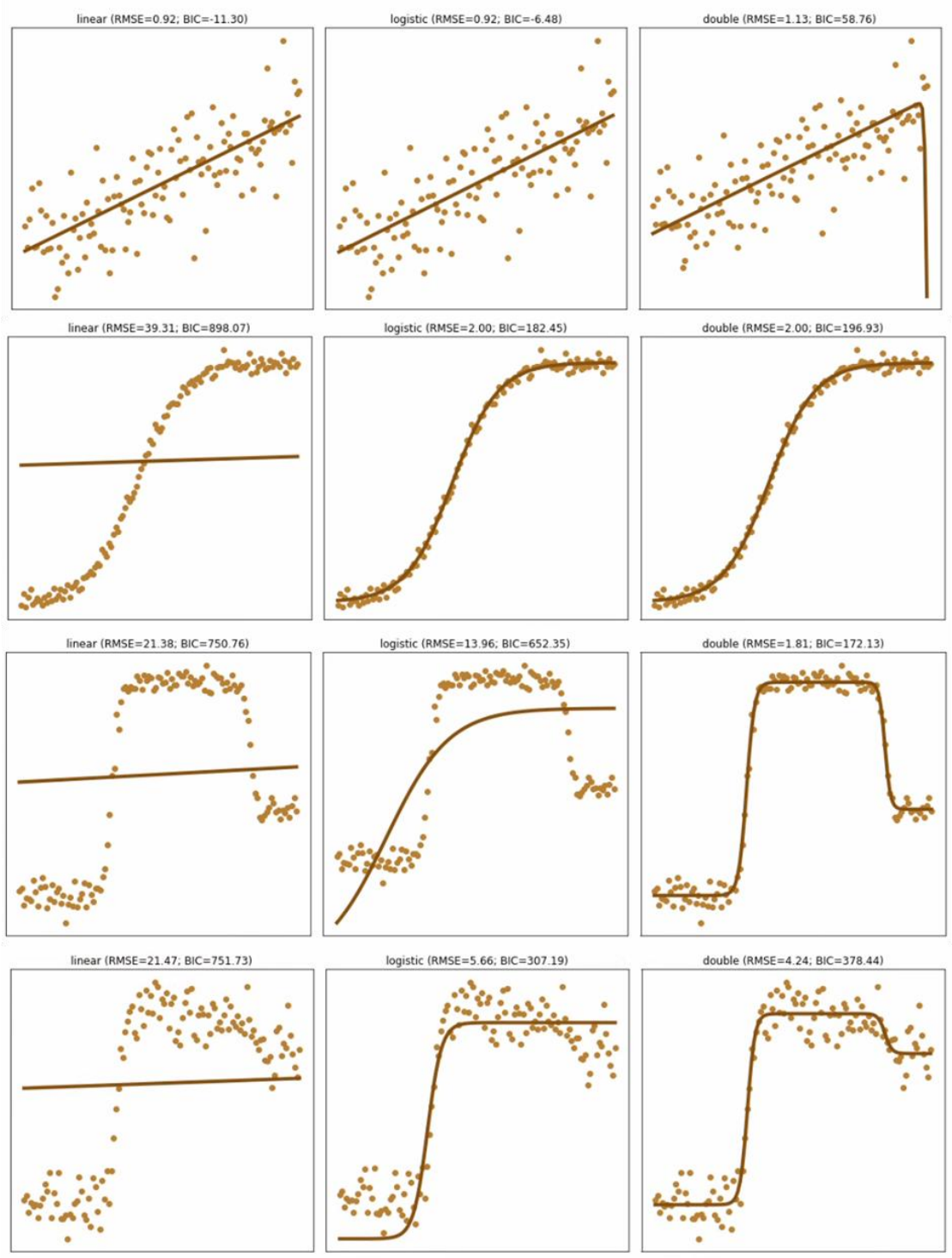


Figure S2 Comparisons of RMSE and Bayesian Information Criterion for optimal fitting result selection for different series

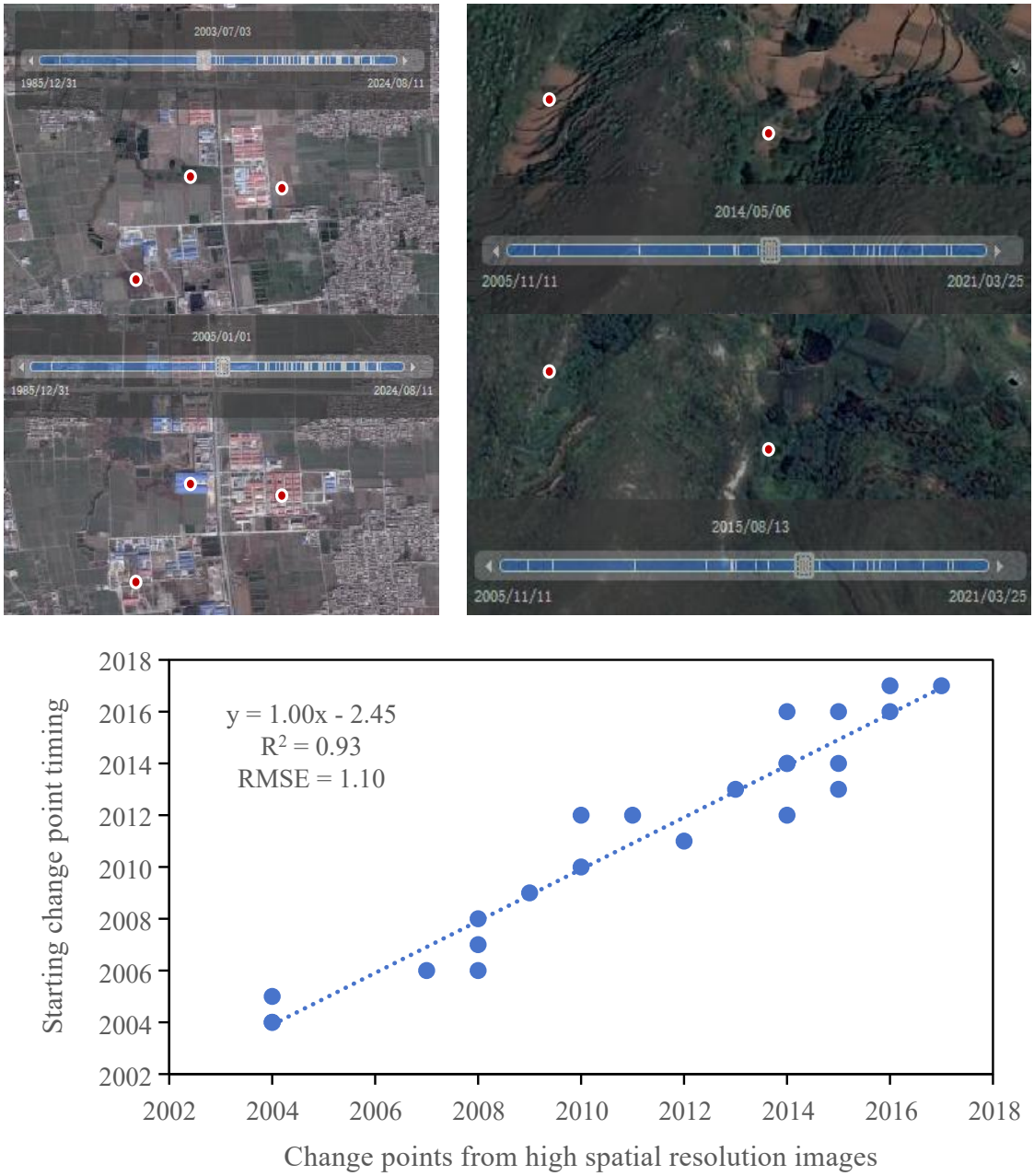


Figure S3 Starting change point timing validation. Above is the selection of the validation sample points based on high spatial resolution Google Earth imagery of the historical period, and below is the scatter plot between change points from high spatial resolution images and starting change point timing.

Table S1 Definitions of cropland for products used in this study.

Products	Definitions
Global Cropland Change 2000-2019	Land used for annual and perennial herbaceous crops for human consumption, forage (including hay) and biofuel.
GFSAD	The sum of all agricultural lands that can be classified withinone or more of the following conditions: (1) land cultivated and harvested for food, feed, and fiber once or more during a 12-month period; (2) land left fallow, when equipped for agriculture; (3) or land permanently cropped with plantations (for example, orchards, vineyards, and coffee, tea, or rubber plantations).
CACD	Annual cropland in this study is defined as a piece of land of 0.25 ha at minimum (minimum width of 30 m) that is sowed/planted and harvestable at least once within the 12 months after the sowing or planting date.
Globeland30	Land used for growing crops, including paddy fields, irrigated dry land, rain-fed dry land, vegetable land, pasture land, land for greenhouses, land with fruit trees and other economic trees mainly grown for crops, and land for bush cash crops such as tea plantations and coffee plantations.
GLC_FCS30D	Cropland includes rain-fed cropland and irrigated cropland from United Nations Land Cover Classification System.
AGLC	Land used for growing crops, including paddy land, irrigated dry land, rain-fed dry land, vegetable land, pasture land, land for greenhouses, land mainly for growing crops with fruit trees and other economic trees, and land for growing shrubby cash crops.
CLCD	This type of land has clear traits of intensive human activity. It varies a lot from bare field, seeding, crop growing to harvesting. It can be easily identified if edges or textures are visible with sufficiently large land parcels. Fruit trees are classified into forests. Bare field is classified into bare land. Pasture could be transitional from croplands to natural grasslands.