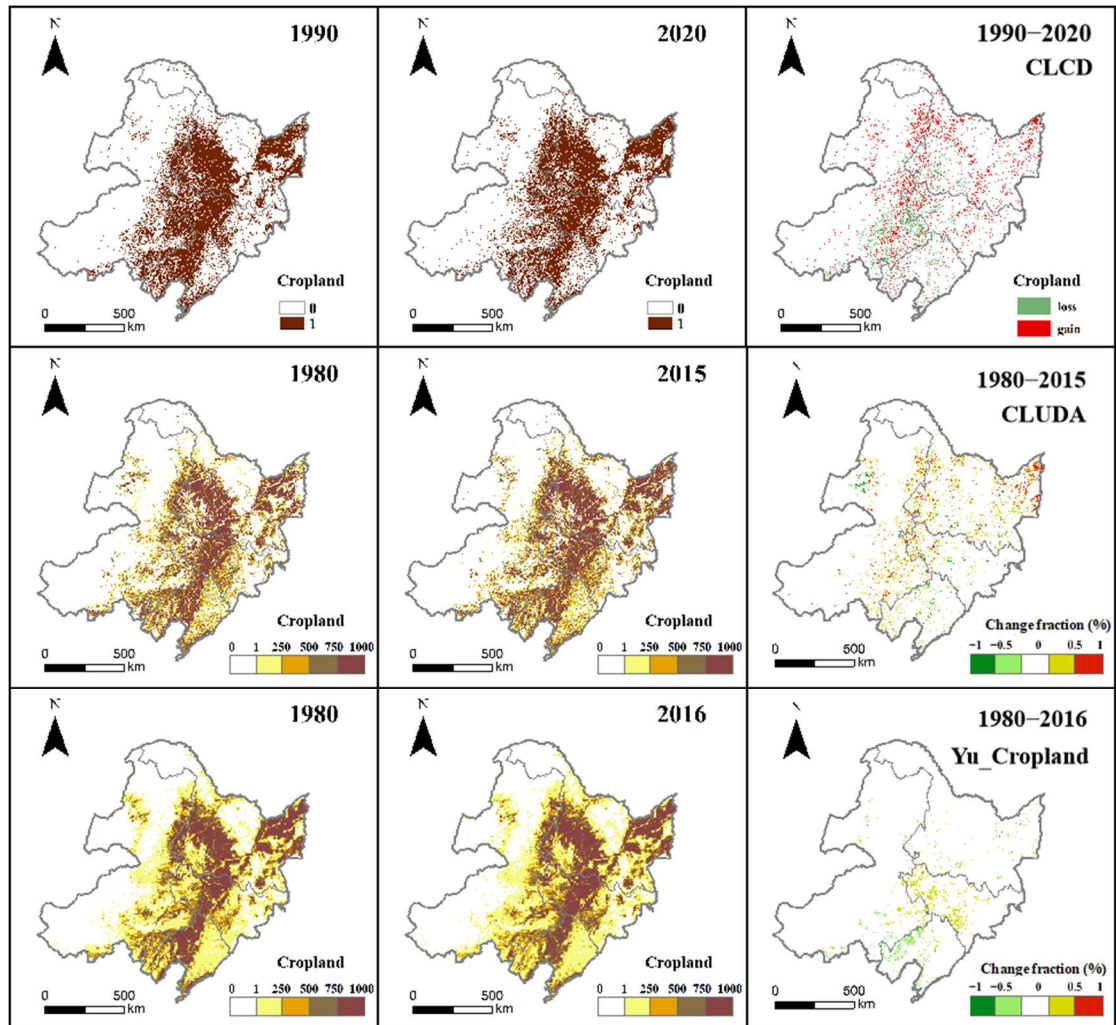# Supplementary Material

Below figures (Figures S1-S4) displayed the spatial distributions and changes of major land use and cover types in the northeastern China during the most early and recent time periods based on multiple existing LUCC products.
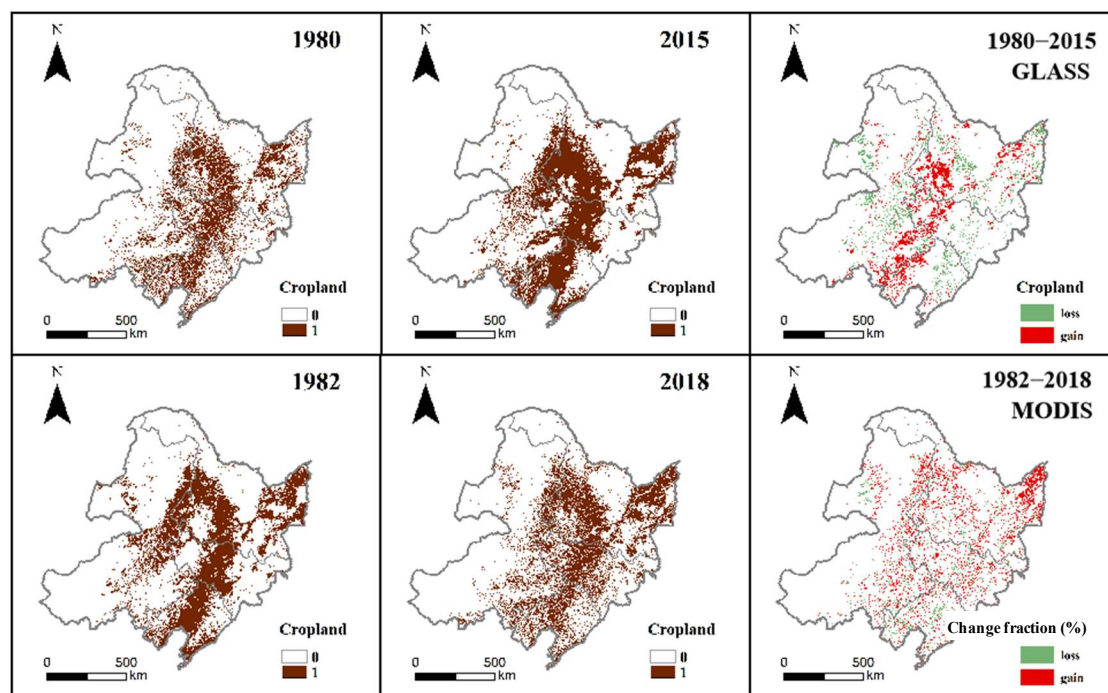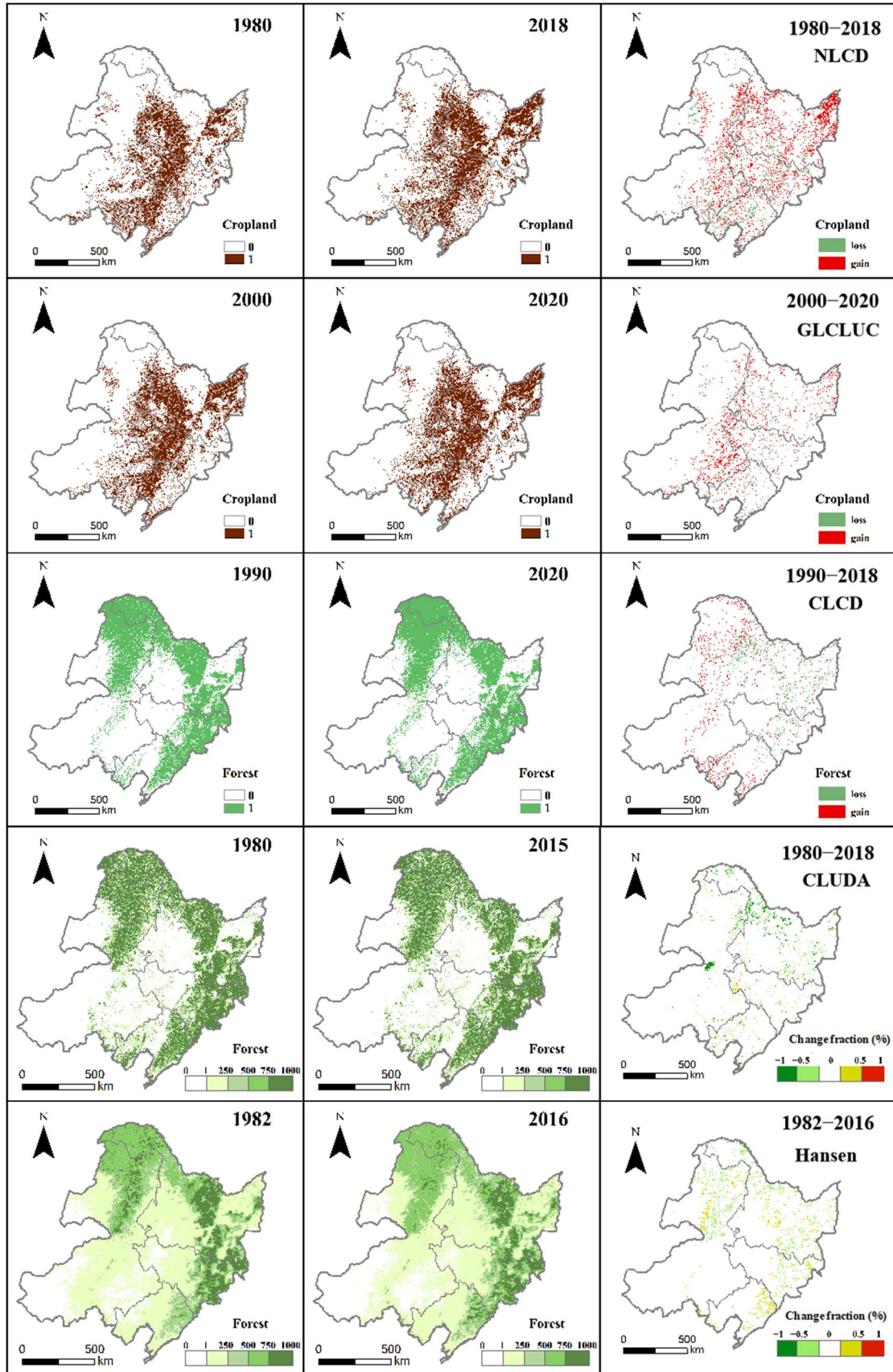
Figure S1 The comparisons of cropland distribution and its changes during the most early and recent time periods in the northeastern China based on multiple existing LUCC datasets.
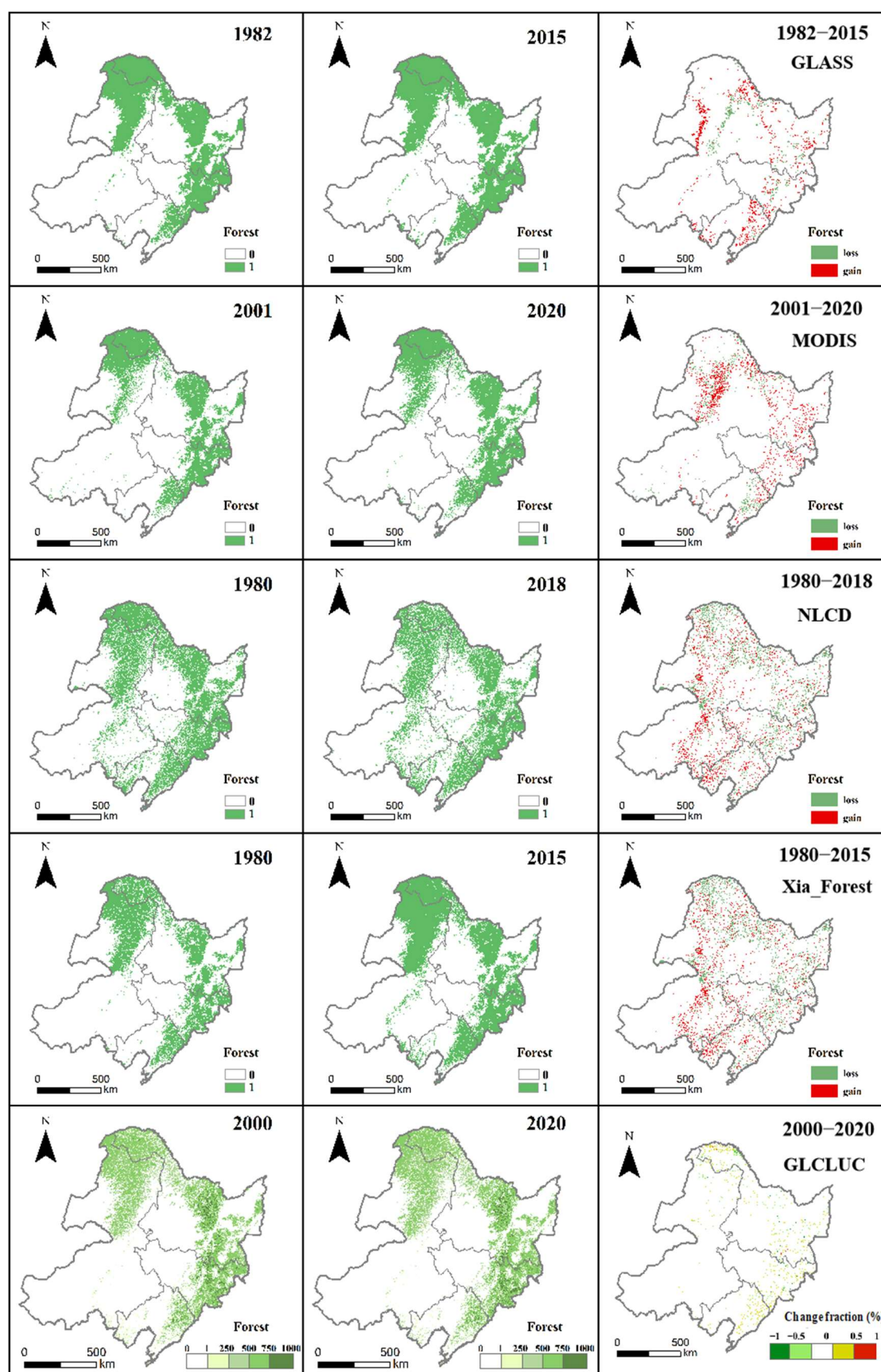
Figure S2 The comparisons of forest distribution and its changes during the 1980s and the most recent time period in the northeastern China based on multiple existing LUCC datasets.
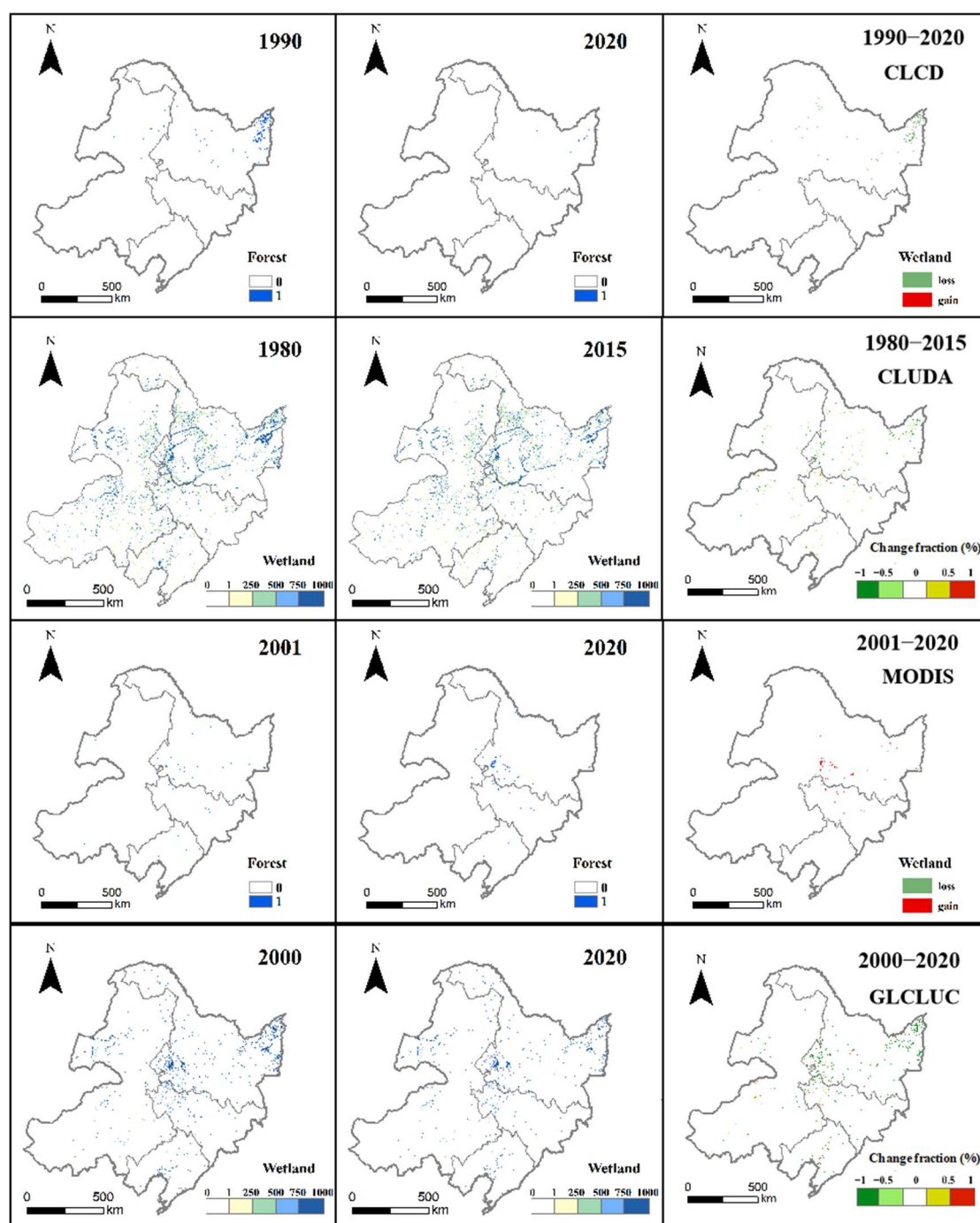
Figure S3 The comparisons of wetland distribution and its changes during the most early and recent time period in the northeastern China based on multiple existing LUCC datasets.
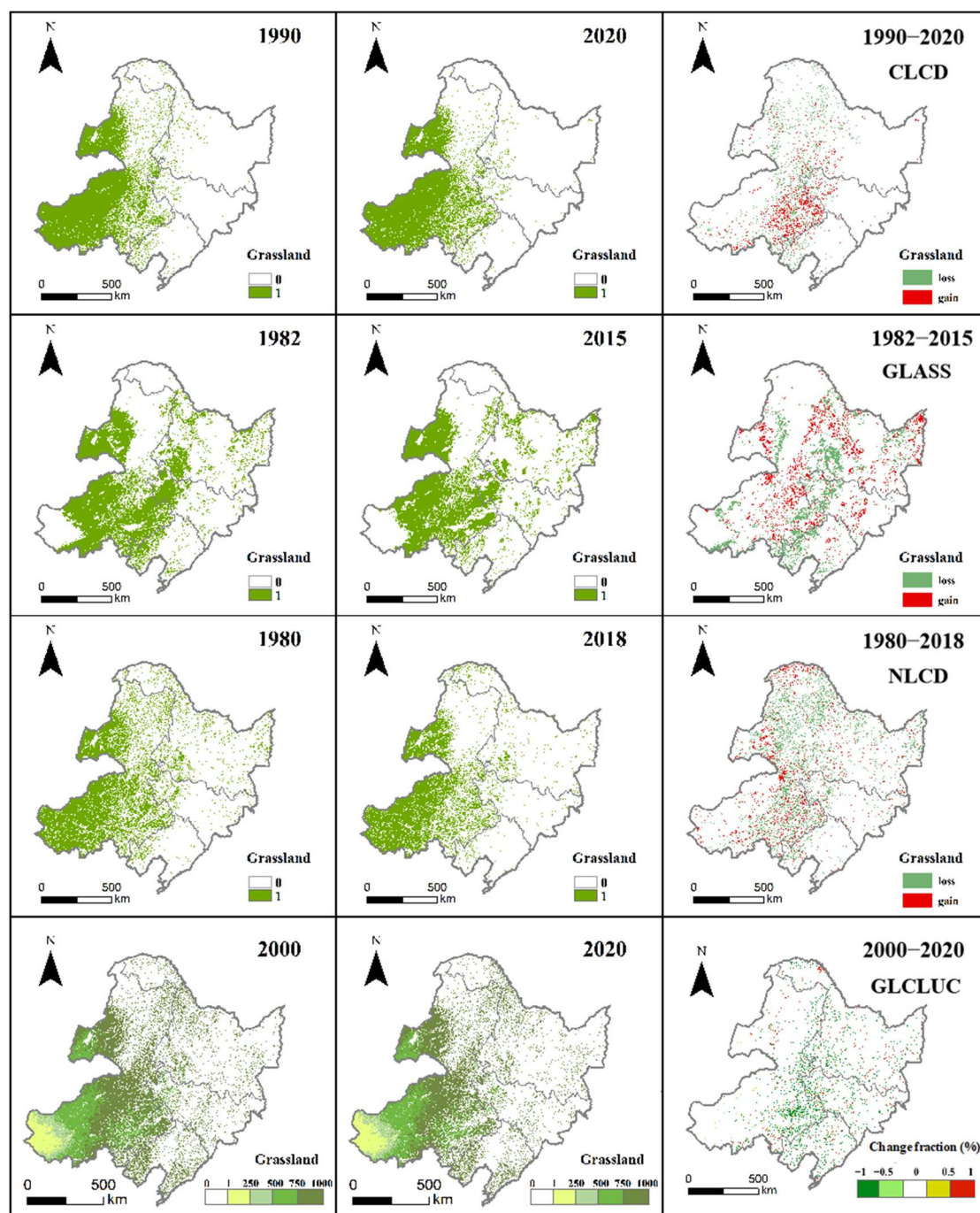
Figure S4 The comparisons of grassland distribution and its changes during the most early and recent time period in the northeastern China based on multiple existing LUCC datasets.

The proportional distributions of cropland types in 1980, 2010 and 2020 and the changes from 1980 to 2020 are displayed in Figure S5. Four types of cropland has been classified including rice paddy, corn, soy bean and others.
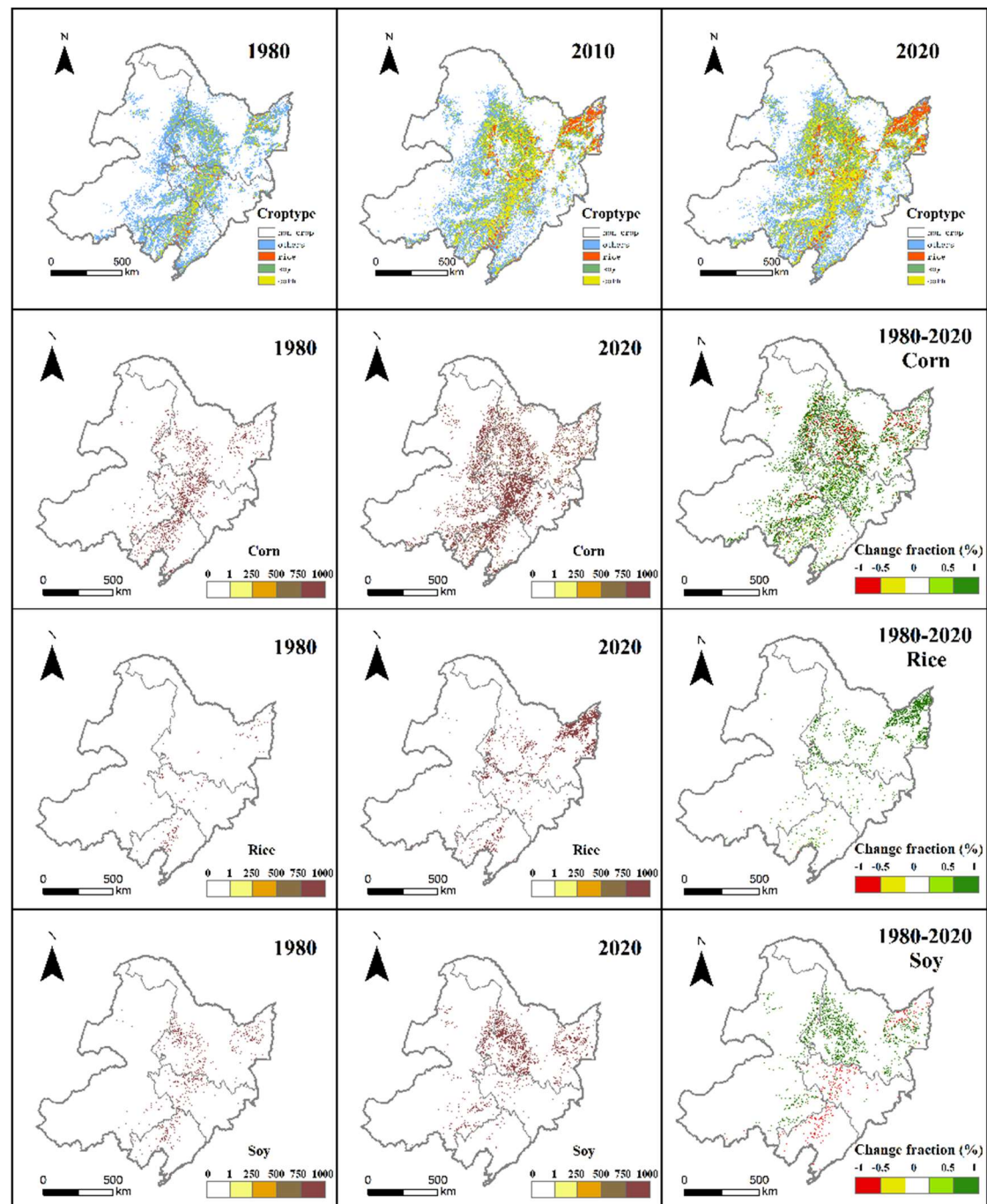

Figure S5. The proportional share of three major crop types (corn, rice and soy bean) in 1980 and 2020, and their changes from 1980 to 2020 in the northeastern China