

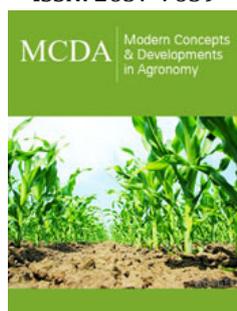
# The Past and Future of NECdata of China

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As we know, natural vegetation landscape change is one type of global environmental change. Northeast China is a typical area where human activities have had a significant impact on land cover change. It is of great significance to study the driving mechanism from the perspective of human-environment coupling system. Yu Ye et al.[1] used the historical data of the Qing Dynasty, the archives of the government of the Republic of China, the survey data from Japan and Russia, by the method of combining Historical Data Correction and Multi-source Cultivated Land Data Modeling, reconstructed the cropland data of the past 300 years in Northeast data(Cropland data of Northeast China, referred to as CNEC data), which is the higher-resolution regional data supported by historical data in Northeast China at that time. After the ongoing revision work, it has now been renamed NECdata. The current highest version is unpublished NECdata2.0. Based on this set of data, Li B [2] estimated the carbon budget resulted is still by land reclamation in Northeast China over the past 300 years. At the same time, regional assessment of the accuracy global land use data was also carried out in Northeast China.

NECdata reconstructed the time series of cropland area and their spatial pattern change in Northeast China. The results showed that the cropland in Northeast China increased from about 10% to 20% and expanded northward from the end of the 19<sup>th</sup> century to the beginning of the 20<sup>th</sup> century. Three main cultivated areas were gradually formed in 1930s and 1950s-1980s. The 1930s-1940s showed the expansion of new cultivated areas to forest land. Altogether, it reflects that human beings have greatly changed the natural landscape of this region through land reclamation, deforestation and other production activities.

At present, NECdata is accommodating the data of the eastern Farming-Pastoral Ecotone of North China and updated into NECdata 2.0. The reconstruction results of this region showed that the boundaries of the cultivation ratio contours of 15% and 30 % continually moved west and north. The boundaries primarily moved westward during 1940s-1980s and northwestward during 1980-2000. The movement of the boundaries finally resulted in the formation of the modern Farming-Pastoral Ecotone Pattern [3].

Overall, it is just "A tip of the iceberg" about NECdata. There is still great potential to be exploited in published or unpublished results. For example, migration and reclamation in Northeast China in response to climatic disasters in North China [4], agriculture low carbon research with Chinese ancient wisdom.

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