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CHINA'S SATELLITE CARBON SINK MONITORING RESULTS AND NEXT GENERATION
TECHNOLOGY PROSPECTS

Abstract

Carbon sinks accumulate CO₂ from the atmosphere and contribute to climate change mitigation. forests are considered to contain about 80 percent of the terrestrial ecosystem carbon sinks. To evaluate the carbon sinks of forests, the Terrestrial ecosystem Carbon Inventory Satellite (TECiS), nicknamed Goumang was developed in China and launched in 4 August, 2022. Adopting diversified remote sensing of including lidar, multi-direction, multi-spectrum, hyper-spectrum and polarization, retrieval products of TECiS such as forest height, AGB and Sllare published after calibration and validation, The precision of forest mean height is better than 1.5m where ground slope is less than 5 degree. AGB products in regional scale are inspected to be better than 85 percent. The result of carbon sink obtained by this satellite are introduced. Then, the requirements and tasks of the new generation of remote sensing satellite for carbon sink estimation in China are put forward. Considering the technical difficulties in high-precision and quantitative remote sensing measurement of carbon sink, the task analysis process and the load allocation scheme are given.