

Ecological Research and Monitoring in Environmental Changes in China

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Terrestrial ecosystem is a key component of our planet, but it has been changing by the natural and anthropic effects, such as desertification, urbanization and global climate change. It becomes more and more important to acquire the Terrestrial ecosystem status and its change information. To understand such issues relating with the ecosystem and its change, a system to monitor the ecological system was founded in IGSNRR, CAS, which including CERN, Chinese Resources and Environment database, remote sensing receiver and processing system and ecological simulation model library. The Chinese Ecosystem Research Network (CERN), one of the founding members of the International Long Term Ecosystem Research Network (ILTER), and Global Terrestrial Observation System (GTOS), was established in 1988. CERN consists of 36 field research stations for various ecosystems, including agriculture, forestry, grassland and water body, five disciplinary centers and one synthesis center. The CERN stations equipped various instruments to acquire different ecosystem parameters, such as realtime flux data, meteorological data and vegetation growth parameters. These data, some are realtime, were collected and quality control in its synthesis center. Chinese Resources and Environment database was constructed from 1990's, now has included different resolution geospatial data that contributed to ecological research. These data include the multitemporal land cover data, ecological settings data and fields sample data. The remote sensing data receiver and processing system can receive MODIS data and process these data to extract ecological parameters. The model library has collected various methods related with ecological simulation. The four components integration will improve us in understanding the Chinese terrestrial ecosystem and its change.