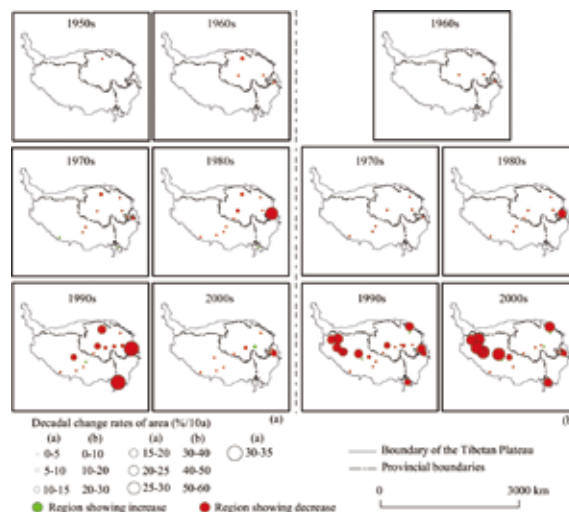


Recent Changes in Wetlands on Tibetan Plateau

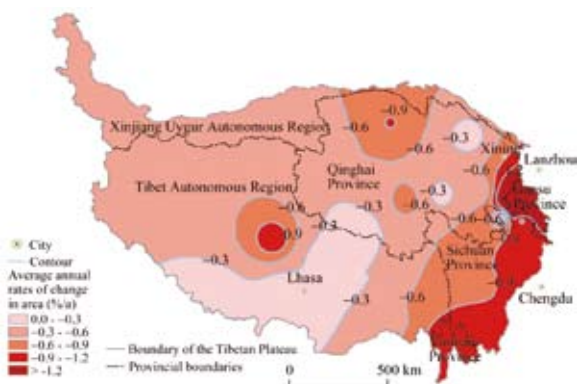
As about 80% of global wetland resources are degrading or disappearing, the wetland ecosystem has become one of the most seriously threatened ecosystems in the world. The Tibetan Plateau, which is an area sensitive to global change and a security barrier for the Asian ecosystem, has about $13.19 \times 10^4 \text{ km}^2$ of wetlands of special significance to China. Today, with the increasing application of remote sensing technology, Tibetan Plateau wetland research has entered a period of rapid development.

Prof. ZHANG Yili from the Institute of Geographic Sciences and Natural Resources Research, Chinese Academy of Sciences and his colleagues reviewed the remote sensing research history of Tibetan Plateau wetlands from 1992 to 2014, and provided suggestions for future studies.

They found that over the past 40 years, the research paradigm of the Tibetan Plateau wetlands has undergone dynamic changes concerning the monitoring of wetland areas, landscape patterns and the eco-environment based on remote sensing technology. Between 1970 and 2006, the Tibetan Plateau wetland area decreased by 0.23%/a, and the landscape diversity declined by 0.17%/a. By contrast, between 1976 and 2009, the lake area of the inland river basins in the Tibetan Plateau increased by 0.83%/a. The



Decadal variation amplitude of wetland (a) and swamp (b) in different regions of the Tibetan Plateau from 1950s to 2000s.



Rates of change in wetland area within different regions of the Tibetan Plateau since 1956.

change trend in the Tibetan Plateau wetlands was controlled by climate change. Current problems relating to remote sensing (RS)-based research in the Tibetan Plateau wetlands are computer interpretation accuracy and the processing precision of cloud removal, and the lack of a comprehensive overview of the Tibetan Plateau wetland system.

The researchers also proposed some key activities in future research: to strengthen the integration of the Tibetan Plateau wetland research with remote sensing research; to explore the response and adaptation mechanisms of the Tibetan Plateau wetland ecosystem within the context of global change; to improve the integration of remote sensing (RS), geographic information system (GIS), and global positioning system (GPS), and to promote the construction of a Tibetan Plateau wetland information platform.

Their work has been published in the *Journal of Geographical Sciences*.