

Research brings habitat models into the future

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Time marches on, and thanks to Michigan State University research, models of wildlife habitat now can monitor changes over time more accurately and more easily.

"Monitoring and projecting future changes are essential for sustainable management of coupled human and natural systems, including wildlife habitat," said Jianguo "Jack" Liu, Rachel Carson Chair in Sustainability at MSU. "Innovative computer models are urgently needed for effective monitoring and projection."

Mao-Ning Tuanmu, doctoral student in MSU's Center for Systems Integration and Sustainability, and his colleagues combine habitat modeling and [remote sensing technology](#), then gain the ability to use one model to monitor various changes over time. Their work, "Temporal transferability of wildlife habitat models: implications for habitat monitoring," is published online in the Journal of Biogeography.

Tuanmu focused on panda habitat in Wolong Nature Reserve in southwestern China as part of an ongoing interdisciplinary effort to understand changes in the home of the [Giant Panda](#), including the effects of human activities, land use/cover changes and implementation of conservation programs.

Models of habitat that portray information such as sources of food and [forest cover](#) are important tools. The trick has been to take these detailed models and expand them to help monitor changes over time.

"We built an integrated model at one point in time and then used that same model over different time periods," Tuanmu said. "We need more models like this one with good transferability to monitor short-term and project long-term changes in species distribution and [habitat](#) quality."

Provided by Michigan State University

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