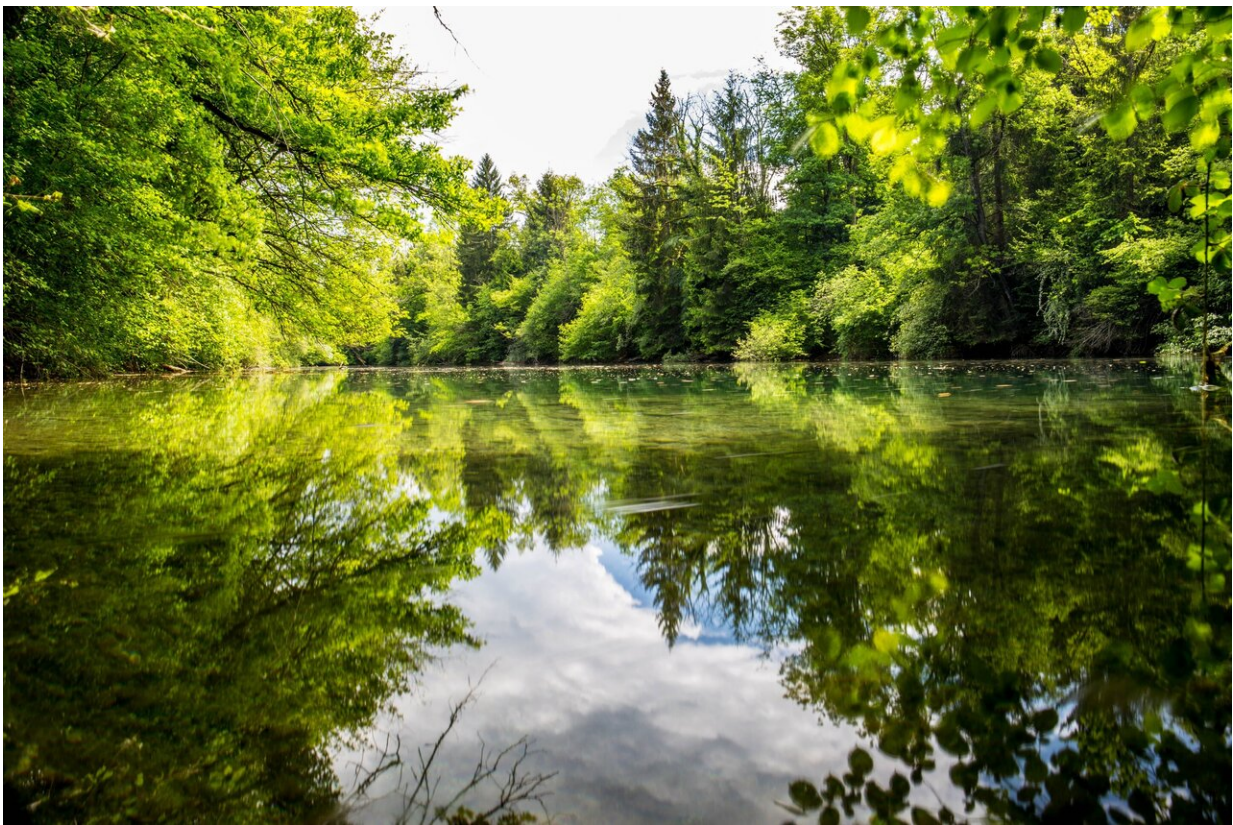


# Study reveals 2016–2021 interannual changes of coastal aquaculture ponds in China at 10-m spatial resolution

January 3 2023, by Li Yuan

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A research group led by Prof. Wang Zongming from the Northeast Institute of Geography and Agroecology (IGA) of the Chinese Academy

of Sciences has developed an object-oriented method to obtain the annual 10-m-spatial-resolution national coastal aquaculture pond dataset of China between 2016 and 2021 (China\_CAP), with an overall classification accuracy of more than 90%. The method integrated superpixels image segmentation and hierarchical decision trees.

The study was published in *Remote Sensing of Environment* on Nov. 12.

Although previous studies have provided valuable datasets of coastal [aquaculture](#) ponds in China at various scales, those data are outdated and limited to coastal ecosystem planning and management particularly due to their moderate spatial resolution (30-m) and [temporal resolution](#) (5 or 10 years).

The new dataset showed that the total area of China's coastal aquaculture ponds experienced a substantial loss of 13.21% from 9,769 km<sup>2</sup> in 2016 to 8,629 km<sup>2</sup> in 2021.

The most remarkable areal reduction occurred in Zhejiang Province, with a decrease rate of 38.24%, followed by Guangdong (27.93%), and these reductions were mostly related to the policy of retuning aquaculture ponds to natural wetlands. Coastal aquaculture ponds in Fujian and Tianjin provinces experienced slight areal gains (7.24% and 2.13%).

"The generated dataset is vital for formulating and implementing sustainable strategies related to the wise use of coastal wetlands, and it is of great scientific and practical importance to support the evaluation of Sustainable Development Goals," said Prof. Wang.

**More information:** Ming Wang et al, Interannual changes of coastal aquaculture ponds in China at 10-m spatial resolution during 2016–2021, *Remote Sensing of Environment* (2022). [DOI: 10.1016/j.rse.2022.113347](https://doi.org/10.1016/j.rse.2022.113347)

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