# Disaster prevention effects of coastal forests and their limitations

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From an economic and environmental point of view, it is essential to consider nature's inherent disaster prevention functions, such as coastal forests, as green infrastructure and utilize them for disaster mitigation. The effectiveness of coastal forests in tsunami mitigation has long been a focus of attention in Japan and has been confirmed through actual surveys, hydraulic model experiments, and numerical simulations.

On the other hand, when a giant tsunami or storm surge strikes, coastal forests are at risk of being destroyed on a large scale, becoming drifted debris and causing more damage to the land behind them. To incorporate coastal forests into tsunami disaster prevention measures, it is necessary to consider the destruction conditions of coastal forests themselves and study their limitations. This presentation will summarize the disaster mitigation effects of coastal forests, especially mangroves, and their limitations. Methods to use them in disaster prevention and mitigation measures will be discussed.

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He has been working in Tohoku Gakuin University since 2012. He specializes in coastal engineering (tsunami engineering). He researched the tsunami mitigation effect of mangroves and their limits through numerical simulations, hydraulic experiments, and field surveys. He has recently studied mangrove prop root shape and forest change using a 3D scanner.