

Life history strategies and minor species enhance resilience of subtropical forests while human intervention reduces it

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Objective

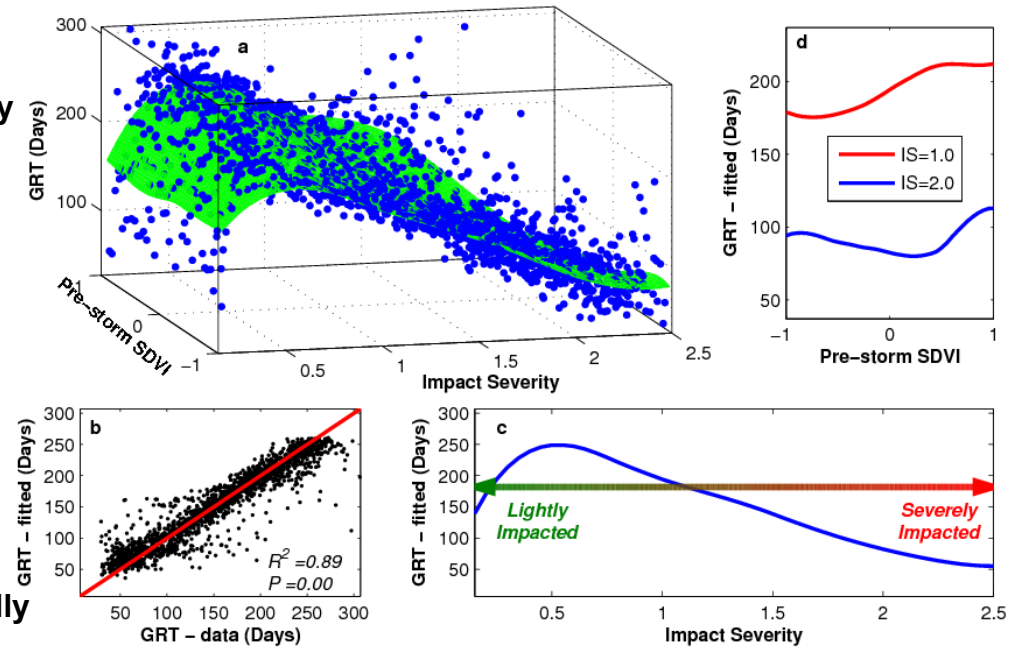
- Quantify the integrated effects of natural and anthropogenic processes on greenness recovery of subtropical forests damaged by ice storms
- Identify key processes for modeling post-disturbance recovery of forest primary productivity

New Science

- About 10% of China's forests suffered massive damage by a destructive ice storm in 2008
- Satellite-measured greenness of about 80% of the impacted forests returned to normal status within one year after the storm
- The greenness rebound was a result of forest resilience, dominated by resprouting of physically damaged trees and growth of understory plants including shrub, herbaceous and epiphytic species
- Post-ice storm salvage logging selectively targeted lightly to moderately impacted forests, causing these forests to recover even slower than more severely impacted forests

Significance

- Poorly-studied life history strategies of trees are important for post-disturbance forest greenness recovery
- Minor plant species, which may contribute little to forest primary productivity under normal conditions, may play major ecological roles after extreme events
- Human intervention may delay post-disturbance forest recovery



Citation: Sun, Y. et al. (2012) Forest greenness after the massive 2008 Chinese ice storm: integrated effects of natural processes and human intervention. *Environ. Res. Lett.* 7 (2012) 035702