

Disturbance and regeneration dynamics of an old-growth North Patagonian rain forest in Chiloé Island, Chile

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1 Few studies have addressed the mechanisms of coexistence of shade-tolerant and intolerant tree species in the canopy of old-growth, lowland rain forests of southern South America. We explored the hypothesis that their forest dynamics result from frequent, single tree-fall gap episodes. 2 We analysed the disturbance regime and assessed the regeneration modes of shade-tolerant and intolerant canopy trees in a lowland, old growth North Patagonian rain forest in Chiloé Island (42° S) using dendroecological methods. 3 Dominant canopy trees were the shade-intolerant *Nothofagus nitida* (Fagaceae), *Drimys winteri* (Winteraceae) and the tolerant *Podocarpus nubigena* (Podocarpaceae). The oldest individuals, however, were represented by *Saxegothaea conspicua*, Podocarpaceae (shade tolerant > 498 years) and *Weinmannia trichosperma*, Cunoniaceae (intolerant > 382 years). Shade-tolerant species have regenerated continuously for the past 400 years, but recruitment of shade-intolerant species has increas