

Climate Cloud

Suggested Resource

Predicting the severity of *Dothistroma* needle blight on *Pinus radiata* under future climate in New Zealand

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Abstract

Dothistroma needle blight is a very damaging foliar disease of *Pinus* species. An existing model for predicting spatial variation in *Dothistroma* needle blight severity was used to predict disease severity (Ssev) under current and future climate.

Spatial predictions of Ssev under current climate varied widely throughout New Zealand. Values of Ssev were highest in moderately warm wet environments in the North Island and on the west coast of the South Island. In contrast, relatively low values of Ssev were predicted in drier eastern and southern regions of New Zealand.

Changes in Ssev from current climate were predicted to be low to moderate under climates projected for 2040. However, over the longer term, to 2090, projected changes in Ssev, resulting from climate change, ranged from moderate to high. Over both projection periods, Ssev was predicted to decline in the North Island and increase within the South Island. Surfaces such as those presented here are a critical element for decision support systems that provide information on site suitability for plantation species under increasing rates of global warming.

Keywords

Biosecurity, Climate change, Disease risk assessment. Disease severity, *Dothistroma septosporum*, Invasive species, Red band needle blight. Spatial modelling