Climate change may wake up 'sleeper' weeds

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Karoo thorn is a tree in its early stages of establishment in Australia but it has the potential to be a serious woody weed. (Colin Wilson)

(PhysOrg.com) -- Climate change will cause some of Australia's potential weeds to move south by up to 1000km, according to a report by scientists at CSIRO's Climate Adaptation Flagship.

Weeds cost Australia more than A$4 billion a year either in control or lost production and cause serious damage to the environment.

In an address today in Perth to the GREENHOUSE 09 conference on climate change, CSIRO researcher, Dr John Scott, said, however, that those cost estimates were only based on the damage caused by weeds known to be active in Australia.

"Out there, throughout the nation, are many weed species lying low but

with the potential to take off and add to the economic and social burden of weed control," Dr Scott said.

"One critical unknown is what these lurking weeds will do under climate change. Will their distributions change? Will they spread north or south, east or west, and will these movements change them into full-blown pest species?"

A recent CSIRO report for the Australian Government's Land and Water Australia looked at what effects climate changes anticipated for 2030 and 2070 might have on the distribution of 41 weeds that pose a threat to agriculture ("sleeper" species) and the natural environment ("alert" species).

"We found that climate change will cause most of these weeds to shift south, with wet tropical species making the greatest move - over 1000km," Dr Scott said.

"The regions most at threat from alert and sleeper weeds, both under the current climate and under climate change, are south east Australia, followed by the south west."

Karroo thorn (Acacia karroo), rosewood (Tipuana tipu) and kochia (Bassia scoparia) were found to pose the greatest threat under climate change while white weeping broom (Retama raetam) and fringed dodder (Cuscuta suaveolens) were predicted to have the highest risk of establishing in new areas.

"The predicted move south by both native and introduced plants would produce a 'vacuum' in northern Australia so, to prevent lurking species from invading, a new list of alert and sleeper weeds for this region needs to be developed," Dr Scott said.

The report also found that while the area currently infested by the most widespread weeds will decrease under climate change, the area of high risk would still be large.

Provided by CSIRO (news : web)