Maps developed to help forest industry outwit climate change

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University of Alberta researchers have developed guidelines being used by foresters and the timber industry to get a jump on climate change when planting trees.

Maps developed by Laura Gray, a post-doctoral fellow in the Department of Renewable Resources, provide projections of climatically suitable habitat for tree species based on climate predictions for the 2020s, 2050s and 2080s.

The work, published recently in the journal *Climatic Change*, is the first of its kind to tackle multiple potential climate scenarios for a large number of tree species across Western North America. The large-scale research considers 15 major commercial tree species and 18 different future climate change scenarios.

The U of A study also considers patterns of climate change observed from the 1970s until recently and found that on average, populations already lag behind their best climate niche by 130 kilometres in latitude or 60 metres in elevation.

The study addresses concerns that many populations of wide-ranging tree species which are adapted to local growing conditions, may now or in the future actually lag behind their optimal growing environment due to changing temperature and precipitation conditions.

Currently in Alberta alone, forestry companies and government agencies

plant 80 million spruce, fir and pine seedlings to reforest more than 50,000 hectares of harvested land annually.

"The information helps forest managers have more confidence in their decisions on what and where to plant. It allows them to more accurately assess the climactic risk," said Gray, a co-author on the study.

Provided by University of Alberta