Simplicity explains the success

Description

Open access was important to the researchers developing the 3PG model, adopted worldwide by both science and forestry. The simple and powerful tool to predict forest growth is awarded the 2020 Marcus Wallenberg Prize.

Canberra in the mid-1990s. Three scientists meet in the right time â?? and at the right place: the CSIRO, Australiaâ??s national science agency. Joseph Landsberg is a senior scientist and former CSIRO unit director, Richard Waring is a senior visiting scientist from Oregon State University, USA. Nicholas Coops completes the trio: a young Australian scientist with a strong interest in the ongoing rapid technological development in the remote sensing area.

While the two senior professors, Landsberg and Waring, write the model, the young Coops sets out to develop the interface to satellite imagery analysis. The host organizationâ??s claim to license their Physiological Principles Predicting Growth, 3PG, is effectively rejected by Landsberg, who shares it with interested colleagues around the world immediately when it is found to function properly.

The 3PG model spread world wide

Soon there are hundreds of copies of the model used by both scientists and forestry practitioners. The modelâ??s strength being its simplicity, it is easily adopted to model forest growth in Eucalyptus plantations in south America as well as in natural forests of the US pacific North West.

â?? Plantation companies were the ones using 3PG straight away, says Nicholas Coops. They operated over large areas, had a mix of different species and clones and put up their plantations in a raster. 3PG had simplicity that allowed for large spatial context. There were many physiological models under development, but 3PG took off like a rocket due to its simplicity and also its ability to be run spatially.

The 2020 Marcus Wallenberg Prize is awarded to the three scientists behind the 3PG model of forest growth, Joseph Landsberg, Richard Waring and Nicholas Coops, to be presented in the autumn of 2021. The model, Physiological Principles Predicting Growth (3PG), was one of the first modern models developed to bridge the gap between conventional, forest mensuration-based growth and yield, and process-based carbon balance models. ***See the announcement video***.

The addition of advanced satellite imagery analysis made the model fly. Today, 3PG is a unique and powerful tool for predicting forest growth from stand to global scales, and assessing the risks to the worldâ??s forests posed by climate change.