

Stephen F. Austin State University SFA ScholarWorks

Faculty Publications

Forestry

2011

A GIS tool for plant spatial pattern analysis

Yanli Zhang

Arthur Temple College of Forestry and Agriculture, Stephen F. Austin State University, zhangy2@sfasu.edu

Nathan Woodward

Daniel Unger

Arthur Temple College of Forestry and Agriculture, Stephen F. Austin State University, unger@sfasu.edu

I-Kuai Hung

Arthur Temple College of Forestry and Agriculture, Stephen F. Austin State University, hungi@sfasu.edu

Brian P. Oswald

Arthur Temple College of Forestry and Agriculture, Stephen F. Austin State University, Nacogdoches, Texas 75962, boswald@sfasu.edu

See next page for additional authors

Follow this and additional works at: <http://scholarworks.sfasu.edu/forestry>



Part of the [Forest Sciences Commons](#)

Tell us how this article helped you.

Recommended Citation

Zhang, Yanli; Woodward, Nathan; Unger, Daniel; Hung, I-Kuai; Oswald, Brian P.; and Farrish, Kenneth W., "A GIS tool for plant spatial pattern analysis" (2011). *Faculty Publications*. Paper 373.

<http://scholarworks.sfasu.edu/forestry/373>

This Article is brought to you for free and open access by the Forestry at SFA ScholarWorks. It has been accepted for inclusion in Faculty Publications by an authorized administrator of SFA ScholarWorks. For more information, please contact cdsscholarworks@sfasu.edu.

Authors

Yanli Zhang, Nathan Woodward, Daniel Unger, I-Kuai Hung, Brian P. Oswald, and Kenneth W. Farrish

A GIS tool for plant spatial pattern analysis

Yanli Zhang, Nathan T. Woodward, Daniel Unger, I.-Kuai Hung,
Brian P. Oswald, Kenneth W. Farrish

A GIS program, ArcPlantPattern, was developed with Visual Basic .NET and ArcObjects as an ArcGIS extension to assist the investigation of plant distribution patterns (species composition as occurrence probability and spacing as distances among species) and to design planting plan maps for patch planting. ArcPlantPattern is the first software of its kind. It can be used for arid and semiarid lands reclamation, burned area rehabilitation, or designing landscapes with a required plant community distribution. ArcPlantPattern may also be applicable to other spatial point pattern analysis, such as geology, geography and wildlife habitat.