

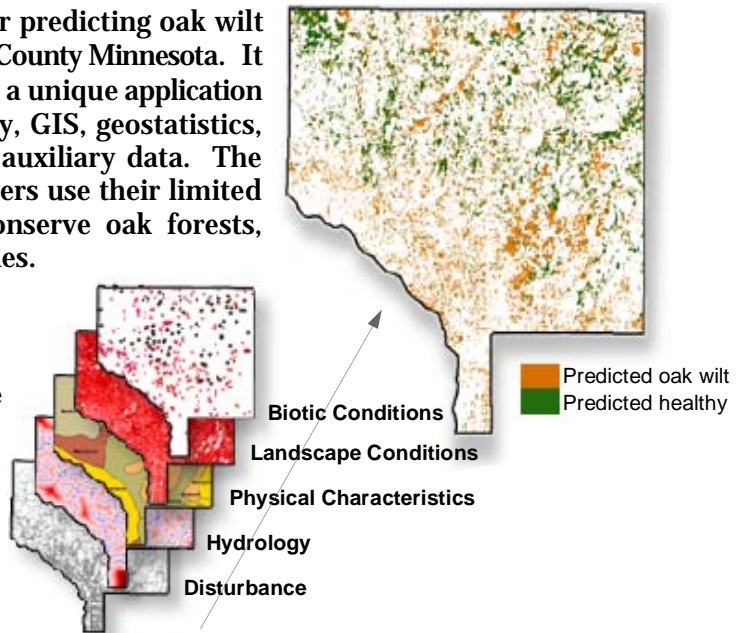


PROVIDING TECHNOLOGY FOR FOREST HEALTH PROTECTION

FHTET has developed a new model for predicting oak wilt distribution at the landscape level for Anoka County Minnesota. It is more than 90% accurate and uses a unique application of data from Landsat TM satellite imagery, GIS, geostatistics, field sample data, and coarse resolution auxiliary data. The model can help city planners and developers use their limited resources more effectively, cut costs, conserve oak forests, and prioritize oak wilt suppression activities.

Background:

Oak wilt is a fungal disease present in the oak forests that comprise 17% of Anoka County's land area. The Minnesota Department of Natural Resources projects that, at its current rate of growth, oak wilt presence across the county will double by 2008.



Geostatistics offers a way to describe the spatial continuity that is an essential feature of many natural phenomena, and provides adaptations of classical regression techniques to take advantage of this continuity.

(Isaacs & Srivastava, An Introduction to Applied Geostatistics, 1989)

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What FHTET has learned:

- There is a spatial relationship between increased urban development and forest decline due to oak wilt.
- The model successfully predicts oak wilt presence across Anoka County. Slightly more than 30% of the county's forested area has a low probability for oak wilt. This means *the county can save considerable time and money, because it does not need to allocate capital and resources to study or treat these acres.*
- The model can be applied to many forest health issues: specifically, those known or suspected to be influenced by several environmental factors, such as climate, soil conditions, topography, etc.

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