

NATIONAL INSECT AND DISEASE RISK MAP (NIDRM) —CUTTING EDGE SOFTWARE FOR RAPID INSECT AND DISEASE RISK MODEL DEVELOPMENT

Frank J. Krist, Jr.

U.S. Forest Service, Forest Health Technology Enterprise Team,
2150 Centre Ave., Bldg. A, Suite 331, Fort Collins, CO 80525-1891.
To contact, call (970) 295-5845 or email at fkrist@fs.fed.us.

The Forest Health Technology Enterprise Team (FHTET) of the U.S. Forest Service is leading an effort to produce the next version of the National Insect and Disease Risk Map (NIDRM) for targeted release in 2011. The goal of this effort is to update spatial depictions of risk of tree mortality based on: (1) newly derived 240-m geospatial information depicting the distribution of tree hosts, pests, and associated factors influencing risk, and (2) modifications of risk models, including emerald ash borer, used in the 2006 NIDRM (www.fs.fed.us/foresthealth/technology/nidrm.shtml) with improved national consistency and precision.

Streamlining the construction of a higher resolution NIDRM that contains hundreds of spatial models by

pest and host requires the development of a Windows desktop application that can facilitate rapid model assemblage. FHTET is in the final stages of building a desktop Risk Modeling Application (RMAP) using Microsoft Visual C# and ArcGIS Engine (ESRI Inc., Redlands, CA) technology. This application allows users to weight, rank, and overlay a wide range of geographic information system layers to model the potential susceptibility and vulnerability of forested landscapes to attack by individual insects and diseases. Although RMAP is run as a stand-alone application outside of ArcGIS, it does require an Arc/Info and Spatial Analyst (version 9.3) license. A database, such as SQL Server 2005, is also required for file and data management utilities within RMAP.