

Country: Sweden

Activity: Participated in IUFRO Conference: Adaptation of Forests and Forest Management to Changing Climate with Emphasis on Forest Health in Umea, Sweden on August 25-28,2008. Gave two presentations: Forest Health in North America: Current Conditions, Historic Trends, and Future Risks, and Monitoring Large-Scale Tree Mortality in the United States of America.

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Source of Funding FHP

FOREST HEALTH IN NORTH AMERICA: CURRENT CONDITIONS, HISTORIC TRENDS, AND FUTURE RISKS.

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The forests of North America extend from the tropical areas of Mexico to the boreal regions of Canada. The health of these forests is threatened by a multitude of biotic and abiotic agents including: fragmentation caused by development, fires, native and invasive pests, and air pollutants. The effects of these stressors may also be exacerbated with changing climate. Increased damage caused by fires and some native insects and pathogens have been tied to climatic changes. Incursions of invasive forest pests have drastically changed many forest ecosystems and continue to threaten new areas. While deposition of some pollutants has decreased, damage to forests continues in many areas. This presentation will review the current forest health conditions, historic trends, and present assessments of future risks to North American forests.

Keywords: forest health, fires, forest pests, air pollution

MONITORING LARGE-SCALE TREE MORTALITY IN THE UNITED STATES OF AMERICA.

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The United States (US) Forest Service and its partners have been monitoring large-scale tree mortality and other damages throughout the US for many years through the Forest Health Monitoring program. Annual damage surveys are conducted by trained aerial observers flying at

low altitudes over forested areas. Recent advances include incorporation of automated digital sketch mapping systems linked to global positioning systems of aircraft and development of a national geospatial database. These advances have facilitated tracking tree mortality trends at state, regional and national scales. The information is used in planning pest suppression activities and for assessment of risks to future mortality. Future developments will include incorporation of remote sensing technologies to extend temporal and spatial coverage.

Keywords: forest health monitoring, tree mortality, risk assessment