

The National Inventory and Monitoring Applications Center (NIMAC)

Goal: To develop leading edge forest ecosystem monitoring methods and tools to help FIA and other organizations monitor forests, resulting in compatible results across the landscape. Methods and software tools are designed for use by land managers and across ownerships at landscape to national scales, but will also provide added flexibility to FIA.

Background: With the increasing pressures to manage sustainably on both public and private lands, the need for efficient monitoring methods has grown dramatically. Forest Certification, the Montreal Criteria and Indicators, Carbon credits and National Forest System (NFS) Planning rules are all significant drivers in this movement. National Forests, State Forests, military bases, National Parks and other countries regularly ask the Forest Inventory and Analysis (FIA) Program to provide technical guidance for monitoring. NIMAC has helped six States to date develop more specific inventories on their lands and is working with NFS Regions 8 and 9 on developing Forest Monitoring Plans. NFS monitoring coordinators and planners are working with NIMAC to develop question-driven monitoring planning tools and standard protocols to help ensure that data are collected in a scientifically defensible manner. By collecting data consistently across Forests or other ownerships, results can be scaled up to the regional and national levels.

Approach: The National Inventory and Monitoring Applications Center was created to fill this need to monitor forests more closely using scientifically credible and compatible methods – those developed by FIA and others. The NIMAC will address two Problem areas:

1. Efficient forest ecosystem inventory and monitoring methods are needed to provide critical input for sustainable resource management at mid-scale and local levels.
2. Forest resource managers need mid-scale inventory and monitoring tools to enable them to monitor their own lands efficiently and effectively.

Specifics:

- The NIMAC is part of the FIA Program and is headquartered in the Northern Research Station. Each FIA Unit works in collaboration with NIMAC on projects in their region.
- Charles “Chip” Scott is the Program Manager of NIMAC.
- The NIMAC team is skilled in forest measurements, quantitative ecology, spatial analysis, and computer programming. They are conducting research into measurements, indicators, sampling design, and map-based estimation methods.
- The initial focus is to create a Monitoring Toolkit composed of a planning tool, customizable field manual and training guides, field data collection software, database and data compilation tool, and a spatial/tabular analysis tool. The toolkit will be applicable to a wide range of customers including the National Forest System, States, and FIA itself. Honduras has funded the development of a Spanish version of the toolkit.
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