carbon and changes through time, and (3) determine the contribution of ecologically based forest management to carbon offsets. To support model calibration and validation, carbon stocks in aboveground and belowground biomass, shrubs, the herbaceous layer, soils, forest floor litter, and detritus were measured in 10 stands (5–87 yr of age). Allometric relationships were developed. Forest carbon stocks were dependent on stand age and structure.

Testing alternative response designs for training forest disturbance and attribution models. Schroeder, T., Moisen, G., Schleeweis, K. (*U.S. Forest Service, USA; tschroeder@fs.fed.us; gmoisen@fs.fed.us; kgschleeweis@fs.fed.us*).

Understanding and modeling land cover and land use change is evolving into a foundational element of climate, environmental, and sustainability science. Land cover and land use data are core to applications such as carbon accounting, greenhouse gas emissions reporting, biomass and bioenergy assessments, hydrologic function assessments, fire and fuels planning and management, and forest and rangeland health assessments. Remote sensing-based monitoring efforts like the North American Forest Dynamics (NAFD) project, and the newly launched Landscape Change Monitoring System (LCMS), will provide land cover and land use change data on all U.S. lands for the longest possible historical period. Empirical models driving disturbance and causal maps rely on large quantities of high quality data. Many decisions need to be made about the size, shape, quantity, quality, and other details about the training plots themselves, i.e., the response design. Here, the authors explored best practices for collecting training data for these empirical models on 10 pilot scenes in the United States. Alternative designs were evaluated in terms of their costs and benefits for national mapping applications.

Global Forest Information Service (GFIS) in Russia. Shalaev, V., Chumachenko, S., Kulakova, O. (*Moscow State Forest University, Russian Federation; shalaev@mgul.ac.ru; chumachenko@mgul.ac.ru; koololka@gmail.com*).

The mission of the Global Forest Information Service (GFIS) in Russia is to disseminate information and knowledge among members of the global forest community. The goal is to give all people whose activities are related to forests and the forest sector, an opportunity to obtain and share information. The GFIS was established in 1998 and began operation in Russia in 2005. In recent years, the Internet portal GFIS.ru for the Russian part of the Global Forest Information Service was developed by Moscow State Forest University as a project within the International Partnership on Forests. Currently the authors are working on filling up the site. News about forests, both in the forestry and broader scientific spheres, is published daily on the Website. Information on upcoming conferences, training, workshops, exhibitions, and other forestry-related events is published regularly by site administrators. Future development of the Website will include efforts to increase the amount of information published and to enhance the features of the digital library. Books, scientific papers, articles, and abstracts will be available in the digital library, and improvements are planned for easier access to and sale of the resources in this depository.

Comparison of land cover classification using medium resolution and high resolution imageries. Shrestha, H. (*Kathmandu University, Nepal; hlshrestha@gmail.com*).

Information about land cover is a fundamental geospatial component that informs the preparation and implementation of land use plans and other decisions about development issues. Remote sensing technology makes an important contribution to the study of land cover and land use change dynamics as past records are lacking in many locations. Remotely sensed images of historical land cover can be compared with data on current land use status. However, as remote sensing technology advances, some technological issues arise when comparing past and present status of land use and land cover. Thus, the aim of this study was to compare the methodological performance of land cover classification by using medium resolution and high resolution imageries from the same date. This comparison gave an opportunity to understand limitations, differences in processing methodologies, and effects on product results. The study showed that land use and land cover can be interpreted in greater detail from high resolution images and at a more generalized level with medium resolution imagery.

MODIS-based forest fire burned area assessment in the Hind-Kush-Himalayan (HKH) region. Shrestha, H. (*Kathmandu University, Nepal; hlshrestha@gmail.com*).

Forest fire is considered to be a major driver of forest degradation through the burning of trees and production of ash and smoke. Burning of forest trees also emits carbon to the atmosphere. Rate of spread of a forest fire depends, in part, on forest type. A forest fire can be described in spatio-temporal terms: when it occurred, rate and degree of spread, and location and extent of burning scars on ground. A geospatial approach can better present the current scenario, assess the damage and losses, and support planning for fire management. MODIS products have the capability to support regular monitoring of forest fire occurrence and losses. This study tried to determine current trends in forest fire occurrence and burned areas in the Hind-Kush-Himalayan (HKH) region from 2000 to the present using MODIS. The study also tried to assess the seasonality and spatiality of the forest. The MODIS MCD45A1 products of burn area and burn date were analyzed by writing the routine code in Python scripting. The HKH region does not have a proper damage assessment and recording system for forest fires. The assessment of active forest fires and burned areas provides the information needed for forest fire management in the region.

A system for assessing live biomass of northern Eurasian forests: methodology, models, results, and uncertainties. Shvidenko, A. (*International Institute for Applied Systems Analysis (IIASA), Austria; shvidenk@iiasa.ac.at*), Usoltsev, V. (*Russian Academy of Sciences, Russian Federation; usoltsev50@mail.ru*), Shchepashchenko, D. (*International Institute for Applied Systems Analysis (IIASA), Austria; schepd@iiasa.ac.at*), Lakyda, P. (*National University of Life and Environmental Sciences of Ukraine, Ukraine; lakyda@nubip.edu.ua*).

This paper presents systems analysis of current methods and models used for assessing live biomass (LB) of temperate and boreal forests. Methods that are based on forest inventory data generate an empirical background for reliable estimation of uncertainties. Grouped by ecoregion, two unified sets of biomass extension factors (BEF) for northern Eurasia forests are presented in forms of multiple regressions: (1) for data aggregated by forest enterprises [BEF = f (DS, A, SI, RS)] and (2) for biometric characteristics of individual stands [BEF = F(TS, A, D, H, N, H100)], where DS = dominant species, A = age, SI = site index, RS = relative