Mutualisms between Forest Monitoring and Forest Inventory

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Due to increased information needs, especially in context of a global change, the catalogues of target variables associated with traditional forest inventories were permanently enhanced. Despite such intensification of forest inventories, their purpose is still different from forest monitoring campaigns. This is mainly because both forest inventory as well as forest monitoring address different stakeholders and target audiences. Whereas forest inventories mainly provide summary statistics on the outcome of dynamic processes in forest landscapes, forest monitoring puts stronger focus on these ecological processes and tries to reveal their drivers and their interrelationships. Against this background, data collection in both survey systems occurs with different intensities on the temporal as well as the spatial scale.

Often when a new question arises, to be answered by a particular forest survey system, an appropriate methodology does not yet exist and has to be developed first. However, the survey coordinator is then likely caught in a dilemma, as the data platform of his survey system does not allow for such methodological developments or to conduct proper testing of the novel approaches under manifold reference conditions. The dilemma simply occurs as data is often insufficient on the spatial or temporal scale. As solution in practice, the required methodology can be elaborated by means of data derived from the counterpart survey system.

This talk presents different examples from forest survey practice covering the redesign and testing of traditional forest inventory methods as well as the development of novel methodological frameworks for spatio-temporal predictions of forest productivity and forest health. Hence, it is demonstrated that a redundancy problem is actually not relevant, and that both systems forest inventory and forest monitoring rather work complementary to each other and can mutually benefit from the counterpart's specific features.