

5th Forest Engineering Conference

Contribution 94 in session “Operational uses of remote sensing technologies for logging operation”

How to Effectively Set up Cable Yarding Corridors: A Case Study of Central Turkish Example

Authors: ARICAK Burak; H. Hulusi ACAR; ALTUNEL Arif Oğuz; KURTIPEK Adem; ENEZ Korhan

Kastamonu University, TURKEY, baricak@kastamonu.edu.tr

Keywords: Cable yarding; LIDAR

Operational planning in forestry is an important indicator of how sustainably they are managed. Along with the improvements in hardware and software technology, the plans visualized before embarking the real field operation, yield almost identical results to the actual field work. Today, cable yarding which is a type of timber harvesting method is widely used in the Northwestern US, Italian and Austrian Alps regions and in parts of New Zealand. It is a long accepted method of extracting timber from the stands. The common denominator among the mentioned states is the fact that their forests exist on rather treacherous terrain. As the topography gets steeper, traditional timber skidding and forwarding means requiring a forest road network become impractical as well as uneconomical due to both financial and environmental constraints. At this point, cable logging seems to be the only sensible choice of extracting timber from the stands. The level of understanding in terrain modeling enables the forest managers how their needs are met before venturing out into the woods. When the track to be harvested is materialized inside a computer screen, it is highly efficient in terms of an operational planning to know where the new road segments will be built and where no intervention will be made. It is rather easy to determine the logging corridors through a terrain model, but there is no guarantee as to whether there will be big enough spar trees along or at the end of the corridor to anchor the main cable line. LIDAR is providing the perfect solution to this problem. In the context of this paper, an operational planning supported by a LIDAR data set will be made in a central Turkish example. It is believed that along with other proven applications, LIDAR data has very many unearthed potential, yet to be discovered.