NPS Remote Sensing Research (PH)

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EXTRACTING HIDDEN TRAILS AND ROADS
UNDER CANOPY USING LIDAR

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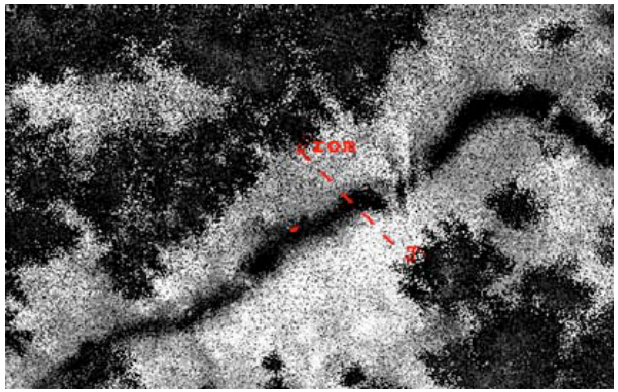
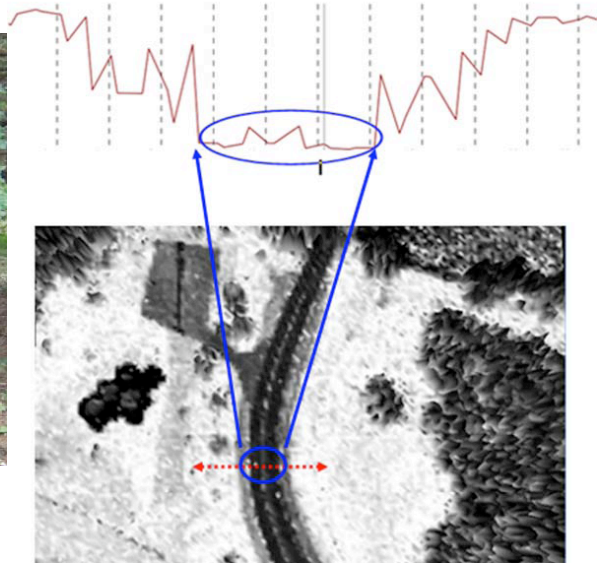


The field of Remote Sensing has been greatly benefited by the development of LIDAR. The extraction of bare earth under tree canopies and especially the identification of hidden trails are important tools for military and civilian operations in dense forests.
LIDAR data from Sequoia National Park in California (2008) and Fort Belvoir Military Base in Virginia (2007) were two areas that were selected for analysis. Quick Terrain Modeler software was used in order to recognize hidden trails.

The entire procedure was followed by ground truth verifications in Sequoia National Park and all the necessary preparations for the analysis of Fort Belvoir data were studied. The ground truth results in Sequoia were promising and the analysis of Fort Belvoir data was encouraging for further development of the system. Trails with a width less than 2 m were easily recognized in Fort Belvoir during the analysis of the data, which affirmed the high accuracy of the sensor. In the Sequoia area, only paved trails with a width less than 1.5 m were identified.



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