

Working group on vertical profiling LiDAR in complex terrain

- Main activity: verification study for ground based LiDAR in complex terrain.
- Based on datasets from of parallel and co-located LiDAR and met mast measurements.
- Distribution of evaluation tools among the participants for the calculation of LiDAR errors and terrain characterization (thus no need for sharing potentially confidential data).
 - The terrain evaluation program is provided as a windows executable file. The required input information, namely the coordinates of the site, the digital terrain model to be used, and the reference height for the analysis, are specified in an parameter text file.
 - The script for comparing LiDAR and met mast time series is provided as an Excel sheet containing Visual Basic (VBA) code. This also contains a sheet to document site properties and the technical particulars of the LiDAR and the met mast measurements.
- Correlation of LiDAR errors with terrain characteristics should then yield a threshold in some suitable measure for terrain complexity for the application of ground based LiDAR, and, ideally, allow a prediction of the uncertainties involved with such measurements.
- Planned deliverable: Guideline to the application of ground based wind LiDAR in complex terrain, scheduled for early 2025.

