1128-68-248   **Alexandra Probst*** (`alli.asap@gmail.com`), University of Washington, Seattle, WA 98105, **Demetrios Gatziolis**, Pacific Northwest Research Station, US Forest, Portland, OR , and **Nikolay S Strigul** (`nick.strigul@wsu.edu`), Washington State University Vancouver, Vancouver, WA 98686. *Intercomparison of photogrammetry methods for 3D modeling of vegetation.*

Structure-from-Motion based 3D reconstruction of objects is becoming increasingly appealing in research areas unrelated to computer vision. In forestry in particular, 3D modeling facilitates the assessment of forest inventory-related parameters, and has the potential to become a standard tool for forestry surveys. We have compared several photogrammetric algorithms with respect to their utility in 3D modeling of vegetation. We selected six popular photogrammetry programs for this purpose: VisualSFM, CMPMVS, MVE, OpenMVS, SURE and Agisoft PhotoScan and assessed their performances in two different settings, namely, (a) a virtual reality scene where the precise location and dimensionality of objects is known, rendering them conducive to a quantitative comparison, and (b) using series of in-situ acquired photographs of vegetation where the photogrammetric outcomes are qualitatively compared. Performance was quantified by computing ROC curves summarizing the type-I and type-II errors between the reference and reconstructed tree models. (Received February 27, 2017)