



The prediction and assessment of the storm damages in forest areas is the subject of the **WINMOL** research project launched in July 2020. The joint project of the Eberswalde University of Applied Sciences for Sustainable Development and the Thünen Institute of Forest Ecology is funded by the Federal Ministry of Food and Agriculture (BMEL) and the Federal Agency for Renewable Resources (FNR) for a period of 3 years. The project team is developing methods and tools for predicting and mapping storm-damaged areas based on satellite and UAV remote sensing techniques, as well as by adapting the ForestGALES forest wind risk model and the BWINPro forest growth model. As a final result vulnerability cards and handbooks with practical recommendations are created.

In the scope of this project, a dataset consisting of 53 UAV-orthomosaics of windthrown areas was generated after the series of storm events in February and March. These orthomosaics contain up to 50k windthrown trees of different tree species, which will be used to train deep learning models for the detection of windthrown tree stems, and the quantification of storm damages in forested areas on UAV orthomosaics.

**For the delineation and annotation of training data for deep learning applications,
we are now looking for a
Student Assistant (SHK)**

with an average monthly working time of about 40 hours. The remuneration is currently 10.35 Euro/hour. The position is limited to 3 months from the start of the contract.

Tasks:

- Delineation of windthrown tree stems on UAV orthomosaics
- Application of R-scripts for the generation of training data

Requirements:

- Valid certificate of enrolment
- Basic knowledge of QGIS/ArcGIS or any image annotation tool
- Basic knowledge of R/Rstudio

Nice to have (but not required):

- Basic understanding of neural networks

Project leader: Prof. Dr. Jan-Peter Mund

Contact person (questions, application): Stefan Reder (Stefan.Reder@hnee.de)

Further information on the project: <https://winmol.thuenen.de/>