

MWP – Young Researcher Abstract 2023

Project title: Mapping wind vulnerability for developing climate-smart and resilient forestry management practices	
Author: Morgane MERLIN	
Affiliation: NIBIO The Norwegian Institute of Bioeconomy Research	E-mail: morgane.merlin@nibio.no
<p>Abstract (approx. 200 words):</p> <p>In Europe, more than half of all the damages to forest by volume results from windstorms, which can have multiple consequences for the forestry industry and society including dangerous forest operations, reduced wood quality and timber prices, electric outages, and increased risk for bark beetle outbreaks. It is therefore crucial to understand the current and future risk for wind damage under a range of climate and management scenarios. In our research, we assess the fine-scale risk of forest wind damage in Norway. We use the Norwegian forest resource map SR16 which contains detailed information relative to tree species, height, volume, and biomass at a 16m resolution. We apply the semi-mechanistic ForestGales model modified to suit Norwegian conditions to predict critical wind speeds for damage for individual forest pixels in the SR16 map. This research helps us evaluate how the risk of wind damage may shift in time and over the landscape with different management strategies. These results can be further integrated in a global assessment of risks in the Norwegian forests under current and future climatic and management scenarios to provide information on how forest management practices can help develop climate-smart forestry in Norway and improve the forest's resiliency.</p>	
<p>Key words:</p> <p>Wind; forest damage; forest management; modelling</p>	