

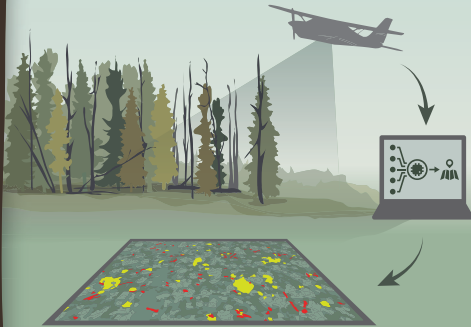
# Mapping Coarse Woody Debris

Coarse woody debris is a natural component of forest ecosystems that affects nutrient cycling, carbon storage, wildfire fuel, microhabitats, and overall forest structure. However, mapping and estimating volumes of coarse woody debris can be difficult since amounts vary between ecosystem types and are affected by disturbances including **fire**, **insects**, and **disease**.

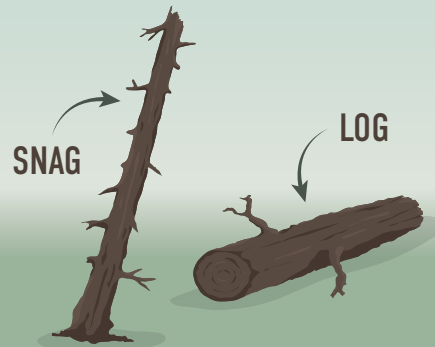


Researchers are advancing the automatic detection of coarse woody debris in remote sensing imagery. Key findings include:

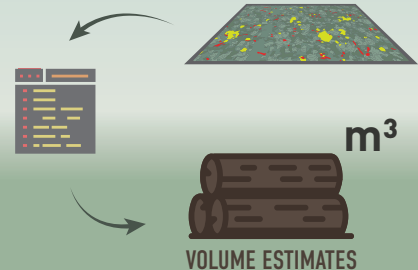
Coarse woody debris is readily visible in standard remote sensing imagery and can be accurately mapped with machine-learning.



LiDAR can be useful for distinguishing snags from logs, but is not necessary to achieve accurate detection results.



Maps of coarse woody debris objects can be paired with empirical models to produce volume estimates that are comparable to those produced by field surveys.



Accurate maps of coarse woody debris can be used by researchers, foresters, land managers, and government agencies for a variety of applications including fire hazard assessments and woodland caribou habitat restoration.



BOREAL  
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LOPES QUEIROZ ET AL., 2019  
LOPES QUEIROZ ET AL., 2020