# BERA NEWS

Winter 2022

## UPDATES

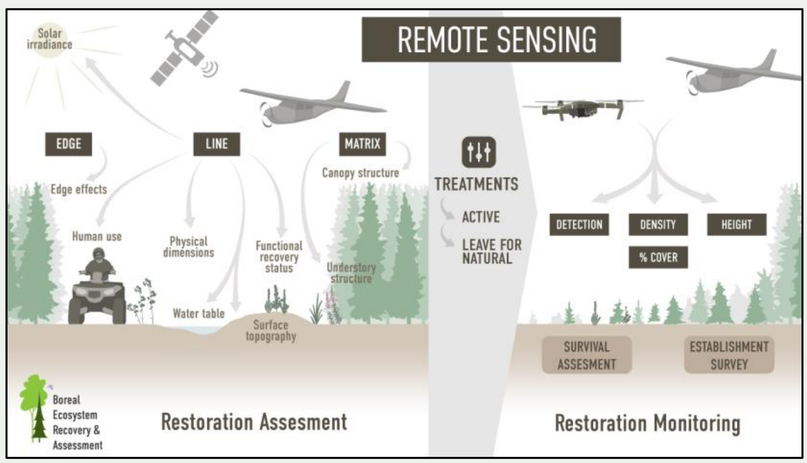
BERA welcomes new researchers Irina Terentieva (PDF, Remote Sensing Team), Marissa Davies (PDF, Soils and Ecohydrology Team), Colleen Sutheimer (PhD student, Vegetation Team), and Nazia Tabassum (PhD student, Soils and Ecohydrology Team).

New Publications:

- Effects of wildfire and soil compaction on recovery of narrow linear disturbances in upland mesic boreal forests
- Satellite time series and Google Earth Engine democratize the process of forest-recovery monitoring over large areas

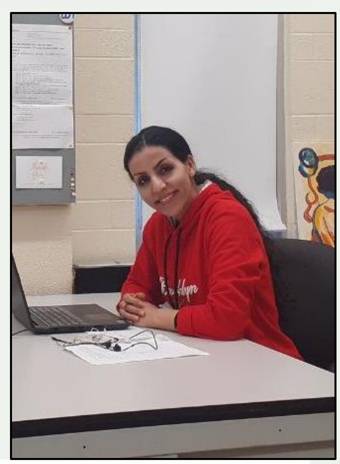
## BERA'S PHASE II RESEARCH PRIORITIES

It's been a busy winter, with the BERA team ramping up its Phase 2 (2021 – 2026) project cycle! Our annual research workshop was largely devoted to outlining the strategic priorities and tactical deliverables that our program has committed to. BERA's research teams are expanding rapidly, and the program's table of projects is filling out nicely. All BERA research is grounded in process diagrams that relate our team's activities to physical processes operating in and around industrial disturbances.  We invite you to explore these, and to reach out if you would like to learn more.

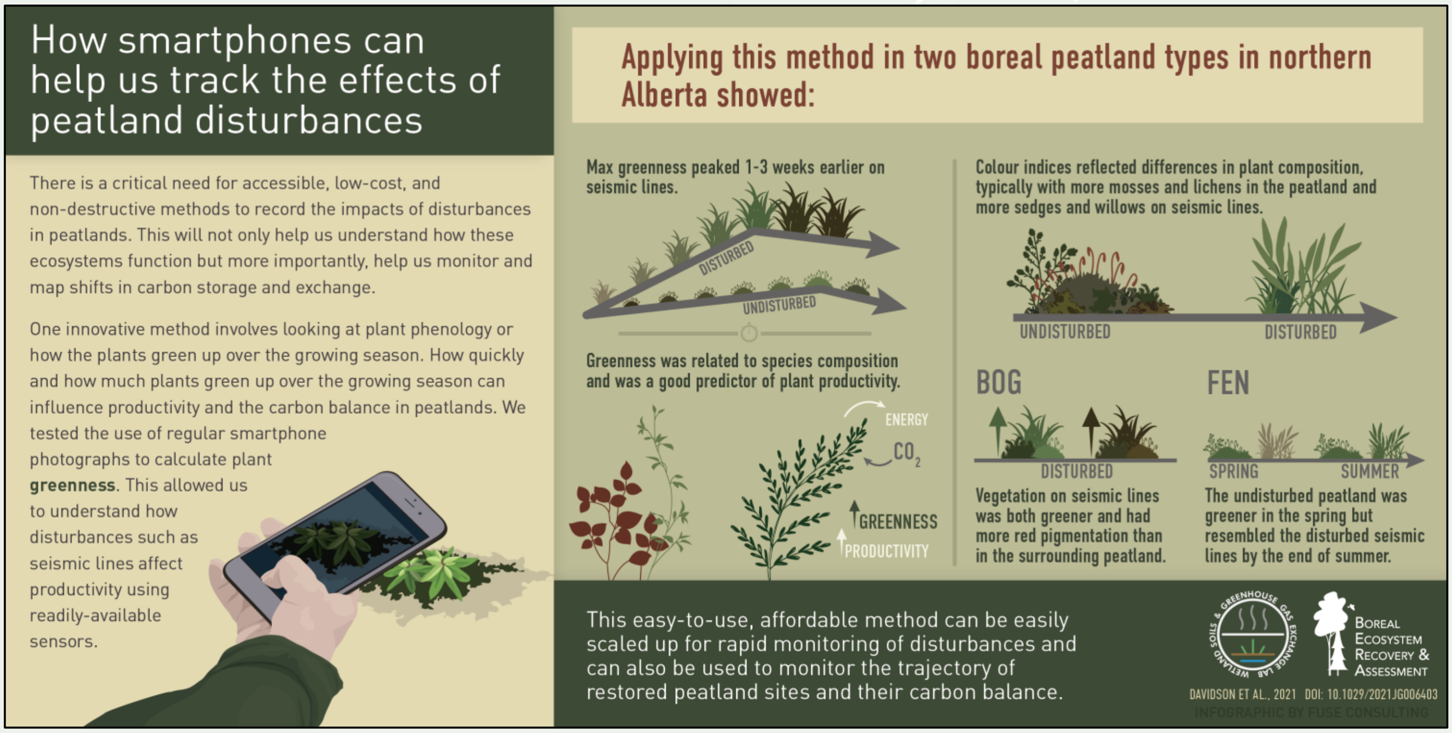



## RESEARCHER PROFILE

Maryam Bayatvarkeshi is a Ph.D. student on in the Soils and Ecohydrology group working under the supervision of Maria Strack and Scott Ketcheson. Maryam's research focuses on the cumulative effects of industrial disturbances on water balance in boreal watersheds. Determining how disturbance affects local water balance will help our understanding of hydrologic controls on return to forest cover and carbon dynamics. By applying hydrologic models to understand the effect of disturbance, results can be extended beyond local study areas.



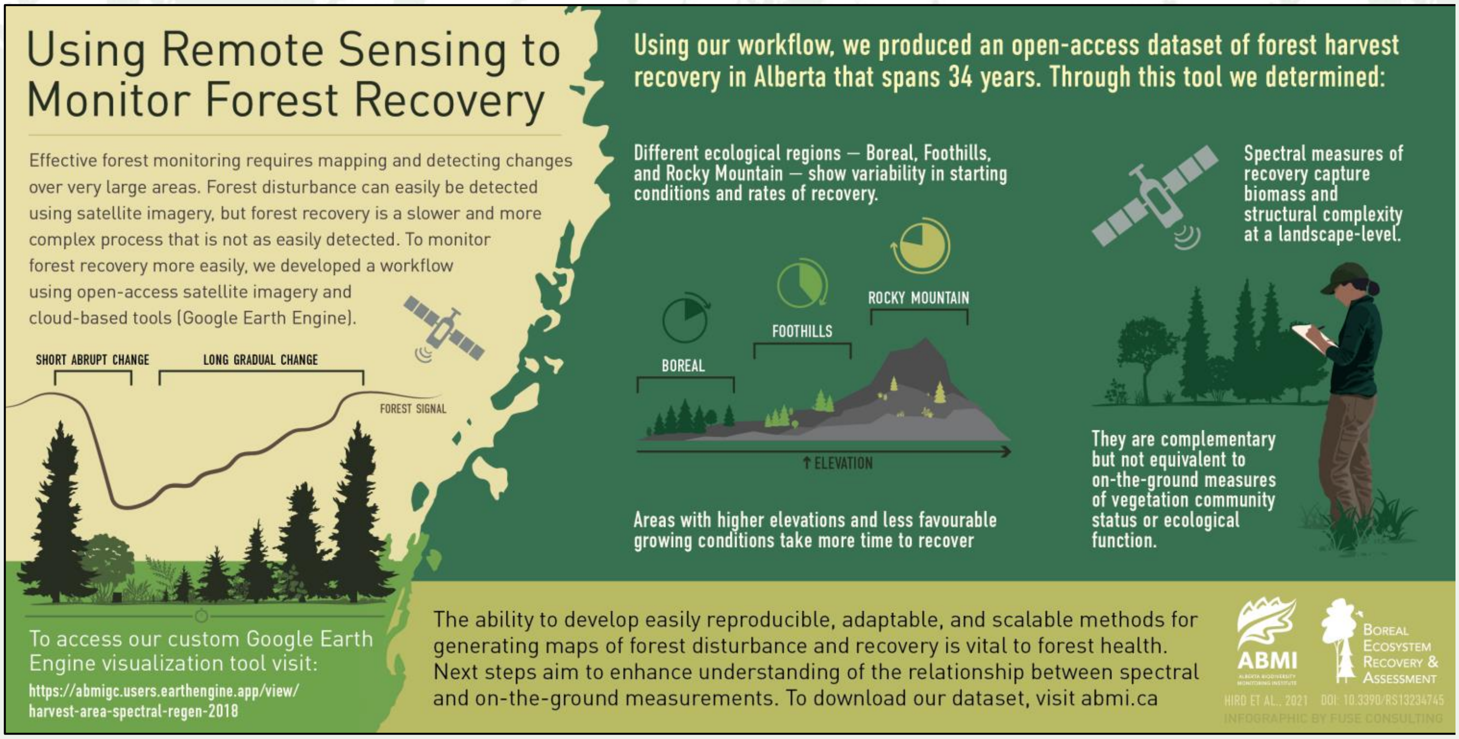
RESEARCH HIGHLIGHTS (1 OF 2)




Seismic lines significantly impact the greenness of boreal plant communities, with disturbed areas becoming more productive faster. Using smartphones to collect photographs provided a quick and easy method to collect greenness data without the need for expensive equipment or fixed infrastructure. Furthermore, our ability to link the easy-to-measure greenness indices with productivity measurements also shows promise as a way to monitor and map shifts in peatland carbon exchange in response to linear disturbances and recovery over time.

For the full article click here.

# RESEARCH HIGHLIGHTS (2 OF2)




Up-to-date monitoring of forest disturbance and recovery over large areas is a critical challenge for researchers and land managers. BERA research partners at the Alberta Biodiversity Monitoring Institute have taken a step towards democratizing this process. The did this by developing a repeatable, scalable, and adaptable workflow for capturing broad patterns in post-harvest forest regeneration using long-running satellite image archives and Google's Earth Engine platform. Their work produced a public dataset of Alberta-wide harvest area spectral regeneration available at http://www.abmi.ca.

To read the peer-reviewed article behind this research, click here.

Boreal Ecosystem Recovery & Assessment