SOMETIMES THE CRAZY PLAN COMES TOGETHER:
HOW OPEN DATA UNLOCKED REMOTE SENSING FOR FOREST MONITORING

ABSTRACT: Satellite remote sensing has been available for forest monitoring for decades. High costs for data, computing, and analytical options have limited the utility and ubiquity of outputs from remote sensing for inventory and monitoring over large areas. In recent years, satellite data at scales relevant to forest inventory and monitoring have become available on a free and open access basis. This open access has coincided with decreases in software and computing costs resulting in an ability to produce previously unavailable information products. These information products have allowed us to characterize, for the first time, a systematic and consistent depiction of harvesting across Canada for a multi-decadal period in a systematic and repeatable fashion. Further, we have also been able to use time series remotely sensed data products to monitor the return of vegetation (and trees) on these sites following disturbance, essentially providing a more complete accounting of forest dynamics. New modeling opportunities continue to emerge that allow for enhanced integration of calibration / validation datasets such as from airborne laser scanning (lidar). Time series of data has proven powerful to not only capture change, but to strengthen models with additional evidence of status and trends. Scientists are increasingly limited by only ambition and questions posed, rather than cost and computing limitations. In this lecture I aim to provide some background on where we were as a community, what has changed, where we are now, and what we have learned. The lessons learned are both technological and ecosystem related.