**Use of Planet Cubesat Imagery for Forestry applications: A review and case study**

Satellite remote sensing has become an integral tool for forest management, allowing decision makers to integrate data over large spatial areas at regular time intervals. However, data acquired from conventional satellite systems often comes with trade-offs between spatial and temporal resolution. PlanetScope – a commercial satellite system developed by Planet Labs in 2014 – has attempted to overcome this trade-off by integrating data acquired from over 200 CubeSats to provide near daily coverage of the Earth at approximately 3m spatial resolution. Such datasets pose unprecedented opportunities for measuring and monitoring the world’s forests.

We present a systematic review of how Planet data has been used over the past decade in forest applications. We analyzed over 100 peer-reviewed publications to understand the forest application, geographic area of focus, methods, and outcomes of PlanetScope data in forestry. Our review found that PlanetScope has been used for a wide variety of forest applications, which include phenology monitoring, land cover classification, tree species prediction, and modelling forest structure. Broadly, the preeminent use has been in the monitoring and characterization of different types of forest disturbances. In particular, researchers have incorporated Planet data into pipelines that enable continuous monitoring of forest disturbances at fine spatial scales. When comparing to satellites such as Landsat, models developed using PlanetScope data outperformed those based on moderate spatial resolution optical data. A review of PlanetScope applications also found evidence of challenges related to data quality, with inconsistent radiometric calibration between satellites being an area of particular concern. We conclude with a case study – by undertaking a novel approach to radiometric normalization which can be applied to single or multiple scenes of PlanetScope data to detect disturbances in a natural boreal forest environment in Canada.