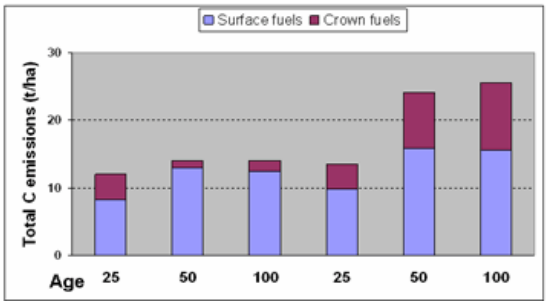
Canada

Models developed by the CFS Carbon Emissions Team show total carbon emission range at experimental burns in jack pine (Pinus banksiana) stands is 4-27 t/ha, with most emissions originating from surface fuel consumption. Field measures of forest floor fuel consumption show good agreement with the model predictions.

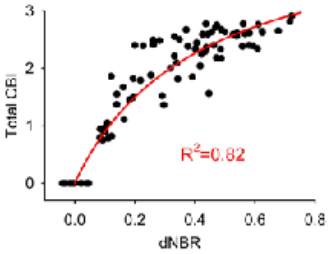


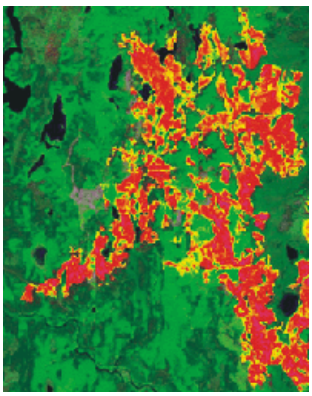
Above: Modeled emissions for jack pine (Pinus banksiana) by age using fire weather index variables

Left (above): Forest Overstory
Carbon storage: 34-90 t/ha
Emissions rate: 3-11 t/ha; (10-25%)

Left (below): Forest Floor
Carbon storage: 2-28 t/ha
Emissions rate: 1-14 t/ha (28-74%)

A strong relationship is found between severity of fire in the field (Total CBI) and satellite remote sensing (dNBR) at Canadian fires.





Below: Research is underway to model burn conditions and use remotely sensed burn severity (dNBR) connected with fuels maps to map fire emissions at the landscape scale.