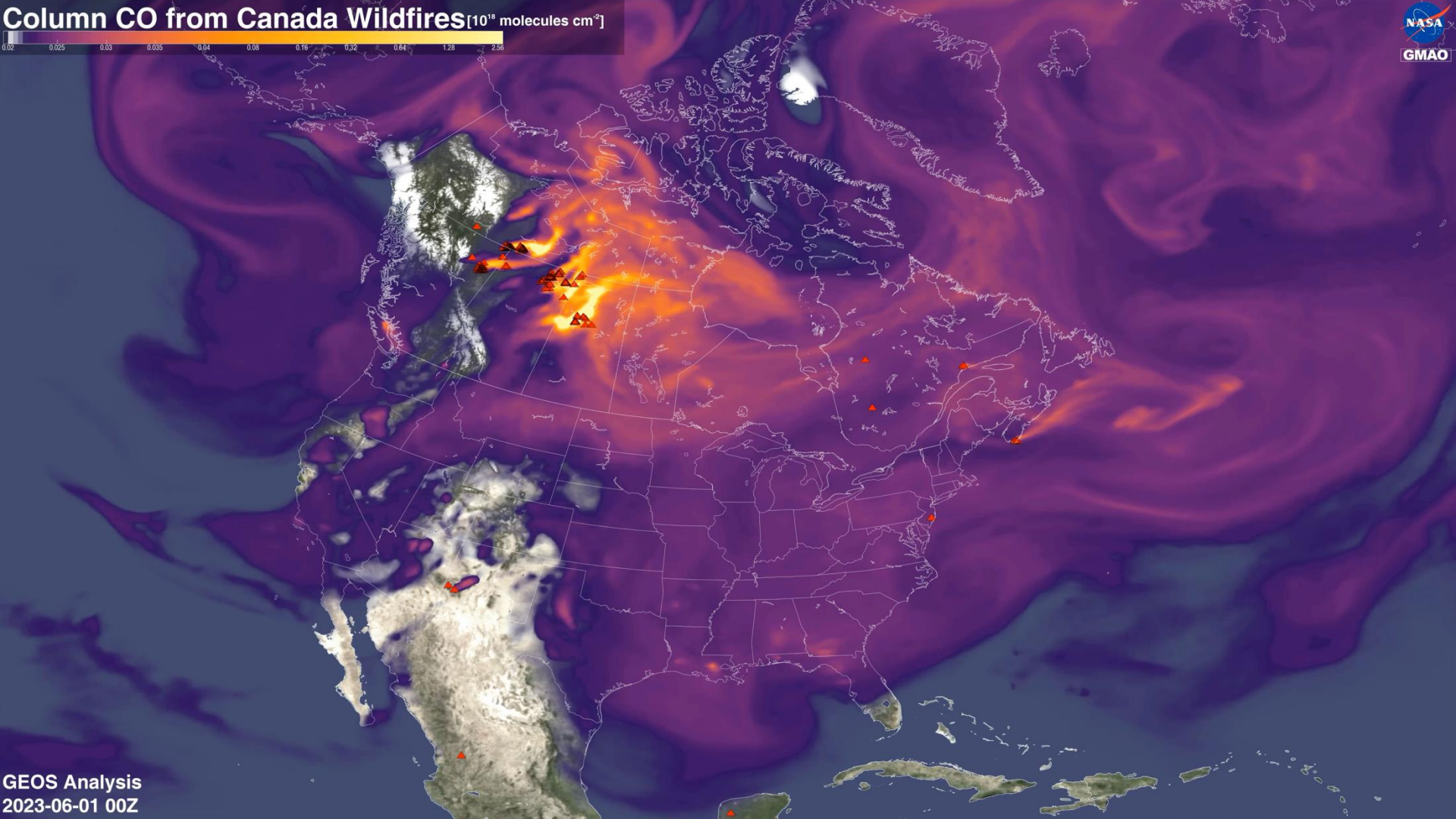
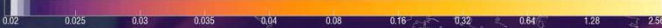


Mitigation of greenhouse gas emissions through landscape management

Matías Vilches, Jaime Carrasco*, Florencia Cristensen,
Ramiro Perez and Andrés Weintraub
18 de Junio de 2025



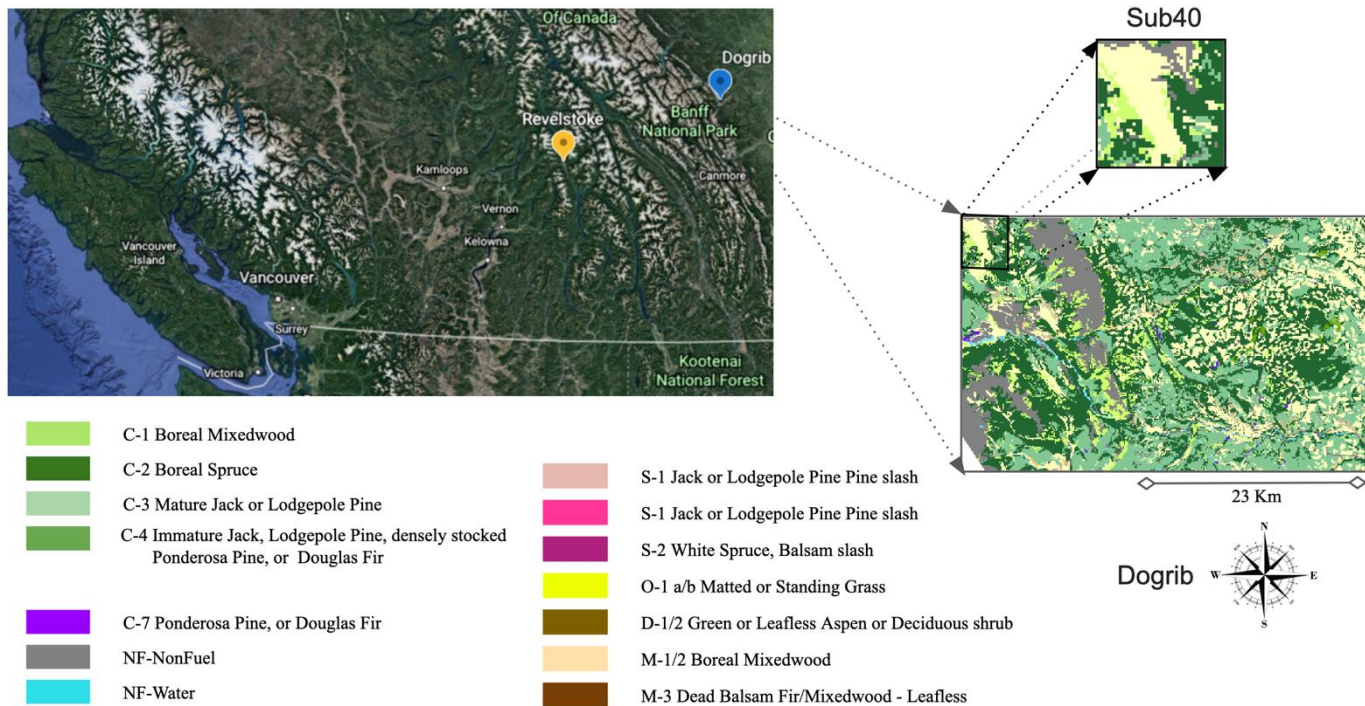
Column CO from Canada Wildfires [10¹⁸ molecules cm⁻²]



GEOS Analysis
2023-06-01 00Z

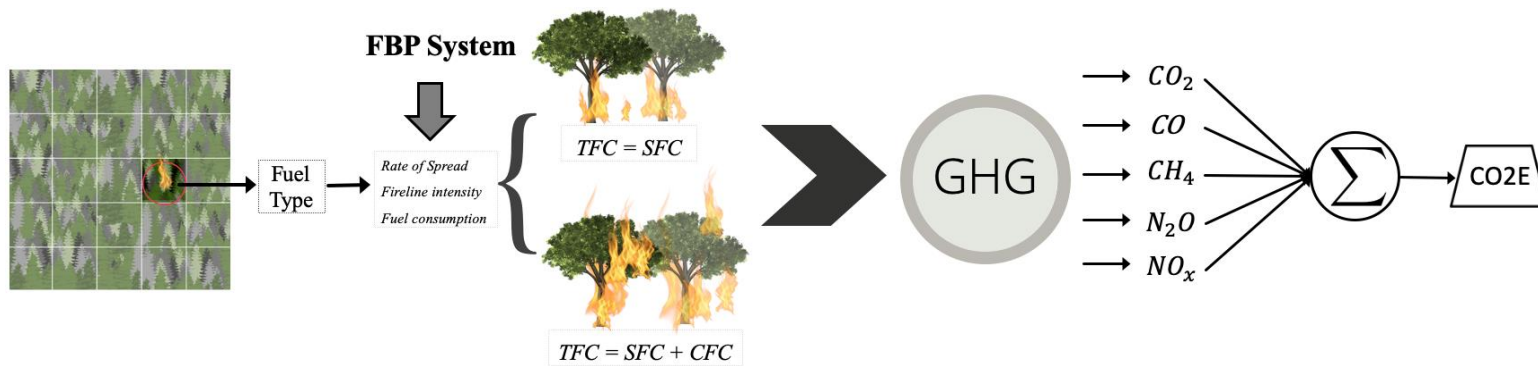
Materials and methods

Case study



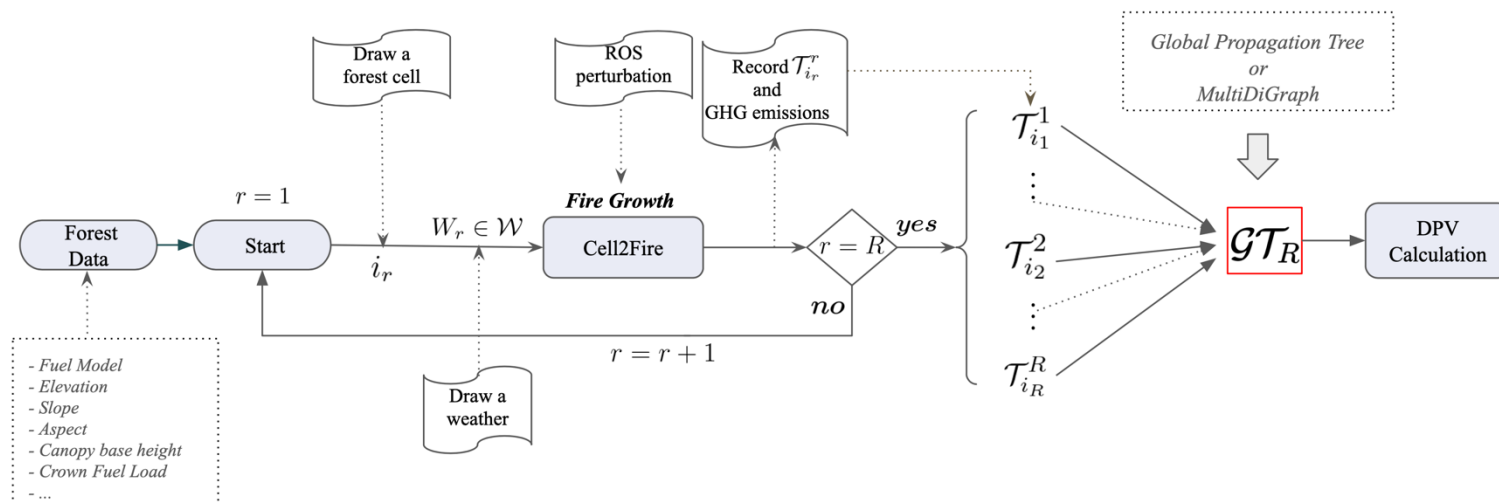
Materials and methods

Method



Materials and methods

Method



Mathematical Model

$$z = \sum_{j \in \mathcal{N}} DPV(j) \cdot x_j - \sum_{j \in \mathcal{N}} CO2E(j) \cdot x_j.$$

Protection value – liberated emissions

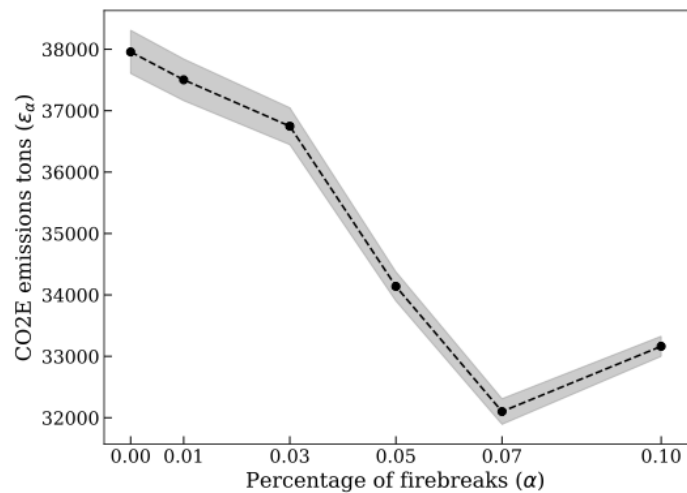
$$\begin{aligned} \max \quad & z_\alpha = \sum_{j \in \mathcal{N}} EMCC(j) \cdot x_j \\ \text{subject to} \quad & \sum_{j \in \mathcal{N}} x_j \leq \alpha \cdot |\mathcal{N}|, \\ & x_j \in \{0, 1\}, j \in \mathcal{N}. \end{aligned}$$

Maximize protection of stands

Treatment stands limit

Results

Sub40



Dogrib

