

## GHG emissions and absorptions in Costa Rica's LULUCF sector

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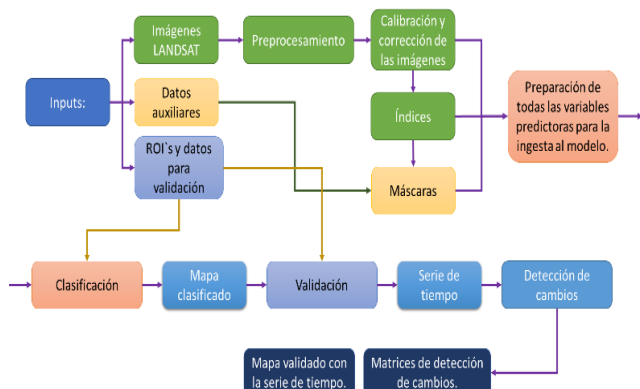
MINISTERIO DE  
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DE COSTA RICA

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### LAND REPRESENTATION

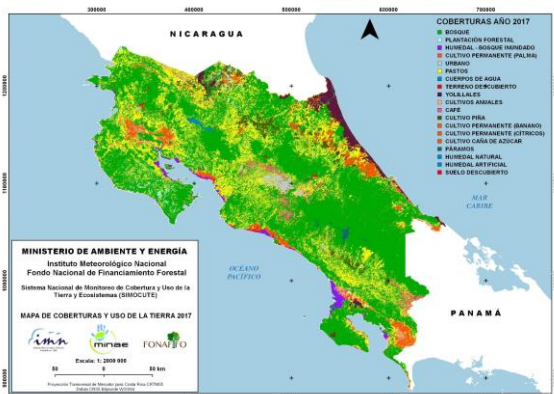
Workflow for the time serie 1990-2021



**Forest definition:** Corresponds to a minimum land area of one hectare (1 ha) with canopy cover exceeding 30%, and with trees reaching a minimum height of 5 meters at maturity in situ not including palms and bamboos (AGRESTA, 2015).

**Unmanaged lands:** those lands that remained in the same land use during the entire 1990-2021 time series. Costa Rica considers : primary forests, wetlands and mangroves, yolillales, paramos and lands without information.

### Land Cover map



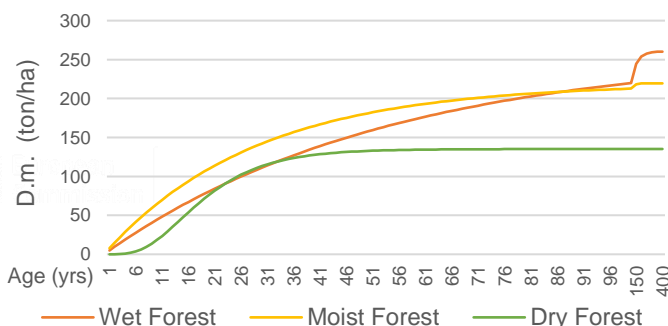
### IMPROVEMENTS

- Track transitions over 20 years for SOC and DOM.
- Sample based method for land representation.
- Consistency between high and low imagery resolution data.
- Emission factors for blue carbon ecosystems, perennial croplands and, SOC considering national soil types.

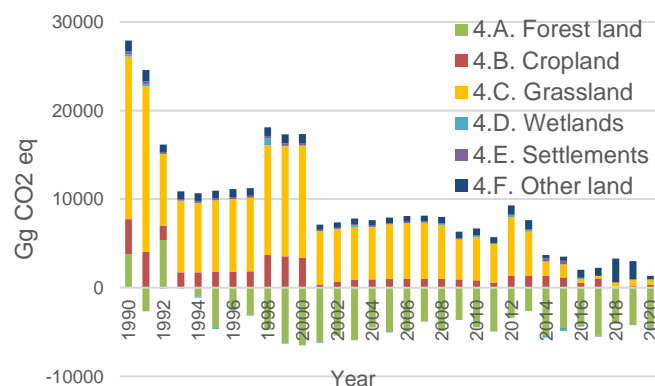
### CARBON POOLS AND EMISSION FACTORS

HWP	T2 CS, D	IE	T2 CS, D	NO	NE	NO
Biomass	T2 CS	T2 CS	T2 CS	T2 CS	T2 D	T1
DOM	T1, T2 CS, D	T1, T2 CS, D	T1 D	T1 D	T1	T1
SOC mineral soils	T1	T1	T1	T1	T1	T1
	T1, T2 CS, D	IE	IE	T1, T2 CS, D	NE	NO
				T1, D		

**Forest carbon flux:** primary forests are in equilibrium; secondary forests growth based on Cifuentes (2018).



### GHG EMISSIONS-ABSORPTIONS TREND



In 2020, Forest land accounted for -4539.37Gg CO<sub>2</sub> eq (74% of the GHG LULUCF sector), of which moist forest accounted for 49%, followed by wet forest, forest plantation and dry forest with 27%, 21% and 2%, respectively.

### REFERENCES

- Agresta, Dimap, Universidad de Costa Rica, Universidad Politécnica de Madrid, 2015.a. Informe Final: Generating a consistent historical time series of activity data from land use change for the development of Costa Rica's REDD plus reference level: Protocolo metodológico. Informe de consultoría preparado para el Gobierno de Costa Rica bajo el Fondo de Carbono del Fondo Cooperativo para el Carbono de los Bosques (FCPF). 44 p.
- Cifuentes, M. (2008). Aboveground Biomass and Ecosystem Carbon Pools in Tropical Secondary Forests Growing in Six Life Zones of Costa Rica.