

GLOBAL LAND USE CARBON FLUX HUB

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GLOBAL LAND
USE CARBON
FLUX

Info

The JRC's **Global Land Use Carbon Flux hub** includes CO₂ fluxes from Land Use, Land-Use Change and Forestry (LULUCF) from National Greenhouse gas Inventories (NGHGs) communicated via a range of country reports to the United Nations Framework Convention on Climate Change (UNFCCC), using the methodology by the Intergovernmental Panel on Climate Change (IPCC). Here, CO₂ fluxes are allocated to the classes **Forest** (excl. organic soils), **Deforestation** (conversion of forest to other land uses), **Other non-forest land uses**, **Organic soils**, and **Harvested wood products**, with gaps filled without altering the levels and trends of the reported data (Grassi et al. 2022). We further compare NGHGI estimates with independent global land use emission datasets, adjusted to the NGHGI definition of human-induced sink to minimize conceptual differences:

- Global Carbon Budget (GCB)** data from Friedlingstein et al. (2023) for Forest, Deforestation, Other and Organic soils*. Forest data (including shifting agriculture) are adjusted to the NGHGI definition using the methodology from Grassi et al. (2023), which adds the natural sink from dynamic global vegetation models occurring on managed lands to the CO₂ flux from bookkeeping models.
- Global Forest Watch (GFW)** data from Gibbs et al. (in prep., update of Harris et al. 2021). Here CO₂ fluxes linked to shifting agriculture can be allocated either to the Forest or Deforestation classes for comparability with NGHGIs. GFW data are provisional.

This living data hub allows the scientific and practitioner communities to compare different datasets. It can be consulted by the UNFCCC reviewers during reviews of Biennial Transparency Reports, and stimulate new studies from the scientific community to understand why for some countries results diverge.

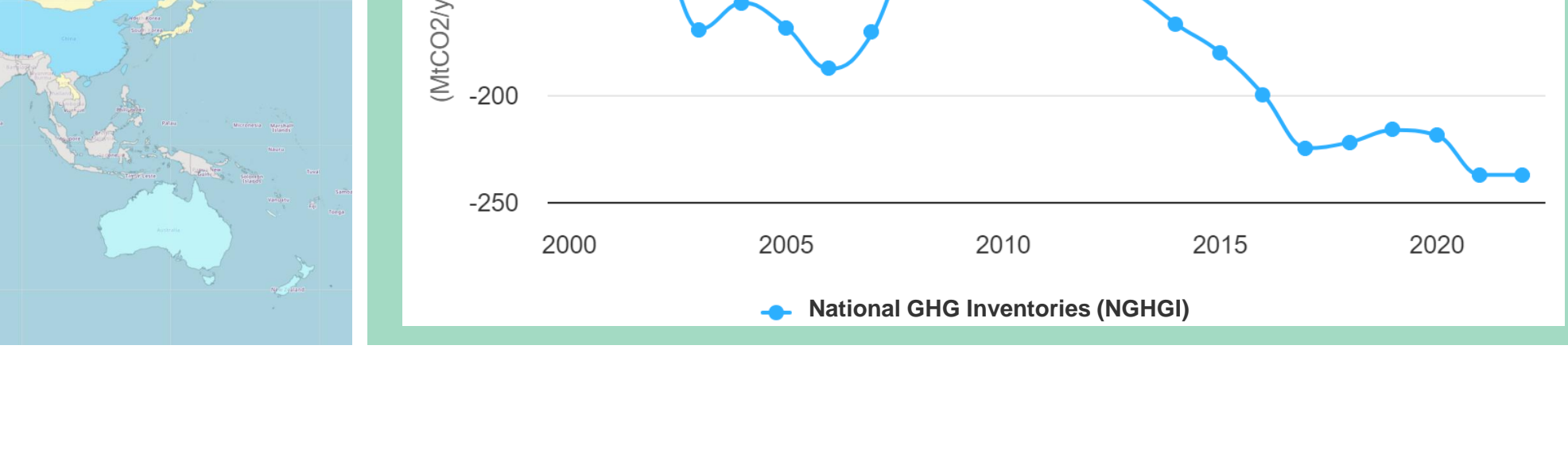
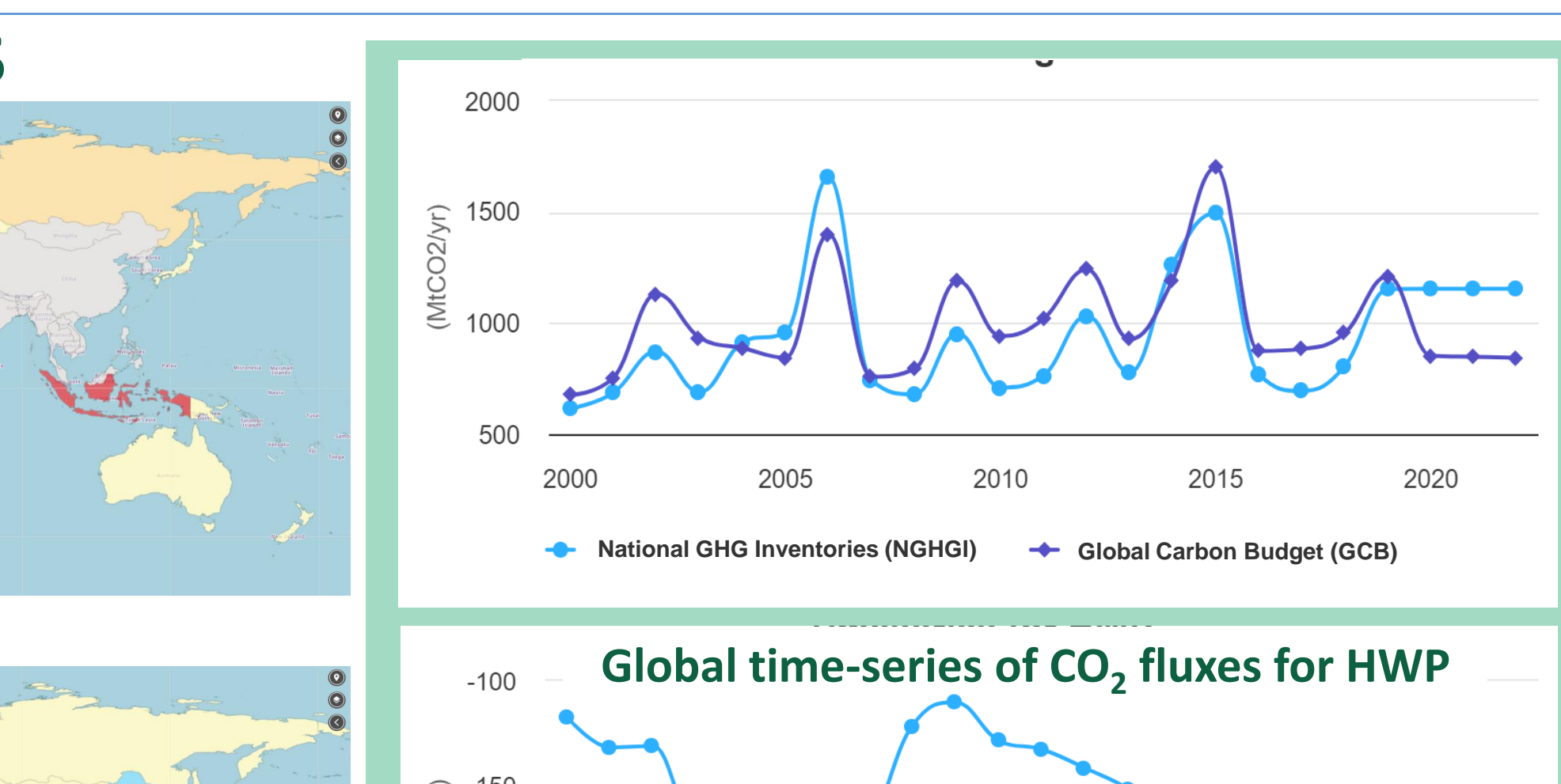
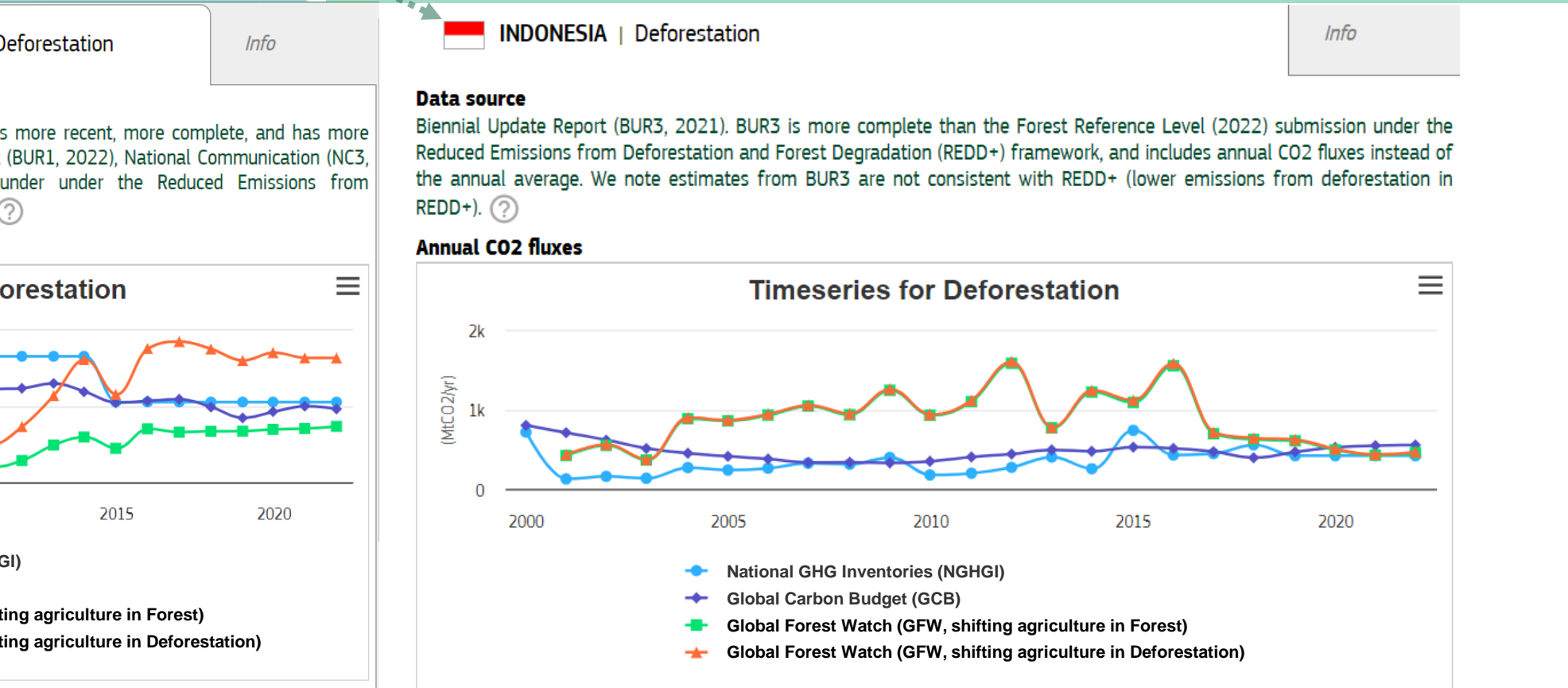
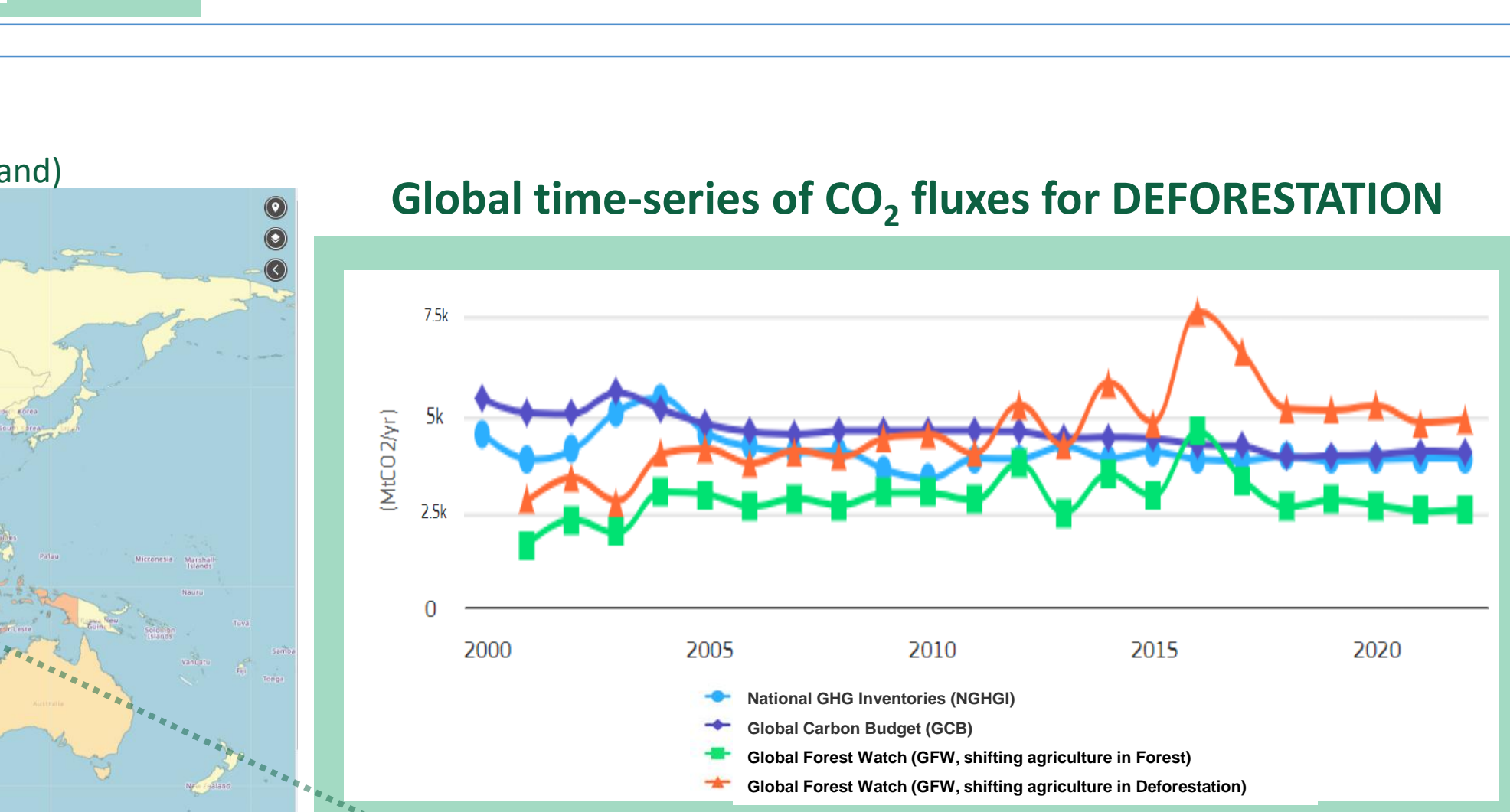
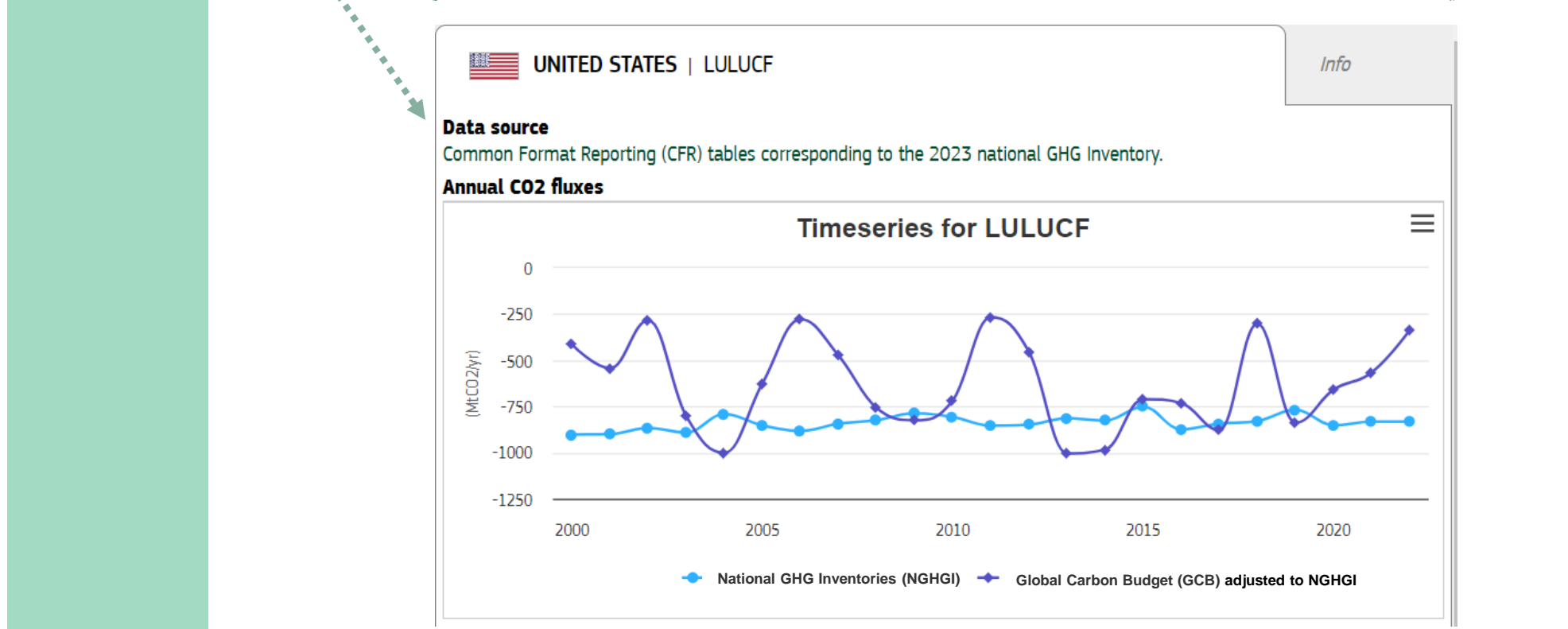
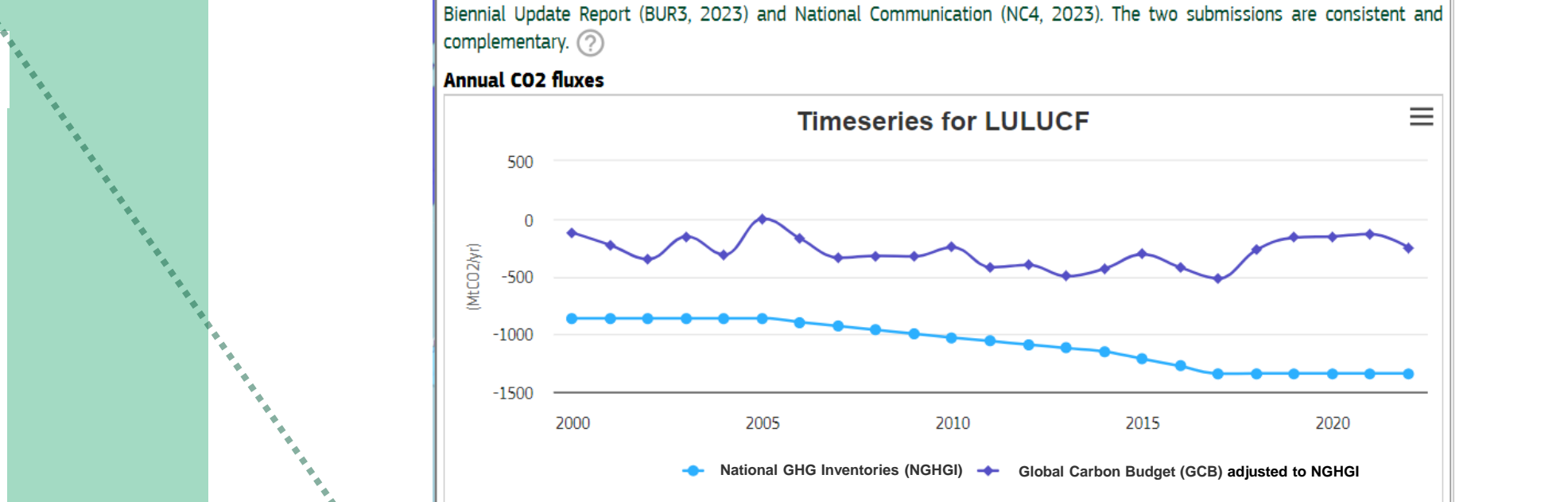
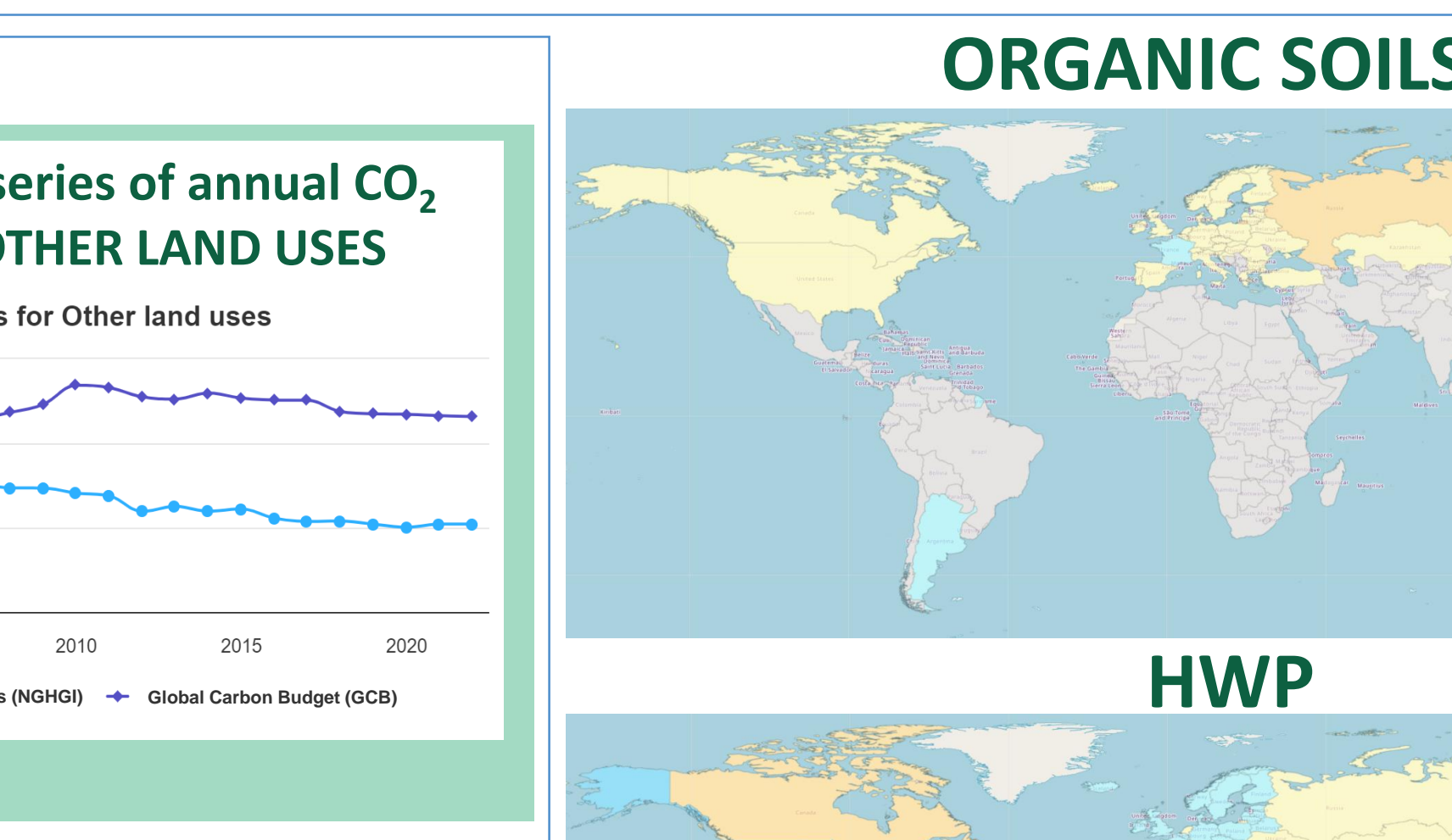
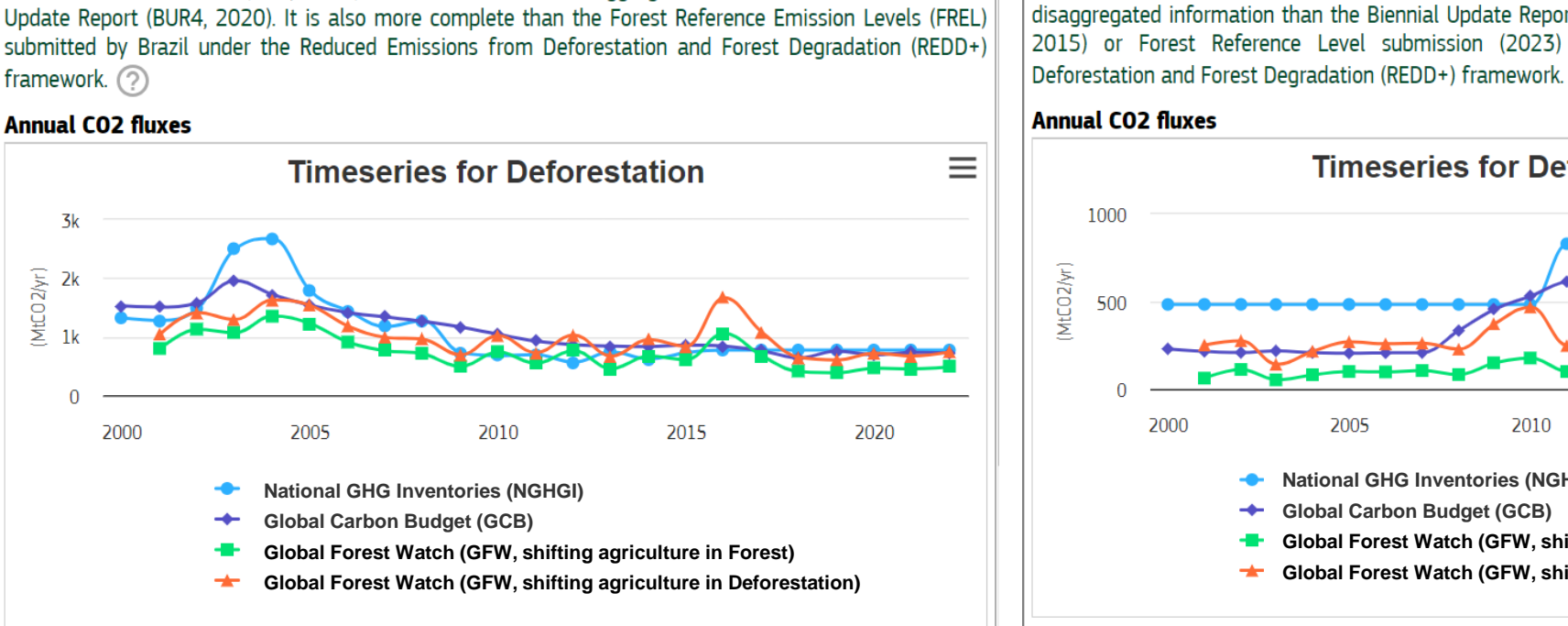
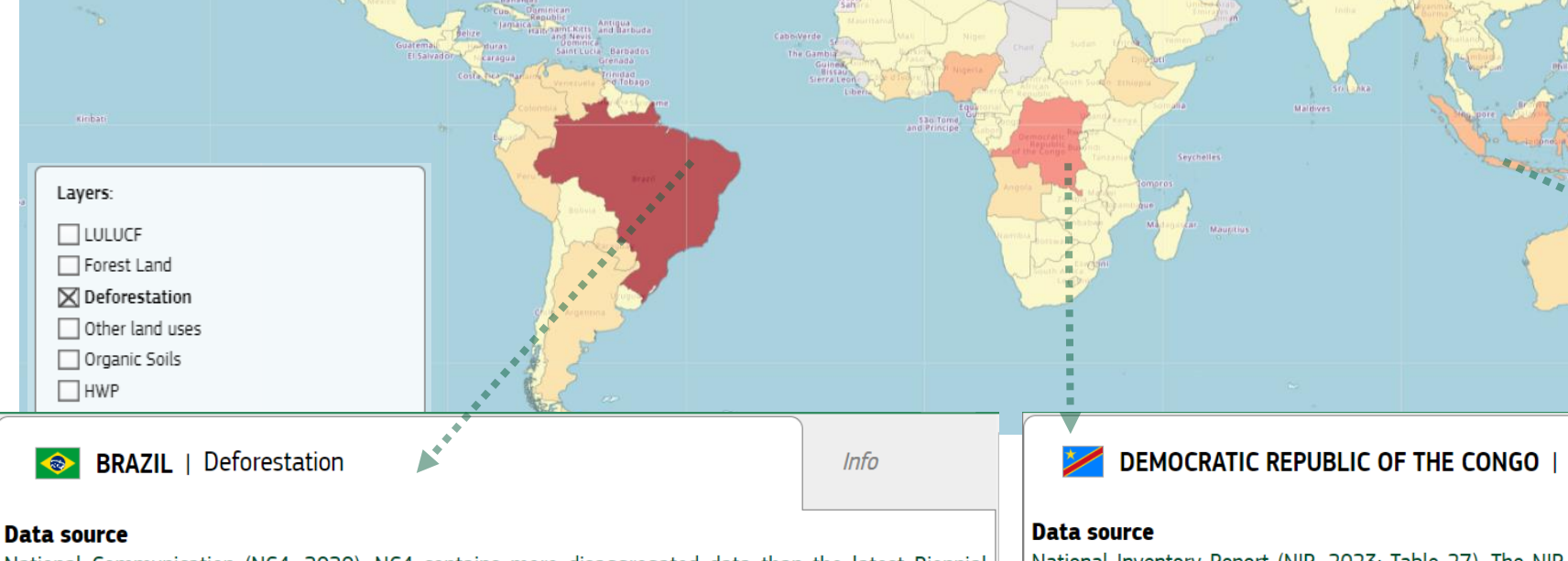
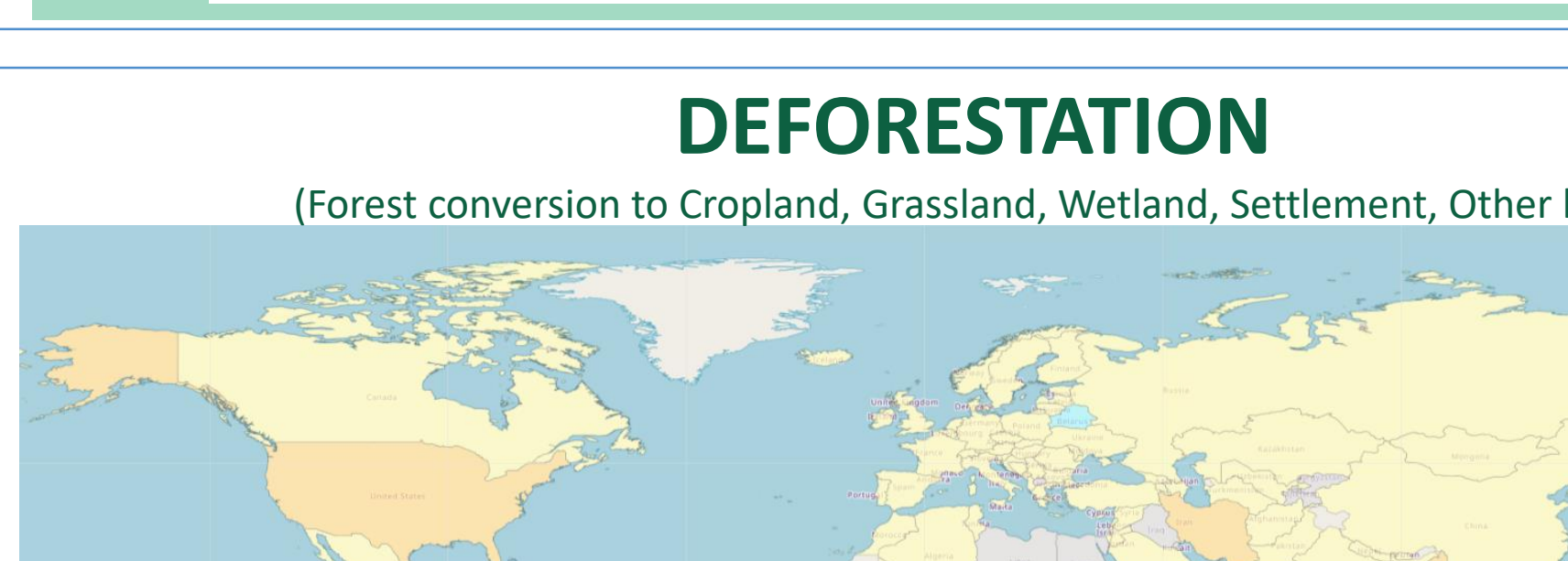
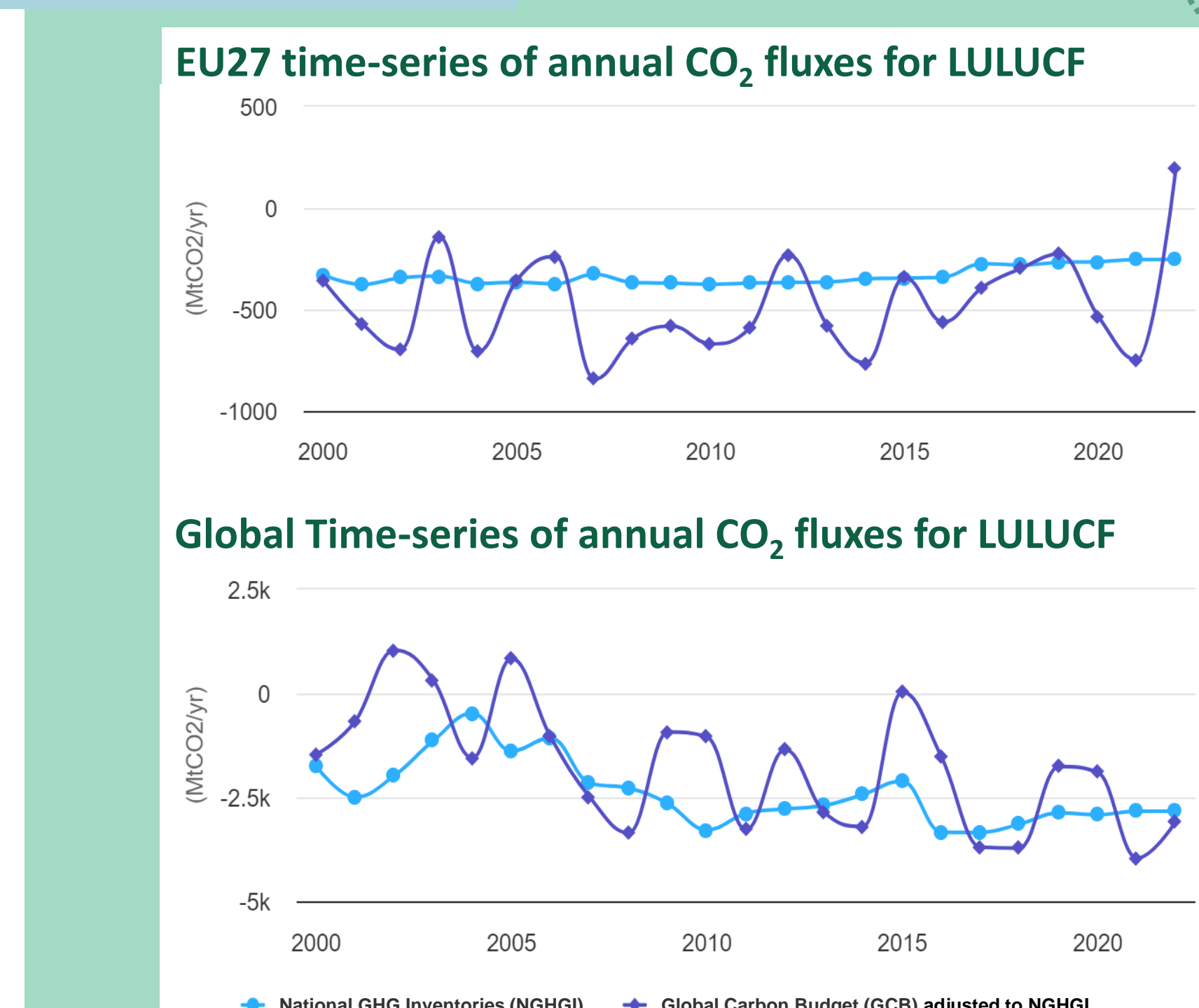
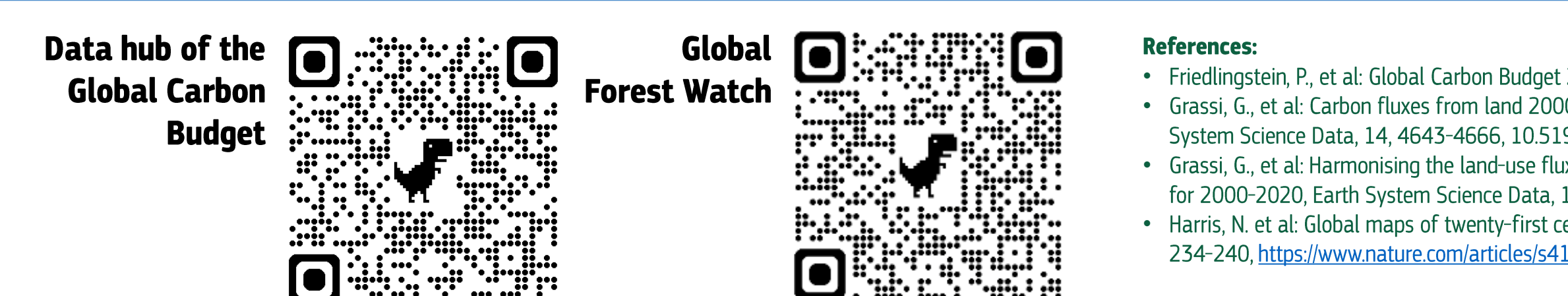
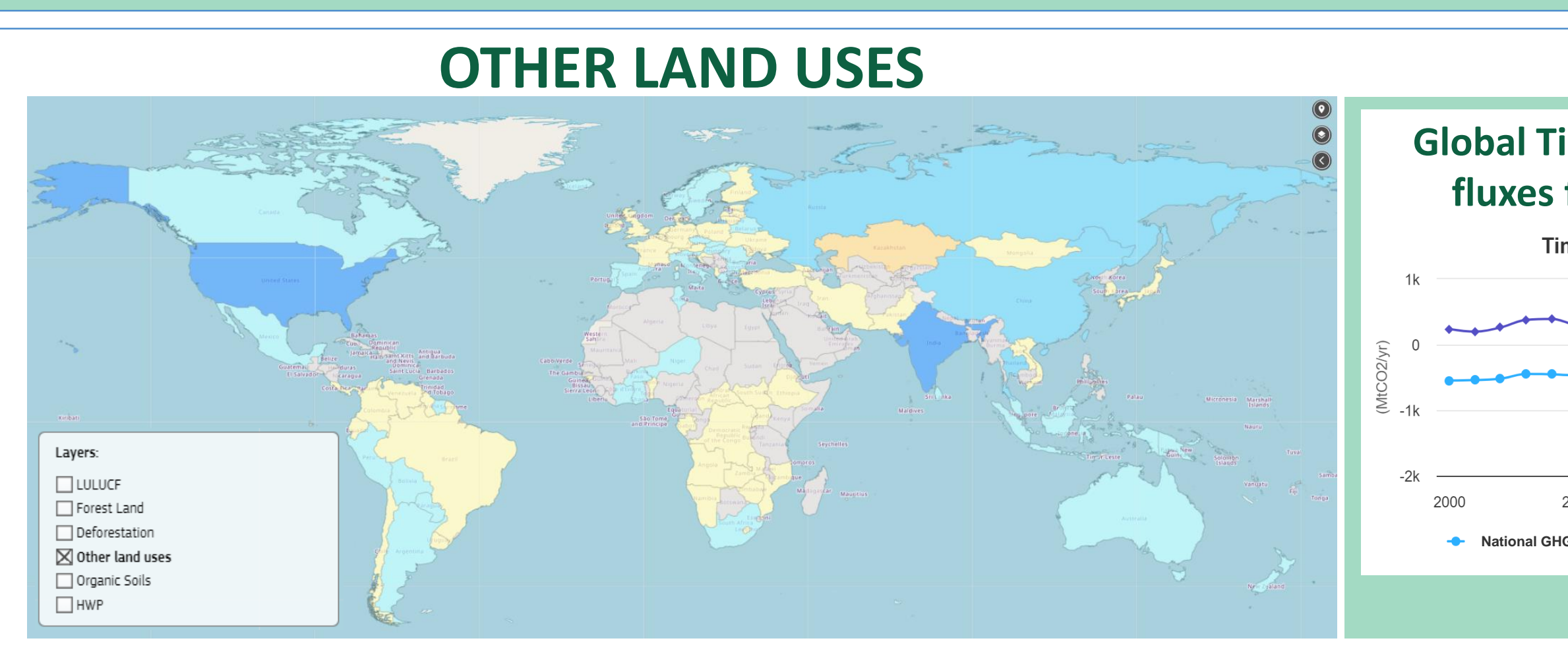
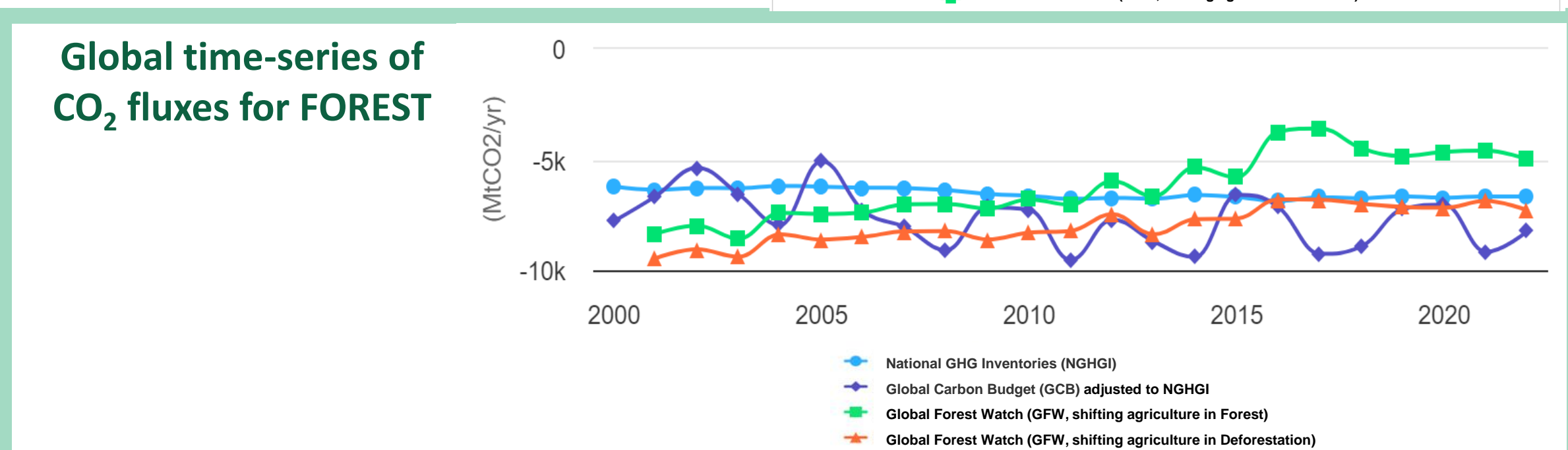
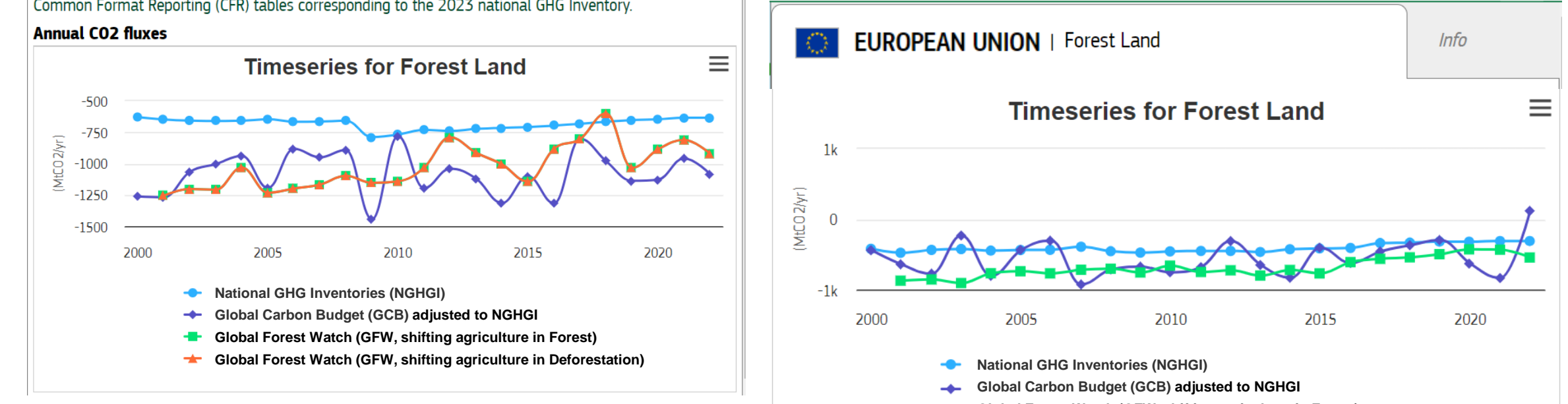
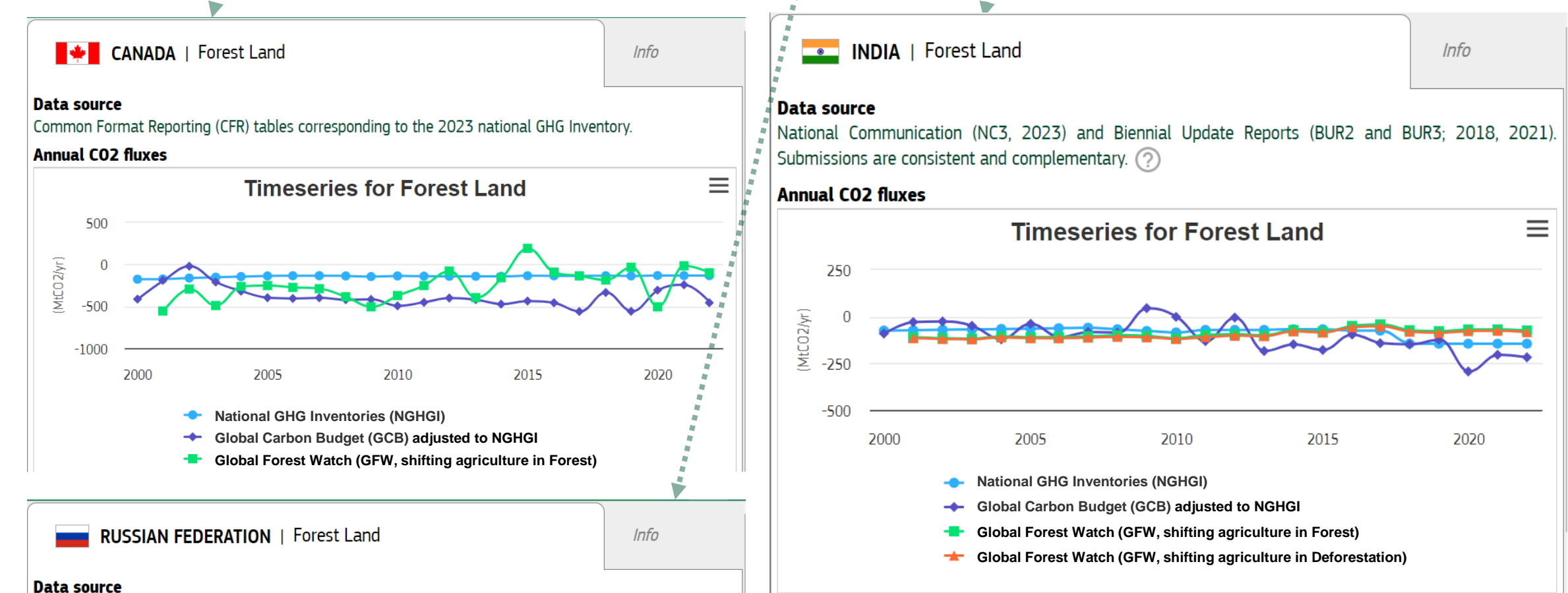
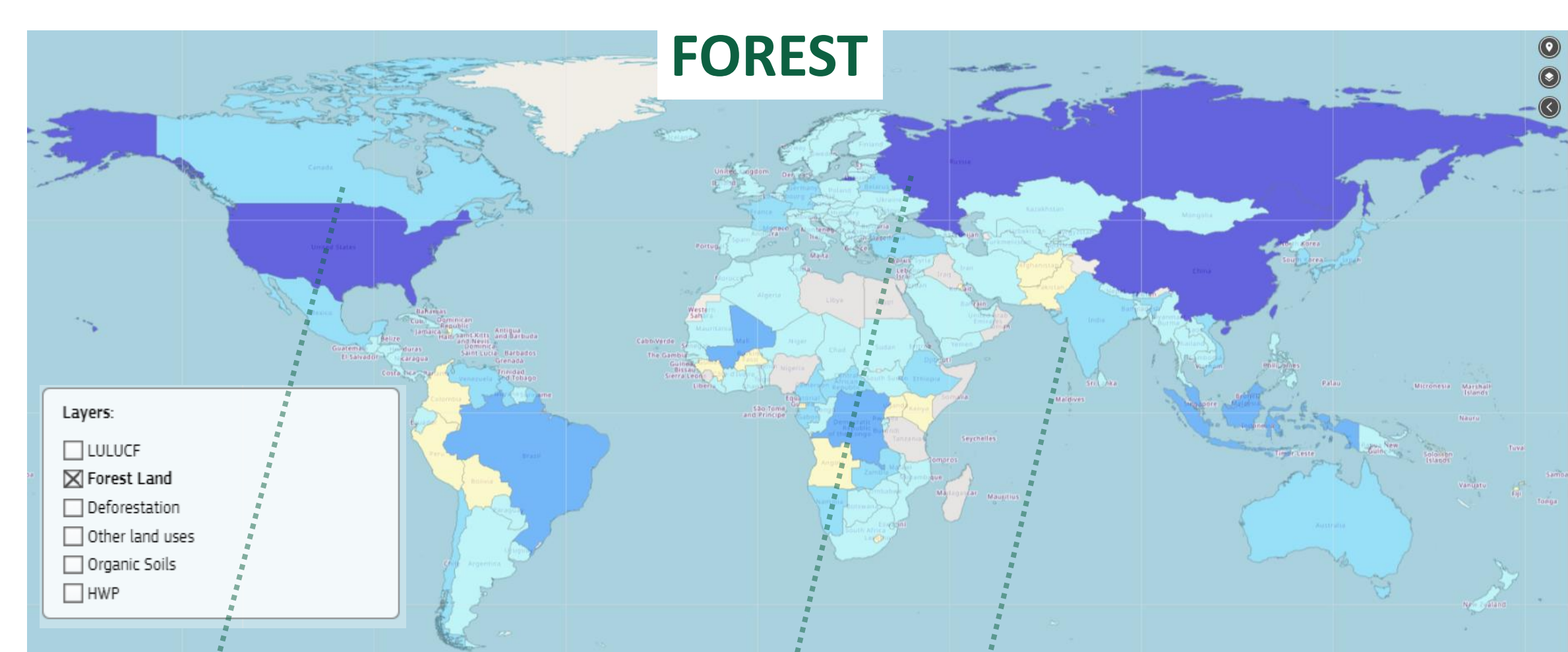
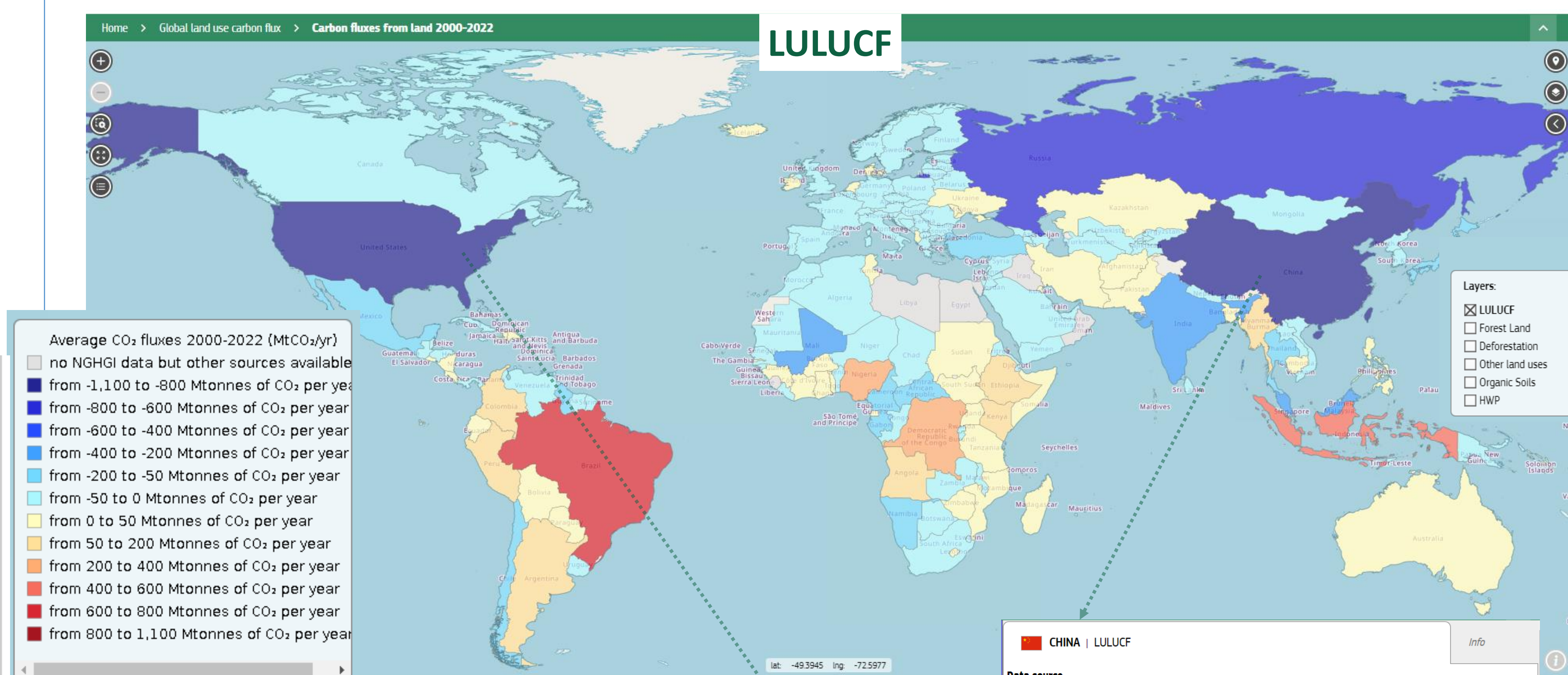
*The original sub-components of net land use change in the GCB are re-aggregated as follows in the data hub: permanent deforestation = Deforestation; forest regrowth + wood-harvest-and-other-forest-management + shifting-agriculture = Forest; peat-drainage-and-peat-fires = Organic soils; other-transitions = Other land uses. Note that emissions from peat-drainage-and-peat-fires are derived from external datasets (see Friedlingstein et al. 2023 for the details).

GLOBAL LAND USE CARBON FLUX

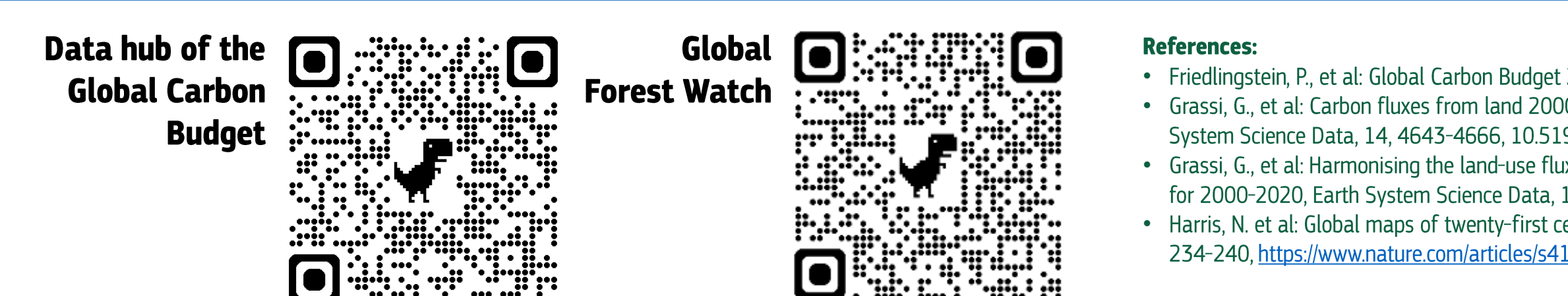
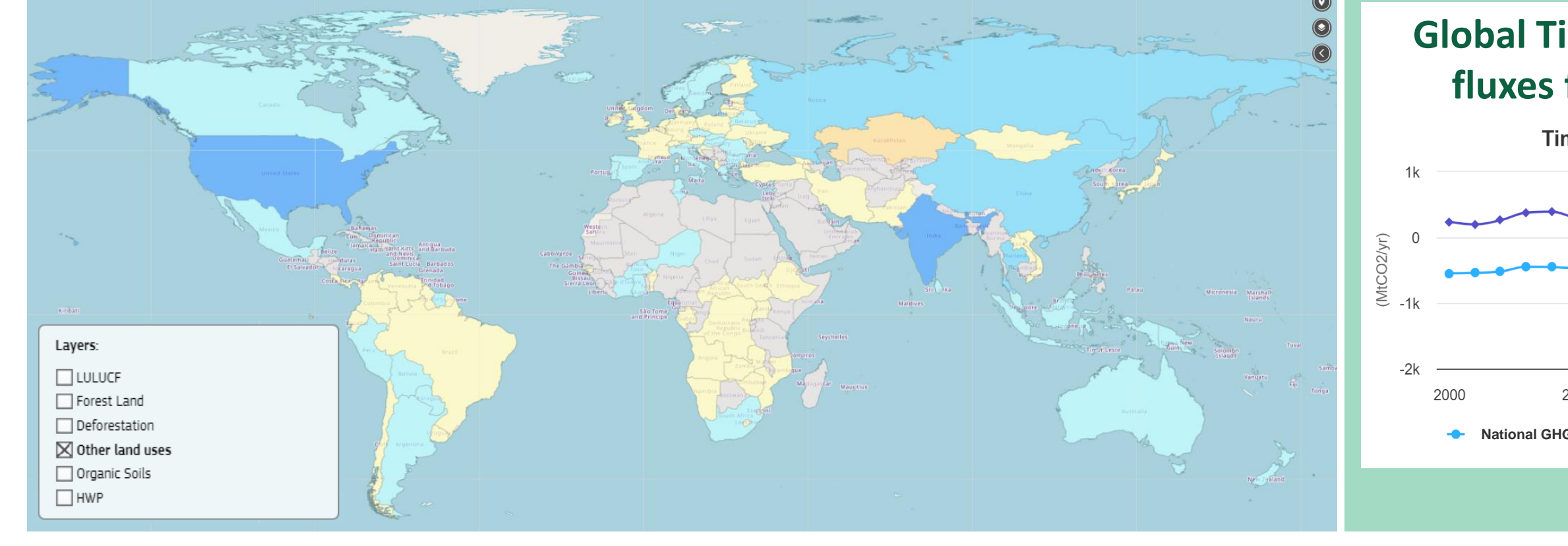
Carbon fluxes from land 2000-2022

European
Commission

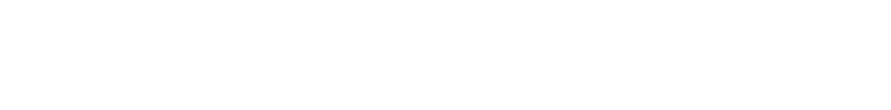
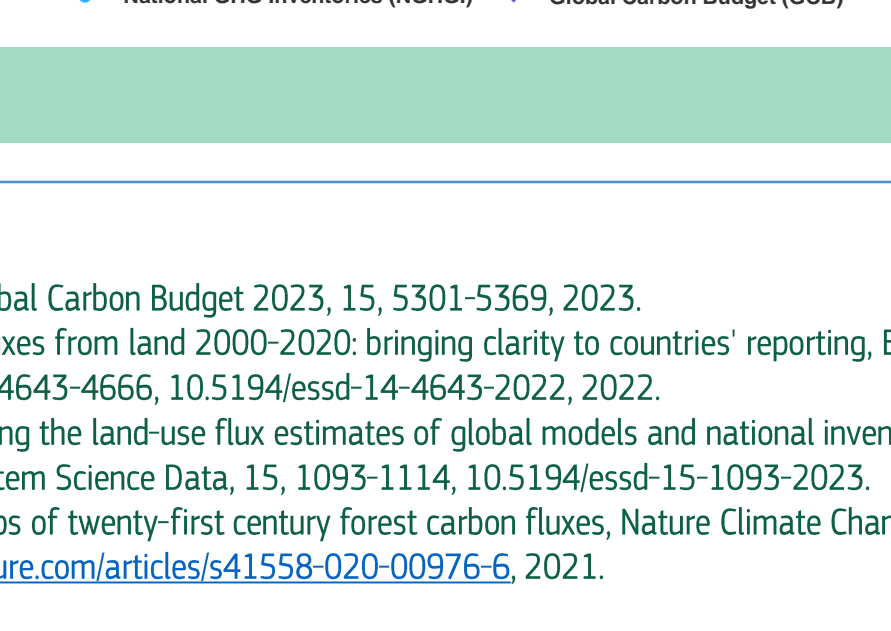
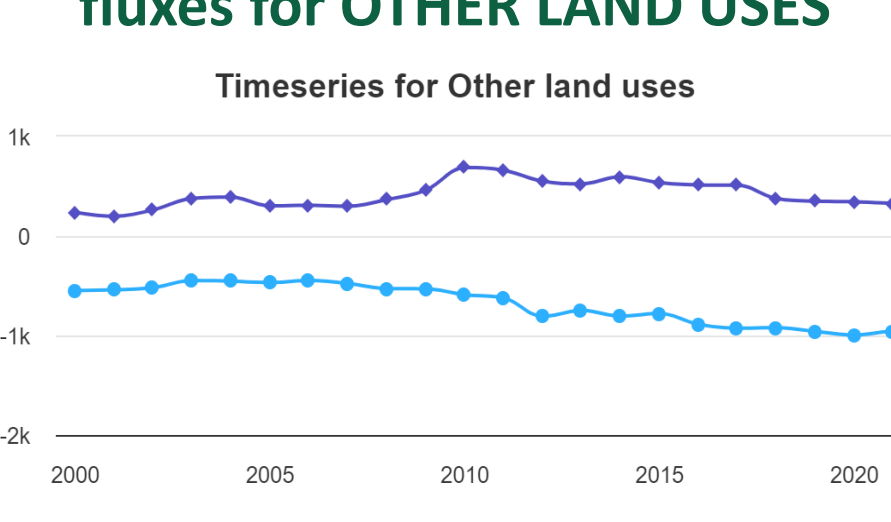
EU observatory on deforestation and forest degradation



OTHER LAND USES



Global Time-series of annual CO2 fluxes for OTHER LAND USES



ORGANIC SOILS

