



THE APPLICATION OF THE CARBON BUDGET MODEL AT EU LEVEL

Some update

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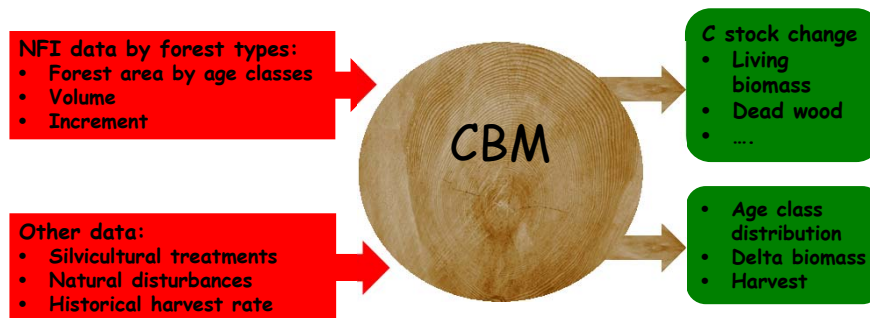
- Since 2010, JRC is working to develop an in-house model capacity to estimate the EU carbon budget at country level for each EU MS
- After a preliminary analysis of the main models applied at international level, the Carbon Budget Model (CBM) developed by the Canadian Forest Service was selected as potential tool
- Between 2010 and 2012, the model was applied to a specific case study in order:
 - to test the CBM in different silvicultural systems, proposing a novel approach to model the uneven-aged forest structure
 - to apply the CBM to a European country and estimate the forest C balance of the FM area
 - to explore the impact on the C balance of different scenario assumptions (i.e., harvest rates and disturbance events)



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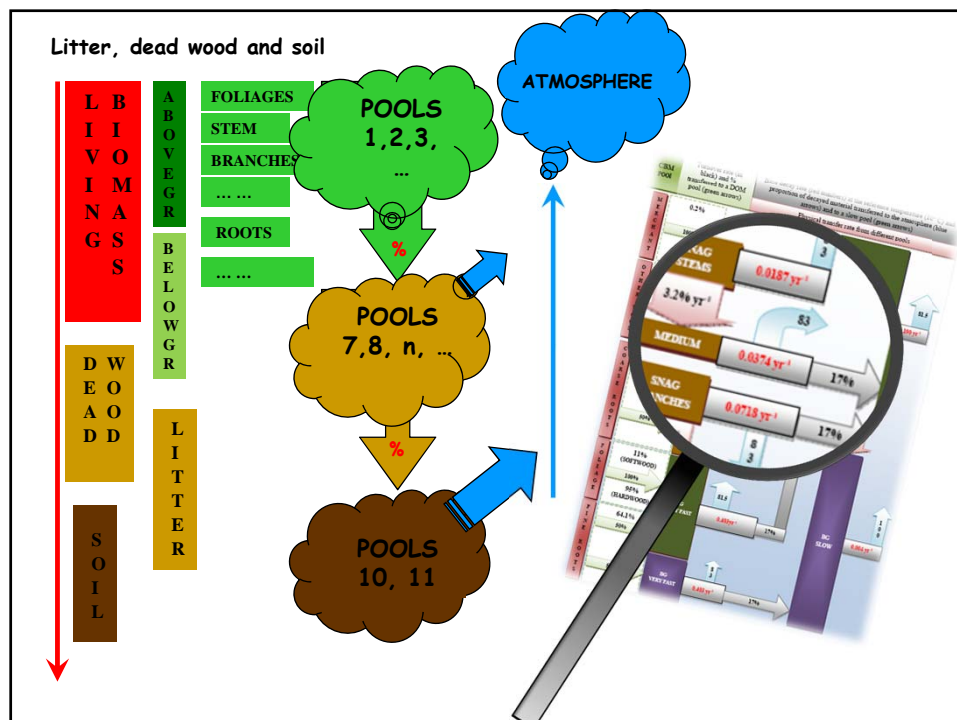
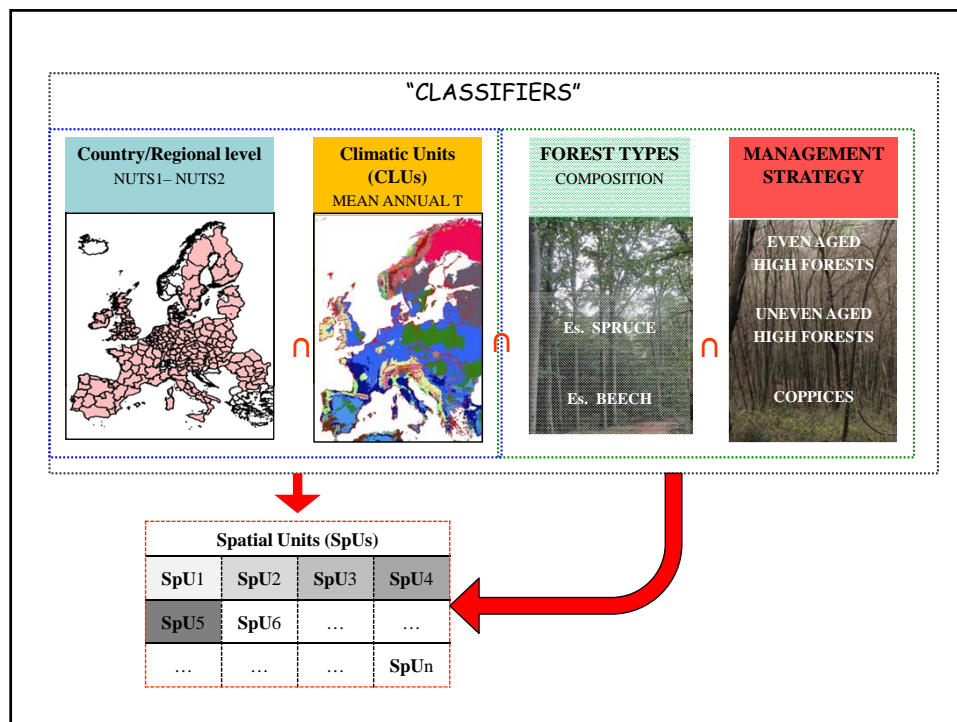
What is the Carbon Budget Model ?

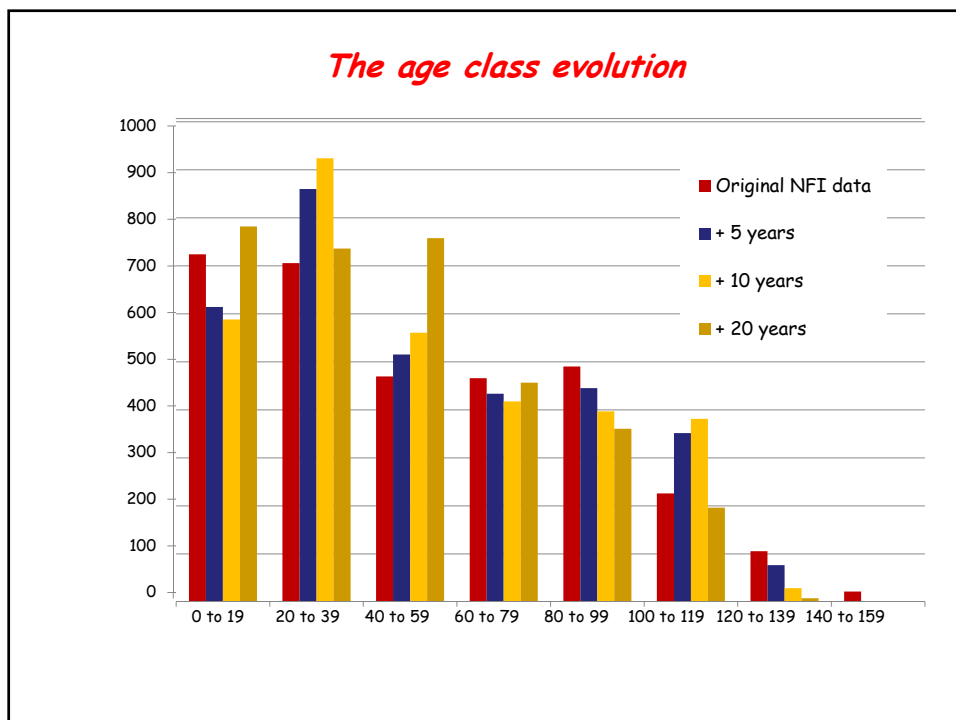
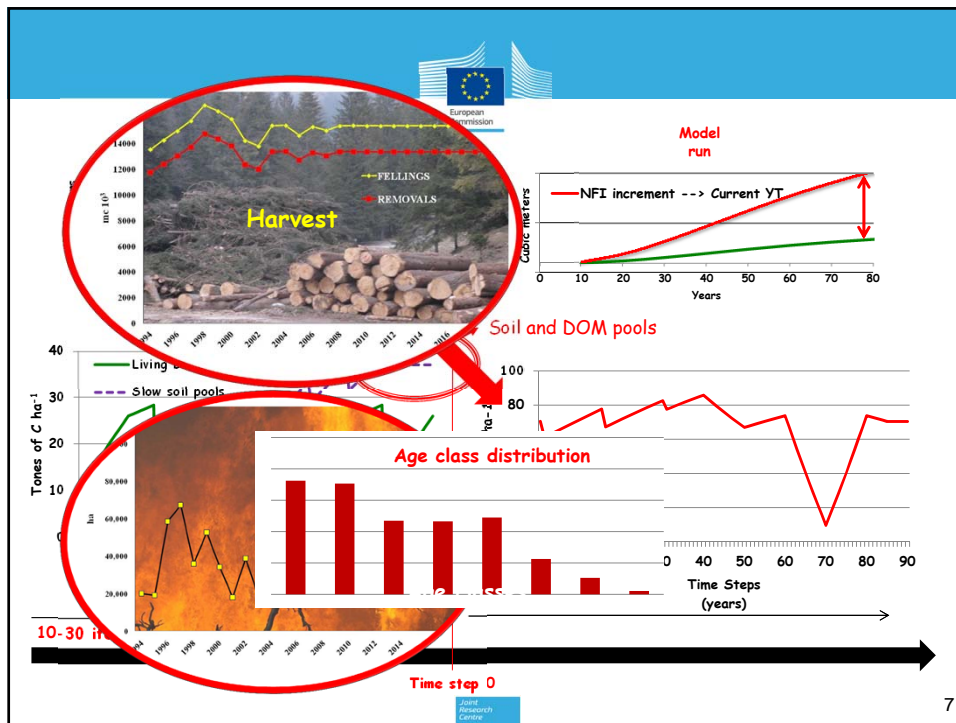
➤ It is an inventory-based, yield-data driven model, that simulates the evolution of the C budget of forests, including the effect of natural and human-induced disturbance events

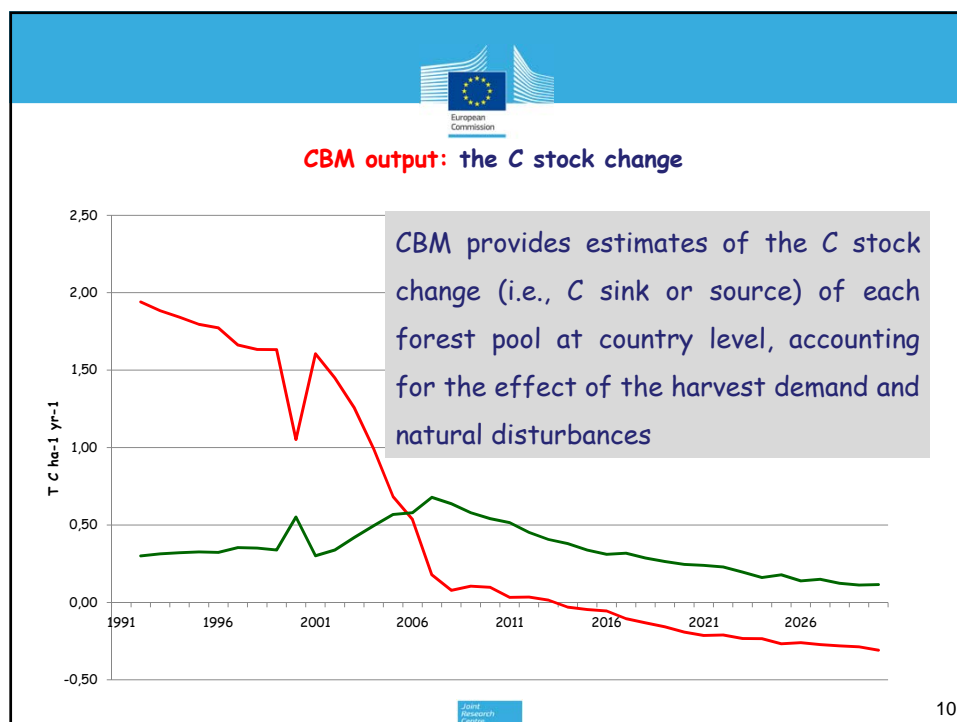
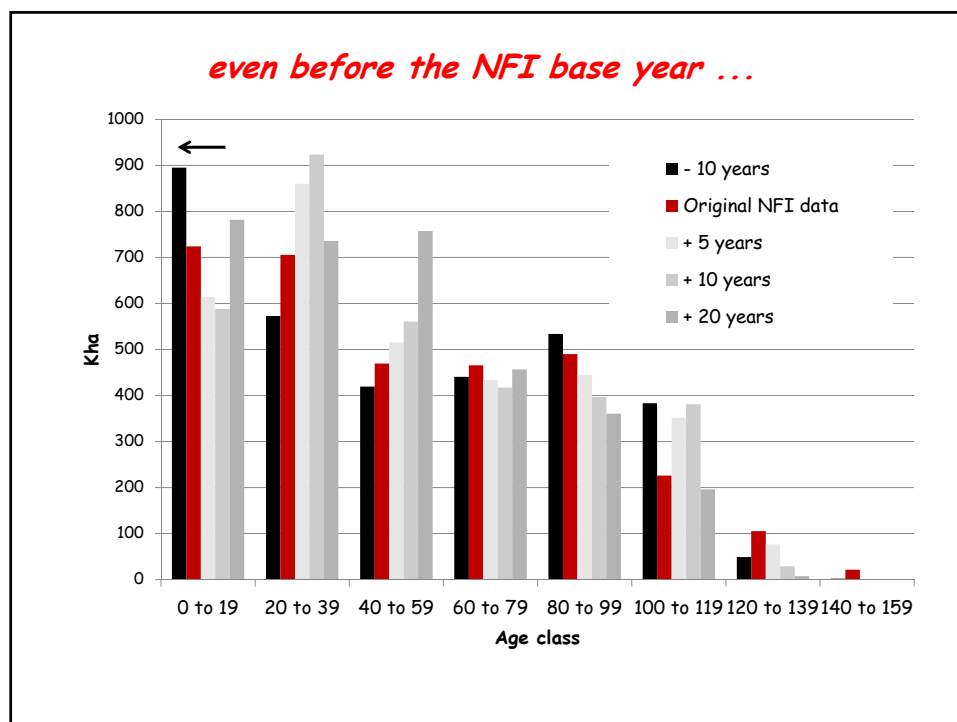


What the CBM need ...

IMPORTANCE	Input by NFI data	ESSENTIAL	REQUESTED	USEFUL	ADDITIONAL
ESSENTIAL	Area	Total Forest area	By age classes	By broadleaves/conifers and by regions	By main species and management types (i.e. coppices/high forests)
ESSENTIAL	Growing stock	Volume per ha at NUTS 1 level	By broadleaves/conifers	By main species	By age classes, regions and MT
ESSENTIAL	Increment	Increment per ha at NUTS 1 level	By broadleaves/conifers	By main species and age classes	By regions and MT
USEFUL	Tot. abovegr. biomass			By main species and regions	By age classes
USEFUL	Natural disturbances			Area/biomass affected by natural disturbances	By main species and regions
ADDITIONAL	Silvicultural treatments				By main species and MT
ADDITIONAL	Harvest share				By main species and regions





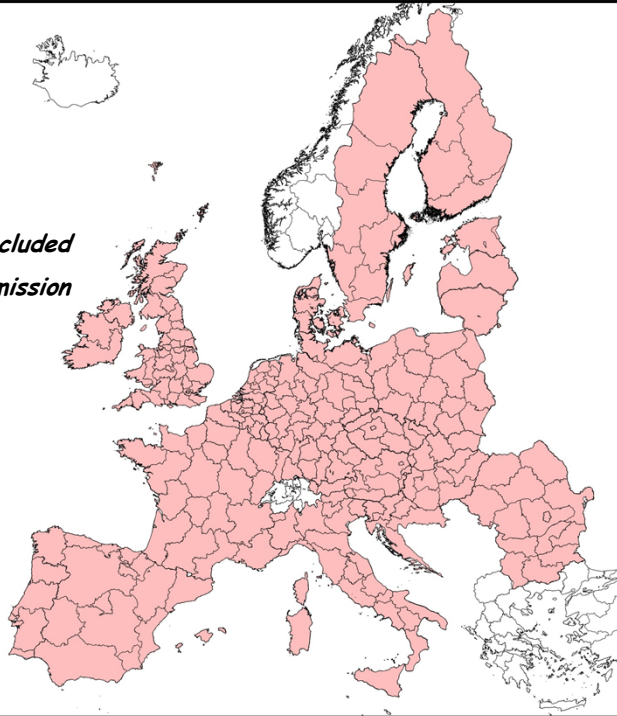


The model was applied to

- 25 EU countries

Considering

- FM area and harvest included in the MSs FM RL Submission (2011)
- 136,318 kha of forest
- 34 climatic units
- 165 administrative regions
- 173 forest types
- Fire & storms
- Afforestation
- HWP



The estimates for AD and HWP

