The Congo Basin forest is the second largest rainforest area after the Amazon forest. While deforestation in the Congo Basin was historically low compared to the Amazon and Southeast Asia, it has been increasing over the last decade and continues to increase. According to projections, deforestation will double over the 2010-2020 period and more than triple by 2030. Emissions from deforestation and forest degradation are driven by food, bioenergy, and wood demand. Of the 6 livestock types and 14 cultivated crops currently in the COMIFAC region, 6 livestock types, major forestry commodities, and bio-energies, accounts for two-thirds of the total. In the framework of REDD+, we project a strong increase of deforestation in the next decades in COMIFAC regions. The main drivers of deforestation are increasing population and palm oil international markets. The historical average deforestation rate of 0.5% decreases to 0.28% by 2020 and 0.17% by 2030. Deforestation in the Congo Basin is characterized by 2 years cultivation followed by fallow. The 5 sub-regions of COMIFAC can trade among each other and/or with the other global regions. For smallholders, the area deforested due to pasture expansion increases over time, but remains under 20% of total deforested area. This leads to forest degradation. Fuelwood can be either harvested on fallow land or on unmanaged forests. The 5 sub-regions of COMIFAC can trade among each other and/or with the other global regions. The supply side of the model reflects a detailed spatial resolution that accounts for land heterogeneity at 0.5 degree (~50x50km). Prices and international trade flows are endogenously determined at the regional level. The 5 sub-regions of COMIFAC can trade among each other and/or with the other global regions. The supply side of the model reflects a detailed spatial resolution that accounts for land heterogeneity at 0.5 degree (~50x50km). Subsistence agriculture is characterized by 2 years cultivation followed by fallow between 4 and 7 years depending on population density, and auto-consumption constraints. Fuelwood can be either harvested on fallow land or on unmanaged forests leading to forest degradation. Oil palm biophysical suitability has been computed based on climate, soil, and topography (Pirker and Mosnier, 2015) with all currently available techniques to mitigate biophysical constraints (e.g. agro-industrial plantations) and without mitigation techniques (e.g. smallholders). Population and GDP projections by 2030 are taken from the SSP2 scenario developed for IPCC (middle-of-the-road scenario). GHG emissions from deforestation are computed as the difference between carbon content in the origin land cover and in the final land cover using different biomass maps. Computed deforestation for the whole COMIFAC region amounts 5.4 million ha over 2000-2010 while measurement from Hansen et al. (2013) is 7.6 over 2000-2013. This leads to very close estimates of historical average annual deforestation rate of 0.54 and 0.58 million ha respectively. We project a strong increase of deforestation in the next decades in COMIFAC countries. Deforestation over 2010-2010 deforestation level increases by 1.66 by 2020 and by 2.12 by 2030. The area deforested due to pasture expansion increases over time but remains under 20% of total deforested area. From our results, cassava, groundnut, and corn account for 2/3 of the total cultivated area expansion over 2010-2030. These three crops are mainly consumed domestically. When we account for fallow, the total arable land is three times bigger than the cultivated area in the COMIFAC region, driving significant deforestation. For smallholders, the area deforested doubles over the period, emissions more than triple, meaning that the risk of deforesting carbon-rich forests increases in the future.