The impacts of drought on Amazon é permeado por incertezas (e.g. its ability to absorb and store carbon) e questões ainda pouco exploradas (e.g. the role of functional diversity and its different components – richness, divergence and evennes - in the carbon sink, as well as the impacts on functional diversity itself). Aqui, nós apresentamos um novo modelo de vegetação, o CAETÊ. In order to understand the role of functional diversity and the effects on FD we employed two versions of the model in a scenario of 50% reduction on precipitation for the Amazon basin forest. one using a PFT approach (PFTA- fixed values for functional traits) with low functional diversity (3 tropical PFTs) and another using a trait-based approach (TBA) and high functional diversity (3000 plant life estrategies, a random combination of functional trait values). CAETÊ (Carbon and Ecosystem functional Trait Evaluation Model). For that, we applied two versions of CAETÊ: one using a PFT approach (PFTA) and another one using a trait-based approach (TBA). The trait-based one seeks to represent the plant traits diversity more reliably through the usage of variant values for represent functional traits instead of fixed parameters as commonly used by the models that use PFTs. Six functional traits highly correlated to carbon stock were used: carbon allocation (%) and carbon residence time

(years) on leaves, aboveground woody tissues and fine roots. The approaches presented similar loss of total carbon storage when drought was applied: -57.48% for TBA and -57.45% for PFTA. However plant compartments have shown different patterns of changes when comparing the two approaches None of the compartments has shown, for any area, an increase in carbon stock with drought, except for the fine roots compartment in TBA, indicating a change on carbon partioning for the latter approach. The applied drought scenario caused a modification on the density distribution of the six variant functional traits both for PFTA and for TBA (dissimilarity close to one) they became functionally different with the new climatic condition. We observed a great decrease on dominance for the six traits, what enabled trait values that were previously rare to occur in the trait space or increase their density.n TBA the distribution showed a higher diversity of values that had their density increased, resulting in a much more diffuse distribution within the functional space. In that sense, the TBA showed a clear pattern with reduction in precipitation for traits related to allocation: an increase in density for higher values of carbon in fine roots and an increase in density for lower values of carbon in leaves and especially in ABGW. On the other hand, the PFTA showed a much smaller change, and the value density changes were restricted to a small area. In general, we found an increase in functional richness for all traits in both approaches, but the percentage of change in this facet was much higher in TBA. Functional evenness showed an increase superior to 100% in TBA, nonetheless, in the PFTA traits showed a decrease in this functional diversity component and in a lower degree of change (74% maximum). As a whole, the TBA traits presented reduction in divergence, while the opposite result was observed for the PFTA. It indicates an increase in the occupation fraction of the functional space (hypervolume) under a drier climate (i.e. increase in the amplitude of trait’s variation and richness) in a magnitude of 2,695.0% for the TBA and 1,025.0% for the PFTA