

We thank the reviewer for his helpful suggestions and comments on the manuscript. Based off the reviewer comments we will include the following changes in the revised manuscript. 1) We will explain possible reasons for why the model has a harder time matching the terrestrial temperature records compared to the ocean records. 2) We will include more background information in the introduction about why the middle Miocene Climatic Optimum (MMCO) is an important period to study. 3) Include more information about the simulations conducted and the boundary condition changes. 4) We will provide additional information about the CESM1.0 model framework including improvements compared to CCSM3.0, and we will add information about the slab ocean. 5) We will explain the major differences between modern vegetation and our prescribed MMCO vegetation.