I found the paper totally inappropriate for publication. The paper just reports the mismatch between the model and the observations, plots of mismatch in the seasonal cycle and a statistical table. Too basic and no insight in the problems.

The authors just say where the model matches the observations and where they do not but they do not provide any explanation in terms of physical and biogeochemical mechanisms or something that relates to ecological competition.

There could be some potential problems in the physics of the GCM they use, for instance, in the seasonal cycle of the mixed layer that ultimately regulates both light limitation and the nutrient supply. But they do not mention anything about this aspect so impossible to know to me....