Comments on the revised manuscript titled:

Using two-way nesting technique AGRIF with MARS3D V11.2 to improve hydrodynamics and estimate environmental indicators

by Sébastien Petto, Valérie Garnie, Matthieu Caillaud, Laurent Debreu and Franck Dumas

The revised manuscript has addressed some of issues mentioned in my first review. Added material to show the parallel computing cost is quite useful and clarifying new development reported in this manuscript is also helpful. Although the authors have provided some arguments in their responses to my first review comments, some issues remain unsolved.

1. The manuscript still looks too long for a journal paper. As the main development is adding the two-way nesting, it should concentrate on this point and minimize other technique details to shorten it. Two-way nesting is not a novel technique. This should be classified as an application to this particular system.

2. Whether the MARS3D-AGRIF system is a convenient tool for coastal marine application is still a question though the authors maintained their claim. From my understanding, the system is complicated to set up and awkward for post-processing, especially when there are many nested child grids. The authors have claimed that they can build a hierarchy of 4 or even more levels to meet coastal refinement but this will make the system even more complicated as they have explained in section 5 discussion. Adding a child grid requires offline bathymetric adjustment, physical parameter tuning, extra care for vertical level alignment, and boundary setup for overlapping with neighbouring child-grids. Considering that there might be over hundreds of child-grids when more levels are added, the system is doomed to be complicated. The authors argued that file compression may reduce the waste of storing land point values but storing output from over hundreds of child-grids already makes the output processing a huge burden. I think this is not the authors fault but the flaw of the system design. It would be unreasonable to ask the authors to simplify the system in a short time. I recommend that the authors just clarify it to avoid misleading readers.