Comment on gmd-2020-378
Anonymous Referee #1

The paper developed an index called turbidity maximum zone index (TMZI) and defined it as the ratio of the difference and sum of logarithmic transformation of TSS (total suspended solids) concentrations and chlorophyll concentrations. Through the experiments in Pearl River Estuary (PRE), Hanjiang River Estuary (HRE) and Moyangjiang River Estuary (MRE) in Guangdong Province of China, the paper confirmed that the TMZI index (> 0.2) effectively distinguished turbidity maximum zones (TMZs) in these estuaries.

Moreover, the paper illustrated how to extract TSS and chlorophyll from Landsat TM and OLI images. The paper clearly explained the methodology, logically carried out the validation tests, and well presented the validation results. The graphics (figures) were also well designed. The methodology could be easily applied in other estuaries to detect annual or seasonal TMZs changes.

However, the paper could be significantly improved if English writing styles and grammar can be improved. For instance,

Line 18: Recognizing and extracting estuarine turbidity maximum zone (TMZ) efficiently is important for kinds of terrestrial hydrological process. This line could be rewritten as "Recognizing and extracting estuarine turbidity maximum zone (TMZ) efficiently is important for studying terrestrial hydrological processes."

There are lots of English writing or expression issues. The authors should ask a native English writer for help.