General comments:

It is not a difficult task to go through this manuscript. On the one hand it is well organized and structured, which makes me quickly grasp all the important points the authors want to illustrate. However, on the other hand I have to say that all the results in this research (e.g. air temperature in the region strongly increased in the last several decades which elevated water temperature and Schimdt Stability) is not so new to me, and it gives me a feeling that if its research place changed to somewhere else then the results will be quite similar to those in some previous studies. The authors said the innovation point is that most of previous research neglected the climate change effects on small lakes, which is not true for me. In recent years there are already some research on this topic (see my comments below). For my point of view the innovation points in this paper is the application of 3D model to check influence of climate warming on lakes based on long-term simulations, and this should be reflected in the Results and Discussion (see my comments below).

To avoid the misunderstanding, I do not say this research is bad, instead I recommend the authors inputting some new findings, as suggested below, to make the manuscript more attractive.

Detailed comments:

Line 29: This sentence is not so reasonable, since recently there are quite a few studies to check the response of small lakes to climate change, like:

1. A small temperate lake in the 21st century: Dynamics of water temperature, ice phenology, dissolved oxygen and chlorophyll a

2. Future projections of temperature and mixing regime of European temperate lakes.

It is better to further modify this sentence, to make it a bit soft.

Line 57: Better to slightly modify it like,"Although the proposed ....., it is generic and...."

Line 101: I am not so sure whether it is reasonable to use "constant values for sky cloudiness". Since in this way incoming longwave radiation only depends on air temperature which may make the results not so accurate. What do you think of it??

Line 108: for the part 2.2.2 Meteorological input data, If you used the historical reanalysis climate data to drive the hydrodynamic model, I supposed it is better to firstly show the accuracy of this reanalysis in capturing the real climate condition. Have you compared the reanalysis results with the real

measurements??

For Figure 2: the legend doesn't match with the plot, please modify it.

Line 299: For Schimidt stability it is not quite meaningful to show the result in winter, instead it is better to analyze it in summer which should be input into Figure 4c.

For part 3.3 Spatial analysis of stratification: I mean this part is not new to me. It is very normal that the shallow part of a lake experiences less stratification compared to the deep part. I recommend that the authors also check the horizontal distribution of other thermal indices, like mixed layer depth, thermocline depth, which may provide some interesting findings.

For 4 Discussion: Just as I suggested before, results in this paper is not so new compared to those from previous studies, as well as the Discussion. The innovative points, based on my opinion, is the application of 3D model to check the influence of climate change on lakes. Consequently there should be more discussion, at the last paragraph of this part, on how the heterogeneity of thermal structure in the horizontal direction can affect the aquatic ecosystems,