**Responses to the referee #2：**

We thank the referee for his well-considered review. Referee's comments are bolded and authors' responses are italicized as follows:

**The introduction is too long on a topic that is well known and could be presented to the point starting around line 16 page on 6264.**

*Thanks for pointing it out. In the revised version, we intend to delete a few sentences in the introduction section before L16 P6264 to make the manuscript concise according to your suggestions.*

**Literature coverage is acceptable but not adequate; of the 75 references cited ~30% are from the Chinese waters and some are in Chinese.**

*Thanks for providing new references. In the revised version, we added more references in worldwide waters according to your suggestions. Moreover, we have changed a few Chinese references to English as far as possible.*

**The basis of pollution is a multiproxy approach on analyses of two sediment cores from two different regions off China. Standard methodology is used. Pb dating of sediments or pollutants is well known (Oldfield and Appleby, 1984).**

**Some references on the methodology are listed below:**

*Thanks! We have studied these references.*

**Biota analysis is limited to diatoms and silica analyses were not reported.**

*Yes, the referee is right. Silica analysis would be more accurate. We have added new section in the discussion section to state silica analysis and its implications of eutrophication.*

**On line 10, page 6273 it is stated that diatom cell abundances are often an early sign of eutrophication. This is not the case always as in Baltic. Flagellates could be these indicators. Grouping of diatom species may be instructive.**

*Thanks for pointing it out. We follow the referee's suggestion and revised this sentence to "diatom cell abundances are an early sign of eutrophication which reported in some regions" to avoid any confusion.*

**However reference to the following excellent works from the Baltic Sea would help in a better interpretation of their data.**

*Thanks for providing new references. The excellent work in Baltic Sea gave us new outlooks and helped us to improve the manuscript. These studies were also mentioned in the revised manuscript.*

**The methodology is not new; that the Yangtze region is polluted is well known. Then what is missing is a critical evaluation of the data. If the authors study these above references and interpret their data it would make a comprehensive contribution. Critical analyses of all the data presented in the graphs are necessary. Interactive comment on the biogeochemistry and species would be necessary.**

*Thanks for providing new references. We studied these references conscientiously, most of them are useful and the latest published data in the nutrient put in Changjiang (Yangtze) River and its adjacent East China Sea were adopt in the discussion section in the revised manuscript.*

*In the discussion section of the revised manuscript, we have now included the analysis of nutrients inputs and diatom species of each core to make the content more comprehensive.*

**At times results and discussion are mixed up.**

*Thanks for pointing it out. In the new version, we have revised the manuscript according to your suggestions.*