Natural Hazards
and Earth System
Sciences

Open Access

Discussions

EGU

NHESSD

Interactive
comment

Interactive comment on "An attempt to monitor seasonal dynamics of soil salinization in the Yellow River Delta region of China using Landsat data" *by* Hongyan Chen et al.

Hongyan Chen et al.

chenhy@sdau.edu.cn

Received and published: 16 December 2018

We are pleased to respond to the helpful and constructive comments, which were posted on the NHESS Discussion page on November 11, 2018. Your comments and our responses are presented below.

1. The title is better to revise to 'Monitoring seasonal dynamics of soil salinization in the Yellow River Delta region of China using Landsat data'

Response: We agree with the comment and the title will be revised to 'Monitoring seasonal dynamics of soil salinization in the Yellow River Delta of China using Landsat

data' in the revised manuscript.

2. Please revise the abstract, especially for the part of methods, from your abstract readers could not understand which regression models were used in the prediction model.

Response: We agree with the comment and will add the description about regression models to the abstract in the revised manuscript.

3. 'The SSC best inversion model of spring was also determined as the optimal model of winter, similarly, the best model of autumn was also as the optimal model of summer' this sentence was very confusing, please revise it.

Response: This experiment indicates that the best inversion model of spring could be applied for the SSC inversion of winter; at the same time, the best inversion model of autumn could also be applied to the SSC inversion of summer in the Yellow River Delta. We agree with the comment and will make changes to the abstract in the revised manuscript.

4. I am a bit confused about your four seasons inversion. You monitor four seasons dynamics of soil salinization; why didn't you build models for four seasons and just choose two season for models building. You may discuss the soil salinity content of spring was similar with that of winter, for example, while these two seasons vegetation was quite different. So why you applied the spring soil salinity model to that of winter. Please add this discussion.

Response: because the SSC is dynamic through the four seasons of a year, applying the same inversion model to analyze the SSC quantitatively in different seasons is not adequate, however, building a model for each season is cumbersome and impractical, so we chose two seasons for models building and studied the models applicability. Based on the data of time point, this experiment indicates the best inversion model of spring can be applied to winter. This model selection results may be due to the short

Interactive comment

Printer-friendly version

Discussion paper

time intervals, similar soil salt content and climatic conditions between February and April in the Yellow River Delta. In order to respond more accurately to the dynamic changes of soil salt, a period of SSC should be selected as the seasonal salt data, which will be the future research. The last paragraph of discussion provided the relative discussion; in order to provide more clarify we will revise some description in the revised manuscript.

5. In the part of '2.5 Inversion model construction and optimization', the first six lines were too redundant, please simplify it.

Response: We agree with the comment and will simplify the description in the revised manuscript.

6. Conclusions should be simplified.

Response: We agree with the comment and the conclusions will be simplified in the revised manuscript.

7. There were some mistakes in the manuscript, eg, line 6 of abstract, the word should be constructed. Please read carefully and avoid these minor mistakes.

Response: We appreciate your carefulness and we will revise carefully this kind of mistakes in the revised manuscript.

8. The language should be polished before publication.

Response: We agree with the comment and the language will be polished in the revised manuscript.

Interactive comment on Nat. Hazards Earth Syst. Sci. Discuss., https://doi.org/10.5194/nhess-2018-303, 2018.