

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.

Anonymous Referee #3

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General comments The authors aimed to develop models to predict soil salinity over different seasons using an improved vegetation index. However, I found that the drawbacks of the earlier indices were not explained in the Introduction. The Discussion also needs to be improved, particularly the third paragraph since it only repeats the Results.

Specific comments P5 Section 2.2. How did the authors ensure the accuracy of their select months compared to the other months? It is also unclear why the samples collected in spring and autumn were used to develop the inversion models while the samples of winter and summer were used to validate the models. P11L2 What is the relationship between 5 grades of soil salinization and figure 5?

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Interactive comment

Technical corrections There are numerous convoluted sentences that can be simply re-written. Some of the most striking examples are: a. Section 2.5. P7L4 So, the 92 samples of spring were divided into Among the 110 samples of autumn, 74 samples ... → Of the 92 samples collected during spring, 62 samples were used for calibration and the other 30 samples for validation. Similarly, of the 110 samples collected during autumn,..... b. Section 3.3.2. Table 5 shows the estimation accuracy. We can see that the best..... → Based on the estimation accuracy (Table 5), the best.... c. Section 3.1 Our results showed that SSC reached its maximum concentration in winter (specify the number) and decreased gradually (Table 2). d. Section 3.2 Table 3 shows that the correlation coefficients between ERVI or EDVI and SSC was very significant ($R^2 > 0.69$; $P < 0.01$). Based on these findings, ERVI and EDVI were selected as the IVI for spring while ENDVI and ERVI were selected as the IVI for autumn.

I strongly suggest the authors to seek professional English proof-reader to help with the overall language presentation of the manuscript since there are also numerous grammatical errors. I only list a few of them below.

Abstract L16 constucted → constructed L23 a gradually increasing trend → a gradual increasing trend L24 ... and its seasonal dynamics as that soil salinity accumulates... → It also underwent the following seasonal dynamics: (Results should be stated in past tense) Introduction P2L7 ... salinization dynamics is ... → are P2L20 Extensive researches ... → studies; research is an uncountable noun and it is not the equivalent of research papers P2L4 ... obvious geographical advantages → What are the obvious geographical advantages of unused land? Please clarify P2L10 ...obvious seasonal characteristics.... → distinct seasonal characteristics... P4L1 ...it was applied for mapping...and seasonal SSC dynamics were analyzed → for mapping... and analyzing seasonal SSC dynamics Materials and Methods P4L8 This area has characteristic → This area is characterized by.... P4L10 delete "the levels of soil profile are obvious" P5L2 replace "the seasonal climate" with "seasonality" P5L14 in situ should be written in italic P7L2 ...sorted separately... → separated P7L13 At the same way →using the

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same procedures

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

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