Atmospheric
Chemistry
and Physics
Discussions

ACPD

Interactive
comment

Interactive comment on "Nutrients Dissolution Kinetics of Aerosols at Qianliyan Island, the Yellow Sea by a High Time-resolution Nutrient Dissolution Experiment, Potential Linkages with Inorganic Compositions and P solubility controlled factors" *by* Ke Zhang et al.

Anonymous Referee #1

Received and published: 2 January 2019

Zhang et al. assessed dissolution of three nutrients (N, P, Si) from six aerosol samples at Qianliyan Island, the Yellow Sea. The results could have useful implications for nutrient availability to marine ecosystems from dry deposition. However, the methodology of this work has several drawbacks, which needs to be addressed properly. First, the aerosol samples were collected from only one island site and there were no replicates for sampling sites. The authors Second, total suspended particulate (TSP) samples were collected by using two different filters in 2011 and 2012 (the poly-carbonate fil-

ters in 2011 and Whatman cellulose fiber filters in 2012). I am wondering if these different filters could affect the particle size and composition of the aerosol samples. This should be addressed by an experimental approach. Third, the authors collected 39 aerosol samples but they only measured nutrient dissolution from six aerosol samples. I understand that the authors intended to analyze samples by season and main source. However, it is a pity that the nutrient dissolution experiment has no replicates for each category of samples (spr-SW, spr-NW, sum-NW, aut-NW, win-NW1 and win-NW2). This hinders comparison between sample categories by a statistical analysis. Moreover, the manuscript also requires extensive editing for English language including grammar and word choice. Overall, I don't think this manuscript should be considered for publication at this moment.

Specific comments

L1: Title: The current title is not appropriate for an ACP submission. It needs to be shortened. L26-28: It is likely a speculation that is not well supported by current results. L101-118(Figure 1): Please give more information on the calculation of backward trajectories, including input data, methodology and validation. Figures, 3, 5-8: No replicates and no statistical comparison between aerosol sample categories.

Interactive comment on Atmos. Chem. Phys. Discuss., https://doi.org/10.5194/acp-2018-985, 2018.