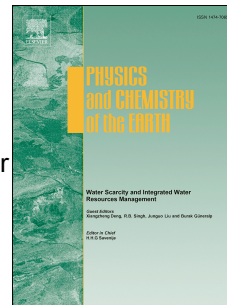


# Accepted Manuscript

Spatial and seasonal distribution of carbon, nitrogen, phosphorus, and sulfur and their ecological stoichiometry in wetland soils along a water and salt gradient in the Yellow River Delta, China

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1           Spatial and seasonal distribution of carbon, nitrogen,  
2           phosphorus, and sulfur and their ecological stoichiometry in  
3           wetland soils along a water and salt gradient in the Yellow  
4                                   River Delta, China

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9   Abstract: Top soils (0-10 cm) were collected in three sampling belts during four  
10   seasons in 2014, including bare land (HN1), *Calamagrostis epigeios* (HN2), *Typha*  
11   *orientalis* (HN3), *Phragmites australis* (HN4), *Tamarix chinensis* (HN5) and *Suaeda*  
12   *salsa* (HN6) along a water and salinity gradient in the Yellow River Delta, China.  
13   Soil organic carbon (SOC), total nitrogen (TN), total phosphorous (TP), total sulfur  
14   (TS) and their ecological stoichiometry were measured to investigate their seasonal  
15   and horizontal distribution patterns, as well as their important influencing factors  
16   such as electric conductivity (EC) and water content (WC). Our results showed that  
17   the contents of SOC and TN exhibited similar changing tendency along the water  
18   and salinity gradient. The TP contents followed the order  $HN5 \approx HN2 > HN3 \approx$   
19    $HN6 > HN4 > HN1$ . TS levels generally increased with increasing salinity from  
20   HN1 to HN6. The higher levels of SOC and TP were mostly observed in October  
21   and August, respectively, while the seasonal variations in TN were heterogeneous  
22   under different plant covers. TS contents were lower in August compared with other

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