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Tidal wetland changes in face of coastal squeeze on the coasts of Yellow River Delta in China**Ying Man and Baoshan Cui**

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Coastal wetlands can adapt themselves for accelerating sea level rise (SLR) through landward migration and upland recolonization, but the hardening coastal defense and associated intensive coastal land reclamation may hinder even interrupt the process of landward migration. This so-called "coastal squeeze" effects led by SLR and coastal reclamation may result in the fragmentation, erosion even crumbling of coastal wetland ecosystem. The coastal wetlands in Yellow River Delta are characterized with global biodiversity hotspot (e.g., migratory shorebirds) and enormous ecosystem services such as carbon storage, water purification and coastal defence, where the coastal squeeze is also prominent. The effect of coastal squeeze has produced prominent erosion of coastal habitats and coastal defense, bringing about greater ecological and socioeconomic risk to the coastal region in Yellow River Delta. Therefore, how to enhance multiply coastal ecosystem services and provide ecologically resilient spaces for the coastal wetlands to facilitate the ecological adaptation to the coastal squeeze is confronted as a key issue for the sustainable coastal management in Yellow River Delta. This article spatially quantified the effects of coastal squeeze and discerned the hotspots and vulnerable sites across the coastal region (Figure 1.). Also, SLAMM (Sea Level Affecting Marsh Model) has been employed to model the landward migration process and recolonization pattern under ICPP RCP 4.5-defined scenarios of SRL. The potential inland habitats for landward moveable coastal wetlands in response to the SLR scenarios have been selected by reviewing and combining the modelling results of SLAMM and CSI. Finally, the multi-functional coastal ecological security pattern has been established. SRL-adaptation for coastal wetlands can be used to regulate on-going and planned coastal reclamation programme and guild adaptive and sustainable coastal management in Yellow River Delta.

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