



## **SURE Research Publication Service**

### **1) Reference of your publication:**

Li, Y. F., Zhang, X. X., Zhao, X. X., Ma, S. Q., Cao, H. H., Cao, J. K. 2016. Assessing spatial vulnerability from rapid urbanization to inform coastal urban regional planning. *Ocean and Coastal Management*, 123, 53-65.

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### **2) Hyperlink to the publication:**

<http://dx.doi.org/10.1016/j.ocecoaman.2016.01.010>

### **3) Abstract:**

#### **Assessing spatial vulnerability from rapid urbanization to inform coastal urban regional planning**

This study delves into the development of a Geographic Information System (GIS) based vulnerability assessment tool for assessing coastal vulnerability and making prescriptive recommendations on urban planning in coastal regions at a local level. The framework of “exposure-sensitivity-resilience” (ESR) is not only applied, but also improved and refined to take into account a suite of social-ecological indicators. The results demonstrate that vulnerability was not evenly distributed across Haikou's coastal zones, which may be linked to the different stages of ongoing urban planning for coastal Haikou. For the case study areas, vulnerability tends to increase with higher levels of urbanization, but may decrease once the speed of urban expansion is under control. The most vulnerable area is the main city zone where urban residents are concentrated and a developed transportation network exists. Our study



contributes to the development of a general methodology to assess vulnerability in rapid urbanization and to apply it to coastal cities around the world.

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