

Fundamental Analysis of Flood Risk on Coastal Plains in Japan due to Sea-Level Rise

Yuji Kuwahara[1]; Hiromune Yokoki[2]; Takekazu Koyanagi[3]

[1] Urban and Civil Engineering, Ibaraki Univ.; [2] CWES, Ibaraki Univ.; [3] Urban & Civil Eng., Ibaraki Univ.

<http://landinfo.civil.ibaraki.ac.jp/>

Climate change would apprehend the risk of flood in lowland area due to sea-level rise. In order to consider various adaptation plans against floods, and estimate the flood damages, it is important to estimate the area, population, and land use. Thus, the GIS-based analysis of flood area was developed in this study for the ten river basins selected in this study. However, the geographic information had to be re-edited for each river basin, because they had been provided for each administrative area. Then, the flood simulations were carried out using the level flood method for the 10 coastal plain in Japan. As a result of this research, population and land use were summed for the flooded area, and major three features of the basins were extracted through this research.