

In this study, based on the Fig.2 and Fig.3, produce a flood damage map in cooperation digital map provided by computerized data and National Geographical Information Institute in order to improve the accuracy of flood affected areas. Fig. 4 is based on Fig 3, demand inundation map with polygon-shaped that extracted inundation area through the rainfall simulator by frequency adjusted for GIS-based.

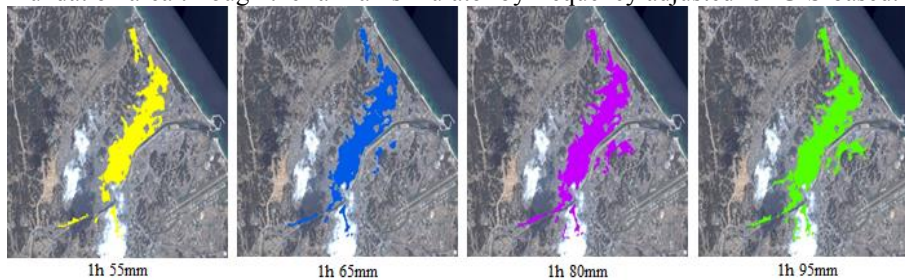


Fig. 4. Demand inundation map with polygon-shaped by frequency

5 Results and Consideration

As the final goal is to create a domestic demand and external demand inundation damage prediction map of the national unit, first of all, the selection to flood analysis area "Gangneung City" as a test target area, and set the direction of the study that to reflect the flood damage situation with the actual satellite images of inundation range extracted by overflow interpretation model.

Based on the data of the river cross-section and flood frequency, use the one-dimensional HEC-RAS model in order to extract the external demand flooded area, and analysis to characteristics of the flooded area. Also, Build an object model for topographical analysis of the target area, simulate the rainfall-runoff using the XP-SWMM in cooperation urban runoff analysis (SWMM) and inundation analysis (TUFLOW) in order to calculate the flood discharge by frequency.

This increases the effectiveness on shortening of the time when external demand flood analysis, and when analyzing for scenario-based demand inundation it is simplified the previous methods. For the coordinate unification of materials, World Geodetic Reference system (WGS-84) affiliated with state coordinate system (TM). Produce damage prediction map with polygon-shaped that overlap with the satellite map of high resolution and coordinated unification of materials.

6 Conclusion

In this study, we produce even more precisely a inundation damage prediction map for the inundation damage area through scanning satellite images of high resolution based on GIS. The risk cartography of flood damage nationwide unit in a unified

coordinate so as to be systematically promote in the future, want to advance the development of a tool further improve the convenience.

Conclusion through this is as follows.

- 1) Compose the input data such as terrain and rainfall materials, the flood area was predicted using the 1, 2-dimensional analysis program. Also, enhanced the accuracy using the river materials measured actually and GIS network materials already constructed and terrain data .
- 2) By using a satellite map of the target area of the flooded region through GIS technique, it was confirm the inundation prediction area. This is to increase the precision and realism than the existing created flood damage prediction map.

In the future, we will develop the tool about coordinate adjustment ways to affiliate 1 and 2-dimensional Flood damage analysis data and GIS-based terrain data with spatial analysis technology, and this will be cartography program for the mapping of convenience, thereby enhancing the effectiveness and usefulness.

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