

# **GIST held a Living Lab to help residents understand and solve the problem of coastal flooding in Suncheon**

— Expected to effectively reduce flood damage that occurs every year



▲ The site of the 3rd Living Lab in Suncheon, which is a project to solve local problems with the assistance of residents by using science and technology

GIST (Gwangju Institute of Science and Technology, President Kiseon Kim) is in the process of installing a flood prevention facility based on flood simulations to solve the annual coastal flooding problem in Suncheon.

GIST School of Earth Science and Environmental Engineering Professor In S. Kim's research team along with Chonnam National University Professor Jong-Kyu Kim, who is an expert in the field, and Korea Institute of Construction Technology Research Director Hyun Jun Kim held the Living Lab several times in Suncheon to solve problems by communicating with residents.

At the 3rd Living Lab held on December 15 (Wednesday), the results of the coastal flood simulation conducted so far were shared with the residents, and opinions on various issues for the final design stage were solicited and collected. Construction of the final proposed confirmed flood protection facility is expected to be completed in the second half of 2022.

From 2000 to 2015, Suncheon City from flooding almost every year, as well as damage to farmland and crops. Property damage such as buildings, public facilities, and ships also occurred in considerable numbers.

The Suncheon local government's steady efforts to prevent high levels of flooding caused by localized heavy rains and problems with the urban drainage system have been resolved. Coastal villages located in the western part of Suncheon Bay, very

close to the sea, are always exposed flooding risks during low tide/high tide, heavy rains, or approaching typhoons due to insufficient embankment and sluice facilities.

The research team predicted flooding by constructing a topographic model through numerical elevation models, drone surveys, satellite photos, etc., and integrated information such as the ocean, meteorology, and watersheds to predict coastal flooding and optimize the design of flood prevention facilities. Through this method, the type, location, and various factors for flood prevention facilities will be derived and reflected in the final design.

Professor In S. Kim said, "The research results and achievements can be applied to areas where combined coastal inundation occurs and should contribute to effectively reducing recurring annual flood damage."

GIST School of Earth Science and Environmental Engineering Professor In S. Kim's research team was finally selected for the project ('Living Lab') that uses science and technology to solve the coastal flooding problem in Suncheon. Since April of this year, the Ministry of Public Administration and Security and the Ministry of Science and ICT has been carrying out projects to solve local problems by using science and technology jointly with residents (Research Director: In S. Kim).