PRACTICAL USE OF GEOSPATIAL DATA FOR EXTREME-TEMPERATURE DISASTER RESPONSE

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Abstract

Extreme-temperature disasters are a case of the stress index related to the temperature, humidity and the disaster duration exceeding a certain standard. Such disasters are broadly classified into heat-wave and cold-wave types. It is not easy to respond directly to these disasters because the impact of the damage is not direct compared with other disasters, and the scale of damage is difficult to assess. However, with advancements in information acquisition and analysis technology, it has been confirmed that extreme-temperature disasters adversely affect lives and property, based on several investigations. Hence, South Korea officially began to regard heat waves and cold waves as natural disasters under the Disaster Safety Act of 2018. Accordingly, national-scale measures have been implemented, and several damage compensation schemes have become available under this act.
In this study, we propose a method of utilization and visualization about geospatial data to perform effective response for extreme-temperature disasters such as heat-wave and cold-wave. The Data visualization is an artificial fact created to facilitate visual thinking and visual communication. We determine data visualization items to support disaster response decision-making by classifying the disaster-specific data and analysing the data components. This intelligent data visualization is a computerized information system designed to help human judgment for solving various complex problems that can arise in an extreme-temperature disaster situation.
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Keywords: natural disaster, extreme temperature, geospatial data, data visualization, disaster response, decision making

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