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Historical Relationship between Snow Depth and Damaged Area in South Korea

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Recently, snow disasters have been increased in South Korea due to the unexpected heavy snow in a region where winter gives little snow. For instance, 10 people were dead by the collapsed roof due to the unusual heavy snow. Many local governments do not have enough snow removal equipment because of little snow in winter season. Therefore, it has been important to estimate the amount of snow damage to prepare heavy snow disaster. There are not many researches to estimate damage of snow disaster in South Korea. In this study, historical snow damage data from 1994~2018 recorded in National Disaster Report were used to predict the future snow disaster damage using a statistical equation. However, it was not easy to predict the amount of snow damage when the heavy snow is happened in the area where no snow during the winter in history. Therefore, the relationship between the snow depth and damaged area were analyzed using the historical damage data. Principal multiple regression method was applied to develop the snow damage estimation function using the damaged area. The developed model could be applied to plan the budget for the snow removal equipment or snow damage reduction.

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