

Geographical distribution of mailed survey responses about flood risk perception

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The number of major floods resulting federal disaster declarations have increased in several US states. Estimated risk of flooding to residential properties alone are expected to increase by over 10% in the next 30 years. Our goal was to assess residents' flood risk perception relative to flood plain risk. Surveys were mailed to households in Nebraska and Iowa in 2022. Because mailing and physical address do not always correspond, each survey was assigned a geocoded location based on residential structure visible on Google Street View and cross-checked with survey self-response. Analysis included descriptive, ANOVA, and geospatial visualization. Response rate was 19.4% (271 of 1,400); 13 respondents did not confirm residential location and were excluded from geographic analysis resulting in n=258.

Understanding flood-prone residents' risk perception is necessary for developing more precise preventive interventions for future floods. Data are being used to develop targeted risk communication interventions for increasing local flood preparedness.

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