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The sensitivity of the crash rate of Finnish road traffic for bad weather circumstances

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Road traffic safety is the result of a complex interaction of factors, and causes behind road vehicle crashes require different measures to reduce their impacts. This study assesses how strongly the variation in daily winter crash rates associates with weather conditions in Finland.
The analysis indicates that a base rate of crashes depending on non-weather factors exists, and some combinations of extreme weather conditions are able to substantially push up crash rates on days with bad weather.

Some spatial causation factors, such as variation of geophysical characteristics causing systematic differences in the distributions of weather variables, exist. Yet, even in winter, non-spatial factors are normally more significant.
Subsequently, the effects of climate change on the occurrence of bad weather conditions are evaluated, both in terms of changes in occurrence frequency and in terms of foregone monetized value. The monetized effects are quite notable, but not catastrophically high.