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# Assessing the socio-spatial vulnerability of citizens to natural hazards

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Vulnerability is now currently considered as an important dimension of major risks, as well as hazards. It largely depends on the land uses whose variable density leads to graduate the vulnerability. Uses themselves and values that society attribute to them modify the weight of risks. The description of the uses and/or density –of men, activities, nets, flows– can legitimately be one of the geographers task, as we are frequently dealing with a spatial approach. The sociological, political and psychological dimensions of risks, which importance has yet been stressed, is often less studied and rarely aggregated to the statistical data and even less rarely represented by map. Data about the perception of risks have been collected for quite 30 years but scarcely connected to spatial topics. In a recent survey, we proposed to study the point of view of city dwellers about major hazards. The initial hypothesis is that they are not very much aware of the risks themselves and the safety measures that would lower the level of potential consequences if a disaster were to occur. We tried to check this situation and to explain it. Half a thousand inhabitants and workers of the urban area of Mulhouse (East of France) were asked for a long questionnaire (43 questions) about their exposure to hazards, their knowledge of safety measures, the way they feel informed... We base our survey on a multi-stratified sampling, which includes the location of the surveyed persons in the urban area, their age, gender and type of work (for the workers). Then, we try to draw a spatial typology of the citizen regarding their perception of risks. Even if several hazards were considered in our survey, we focus on natural hazards and give the relative position of that kind of phenomena among various risks, stressing that the city dwellers and workers feel generally less concerned with natural potential and rare events because of the artificial face of their habitat. Our typology could lead to on a series of data and maps that we could integrate to the cartography of a “total” socio-spatial vulnerability.