



Flood risk analysis in urban area, using geo - historical approach. Example of Mulhouse (France)

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Flood Risks Prevention Plan in the Ill Basin, reveals that Mulhouse (France) is nearly totally free from flooding. It appears to be the result of the building of a diversion canal between 1848 and 1903. If its aim was to enable urbanisation and industrial development of the “French Manchester”, the bypass canal transformed the city which was settled in a zone both swampy and liable to flooding in a place free from any flood risk, in theory. Events chronology is convincing: non only did the floodings disappear, but the city is a rare example in the Ill basin where devastating floods are in decrease nowadays. Having been flooded on numerous occasions since the Middle - Age, Mulhouse knew its last significant flood in 1895. And, in particular, the city wasn't flooded during the huge flood of january 1910.

Excepting an unlikely meteorological accident, the canal efficiency seems to be undeniable. But, in the same time, alarmist reports mention the possibility of a flood which would affect 70.000 out of the 110.000 inhabitants of Mulhouse. What about this contradiction ? Firstly, extreme floods are not known, and the risk increases because of the changes in the landuse affecting the upper part of Ill basin. Secondly, risks changed because of urban growth : it's not any more the floods of Ill that raise problems, but the urban streaming. Nowadays, the risk doesn't come any more from below (river) but from at the top (hills). So, while the diversion channel avoids the floods of Ill since 1903, the innovative use of firemen archives report 76 cases of damaging urban streaming. The stake thus consists in mapping zones subjected to the various risks of flood, but also in establishing risks scenarii to prepare crisis management in case of disaster. The proposition of the paper is to adopt a geohistorical and interdisciplinary process on various scales in order to place the urban-river-installation system in a broader context, linking devastating floods chronology and landuse evolution, one of the objectives of french – german program TRANSRISK.