



E-Bulletin #4 Thinking about Risk

As with many concepts developed in many different subject areas concurrently, the term risk has a range of definitions. Here I make an effort to clearly define risk and other key terms, for the purposes of this project (see diagram to right for a summary).

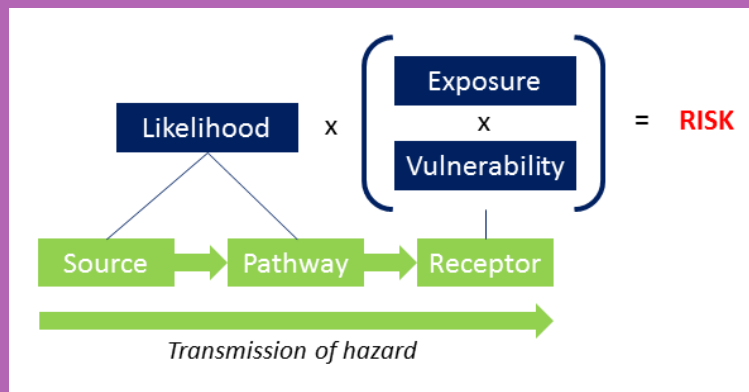
We will use the **source-pathway-receptor** idea, which is widely adopted in environmental management. For a risk to exist there must be hazard that consists of a **source** (e.g. high rainfall), **receptors** (e.g. properties) and a **pathway** by which the hazard can get from source to receptor (e.g. overland flow route).

The presence of a hazard, *per se*, does not automatically lead to harm. Actual harm depends on the nature and likelihood of the hazard; the degree of exposure of the receptors, and their vulnerability. A reduction in flood risk can be accomplished by managing the sources and pathways of flooding to **reduce the hazard**; or managing the receptors to **reduce their exposure and/or vulnerability**. Exposure refers to everything that is threatened by that hazard (typically quantified—i.e. number of properties). Vulnerability refers to the resilience of a particular receptor to a hazard, and its ability to cope, respond or recover.

In the stock and flow model that we will create in workshop two, these concepts are all represented. Consider the flow diagram below:



At each risk-hotspot we identified there are a number of receptors that are exposed to hazard. These will have different vulnerabilities, that when combined with their exposure and the likelihood of an event gives their level of **risk**. During a flood event, hazards move from place to place, and this flow is shown by the pathways connecting the hotspots. Interventions we take reduce risk by reducing likelihood; vulnerability or exposure of receptors; or disrupting the source or the pathway.



The source-pathway-receptor model and the three principal components of risk. Note that the vulnerability and exposure components are often merged and termed 'consequences'. Modified after Gouldby et al. (2005) Language of Risk, HR Wallingford.

Workshop Two

The second workshop will see us using the flow sequence and variables developed in workshop one, to build a stock and flow diagram of flood risk during the 2013 event. We will explore sources and pathways of hazard; exposure and vulnerability to that hazard at different key locations in Southwell; and where we can intervene in order to reduce them.

Workshop Two - Thurs 26th February 2015

7:00pm—9:00pm

Main Hall Boardroom, Brackenhurst Campus

Next Steps

We are now only a week away from workshop two (details above). It is not too late to express an interest in attending. Your local knowledge is key to building an holistic picture of flood risk. No modelling experience or expertise in flood risk management is required.

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