

# A practical guide to risk-based spatial planning for natural hazards



**What advantages result when spatial planners take a risk-based approach to natural hazards? And what can be done to motivate spatial planners, cantonal agencies and municipal representatives to carry out their planning in accordance with a more flexible, risk-based concept? An interdisciplinary team of EBP experts drew upon various compelling case studies from throughout Switzerland to provide answers to these questions.**

## Client

Swiss Federal Office for the Environment (FOEN), Swiss Federal Office for Spatial Development (ARE)

## Facts

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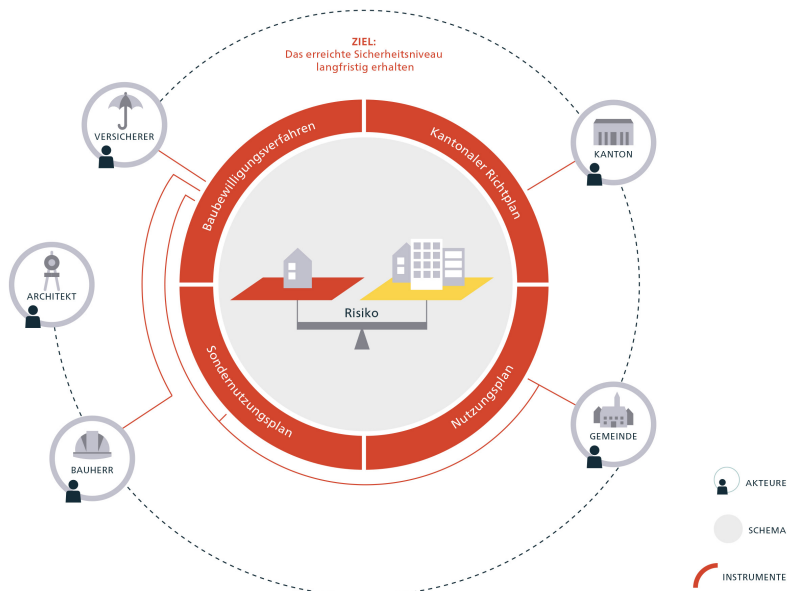


The EBP team was comprised of experts working in the areas of spatial planning, natural hazards, and communications. The project was supported by a broad-based group of stakeholders, including cantonal and municipal representatives, and specialists in the areas of natural hazards, spatial planning and buildings insurance. The work product presented at the close of

the project is a high quality, well-crafted online brochure that elucidates the advantages of risk-based spatial planning, generates greater interest in the subject, encourages the emulation of successful initiatives and promotes the exchange of ideas among stakeholders. Drafted from the perspective of individual stakeholders, the case studies include descriptions of the instruments that are made available to spatial planners by taking a risk-based approach to natural hazards.

### What is risk-based spatial planning?

Risk is determined not only by the hazards to which a space is exposed, but also to the way that space is used. After all, the way a space is being used will be a determining factor in the extent of any damage that results from a given incident. Up until now, spatial planners have taken a largely hazard-based approach. In other words, they've determined whether protective measures are necessary, as well as the nature of such protective measures, based exclusively on the official hazard level assigned to a given area on the hazard map, with particular attention given to those areas with moderate to significant degrees of exposure. The problem with this approach is that the biggest risks are often present in areas exhibiting low degrees of exposure. Risk-based spatial planning takes account of this factor and the associated potential losses by focusing more on the use of space.



### Brochure to explain risk-based spatial planning

Working on behalf of the Swiss Federal Office for the Environment and the Swiss Federal Office for Spatial Development, EBP created a brochure to introduce readers to the subject of risk-based spatial planning. The brochure defines the notion of risk-based spatial planning in connection with natural hazards, addresses the concerns of the stakeholders involved, identifies the advantages and outlines solutions derived from risk-based-planning.

## Cantonal and municipal case studies

We decided to take a stakeholder-centered approach to presenting the advantages of risk-based spatial planning. This is why each case study is described from the perspective of individual stakeholders. Spatial planners, municipal representatives and employees of cantonal agencies share the details of their experience with risk-based planning in connection with natural hazards. The brochure's color-and-design concept allows its readers to quickly orient themselves with respect to specific topics while at the same time making the content more intuitive.

## Spatial planning instruments for dealing with natural hazards

The brochure identifies the instruments risk-based planning makes available to each of the stakeholders for the purposes of focused risk management:

- The cantonal development plan enables cantons to codify the goals, principles and measures of risk-based spatial planning.
- The municipal usage plan regulates the manner in which owners are permitted to make use of property. It remains open to municipalities to revise their usage plans to take account of new aspects of risk-based spatial planning.
- The special usage plan enables municipalities to apply special regulations to the use of certain areas.
- The building permit procedure gives municipalities a limited ability to respond to any gaps in existing development specifications in the interest of promoting conditions derived from risk-based spatial planning.

## A valuable practical guideline

With reference to case studies, the brochure illustrates how the instruments associated with a risk-based approach can supplement efforts to secure adherence to natural hazard maps. The brochure thereby qualifies as a valuable practical guide for spatial planning experts, cantons and municipalities when it comes to referencing hazard maps in the context of development projects.

The online brochure is available in German and French.

