TAKING ACCOUNT OF PRIOR DIAGNOSTICS

HAZARD

RAINFALL AND FLOODS

COASTAL DYNAMICS

GEOTECHNICAL DROUGHTS

HEAT

WILDFIRES

STORMS AND STRONG WINDS

COST

€ € €

low medium high

LEVEL OF SKILL

high

With the multiplication of climate change challenges, the vast majority of buildings must imperatively evolve to improve their resilience to extreme weather events. To implement effective, consistent adaptive measures in both new build and renovation projects, it's essential to call on professionals to carry out diagnostics. The aim of these diagnostics is to precisely identify the climate risks the building is exposed to. This crucial stage enables you to make informed decisions about adaptation.

IMPACTS

Carrying out and taking account of diagnostics helps you identify and take advantage of the benefits of the area when designing a building, to **maximise the resilience of the building and its users**.

These prior diagnostics also make it easier to determine the most appropriate adaptive solutions for each building, helping to **reduce potential damage** to the building and its equipment in the event of major climatic events. This measure not only preserves **the physical integrity** and **quality of life** of the building's occupants, it also helps maintain the value of the property and the assets inside it.

In addition, carrying out diagnostics throughout the life of the building plays a crucial **informative role** for the building's owners, managers and occupants. It means that stakeholders are fully aware of the risks they face, promoting better preparation and an appropriate response to potential climate challenges.

INSTALLATION GUIDE

In France, the buyer-tenant information scheme (*IAL*) makes it compulsory **to inform** all tenants or purchasers of a property, particularly in an area regulated by a risk prevention plan (*PPR*), **of any natural risks** and any previous compensation paid out following a natural disaster. A risk statement must be included in the technical diagnosis file (*DDT*) appended to the promise of sale and the deed of sale or lease. To reinforce this information, the implementing French decree of 1 October 2022 stipulates that:

- All property advertisements, regardless of the medium used, must include the following statement: "Information about the risks to which this property is exposed is available on the *Géorisques* website: www.georisques.gouv.fr*".*

- The risk report must be handed over at the first visit.

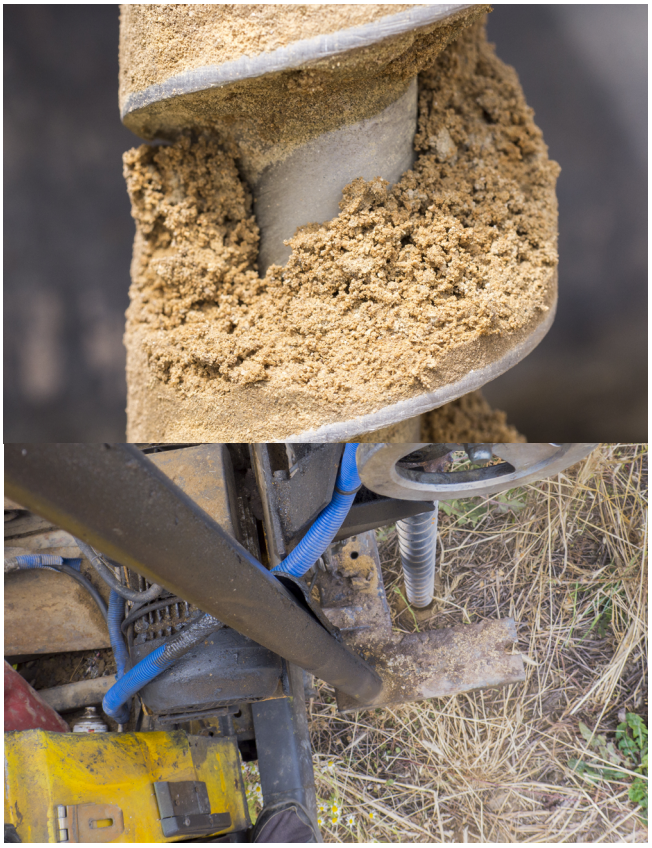
In addition, before embarking on a property project and throughout its usage, it is strongly recommended that you carry out one or more of the following diagnostic tests (non-exhaustive list):

- **Prospective assessment of the climate risks to which buildings are exposed:** can be carried out using a mapping tool such as R4RE.

- **Soil survey**: detects the risk of clay shrinkage and swelling (shrink-swell) to determine the type of foundations to be used and their anchoring depth.

- **Flood vulnerability assessment**: helps to select which strategy to adopt to combat flooding and coastal flooding and to identify the measures that can be put in place.

CLICK HERE TO CONSULT THE GUIDE TO ACTION FOR CLIMATE CHANGE ADAPTATION



Carrying out a soil survey

- **Topographical analysis**: identifies the topographical features of the site (relief, presence of water points, etc.) so that the advantages offered by the building's immediate environment can be exploited.

- **Hydrometric analysis**: identifies the water flow on the building and used as a basis for the water drainage scheme on the plot or in the neighbourhood.

- **Aeraulic study** (study of the circulation of air flows): determines areas of thermal discomfort inside and outside due to poor air circulation. Can be carried out at different times, during construction or operation of the building.

- **Ecological assessment**: aims to evaluate the current situation and understand how the surrounding ecosystems function. Identifies the key elements that can guide the development and management of the area concerned, particularly in the context of greening operations.

WEAK POINTS AND STRONG POINTS

⊕ As the regulatory framework evolves, so do the requirements for climate risk prevention diagnostics.

⊕ The French 2018 ELAN law requires soil studies to be carried out in areas where exposure to shrink-swell has been identified as medium or high, by the:

- **Vendor**: before selling undeveloped, buildable land, the vendor must inform the potential buyer of any risks of clay soil shrinkage and swelling, and carry out a **prior geotechnical study**,

- **Owner**: in their contract with the builder or project manager, the owner can choose between **two types of geotechnical design study**. The first is customised, taking into account the location and characteristics of the building. The second (type G2) is generic, covering both the pre-project and the project, and can be used as a reference for several projects, potentially reducing costs for the client.

- **Builder**: must follow the **recommendations of the geotechnical design study** provided by the owner, or comply with the specific construction techniques laid down by the **regulations**.

⊕ In France, when selling or renting a property or plot of land located in a risk zone, it has been compulsory since 2003 for the owner to provide a "risk report", including an analysis of the risks associated with climate hazards.

⊕ Although this is not the case for all buildings, many of the evaluations listed above can be carried out at both building and regional levels.

⊖ These studies and assessments have a limited validity in terms of results, subject to an expiry period.

FIND OUT MORE

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European Flood Risk Prevention Centre (*CEPRI*) (2010), *Le bâtiment face à l'inondation – Diagnostiquer et réduire sa vulnérabilité*

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