

THE INCREASING PROTECTION GAP FOR CLAY SOIL SHRINK-SWELL PROPERTY DAMAGE



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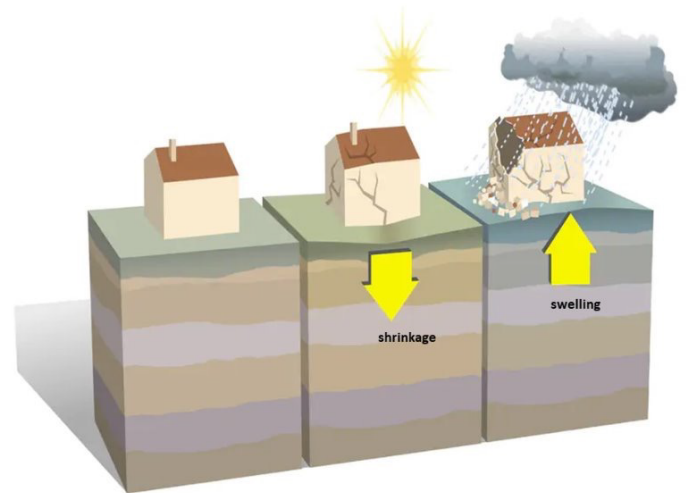
The **clay soil shrink-swell (CSS) pilot** developed a web-based tool to communicate to homeowners in France the financial and related risks of inadequate insurance cover. At the same time research was carried out to assess CSS risk and insurance frameworks across other EU countries to inform a Risk Alert Briefing addressed to key stakeholders.

HAZARDS	STATUS	TARGET GROUPS	PILOT CONTEXT
Building damage caused by CSS events	CSS risk level is projected to increase across Europe	Homeowners, Property Stakeholders, Local and National Authorities, Insurance Companies, Climate Change Adaptation Communities	France and preliminary assessments in Finland, Germany, Luxembourg, Italy, Spain

CSS processes occur when clay-rich soils contract during dry periods and expand again when moisture returns, causing ground movement that can lead to cracking and structural damage to buildings and infrastructure – see schematic figure below ([Gruslin et al. 2022](#)).

Why is it essential to raise awareness and initiate discussion on the implications of climate-driven CSS property damage?

- Large areas in Europe are exposed to increasing risk from CSS property damage.
- It is estimated that 48% of the national territory is at medium or high risk in France.
- Awareness of CSS risks seems to be limited to the construction and civil engineering sectors.
- CSS property damage is typically excluded from standard home insurance and not mentioned in climate change adaptation plans.
- There is a state compensation scheme in France, but not all homeowners receive compensation.



Key Results

- A key output of the pilot was the development of a [web-based tool \(Clay Shrink Swell Building Damage Assessor\)](#) to inform homeowners about the financial and other risks they face from inadequate insurance cover in France.
- The combination of growing CSS risk and insurance protection gaps may lead to increased financial exposure for homeowners and potential systemic challenges for insurance markets and public authorities across Europe.



Recommendations to support narrowing the protection gap:

- Awareness of CSS risk among policymakers, regulators, insurers and homeowners is an essential first step toward informed planning and risk management.
- Implement and amplify targeted publicity linked to the Risk Alert Briefing to raise awareness of the issue at European level.
- Roll out national communication activities targeting homeowners, public authorities and policymakers to increase visibility and understanding of CSS risks.

Learn more:

PIISA CSS Report: [Pilots for Cities and well-being](#)

PIISA CSS Report: [Risk Alert Briefing: Clay shrink-swell property damage and the increasing protection gap in Europe](#)

PIISA Blog: [Clay Shrink Swell causes property damage and financial risks for homeowners](#)

Webinar: [Clay shrink-swell property damage and the emerging insurance protection gap in Europe](#)