



An adaptive and flexible Climate Risk Assessment Framework for regions

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With climate change increasingly affecting people, assets and the environment, Climate Risk Assessments (CRA) are seeing strong attention for understanding the scope and scale of climate risks in order to plan and implement adaptation and climate risk management responses.

In the context of the EU Horizon 2020 project CLIMAAX we developed an inclusive and harmonized CRA framework adapted for NUTS-1 and NUTS-2 level. This framework aligns with state-of-the-art methodologies and is further complemented by a user-friendly toolbox tailored for risk quantification across European regions. Our approach integrates insights from UCPM documents, European National Adaptation Plans and Strategies, peer-reviewed literature as well as existing CRA frameworks and international standards to respond to needs, recent advancements and best practices in the CRA field. The framework was collaboratively developed with five European pilot regions to ensure feasibility and applicability while pursuing adaptive flexibility.

The practical need of the CRA framework led to a five-step assessment cycle (with special emphasis on key risk assessment as a novelty), underpinned by a conceptual context addressing principles, technical choices (e.g. future scenarios) and participatory processes. The framework allows for toolbox extension (the risk analysis) as well as indicates entry points for Climate Risk Management and Adaptation options thereby creating a feedback loop within the CRA cycle. To address compound and multi-hazards aspects of risk, the framework is designed to tackle complexity by referring to a variety of options such as workflows for climate risk quantification or qualitative options together with participatory processes and stakeholder inclusion.

The developed CRA framework brings together practical needs and scientific, standardized knowledge. However, further insights are needed to efficiently connect climate risk estimations with climate risk management and adaptation strategies to support communities and regions in their efforts towards building climate resilience.