EGU26-20736, updated on 11 Nov 2026
https://doi.org/10.5194/egusphere-egu26-20736
EGU General Assembly 2026
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A Four-Phase Serious Games Approach in the PARATUS Project

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The increasing complexity of cascading and compounding effects, necessitates innovative tools for wide stakeholder engagement and decision-making, especially in uncertain situations. Risk communicators often struggle to successfully convey these complexities to diverse groups of actors. In the PARATUS project, we implemented a series of four serious games: High Water Pantano, Bucur Simulation, Saltum Montem, Paratus Systemic Risk Game; to address this gap through experiential process.

The structured, stakeholder-driven process used in the PARATUS project was grounded in the CompleCSUs framework and the design thinking methodologies. The development process included four phases, as follows: 1) Research and conceptualization, focused on the literature review and Miro app based mapping of stakeholder needs and PARATUs four case study areas (Caribbean, Bucharest, Istanbul, and the Alps); 2) Scenario and role design, focused on translating real-world impact chains co-developed with stakeholders into interactive storylines; 3) Prototyping and iterative testing, focused on stakeholders interacting with the prototypes and providing direct feedback to the tools; and 4) Implementation and evaluation, focused on the deployment of serious games in workshops and assessing their effectiveness.
Some benefits identified include increased transdisciplinary collaboration and the opportunity for stakeholder exploration of the results of inaction or certain decisions linked with the risk reduction, in a safe, simulated environment. However, the four-phase serious games approach in the PARATUS also resulted in certain critical lessons for the future implementation of co-design processes. These included the need for more flexibility in formats of the tools (analog vs. digital) to accommodate technical and context-based limitations; the importance of understanding the institutional hierarchies and factoring them into the process activities, and the need for multilingual support, especially in the transboundary context, for increase of the accessibility of the tools and trust levels of the participants. Following such four-step process, scientific risk assessment can be transformed into a scalable, user-centered and engaging tool for fostering long-term resilience.