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Playback to the Future: a card game for inclusive engagement with environmental hazards

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Older adults represent a rapidly growing segment of the European population and are among those most exposed to the impacts of climate change and natural hazards (Prina et al., 2024). However, they are still rarely at the center of science communication and environmental outreach initiatives and are often portrayed primarily as vulnerable subjects. This perspective risks overlooking their valuable lived knowledge, experience with past environmental events, and potential contributions to collective resilience (Okudan, 2025). At the same time, research shows that recreational activities such as board and card games can provide cognitive, emotional, and social benefits for older adults, particularly in community-based contexts (Guardabassi et al., 2024).

Building on these insights, the card game “Playback to the Future” was designed to create an inclusive, engaging, and educational experience focused on environmental hazards and resilience, tailored specifically for older adults. In the game, players represent local communities facing hazards such as floods, landslides, or droughts. To respond, they play “Solution Cards” representing green, grey, or policy-based interventions, each tagged with visual indicators for cost, effectiveness, and long-term resilience. The deck also includes “Satellite Cards”, which act as wildcards inspired by Earth observation data and provide players with an advantage. A defining feature of the game is the co-creation of “Memory Cards”, in which participants share personal experiences or traditional practices related to environmental challenges. These stories are transformed into new cards for an expansion deck, turning individual memory into collective environmental knowledge.

The game design prioritizes accessibility by adopting large fonts, high-contrast graphics, and simplified symbols. Gameplay follows a familiar “highest card wins” dynamic to reduce cognitive load and support participation. Five community centres and lifelong learning programmes in Italy and Spain serve as pilot sites. Materials, including a downloadable version of the cards, facilitator’s guide and an expansion deck of Memory Cards, are freely available online in multiple languages.

The game “Playback to the Future” enhances understanding of natural hazards and mitigation strategies, promotes awareness of Earth observation data, fosters peer interaction, and gives voice to communities often left out of science communication.

