Climate disaster preparedness : reimagining extreme events through art and technology /

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Monografía

As a result of global warming, extreme events, such as firestorms and flash floods, pose increasingly unpredictable and uncertain existential threats, taking lives, destroying communities, and wreaking havoc on habitats. Current aesthetic, technological and scientific frameworks struggle to imagine, visualise and rehearse human interactions with these events, hampering the development of proactive foresight, readiness and response. This open access book demonstrates how the latest advances in creative arts, intelligent systems and climate science can be integrated and leveraged to transform the visualisation of extreme event scenarios. It reframes current practice from passive perception of pre-scripted illustrations to active immersion in evolving life-like interactive scenarios that are geo-located. Drawing on the multidisciplinary expertise of leaders in the creative arts, climate sciences, environmental engineering, and intelligent systems, this book examines the ways in which climate disaster preparedness can be reformulated through practices that address dynamic and unforeseen interactions between climate and human life worlds. Grouped into four sections (picturing, narrating, rehearsing, and communicating), this book maps this approach by exploring the emerging strengths and current limitations of each discipline in addressing the challenge of envisioning the unpredictable interaction of extreme events with human populations and environments. This book provides a timely intervention into the global discourse on how art, culture and technology can address climate disaster resilience. It appeals to readers from multiple fields, offering academic, industry and community audiences novel insights into a profound gap in the current knowledge, policy and action landscape

Título: Climate disaster preparedness reimagining extreme events through art and technology Dennis Del Favero, Susanne Thurow, Michael J. Ostwald, Ursula Frohne, editors

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Contenido: Introduction -- Part 1: Simulating -- Reimagining uncertainty. Digital art and the capacity to envision terrestrial disasters -- Latest advances and challenges in extreme event 3D simulation -- Intelligent architectures for extreme event visualization -- Simulation of rare event scenarios via physics-based fire models integrated with visualization systems -- Aligning immersive multi-agent training systems for extreme event scenarios -- Part 2: Narrating -- Preparing for the unpredictable -- Moving beyond the recovery and reconstruction discourse to imagine interaction with extreme events using the performing arts -- Iconographies of climate catastrophe. The representation of climate change in art and film -- Exploring the aesthetics of climate change in performative and visual storytelling -- Part 3: Rehearsing -- Application of user-centered interaction design in 3D immersive environments -- Leveraging Deep Learning and Generative AI for sonic worldmaking. New dimensions for immersion in interactive environments -- Prototyping emergency scenarios. Converging architectural computing and intelligent mobility modelling -- Part 4: Practicing -- The policy landscape of preparedness. Gaps in recommendations for extreme climate events -- Learning from the past, preparing for tomorrow. Conceptualizing place and community in light of extreme event experiences -- Communicating in crisis. Community practices of online participation during extreme events -- Horizon scanning the imaging of extreme events. Challenges and frontiers -- Conclusion

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