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Improving natural risk management by means of virtual surveys through hazardous volcanic contexts by using Augmented and Virtual Reality

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To ensure an efficient natural risk management, we need an in-depth understanding and assessment of risk as well as the adoption of effective prevention measures. Modern techniques such as Augmented Reality (AR) and Virtual Reality (VR) offer the opportunity to explore our environment for professional as well as educational purposes, conveying useful information not only to scientists, but also to at-risk populations. “Virtual navigation on volcanoes by Augmented Reality and 3D-headset” was a geoevent we organized in the framework of the 6th edition of the Italian “Settimana del Pianeta Terra” (Week of Planet Earth) in October 2018. The geoevent featured AR and Virtual Reality exhibits, highlighting the benefits of these tools in applications for Earth monitoring, also with positive contributions in mitigation actions to reduce the impact of natural hazards. We proposed virtual 3D models of volcanic regions in Iceland and Italy (at Etna volcano), which guided the visitors in a virtual survey through hazardous contexts like landslide prone areas and fault zones. The event was supported as part of the 3DTeLC project funded through the Erasmus+ Key Action 2 Strategic Partnerships for Higher Education scheme (Project Reference: 2017-1-UK01-KA203-036719).