

SESSION: Data session

MARS Themes:

Education

Title:

Using Unreal Engine 5 to construct a digital Marion Island towards improved science engagement

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Abstract:

The potential use of three-dimensional (3D) computer graphics game engines such as Unreal Engine 5 (UE5) has not yet been utilised fully in areas which can promote science engagement, education or virtual tourism. Marion Island, located in the south Indian Ocean, is a unique South African territory as it is a volcanic island situated in a sub-Antarctic environment. Within South Africa's geoheritage context, the island hosts a range of geomorphological and geological features found nowhere else in continental South Africa. The value of the island's geoheritage is not yet fully appreciated by the public due to its location and conservation status making it inaccessible to the public at large. This paper aims to utilise UE5 to digitally construct sub-Antarctic Marion Island and explore the viability of using the engine for virtual geo-conservation, education and tourism use. The main focus will be to use UE5 to create a geographically accurate digital island. Digital elevation data and landscape photographs from the island will be used to construct an accurate representation. The digital island will focus on the important geomorphological features of Marion Island such as scoria cones, glacial depositional features and peat lands. The final product will be compared to other current methods such as video and photographic tours used in geo-conservation and tourism.

Format:

Ex. Round table; oral presentation, poster, e-poster, pamphlet etc

Keywords: (add ; between keywords)

Ex. Heritage; Legacy; History