



There's an app for that! Incorporating smartphone technology in earth science education and outreach

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A trial field-based, e-learning activity based in a coastal suburb in inner Melbourne was established in 2013 for a first year undergraduate environmental science class at Monash University. A self-guided walking tour was developed using existing app and podcast technologies, allowing students to undertake independent fieldwork.

The intended outcomes of the activity were for students to be able to contextualise climate change in a real world situation and to identify associated issues for natural and human environments. The students were provided with information on the natural landscape features, including the soils, geomorphology and vegetation, and on the projected future changes in sea level based on inundation modelling from climate projections. Students were given a field guide handbook with instructions and questions to assist them in data collection. From the data collected in the field, students undertook additional research and highlighted a series of issues surrounding sea-level rise in the area, which was then presented and assessed.

Students mostly reported positively on the activity. Peer-based learning and diversity from a classroom environment were highlighted as positives. Students also responded favourably to developing their own ideas through independent data collection and learning, and to being able to visualise the impacts of climate change in the real world. This was reflected in a higher mean mark in the question on this issue in the final exam compared to the mean mark in the previous year.