

Case Study 24: Visualisation

tangible communication of complex issues of change to at risk groups and policy makers

SUMMARY DETAILS

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Humanitarian decision-making level: Community, District

Geographic region: Scotland

Relevance of approach across scientific disciplines: The approach can help communicate complex issues to local communities by using the reference frame of the local landscape and key landmarks to help understand the consequences of change and potential responses. The visualisation makes the issue less abstract and more tangible to local people. The approach used can also bring together multiple disciplines and incorporate local knowledge when used in a participatory setting, especially when users can change outcomes (e.g. by voting through focus groups).

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DIALOGUE PROCESS

The visualisation can be used in a variety of different settings, depending on their association with specific types of decision. Initially, they can be used to improve awareness of the local community and landscape, either individually or in groups. They can also be used to communicate different aspects of change, such as climate change and socioeconomic scenarios (e.g. flooding, vegetation change). Based upon these initial visualisations, the participants can then investigate potential response options and learn collectively what this might mean for the local landscape/community.

Watch a video:
[Interactive Visualisation](#)

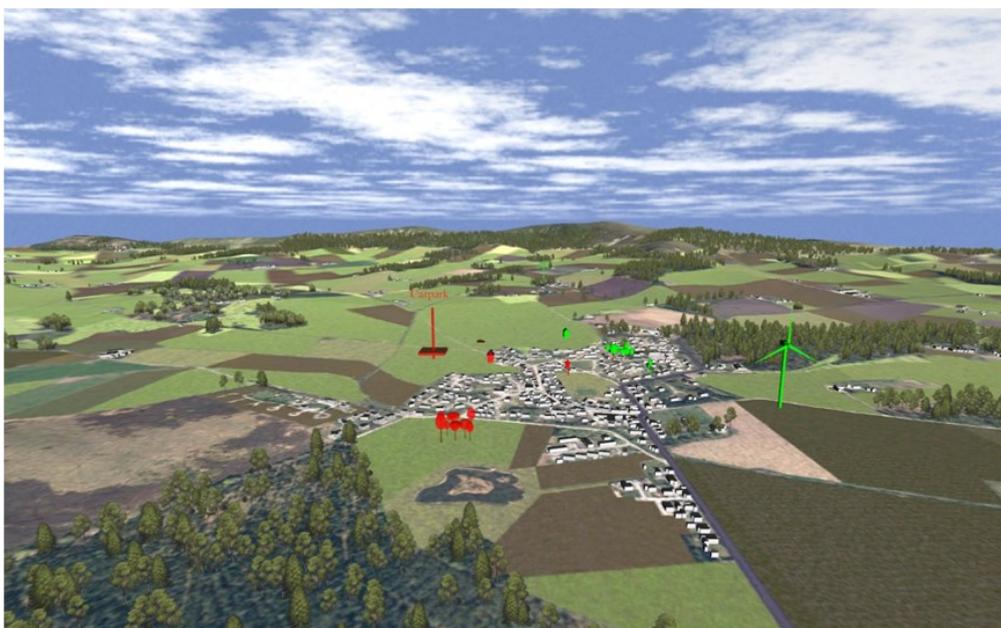
[Read more about the research](#)

METHOD

The visualisations represent high-resolution virtual representations of the landscape based upon topographic and other datasets that are rendered into a 3D format. The 3D format allows the user to explore the landscape interactively. The visualisations can either be shown on a pc/tablet or in an interactive group setting in a Virtual Landscape Theatre.

The source data is integrated within a Geographical Information System (GIS) and therefore can include many different datasets. Scenario data has been developed by combining future climate change and socioeconomic projections with models of landscape change, based upon both the IPCC and UK National Ecosystem Assessment scenarios.

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Sample Visualisation: interactive planning with 3D icons (Tarland Model)

What potential do you see for changing and extending the method?

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IMPACT

Baseline against which impact measured

Questionnaires have been used to ask participants to assess their awareness of the issues both before and after experiencing the visualisations. For example, at one workshop different options for renewable energy supply were highlighted: feedback showed that over 90% of participants believed they had received new information, whilst almost 50% changed their initial opinion on this issue.

Impact on vulnerability:

The visualisations have shown considerable potential for engaging hard-to-reach groups (e.g. young people) and for including diverse groups (e.g. across genders and generations). The novelty of the visualisation experience can encourage new forms of group dialogue that build social learning.

Improved awareness and preparedness at community level. Benefits for community cohesion and enhancing adaptive capacity across all sectors of society.

Informing specific humanitarian decision making process:

Awareness and inclusion with regard to the consequences of environmental change, and hence more proactive responses.

Informing the focus of current/proposed scientific research:

The research explores new methods to implement the goals of the international Aarhus Declaration on access to environmental information and the EU Public Participation Directive.

Currently, we are integrating the techniques within the principles of the ecosystem approach to further develop inclusive decision making based upon an integration of scientific and local knowledge (Principle 11 of the Ecosystem Approach).



Eliciting public opinions on alternative future land uses in the Virtual Landscape Theatre with audiences from: (a) Edinburgh, (b) Ballater (NE Scotland).

How is this case study applicable to you?

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