

MapNat smartphone application

Introduction

The MapNat tool is designed to be applied by citizens and scientists who are interested in mapping the use of mainly cultural, but also some provisional and regulating, services and disservices.

Keywords

Citizen science; Cultural ES; Smartphone application.

Why would I chose this approach?

Interest in mapping personal use of nature's resources or the requirement to support scientists and planners in generating information about the demands for a large number of ES and disservices perceived by users. It is an easy-to-use direct mapping tool, providing not only immediate feedback of the mapped services, but also access to the services mapped by other users. Thus, citizens are enabled to identify locations with ES of interest, whereas scientists or planners might be more interested in assessing the spatio-temporal pattern of ES demand.

What are the main advantages of the approach?

- The MapNat App only requires an ANDROID (v 4.XX) based smartphone with a GPS device;
- For installation of the App and for up- and downloading data and maps, internet access is needed;
- No knowledge on ES or their classification is required;
- Basic knowledge of English, if the App does not support their own language.
- MapNat App is easy to use;
- It is applicable by citizens and scientists;
- It has global applicability and comparability of results;
- Users can download or export the ES they map from their phones and display or evaluate them for their own purposes;
- Unlike many other smartphone apps MapNat does not collect any personal information, unless users decide to register voluntarily;
- The ES categories used in the app are compatible with the widely used CICES (V 4.3) list.

What are the constraints/limitations of the approach?

- The perspective for which the app is designed is to map ES demand (ES flow), i.e. of a citizen using one or multiple ES, or a scientist reporting the use of ES by the people he or she is observing;

- The thematic focus is on cultural services, and a couple of regulating and provisioning services which are considered to be relevant for direct use by citizens, such as using drinking water or fire wood.

What types of value can the approach help me understand?

The approach is especially good for identifying areas of socio-cultural value as mapped directly by citizens themselves. It can also contribute information on biophysical values at the level of where large blue-green areas are located.

How does the approach address uncertainty?

The method does not explicitly address uncertainty.

How do I apply the approach?

MapNat enables its users to map ES in three different ways as points, lines or areas on a map. Once the user selects a location, he/she is guided to a list to select the ES which is being used. Users can deliver additional information, e.g. about the vegetation, or provide comments or a photograph. Mapped uses are immediately visible on the map display, which also shows the records of all other users displayed in different colors, depending on the type of ES or disservice. Internet connection is not needed during use, but is required for up- and downloading data as well as refreshing the map display.

Requirements

<i>Data</i>	<input checked="" type="checkbox"/> Data is available <input checked="" type="checkbox"/> Need to collect some new data <input type="checkbox"/> Need to collect lots of new data	
<i>Type of data</i>	<input checked="" type="checkbox"/> Qualitative <input type="checkbox"/> Quantitative	
<i>Expertise and production of knowledge</i>	<input checked="" type="checkbox"/> Work with researchers within your own field <input checked="" type="checkbox"/> Work with researchers from other fields <input checked="" type="checkbox"/> Work with non-academic stakeholders	
<i>Software</i>	<input checked="" type="checkbox"/> Freely available <input type="checkbox"/> Software licence required <input type="checkbox"/> Advanced software knowledge required	
<i>Time resources</i>	<input checked="" type="checkbox"/> Short-term (< 1 year) <input type="checkbox"/> Medium-term (1-2 years) <input type="checkbox"/> Long-term (more than 2 years)	
<i>Economic resources</i>	<input checked="" type="checkbox"/> < 6 person-months <input type="checkbox"/> 6-12 person-months <input type="checkbox"/> > 12 person-months	
<i>Other requirements</i>	Smartphone needed (currently ANDROID)	

Where do I go for more information?

Priess J.A., Elger R. and Hauck J. 2014. The ESM-App – a new smartphone application to map ecosystem services. In: Ames, D.P., Quinn, N.W.T., Rizzoli, A.E. (Eds.), *Proceedings of the 7th International Congress on Environmental Modelling and Software*, June 15-19, San Diego, California, USA. ISBN: 978-88-9035-744-2.

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