

# The role of web-based environmental information in urban planning—the environmental information system for planners

M.G. Culshaw<sup>a,\*</sup>, C.P. Nathanail<sup>b</sup>, G.J.L. Leeks<sup>c</sup>, S. Alker<sup>d</sup>, D. Bridge<sup>a</sup>, T. Duffy<sup>e</sup>,  
D. Fowler<sup>f</sup>, J.C. Packman<sup>c</sup>, R. Swetnam<sup>g</sup>, R. Wadsworth<sup>g</sup>, B. Wyatt<sup>g</sup>

<sup>a</sup> British Geological Survey, Keyworth, Nottingham, NG12 5GG, UK

<sup>b</sup> University of Nottingham, Land Quality Management Group, School of Geography, Nottingham NG7 2RD, UK

<sup>c</sup> CEH Wallingford, Wallingford, Oxon, OX10 8BB, UK

<sup>d</sup> Environmental Consultant, 7, Black Hill, Pecket Well, Hebden Bridge, Halifax. HX7 8QS, Formerly: Land Quality Management Group, University of Nottingham, UK

<sup>e</sup> British Geological Survey, Murchison House, Edinburgh, EH9 3LA, UK

<sup>f</sup> CEH Bush, Edinburgh, UK

<sup>g</sup> CEH Monks Wood, Abbots Ripton, Huntingdon, PE28 2LS, UK

Available online 20 October 2005

## Abstract

The Environmental Information System for Planners (EISP) is a proof of concept web-based system designed to support decision making within the UK planning framework by making information on environmental issues more widely accessible. It incorporates relevant outputs from the Natural Environment Research Council (NERC) Urban Regeneration and the Environment (URGENT) research programme and from research directly commissioned by the Office of the Deputy Prime Minister (ODPM). It supports three principal planning functions carried out by local authorities: pre-planning enquiries, development control decisions and strategic planning. Eleven environmental science themes are incorporated: Air quality, Shallow undermining, Landslide susceptibility, Groundwater protection, Flood risk, Drainage, Land contamination, Proximity to landfill, Biodiversity, Natural and Man-made heritage. Decision flow diagrams represent detailed analysis of workflow in each theme, taking account of best practice, regulatory responsibilities and planning guidance. Industry-standard web technologies integrate the flows and provide access to the system via secure web pages. Underpinning the system is an environmental geographical information system (GIS) containing up-to-date data, information and models relevant to each theme. The modular system design allows new legislation and local priorities and datasets to be easily incorporated. Web technology delivers information and research data that have hitherto been difficult for the non-specialist to access and have therefore been under-exploited. The study has demonstrated a successful application of the principles of e-Governance in an area where informed decisions commonly require specialist information. The system, if rolled out nationally, offers potential economic benefits and efficiency savings for both planners and developers.

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**Keywords:** Environmental information; Decision support; Planning; Contaminated land; Flooding; Landslide; Subsidence; Biodiversity; Cultural heritage; Air pollution; URGENT

## 1. Introduction

Over the last decade there has been an increasing effort to demonstrate the relevance of applied research to real-life situations. The urban regeneration and the

\* Corresponding author.

E-mail address: [mgc@bgs.ac.uk](mailto:mgc@bgs.ac.uk) (M.G. Culshaw).

environment research programme (URGENT) funded by Natural Environment Research Council (NERC) was designed with this in mind. Forty projects based in four major conurbations brought together researchers and key stakeholders to provide targeted research in areas of common interest. One outcome of the URGENT programme was a decision support system to assist local authorities deal systematically and efficiently with the environmental aspects of planning decisions. The prototype system is the Environmental Information System for Planners (EISP), for which additional funding was received from the UK government department which oversees local authority planning (the Office of the Deputy Prime Minister, ODPM).

The UK framework for land use planning aims to secure the most efficient and effective use of land in the public interest. The planning system also helps to make sure that development and growth are ‘sustainable’, which includes not damaging the environment for future generations. The increased emphasis on ‘sustainable’ development places a greater responsibility on local authorities to take a longer-term view of the likely impacts of decisions involving the environment. To inform such decisions, the planning system needs tools that link relevant science with the practical requirements of implementing planning policy. The EISP ‘proof of concept’ system, developed in collaboration with five local authorities,

is intended to make available to non-specialists, models, information and understanding covering a wide range of relevant scientific disciplines. It uses the worldwide web as the access vehicle, and comprises eleven linked modules (Air quality, Shallow undermining, Landslide susceptibility, Groundwater protection, Flood risk, Drainage, Land contamination, Proximity to landfill, Biodiversity, Natural and Man-made heritage) relating to five environmental themes.

The UK government is promoting a range of e-government initiatives, which are intended to increase use of information technology and web-based services in government administration. In this context, the EISP is closely aligned with the Planning Portal ([www.planningportal.gov.uk](http://www.planningportal.gov.uk)) and the National Project for Planning Services ([www.parsol.gov.uk](http://www.parsol.gov.uk))—initiatives designed to make the planning system more transparent and accessible.

This paper describes the concept and function of the EISP system, gives details of the individual modules, and concludes with recommendations for future work. The prototype EISP has been applied to five local authorities: Glasgow City, London Borough of Newham, Swansea City, Borough of Telford and Wrekin, and Wolverhampton City. However, to limit disruption to individual planning offices, only a selected subset of the EISP modules have been applied to each authority.

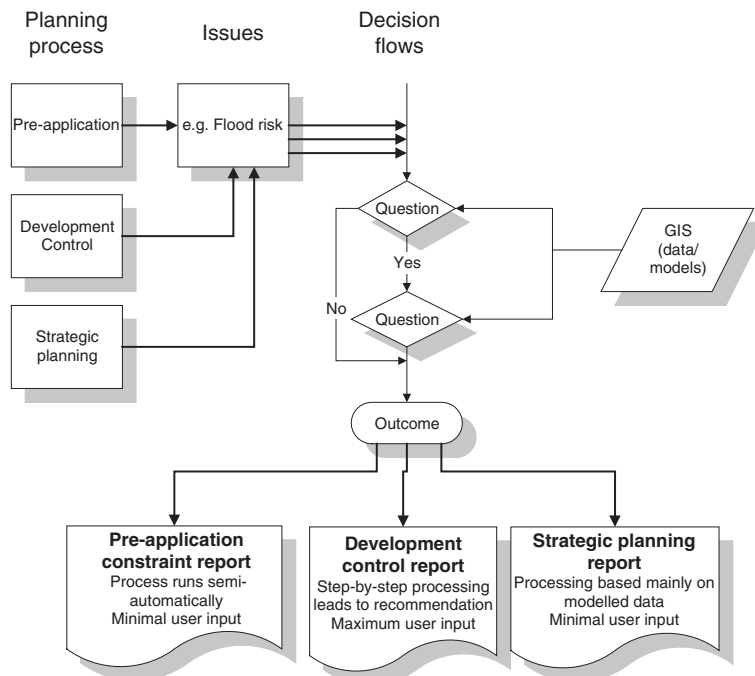


Fig. 1. Outline of EISP operation.

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