

Demonstrating the use of web analytics and an online survey to understand user groups of a national network of river level data

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The number of local, national and international networks of online environmental sensors are rapidly increasing. Where environmental data are made available online for public consumption, there is a need to advance our understanding of the relationships between the supply of and the different demands for such information. Understanding how individuals and groups of users are using online information resources may provide valuable insights into their activities and decision making.

As part of the ‘dot.rural wikiRivers’ project we investigated the potential of web analytics and an online survey to generate insights into the use of a national network of river level data from across Scotland. These sources of online information were collected alongside phone interviews with volunteers sampled from the online survey, and interviews with providers of online river level data; as part of a larger project that set out to help improve the communication of Scotland’s online river data.

Our web analytics analysis was based on over 100 online sensors which are maintained by the Scottish Environmental Protection Agency (SEPA). Through use of Google Analytics data accessed via the R Ganalytics package we assessed: if the quality of data provided by Google Analytics free service is good enough for research purposes; if we could demonstrate what sensors were being used, when and where; how the nature and pattern of sensor data may affect web traffic; and whether we can identify and profile these users based on information from traffic sources. Web analytics data consists of a series of quantitative metrics which capture and summarize various dimensions of the traffic to a certain web page or set of pages. Examples of commonly used metrics include the number of total visits to a site and the number of total page views. Our analyses of the traffic sources from 2009 to 2011 identified several different major user groups.

To improve our understanding of how the use of this national network of river level data may provide insights into the interactions between individuals and their usage of hydrological information, we ran an online survey linked to the SEPA river level pages for one year. We collected over 2000 complete responses to the survey. The survey included questions on user activities and the importance of river level information for their activities; alongside questions on what additional information they used in their decision making e.g. precipitation, and when and what river pages they visited.

In this presentation we will present results from our analysis of the web analytics and online survey, and the insights they provide to understanding user groups of this national network of river level data.