

Research and analysis: Making better use of local data in flood frequency estimation

Flood frequency estimates are an essential part of flood risk management. They tell us what flood flows are expected to occur for a given rarity. They are central to many important decisions, such as the design and operation of flood defences, flood mapping, informing planning decisions in flood risk areas and long-term investment planning.

Methods described in the Flood Estimation Handbook (FEH) published in 1999, and its many subsequent updates, are considered the industry standard for flood estimation in the UK. They are used extensively by hydrologists from both the public and private sectors.

Flood frequency estimates (also known as design flood estimates) are associated with many sources of uncertainty. These hydrological uncertainties are often the most uncertain component in any flood risk assessment. As a result, any reduction in the uncertainty of flood frequency estimation has considerable benefit. One way to reduce uncertainty is to incorporate complementary local data to refine the results obtained using the FEH methods.

Research and analysis: Accounting for residual uncertainty: an update to the fluvial freeboard guide

The Environment Agency has developed a new guide that will help flood risk managers identify and manage the uncertainty in their flood risk assessments and flood defence designs.

This new guide replaces the Environment Agency's Fluvial Freeboard Guidance Note (report W187) published in 2000. It is written for all flood risk management authorities, developers, and engineering consultants who work on their behalf.

News story: Biotechnology innovation: apply for business funding

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UK businesses can apply for a share of £2 million for biotechnology projects to reduce global dependence on fossil resources.

Innovate UK has up to £2 million to invest in business projects as part of the European ERA-NET cofund on biotechnologies.

The funding will support UK businesses in joint projects with organisations from other countries to investigate how biotechnology could support sustainable industrial development.

The aim is to help transform the global economy from dependence on fossil raw material to use of more sustainable, bio-based resources.

Projects are expected to include at least one of the following processes:

- synthetic biology
- systems biology
- bioinformatic tools to identify and use metabolic pathways
- biotechnological approaches (possibly in combination with chemical ones)

They should also cover one of the competition's specific research topics, which include:

- sustainable production and conversion of different types of feedstocks and bioresources
 - new products, value-added products and supply services
 - sustainable industrial processes
 - the competition is open, and the deadline for submitting pre-proposals is midday on 2 March 2017
 - projects are expected to last up to 3 years and must include at least 3 partners from different contributing countries
 - businesses could attract up to 70% of their project costs
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[News story: GC collaborates in research about dangers in food supplements](#)

Hidden ingredients in food supplements

Food supplements of herbal origin are now commonly used by many people as part of their personal healthcare regimens and there has been a tremendous growth in the supplies and sales of supplements. However, food supplements are at risk from contamination on a global scale with illegal ingredients.

According to a team of experts from Queen's University Belfast, Kingston University and the Government Chemist at LGC that included Emeritus Professor Duncan Burns, Dr Michael Walker and Professor Declan Naughton, many food supplements contain hidden pharmaceutical ingredients that could be causing serious health risks.

Their research, outlined in a peer-reviewed paper, found that over-the-counter supplements – commonly advertised to treat obesity and erectile dysfunction problems – are labelled as fully herbal but often include potentially dangerous pharmaceutical ingredients, which are not listed on the label.

Professor Burns, Queen's University, explained:

Our review looked at research from right across the globe and questioned the purity of herbal food supplements. We have found that these supplements are often not what customers think they are – they are being deceived into thinking they are getting health benefits from a natural product when actually they are taking a hidden drug.

These products are unlicensed medicines and many people are consuming large quantities without knowing the interactions with other supplements or medicines they may be taking. This is very dangerous and there can be severe side effects.

Health consequences

The research raises serious questions about the safety of slimming supplements (Sibutramine, withdrawn from license in 2010) and undeclared ingredients in erectile dysfunction supplements (Tadalafil, sulfoildenafil). These ingredients can react with other medications, for example those containing nitrates, and cause serious health problems.

Professor Burns noted:

This is a real issue as people suffering from conditions like diabetes, hyperlipidemia and hypertension are frequently prescribed nitrate containing medicines. If they are also taking a herbal supplement to treat erectile dysfunction, they could become very ill.

Next steps

The research paper describes the laboratory methods and techniques that can help with supplement testing in the future to ensure the safety of consumers. It highlights the vital role research and, in particular, techniques like data-mining, can play in informing regulators about current trends in supplement contamination.

Dr Michael Walker commented:

The laboratory tests we describe in our paper will assist regulators to tackle this problem proactively to protect consumers and responsible businesses.

Professor Declan Naughton explained:

This is very important to ensure effective testing strategies and, ultimately, to help keep the public safe.

The research described has been published by the Journal of the Association of Public Analysts (online) and can be accessed [here](#).

[It's about time Justice Secretary Truss stopped mud-slinging and took responsibility – Richard Burgon](#)

Richard Burgon MP, Labour's Shadow Justice Secretary, responding to Justice Secretary Liz Truss's speech at the Centre for Social Justice, said:

"It's about time Justice Secretary Truss stopped mud-slinging and took responsibility. Liz Truss knows full well it is not and never has been Labour's policy to halve the prison population. Labour's policy is to properly fund

and

run our prison and probation service, make the safety of prison staff a top priority and make society safer by jailing those who are a threat to public safety. Labour will make rehabilitation work.

“Conservatives

in power have made a mess of our prison and probation service and have created

the current prisons crisis. This is dangerous for staff, dangerous for inmates

and dangerous for the public. We await with interest the Prisons and Courts Bill which will hopefully have some of the detail Liz Truss’s White Paper failed to provide.”

Ends