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DAFNI NEWSLETTER, JANUARY 2025

Dear {{ contact.FIRSTNAME }}

Welcome to our first newsletter of 2025!

Further to our ‘Save the Date’ for our 2025 conference announcement in last month’s newsletter as 11th September 2025, I am delighted to inform you that our venue will be The Edge at the University of Sheffield. This spacious self-contained and purpose-built conference venue is situated within a scenic environment, just a 10 minute drive from Sheffield city centre, making it ideal for transport links.

Our theme this year will be ‘Bridging the Gap between Academia, Government and Industry’, including the sub-themes of Climate Resilience, and Security and Trusted Research. We will be releasing details on our keynote speakers shortly.

We’re continuing working with researchers on net zero themes, and this month we were excited to have our kick-off meeting with the OpenLAND project to understand how we can better support their needs. OpenLAND is a three-year project supported by £4 million funding from UK Research and Innovation (UKRI) and government partners, through the Land Use for Net Zero, Nature and People (LUNZ) programme.This project will provide decision makers with the insights urgently needed to put the UK on a path to deliver net zero emissions by 2050, while also delivering climate resilient soil health, food security, and biodiversity net-gain.

Our work with the Department for Science, Innovation and Technology (DSIT) is now in its final few months and, this March, we are hosting a showcase event for the data sharing project, ‘Data Infrastructure for National Infrastructure’ (DINI) at the Satellite Applications Catapult on Harwell Campus. The event will showcase the project work, which includes DSIT, project partners, DSIT pilot projects and invited guests.

We have just begun work to redesign and redevelop our current website to ensure accessibility and to showcase the DAFNI community’s research more effectively and in a more user-friendly way. Our communications team are busy preparing new material for the website, including interviews with our Centre of Excellence projects, latest results and outputs on the DAFNI platform… watch the revamped website take shape over the coming months!

As the DAFNI programme continues to grow and evolve, we look forward to what 2025 will bring. We have a host of ideas to get involved in more research, develop the platform, as well as to create new funding opportunities for the community which we look forward to sharing with you in the coming months.

Dr Brian Matthews, DAFNI Programme Lead

Announcing
2025 DAFNI Annual Conference

Venue: The Edge at the University of Sheffield

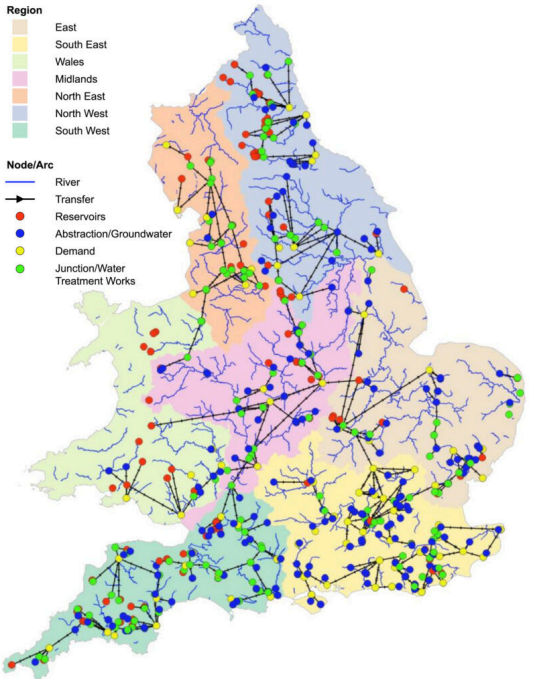
Our theme this year is 'Bridging the Gap between Academia, Government and Industry', including the sub-themes of Climate Resilience, and Security and Trusted Research.

Information on keynote speakers coming soon!

Prices: £50, student £25.
Book via: https://web.cvent.com/event/f255b158-1692-49f3-9efd-a68e3c86eba1/summary

News from our central team

National Water Resources Modelling on DAFNI



DAFNI has been working with the Environment Agency on a web-based visualisation tool to help them evaluate their national water resources modelling, improve their understanding of infrastructure resilience, and communicate results with stakeholders. David Pritchard from the Agency's National Appraisal Unit presented the project at a DAFNI webinar on 20th November 2024.

National-scale water resources modelling is important to evaluate the national scale coherence of various plans and proposals that are being put forward. This type of modelling is also vital for improving the Environment Agency's understanding of the resilience of the infrastructure system and balancing water supply needs with protecting the environment. Finally, this modelling can provide a complementary independent view on the modelling undertaken by water companies and regional groups, so that the Environment Agency can feed into the conversations at a national level.

"DAFNI facilitates parallelised large-scale national simulations based on 100-member (+) climate projection ensembles for the Environment Agency and enables easier collaboration with our partners and stakeholders for sharing data, results, workflows and visualisations," enthused David. DAFNI also

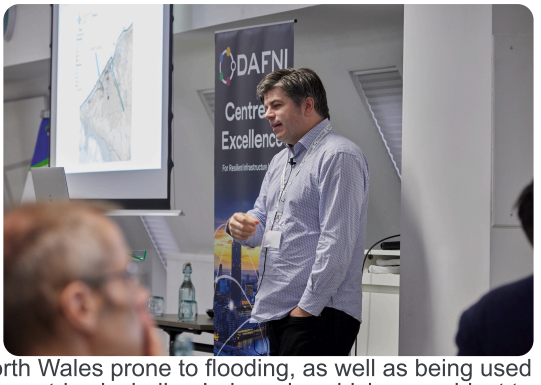
enables user-friendly versioning, parameter sets, and the interfaces really bring people up to speed up with the WREW (Water Resources of England and Wales) model developed by the EA, DAFNI, Universities of Oxford, Bristol and Newcastle, and other partners.

Read the full blog:
https://www.dafni.ac.uk/insights/national-water-resources-modelling-on-dafni/

Watch the webinar and view David's slides:
https://www.dafni.ac.uk/past-events/

Modelling improves resilience to flooding in UK and overseas

The FIRM Flood Resilience Model, developed in a DAFNI-sponsored project by Professor Richard Dawson of Newcastle University, simulates not only flooding but also how people respond to extreme weather events, and the impact those responses have on people and traffic movement during such events. The work will help flood resilience forums, councils and policymakers implement essential improvements, such as better public education and warning systems, enhanced people and traffic flows during flooding, and upgraded infrastructure resilience evacuation sites.



The modelling has been applied to a coastal town in North Wales prone to flooding, as well as being used abroad in Nairobi, Kenya and with further interest from countries including Indonesia, which are subject to high intensity downpours.

Read the full case study at https://www.dafni.ac.uk/insights/firm-flood-resilience-simulation-model-on-dafni/

Richard welcomes interest from collaborators interested in using simulation tools to improve society's resilience to flooding. https://www.ncl.ac.uk/engineering/staff/profile/richarddawson.html

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Advancing Researcher Data Access Pilots

Today, 31 January, in a showcase event organised by the Department for Science, Innovation and Technology, four DSIT pilots shared an update on their projects, designed to aid better and safer use of data in research to pave the way for a more connected and efficient research ecosystem in the UK.

DAFNI leader, Brian Matthews, presented the Data Infrastructure for National Infrastructure (DINI) project which is investigating how to improve the analysis of energy, water, transport data, with a report coming in Spring 2025. The vision from DINI is of a hub to provide access to data and broker data for researchers in a trusted environment, to provide computing resource to help analyse that data, and to build a network of communities of practice.

We will share a blog on this exciting event soon!

Partnerships update

Our DAFNI Science Lead and Delivery Manager attended the OpenLAND project kick off meeting. This is a three-year project which will see researchers carry out an evaluation of climate-resilient interventions for land management and soil health that could benefit net zero targets, biodiversity and agriculture. DAFNI will provide the models and data platform to the project and look to build on work done in projects such as OpenCLIM, utilising DAFNI to build collaborations between new and existing researchers.

In January the Connected Places Catapult held a CReDo Workshop entitled 'Developing an Extreme Weather Urgent Response Use Case for Telecoms'. The event was well attended by a wide range of organisations from regulators such as OFCOM, government departments such as the Department for Transport, industry representatives such as BT, and funders including Innovate UK. The event highlighted the need for greater integration of telecoms into resilience planning alongside other utilities such as water and energy. The competitive nature of mobile telecoms, in particular, and the industry focus on digitalisation of land line services were amongst the challenges discussed.

DAFNI platform features and updates

Since the new year, the DAFNI development team have been working on introducing several new metadata fields across datasets/models/workflows, giving a more concise way to record any project associations an asset may have. This has just been released onto the platform, along with updated user documentation. Development has also continued on larger features, most notably the introduction of email notifications across the platform, which is expected to be released in February. Some initial scoping work looking into making workflow logs accessible to users directly on the platform is also underway.

Alongside this work, the development team has been preparing to upgrade the DAFNI platform's web-portal. Once this is complete it will unlock exciting new possibilities, including much anticipated work to introduce account types onto the platform that will allow stakeholders easier access to assets stored on DAFNI.

Join our monthly Zoom drop-ins for users

We run monthly drop-in sessions in which we will be available on an open Zoom call for 2 hours to give you 1-to-1 support with any help that you may need on the DAFNI platform. No technical question is too big or small.

The next dates are Wednesdays: 26th February, 26th March, 23rd April at 2pm-4pm

Join at: https://ukri.zoom.us/j/91689519352 or contact us on info@dafni.ac.uk

DAFNI technical training

A great opportunity to get up to speed quickly on DAFNI and to ask our technical experts your burning questions. **Highly recommended for those developing a research proposal and are thinking of including DAFNI as the platform of choice for the research.**

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Our regular technical training events (Wednesdays, 1:30pm-4:30pm) on DAFNI are available to book via Eventbrite. Next training dates:

- 12th March 2025
- 7th May 2025
- 2nd July 2025

To attend the event you will need experience of entering code through a command line interface, for more information and to book, please visit: https://www.eventbrite.co.uk/o/dafni-31793198351

DAFNI technical updates; request an account

Apply for a DAFNI account

Join our community
If you would like to join the community of DAFNI users, please visit the DAFNI website for more information.

Current users of DAFNI
Get updated on the latest technical updates and features, visit: https://www.dafni.ac.uk/dafnilogin/

Our webinar series will be restarting soon, with an exciting new line-up of speakers. If you have experts you'd like us to feature, contact alison.oliver@stfc.ac.uk

In the meantime, access our bank of webinar recordings at: https://www.dafni.ac.uk/past-events/

About DAFNI

The DAFNI platform supports research that aims to provide the UK with a world-leading infrastructure system that is more integrated, efficient, powerful, reliable, resilient and affordable. It is enabling the community to conduct research that is able to generate new insights at a higher level of detail and accuracy than ever before.

DAFNI was originally funded by an £8 million EPSRC investment in the UK Collaboratorium for Research in Infrastructure and Cities (UKCRIC) and a £1.2m grant under EPSRC's Resource Only Strategic Equipment. Its aim has been to become the national platform to satisfy the computational needs in support of data analysis, infrastructure modelling and visualisation, and encourage whole-system thinking for the UK's infrastructure research needs.

In March 2023 UKRI awarded £4m to STFC Scientific Computing to establish a national Centre of Excellence for Resilient Infrastructure Analysis, and move the Data & Analytics Facility for National

Infrastructure (DAFNI) into its new phase.

To find out more about DAFNI, visit: www.dafni.ac.uk

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