

We can do more together:

case studies on water resource challenges



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The challenge of managing water

Demand will exceed supply
in UK by 5-16% by 2050



VS.

🏠 · News

UK weather: Thunderstorms, heavy rain and flood warnings on first day of summer - with more on way



In 2007 55,000 properties flooded
mostly from surface water

Damage cost £3.2bn

Food prices 'to rise 5%' because of extreme weather

© 27 August 2018

Britain so badly scorched by heatwave it has turned from green to brown in satellite photographs

UK has seen just 47mm of rainfall between 1 June to 16 July

Samuel Osborne | @SamuelOsborne91 | Wednesday 18 July 2018 19:58 | 15 comments

THE WATER HUB

Collaborative project between Durham University, [Durham County Council](#), Environment Agency and [Northumbrian Water](#), with European Regional Development Funding (ERDF) until June 2020.

Opportunities for businesses, communities & end-users to join government organisations and research institutes.

Co-develop solutions to water and environmental challenges focused on:

- [data insight](#)
- climate change resilience
- [catchment management](#)
- water, energy and waste
- [enabling resilient communities](#)

THE WATER HUB

Services offered by The Water Hub:



Challenge
Events

Networking



Small
Grants

Research
collaborations



Live test
facilities

Business
mentoring





Case Study 1: South Moor Sustainable Drainage

Ambition:

1. Establish a community-based test facility
2. Amplify and grow place based investment
3. Develop innovative solutions to water infrastructure problems
4. Advocate the creative use of open data to support product development

Co-developed a tender to install & monitor sustainable drainage features, bringing in £75,000 additional funding & a team of small businesses



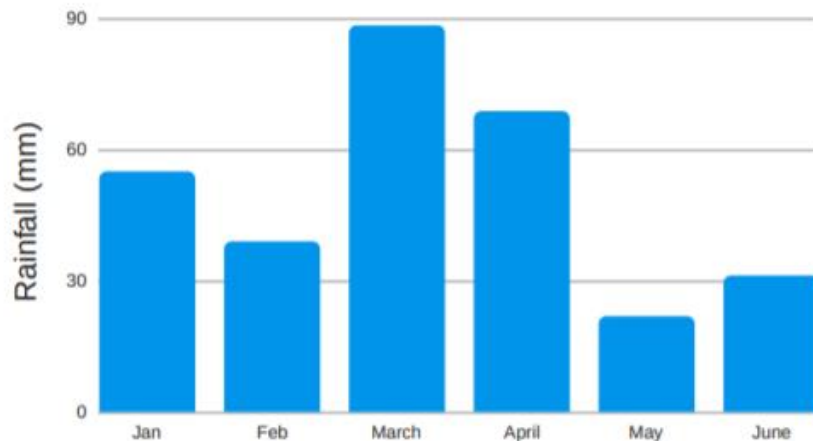
Case Study 1: South Moor SuDS

- Two SuDSPlanters were installed to capture rainwater run-off: re-routing the downpipe into the planter.
- They filter, store and slowly release captured rainwater.
- Additional benefits = biodiversity & reduced pollution



“I certainly think they’re excellent additions to peoples’ yards and it would be fantastic if we could get more of them in”

Housing Regeneration Manager, Durham County Council



2018 has seen atypical rainfall in Durham, UK. Compared to historic averages there's been:

- 2 x as much rainfall in March
- 50% the rainfall expected in May

Case Study 1: South Moor SuDS

Installed ultrasonic sensors in combined and surface water drains.



These connect to a push data GSM RTU, to provide data logging and acquisition.

Feedback from community engagement shaped the design of a telemetered user interface in the community centre.

The RTU pushes data (on a user-defined schedule) for near-real time display of project data

Data collection for 12 months, to provide evidence of water attenuated and inform future projects.

South Moor SuDS Phase 2?



- Use of immersive technology, with NETV Digital Catapult.
- New 'digital' method for neighbourhood plan.
- Encourage co-creation of solutions across sectors.
- Model water infrastructure solutions against predicted climate scenarios.
- Immersive event for residents & businesses to experience VR visualisation of test bed.

Case Study 2: Water Efficiency "Every Drops Counts"

- Ofwat PR19 commitment to lower customers' per capita consumption (PCC).
- Northumbrian Water plan to reduce their PCC from 150L to 110L
- Novel tech & behavioural innovations to reduce water use by 40L/person/day .
- Benefit from funding, feedback and deployment opportunities.



Conclusions

The Water Hub provides:

1. partnership working
2. access to real-world demonstration sites
3. feedback from end-users and stakeholders
4. input and co-design with communities
5. opportunities to deliver immediate impact

What I have learnt so far:

1. it takes time to grow (...an idea, project, or business)
2. everyone sees innovation differently
3. we can do more together



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