

The logo for iCASP features the text 'iCASP' in a blue, sans-serif font. Below the text is a stylized graphic consisting of three horizontal bands: a green band at the top, a blue band in the middle, and a brown band at the bottom, representing land, water, and soil respectively.

iCASP

Integrated Catchment Solutions Programme

A photograph of a waterfall cascading over dark, mossy rocks in a lush forest. The water is clear and creates white foam as it falls. The surrounding vegetation includes large green ferns and other leafy plants. The scene is brightly lit, suggesting a sunny day.

Yorkshire Integrated Catchment Solutions Programme (iCASP)

Project summaries

Yorkshire Integrated Catchment Solutions Programme

Yorkshire Integrated Catchment Solutions Programme (iCASP) is a UKRI-Natural Environment Research Council-funded partnership that is making environmental evidence available for the development of innovative solutions to land and water management challenges at catchment scale.

It aims to generate £50 million+ of benefits to Yorkshire's economy by 2022, and to inform regional, national and international practices and policies, including supporting the delivery of the 25 Year Environment Plan.

Our projects are co-designed and delivered with our partners.

You can discover more about our projects, the people involved and the resources they generate on the iCASP website:

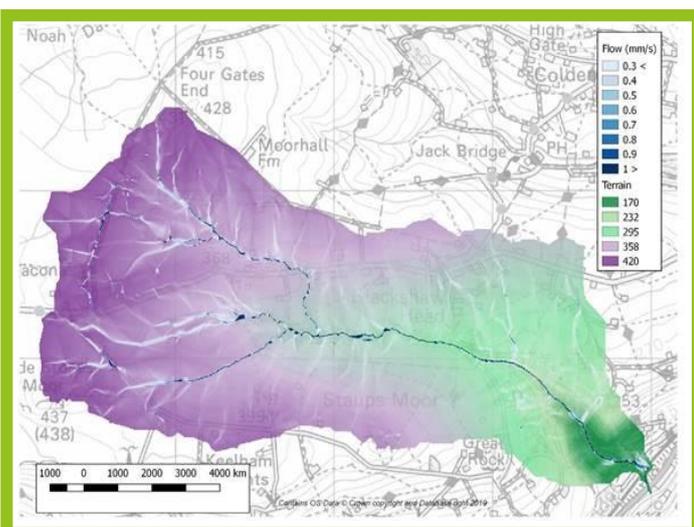
<https://icasp.org.uk>

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<https://icasp.org.uk/category/news/>

Or email us at:

iCASP@leeds.ac.uk



UKCP18: Preparing for new climate projections

iCASP’s first project helped organisations in Yorkshire to prepare for the publication of the UK’s new climate change projections in 2018 (UKCP18). Organisations such as water companies and local authorities draw on these scientific assessments of the changing climate when they make long-term risk management decisions.

The UK projections published in 1998, 2002 and 2009 are to be updated again in 2018 with some significant changes. For instance, there will be more local detail and information on climate extremes and uncertainty. In collaboration with the UK Met Office, which is responsible for producing the projections, the iCASP project has been giving organisations, including Yorkshire Water, the National Farmers’ Union and Leeds City Council, an opportunity to rehearse ways of using the updated information in their operations and strategies. In turn, the project partners have given feedback to the Met Office on their needs of the new information and how it is presented.

Building on the success of this project, a one day UKCP18 forum will be held for organisations from different sectors of the regional economy who need to use UK climate projections for resilience planning and long-term business strategies.

Partners: Environment Agency, JBA Group and JBA Trust, Leeds City Council, National Farmers’ Union, UK Met Office, University of Leeds, Yorkshire Water, Yorkshire Wildlife Trust.

Duration: May 2017 – March 2019



Leeds Flood Alleviation Scheme phase 2

iCASP has been working closely with organisations involved in Phase 2 of the Leeds Flood Alleviation Scheme (FASII) which plans to put in natural flood management measures in the River Aire Catchment.

Measures being considered include: tree planting, peatland grip blocking, run-off attenuation features, floodplain woodland planting, riparian planting, changing land-use methods and river rehabilitation (including re-meandering).

iCASP offered support to the development of the Leeds FASII Business Case by providing cost estimates for different standards of the baselining and ongoing monitoring that are needed. This helped to shape the monitoring specification, including justifying additional budget. This small project has been the start of iCASP's continuing involvement in Leeds FASII and has facilitated communications and productive working relationships between academic researchers and project partners.

Partners: Environment Agency, Thomas MacKay Ltd., University of Leeds.

Duration: August - September 2017



Maximising pay-back from peat restoration

Efforts to restore Yorkshire’s vast peat bogs are getting a welcome boost from an iCASP project that is making it easier for practitioners to use modelling tools and economic valuation methods.

The Yorkshire Peat Partnership and Moors for the Future Partnership have been collaborating with the Universities of Leeds, Manchester and Durham to develop tools that people can use when they consider how to get the most value from restoring peatland even as the climate changes. The project team has produced a user-friendly interface for a digital modelling tool called DigiBog_Hydro which informs what peatland restoration activities can do to optimise ecosystem service delivery.

They have also developed a guide to help practitioners decide on the type of method that could be used to value the benefits of peatland restoration. This is illustrated with helpful case studies to show how different valuation methods can be used for different purposes. These tools can be used to support multi-million pound investments in peatland restoration and to strengthen the business case for more investment in such schemes.

Partners:

Durham University, Moors for the Future Partnership, University of Leeds, University of Manchester, Yorkshire Peat Partnership.

Duration:

February 2018 – January 2019



Natural flood management (NFM)

The Government’s 25 Year Environment Plan highlights an important role for natural flood management in flood alleviation. Pilot schemes in Yorkshire are the focus of an iCASP project to develop best practice and show how working with nature can deliver a range of benefits.

Experts in modelling and monitoring are showing practitioners and communities different ways to evaluate and quantify the effectiveness of approaches such as tree planting and building leaky woody dams. The project team will share insights from these pilot schemes with larger-scale flood alleviation schemes such as in Leeds, York, Sheffield, and Calderdale. The integration of natural flood management processes with hard engineered structures could give greater protection to homes, businesses and transport links in the region.

The project will also help to develop a community of practice to increase regional NFM capability, and will contribute updates to the Environment Agency’s national ‘Working with Natural Processes’ evidence base and guidance.

Partners:

Bradford Metropolitan District Council, Calderdale Council, Environment Agency, JBA, National Trust, University of Leeds, University of York, Yorkshire Dales Rivers Trust.

Duration:

April 2018 – September 2020



Practices to improve soil and deliver public goods

Defra is currently exploring how to incentivise farmers and land owners to manage their land in ways that can deliver so-called public goods, as well as food security. These goods could include improved water quality, flood protection and carbon storage.

The proposed changes to the way farm subsidies are awarded has presented iCASP with an opportunity to make a helpful contribution. Recognising that healthy soil underpins the delivery of many public goods, iCASP has carried out a rapid review of evidence on the effectiveness of ten agricultural practices for improving soil health. The ten that were selected are those that are adopted most frequently by Yorkshire farmers signed up to current agri-environment schemes.

The results provide some useful pointers for policy-makers and farmers which the team are communicating in a series of hand-outs for different target audiences.

Partners and advisors:

Dales to Vales River Network, Environment Agency, Leeds City Region Local Nature Partnership, Natural England, National Farmers' Union, Nidderdale AONB (and Northern Upland Chain Local Nature Partnership), Sustainable Futures, University of Leeds, University of Newcastle, University of Sheffield, University of York, White Rose Forest, Yorkshire Water.

Duration:

May 2018 – November 2018



Enhanced surface water flood forecasts

Some floods are easier to prepare for than others. When water levels in rivers start to rise, the authorities can usually calculate the timing and likelihood of a flood in good time. However, more generalised surface water flooding caused by intense rainfall can strike with little warning.

Current weather forecasts can't pinpoint the location for heavy rainfall precisely enough. This makes it hard for decision-makers to take evasive action – issue flood warnings, reroute traffic, etc., because they can't be sure of getting it right.

This iCASP project is harnessing the latest advances in probabilistic rainfall forecasting and high resolution surface water modelling to explore whether 'real-time' local-scale forecasts could help Lead Local Flood Authorities take decisions more readily.

Partners: City of York Council, Environment Agency, Flood Forecasting Centre, JBA, Leeds City Council, National Centre for Atmospheric Science, UK Met Office, University of Leeds, Yorkshire Water.

Duration: April 2018 – June 2019



The Derwent data finder

The Derwent Data Finder project will explore whether a collaborative monitoring system could help the Environment Agency and other organisations to reduce costs and to gather more useable information.

Focusing on the Yorkshire Derwent, the project will develop an online metadata database that can point users to a variety of sources of information that they may not even have known existed. This will encourage the sharing and collation of data to address catchment management issues.

It will demonstrate whether the data currently collected is helping to address surface water and other catchment management issues, save costs by preventing duplication of effort, and inform future monitoring investments by identifying knowledge gaps.

The Yorkshire Derwent is one of five catchment ‘prototype projects’ that have been chosen by the Environment Agency as part of its national review of monitoring, so the learning from the project will be helpful further afield.

Partners: Environment Agency, University of Leeds, Yorkshire Derwent Catchment Partnership.

Duration: July 2018 – January 2019



Don Catchment

iCASP is advising the Don Catchment Rivers Trust on their Hidden Heritage Secret Streams project. This is based on the Upper Rother Catchment, a tributary of the River Don. One of the aims of the project is to improve the way land is managed so that it provides both social and heritage benefits.

The Trust will recruit volunteers to put in place small and simple changes. These will reduce river pollution from different sources, slow the rate at which water flows down the river, and make it easier for different species to flourish by ensuring suitable habitats are connected up in the landscape. At the moment, it's difficult to prioritise what should be done and whether volunteers can do it. The available information has not been consolidated or analysed at high enough resolutions to understand which areas require land management.

This is where iCASP can add most value. Drawing on academic expertise, the project will collate open source data and produce opportunity maps. The lessons learnt can be used by other neighbouring and national catchments.

Partners: Don Catchment Rivers Trust, University of Leeds, University of Sheffield, University of York.

Duration: September 2018 – January 2019



UKCP18 forum

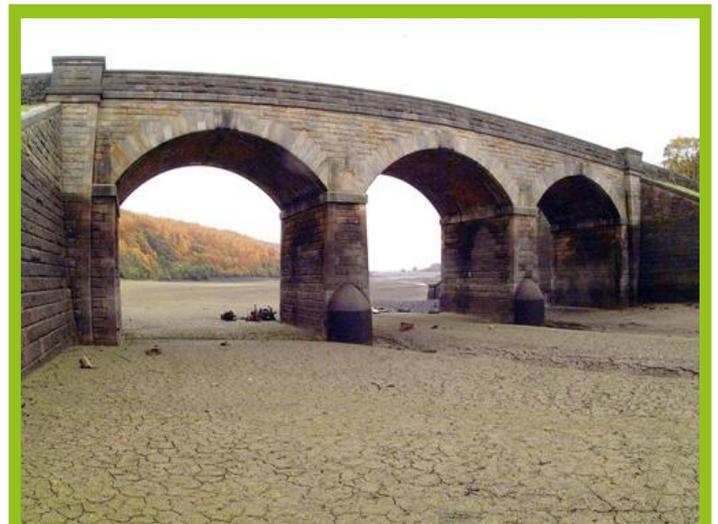
The project will design and deliver a UKCP18 Forum in 2019 to bring together organisations from different sectors of the regional economy which use UK climate projections in resilience planning and long-term business strategies.

The event will be timed to follow the publication of the updated UK Climate Projections in November 2018 and May 2019 and will:

- address queries from regional stakeholders about UKCP18 and its use,
- connect organisations and individuals using UKCP18 data/products, and
- help the Met Office identify who is using UKCP18 data/products and get feedback on their adequacy for addressing regional issues.

Partners: Yorkshire Water, UK Met Office, University of Leeds

Duration: Oct 2018 –



Green and blue infrastructure business cases

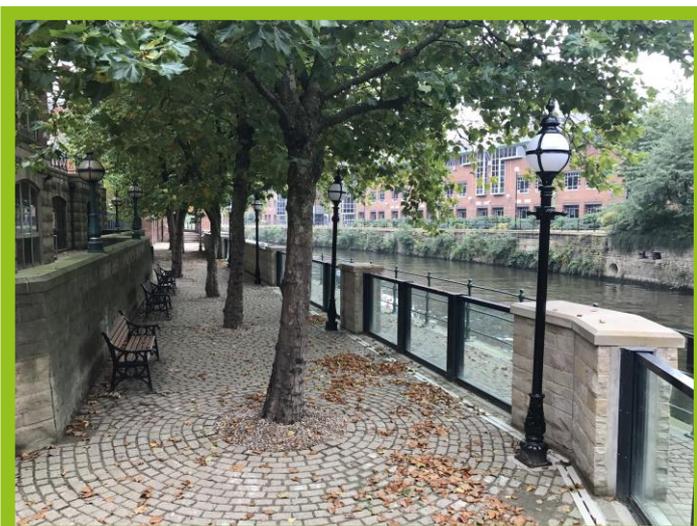
This iCASP project aims to overcome the multiple barriers to the effective valuation of green blue infrastructure (GBI). Parks, open spaces, playing fields, woodlands, street trees, allotments and gardens, as well as rivers, canals and ponds are all examples of GBI.

Their presence can enhance property values, flood protection, air quality and overall health and well-being, but planners and developers struggle to make a persuasive business case for investment in them. Therefore, the project will develop a clear, practical, and rigorous approach to GBI cost-benefit analysis that is ready for HM Treasury approval.

On an operational level, it will identify the most effective tools to use when making a business case and test them at case study sites. This will help business case developers and appraisers access GBI evidence, and will guide future development of GBI tools.

Partners: Developers, funders, regulators, planners, tool developers, and business case writers and appraisers, as well as a cohort of multi-disciplinary academics.

Duration: November 2018 – April 2020



Calderdale natural flood management

A rainfall-runoff model developed at the University of Leeds is the latest weapon in Calderdale's armoury to prevent future flooding in the valley. An iCASP project is using a digital model, SD-TOPMODEL, to model the flow of water from hillslopes to the river.

The project team will then be able to analyse how and if existing landscape features, such as walls, gates and hedges, and new measures, such as hedge and tree planting, reduce flood risk by storing and slowing flood water.

Conclusions will bolster future business cases and evaluations of work done already, and contribute to the Calderdale Flood Action Plan by helping to prioritise the siting of future natural flood management (NFM) schemes.

Furthermore, the project will also help to identify research gaps and provide information for communities to illustrate how working with natural processes can have an impact on flooding.

Partners:

Environment Agency, Calderdale Council, Calderdale NFM Operational Group, University of Leeds, Yorkshire Water.

Duration:

November 2018 – January 2020



Water efficiency standards briefing for Leeds City Council

This project will help Leeds City Council's efforts to encourage less treated-water usage in new residential development.

Pressures on our water system continue to grow across the catchment. Combined with climate change impacts on future availability and supply, more housing development could mean more consumption and so increased pressure on existing water resources.

In 2019 Leeds City Council will be revising its Core Strategy 2014 for future housing. It is timely to assess whether tighter water standards on residential developments is feasible and can be incorporated into the strategy.

Academics at Leeds and Sheffield will be consulted to distil the latest evidence on water availability and usage into an accessible policy brief to support Leeds City Council in setting a reasonable water efficiency standard for new homes. The evidence will be equally applicable to other local authorities in the region as they update policies too.

Partners: University of Leeds, University of Sheffield, Leeds City Council

Duration: January 2019



Integrated nitrogen management workshop

This mini project will design and run a workshop to support Defra's planning for supporting integrated nitrogen management - air quality, water quality and soil health - at farm scale by showcasing useful existing environmental science and facilitating dialogue between Yorkshire farmers, relevant stakeholder groups and Defra

High volumes of nitrogen in the water or in the air are harmful to human health, but most efforts to reduce them focus on a single impact or activity such as slurry spreading, so a key aspect will be to co-design a future iCASP project on integrated nitrogen management for Yorkshire farmers.

Partners: University of York, National Centre for Atmospheric Science, University of Leeds.

Duration: January 2019 – March 2019



Integrating natural flood management into payment for outcomes

By drawing on modelling, monitoring, and opportunity mapping expertise from other iCASP projects, this project will support a National Trust trial of payment for outcomes with their tenant farmers in the Yorkshire Dales.

The trial in partnership with the Yorkshire Dales National Park Authority will inform Defra's piloting of new environmental land management schemes (ELMS), and iCASP will specifically focus on the opportunity for delivering natural flood management as an outcome for which farmers and other land managers could be paid.

Partners: University of Leeds, University of York, National Trust, Yorkshire Dales National Park Authority, Yorkshire Dales Rivers Trust.

Duration: February 2019 – July 2020



Invasive non native species: developing resources to slow their spread

The project will use research evidence and expertise on biosecurity, GIS modelling, stakeholder engagement, policy development and behavioural change to inform Local Authority strategies and produce resources to support the development of good biosecurity practice tailored to their needs.

The long-term outcome will be new strategies embedded across Yorkshire, that can also be applied to catchments elsewhere, to reduce the spread of INNS and cost of treatment of infestations.

Partners: University of Leeds, Yorkshire Wildlife Trust, Leeds City Council, Barnsley Metropolitan Borough Council, Environment Agency, Dales to Vales Rivers Network, Yorkshire Water, Yorkshire Invasive Species Forum

Duration: February 2019 – July 2020



Bridging the knowledge gap to boost SME resilience

By increasing understanding of the impacts of flooding on small and medium-sized enterprises (SMEs) this project will help a range of different sectors, including insurers and local authorities, to provide SMEs with better and more tailored support resulting in a more resilient sector.

99% of Yorkshire’s private sector is made up of SMEs; these are organisations that are often vulnerable to flooding, and the knock-on effects to the regional economy of a flood event can be significant and far-reaching.

This project seeks to fill the knowledge gap about SME flood risk management by working with Local Authorities and the insurance sector to increase their understanding on the economic costs and resilience efforts of SMEs to enable a space where SMEs are better adapted to deal with future flood events. A key part of the project will be development of a robust methodology to assess the direct and indirect costs of flooding that will support local authorities to carry out future flood assessments and, in the event of a flood, prioritise their response in a consistent and timely way. This will also allow them to prepare more robust business plans and lobby for additional funds to be better prepared to respond to future flooding. In addition, the project will provide detailed information on the effectiveness of resilience measures and risk reduction activities to insurers, lenders and surveyors so that they can improve their confidence that that flood risk is properly priced and managed by SMEs, this will allow them to offer tailored products and increase the resilience of SMEs.

Partners: University of Leeds, University of York, West Yorkshire Combined Authority, Environment Agency, Flood Risk Managers, Upper Calder Valley Renaissance, flood insurance companies and consultants

Duration: November 2019 – January 2021



Living with Water Partnership catchment telemetry integration

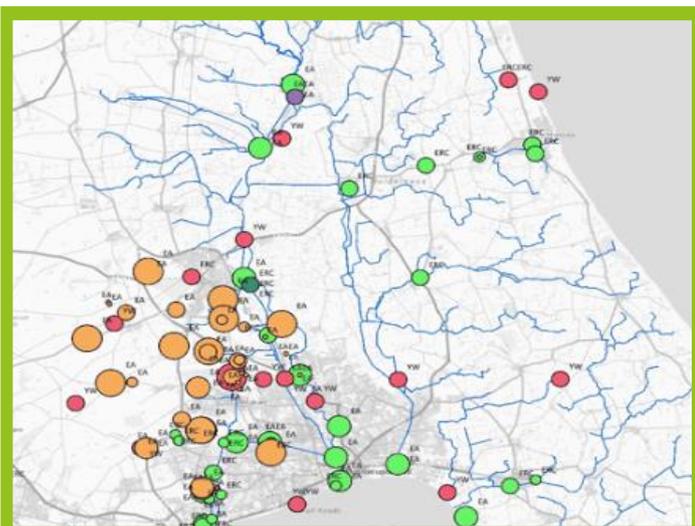
Telemetry is the measurement of data at a remote source, and its transmission to a monitoring station. This project will bring together all the telemetry data gathered by Living with Water Partnership organisations from across Hull and East Riding.

The data will be combined with decision-making tools to develop an ‘early warning’ tool that will help increase operational preparedness, deliver faster operational response times and help identify optimal locations for future network monitoring in the region.

If the approach is successful it can be used in other catchments and make the case for investment in monitoring.

Partners: University of Sheffield, Environment Agency, Hull City Council, East Riding of Yorkshire Council, Yorkshire Water

Duration: June 2019 – June 2020



Systems approach to urban infrastructure management

This project applies a newly developed spatial analysis method to support integrated urban infrastructure planning and management at a catchment scale.

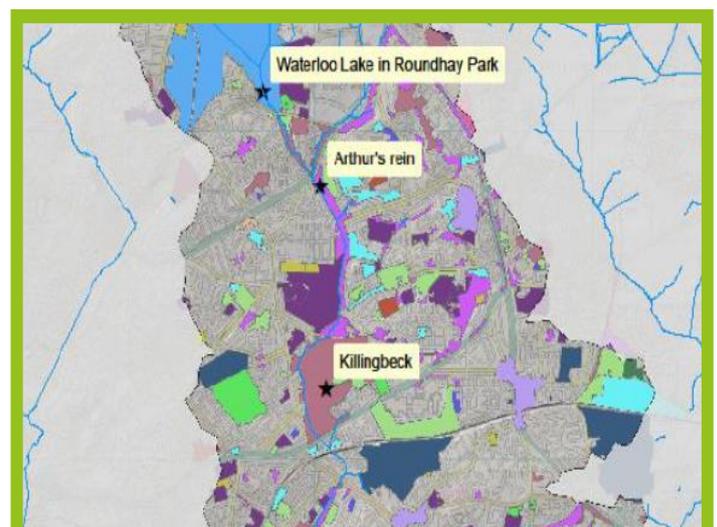
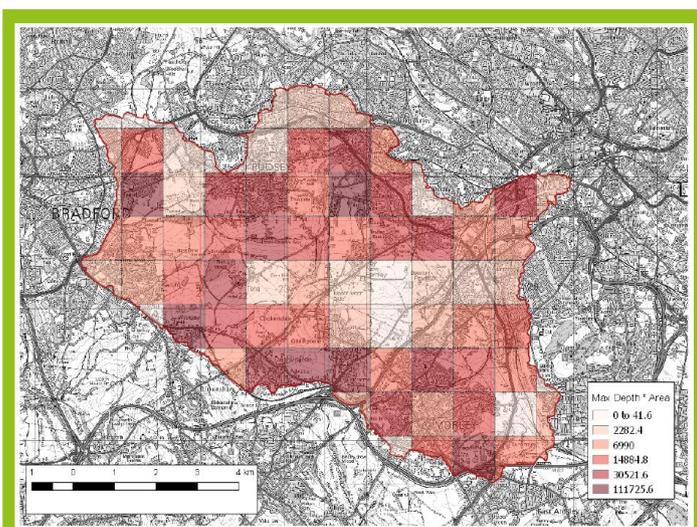
The team will identify areas *contributing* to flooding to inform new developments so they store or divert rainfall away from flood prone areas.

The focus is initially on the Wyke Beck catchment in the east of Leeds – recent and planned developments will be assessed to see if this new approach would or could lead to more cost effective and flood resilient design which also benefits local communities in other ways e.g. improving health, wellbeing and sustainable transport options.

The Wyke Beck case will be the basis for a user-friendly ‘*interoperability tool*’ for use by Leeds City Council in other parts of the city, and could be used by councils in other cities too.

Project Team: University of Leeds, Leeds City Council, Environment Agency.

Duration: January 2020 – January 2021



Improving flood risk communication through engagement tools

Delivering practical engagement tools to increase the capacity of Risk Management Authorities to promote resilient behaviours in communities vulnerable to flooding and climate impacts.

The 2017 Climate Change Risk Assessment (CCRA) identified flooding and coastal change risk to communities, businesses and infrastructure as the number one priority risk that requires more action to combat negative impacts on society. Yet less than 10% of those living in flood risk areas believe their home could flood in the future despite flooding causing on average £30,000 of damage per household and displacing victims for around 6 months.

Flood Risk Managers (FRMs) across Yorkshire have requested iCASP support to overcome a number of challenges that impede their efforts to engage with, and build the resilience of, those at risk of flood. This project will map research from disciplines such as psychology, sociology and business, as well as case study examples, to translate existing knowledge into ways that will support Risk Management Authorities (RMAs) to more effectively engage their communities increasing their resilience to risk. The end goal of the project is to inspire communities to take more responsibility for their own resilience specifically with regards to flood preparation.

Partners: University of Leeds, University of Sheffield, Leeds City Council, City of York Council, Environment Agency, Living with Water Partnership

Duration: March 2020 – September 2021



Environmental science to promote public health and wellbeing

Integrating Environmental Data into the Strategic Health Asset Planning and Evaluation (SHAPE) GIS tool to promote climate resilient decision-making

This project will focus on enabling the SHAPE tool – a GIS web-based tool – to become a focal point for pooling and visualising integrated health, environment, infrastructure and socio-economic data for evidence-based, collaborative and strategic decision-making.

The SHAPE tool, originally commissioned by Public Health England, has been used by Leeds City Council’s Health Protection Team to inform healthcare planning across the city. Following Leeds City Council’s declaration of a Climate Emergency in 2019, alongside that of all the councils in Yorkshire, the SHAPE tool has been identified as an ideal way to support climate resilient decision-making.

By drawing upon and integrating environmental data from iCASP universities, SHAPE will help to coordinate resources between different sectors who have increasingly common goals and outcome measures such as flood risk management, education and infrastructure planning and development.

Partners : University of Leeds, Public Health Leeds City Council, Public Health England, Parallel

Duration: January 2020 – January 2021



Integrated nitrogen management on Yorkshire Farms (INMY Farm)

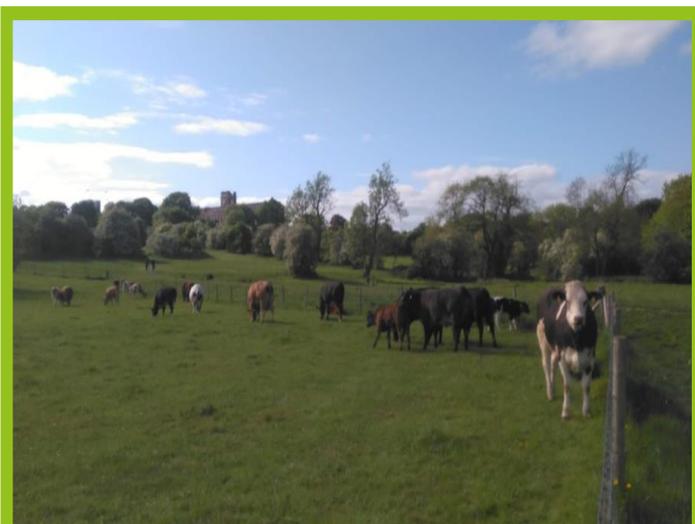
This project will draw together and synthesise good practice to inform more integrated and efficient nitrogen use in mixed arable and livestock farming, with a focus on Yorkshire. While there is growing awareness of the problems with pollutants, and many farmers are tackling this, in many cases it is on an individual and ad-hoc basis.

In the current landscape with planned policy changes and consultation on those changes, now is an ideal time to ensure evidence supports the development of more coherent and joined up approaches.

Key outputs of the project will be user-friendly guidance and briefing papers to support INM both at the individual farm level and to support developing national policy. Key stakeholders will be involved in developing the guidance, providing an end-user perspective to ensure its suitability for the target audience. The project will take a holistic approach and aims to assess key issues including the influence of nitrogen management on soil structure and function, understand the implications of different farmer practices, assess the potential benefits and trade-offs of farmer actions and understand the implications of the new Agriculture Bill for farmer practice and environmental outcomes.

Partners: University of York, University of Leeds, University of Sheffield, Yorkshire Dales Farmer Network, Champions of the Farmed Environments, Yorkshire Agricultural Society, ADAS, Catchment Sensitive Farming Air Quality Lead.

Duration: May 2020 – April 2021



CONSOLE

This Horizon 2020 funded CONSOLE project brings together partners from 13 EU countries to design and support the implementation of innovative agri-environmental-climate public good (AECPGs) delivered through agriculture and forestry.

The project will improve understanding of the ways AECPGs are currently delivered in a range of different settings, and identify successful experiences and good practice. This improved understanding will support the creation of a framework that will support the design and delivery of improved and more innovative contract solutions to deliver AECPGs.

iCASP is leading the University of Leeds' involvement in the project and brings together experts in sustainable agriculture, economics and agricultural law.

A key activity of the CONSOLE project will be to gather information on farmer and land manager views and preferences on novel AECPGs through various in-person surveys. This will then feed information into another part of the project: the formation of a Community of Practice (CoP) across the EU countries involved. Here in the UK the members of the CoP will be drawn from farmers and land managers involved in the Yorkshire Countryside Stewardship Facilitation Fund networks. The CoP will co-create a contractual framework for delivering AECPGs and design and test different models to ensure that they deliver in different settings and under a range of conditions.

Duration: May 2019 – April 2022



Yorkshire Property Flood Resilience Pathfinder

The Yorkshire Property Flood Resilience (PFR) Pathfinder project aims to increase the effective uptake of PFR across Yorkshire.

The project will work with communities, planning and construction professionals and the insurance sector to raise awareness and understanding to encourage a change in peoples' perception, attitude and behaviour towards PFR. A range of activities will be developed to actively involve and empower participants to adopt measures to make themselves and their properties resilient to flooding. These will include showcasing model PFR measures in awareness raising events with, some being located in a physical demonstration site at Wilberforce College, Hull as part of the Living with Water initiative. A touring display will also be created for use at regional events and temporary exhibitions at Lead Local Flood Authority sites.

iCASP's role in this project is to survey current knowledge, attitudes and uptake of PFR measures across the region at the start of the project. This will help inform the design of the activities. The survey will be repeated again at the end of the project to understand the impact the pathfinder has had.

Project team: City of York Council, Living with Water partnership, JBA Consulting

Duration: Sept 2019 – April 2021



Small projects

We have a range of additional projects that are either bolt-ons to additional projects or short one-offs to deliver a discrete impact in a short period of time.

Common standards monitoring: Defra and Natural England have launched the England Peat Pilots and this project will contribute to that work. iCASP will be supporting Newcastle University who are leading this project to transform data collection for evidence-based peatland policy and practice by identifying and selecting core sets of outcome measures that can be included in peatland research and monitoring data collection.

Previous work led by Newcastle University with inputs from iCASP identified climatic, hydrological and biodiversity-related measures for blanket bogs and fens; these are now being prioritised by the peatland community. This project will build upon that work to prioritise the core outcomes that are most relevant to the assessment of peatland condition at the five pilot sites.

River Aire plastics capture: iCASP will carry out a review of the current literature to identify existing methods for capturing macro plastics to contribute to a proposed future project to reduce the macro plastic waste in the River Aire.

Macro plastics, such as bottles, traffic cones and plastic bags are not only unsightly and detract from the social and economic value of the local environment, but they can also trap and harm wildlife and as they degrade over time will eventually become micro-plastics small enough to be ingested by invertebrates and so enter the food chain.

This mini-project will provide background knowledge for a proposed partnership project that the University of Leeds Sustainability Team, Canal and Rivers Trust, Yorkshire Water and Aire Rivers Trust are developing. Better understanding of existing methods of plastic capture will allow an assessment of whether existing science can meet the challenge and if so how it can be scaled up and applied more widely.



National Trust payment for outcomes test: The National Trust payment for outcomes test project is part of the Tests and Trials phase of the new Environmental Land Management Scheme and builds on the National Trust-funded Payment for Outcomes project in the Yorkshire Dales working with the Yorkshire Dales National Park Authority.

iCASP are providing advice and guidance through attendance at workshops with practitioners, land managers and strategy-minded people to have an open discussion about the work that has taken place on these topics to date, to capture ideas for alternative measures and to consider the scale and feasibility of a whole farm approach.

Ryevitalised interactive catchment solutions: Ryevitalise is a £3.4 million Landscape Partnership Scheme supported by The National Lottery Heritage Fund and delivered by the North York Moors National Park Authority with support from partners including the Environment Agency and Natural England.

iCASP are providing support to this scheme by providing robust evidence drawn from several previous and existing iCASP projects

It will also draw upon Dr Janet Richardson's Industrial Mobility Fellowship with Yorkshire Water on diffuse pollution erosion risk and sediment fingerprinting in the River Derwent catchment. A key output of the Fellowship transferred to the Ryevitalise scheme is GIS layers of high resolution erosion risk incorporating seasonal variation, climate change and artificial drainage. Further sediment fingerprinting data and lessons learnt in the catchment area will be used to inform future work. The various outputs of all these projects, and other learning across the suite of iCASP projects, will inform the delivery of the Ryevitalise Scheme and its various themes, as well as influencing the allocation of funding until 2023.

River Skell monitoring: A short-term opportunity, supporting work on the River Skell, has arisen to build upon the existing Payment for Outcomes project and to link in outputs from several iCASP Natural Flood Management (NFM) projects. There is a need to devise a system to financially reward land managers for installing and maintaining NFM Measures and integrating them into revised farm business plans in order to reduce sediment loads in the river and its tributaries and alleviate flood risk.

iCASP will be supporting the National Heritage Lottery Fund (NHLF) bid for work in the River Skell through analysing existing data to form a robust baseline against which the effect of farm-scale interventions can be measured. This will also allow iCASP to highlight data gaps and recommend future monitoring. Opportunity maps will be produced to prioritise areas for NFM intervention. Finally iCASP will make recommendations for principles for a payment by results scheme in the area. If successful in achieving NHLF funding, this work will have a significant impact on the UNESCO World Heritage Site at Fountains Abbey and could influence government policy on the replacement for the rural payments scheme.



Photo credit Mick Garratt

Supporting the North York Moors peat pilot: iCASP are supporting Natural England with the North York Moors Peat Pilot. iCASP will draw on experience and expertise in this field, in particular the development of iCASP's User Guide for Valuing the Benefits of Peatland Restoration and the associated DigiBog_Hydro model. The pilot will evidence and evaluate how effective different potential forms of habitat restoration, modification and management might be in creating resilient peatland habitats in the face of increasing climate stress. The potential public benefits and ecosystem services will be considered against the extent and condition of the peatland, the different types of habitat restoration and their feasibility. iCASP have provided academic time to review and inform the direction of the scope of the work and will continue to provide advice to Natural England as the pilot is developed and delivered.

Deliberative monetary valuation protocol: building on the User Guide, produced as part of the Optimal Peatland Restoration project, this project will develop a simple, cost-effective, replicable and transferable protocol for the deliberative monetary valuation method. The protocol will enable peatland practitioners to carry out valuation of the non-marketed benefits provided by peatland restoration with a diverse range of participants. The valuation protocol will be aimed at peatland and environmental practitioners who can increase their understanding of public perception of peatland benefits and gather evidence to inform landowners, policy-makers and funders, on the need for continued investment and appropriate management of peatlands. Adopting and implementing the protocol will increase practitioners' capacity to apply a valuation method, adjust awareness campaigns to maximise impact and lead to support for continued investment in restoration, provide insights that can help inform policy, and facilitate exchanges between stakeholders who do not commonly interact together.

Exploring ecosystem markets and public-private partnerships for the delivery of ecosystem services in the UK This project will produce a co-authored report between iCASP and Resilient Dairy Landscapes exploring a sample of the public-private partnerships that exist for the financing of ecosystem services in the UK. The project will explore the voluntary ecosystem services market in the UK by understanding UK payment for ecosystem services schemes and the role of trading platforms and modellers, and developing an understanding of how these actors operate while identifying possible synergies and examples of good practice and challenges to implementation. It will focus specifically on understanding the social distribution of ecosystem services, how values are attributed to ecosystem services and legal obligations or challenges surrounding the implementation of the schemes. An online review of the UK's ecosystem services market will be carried out to identify UK public-private schemes and partnerships, as well as platforms and modellers that facilitate the delivery of, and act as a driver of, the UK's voluntary ecosystem services market.



