



8TH FEBRUARY 2023

KNOWLEDGE EXCHANGE

EVENT REPORT



PRODUCED FOR
NCR STEERING GROUP

PREPARED BY
FREYA SKINNER



NATIONAL CENTRE FOR RESILIENCE

BUILDING SCOTLAND'S RESILIENCE TO NATURAL HAZARDS

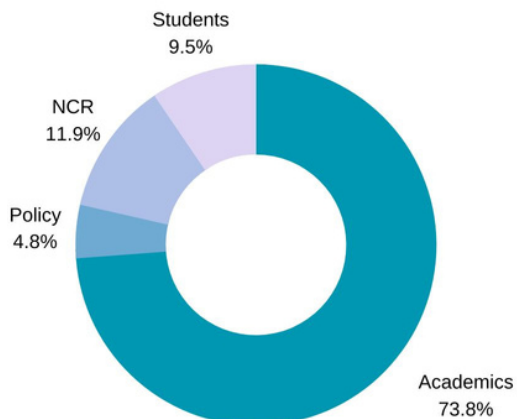
KNOWLEDGE EXCHANGE

ON THE DAY

EVENT: KNOWLEDGE EXCHANGE 2023
DATE: 08.02.23
LOCATION: RUTHERFORD MCCOWAN,
UNIVERSITY OF GLASGOW,
DUMFRIES CAMPUS
TIME: 10.00AM - 4.00PM

Our NCR Cross Sector Knowledge Exchange event was delivered successfully on Wednesday the 8th of February. Hosted in the welcoming surroundings of the Rutherford McCowan building on the University of Glasgow's Dumfries Campus, the event was attended by diverse range of University of Glasgow academics, industry experts and policy makers from across Scotland. In response to a request from the College of Social Sciences and the College of Science and Engineering to improve connections with the work of the NCR and its partners.

ATTENDEES



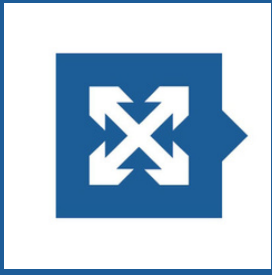
The purpose of the day was to provide an opportunity for University of Glasgow colleagues to familiarise themselves with the aims of, and expertise within, the NCR, and identify areas of common interest and the potential for collaborative bids.

Featuring presentations from:

- NCR Manager, Ailsa Mackay
- Professor of Risk & Resilience, Fabrice Renaud,
- Senior Stakeholder Manager, Dr Douglas Taylor of Met Office
- Project Manager of ClimateXChange, Anne Marte Bergseng

The afternoon included a series of breakout sessions in which attendees were split into groups to discuss various questions. Groups then in turn fed back to the room which led to lively discussions and further questions and debate.

Overall, the event was considered a real success, with calls from senior academics for it to become an annual fixture. The NCR team identified multiple next steps from this meeting which will inform the organisations forthcoming work. Feedback was resoundingly positive with attendees particularly keen on the networking opportunities and in-depth discussions looking at different perspectives on resilience.



PROGRAMME & SPEAKERS



The day started with an introduction and warm welcome from Professor Carol Hill who spoke about the credentials of the NCR, and it's work across the resilience landscape in Scotland with its cross-sectoral approach to working with academics, practitioners, and policy makers. Highlighting the importance of the NCR as a forum and a mechanism for knowledge exchange which could enhance impact. Professor Hill underlined the volume of work supported by or created in partnership with the NCR over the last 7 years. She addressed the need for expansion beyond the natural hazards' realm and the importance of Phase 2 of the development of the NCR. Highlighting the opportunity for collaboration supported by external funding bids, dealing with the highly complex field of resilience.

NCR Centre Manager, Ailsa Mackay then gave a short presentation giving an overview of the NCR and the objectives for the day. Ailsa spoke about how the centre operates in the resilience sphere and expanded on the strategic aims of the centre. Highlighting the gaps that exist between our 3 key pillars – academics, policy makers and practitioners and how the NCR can help to bridge those gaps and bring people together to produce quality evidence that can support change. After introducing the main partners and underlining the importance of having them onboard, Ailsa took us through the different ways the NCR takes an interdisciplinary approach to improving Scotland's resilience to natural hazards through offering a range of different services. She shared some of the key work that the NCR has been involved in funding and managing, before advising the attendees on the different ways they can work with the NCR. Finishing off by outlining the objectives for the day, the main two being collaboration and partnership building, and identifying shared interest areas that could lead to further discussion and potential collaborative funding bids to secure future sustainability.

KEY EVENT OBJECTIVES

- COLLABORATION AND PARTNERSHIP BUILDING
- IDENTIFY SHARED INTERDISCIPLINARY INTEREST AREAS FOR FUTURE FUNDING BIDS



RISK & RESILIENCE

Ailsa was followed by Professor Fabrice Renaud, Head of School of Interdisciplinary Studies and Professor of Risk & Community Resilience. Professor Renaud, spoke about the different definitions and conceptualizations of resilience and highlighted the complexity of the area that can only be addressed by successfully working across disciplines. He emphasised the importance of including all the university schools in discussions around building resilience. Professor Renaud then furthered the discussion on 'What is resilience?' presenting three different frameworks including the notion of 'Bouncing Back', the idea of 'Threshold' and finally looking at the 'MOVE' risk assessment framework. He highlighted the need to find consensus on what we're truly trying to address when looking at resilience. Professor Renaud went on to speak about the use of 'resilience' as a buzzword in the risk community and the need to be specific when using it and other terminology to define ideas. His brief overview of 'resilience' provided a clear framework for the discussions ahead.

THE ACADEMICS

Dr John Xiaogang Shi, Senior Lecturer in Hydrology in the School of Interdisciplinary Studies invited those in attendance to share a 2-minute introduction to themselves and their current areas of interest and/or research. Representatives were present from subjects including statistical modelling of disease to biological technologies, covering geography and river management to environmental chemistry and social ecological accounting. Experts in energy engineering for disaster prevention to computational mechanics, environmental risk and astronomy. These introductions were a fascinating insight into the breadth of research and interest areas covered by those in attendance and the level and seniority of academics in the room. A highlight of the day being the potential this network offers to expand expertise associated with and accessible through the NCR.

THE MET OFFICE

Dr Douglas Taylor, senior stakeholder manager at the Met Office, delivered a short presentation on the Met Office's work. Starting out by looking at their purpose and vision in our changing world, Dr Taylor went on to discuss what the Met Office does in practice to help UK administrations, civilians, and companies in making better decisions to stay safe and thrive. He talked further about their strategic anchors including 'people and culture', 'science technology and operations' and 'impact and benefit'. Dr Taylor then proceeded to look at the key future of focus for the Met Office across Weather, Climate, Hazards, and their wider outcomes all of which will be supported by delivery of their new supercomputer. Some of the areas of focus include working with developing nations to improve forecasting, space forecasts, enabling mitigation and early hazard warning systems. He concluded his presentation by speaking about the importance of the Met Office evolving and ensuring they are collaborating and engaging with the wider community across weather and climate study.



POLICY PERSPECTIVE

Ailsa Mackay invited colleagues from the Scottish Government Performance, Delivery and Resilience Division to talk about policy and its development. They talked about the importance of using evidence from academia to help shape public policy and then expanded on how policy is made - from learnings and lessons after events and strategic de-briefings to information from communities, from reports by third sector partners and marketing research to people's panels. They told us about the current challenges in resilience communities – highlighting the importance of the statutory response community including and embedding the resources across civil society in their preparedness in response to disasters and emphasising the awareness and inclusion of capacity in the third sector. Considering questions around monitoring and measuring resilience and the value of knowing how to target resources better. Highlighting a challenge for statutory responders which is that their profession is interdisciplinary – ‘How do we help them build connections across their own organisations, across other organisations and across sectors, to help them develop community resilience?’ They introduced the Ready Scotland platform to the room and recommended the three learning modules offered on the website around community resilience.

CLIMATE XCHANGE

Anne Marte Bergseng, Project Manager from ClimateXChange presented an engaging talk on their work across Scotland connecting climate change research and policy. She outlined the key policy questions around resilience to natural hazards from a climate change perspective, and how these frame the research that ClimateXChange delivers. Anne Marte spoke on how ClimateXChange is a centre of expertise which helps to shape the research to delivery process, helping to package research in a useable, accessible, and digestible format that aids policy making. She highlighted the disjuncture between the timescales of the research and policy communities, the challenge of making research accessible to wider audiences, and how to ensure that research outputs are focused on the ‘so what’ relevant to policy development. To achieve the policy relevant output, Anne Marte described how ClimateXChange works on project management, defining research scope, and communications and knowledge exchange to support the academic community and the policy makers to work together. Finally, Anne Marte showed how all the ClimateXChange work sits in the context of supporting a Net Zero Scotland.





WORDS & THEMES

THE RESEARCH, POLICY PRACTICE TRICHOTOMY

Following the Climate Xchange presentation, we moved into our first moderated discussion of the day introduced and led by Professor Graeme Roy, Dean of External Engagement in the College of Social Sciences. The aim of the discussion was to consider 'The Research: Policy: Practice Trichotomy' including the challenges encountered by researchers when seeking to engage with policy-makers and difficulties practitioners encounter when seeking to implement policy. How do these three domains operate together more effectively, in building and delivering resilience capacity?

REAL MOTIVATIONS

Attendees spoke about differences in approach between academics who are typically rewarded for operating at the cutting edge of science vs. policy work that rests more applied, translational research, which tends to be less well rewarded in universities. Some suggested that being involved with politicians doesn't motivate academics and the real motivation can often come from introductions to the communities that will be affected when their research shapes policy. This offers a potentially more powerful way to engage academics in shaping policy than an often-abstract policy document. What else can we do to make it easier to link the academic, with the applied approach and then translate this into policy in practice?

CALL ON CREATIVITY

The need for creativity within communications was raised in the discussion. Attendees talked about the great potential of using the arts especially when sharing scientific and engineering research in different forms, to continue increasing the accessibility for practitioners and politicians. The importance of using an interdisciplinary approach with plain language and strong visuals, in dissemination, to help in creating a story or conversation that works and translates, which The University of Glasgow has been particularly strong on in recent years.

'Stories are powerful. The story telling aspect is incredibly powerful – It can help change minds and sometimes get cheques written'

RELATIONSHIPS AND PARTNERSHIPS ARE KEY

The Scottish Government team stressed there is no silver bullet when it comes to linking research to policy. It is often difficult to find the thread from original research through to written policy. However, communicating about your work effectively is going to make a difference. They advised the importance of creating a network, taking the time to meet people, and actively talking about your work. The more research is discussed and shared, the more likely it is to feature in the thought process when shaping policy. The importance of using your current contacts to meet new people was discussed as a key way to extend your knowledge sharing.



DIFFICULT TIMELINES

Many academics spoke about the difficulties they face in being able to provide evidence and research at the right times. With some admitting that often they receive requests for evidence with such short lead times that they must delete them as they arrive in their inboxes. This is especially difficult when the fundamental challenges these calls are tackling align so well with their area of study and what they seek to achieve.



MAPPING THE DISCUSSIONS

Table outputs from the first question posed -
'What is your perception of the different meanings of resilience?'

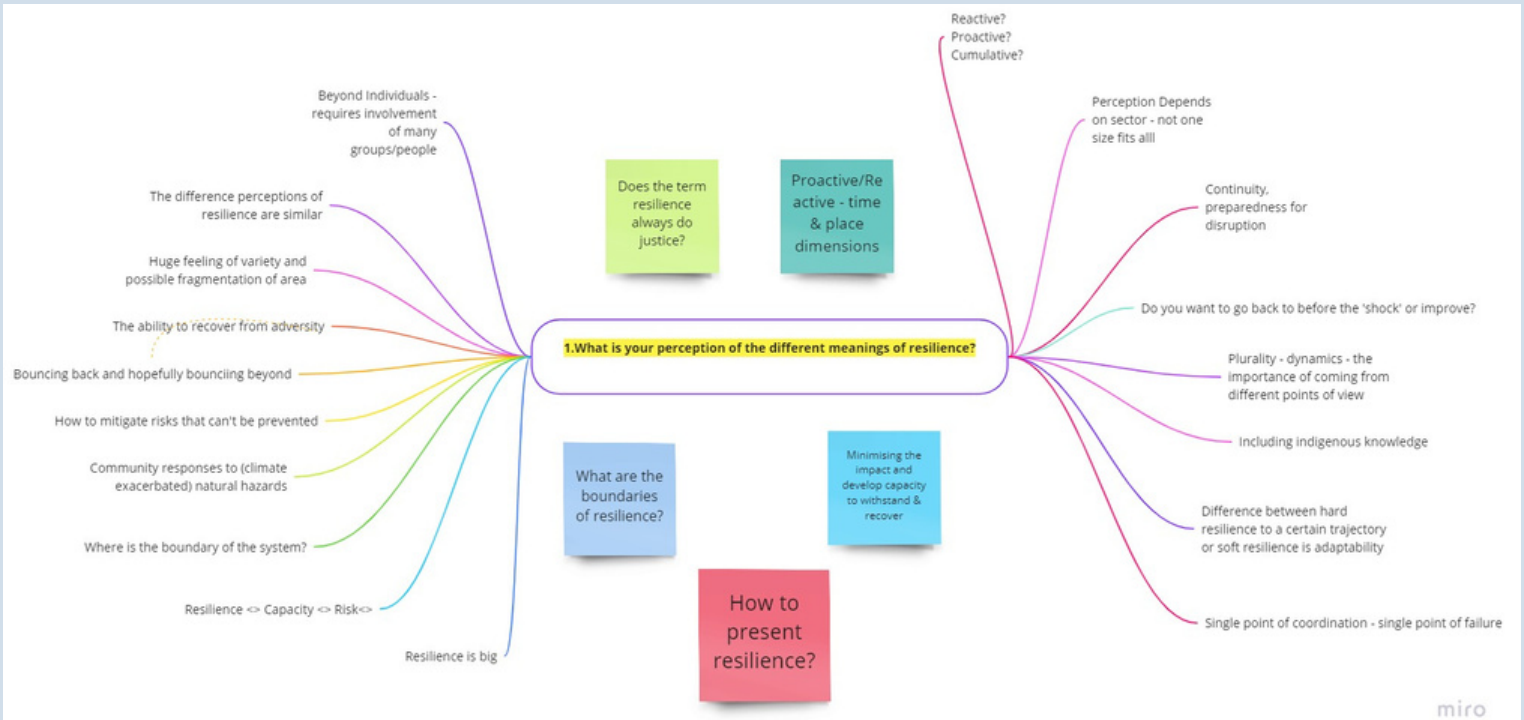
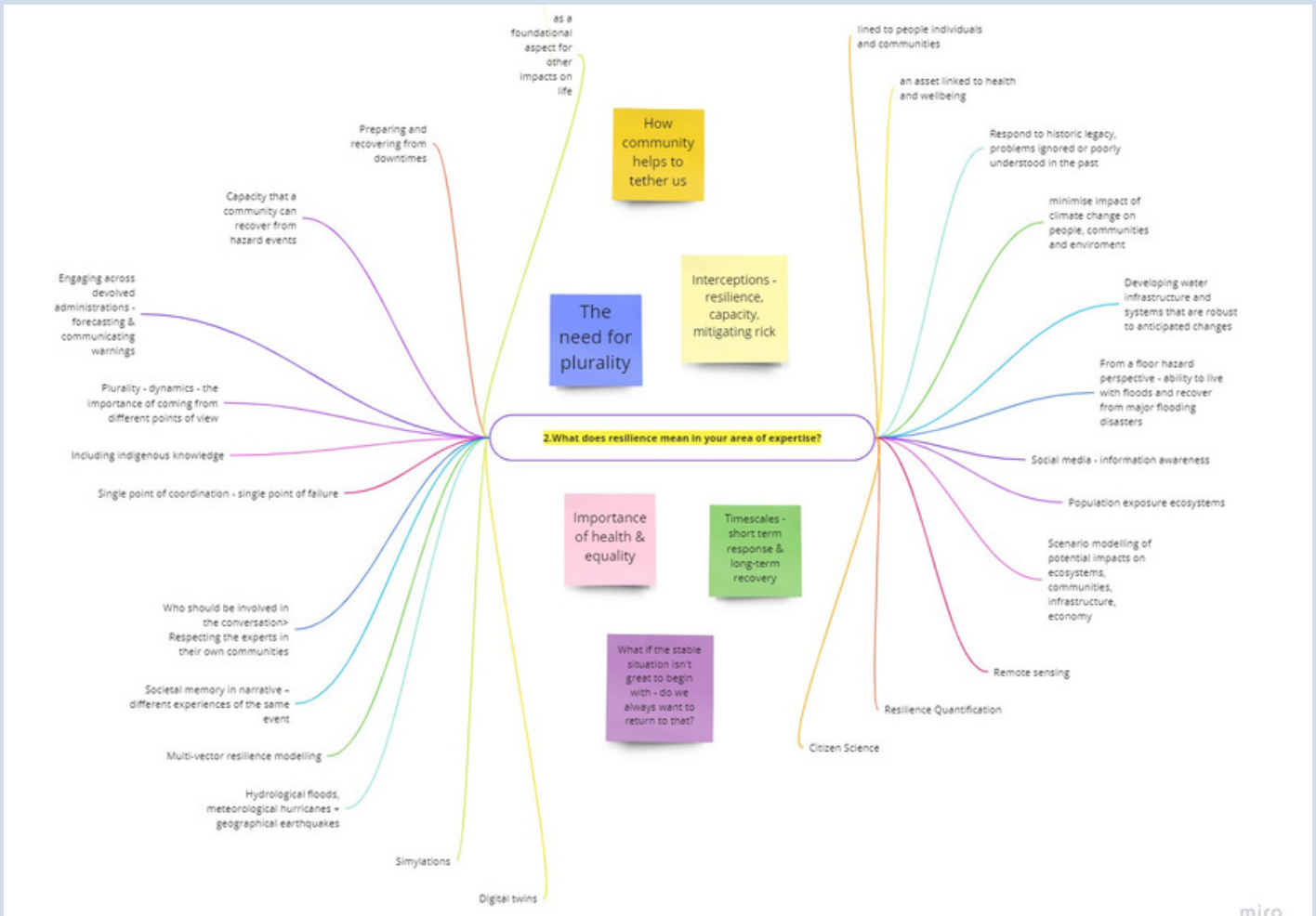
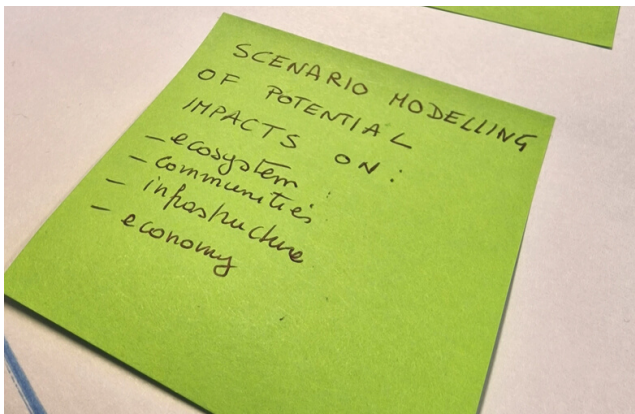


Table outputs from the second question posed -
'What does resilience mean in your area of expertise?'



THEMES FOR COLLABORATIVE RESEARCH

One of the two key objectives for the day was to 'Identify shared interdisciplinary interest areas for future funding bids'. The thoughts gathered from the breakout group discussions will be used to inform our coming series of professional seminars for FY23/24. A selection of the emerging themes from across the tables are detailed below:



LOCAL COMMUNITY AND PLACE BASED APPROACHES

- Looking at marginalised communities first, how does equity work as organised principle?
- Skills to adapt – problem solving & upskilling the community.
- What would make more resilient communities? What undermines that resilience?
- The vulnerable populations & risk (for example ageing vs extreme heat) – Where are they? How will they be affected?
- A holistic approach to resilience - place based case study that would allow expressions of inter-city resources
- Places to go – the journey to the place of refuge: Practices journeys – modes of transports, passive water/heat
- Identify and qualify metrics of community resilience; using these outcomes develop pathways to strengthen resilience in communities that were identified to be less resilient

*Authors Note: These themes should assess inclusivity in resilience planning in terms of ethnicity, schools, age, gender etc

MEASURING AND QUANTIFYING RESILIENCE

- How do we know communities are ready to respond to hazards?
- How do we measure resilience before the event?
- Risk is quantifiable vs resilience is hard to quantify – what part of the system would you apply scale to? Or is risk quantifiable? Interactions, cascading, component hazards

WATER MANAGEMENT

- Assessing the effectiveness of communication strategies in addressing water vulnerability in Scotland
- Investigating the role of local community engagement in developing effective water management strategies in Scotland.
- Assessing the role of water companies in ensuring equitable access to water resources in Scotland.

COMMUNICATIONS

- Communities & Communications Infrastructure - What is the role of communications networks in resilience?
- Investigate the intersections between: Environment, Community, Technology
- People, Place, Community, Tech - Top down or bottom up?

FEEDBACK

WHY WERE YOU INTERESTED IN ATTENDING TODAY'S EVENT?

“Interested in making connections with policy makers and academics.”

“To discuss policy problems with academics.”

“I wanted to hear about ongoing projects and perspectives on resilience in general.”

“Getting to know NCR's activities and explore synergies.”

WHAT WILL YOU TAKE AWAY FROM TODAY'S WORKSHOP AND WHAT WILL YOU DO NEXT?

“Great new connections and considered some new resilience-themed research ideas.”

“Work with NCR for more research collaboration and input delivery.”

“Interesting and fruitful hub to engage with policy makers and practitioners.”

“Rather than a particular topic, I think thoughts that I heard today will grow specific initiatives in time.”



DO YOU HAVE ANY FURTHER COMMENTS ABOUT THE DAY?

“It was particularly useful to hear opinions from the policy perspective as this helped improve my understanding of how to make policy connections. It might have been nice to hear from local policymakers, however I understand that the focus was more national than local.”

“Excellent event, well organised and I look forward to the next session/workshop paper. Very open, good encouragement.”



THE DATA:

15

new academic
database listings

11

New applicants for
associate
membership

43

event attendees



WORKING WITH THE NCR

There are various ways you can get involved and work with us. If you would like to discuss an idea you have, or would like further information on scope please contact us - details available on last page of this report.

HOW?

There are multiple ways to work in collaboration with the NCR:

- We can work with you as a service provider offering project management services when costed in as a junior partner or co-investigator on funding bids
- We can facilitate academic symposiums & conferences that align with projects & research
- We offer dissemination and knowledge exchange across our networks - with our blog, policy briefs, newsletter and short video series.
- We offer a facilitated networking service to link professionals
- Apply for our annual project funding call each year for short projects that deliver within 12 months

WHY?

There are many benefits to work with the NCR:

- We can help with research impact - increasing the reach and dissemination of your work
- We can help identify key practice and policy stakeholders for your project
- We can introduce you to new connections for collaborative working
- We can help you access more opportunities to present at events or lead discussion

WHEN?

The ideal times to involve the NCR in your work are:

- When building a research funding bid
- When you have a project idea that could be scaled up to national level
- When responding to calls for existing evidence - if you have a research project that fits our interest area
- When you have research you want shared across networks

Join our Associate Membership to learn more and have first access to events, evidence calls, funding calls and knowledge exchange opportunities

Sign up on our website:

<https://www.gla.ac.uk/research/az/ncr/>



NEXT STEPS



ACTIONS

- Continue to build closer ties between the colleges and the NCR
- Build new collaborations & utilise the academic database to seek further opportunities in new disciplinary areas
- Develop a series of symposiums based on the event findings to be delivered in FY23/24
- Establish and promote the NCR Associate membership & refine our offer
- Identify a model for hosting this kind of event at a national level
- Develop annual Catalyst Knowledge Exchange events

NOTES

This event was a trial academic engagement model. Following this all our events this year will be open to practitioners, policy, and academics.

THANK YOU TO ALL WHO ATTENDED THE EVENT, PRESENTED OR SHARED IDEAS THROUGHOUT THE DAY.



CONTACT US

ADDRESS

National Centre for Resilience
University of Glasgow School of Interdisciplinary Studies
Rutherford/McCowan Building,
Crichton University Campus,
Dumfries
DG1 4ZL

EMAIL

nationalcentreforresilience@glasgow.ac.uk

WEBSITE

<https://www.gla.ac.uk/research/az/ncr/>

PHONE

01387 702007



APPENDIX A - TABLE OUTPUTS

Consider the groups collective expertise and specialism;

Where are the areas of shared interest?

Are there topics that would particularly benefit from interdisciplinary research in collaboration with the NCR?

Shared interests:

- Human behaviour – not just tech & equipment
- Think about marginalizes first - equity as organised principle
- Resilience metrics – interest from many perspectives
- Communication networks supporting resilience
- Water quality & technology
- People, Place, Community, Tech - Top down or bottom up
- Community <> Environment <> Technology

Possible Focus for studies:

- Learn from other areas e.g. health on vertical and horizontal equity
- Measuring resilience before the event
- Qualitative research on resilience – not just numbers
- But don't draw resources from the resilience work to the black box of metrics and analysis
- Project 1 - to identify or qualify metrics of community resilience
- Using outcome of 'Project 1' develop pathways to strengthen resilience in communities that were identified to be less resilient

- Communities & Communications Infrastructure
- Role of communications networks in resilience
- Quantifying resilience – How do we know communities are ready to respond to hazards
- Resilience to infections, disease and outbreaks
- Reconciling 'Hazards' definitions between the natural and anthropogenic risks
- Digital twin for disaster modelling
- Models for quantifying risk & uncertainty
- Investigate the intersections between:
 - o Environment
 - o Community
 - o Technology
- Uncertainty vs. risk vs. resilience (quantification/metrics)
- Holistic approach to resilience:
 - o Place based approach
 - o Cascading risk
- Place-based approach but also reconciliation of spatial and temporal scales
- Holistic explain a place based case study that would allow expressions of inter-city resources

Shared interest & topics to collaborate:

- Better decision making for natural hazards and how it relates to benefit & impact
- If it goes wrong – who is responsible? Distributed responsibilities
- Recognising the complexity of different perspectives
- Different decisions required – Could be a fluid situation – Geography/topology is fixed – floods/flood defences/landslides
- Flood defences – unexpected impacts on other groups/land
- Decisions are not neutral
- Process of making decisions –
 - o Who is involved? Roles?
 - o Time
 - o Scenarios/future
 - o What context?
 - o How certain is enough?
 - o Access to data
 - o Different data owners
 - o Dealing with uncertainty – event/impact
 - o Communications

Most interesting subjects discussed with potential:

- Recovery – What does that look like
- Measurability – Link to capacity resources
- Risk is quantifiable vs resilience is hard to quantify – what part of the system would you apply scale to?
- Or is risk quantifiable? Interactions, cascading, component hazards
- Complexity, Messina system
- Better more comprehensible recommendations for community eg: compromise between community & academic knowledge
- Where are the responders?? Link to the NCR
- What part of the system would you apply a scale to?
 - o Uncertainty – event/impact
 - o Community risk
 - o Urban/cascading risks
 - o Equity, vulnerability
 - o Quant risk – metrics
 - o Models
 - o Community & Schools
 - o Systems & tech
 - o Decision making
 - o Place based methods



APPENDIX A - TABLE OUTPUTS

Consider the groups collective expertise and specialism;

Where are the areas of shared interest?

Are there topics that would particularly benefit from interdisciplinary research in collaboration with the NCR?

Topics that would benefit from interdisciplinary research with NCR?

- Places to go – the journey to the place of refuge
- Practices journeys – modes of transports, passive water/heat
- Skills to adapt – problem solving & upskilling the community
- What would make more resilient communities?
- What undermines that resilience?
- 300+ community resilience groups?
- 5G in drought monitoring in local communities
- Local water treatment – How local is local?
- Communication around water vulnerability in Scotland – building or mapping
- Communicating at a local level
- Role of water companies/challenges with the privatisation of water resources
- Scottish water

Areas of interest for future research:

- Place-based work, live examples, case studies, joining the dots. Focus on inequalities. Demographics.
- Metrics / measurement of resilience. Can it be done?
- Articulating risk – note there is a difference between uncertainty and risk. Risk/failure - it's measurable in engineering but it's not measurable.
- Presenting research into a policy-oriented environment – how? Need to get better at that.
- How to make recommendations to policy makers given the levels of uncertainty involved in resilience / predicting future events
- Better decision-making by policy makers / practitioners – access to data and dealing with uncertainty
- Understanding resilience as an interdisciplinary issue
- Systems resilience – the big picture. E.g., example of Norway where they've invested in hydro energy but are getting less energy from it now (because of climate change?). Could this have been anticipated?