



- (1) UK HEALTH SECURITY SERVICE
- and
- (2) UNIVERSITY OF BRISTOL

## **MEMORANDUM OF UNDERSTANDING**

**This Memorandum of Understanding (which expression shall include the Annexes) ("MoU") is dated 02 March 2023**

**Between**

- (1) **UK Health Security Service** (the "**Authority**") an executive agency sponsored by the Department of Health and Social Care of Nobel House, 17 Smith Square, London SW1P 3JR ("**UKHSA**"); and
- (2) **University of Bristol** of Beacon House, Queens Road, Bristol BS8 1QU (the "**Partner**").

together the "**Parties**" and each a "**Party**".

**Background and Policy Context**

- (A) The aim of this project is to scope and pilot the development of a vulnerability map for England to support adaptation and resilience work
- (B) By the terms of this MoU University of Bristol will undertake activities outlined in Annex A – Partner Activities
- (C) This MoU establishes the responsibilities of the Parties and the general principles for their cooperation.
- (D) This MoU is not intended to be legally binding and no legal obligations or legal rights shall arise between the Parties from the provisions of the MoU. However, the Parties enter into the MoU intending to honour their obligations.

**NOW THEREFORE** the Parties have agreed to cooperate under this MoU as follows:

**1. Interpretation**

- 1.1. Unless the context otherwise requires, references to this MoU shall be construed as a reference to this MoU as varied or amended in accordance with its terms. Reference to a person includes a legal entity, words importing a gender include all genders and words importing the singular include the plural and vice versa.

**"Activities"** means agreed activities set out in Annex A and **"Activity"** shall be construed accordingly.

**"Background Intellectual Property"** means Intellectual Property owned by a Party prior to the commencement of the Agreement or developed independently of it, that a Party is willing and able to make available for the purposes of the Activities. Specifically including flood projections for the Local Authority South Gloucester for different climate scenarios and timelines.

**“Crown”** means the government of the United Kingdom (including the Northern Ireland Executive Committee and Northern Ireland Departments, the Scottish Executive and the National Assembly for Wales), including, but not limited to, government ministers, government departments, government offices and government agencies.

**“Confidential Information”** means any information which has been designated as confidential by either Party in writing or that ought to be considered as confidential (howsoever it is conveyed or on whatever media it is stored) including information the disclosure of which would, or would be likely to, prejudice the commercial interests of any person or trade secrets and all personal data and sensitive personal data within the meaning of applicable legislation. Confidential Information shall not include information which:

- (a) was public knowledge at the time of disclosure (otherwise than by breach of a duty of confidence by either Party);
- (b) was in the possession of the receiving Party, without restriction as to its disclosure, before receiving it from the disclosing Party;
- (c) is received from a third party (who lawfully acquired it) without restriction as to its disclosure; or
- (d) is independently developed without access to the Confidential Information.

**“Data Protection Legislation”** means (i) the UK GDPR as amended from time to time; (ii) the Data Protection Act 2018 as amended from time to time; (iii) regulations made under the Data Protection Act 2018; (iv) all applicable law about the processing of Personal Data.

**“Intellectual Property Rights”** means patents, utility models, inventions, trade marks, service marks, logos, design rights (whether registrable or otherwise), applications for any of the foregoing, copyright, database rights, domain names, plant variety rights, know-how, trade or business names, moral rights and other similar rights or obligations whether registrable or not in any country (including but not limited to the United Kingdom) and the right to sue for passing off.

**“MoU Representatives”** means the lead representatives of each Party (one to be provided by each Party), as described in paragraph 4.

**“Personal Data”** and **“Processing”** have the meaning given in the UK GDPR.

**“Principles”** has the meaning set out in paragraph 3.

**“UK GDPR”** means the General Data Protection Regulation (Regulation (EU) 2016/679) as transposed into United Kingdom national law by operation of section 3 of the European Union (Withdrawal) Act 2018, together with the Data Protection, Privacy and Electronic Communications (Amendments etc.) (EU Exit) Regulations 2019.

## **2. Parties’ Responsibilities:**

- 2.1. The Partner will perform the Activities described in Annex A. The Authority shall make payments to the Partner for satisfactory completion of Activities as per the funding terms in Annex A.
- 2.2. The Partner will ensure it complies with the terms of all applicable laws in carrying out the Activities.

## **3. Principles of collaboration and the Parties’ responsibilities**

- 3.1. The Parties will adopt the following principles (**“Principles”**) at all times in respect of this MoU:
  - (a) the Parties will:
    - (i) be accountable to each other for performance of their respective roles and responsibilities as set out in this MoU;
    - (ii) share information, experience, materials and skills to learn from each other and develop effective working practices, work collaboratively to identify solutions, eliminate duplication of effort, mitigate risk and reduce cost;
    - (iii) comply with the law and best practice, including any relevant Governmental protocols and guidance;
    - (iv) act in a timely manner;
    - (v) ensure sufficient and appropriately qualified employees and other necessary resources are available and (in the case of employees) authorised to fulfil the responsibilities set out in this MoU.

## **4. Liaison between the Parties**

- 4.1. Formal contact between the Parties will be through the MoU Representatives. The MoU Representatives are:

**The Authority:** Matthew McLachlan, Business Operations Manager.  
Centre for Climate Change & Health Security (part of UKHSA).

**The Partner:** Prof. Daniela Schmidt, University of Bristol.

Either Party may change their MoU Representative at any time by notifying the other in writing.

4.2. The MoU Representatives shall:

- (a) meet at least twice during the duration of the MOU at a time and place to be mutually agreed to review the Activities carried out under, and the operation of, this MoU and to address any issues arising from this MoU;
- (b) provide assurance to the Parties that the Activities agreed between the Parties are being undertaken and that work is proceeding in accordance with the Principles; and
- (c) document key decisions in writing.

**5. Charges and liabilities**

- 5.1. Except as otherwise provided in this MoU, each Party shall bear its own costs and expenses incurred in complying with its obligations under this MoU.
- 5.2. Both Parties shall remain liable for any losses or liabilities incurred due to their own or their employees' actions.

**6. Use of Third Parties**

- 6.1. The Partner will seek written consent from the Authority before using any third party to perform any of the Activities.

**7. Intellectual Property Rights**

- 7.1. Any Intellectual Property Rights excluding Background Intellectual Property or improvements to Background Intellectual Property that arise from or are developed by either Party in carrying out the requirements of this MoU ("**Foreground IPR**") shall be vested in and owned by the Crown.
- 7.2. Both Parties will work together to ensure that in the performance of the Activities the use of any Foreground IPR does not infringe any Intellectual Property Rights belonging to a third party.

**8. Freedom of Information and Communications to the Public**

- 8.1. Each Party will provide to the other Party any information in its possession that may be reasonably requested by the other Party, subject to any confidentiality constraints, safeguards and statutory rules on disclosure. Each Party will consult the other Party before making to any third party any significant disclosures of information under the Freedom of Information Act 2000 and/or the Environmental Information Regulations 2004 in relation to this MoU.
- 8.2. The requirements in this paragraph 8 and paragraph 9 (Confidential Information) below are subject to any Government requirements as to transparency which may apply to either or both Parties from time to time.

## **9. Confidential Information**

- 9.1. Each Party understands and acknowledges that it may receive or become aware of Confidential Information of the other Party (which may include information where the other Party owes a duty of confidence to a third party) whether in the course of performance of the Activities or otherwise.
- 9.2. Except to the extent set out in this paragraph 9 or where disclosure is expressly permitted elsewhere in this MoU, each Party shall treat the other Party's Confidential Information as confidential and safeguard it accordingly (which shall include complying with any protective markings on documents and instructions supplied by the other Party). In particular, neither Party will do anything that may place the other Party in breach of a duty of confidence owed to a third party. A Party receiving Confidential information shall not disclose Confidential Information to any non-Crown bodies without the prior consent of the other Party.
- 9.3. The obligations of confidentiality in this paragraph 9 shall continue in force notwithstanding termination of this MoU.
- 9.4. The Partner intends to produce academic publications from the analysis of the data by the Partner. In advance of a proposed academic publication by the Partner the Partner shall provide the Authority with the proposed publication 30 days in advance of the publication date. Publication of work directly relating to the proposal in Annex A will be co-developed and co-written with the Authority.
- 9.5. The Partner is obliged to demonstrate the impact of their research and to this effect the Authority agrees to provide to Partner, on completion of the Activity, a letter of support to include, for example effects, changes or benefits to the economy, society, public policy or services, health and the environment, or other relevant impacts.

## **10. Protection of Personal Data**

- 10.1. The Parties will comply with their responsibilities under the Data Protection Legislation and will not use any Personal Data exchanged under this MoU for any purposes which are incompatible with the Data Protection Legislation. No data or information collated and/or exchanged under this MoU should be used for commercial purposes without the prior written agreement of the supplying Party (which use may be conditioned as the supplying Party sees fit).
- 10.2. Each Party must ensure that Personal Data collated or exchanged under this MoU is not transferred outside the UK without the prior agreement of the other Party.

## **11. Resolution of disputes**

- 11.1. Any dispute between the Parties arising out of or in connection with this MoU

shall in the first instance be resolved amicably between the Parties through the MoU Representatives and, if no resolution is reached, referred to the following senior personnel (at Director level):

(a) **For the Authority:** [REDACTED].

(b) **For the Partner:** [REDACTED]

## **12. Term and Termination**

12.1. This MoU shall commence on Signatory date and (subject to earlier termination on the terms of this MoU) shall end on 31 March 2023 the contract may be extended by the written agreement of the Parties.

12.2. This MoU may be terminated by either Party at any time by giving written notice to the other Party.

12.3. A Party terminating this MoU further to this paragraph 12 will give as much notice as reasonably possible and will offer all reasonable assistance to ensure an effective handover of Activities, if required, and to mitigate the effects of termination on the other. In particular, a Party terminating this MoU shall take reasonable steps to ensure the other Party is not put at risk of action for breach of any statutory or other legal obligations as a result of terminating this MoU. This will include compliance with the further specific handover requirements set out below.

12.4. If for any reason this MoU is terminated, the Authority may:

- (a) give such directions to the Partner for the purpose of making arrangements for the handover of Activities (whether the Authority will continue the Activities itself or seek to agree replacement services with a third party); and/or
- (b) authorise another party to take over all or part of the Activities as the Authority may specify.

12.5. The Partner shall co-operate fully with the Authority during any handover arising from the expiry or termination of this MoU. Such co-operation shall extend to allowing full access to, and providing copies of, all documents, reports, summaries and any other information necessary, within legal constraints, to the Authority or such other third party (or parties) authorised to take over all or part of the Activities in order to achieve an effective transition without disruption to routine operational requirements.

## **13. Financial Consequences of exit from the MoU by an individual Party**

13.1. On termination of this MoU, a financial adjustment will be agreed according to the principle that the Authority will only be obliged to pay for Activities performed in accordance with the provisions of this MoU up to the date of termination (and upon termination the Partner shall provide a final report

detailing the Activities it has performed).

- 13.2. Where the Authority has paid any sums in advance, the Partner will promptly arrange for repayment of amounts it has received for Activities it has not performed (such amounts to be agreed with the Authority based on the final report provided further to the above paragraph 13.1).

#### **14. Review and audit of the MoU**

- 14.1. In addition to the regular review meetings to discuss performance in accordance with paragraph 4.2, the Parties will review this MoU at least every six (6) months, and whenever substantial changes occur to the policies, external relationships and structures of the Parties concerned. Any changes to this MoU will only be effective if set out in writing and signed by both Parties.
- 14.2. Each Party shall keep and maintain until six (6) years after termination of this MoU, full and accurate records of the Activities and all sums received in respect thereof. Each Party shall on request afford the other Party or their representatives such access to those records as may be requested in connection with the MoU or as otherwise required in connection with audit requirements (including, without limitation, audit by the National Audit Office).

#### **15. Miscellaneous**

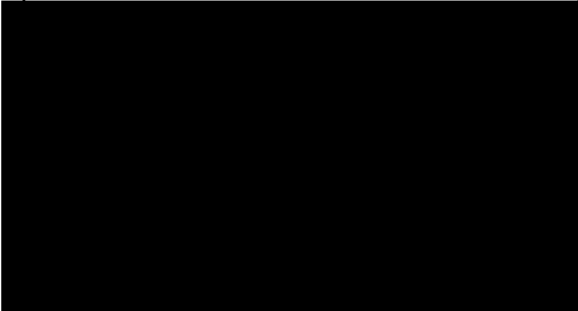
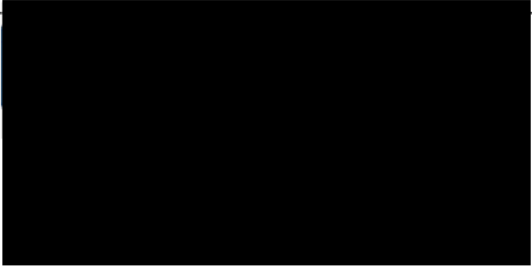
- 15.1. This MoU does not confer any rights on any third party. Nothing in this MoU shall be interpreted as limiting, superseding, or otherwise affecting any Party's normal operations in carrying out its statutory, regulatory or other duties. This MoU does not limit or restrict either Party from participating in similar activities or arrangements with other entities.
- 15.2. The Authority reserves the right to vary the requirements of the MoU should this become necessary at any time, following discussion with the Partner. The Parties will confirm all agreed variations in writing.
- 15.3. The Party's undertake to make no claim in connection with this Agreement or its subject matter against any employees, students, agents or appointees of the other party (apart from claims based on fraud or wilful misconduct). This undertaking is intended to give protection to individual researchers: it does not prejudice any right which a party might have to claim against any other party.
- 15.4. The liability of either Party for any breach of this Agreement, or arising in any other way out of the subject-matter of this Agreement, will not extend to loss of business or profit, or to any indirect or consequential damages or losses. In any event, the maximum liability of either Party under or otherwise in connection with this Agreement or its subject matter shall not exceed £15,000.
- 15.5. If any such variations require an adjustment to the Activities or the fees payable then the Parties will seek to reach an agreement on how these variations



should be managed and documented. The Authority shall have no obligation to incur any further costs under this MoU, nor shall the Partner be required to perform additional Activities unless and until this has been agreed in writing.

**SIGNATORIES**

The duly authorised representatives of the Parties affix their signatures below

Signed on behalf of the University of	Signed on behalf of the UK Health
	
Date Signed: 23/03/23	Date Signed: 23/03/2023

## **Annex A. The Partner's Activities**

### **Climate and Health Security Vulnerability Mapping**

#### A UK Health Security Agency – University of Bristol – South Gloucestershire Local Authority (LA) collaboration

##### **Overview:**

In 2022 people in England were exposed to the highest temperatures since records began.<sup>(1)</sup> These extreme temperatures were associated with the highest excess mortality figures during heat periods, with an estimated 2,803 excess deaths in people aged 65 and over. <sup>(1)</sup> The 2019-2020 winter floods in England caused an estimated £333million economic damage, <sup>(2)</sup> and the cost from extended health effects, particularly mental health, may be even higher. <sup>(3)</sup> Lifetime exposure to extreme weather events for children born in 2020 will be about 50% greater at 3.5°C compared with 1.5°C global warming level. <sup>(4)</sup> Understanding population vulnerability to the impacts of climate change is urgently needed to reduce risks through enabling adaptation. Research has attempted to define, weight and bring together relative markers of social vulnerability including demographics, social strata, and health quality at regional and national levels <sup>(5-7)</sup> but this area is currently insufficiently understood, particularly at the local level. <sup>(4)</sup> Knowledge gaps are particularly evident in understanding the relationship of vulnerability indicators to outcomes, <sup>(8)</sup> and when allowing full complexity into models or frameworks, including multiple risks or interactions. <sup>(9, 10)</sup> There remains a need to bring together information in an accessible manner to facilitate and support adaptation efforts and to increase resilience.

The University of Bristol (UoB)'s Cabot Institute, the Elizabeth Blackwell Institute and Jean Golding Institute will collaborate with UK Health Security Agency (UKHSA)'s Centre for Climate and Health Security to fill this knowledge gap by mapping vulnerability to climate change-related risk at a local scale working for this pilot with South Gloucestershire LA.

##### **Aim and objectives:**

The aim of this project is to scope and pilot the development of a vulnerability mapping tool for England to facilitate and support adaptation efforts and help increase resilience. This pilot will be undertaken with South Gloucestershire LA as the pilot area, to inform future England or UK-wide work.

Vulnerability information from local authority sources and the Office for National Statistics (ONS) will be mapped along with selected climate hazards data provided by UoB academics and through UoB's and UKHSA's Met Office Academic Partnerships and the Environment Agency. Available climate-related data include local-scale present-day observations and future climate projections.

The objectives are:

1. Understand local perspectives on vulnerability to climate change and information needs to support adaptation and resilience efforts.
2. Define vulnerability to the adverse impacts of climate change in the context of England.
3. Bring together sociodemographic, meteorological, health and environmental data as needed into a comprehensive dataset.
4. Consider options for presentation of data into mapping format.
5. Pilot and evaluate the tool.

**Work plan:**

This work will occur over several phases (below).

**Phase 1** (aim complete by March 2023)

Feasibility scoping / development of the specification:

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

**Phase 2**

[REDACTED]

[REDACTED]

[Redacted]

Later planned phases, not covered in this proposal:

**Phase 3**

[Redacted]

**Phase 4**

[Redacted]

**Phase 5**

[Redacted]

**Outputs:**

The final product is an interactive vulnerability mapping tool. The output of phase one is likely to be static maps as examples, depending on functionality of the tool at the early stages. The vulnerability data input, combined with climate-related hazard input into an index, defines risk from climate change in a way that will be novel in its ability to be scaled up to include further metrics and climate hazards, as other related work on metrics and toolkits also progresses.

The work covered by phase will be written up and published in a peer-reviewed paper aiming to explore the processes of selecting and defining local-level vulnerability and hazard criteria through the collaborative efforts of the involved organisations; this is not currently available in the scientific literature.

The work has added value in strengthening partnerships and collaborative working processes with UKHSA, academic institutions and local authorities. There is potential direct value as a feasibility study for other work ongoing in the development of the centre for climate and health security at UKHSA.

**Working group:**

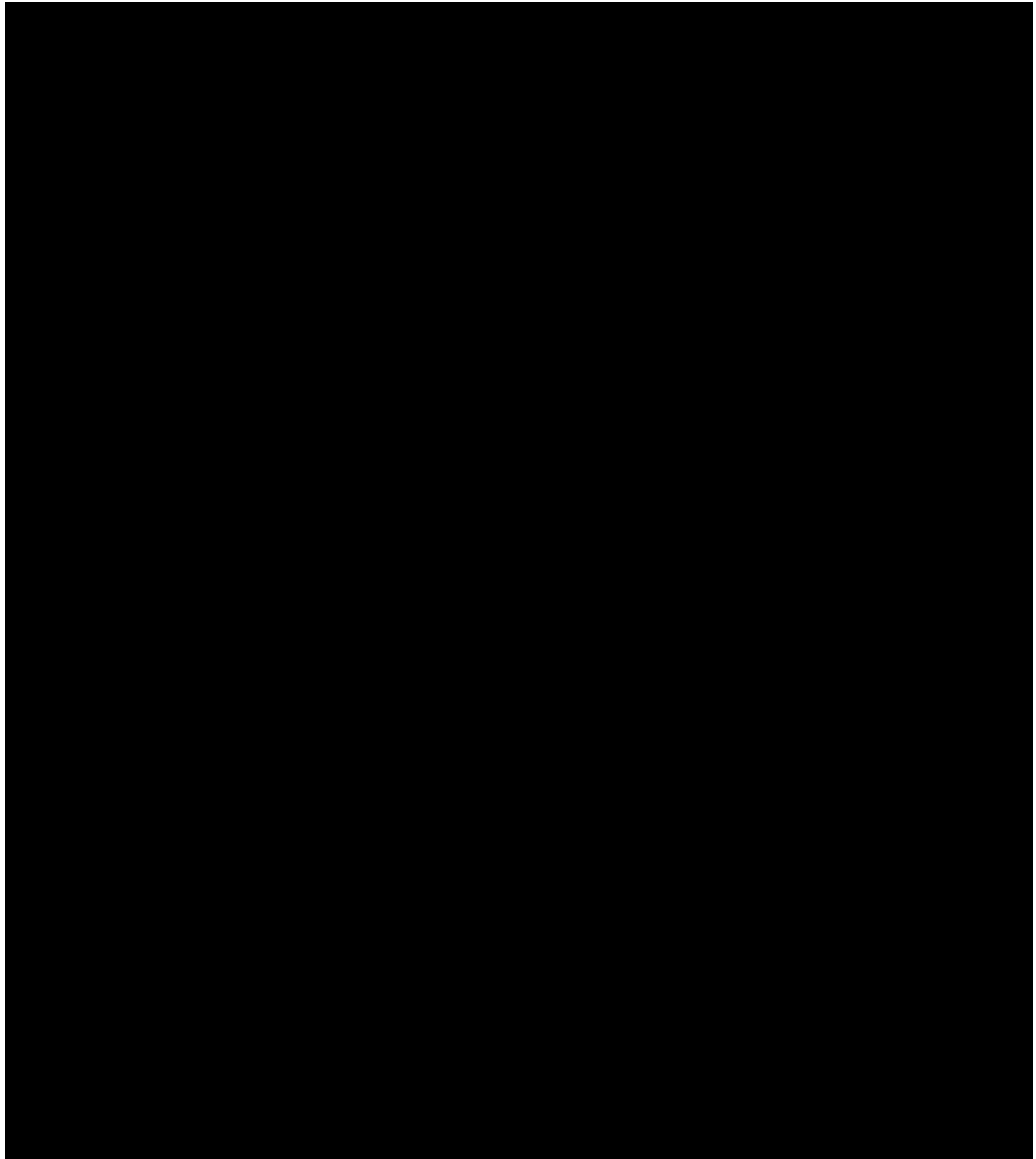
Position	Person identified	Specific tasks and responsibilities	Organisation
Strategic Oversight	[Redacted]	[Redacted]	UKHSA

Working oversight group	[REDACTED]	[REDACTED]	UKHSA
Project management	[REDACTED]	[REDACTED]	UKHSA
Academic climate hazard lead	[REDACTED]	[REDACTED]	UoB
Academic climate vulnerability lead	[REDACTED]	[REDACTED]	UoB
Data analytics	[REDACTED]	[REDACTED]	UoB
GIS lead	[REDACTED]	[REDACTED]	UKHSA
Data and analytical science support	[REDACTED]	[REDACTED]	UKHSA
Local authority lead	[REDACTED]	[REDACTED]	SG LA
Local authority data lead	[REDACTED]	[REDACTED]	SG LA
Flood expertise	[REDACTED]	[REDACTED]	UoB

**Proposed UoB funding requirement:**

- £13,381.01 for [REDACTED] from UoB.
- £2,000 open access publication fee.

**References:**



## **Annex B. The Authority's commitments**

Not Applicable

## **Annex C. Costs**

Please see Annex A – Partner activities