

Terms of Reference 1: Project Inception

Short Form Agreement for Consultant Engagement

Between: Buller District Council ('Client') and Dextera Limited ('Consultant')

Collectively referred to herein as the "Parties" and individually as a "Party"

Project: Climate Change Adaptation Planning Project	Location: Westport
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Objective: To establish and deliver a strategic approach to identifying and managing the Buller District's risks associated with climate change through the development of a climate change adaptation strategy, comprising a series of detailed action plans for priority risks and opportunities.

Scope & nature of the Services: Professional services relating to the delivery of a climate change adaptation strategy and plan.

Specifically, this will include:

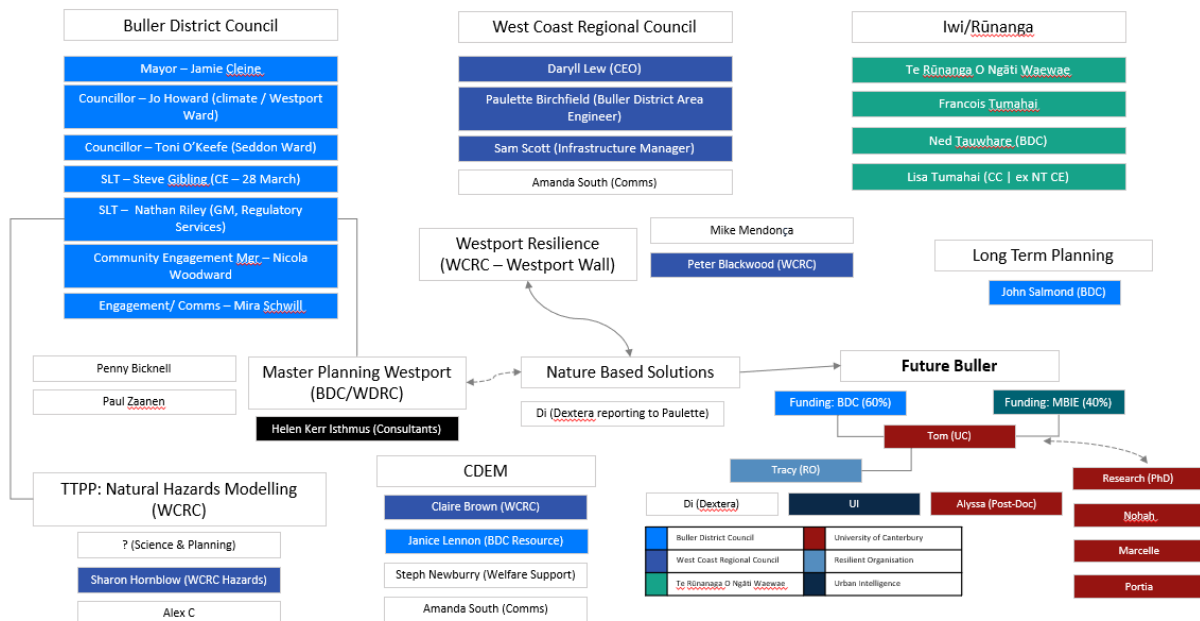
1. Developing and project managing the climate change adaptation planning process for the Buller District, on behalf of the Buller District Council, based on the Local Climate Change Risk Assessment guidance, including scope, quality, budget, schedule, and outcome needs,
2. Working with Council governance and iwi, via the Regulatory and Hearings Committee, to achieve engagement and endorsement,
3. Engaging with Ngāti Waewae directly to ensure iwi perspectives are appropriately represented in the climate change strategy and plan,
4. Engaging with MfE, WCRC and other relevant organisations to achieve project support,
5. Consulting with the community and stakeholders to engage the community, identify social, cultural, economic, and environmental values at risk and provide opportunity for community feedback into the adaptation planning process,

We will provide other services as may be required and requested by Council in relation to the above deliverables, as requested by Sharon Mason.

Terms of Reference 2: Head contract BDC and UC (refer attached)

Terms of Reference 3: Statement of work package #3 (refer attached)

Terms of Reference 4: Ecosystem



Research Contract

UC Ref:	E7841
Funder Ref:	

Key Details

Parties	
Between	University of Canterbury, an educational institution incorporated under the University of Canterbury Act 1961, governed in accordance with the Education and Training Act 2020, with offices situated at Ilam Road, Christchurch, New Zealand. (UC)
And	Buller District Council, a local authority with its principal office at 6 Brougham Street, Westport (Funder)

Research Title	Climate Adaptation in the Buller District		
Start Date	1 June 2023	End Date	30 December 2023
UC Key Personnel	Dr Tom Logan	Funder Contact	Douglas Marshall

Background

The Funder wishes to engage UC to undertake the Research and provide the Deliverables, and UC agrees to the same, on the terms set out in this Contract.

Funding	\$230,000	payable in New Zealand Dollars plus GST (as applicable) in accordance with the Payment Schedule in the Statement of Work.
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The documents forming this Contract are:

1. Key Details Page 1
2. General Terms Schedule 1
3. MoU Schedule 2
4. Statement of Work Schedule 3
5. Any other attachments described as below

The above documents apply in the descending order of precedence above, except that in the event of inconsistency between the General Terms and SOW, the SOW prevails.

List attachments or if nil, insert N/A
 N/A

Acceptance

Authorised Signatory – UC		Authorised Signatory – Funder	
Signature		Signature	
Name	Rebecca Hurreli Deputy Director Te Rōpū Rangahau Research & Innovation	Name	Sean Judd
Title		Title	Acting CEO
Date	28/6/2023	Date	6 June 2023

SCHEDULE 1 - GENERAL TERMS

The Parties agree that the Contract applies to the Research and the Funding, to the exclusion of all other terms.

1. DEFINITIONS AND INTERPRETATION

1.1 Capitalised terms used in this Contract have the meanings ascribed to them in the Key Details or SOW, unless otherwise defined below:

Background IPR means all IPR owned or licensed by a Party at the date of this Contract or developed or acquired by a Party during the term of this Contract.

Confidential Information means all information and materials disclosed by one Party to another which is by its nature confidential or which the discloser advises the recipient is confidential and includes the terms of this Contract;

but does not include:

- (a) information which at the date of this Contract is in the public domain or subsequently enters the public domain without fault on the part of the recipient;
- (b) information that is received in good faith by the recipient from a third party not owing (directly or indirectly) any obligation of confidentiality to the disclosing Party; or
- (c) information which is at the date of this Contract, independently acquired or developed by, or already properly in the possession of, the recipient and which the recipient can demonstrate by written record to be previously known to the recipient.

Contract has the meaning given to it in the Key Details.

Deliverables mean any deliverables described in the SOW.

Funder Property means the items listed in the SOW which the Funder owns or otherwise has a right to use and which will be provided to UC for the purposes of carrying out the Research.

General Terms means these *General Terms*, which form Schedule 1 to the Contract.

HSW Act means the Health and Safety at Work Act 2015 (and any amending or substituting legislation)

IPR means all intellectual property rights and industrial property rights (whether protectable by statute, at common law or in equity, and whether or not registered or registrable) including copyright, patent rights in relation to an invention and design rights in relation to a design.

Key Details means the terms set out on page 1 of the Contract.

New IPR means any new IPR arising from the performance of the Research (including any such new IPR in the Deliverables), but excludes Background IPR and (unless expressly provided otherwise herein) improvements to the same.

Reports mean any Reports described in the SOW.

Research means the Research described in the SOW, or any agreed variations.

SOW means the Statement of Work, which forms Schedule 3 to this Contract, and any further SOW agreed by the parties from time to time.

Working Day means any day other than a Saturday, Sunday, public holiday in New Zealand, and any day from 24 December to 5 January inclusive in any year.

2. RESEARCH CONDUCT

2.1 UC will undertake the Research (which includes meeting any Milestones) and use all reasonable endeavours to provide the Deliverables within the timeframes specified in the SOW, or otherwise by the End Date.

2.2 UC agrees to exercise reasonable skill, care and diligence in undertaking the Research, consistent with standards generally accepted in the scientific and engineering professions.

2.3 UC will carry out the Research in compliance with applicable laws and regulations. UC will use its reasonable endeavours to obtain all consents required to carry out the Research. UC will, whenever requested by the Funder, produce documentation showing the necessary consents have been obtained. UC will notify the Funder if any required consent is not able to be obtained, expires, is withdrawn, or otherwise lapses. UC reserves the right to terminate this Contract if any consent required for the Research is not able to be obtained.

2.4 UC is responsible for supplying its own materials, instruments and equipment for the performance of the Research. Unless agreed otherwise, ownership of such materials belongs to UC.

2.5 UC will keep all Funder Property safe and secure and not dispose of any such property without the prior written authority of the Funder.

3 HEALTH & SAFETY

3.1 Both Parties undertake to comply with their respective obligations under the HSW Act in relation to the Research to be carried out under this Contract. This includes an obligation to co-operate and consult with each other in relation to worker health and safety where they have overlapping obligations as a Person in Control of a Business or Undertaking (PCBU) under the HSW Act.

3.2 UC (as provider of the Research), and both parties (in the case of activities that are being undertaken jointly or with access to each other's site(s)):

- (a) warrant that they have appropriate Health and Safety policies and procedures in place for the duration of this Contract including:
 - i. safety plan covering specific hazards identified and control measures applied where appropriate;
 - ii. a process for identifying and managing new hazards;
 - iii. personal protective equipment available and used when required;
 - iv. procedures in place for dealing with emergencies;
 - v. accident recording and investigation procedures in place.
- (b) will notify the other of serious harm incidents which arise out of or during this Contract and such bodies and/or persons required under the HSW Act, or any amending or substituting legislation, as soon as possible after the incident occurs.
- (c) will notify the other in writing of all accidents or incidents notified, arising out of or during this Contract.
- (d) Where either Party's personnel conducts activities at the premises of the other Party, that Party who is in control of those premises will ensure a proper Health and Safety induction before any activities are carried out.

4 PERSONNEL

4.1 The Key Personnel will be engaged to carry out the Research in the manner described in the SOW, however the Funder recognises that other UC personnel may be involved in undertaking the Research. UC will ensure that all personnel involved in the Research have the necessary skills, experience,

- training, equipment and resources to successfully perform the Research and produce the Deliverables.
- 4.2 UC will not delegate nor replace the Key Personnel specified in the Statement of Work to perform its obligations under this Contract without the Funder's prior written consent (not to be unreasonably withheld or delayed).
- 5 REPORTING AND PROGRESS**
- 5.1 UC will keep records in relation to the Research in accordance with the Public Records Act 2005 and, subject to any prohibitions at law, will make them available to the Funder as reasonably required.
- 5.2 In addition to any Reports required under the SOW, UC will supply the Funder with updates on the progress of the Research at such times reasonably requested by the Funder. The Parties will also meet as specified in the SOW to review UC's progress in undertaking the Research.
- 6 CHANGE EVENTS**
- 6.1 In relation to the SOW the following matters constitute change events ("Change Event"):
- (a) it becomes apparent to a Party that a Deliverable cannot be, or is unlikely to be, completed and delivered by the dates specified in, or in the manner contemplated by, the SOW;
 - (b) the Funder (acting reasonably) is not satisfied with the progress UC has made in relation to the delivery of a Deliverable, or any significant aspect of the Research; or
 - (c) there is a change in involvement of Key Personnel and an adequate replacement is unable to be found within a reasonable time.
- 6.2 A Party must give the other Party written notice as soon as reasonably practicable after it becomes aware that a Change Event has occurred, or is likely to occur.
- 6.3 Where a variation to the SOW is proposed as a result of a Change Event, the Parties will do everything necessary to give effect to that variation in writing, including agreeing to any variation to the SOW.
- 6.4 Where a variation to the SOW is proposed and UC does not agree to that variation, either Party may terminate this Contract on thirty (30) days' written notice to the other Party.
- 6.5 The Parties agree neither Party may raise a dispute under clause 13 if a Change Event is notified under clause 6.2.
- 7 PAYMENT**
- 7.1 The Funder will pay UC the Funding for the Research upon receipt of a valid invoice, as detailed in the Payment Schedule in the SOW. Any payment above the stated maximum in the SOW must have express, prior written approval of the Funder unless those amounts are specified to be estimates (but UC will consult with the Funder if it becomes apparent that any cost estimate will or is likely to be exceeded).
- 7.2 UC invoices will be paid by the Funder no later than 30 days following invoice, unless a dispute arises in connection with that invoice. In that case, the Funder may withhold the disputed amount (but not any amount which is not in dispute).
- 8 INTELLECTUAL PROPERTY RIGHTS**
- 8.1 Background IPR owned by a Party will remain with that Party. Each Party acknowledges and agrees that it will not have any claim, ownership or interest in another Party's Background IPR or any improvements in such Background IPR other than expressly set out herein.
- 8.2 All New IPR will automatically vest in UC on creation. UC grants the Funder a royalty free, non-exclusive licence to the New IPR (and any relevant Background IPR embodied in the Deliverables) to enable the

- Funder to have the benefit of the Deliverables, and to use, copy and distribute (but not modify) the Deliverables, solely for the purposes for which the Deliverables were commissioned. For the sake of clarity, the licence granted in clause 8.2 does not include, other than with UC's prior written consent a right for any person other than the Funder to rely on a Deliverable for any purpose.
- 8.3 The Funder grants UC a royalty-free, non-exclusive license to use its relevant Background IPR for the purposes of carrying out the Research.
- 8.4 No representations or warranties are made or given by either Party in relation to Background IPR. However, each Party making available Background IP acknowledges that as far as it is aware, such Background IPR when used in accordance with this Contract will not infringe any third party Intellectual Property rights
- 9 TERM AND TERMINATION**
- 9.1 Irrespective of the date of signing, this Contract will commence on the Start Date and terminate on the End Date, unless terminated earlier in accordance with this clause 9.
- 9.2 This Contract may be terminated by either Party on notice in writing to the other Party if such other Party is in breach of this Contract and does not remedy the breach within thirty (30) days from the date of service of a notice in writing specifying the breach and requiring its remedy.
- 9.3 Where termination of this Contract before completion of the Research is due to the Funder being in breach of this Agreement, the Funder will pay to UC the full Funding as outlined in the SOW. However, where termination is due to a circumstance other than the Funder being in breach of this Agreement, the Funder will pay to UC that portion of the Funding which is equal to the portion of Research completed to date plus the cost of any labour, materials, services or committed funds undertaken, made or ordered by UC in anticipation of full performance of the Research and expenses incurred at the date of termination (and UC may set off any unspent Funding against this amount).
- 9.4 On termination of this Contract, UC will return to the Funder any unspent Funding which is not attributable to any committed expenses or other costs incurred in accordance with this Contract.
- 9.5 Termination of this Contract will be without prejudice to the rights and remedies of the Parties that have accrued prior to termination, including for any prior breach of this Contract.
- 10 CONFIDENTIALITY**
- 10.1 The recipient of Confidential Information will:
- (a) keep it in the recipient's possession and treat it as confidential regardless of when disclosed;
 - (b) not use any Confidential Information belonging to the other Party for any purpose other than as required in terms of this Contract; and
 - (c) only disclose Confidential Information to employees, officers, students, approved subcontractors or professional advisers on a need to know basis and will be liable to the discloser for any breach by those persons of these confidentiality obligations.
- 10.2 The obligation of confidentiality will not, however, apply to information that:
- (a) is already known to the party to which it was disclosed;
 - (b) is in, or becomes, part of the public domain without a breach of this Contract;
 - (c) is obtained from third parties which have no obligation to keep confidential to the contracting parties;
 - (d) is agreed in writing between the parties not to be confidential; or

- (e) is required to be disclosed by law.
- 10.3 The recipient will, on demand by the disclosing Party at the option of the disclosing Party promptly:
- (a) return to the disclosing Party Confidential Information which is reasonably capable of being returned; and/or
 - (b) destroy Confidential Information;
- (including copies or reproductions of the same) which is in the possession or control of the recipient.

- 10.4 The Parties acknowledge that any breach of these confidentiality obligations may result in damages for which monetary compensation would not be an adequate remedy. The affected Party is entitled to specific performance or injunctive relief in addition to any other remedies at law or in equity.

11 PUBLICITY / ENDORSEMENT

- 11.1 Neither Party will use the name or logo of the other Party or the names of any staff or employees of the other Party in relation to this Contract, in the media or publicity or in any endorsement, without the prior written permission of the other Party.

12 PUBLICATION

- 12.1 The Parties recognise the importance of publishing the Research on an open source or otherwise public basis, as further described in clause 18. Publications are encouraged, subject to a copy of any proposed publication being supplied to the Funder for review at least one (1) month prior to its submission or presentation. The Funder may require the removal of any commercially sensitive Confidential Information. The Funder has ten (10) Working Days to inform UC of such commercially sensitive Confidential Information and no response will be deemed approval and acceptance of the proposed publication. Following the removal of such commercially sensitive information, the Funder will have no further right to object to the proposed publication.

- 12.2 The Parties agree that there will be no constraints applied to the publication of theses. In exceptional circumstances, publication of a thesis may be subject to an embargo for a period of time to be determined by UC to allow for the filing of applications to protect any New IPR.

13 DISPUTE RESOLUTION

- 13.1 If any dispute arises as to the terms of this Contract, then either Party may give written notice to the other Party of that dispute. The Parties will endeavour to resolve it quickly and fairly in good faith.
- 13.2 If the dispute or difference cannot be settled by good faith negotiation between the Parties within ten (10) Working Days of the dispute or difference arising, such dispute or difference may be referred by either Party to the mediation of a single mediator agreed to by both Parties, or failing that, appointed by the President for the time being of the New Zealand Law Society or his/her nominee.
- 13.3 If the dispute or difference cannot be settled within thirty (30) Working Days (or such other period agreed by the Parties) of the dispute or difference being referred to mediation pursuant to clause 13.2, either Party may commence court proceedings and will be entitled to exercise all rights and remedies available to it at law.
- 13.4 Nothing in this clause 13 will prevent either Party from commencing court proceedings for the purposes of seeking urgent interlocutory relief or non payment of undisputed debts.

14 FORCE MAJEURE

- 14.1 Neither Party will be responsible for any failure or delay in complying with the terms of this Contract, other than an obligation to make payment, where such

failure or delay results from events beyond its reasonable control. The frustrated Party is to resume its obligations under this Contract as soon as it reasonably can after the force majeure event ceases. If such force majeure is not remedied within thirty (30) Working Days of its initial occurrence the other Party may terminate this Contract with immediate effect on written notice to the frustrated Party.

15 LIABILITY

- 15.1 To the extent permitted by law:

- (a) neither party gives any warranties, representation or undertakings to the other except as expressly set out herein;
- (b) neither party will be liable for any consequential or indirect loss, liability or damage of the other, or loss of income, revenue, profit, or savings; and
- (c) UC's total aggregate liability to the Funder in connection with this Contract, the Research and the Deliverables, whether arising in contract (including under any indemnity), tort (including negligence), statute or otherwise at law or in equity will not under any circumstance exceed in amount the total remuneration received by UC, as specified in SOW.

- 15.2 The Funder acknowledges that UC's liability under this Contract is solely to the Funder, and the Funder indemnifies UC against any costs, losses, claims or damages incurred by UC as a result of the Funder's or any third party's use of (or reliance on) the Research or the Deliverables.

16 PBRF

- 16.1 The Parties agree that, where appropriate, the total amount of the Funding under this Contract will, for Performance Based Research Funding purposes, be excluded by the Funder as External Research Income but may be recorded and reported as such by UC.

17 GENERAL

- 17.1 No amendment to this Contract is binding unless in writing and signed by an authorised representative of both Parties.
- 17.2 Nothing in this Contract will create, constitute or evidence any partnership, joint venture, agency, trust or employer/employee relationship between the Parties.
- 17.3 A failure by a Party to enforce a provision of this Contract will not constitute a waiver of any right to future enforcement of that or any other provision.
- 17.4 If any part of this Contract is unenforceable, invalid or illegal, the other terms will remain in force.
- 17.5 All clauses of this Contract that are intended to continue after termination, including clauses 7 (Payment), 8 (Intellectual Property Rights), 9 (Termination), 10 (Confidentiality), 13 (Dispute Resolution), 15 (Liability), 16 (PBRF) and 17 (General) will continue in full force and effect.
- 17.6 Any notice to a Party under this Contract will be deemed to have been delivered immediately upon hand delivery to the address of that Party in the specific terms, five (5) Working Days after posting within New Zealand to the address of that Party in the specific terms, ten (10) Working Days after posting overseas to the address of that Party in the specific terms, or immediately on receipt by the sender of evidence the notice has been successfully emailed to the contact person of that Party in the SOW.
- 17.7 UC may not assign its liabilities or rights under this Contract to any other person without the prior written consent of the Funder.
- 17.8 This Contract (including the SOW and any further SOWs agreed under it) records the entire understanding and Contract between the Parties regarding its subject matter and supersedes and extinguishes all prior agreements, statements, correspondence and undertakings, whether written,

- oral or both made between the Parties relating to the same subject matter. The Parties agree that in entering this Contract, they have not relied on any representation (including pre-contractual representations) other than those which are set out in this Contract.
- 17.9 This Contract will be read subject to any variations specified in the part of the SOW entitled "Variation to General Terms".
- 17.10 This Contract may be signed in counterparts, including by email, all of which, when taken together, will constitute one and the same document.
- 17.11 This Contract will be governed by New Zealand law and the Parties submit to the non-exclusive jurisdiction of the courts of New Zealand.
- 18 BIP CO-FUNDING**
- 18.1 The Research is co-funded by the Ministry of Business, Innovation and Employment's (MBIE) Building Innovation Partnership (BIP). Accordingly, the Funder hereby:
- (a) consents to UC providing other project co-funder(s) a copy of all Deliverables and providing information

- about the Research to MBIE and other funders of, and the participants in, the Building Innovation Partnership programme;
- (b) acknowledges that UC is obliged by MBIE to use its best endeavours to maximise the benefit of the New IPR to New Zealand and where possible, to make the New IPR available on an appropriate open-source basis for the benefit of UC, the Funder, other project co-funders and the building industry more generally, and the Funder will not interfere with UC fulfilling such obligation;
- (c) acknowledges that, where the Background IPR or New IPR incorporate material derived from open source or creative commons licences, such Background IPR and/or New IPR are licensed subject to the terms of the relevant licences and the parties agree to co operate to ensure that the relevant licence terms are complied with (eg attributed obligations); and
- (d) agrees to comply with any reasonable requests by UC to enable it to comply with its funding agreement with MBIE.

SCHEDULE 2 – MEMORANDUM OF UNDERSTANDING

Statement of Intent

The Buller District Council acknowledges the important contribution research makes to realise effective local government. However, the primary purpose of Buller’s Climate Adaptation Project is to support the district’s communities, particularly those most vulnerable to climate effects, through the continuous adaptation cycle. To achieve this, it is of utmost importance that community wellbeing is prioritised ahead of research objectives throughout the life of this project. This specifically means that where communities may be adversely affected by research findings, the Buller District Council has authority to control the public release or wider dissemination of all project-related research outcomes that makes identifiable the Buller district and/or those communities.

This project is being co-funded by the Building Innovation Partnership. This means that for every \$6 of funding from Buller DC attracts an additional \$4 from the MBIE Science Partnership Scheme. These additional funds will be used directly in the project to employ additional resources, namely a postdoctoral research fellow and postgraduate students. These resources will support several research publications on multi-hazard and multi-criteria adaptation planning and ensure that the Buller community is provided with the best-available methods.

Multi-Phase Adaptation Planning Process

Climate Adaptation in Buller is a multi-year process. However, to ensure BDC maintains complete control as to how it funds the project, the contract will be completed in distinct packages. This MoU provides visibility for the entire process. The SoW in Schedule 3 is for the first package.

Buller’s Climate Adaptation Project is being delivered within a wider context of national and regional legislative and funding uncertainty. The Project will support the 5th, 6th, and 7th stages of the Buller District Council’s climate adaptation planning programme:

- Stage 5 – Detailed Risk Assessment
- Stage 6 – Risk Ranking
- Stage 7 – Adaptation Action Planning

For the purposes of this contract, these stages will be addressed in four distinct packages of work:

- Package 1: June 2023-December 2023. The detailed risk assessment and risk prioritisation.
- Package 2: February 2024-December 2024. The draft adaptation plans developed.
- Package 3: February 2025-December 2025. The final adaptation developed.
- Package 4: February 2026-July 2026. The monitoring and evaluation recommendations developed.

Note, these timeframes have shifted from those shown in Figure 1.

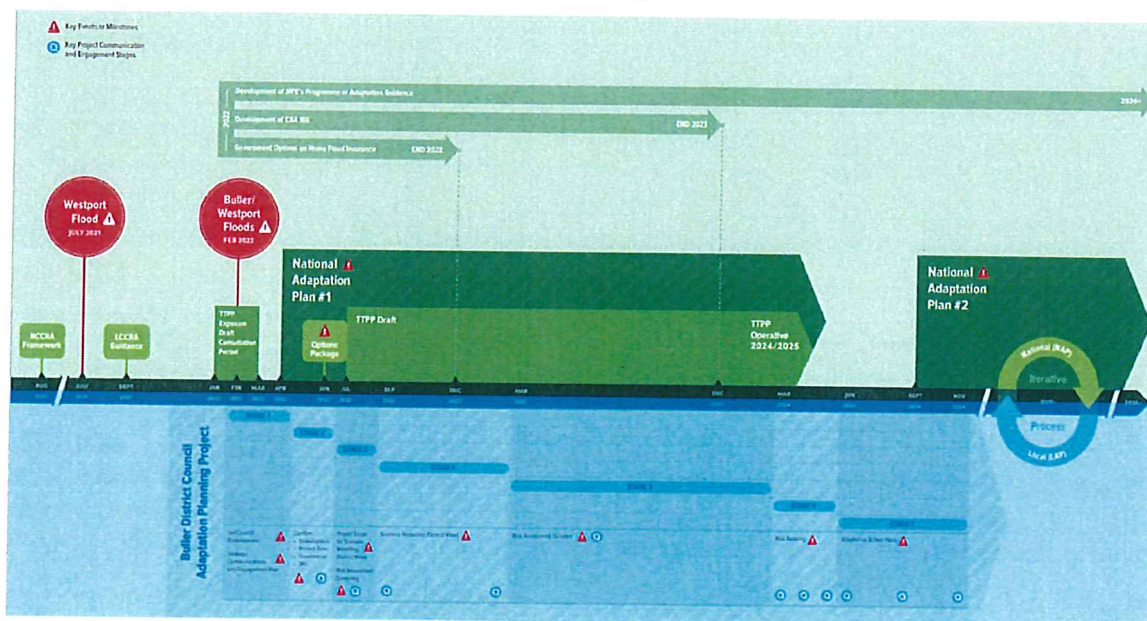


Figure 1. Buller District Council’s Climate Adaptation Planning Programme. Interdependencies with national and regional legislative planning and financing timeframes are shown. Note that the timeframe has shifted and is detailed in this document.

Package 1: Detailed Risk Assessment and Prioritisation

Key deliverables for this work package include:

- Risk Explorer 2 data platform with integrated quantitative climate risk data and Council asset and infrastructure networks
- Presentation of Risk Explorer functionality and findings to BDC Mayor and CE
- Presentation of Risk Explorer functionality and findings to Council
- Risk prioritisation workshops with Council staff
- Risk Explorer 3 data platform with integrated quantitative climate risk data and Council asset and infrastructure networks
- Technical Risk Assessment and Prioritisation Report
- Engagement Strategy and Plan
- Communications Plan
- Delivery of Engagement Portal
- Round One engagement package, including collateral
- Round One engagement Summary Report

Package 2: Initial Adaptation Planning

Key deliverables for this work package include:

- Draft Community Adaptation Action Plans
- Presentation of Community Adaptation Action Plans to Council
- Round Two engagement package, including collateral
- Round Two engagement Summary Report

Package 3: Final Adaptation Planning

Key deliverables for this work package include:

- Final Community Adaptation Action Plans with DAPPs
- Presentation of Community Adaptation Action Plans to Council
- Round Three engagement Summary Report
- Round Three engagement package, including collateral

Package 4: Monitoring and Evaluation Process Development

Key deliverables for this work package include:

- Monitoring and Evaluation Recommendations Report
- Round Four engagement Summary Report
- Round Four engagement package, including collateral
- Integration of adaptation engagement into Council BAU – Recommendations Report

ESTIMATED COUNCIL PAYMENT SCHEDULE

SCHEDULE	AMOUNT	BIP co-funding	Package of work
June 2023	\$130,000	\$86,666.67	1
July 2023	\$100,000	\$66,666.67	1
February 2024	\$111,000	\$74,000.00	2
July 2024	\$53,000	\$35,333.33	2
February 2025	\$53,000	\$35,333.33	3
July 2025	\$54,000	\$36,000.00	3
February 2026	\$54,000	\$36,000.00	4

UC Ref:	E7841
Funder Ref:	

Description of Research

In October 2022, the Associate Minister of Local Government (Hon Kieran McNulty) released a report¹ on vulnerable communities exposed to flood hazard. Vulnerability was assessed using four criteria:

1. Socio-economic vulnerability – where the community achieves a score of 10 (most vulnerable) in the New Zealand Index of Deprivation²,
2. Flood hazard – where the community is currently exposed to flood hazards,
3. Flood protection infrastructure – where no flood protection infrastructure is planned, and
4. Community ability to pay – where the Council’s (and wider district’s) financial capacity is insufficient to achieve essential adaptation.

Within the report, 44 of New Zealand’s communities (>50+ people) were deemed most vulnerable. Of these, three communities (Urban Westport, Granity, and Hector) are within the Buller district. Additionally, the report identified seven Territorial Authorities from across Aotearoa that have a significant proportion of their populations that are both socio-economically vulnerable and exposed to flood hazards, with the Buller district being the only district of the seven in the South Island.

Buller’s vulnerability profile is exacerbated by its heavy reliance on primary sector industries, such as coal mining and dairy farming, which themselves are vulnerable to climate transition imperatives. It is also a district with an extensive exposed coastline, vulnerable roading network and aging infrastructure, and communities at risk of prolonged post-disaster geographical isolation.

Adapting to climate change is therefore an urgent issue for the Buller district but is a process still presenting significant research questions. These questions involve how to make decisions and engage communities when there are significant uncertainties (particularly around ‘who pays’), multiple hazards, interdependent infrastructure, and cascading and interconnected societal impacts.

Existing guidance on climate change adaptation is based on high-level, qualitative risk assessments. This is insufficient to support the consequential decisions that communities must make today and is unable to leverage the rapidly improving, place-based, multi-hazard, quantitative risk assessments being developed by researchers internationally. **The goal of this project is to develop an adaptation planning methodology that leverages the latest research findings and risk assessment techniques to support communities making decisions today.**

Due to the uncertainty inherent in climate change, decision-making must be adaptive. Adaptive management involves flexible planning that recognises that interventions can fail once certain environmental conditions are reached. For example, an X-metre sea wall may only be suitable for less than Y centimetres of sea level rise; as SLR nears Y centimetres, this would signal that a new option is necessary and further increases would trigger a shift in strategy. Several approaches for decision-making under uncertainty are available (Lawrence et al., 2021), and there is ongoing research around the strengths and limitations of each for New Zealand communities. However, these techniques have never fully been tested within a community in a manner that considers all infrastructures and wider societal impacts.

Additional to managing uncertainty, interventions must be evaluated across a range of considerations. These considerations include an intervention’s risk-reduction effectiveness, cost feasibility, emission-reduction potential, and their impacts (co-benefits or trade-offs) across all the societal wellbeing domains. Engaging with the affected communities, especially those who have lost trust in the government, is a critical issue that must be managed.

These issues raise significant challenges, both in practice and theory. Ultimately, developing a plan that can communicate these challenges, incorporate and reflect the community’s input, and maximise synergies across multiple domains and sectors, all while minimising maladaptive potential, is a hugely complex and impactful issue, one with significant learning opportunities.

Key Personnel & FTE:

Tom Logan – 0.15 FTE
 Post doc fellow – 1.0 FTE

¹ [Vulnerable-Communities-Exposed-to-Flooding-Report- Oct2022.pdf](#)

² NZDep 2018

Deliverables (including specific Milestones):

Package 1: Detailed Risk Assessment and Prioritisation

The first phase of work covered by this contract includes the

- Detailed Risk Assessment
- Risk Prioritisation
- Preparation of the Engagement Portal
- First stage of community engagement

The key deliverables for this work package include:

Deliverable/Reporting	Due date
Risk Explorer 2 data platform with integrated quantitative climate risk data and Council asset and infrastructure networks	August 2023
Presentation of Risk Explorer functionality and findings to BDC Mayor and CE	August 2023
Presentation of Risk Explorer functionality and findings to Council	August 2023
Risk prioritisation workshops with Council staff, iwi, and other relevant stakeholders	August-September 2023
Risk Explorer 3 data platform with integrated quantitative climate risk data and Council asset and infrastructure networks	November 2023
Technical Risk Assessment and Prioritisation Report	November 2023
Engagement Strategy and Plan	July 2023
Communications Plan	July 2023
Delivery of Engagement Portal	August 2023
Round One engagement package, including collateral	August 2023
Round One engagement Summary Report	November 2023

Funder Property to be used by UC in the Research: N/A

Funding	Totals
Package 1	\$230,000
Total (GST exclusive)	\$230,000

Payment Schedule

Invoices will be issued as follows:

Date	Amount NZ\$
On signing agreement	\$130,000
30 July 2023	\$100,000
Total	\$230,000

Variation to General Terms

The following clause is incorporated into the General Terms

19 Statements of Work

19 UC acknowledges that the Funder wishes to engage UC on a staged basis under separate SOWs. After completion of the SOW outlined above, further work may be commissioned at the Funder's discretion, and will be actioned by the parties agreeing further SOW(s) by way of contract variation. Any further SOW is not valid until executed by both parties and once so executed, will be deemed to incorporate the General Terms (and any variations).

Notices – UC		Notices – Funder	
Name	Post-Award Team	Name	Douglas Marshall
Department	Research & Innovation	Department	Corporate Services
Postal Address	University of Canterbury Private Bag 4800 Christchurch 8140	Postal Address	P O Box 21 Westport 7866
Physical Address	20 Kirkwood Road Ilam, Christchurch	Physical Address	6 Brougham Street Westport 7866
Phone	+64 3 369 5858	Phone	0800 807 239
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Schedule 3 – Statement of Work Package #2

UC Ref:	E7841
Funder Ref:	

Description of Research

In October 2022, the Associate Minister of Local Government (Hon Kieran McAnulty) released a report¹ on vulnerable communities exposed to flood hazard. Vulnerability was assessed using four criteria:

1. Socio-economic vulnerability – where the community achieves a score of 10 (most vulnerable) in the New Zealand Index of Deprivation²,
2. Flood hazard – where the community is currently exposed to flood hazards,
3. Flood protection infrastructure – where no flood protection infrastructure is planned, and
4. Community ability to pay – where the Council's (and wider district's) financial capacity is insufficient to achieve essential adaptation.

Within the report, 44 of New Zealand's communities (>50+ people) were deemed most vulnerable. Of these, three communities (Urban Westport, Granity, and Hector) are within the Buller district. Additionally, the report identified seven Territorial Authorities from across Aotearoa that have a significant proportion of their populations that are both socio-economically vulnerable and exposed to flood hazards, with the Buller district being the only district of the seven in the South Island.

Buller's vulnerability profile is exacerbated by its heavy reliance on primary sector industries, such as coal mining and dairy farming, which themselves are vulnerable to climate transition imperatives. It is also a district with an extensive exposed coastline, vulnerable roading network and aging infrastructure, and communities at risk of prolonged post-disaster geographical isolation.

Adapting to climate change is therefore an urgent issue for the Buller district but is a process still presenting significant research questions. These questions involve how to make decisions and engage communities when there are significant uncertainties (particularly around 'who pays'), multiple hazards, interdependent infrastructure, and cascading and interconnected societal impacts.

Existing guidance on climate change adaptation is based on high-level, qualitative risk assessments. This is insufficient to support the consequential decisions that communities must make today and is unable to leverage the rapidly improving, place-based, multi-hazard, quantitative risk assessments being developed by researchers internationally. **The goal of this project is to develop an adaptation planning methodology that leverages the latest research findings and risk assessment techniques to support communities making decisions today.**

Due to the uncertainty inherent in climate change, decision-making must be adaptive. Adaptive management involves flexible planning that recognises that interventions can fail once certain environmental conditions are reached. For example, an X-metre sea wall may only be suitable for less than Y centimetres of sea level rise; as SLR nears Y centimetres, this would signal that a new option is necessary and further increases would trigger a shift in strategy. Several approaches for decision-making under uncertainty are available (Lawrence et al., 2021), and there is ongoing research around the strengths and limitations of each for New Zealand communities. However, these techniques have never fully been tested within a community in a manner that considers all infrastructures and wider societal impacts.

Additional to managing uncertainty, interventions must be evaluated across a range of considerations. These considerations include an intervention's risk-reduction effectiveness, cost feasibility, emission-reduction potential, and their impacts (co-benefits or trade-offs) across all the societal wellbeing domains. Engaging with the affected communities, especially those who have lost trust in the government, is a critical issue that must be managed.

These issues raise significant challenges, both in practice and theory. Ultimately, developing a plan that can communicate these challenges, incorporate and reflect the community's input, and maximise synergies across multiple domains and sectors, all while minimising maladaptive potential, is a hugely complex and impactful issue, one with significant learning opportunities.

Key Personnel & FTE:

Tom Logan – 0.15 FTE

Post doc fellow or equivalent Research Assistants – 1.0 FTE

¹ [Vulnerable-Communities-Exposed-to-Flooding-Report- Oct2022.pdf](#)

² NZDep 2018

Deliverables (including specific Milestones):

Package 2: Finalisation of first detailed risk assessment, commencement of draft adaptation plans and ongoing community engagement

This 2nd phase of work covered by this contract includes the

- Finalisation of the first full Detailed Risk Assessment
- Integration of any updated hazard or asset information
- Analysis of Round One engagement feedback
- Preparation and launch of Round Two engagement -risk information
- Analysis of Round Two engagement feedback
- Commencing draft adaptation plans
-
- The key deliverables for this work package include:

Deliverable/Reporting	Due date
Risk Explorer 3 data platform	April 2024
Risk Assessment Technical Report	April 2024
Presentation of Risk Explorer functionality and adaptation area summary findings to Council	June 2024
Round Two engagement package, including collateral	June 2024-October2024
Adaptation areas overview report	April – June 2024
Draft adaptation plans	April 2024-November 2024

Funder Property to be used by UC in the Research: N/A

Funding	Totals
Package 2	\$164,000
Total (GST exclusive)	\$164,000

Payment Schedule

Invoices will be issued as follows:

Date	Amount NZ\$
1 Feb 2024	\$111,000
30 July 2023	\$53,000
Total	\$164,000

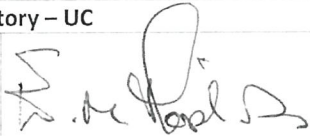

Variation to General Terms

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Acceptance		Acceptance	
Authorised Signatory – UC		Authorised Signatory – Funder	
Signature		Signature	
Name	Elizabeth Hopkins	Name	Douglas Marshall
Title	Kaihautū Director Research & Innovation	Title	CFO
Date	18 Dec 2024	Date	31/1/2024

