

DATE:  
20.04.2023

# Nelson Tasman Climate Change Risk Assessment (NTCCRA)

PREPARED BY:  
Mitchell Anderson

## [Project Overview Video](#)

Nelson City Council (NCC) and Tasman District Council (TDC) have partnered to conduct a Regional Climate Change Risk Assessment (CCRA) from now until September 2023. The primary objective of this assessment is to enable councils, infrastructure providers, companies, iwi, and the community to comprehend the risks posed by climate change in the region to the things that are important to us and that we rely on. This NTCCRA is a crucial initial step in preparing and adapting our region for the effects of climate change, as well as building resilience for our communities. This project is being led by Urban Intelligence and Resilient Organisations.

### The Risk Explorer

The Nelson Tasman Risk Explorer will be the main outcome of this project. It is a dynamic platform that can be utilised by councils, iwi, businesses, organisations, and communities for various purposes, including climate change adaptation planning, community engagement, asset management, long-term planning, and emergency management. The platform's key benefits are its ability to be continually updated with the latest information, the integration of information from different users that gives a holistic picture of risk, and the consistent evidence-base that it provides for the different users.

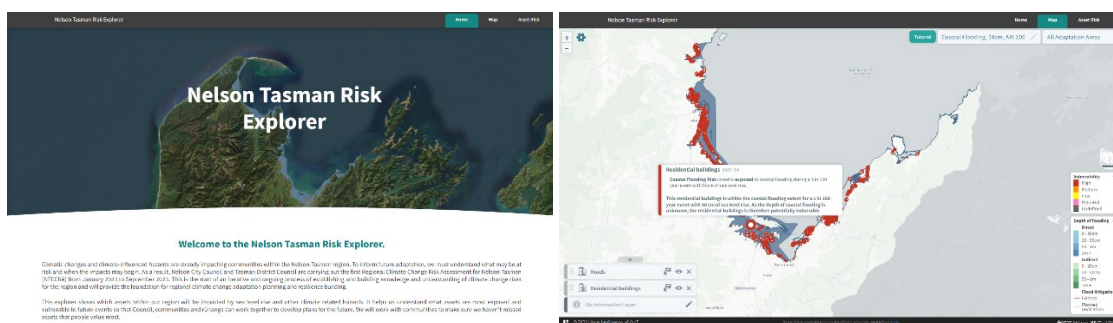


Figure 1: Preliminary images from the Nelson-Tasman Risk Explorer

Our preliminary Nelson-Tasman Risk Explorer currently includes 47 spatial assets mapped for exposure and vulnerability across multiple hazard scenarios (sea level rise, coastal flooding, tsunami, fluvial flooding, liquefaction, erosion, etc.,) with more to come as we continue our data collection phase for both assets and hazards.

### How is risk considered?

Risk, the consequences and associated uncertainties, is considered across the five societal well-being domains (built, natural, human, economic, and governance). These five wellbeing domains were established in the Framework for the National Climate Change Risk Assessment and are based on the Treasury's Living Standards Framework (developed to encourage a holistic view of sustainable and intergenerational wellbeing in New Zealand) and the National Disaster Resilience Strategy. These domains are highly interconnected (as reflected in Te Ao Māori perspectives). These domains are further divided into subdomains (e.g., transportation is a built subdomain).



Figure 2: The five societal well-being domains.



## Risk over time

While we are assessing spatial and quantitative risk across modelled hazard scenarios in the region and will provide this information in the Risk Explorer, additional semi-quantitative information regarding the relative consequence and strength of knowledge is being assessed through stakeholder workshops. These workshops consider two different future emissions scenarios (moderate: SSP<sup>1</sup>2-4.5, and high: SSP5-8.5) across three timeframes: 2030, 2070, and 2130.

## Semi-Quantitative Approach

Our approach includes quantitative geospatial methods to produce interactive results for direct and indirect risk. This provides a base level of information to inform the stakeholder workshops.

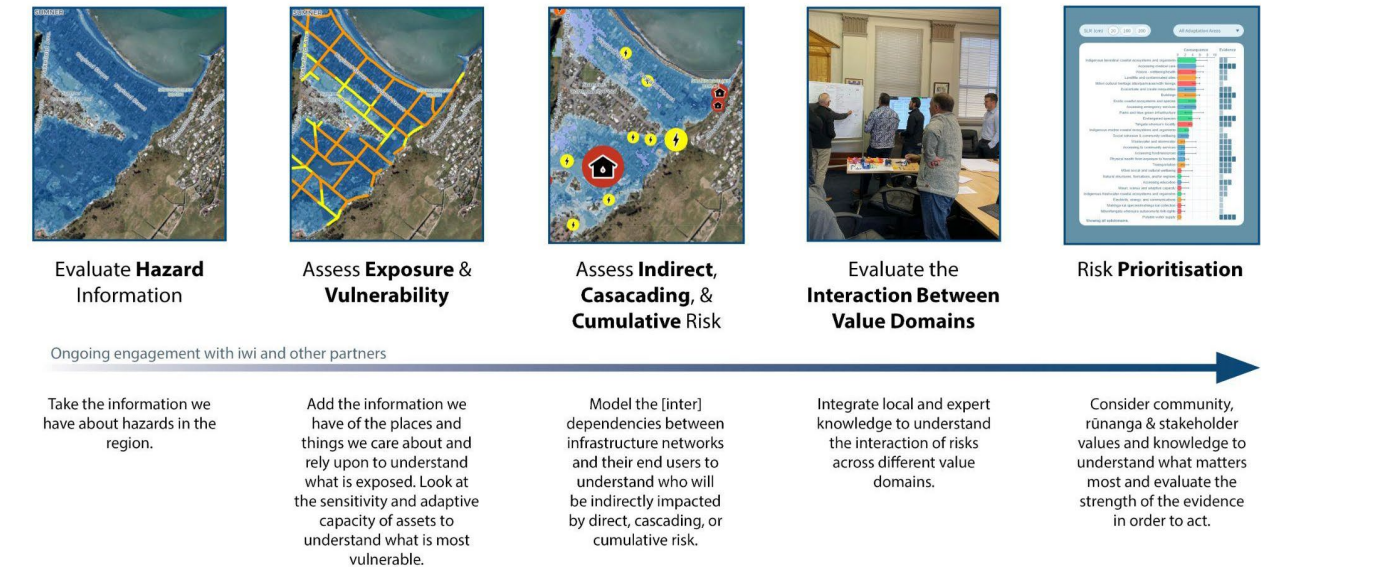


Figure 3: Semi-quantitative approach to assessing risk.

## Project Timeline

A high-level project timeline has been provided below. At this stage, the project team is continuing initial engagement with iwi, curating asset, and hazard data, and beginning to arrange workshop information for June-July.

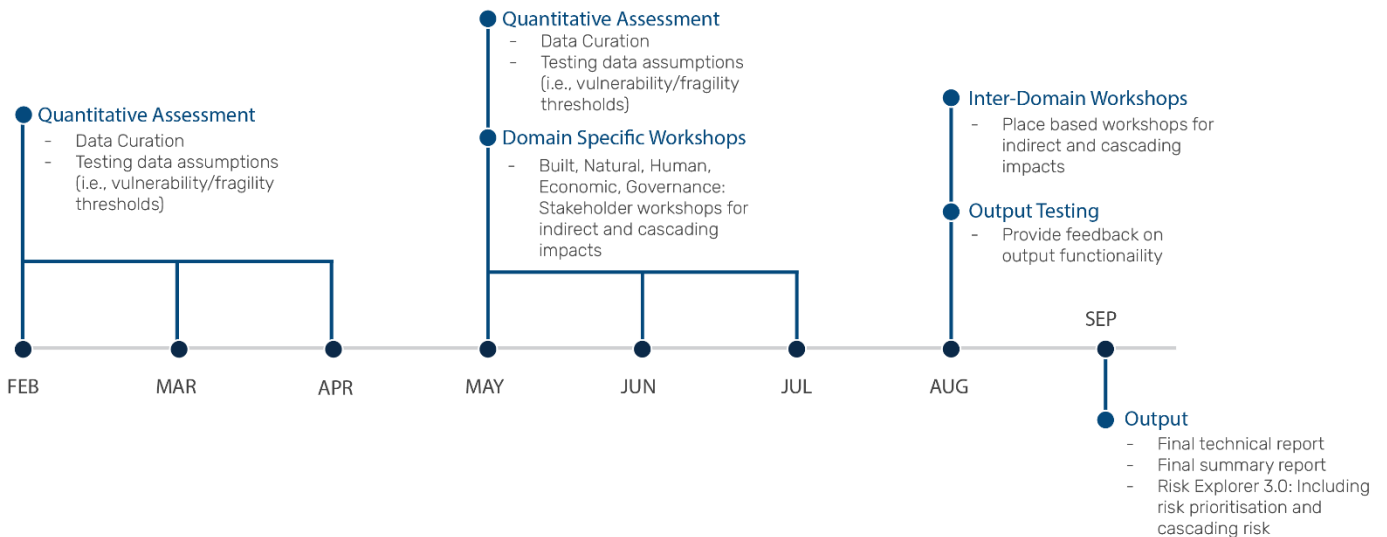


Figure 4: High-level project timeline. Subject to change.

<sup>1</sup> Shared Socioeconomic Pathway (SSP). Representing scenarios where emission reductions will, or will not, be achieved. These have largely replaced the RCPs in recent IPCC reports.

