

University of Melbourne's Estate Master Plan

Delivering climate resilience

The University of Melbourne used climate science to inform a long-term vision for its campus and support the climate resilience of its Estate Master Plan.

Prepared by DEECA in collaboration with the University of Melbourne. Please contact climate.action@deeca.vic.gov.au for more information.

The project

In July 2023, the University of Melbourne (UoM) launched their Estate Master Plan, a long-term vision for campus development. It aims to create a vibrant, sustainable and accessible environment for students, staff and the wider community.

Each campus has its own set of unique challenges and needs. The campuses span across urban and rural areas with a combination of clinical schools, field stations and more conventional academic settings.

To achieve the aims of the Estate Master Plan whilst responding to the needs of each campus, the UoM undertook the Estate Infrastructure Plans Project, which delivered integrated, campus-wide, public realm infrastructure plans for the following campuses:

- Melbourne's Parkville, Burnley, Fishermans Bend, Southbank and Werribee campuses located on the lands of the Wurundjeri and Woi Wurrung peoples of the Kulin Nation.
- The Creswick campus located on the lands of the Dja Dja Wurrung peoples north-west of Melbourne.
- The Dookie campus located on the lands on the lands of the Yorta Yorta people.

To support the development of the Estate Infrastructure Plans, the UoM collaborated with infrastructure consulting firm AECOM to prepare a risk assessment and adaptation plan for each campus:

- Risks were identified using climate projections specific to the location of each campus, available through [Victoria's Future Climate Tool](#) (VFCT).
- The UoM Risk Management Framework was applied to the projections to assess the level of risk.
- Adaptation actions were identified by focussing on the most significant risks.
- Initial findings were validated through a stakeholder workshop and documented in a report containing adaptation plans for each campus.

Risk assessments used the best available Victorian climate science and were underpinned by the [UoM's Climate Resilience Guidance Note](#) and the [Australian Standard 5334:2013 Climate Change Adaptation for Settlements and Infrastructure: A risk-based approach](#).

They were also informed by a stakeholder survey, including facility managers, grounds managers and risk compliance officers. The survey was crucial in informing an initial risk assessment. It provided insights from the lived experiences of those involved with each campus on the impacts of past extreme weather and of existing controls in place to help mitigate climate impacts.

How climate science was used

To understand the climate risks facing each campus, climate projections were sourced primarily from [VFCT](#) CMIP5 projections available at the time of development. This allowed location specific summary tables to be extracted which showed climate projections under an RCP 8.5 emissions scenario for the years 2050 and 2070.

VFCT provided an accessible and efficient way to collate climate projection data for multiple sites, enabling risks to each campus to then be assessed and prioritised using UoM's Risk Management Framework.

VFCT's climate projections data was complemented by:

- rainfall intensity projections from the [Australian Rainfall and Runoff Guidelines](#)
- bushfire data from the [Electricity Sector Climate Information Project](#), and
- climate analogues from [Climate Change in Australia](#).

With risks to each campus assessed and prioritised, an adaptation plan was developed for each campus, with actions focussing on the most significant risks. High-level projections for relevant climate hazards and climate change trends for Victoria from [Victoria's Climate Science Report 2019](#) were used to provide context for each adaptation plan.



Energy,
Environment
and Climate Action

Time horizons and emission scenario used

Time horizon	Scenario	Rationale
2050	RCP 8.5 (now referred to as a 'very high' greenhouse gas emissions scenario)	Time horizons The 2050 timeframe was the closest data point that aligned to the Estate Infrastructure Plans' 2040 time horizon.
2070		A longer-term timeframe (i.e. 2070) was also used to consider how risks may change over time and to align with the lifespan of the infrastructure. Scenario The risk assessment focussed on a (at the time) high emissions scenario (i.e. RCP8.5) to support the consideration of the upper end of plausible risk at each campus.

The result

The adaptation plans, underpinned by comprehensive risks assessment using climate projections from [VFCT](#) and [Victoria's Climate Science Report 2019](#), informed the development of the Estate Infrastructure Plans. This will enable the UoM to make better informed decisions regarding long-lived infrastructure assets that are fundamental for the UoM to deliver its core business of teaching and research with an enjoyable campus experience for its community.

The UoM's understanding of Victoria's changing climate and regional projections under a very high emissions scenario into 2050 and 2070, could provide a basis for future risk assessments, adaptation planning and long-term decision-making. For example, further risk assessments could be undertaken which focus on the most threatening hazards or vulnerable assets, or use different emissions scenarios and time horizons to provide a more complete of how climate change might impact the UoM.

The UoM's improved decision-making maturity is reflected in its [2024 Sustainability Report](#), which tracks the maturity of the organisation's climate change preparedness. The UoM's awareness of climate change and its potential impacts, and analytical capacity to understand these impacts, has moved from medium to high because of the Estate Infrastructure Plans and risk assessments.



Key points & themes



Risk assessment



Scenario and time horizon selection



Infrastructure and assets adaptation



Understanding user needs

© The State of Victoria Department of Energy, Environment and Climate Action April 2026

Creative Commons

This work is licensed under a Creative Commons Attribution 4.0 International licence, visit the [Creative Commons website](http://creativecommons.org/licenses/by/4.0/) (http://creativecommons.org/licenses/by/4.0/). You are free to re-use the work under that licence, on the condition that you credit the State of Victoria as author. The licence does not apply to any images, photographs or branding, including the Victorian Coat of Arms, and the Victorian Government and Department logos.

ISBN 978-1-76176-753-1 (pdf/online/MS word)

Disclaimer

This publication may be of assistance to you but the State of Victoria and its employees do not guarantee that the publication is without flaw of any kind or is wholly appropriate for your particular purposes and therefore disclaims all liability for any error, loss or other consequence which may arise from you relying on any information in this publication.

Accessibility

To receive this document in an alternative format, phone the Customer Service Centre on 136 186, email customer.service@delwp.vic.gov.au, or contact [National Relay Service](#) (www.accesshub.gov.au/) on 133 677. Available at [DEECA website](#) (www.deeca.vic.gov.au).