Australia's climate hit regions will need fit-for-future science and modelling

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The Hon Matt Kean – Chair, Climate Change Authority

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It won't come as much consolation to Victorian communities picking through the burnt rubble from last week's bushfires to know the damage could have been a lot worse.

At 400,000 hectares and about 240 homes lost and one farmer's life, the scale of the devastation is certainly not to be played down.

This event's meteorology had forecasters and fire agencies on edge, as it recalled some of the worst fire weather in years past, such as Black Saturday in 2009 or Ash Wednesday in 1983. The latter blazes killed 47 people and destroyed more than 2,000 homes in Victoria alone.

This time around, the landscape was not as parched by multi-year severe droughts. The winds last Friday also arrived a bit later than expected. Better communications, fire-fighting equipment and training no doubt helped.

Losses, though, might have been much more severe had the lightning strikes and other ignition points occurred in more-populated regions close to Melbourne, such as the Dandenong and Macedon ranges or Mornington Peninsula.

Key infrastructure, such as interstate power lines, also emerged largely unscathed, avoiding economic disruptions that would have extended well beyond the fire zones.

Of course, families and businesses busy assessing and cleaning up the damage have enough to get on with. Considering how bad things might have been and how climate change is making such conflagrations more likely are burdens that don't belong to them.

Governments, however, have a duty to confront the facts and help us prepare for the future – including immediate risks of more heatwaves, fires, cyclones and floods this summer.

Asked whether Australia faced a mounting disaster bill, Prime Minister Anthony Albanese rightly answered: "Of course we are, because there are more extreme weather events and they're more intense."

"And the fact that we have at one time floods in one area [Queensland], fires in another and heatwaves that do cause other issues as well, means there is a cost of the changing weather patterns that we are seeing."

Understanding how those weather patterns are changing and will change as the planet heats up will require sustained and coordinated investment in Australian science, encompassing our universities, agencies and governments at all levels.

Without that spending, communities won't be able to build the defences they need, and recoveries from disasters will be more expensive and take longer.

Previous inquiries, such as the Royal Commission into the 2019-20 Black Summer bushfires, have detailed much of what's required. One call from that report was for the integration of up-to-date climate and weather intelligence into our scenario planning to reduce the risks that "future extreme seasons are outside the realms of expectations".

Regional climate modelling was “done on an intermediate scale, on an ad hoc basis, and would benefit from a more coordinated approach”, the Royal Commission noted.

Climate Science for Australia’s Future, a report released just months prior to Black Summer by the National Climate Science Advisory Committee, highlighted Australia’s prosperity and security “depends on our ability to anticipate, manage and prevent the economic, social and environmental impacts” of a more variable climate.

That ability would itself hinge on how well we fared on observations, climate modelling and projections, adaptation action and the state of our international dependencies.

As it happens, the Climate Change Authority (that I chair), had decided prior to this summer’s disasters that now is an appropriate time to elevate a conversation on the state of Australia’s climate science and modelling capabilities.

On 13 February, the Climate Change Authority will convene a roundtable bringing together some of the nation’s leading agencies and scientists to help governments gauge what gaps need immediate attention as well as mapping out our longer-term requirements.

Deep climate research cuts by the Trump Administration in the US exposed Australia’s vulnerabilities that were becoming evident half a year ago, have lately been extended to the world-renowned National Center for Atmospheric Research.

We will be asking what fit-for-future science looks like – science that addresses the needs of an island continent like Australia that is already exposed to a volatile climate. Are our leading agencies, like the Bureau of Meteorology and CSIRO, able to deliver on that?

All of us will have watched in awe in recent days as our selfless volunteers and other firefighters put their lives on the line for their communities.

Improving how we anticipate and prepare for future wild weather – and then maximise the prospects for rapid recoveries – seems the least we can do to honour their bravery.