BREAKTHROUGH
National Centre For Climate Restoration

BRIEFING NOTE

What does Australia's first climate and security risk assessment say?

AUGUST 2023

Summary

- The Australian Government received its first climate and security risk assessment, carried out by the Office of National Intelligence (ONI), in late 2022.
- Since then, the government has refused to release a declassified version of the report in order to inform policymakers and the public on the greatest threat to Australians' future.
- The ONI report is likely to have said that the world is dangerously off track to meet the Paris Agreement goals, the risks are compounding and the impacts will be devastating in the coming decades.
- In the Asia-Pacific region, states will fail and climate impacts will drive political instability, greater national insecurity and forced migration, and fuel conflict.
- There will likely be a further retreat to authoritarian and hyper-nationalist politics, the diminution of instruments of regional cooperation, and increased risks of regional conflict, including over shared water resources from the Himalayas and Tibetan Plateau, encompassing India, Pakistan, China and south-east Asian nations.

> "It's extraordinary to realise that we are witnessing the great unravelling; the beginning of the end of things. I honestly never thought I'd live to see the start of what sometimes feels like the apocalypse. The Earth is really struggling to maintain its equilibrium. It's possible that we are now seeing a cascade of tipping points lurching into action as the momentum of instability takes hold and things start to come apart." — Dr Joelle Gergis[1]

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[1] griffithreview.com/articles/elemental-summer-a-season-of-change/

What does Australia's first climate and security risk assessment say?

The Australian Government is in the middle of work to understand the climate risks (threats) to the future well-being of the Australian people, and country.

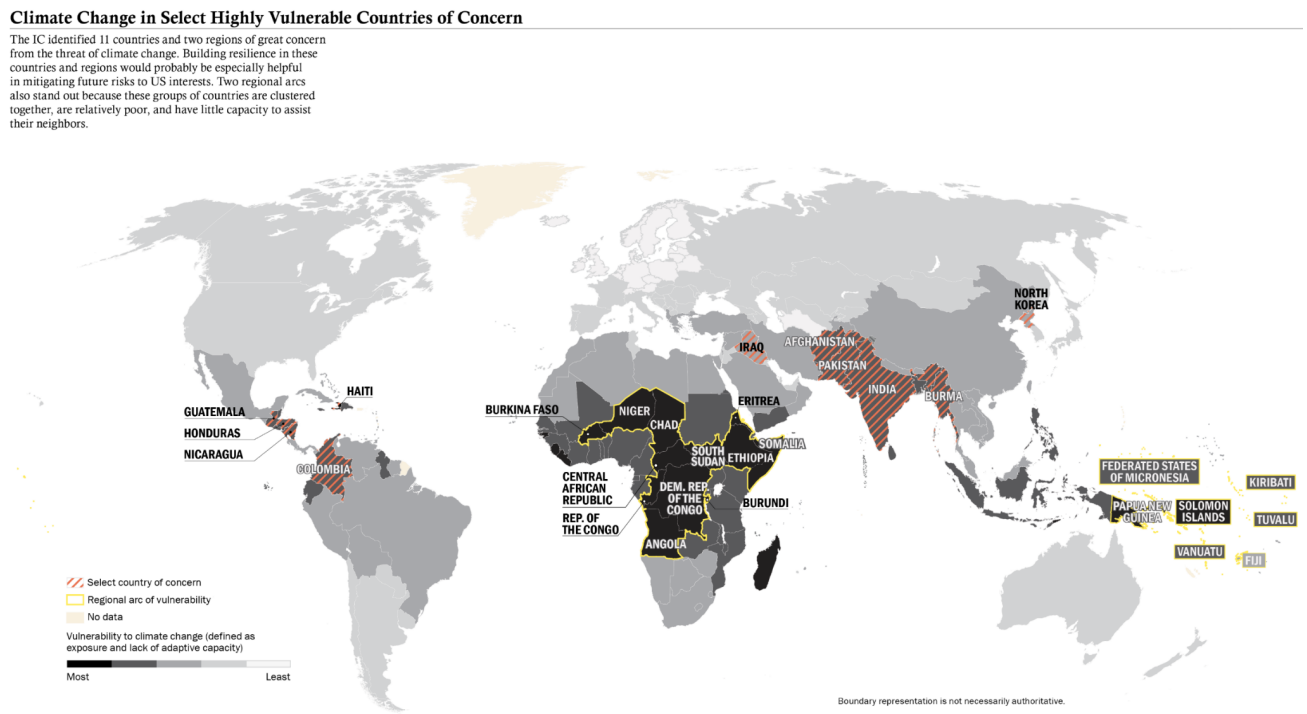
In mid-2022 and shortly after assuming office, the Albanese government ordered a climate and security risk analysis, in line with a pre-election commitment. The analysis was undertaken by the Office of National Assessments (ONI) and delivered to the government in late 2022. The ONI analysis focussed on the region and did not specifically cover domestic risks.

Since then, the government has barely said a word about the ONI findings or about climate–security risks, and has not released the analysis in any form. It has indicated it is unlikely to do so.

This is different from the practice in the USA, where papers such as *Climate Change and International Responses: Increasing challenges to US national security through 2040* are published by the National Intelligence Council.[2] The US government seems to have no problem publicly and explicitly identifying countries and regions most vulnerable to climate change and discussing the security consequences.

No declassified version of the ONI assessment has been released, even as a version of the Defence Strategic Review was made public. Other political parties have not been briefed, nor have the relevant committees of the Senate and the House of Representatives.

How then can members of parliament discharge their duties and oversee policy-making and departmental performance in the defence, climate, immigration, intelligence and foreign affairs portfolios?



Climate change in select highly vulnerable countries of concern (US National Intelligence Council)[3]

[2] dni.gov/index.php/newsroom/reports-publications/reports-publications-2021/item/2253-national-intelligence-estimate-on-climate-change

[3] dni.gov/index.php/newsroom/reports-publications/reports-publications-2021/item/2253-national-intelligence-estimate-on-climate-change

A comparable analysis of climate risks to that completed by ONI is the one undertaken by the UK's premier, government-funded security think-tank, Chatham House, in its 2021 *Climate Change Risk Assessment*. At the very least, the ONI report would need to be consistent with the Chatham House conclusions which, in essence, were that the world is dangerously off track to meet the Paris Agreement goals, the risks are compounding, and without immediate action the impacts will be devastating in the coming decades. It concluded that cascading climate impacts will "drive political instability and greater national insecurity, and fuel regional and international conflict".[4]

This assessment emphasised that understanding systemic risks (see Addendum to this brief) is a necessary foundation for such an analysis.

The UK assessment said that impacts likely to be locked in for the period 2040–50 unless emissions drastically decline before 2030 — which is very unlikely to happen on current indications — include:

- A 30% drop in crop yields by 2050, while food demand will be 50% higher;
- The average proportion of global cropland affected by severe drought (greater than 50% yield reductions) will likely rise to 32% a year;
- Almost 700 million people a year by 2040 are likely to be exposed to droughts of at least six months' duration, nearly double the global historic annual average; and
- Cascading climate impacts will "drive political instability and greater national insecurity, and fuel regional and international conflict".

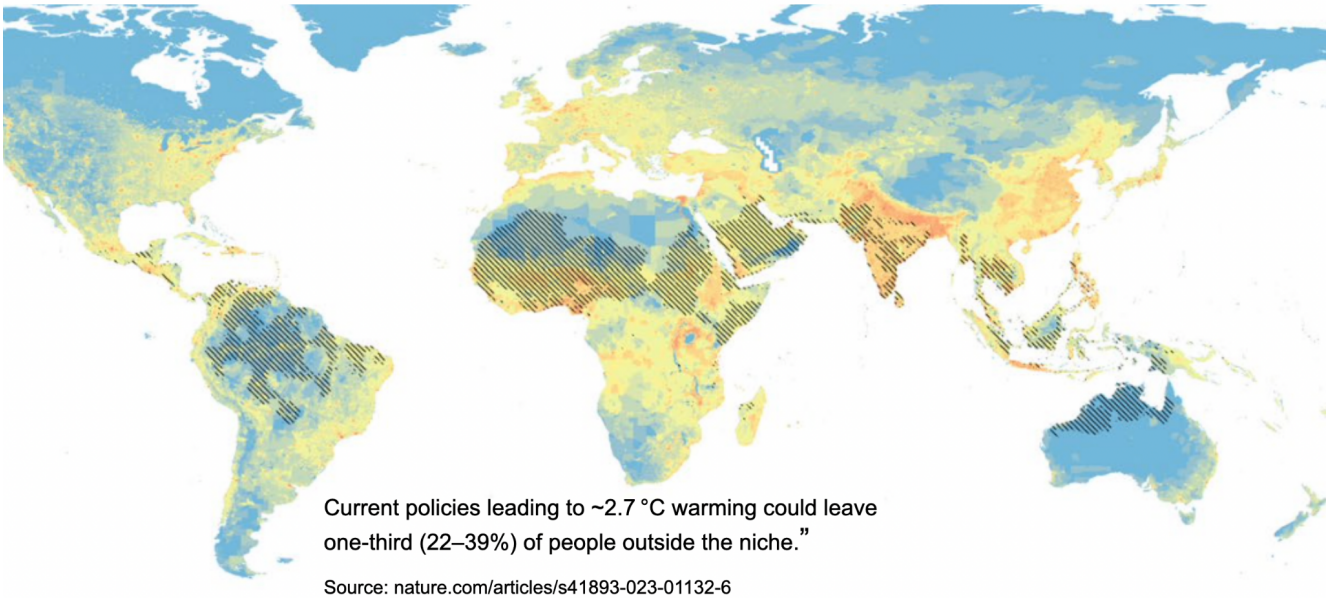
A recent, landmark report found that the world is facing an imminent water crisis, with demand expected to outstrip the supply of fresh water by 40% by the end of this decade.[5] Losing glacial mass, the Himalayas and the Tibetan Plateau will no longer be able to serve as the water towers of Asia. If the world continues on its high-emissions trajectory, as is likely, then in the end we can expect "a substantial — that is, nearly 100% loss — of water availability to downstream regions of the Tibetan Plateau" which will imperil the water supplies for "central Asia, Afghanistan, Northern India, Kashmir and Pakistan by the middle of the century", says Prof. Michael E. Mann.[6]

India and China, where groundwater levels are already dropping precariously, will face catastrophic water shortages. China is already a net importer of food, with 20% of the global population but only 7% of potable water. The dry subtropics will slowly desertify, including in northern China, Central Asia and the Middle East. Extreme heat events, beyond the human capacity to endure, will increasingly strike across Asia, including in Pakistan and northern India. But perhaps also in south-east Asia.

Droughts will become more frequent and intense; cyclones and floods more damaging. With food demand outstripping supply, prices will rise sharply and the poorest and more vulnerable will be most affected, as is the case in eastern and central Africa and across the Sahel today. The pattern is familiar: food shortages and riots, social breakdown, militarisation of the emergency, starvation, mass forced displacement, millions in camps fleeing conflict, and a growing inability to fund food relief programs or build resilience in the face of an even hotter climate.

[4] chathamhouse.org/2021/09/climate-change-risk-assessment-2021
[5] watercommission.org/wp-content/uploads/2023/03/Turning-the-Tide-Report-Web.pdf
[6] salon.com/2023/04/08/what-happens-when-we-run-out-of-water-thanks-to-climate-change-a-dystopian-premise-is-coming-true/

Regions subject to unprecedented heat at 2.7°C (beyond the niche of historically experienced temperatures)



Current policies leading to ~2.7 °C warming could leave one-third (22–39%) of people outside the niche."

Source: nature.com/articles/s41893-023-01132-6

How will all this play out? The analysis is not easy. Physical climate impacts and system-level changes compound and cascade, and the non-linearity makes projections difficult. Translating those physical changes into social and security consequences is an imprecise task. What we do know is that there will be outcomes that virtually no-one will see coming, such as happened when drought and desertification in eastern Syria compounded with the dynamics of the Arab Spring to unleash the Syrian war.

So the security consequences are uncertain, but here is a sketch of some plausible outcomes before mid-century in the Asia-Pacific:

- Social crises in which rising food prices as a consequence of growing shortages lead to domestic protests, social instability, internal displacement and/or forced migration. Imagine a dynamic similar to the Arab Spring spreading across Central and South Asia: Afghanistan, Pakistan, India and Bangladesh, for example.
- Severe economic jolts caused by conflict, labour displacement and lower productivity, inundation and destruction of economic infrastructure, and disruption to supply chains, including in the South China Sea.
- A worsening of extreme and concurrent climate events with impacts beyond the response capacity of national governments; and increasing opportunities for China to lend a helping hand to vulnerable states, especially as Australia's disaster relief capacity is underfunded and overwhelmed.
- A further retreat to authoritarian and hyper-nationalist politics, the diminution of instruments of regional cooperation, and increased risks of regional conflict, including over shared water resources from the Himalayas and Tibetan Plateau, encompassing India, Pakistan, China and south-east Asian nations.
- State instability and failure in both Asia and the Pacific, including in some of the most populous nations, especially those with semi-democratic governments and existing insurgencies either domestic or in neighbouring states.

- Increasing repressive measures by the state apparatus directed towards peasants, workers and the poor rising up against food and energy shortages, with Australia called upon to protect such "fragile" states by bolstering their repressive capacities.
- Fracturing of the regional anti-China alliance being sculptured by the United States.
- Refugee/forced displacement crises magnitudes greater than the world has hitherto experienced.

Do we have a right to know what the government knows about such risks? It is difficult to see how the parliament, and the relationship between politicians and those who elect them, can work if we don't.

Conclusion

In their 2021 report, M*issing in Action*, the Australian Security Leaders Climate Group proposed a "Prevent. Prepare. Protect" framework for a Climate–Security Risk Action Plan for Australia.[7] It included:

Coordinate and cooperate

- Coordinate a holistic, whole-of- government approach, building capacity across the public service and government agencies, and at all levels of government.
- Cooperate with big and small Asia–Pacific governments to build alliances for climate action, understanding that cooperation rather than conflict is key to responding to the climate crisis.
- Build an Australian National Prevention and Resilience Framework with coherent processes across critical areas including energy and water, logistics, health, industry and agriculture, research and environment.

Act and invest with urgency

- Protect the most vulnerable communities, nations and ecological systems.
- Prevent devastating climate impacts by mobilising all the resources necessary to reach zero emissions as fast as possible. Cooperate to develop the global capacity to prevent irreversible tipping points and drawdown greenhouse gases back to safer conditions in the long term.
- Prepare to manage the risks and respond to the challenges of living in a climate-change-disrupted world with a responsibility to prepare and prevent.

That proposal is a solid basis on which to respond to the risks raised in the ONI report.

[7] aslcg.org/wp-content/uploads/2021/09/ASLCG_MIA_Report.pdf

ADDENDUM

Systemic climate risks

Climate risk is a function of the probability of a given climate hazard (stressors or shocks), and how that hazard translates into impact via exposure (how, what, where is exposed) and vulnerabilities (coping mechanisms, or their absence) in a number of ways. Risk analysis methods may include: (emissions-trajectory-based) scenario analysis; normative approaches to identify "what is important" and then establishing risk thresholds and action necessary to protect it; and stress tests.

Systematic risks are those risks inherent to a system as a whole, rather to individual components of it. They are complex in their causes and effects, and often deeply uncertain, which occurs "when decision makers and stakeholders do not know or cannot agree on the likelihood that different future scenarios may occur. This happens if there's a lack of agreement, knowledge, or confidence in the future scenarios and/or when decision makers or stakeholders do not agree or do not know what consequences could result from their decisions."[8]

Systemic climate risks are risks triggered by one or more direct impacts caused by climate change, which then cascade through the physical climate and Earth systems, and/or create second-order cascading effects at the economic, social, political and cultural levels. An example is the epochal drought in Syria whose consequences became one of the drivers of the civil war, with a cascade of socio-political consequences including the displacement of half the Syrian population, a politically-charged refugee crisis in Europe, and as a driver of Brexit.

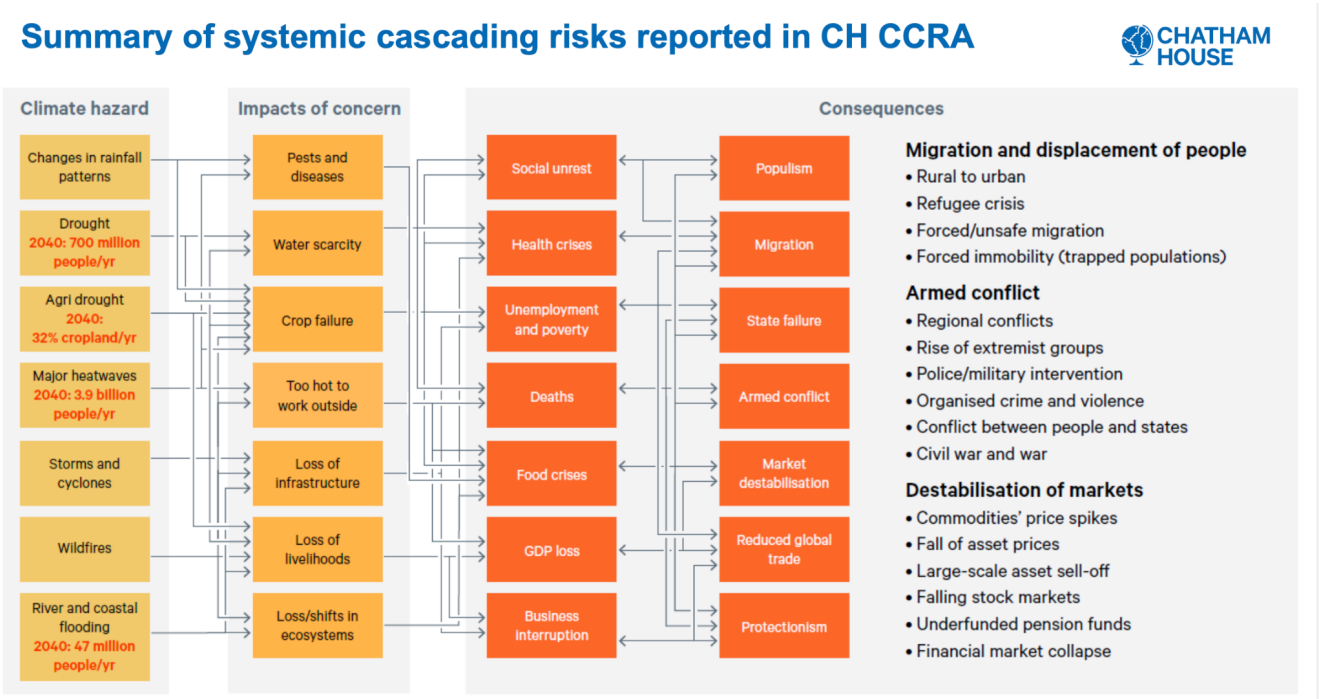
System complexity. Earth is a system with a 4.5-billion-year history that displays a variety of states and trajectories (following Lovelock's Gaia hypothesis). Complex systems like the Earth System exist in well-defined states with transitions between them; intermediate conditions/states are not possible. The mechanisms behind these behaviours are feedback processes internal to the system that can destabilise it and push it into another stable state, which may entail abrupt change.

Characteristics of the Earth climate system and its component systems include:

- Positive climate feedbacks, whereby an initial change in the climate system, for example warming generated by a climate forcing, causes a secondary change which in turn magnifies the initial effect and becomes self-reinforcing. An example is Arctic sea-ice, where increased melting in summer is exposing more dark water, which absorbs more heat than the reflective ice, thus reinforcing the process of ice loss.
- Tipping points or thresholds at which a small change causes a larger, more critical change to be initiated, taking the climate system from one state to a discreetly different state. The change may be abrupt and irreversible on relevant time frames, possibly leading to cascading events.
- Non-linear or abrupt change where change is sudden rather than smooth progress, often associated with a tipping point. Changes in the Arctic are presently characterised as abrupt.
- Cascading events where an unforeseen chain of events may occur when one event in a system has a negative effect on other related components. For example, the mutual interaction of individual climate tipping points and/or abrupt, non-linear changes, may lead to more profound changes to the system as a whole.

Hothouse Earth is a scenario where a planetary threshold is passed which results in a cascade of system changes that make warming self-sustaining, leading to conditions hotter than any experienced over the last few hundred thousand years by modern humans. The late Prof. Will Steffen explained it this way: "The current trajectory [of emissions and warning] is accelerating the system towards that bifurcation, with the increasing risk that our pressures will push the system onto the 'Hothouse Earth' trajectory. The critical point here is that there is a point beyond which we lose control of the system and its own internal feedbacks drive it past a global threshold and irreversibly into a much hotter state…"[9]

[8] toolkit.climate.gov/course-lessons/decision-making-under-deep-uncertainty-dmdu
[9] link.springer.com/book/10.1007/978-3-030-78795-0



The Chatham House 2021 summary of cascading systemic risks[10]

Faster than forecast, risks cascade. Changes in the climate driven by human emissions of Earth-warming greenhouse gases can echo around the world in ways that are often not easy to foresee or model:

- Climate impacts in many instances are happening faster than forecast. Australia's 2019-20 "Black summer" bushfires were of an intensity not projected to occur till late this century. Extreme events in Australia today are of an intensity that were not projected to occur till the 2030s.[11]
- Climate models are poor at projecting abrupt, non-linear change, including the impact of difficult-to-forecast tipping points. A number of systems have already passed their tipping points, many decades to a century ahead of model-based projections, especially polar sea-ice and glacial systems, and at less than the present 1.2˚C of warming.
- Both oceanic and atmospheric systems are changing character and destabilising in ways that are difficult to project and their behaviour has often shocked scientists. This includes the unexpected scale of Arctic polar jet stream destabilisation, and the slowing of the Atlantic meridional overturning circulation (AMOC), which extends from the Southern Ocean to the edge of a rapidly-melting Arctic.
- Such circulatory changes have profound effects on the climate, and on other Earth systems, from rainforests to the distribution and intensity of monsoons and hurricanes, the character of extreme events around the planet, and of temperature and precipitation patterns.

[10] chathamhouse.org/2021/09/climate-change-risk-assessment-2021
[11] cosmosmagazine.com/earth/australia-climate-at-worst-case-2030-scenarios/