

What Nuclear War might mean for New Zealand

Preamble

At the time of writing (mid-October 2022) a northern hemisphere exchange of nuclear weapons, while hopefully not inevitable, is seemingly increasingly likely.

Unfortunately, there appears to be a fatalistic belief amongst many preppers that, if we are not all immediately irradiated, a nuclear winter will soon ensure our demise. In other words, “We’re all gonna die!”

However, much of the admittedly limited research undertaken on the likely effects on New Zealand of a nuclear war does not support such beliefs.

According to the researchers listed below, due to our very fortunate geographical isolation, we are **not** all doomed to die. Most New Zealanders are in fact probably doomed to **survive** a nuclear war.

We will, however, face many huge challenges. Life is likely to become nasty, brutish and short.

Much depends on the types of nuclear weapons used. A **tactical nuclear weapon** is a small nuclear weapon that is used in an operational setting, such as in a battle, to inflict damage on an enemy target. A **strategic nuclear weapon**, on the other hand, is a much larger nuclear weapon that is used for strategic purposes, such as in a nuclear attack on a major city. Of course, what began as a tactical exchange could escalate into a full strategic attack.

Below are extracts from three articles which have appeared over the past several years. To help answer the question, “what should we be prepping for?” each is followed by a bullet-point summary of the main effects mentioned:

The Impact of Nuclear War on New Zealand

Newshub – May 2022 – Extracted from articles by Professor Nick Wilson, Otago University public health expert and Dr Matt Boyd, catastrophic risk researcher.

<https://blogs.otago.ac.nz/pubhealthexpert/sustained-resilience-the-impact-of-nuclear-war-on-new-zealand-and-how-to-mitigate-catastrophe/>

<https://www.newshub.co.nz/home/new-zealand/2022/05/ukraine-invasion-expert-says-new-zealand-should-be-preparing-for-nuclear-war.html>

Unfortunately, nuclear war matters because it is **not improbable**. Nuclear safety depends on a system of rational actors, perfect information, and fail-proof systems that operate without error in perpetuity. The risk of nuclear war [therefore] lies in human error, component failures, violent catalysis, irrational leaders, accident, miscalculation, and cyber vulnerabilities.

Major perturbations triggered by nuclear war could shift the state of NZ society from one of flourishing to one of **mere survival**.

People will **panic**.

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If nuclear war led the world to a collapsed, even pre-industrial state, all the gains in **healthcare, life-expectancy**, social institutions, and other domains of human endeavour attained in the last 200 years would be at risk. There is no guarantee they would be quickly recovered, and could even be **lost forever**.

New Zealanders have no idea if there's a national plan for [nuclear war] because it's **classified**.

The greatest risks to New Zealand are not radiation or a massive drop in temperature – a so-called nuclear winter – instead, it is the **disruption** to life and society caused by **isolation** that **could last years**, with **shortages of essential items**.

New Zealand's food exports alone could feed four times its current population, but **distribution could be jeopardised** by shortages in diesel and machinery components. There is also the question of fair distribution, Wilson says, if the **financial system collapses**.

You have to think about **rationing** systems or other ways to keep some type of economy working.

There is **no sign that politicians have actively discussed any of the issues**.

When considering total generic units of energy, NZ superficially appears self-sufficient. However, NZ exports low-grade coal but imports [all] refined oil; produces hydroelectric power, but this is partly configured to supply to an [overseas owned] aluminium smelter; there is geothermal energy but a small electric vehicle fleet; and a single point of failure (one cable) spans the interisland strait. The system may not be resilient to major shocks. Without trade there would be **extreme fuel shortages**, compounded as the only oil 'refinery' has just shut its refining business. Overseas reserves would be useless without the ability to retrieve them. The energy system will degrade over time and beyond a certain threshold there could be **catastrophic cascading effects throughout every other system**.

There could be widespread international **internet and cloud outages**, an electromagnetic pulse (EMP) targeted at Australia could potentially disable electronic equipment in NZ, and over time NZ's telecommunications infrastructure will likely **degrade** as parts break down and **replacements are not available**.

Internal conflict may arise if there are concerns about ongoing supply of food or energy, or if inequality is perceived. People seeking escape from war and famine may try to arrive **by force**.

In the 1980s there was some work done on this. At the time, there were suggestions of more funding to more closely research the impacts on New Zealand society. It **never went ahead** and because the *National Risk Assessment and Risk Register* are classified, **the public do not know what is being considered now**.

The Covid-19 pandemic has highlighted the **lack of preparation** for a global shock. People need to know about the plan ahead of time, to **avoid panic** and a breakdown in social order.

Summary:

- Nuclear war is **not improbable**.
- **Secrecy** - probably no national plan or political awareness.

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- Isolation and **shortages** of essential items likely to last for years. Remote NZ may be on its own.
- Society reduced to level of mere **survival**.
- People will **panic**, due partly to a lack of accurate information. Breakdown of **social order**.
- **Healthcare** and life expectancy may revert to that of 200 years ago.
- Internal **conflict**.
- **Refugees** attempting to arrive by force.
- Extreme **fuel** shortages, possibly leading to catastrophic **cascading** effects.
- Internal **food** distribution disrupted by shortages of diesel & machinery.
- Widespread **internet** and **telecommunications** outages.
- Collapse of **financial** system.
- **Rationing** of items such as **medicine** and **food**.

What happens to NZ after global nuclear war breaks out?

The Spinoff – May 2018 – Extracted from articles by Branko Marcetic, contributing writer; Brian Toon, contributor to 2014 *Earth's Future* report; Dr Brian Martin, social scientist at the University of Wollongong; Michael Mills, atmospheric scientist at the National Centre for Atmospheric Research; Ilan Noy, Professorial Chair in the Economics of Disasters at Victoria University and Chris Hepburn, director of the University of Otago's Aquaculture and Fisheries Programme.

<https://thespinoff.co.nz/science/20-05-2018/what-happens-to-nz-after-global-nuclear-war-breaks-out>

We currently enjoy the status of being the ‘bolt hole for the world’s terrified billionaires’, and our **geographic distance** and general disentanglement from the rest of the world’s geopolitical jostling suggests that should the worst happen, we at the very least **won’t be in the firing line**.

This is a small consolation. According to various experts, New Zealand would indeed likely be **the best place to be in the event of a nuclear holocaust**. But ‘best’ is a relative term, and this belies just how hellish life could become on one of the world’s last inhabitable countries.

With so many variables at play – the countries involved, where they’re located, the number of weapons deployed, what time of the year it is – **there’s no definitive post-war scenario**.

Limited Nuclear War

In a 2014 paper for *Earth's Future*, a team of scientists attempted to model the effects of a limited, regional nuclear war between India and Pakistan that would see each country use 50 warheads, each with a yield of 15 kilotons, about the same as the bomb dropped on Hiroshima.

Even a ‘limited’ war like this would send five megatonnes of smoke into the stratosphere, heating it by up to 100°C and wiping out most of the earth’s ozone layer for as long as a decade. This means the average burn time in the sun would halve for humans, while the resulting **surge of UV radiation would wreak havoc on the world’s vegetation and sea life**.

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The colossal amount of black carbon sitting up in the stratosphere would cause a global nuclear winter, **the coldest average surface temperatures in 1,000 years**. That means shorter growing seasons and the destruction of crops by killing frosts.

Full-scale Nuclear War

After a full scale nuclear war, temperatures would plunge below Ice Age conditions. No crops would grow. It's estimated 90% of the population of the planet would starve to death.

The good news is that New Zealand would **likely be spared the worst consequences** of all this.

We'd have **little to fear from radiation** drifting our way.

[In New Zealand] the **surface temperature would drop by around somewhere between 1 and 1.5 degrees**.

"In New Zealand, you could **still be growing crops**". – Michael Mills.

On the other hand: "In the case of a full-scale nuclear war it would cause low light levels and winter conditions in New Zealand for several years, perhaps up to a decade. **No one has evaluated the impact directly on New Zealand**, but I would imagine **nothing would grow for several years**." – Brian Toon.

"New Zealand's geographical position means it has little to fear from the impact of enhanced UV radiation." – Dr Brian Martin.

On the other hand: "I would think the oceans around New Zealand would be affected by UV radiation." - Brian Toon and Michael Mills

The impact of nuclear war would reverberate in the South Pacific thanks to **trade** and the **economy**.

When the combatants are Russia and the United States, there's **no shipping, no trade for a while**, we are all down to **every country surviving by itself**.

Practically everything we consume is imported, directly or indirectly. The meat we consume is not imported, but a lot of the **machinery** we use to extract it is imported.

Daily life would be set back a century – except that in this case, **most of us no longer have the rudimentary skills and knowledge** needed to eke out this kind of existence.

New Zealand could not keep its **electrical grid** operating for very long due to **lack of parts and expertise** to repair it.

Fish would be the major food available in New Zealand for the first six months or so after a full-scale nuclear war.

A single nuclear war could well lead to **martial law**.

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Then there's the issue of **refugees** potentially knocking on our door in the hope of sanctuary – though their demographic may not be what you'd expect. The rich and powerful would be the biggest threat.

In the **best case scenario**, our **economy** will be dented, the **ecosystems** we depend on to live will be heavily damaged, and we'll have **far less food** to pass around.

At worst, we'll experience **mass starvation**, be plunged **backward in time** and forced into lives we're in no way prepared to live, and possibly be **invaded** by heavily armed ships led by an irradiated Jeff Bezos.

The 1987 study, entitled *New Zealand after Nuclear War: The Background Papers*, also pointed to the danger in **losing access to pharmaceuticals**, most of which [are] imported from the Northern Hemisphere.

Summary:

- NZ likely to be **spared** worst consequences.
- Little to fear in NZ from **radiation**.
- We may still be able to grow **crops**. Alternatively, **nothing** may grow for several years.
- Surface **temperature** drop by 1.0 – 1.5 degrees.
- Practically everything we consume is imported. With no shipping or trade, every country would have to **survive on its own**.
- Most **pharmaceuticals** unavailable.
- Life regresses 100 years. But **few have the necessary skills** or knowledge.
- **Electrical** grid likely to soon fail.
- **Fish** becomes a major food source.
- **Martial law** a possibility.
- Rich and powerful **refugees** a possible problem.

Back to the Future of Doomsday

https://www.nzherald.co.nz/nz/steve-braunias-back-to-the-future-of-doomsday/HIIQNXW3P2EJ7L6HJX4F26IYQ/?c_id=1&objectid=12034260

The NZ Herald – April 2018 – Extracted from an article by Steve Braunias, senior writer; Dr Wren Green, Wellington ecologist and a recognised expert in the field of the likely effects of nuclear damage to New Zealand's environment and Graeme Easte, founding member of the Down Under Survival Committee.

The 1987 study languishes in the basement room of Auckland's city library. *New Zealand after Nuclear War: The Background Papers* was commissioned by the Planning Council, a short-lived government quango created by Prime Minister Rob Muldoon and killed by the Labour administration that succeeded him.

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The background papers – 14 in all, ranging from food needs to health care, fuel supplies to ‘mass grieving’ - are the product of many first-rate minds, and it remains a thrilling, detailed read.

But **it's as though it never existed**. It's like a Dead Sea scroll, set aside, ignored, its revelations and **warnings unheeded**.

It made world news – there was a story about it in the New York Times, marvelling at the report's thoroughness.

It called for New Zealand to prepare. What happened?

"Well," said the project leader of the report, Wellington ecologist Dr Wren Green, "not a f***** thing."

The six-month investigation was predicated on the possibility of a **nuclear exchange in the northern hemisphere; New Zealand was not taken seriously as a target**.

The **damage caused by nuclear winter** – the effects of smoke from fires on the atmosphere – was **considered minimal**, and so was **radiation sickness**.

The tyranny of distance would be our saviour: the quickest that **smoke** would take to reach us would be in **three-four weeks**, by then less thick and toxic.

Daylight might be temporarily reduced by 20 per cent, and the **temperature could fall by about three degrees for up to a year**. Certainly this would affect crops and dairying, but the impact would be slight or undetectable.

The greatest threat would be a total loss of trade. We would be adrift, **isolated**, vulnerable.

New Zealand's dependence on imports of **medical supplies and pharmaceuticals** is virtually 100 per cent. Morphine would last two months. Dental services would run out of equipment in six months. There would be a return of tetanus, measles, polio and TB, and an increase in child deaths. Pregnancy rates would rise with the loss of imported contraceptives.

Fuel would run out. Panic buying would lead to local supplies being quickly exhausted.

Pigs, deer and rabbits would over-run the countryside. Parasitism in New Zealand livestock would be a severe problem.

The people would turn to **drink**.

There would be considerable anxiety, fear, grief and depression, and probably considerable anger. Thousands would suffer **extreme emotional stress**.

The likeliest outcome of nuclear war would be **feudalism**, sustained by physical force rather than consent. Life will be **nasty, brutish and short**.

It would look like chaos. It would mean people all over the place doing stuff and that would conflict with **the government trying to do to shut everyone down**.

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Because we are not doomed to **die**, most New Zealanders are probably doomed to **survive** a nuclear war.

We could wind up acting as a kind of **bolthole for refugees** from the Northern Hemisphere, who might well turn up here armed to the teeth. Superpowers would have their own contingency plans to **take over New Zealand** as a bolthole. We don't have much in the way of defences..

Summary:

- NZ most unlikely to be a **target**.
- Effects of **nuclear winter** and **radiation sickness** considered to be minimal.
- Much-diluted **smoke** would take 3-4 weeks to reach us.
- **Daylight** temporarily reduced by 20%.
- **Temperatures** fall by 3 degrees for up to a year.
- Complete loss of international trade may be the **greatest threat**.
- **Medical supplies** and **pharmaceuticals** would run out.
- Local supplies of **fuel** quickly exhausted.
- Extreme **emotional distress** common.
- Increased use of **alcohol** [and locally-produced drugs?].
- Return to **feudalism** a likely outcome.
- NZ may become a bolthole for well-armed **refugees**.
