

Alpine Fault

You heard the earthquake before it hit.

It all happened very quickly. First, the car radio turned to static. Weird. Then came the sound of the ocean, of distant and tumbling tides. As you realized your mistake, you saw the trees begin to dance on the hillsides. Then, rising through the asphalt towards your car, came the wave.

Throughout the six minutes of shaking, you'd held on to your steering wheel with white knuckles, praying that the trees on either side of the road would hold. They did. In the daze that followed, the first thought you had was a shock of amazement that the old wives' tale was true: they DID make a sound. This was quickly followed by blunted panic.

Originally from Christchurch, you knew the realities of New Zealand earthquakes firsthand: in 2011, you watched your city turn to rubble in a matter of minutes. Your family used to sit around the dinner table and guess the magnitude of the aftershocks in the two years it took them to finally fade away.

A career in civil defense followed, and you moved to Wellington to join the big leagues. Every year, out of macabre fascination, you spent the summer fishing and hiking on the South Island's west coast, directly straddling the country's dominant fault line, halfheartedly hoping it would rupture while you're there. And now, the chicken's come home to roost.

The first thing you do is check the time: 5:18pm. No service. You are alone in the car and the flat road ahead has been crumbled by a Magnitude 8.1 earthquake, one you have been expecting for years. You catch your bearings, just north of town, and head in as quickly as you can. You don't need to wonder about what's going on in Wellington, because you know there's no point in trying.

Even if you did - by some miracle - get in touch, you wouldn't be a priority. Right now, they'd probably be loading high-profile bureaucrats and their families onto choppers and heading up to Palmy, anticipating that the capital city could be off-grid for up to a month. It would be chaos. Nobody has time to think about the West Coast.

Franz Josef was a holiday destination for you and thousands of other tourists. The town, you knew, was built directly on the surface trace of the country's most notorious fault line. Repeated attempts to move the town (or at least critical infrastructure) had been rebuked; too expensive for the locals, apparently. You wonder if the cost of the cleanup will be any better.

As you round the bend into Franz Josef, your fears are confirmed by a plume of smoke: the local petrol station, which sat directly atop the fault, is ablaze. A new bluff, a little below shoulder height, runs directly through what used to be the parking lot, where the Alpine Fault has thrust one plate atop another. The awning of the station has collapsed onto the main building, and you

can almost guarantee that there will be bodies inside. But all your brain can remember is how quaint it was that the shop still stocked Kodak film - in this day and age!

Reality comes knocking, though. The one-story buildings on either side of you are in shambles. Unlike the Christchurch quake, this one struck a town with modern facades and not very much brick, meaning that things - incredibly - weren't as bad as they could've been.

Crowds of people are in the street, blood oozing from cuts and scrapes, dust covering their clothes and faces. You wonder how much asbestos just entered the airways. Tourists look frantically around for the local fire brigade, but you know they're not coming: the fire station, along with the single police building, are on the other side of the fault from the rest of town.

Even if they weren't, you know the only remaining volunteer for the township crashed his plane into the hills last year. There will be no official response, from here or from Wellington. You are completely cut off from the rest of the world, and the real disaster is only just beginning.

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You know the emergency plan involves convening in the safest building in town, a newly-built tourist venture that has survived the cataclysm. You're able to enter the de facto HQ without much trouble, as people are too busy tending to their friends and coworkers to notice. As it stands, the group of people in charge of dealing with the disaster number just four: the local head of the Department of Conservation, one of his coworkers, a helicopter guide, and a woman you've never met. They are clearly familiar, and work fluidly. You're welcomed to the table after the helicopter guide recognizes you.

The two DOC staff are organizing a recovery effort, directing other locals to check around town for survivors, going door-to-door to evacuate homes. The helicopter pilot is conferring with his peers, taking stock of the town's supplies. The woman introduces herself as a geology professor from a nearby university. Convenient. She is being berated by a hysterical local for not predicting the earthquake, which is decidedly not convenient. Another DOC worker relieves her so she can return to studying a map, and the two of you begin going over the daunting task ahead: planning for the cascade of disasters you know may be headed your way.

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The map shows you what you already know: the township of Franz Josef straddles the northern shore of the Waiho River, a shoreline that the river has been doggedly advancing year after year after year. To the west, the Pacific ocean brings in a consistent storm surge, blanketing the Coast with record-setting rainfalls (no tsunamis, though - at least there's that). The Southern Alps rise dramatically to the east of the town, iconic proof of the steady thrust of the Alpine Fault. As of this afternoon, they just got a bit higher. In them sits whatever's left of Franz Josef glacier, the crown jewel of West Coast glacier tourism. It once stretched all the way to the foothills, giving

locals good reason to settle where they did. These days, it's little more than a speck on the alpine cliffs. Whatever justification they had to live here melted with that glacier.

Things aren't looking great.

You start by triaging your rescue efforts. Some things will simply be too hard, and your heart goes out to the hundreds of hikers, birders, hunters and glacier-goers who happened to be out in the bush this afternoon. In an area defined by vertical cliffs, loose soils, massive boulders and wild rivers, the death toll will be devastating.

So you focus on what you can reach. The most pressing issue is the petrol station, which will continue to burn until the fuel seeps into the groundwater. The town is used to a deluge, so the water drainage systems are very effective at channeling fluids right through the main drag. Unfortunately, in this case, those fluids are currently on fire.

The buildings closest to the fault have entirely collapsed, offering ample fuel for the flames. Something had sparked when the awning collapsed. You were right: there are bodies. But nobody can really tell who they were. The DOC staff depart to coordinate a risky last-minute rescue check ahead of the oncoming blaze. They will both survive, and they will both develop lung cancer from inhaling the toxic fumes, as will many of the onlookers.

You and the professor agree that, ironically, the next problem is a flood. A helicopter will be needed to scout out the tributaries of the local river, which are prone to damming in landslides. A single dam on the Gallery Gorge, both of you know, could spell game over for Franz Josef. Rain is forecasted tonight, as it is most nights on the coast. If there's a dam, it could overtop and breach within 48 hours. And that would be that.

You ask if the SH6 bridge is still open, and she just laughs. You laugh back, because you know the thing was basically just a few planks of wood and metal held together by rivets and prayers. No escape to the south, then. The north won't be much better, but there's probably some room for movement; you know it's clear all the way to Whataroa, because you just came in from there. The two of you share a look of understanding over the fact that Whataroa was meant to be a relocation site for Franz Josef, and that the town explicitly rebuked this option some years ago. You are all now facing the consequences of this decision.

And then there's the hillside: it held during the shaking, but water will seep into any new cracks and weaken the structure. From aerial surveys, you know that the top of this hillside shows evidence of what are basically geologic stretch marks: evidence of creeping failure. An aftershock could cleave them for good, and who knows when that will be coming. You need a helicopter to check it out if you plan on staying in town.

The pilot informs you that there are only six capable choppers left. Franz Josef has the highest chopper-to-resident ratio in the country, but any that were grounded at 5:18pm had their blades damaged during the quake. Only the six in the air at the time are now operable, and fuel is in

short supply. Someone will need to justify why a reconnaissance mission to the Callery is more important than ferrying out survivors.

There is no hospital in Franz Josef. No graveyard, either. The bridge to the South has collapsed, and the road to the north will be blocked at some point. A generator fires up somewhere in the distance, and you know that more will follow. You also know, from experience, that there will be no mob-mentality response. People are at their most charitable in a disaster, and the crowds seem to be self-organizing according to their needs. But they'll need all the help they can get, and all of the response will have to be coordinated by whoever happened to be here: at the wrong place, at the right time.

Do we move en masse? Do we stay put to treat injuries? Do we try to fight the fire? Do we start looking for survivors? How will we ration food? Who gets priority? Will the small-town locals, already insular, be willing to help international visitors? Will they listen to the scientist, or will she face abuse?

Will the aftermath be worse than the earthquake?

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Far from ground zero, the Wellington emergency response headquarters is abuzz with action. Most people had just headed home from work when the shaking hit, and were able to get back pretty quickly. But in the command center, a few chairs are conspicuously empty. Hopefully they're just late, but storefronts collapsed all over the city, and some people may not be returning at all.

Sitting at a desk, your coworker is wondering how you're faring down south. There is no way for them to know that you survived the quake, or even to know if Franz Josef still exists or not. They will not be able to know this for quite some time.

Your coworker has an interesting job: handling international communications in the event of a major disaster. They will work with embassies to locate missing foreign nationals, with a focus on the west coast. Nearly ten thousand tourists were on the western side of the Alps, and are now completely cut off from the rest of the world. Even if 99% of them survive the event, that leaves 100 people dead, and 99% is a very optimistic appraisal.

Here's what they don't know:

Four cars along SH6 were buried or pushed off the road by landslides. One person actually survived, trapped in their car for six days before locals noticed the overturned vehicle. Officially, there wasn't even an attempt to scout out car crashes. Too many other things to tend to.

A bus full of geology students from UT Austin were crossing the Otira Viaduct at 5:18pm. Their entire bus, along with seven other family cars, plunged to the bottom of the gorge. The lawsuit will take years to settle.

A total of 142 people will never be recovered from the Westland bush. Most of them will be Kiwis, but a couple dozen will be international trampers, mostly German and French. The tour groups that led them into the bush will face charges of involuntary manslaughter, even though the guides themselves never returned. Nobody will be happy with the outcome.

The CFO of an Australian mineral company was on a ship in Milford Sound when the quake hit. Landslides triggered great, sloshing waves in the fiord, which overturned the vessel. He wasn't fit enough to swim, but his company will blame Tourism New Zealand, and the industry will be crippled for decades.

The list goes on.

But one voice in particular stands out. It is that of an TikTok influencer on the West Coast, just north of Franz Josef, who was able to seek shelter with a local farmer. The farmer had a Starlink connection set up with a generator, and she was able to effectively livestream the devastation along the Coast.

In a video that would hound New Zealand's reputation forever, she interviews another tourist family, who express outrage over the fact that nobody ever told them that there might be an earthquake. Through tears, the video shows them casting blame on the locals for "hiding the truth from us". They're filthy, bloodied and sobbing. And they're wrong: the information was out there. It was present in all the hazard signs, in all the media and in the mind of any Coast local. But that won't stop the headlines.

While the remote Pacific nation buries its dead, licks its wounds and begins to pick up the pieces, questions of liability will be raised overseas. A generation will be defined by this disaster, in equal parts due to the shock of 5:18pm and the decade of unrest that followed. An entire economy will need restructuring and infrastructure will need to be completely replaced. People will need to be kind and generous. Scientists will need to be strong.

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Most of all, though, people will need to be ready. This story is a drama, an imagined nightmare of what could go wrong. But it has roots in reality. This earthquake will absolutely be striking New Zealand, and the fallout will be international. It will be one of the iconic disasters of our age. And Franz Josef sits at ground zero. With a petrol station on the faultline, a belly full of tourists and a myriad of other natural hazards to contend with, whatever happens here will be the face of the Alpine Fault earthquake. With the right preparation, we can make sure that face is a good one.