

**From:** [NSW Government](#)  
**To:** [Flood Inquiry](#)  
**Subject:** Floods Inquiry  
**Date:** Wednesday, 4 May 2022 11:51:08 AM



## Your details

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**Title**

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**First name**

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**Last name**

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**Email**

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**Postcode**

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## Submission details

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**I am making this submission as** An academic/researcher

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**Submission type** I am making a personal submission

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**Your position in the organisation (if applicable)**

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**Consent to make submission public** I would like this submission to remain anonymous

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## Share your experience or tell your story

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**Your story** Submission to Lismore Flood independent Inquiry.

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I'm a long-term resident of Lismore and my wife and I have owned one of Lismore's original 120 year old homesteads on the edge of town in North Lismore since 1998. We have seen many floods in the intervening years and I would count myself as otherwise well prepared for such events – up until the 28th Feb 2022. I am also a career geoscientist who has worked with Pacific Island regional agencies and presently with the

on the issue of disaster management and climate change adaptation. I was for example, a Lead Author in the 2014 IPCC report process and have had long and continuing involvement in climate change science and research and the development and implementation of adaptation solutions.

Our home floor height in Lismore had been raised above 13m (AHD) in the early 1990's and was further restumped and re-engineered in 2015 to ensure its durability, structural integrity and elevation. No flood since the early 1990's had ever gotten within approximately 1 m of our floor yet on the 28th Feb our floor was covered by approximately 1.5m of water causing the predictable damage to our lives and our home.

#### Warnings

Today (04.05.22) I listened to ABC radio reporting of the South Cross University community meeting (03.05.22) on this same issue. I heard for example people recommending that improved catchment monitoring would assist to improve warnings and other suggestions. This surprised me, since our catchment is monitored, and I was surprised there was no advice regarding this. There's always room for improvement but the crucial components are in place for far better warnings, we just don't put the pieces together.

- There are river gauges throughout our catchment which reliably gave real time data.
- There are rainfall gauges, which again give past and real time data.

- We have sophisticated forecasting / modelling capacity available via BoM Australia and other providers.
- We have real time weather radar available covering our and neighboring catchments.

If viewed together it is hard to understand the inadequate state of flood warning systems other than to say it appears there is no lead coordinating agency that is taking responsibility and taking into account all these factors. Not so much a case of being asleep at the wheel, but maybe people doing their jobs in silos and not piecing together the multi-dimensional information to make a more informed overall prediction of outcomes. The fact is the data was all there and we should have had strong indications potentially 2 days out that this flood could be unusually large.

By the time that massive and very slow moving system was confirmed to be heading south and would linger over the Northern Rivers we knew enough to be very alarmed. Our entire catchment was saturated, rivers across the region had already had elevated levels in the last 24 hours. We had strong indications that rainfalls in the next 48 hours were going to be very high. Modelling which pulled these facts together would have shown unprecedented flooding was highly likely. And yet as a long term resident who is well used to looking at flood warnings I saw nothing coming from the authorities which suggested this flood would be worse than other major event, indeed even the switch from moderate to major flood warning seemed catastrophically late.

I'm aware hindsight is 20:20 and the hurt of suffering these events raises emotion and can make one look to blame unreasonably. But I am experienced and trained and I do distinctly remember the preceding day / hours before the flood in Lismore, watching the rainfall figures over Brisbane, watching their catchment respond. Watching the radar which plainly

showed that massive persistent and very slow moving system moving into northern rivers. I knew our catchment was already 100% saturated. It frightened me because I knew there was nowhere for that water to go. We had just a day before seen our rivers elevated the ground was saturated. My mistake was that I also watched the official warnings via the BoM and that actually calmed my nerves. There appeared little in the way of unusual alarm or emphasis in their warnings. I dismissed my personal misgivings and trusted the experts and trusted the heights would be big but saw nothing that suggested they could exceed the historical peaks. I think better modelling would have shown that risk.

I don't know where the disjoint or lack of resources is in the official forecasting or warning system / analysis. But it appears to me the data was there but just not being put together. It appears one thing that seems to have been particularly important was the condition of our catchment prior to the main rainfall event. Incorporating this information with forwards looking projections would likely have improved our ability to identify an unprecedented event was going to occur – a level beyond the historical peaks. It needed ongoing real time modelling looking forward and backwards to understand that the catchment was already completely saturated and thus runoff was going to be larger, faster and less predictable. I don't know how well this is all coordinated at the moment, but it does seem we could do far better just using data which is already available to us. Plainly, the interaction of these predictive resources and response bodies like the SES also needs investigation.

#### Rebuilding

I'm watching Lismore rush to rebuild (me among them) and I wonder at the sense in this. There are some uncomfortable facts in front of us here, climate change science is not optional and

should not be the subject of “belief” (as it is unfortunately treated). Ignoring politics, towns like Lismore (just as more pragmatic front line commercial interests like insurers understand) must recognise climate change is here.

Unprecedented or more frequent weather events be it drought, flood, storms are exactly what we must expect. It means that historical understanding of such events and the accepted statistics we use to inform engineering must also change.

In my work in the Pacific, time and time again we urge exposed communities to move and consider more long term options for their safety because we know that massive amounts of resources can be wasted implementing piecemeal engineering that may have its design criteria exceeded before we expect. We also know that medium term engineering fixes tends to give a sense of confidence which can result in more development and investment in what are fundamentally exposed locations. This is called mal-adaption and no responsible body on Earth thinks this a wise direction to pursue.

That said, short term “concrete” adaptation approaches are often politically attractive because it looks like action is being taken. There may be room for some of this but there must be the recognition its often just kicking the can down the road. Because we do not know what the new normal is and we can't foresee how frequently such huge events may occur, but can say the best science advice the world has to offer is that we must expect more such events. Our fundamental baseline understanding of historical trends in weather events is changing and we must stop pretending that business as normal is sustainable.

As much as it pains me to say as a home owner in Lismore, we can't keep doing this, we must develop a long term strategy to get safe long term solutions for the people and assets in the basin. We really only get one chance to completely rebuild after such a disaster (insurers

will obviously reassess after this) and simply pouring all those resources and good will into the same town which remains in the same essentially unalterable situation of exposure, is in my view tragic. We need to be strategic and use the resources we have to build back better – whatever that entails.

As I write, many millions of dollars are being invested to re-set the trap spring in Lismore and its going to be heart-breaking. We are renovating, rebuilding and restocking businesses and homes which remain exposed to an unknown frequency and extent of flooding from which we can't be protected, but can say its likely to get worse. This makes no sense unless it is part of a well thought out strategy, and at this juncture I'm unsure it is.

#### Personal note

Since buying our North Lismore home in the mid 1990's and knowing it was in flood but raised well above that nominal historical flood height, we had learnt to trust those statistics and that engineering. We've seen many floods, we know the drill and our lives were well adjusted to that known level of threat. We routinely stayed in our home during floods because we trusted the +13m floor height and it had proven effective in keeping us safe for decades.

Now that we have seen those levels so catastrophically exceeded, for us, no flood warning will ever be the same. I travel quite a lot but now I can't easily leave my family knowing what could happen. Our confidence that we were safe has disappeared and we know we'll live with the anxiety of what can happen every time we get a major flood scenario. All the confidence that our home and our lives can adapt to the risk has evaporated. We love our home and have spent years renovating and faithfully retaining its old-world charm. We love that its is a 5 min walk to the CBD but we have decided we can't live with that risk anymore.

We would love to see proactive planning to

perhaps move such homes out of the basin to new areas and relinquish the flood basin land to other more appropriate uses. Our insurance does not offer such options, so we find ourselves on the same pathway as everyone else. Our home will be repaired, I'll get the garden back under control, it will look beautiful again, but for how long and what's the point when my family are frightened to be there now?

Please, we have the intelligence and resources to be better than simply re-setting our own mouse trap, lets show leadership on what will essentially be climate change adaptation.

If I can help in anyway please make contact.

Thank you.

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### **Terms of Reference (optional)**

The Inquiry welcomes submissions that address the particular matters identified in its [Terms of Reference](#)

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### **Supporting documents or images**

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