

From: [NSW Government](#)
To: [Flood Inquiry](#)
Subject: Floods Inquiry
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Attachments: [Flood inquiry submission C.CLAY.pdf](#)

Your details

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Submission details

I am making this submission as A resident in a flood-affected area

Submission type I am making a personal submission

Consent to make submission public I give my consent for this submission to be made public

Share your experience or tell your story

Terms of Reference (optional)

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

Supporting documents or images

Attach files

- [Flood inquiry submission C CLAY.pdf](#)
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Independent expert inquiry into the preparation for, causes of, response to and recovery from the 2022 catastrophic flood event across the state of NSW.

My name is Chrisy Clay, I live at Wyrallah which is about 16km downstream of Lismore. Our home is located on the banks of the Wilsons River. We have lived there for the past 8 years and in that time we have experienced 13 floods, ranging from minor to major and now catastrophic. I'm a long term North Coast local having grown up in the Clarence. Like most locals I have been through many floods. I have a science degree and 23 years professional experience working in natural resource management on the floodplain. However, this is my personal submission and my own thoughts and observations.

Causes and contributing factors

There are many contributing factors to the catastrophic flood of 28th of February 2022, however I want to highlight three that are critically important and seemingly haven't been acknowledged in the public discussion following the floods.

The role of a highly degraded and modified catchment.

The Richmond - Wilsons River is acknowledged as one of the most degraded in the State. A degraded river is less able to cope with and buffer the impact of major flooding. The degradation is caused mostly by agriculture along with impacts from towns and villages located on the waterway. The river has missing or degraded riparian vegetation, eroded riverbanks, drained and degraded wetlands and highly erodible soil from unsustainable agricultural practices. This degradation limits the catchment's natural ability to reduce the impact of flooding downstream. Natural processes that slow down floodwater, capture it off stream, hold water back until after the flood peak, have been disrupted.

Further, I've often commented that the biggest stormwater drain in the catchment are the two rivers. From the headwaters, right down to the river mouth – land has been modified with the intention of shedding surface water off as quickly as possible. Macadamia orchards sit on steep slopes, with mostly no ground cover and are designed to channelise and shed water off downstream. The vast network of roads, both sealed and unsealed, also are designed to shed water off quickly. Our towns and villages further catch rain and surface water and through stormwater drains, move that water downstream as quickly as possible. Further downstream on the floodplain, artificial canals and drains have been dug to remove surface water off land. Our intention is to move water off and downstream as quickly as possible, this exacerbates floods by increasing runoff, reducing upstream retention and channelised flows through farms.

Living on the banks of the Wilsons River, we see how efficiently we can move surface water downstream and into waterways. We have determined it takes as little as 10mm of rain above us in the catchment for the river to turn turbid brown from sediment washed in off the land upstream.

Seemingly unpredictable rain events

Living on the riverbank and being unprotected by any levees, we pay attention to every flood watch or warning issued from the BOM. We have noticed during the past two wet La Nina influenced Summers (our wet season), the BOM seems unable to accurately predict floods in a timely manner. It appears that

1) the storm cells and systems that occur during these periods are unpredictable and can appear randomly, behave without any certainty, and sit over an area and drop more rain than forecast.

2) whatever modelling or systems the BOM are using don't seem to be able to cope with this unpredictable rainfall NOR the impact of that falling on an already saturated catchment. People seem to forget that the flood of 28th of February occurred only three days after Lismore experienced a moderate flood.

Over the past two years we have seen an increasing trend in flood watch's not being issued and flood warnings from the BOM coming far too late to take the actions necessary. The catastrophic flood of the 28th of February is just another example of this. I wish the BOM were able to talk freely about the difficulty they face in providing accurate and timely information. I wish they would talk without political fear and say for example: our models don't work very well anymore, or weather patterns are changing and becoming more unpredictable, or this is how much confidence you should have in our advice or this could get worse in a changing climate.

Climate change

Scientists have been warning people of the Northern Rivers that climate change will make our wet periods wetter and our dry periods drier and extreme weather events will become more frequent and more severe. Considering it was only five years ago in 2017 that we had what was then the third biggest flood on record, and now we've experienced a flood two meters higher than the highest on record, followed by a flood in March that was the sixth highest on record –their predictions are accurate.

In fact, if we take a wider look at weather and climate related impacts just here around Lismore that past five years has delivered:

- Feb 2017, the hottest day on record in Lismore
- March 2017, the third biggest flood on record
- 2019/2020, severe drought and Black Summer bushfires,
- 2020/2022, global pandemic
- Feb 2022, flood 2 meters higher than the highest on record.

Scientists are telling us that the climate is changing, and we are now experiencing impacts of climate change. Reputable, non-radical, scientists and organisations are telling us we need to act now, that urgency is required. But when I look at our three tiers of government I don't see that acknowledgment or urgency or leadership.

During the flood of the 28th of February, I feel like I looked climate change right in the eyes. The fear of realising that what you previously thought wasn't possible, was actually happening, will stay with me forever. That's what a changing climate will provide us, less certainty, more fear and trauma.

My flood story

On Sunday the 27th of February, I and my family went to bed knowing that we would have flood water enter downstairs of our home. We live in a two-story home, lifted after the 1974 flood. Our top story sits a meter above the 1954 flood height – which up until recently everyone felt was more than enough. When we went to bed we could have handled a flood at the 2017 height, or even a 1974 or 1954 flood with minimal impact.

We had moved cars up the hill and had brought all our animals upstairs on the veranda to be safe. We went to bed at 11pm and water hadn't reached the house and was rising at a reasonable pace. At 3am we woke to a loud bang. We got up to make sure it wasn't our animals on the veranda – I had put two goats in our cat run for the night. It was then my husband said the words I'll never forget "the goats are the least of our worries, come have a look at the water level". It was already at 2017 height and was moving with such force and speed. After checking the BOM river gauges and their predicted flood heights, we took a tape measure to our 2017 flood mark and realised it was going to come in upstairs.

We then spent the next 3 hours evacuating. We took our daughter to a friend's house. We then evacuated all 16 animals – 2 goats, 1 rooster, 1 galah, 1 guinea pig, 1 cat and 1 dog. I also am a wildlife carer so we also evacuated 7 black ducks and 2 baby echidna puggles that I had in care. We did this by walking through the floodwater to higher ground on Wyrallah Road. We, unlike so many others were lucky to have a hill and road nearby to evacuate to. We managed to get out a few boxes of valuables and then had to leave because the water was too high and moving too fast. It would rise more than another meter after we left and would enter our top story about 200mm.

I am grateful that we had time to evacuate safely. I am grateful we didn't lose any animals in the flood. I am grateful that our entire house didn't go under we were able to save some possessions. I know that many, many people weren't as lucky as we were.

I pride myself on being self-sufficient, of knowing the river and floods, of being able to make timely and safe decisions for my family or not needing the SES. However the flood of 28th February has left me with one haunting question.....

How do you prepare for something that nobody thought was possible?

Where to from here?

Simply, there are no easy answers to how can we prepare and reduce the impact of a flood of 14.4m. I will go so far to say if someone says there is any easy solution, (eg pumping money into flood mitigation in Lismore) they probably don't understand the true complexity of the situation and the range of contributing factors.

My suggestions on what we need to do moving forward are:

- Understand the limitations of what traditional flood mitigation structures can do. Flood mitigation can not protect North and South Lismore and the CBD from a 14.4m flood. Relying solely on flood mitigation to reduce the risk of floods in Lismore and surrounds is an outdated solution, it is 1960's thinking for a 2022 problem. Bottom line – you can't use flood mitigation to address climate change fueled extreme events.
- Any land use planning or land management recommendations must have a whole of catchment focus. Surface water (and sediment) must be contained and slowed on upstream properties. Why is it ok to modify your property to shed your surface water and sent it downstream on to other people?
- Whilst the Richmond and Wilsons Rivers remain degraded their natural ability to reduce the impact of flooding downstream will be limited. Riparian vegetation needs to be reinstated and farming not allowed to occur right to the rivers edge, likewise wetlands need to be wetlands, and not used for agriculture.
- Climate change must be factored into land use planning. Floods will be more frequent, and more severe.

- We must prepare our community for what lies ahead in a changing climate. This means providing them with clear and scientifically based information on the risks and what we can expect.

Last thoughts

I reluctantly put the time and effort into this submission and did so many for cathartic reasons.

I have no evidence that the State Government will take up these recommendations from this inquiry. My observation is that State Government tends to spend more time planning and investigating than taking meaningful action.

I have no trust and no confidence in their ability to be open, transparent, and responsive – because simply that puts them at risk of losing votes and retaining government. I have found State Government unable to be responsive, adaptable, bold and courageous, rather that they are fearful, conservative, constrained and are primarily concerned with politically safe topics. How will they provide any leadership on the way forward with characteristics like that?

I give my permission for this submission to be published.

Kind regards

Chrisy Clay

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18 May, 2022