

# Media coverage of recent New Zealand storm events

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## Abstract

Twice in 2018, severe storms and the remnants of tropical cyclones battered New Zealand, resulting in severe consequences for our landscapes and, in particular, forests and forestry. First, from 19 February through to 21 February ex-cyclone Gita swept across the top of the South Island, bringing wind gusts of up to 140 km/hour and between 115 and 130 mm of rain to the same area. Four months later, a significant storm over the weekend of 10–11 June brought very heavy rainfall to the East Coast, particularly around Tolaga Bay. Both events caused landslides, sediment and debris flows, and a sustained discussion about forestry.

As a consequence of ex-cyclone Gita and other bio-geophysical factors, several landslides occurred in the Tasman district, bringing down tracts of forest and hillside sediments. The forest on these hillsides was a mixture of planted exotics and native species (Figure 1). Around Tolaga Bay, sediment and slash was washed off the hillsides, impacting property, infrastructure, local waterways and beaches.

With relatively significant impacts from these weather events on forests and forestry operations, and downstream infrastructure, land and beaches, the local and national media took a great deal of interest in this, including reporting their views on forestry

operations, local planning and consent decisions, and the experiences of the people affected.

By examining and understanding the media and the public response to these events, there are at least two considerations for the forest sector. First, responding through changed practices that address the concerns where warranted may help maintain their social licence to operate and mitigate potentially unwarranted ongoing backlash. Second, the sector could develop ways in which to build 'standing' through proactive engagement with the media and public to forestall a potential backlash against the sector. This is particularly important as New Zealand ramps up attention on forests and forestry through the One Billion Trees programme.

This paper examines media reporting around the outcomes from forests and forestry operations that have been hit by severe weather/climate events. This is a complex and sensitive, but topical, discussion as it is acknowledged there will be increasing instances of severe weather and climatic events in the future (c.f. Alexander et al., 2006) that will further impact on forestry.

## Media coverage and public perceptions

Petty et al. (2009) provide an overview of how the media can influence public attitudes and behaviours. While there is no one definitive model, they highlight that individuals' attitudes are a key link between new information and behaviour change. In the Elaboration Likelihood Model there are two potential avenues to attitude and behaviour change – peripheral or temporary or central or long-term shifts. Whether attitude or behaviour change even occurs depends on how individuals internally process new information, and additional environmental cues that can trigger change (Petty et al., 2009). Reliance on personal experiences helps the public anchor the abstract nature of events to the familiar and concrete (Capstick & Pidgeon, 2014). However, where it cannot be directly experienced by a lay audience, the media become relevant sources of information and opinion (Kleinschmit & Sjöstedt, 2014).

The media are more likely to report events involving companies with either a very high record of social responsibility, or those known to be 'usual suspects' in the issue (Luo et al., 2011). Those with a higher social responsibility record are portrayed in a more positive tone. Luo et al. (2011) state that this reinforces reader stereotypes (in terms of usual suspects), as well as highlighting interest in surprising stories (in the case of



Damage to both exotic and native forested slopes at Marahau, Tasman region. Photo courtesy of Kyle Mulinder

those with a superior reputation). Interestingly, Luo et al. (2011) advocate that firms should therefore seek to be in the ‘upper middle’ in terms of social responsibility. This is not being a top-rated firm, so they are not unduly targeted and ‘fall off the pedestal’ when an issue happens, but they are also not constantly lambasted in the media due to having a poor social record.

While these debris events and their effects have not seen the same media attention previously, forestry has generally been seen as a ‘responsible’ industry (c.f. Luo et al., 2011), and more recently prominently profiled in the media highlighting positive economic growth (Rotorua Daily Post, 2017; Porter, 2016), and good employment prospects (NZIF, 2017). These recent adverse events therefore have higher potential to sway public opinion about forestry practices, particularly when confronted with individuals’ and community members’ personal stories about how they have been affected. Ungar (1999) notes that while a high amount of media coverage of an event denotes the likelihood of higher public awareness about it, and greater political importance surrounding the issue, the media functions to point readers towards *what* to think about (i.e. what issues are presently important) rather than *how* to think about an issue.

There are several key components of media interaction. Actors who are successful in getting their messages into the media and are not just an object of discussion have what is called ‘standing’ (c.f. Ferree et al., 2002). They have more opportunity to gain support for their messaging. Those actors who have standing are therefore often able to influence the framing of issues according to their values and preferences. Framing is a process that gives meaning to complex situations by simplifying and condensing specific aspects of the issue (Benford & Snow, 2000).

We provide analysis of media reporting, and outline from this learning some points of consideration for the forest sector around practice change and improving communications.

**Methods**

Media articles published online between January and September 2018 were gathered from online mainstream media outlets, including newspapers and Radio NZ reports. By October 2018, most media articles concerning these two major events had run their course, although the issue resurfaced in December 2018 when forestry companies on the East Coast were charged by the Gisborne District Council over the damage from logging debris. In contrast, the Tasman District Council decided not to lay charges with forestry firms. No new information was reported that impacted on the framing of the earlier stories and the Tolaga Bay outcome is currently still before the courts.

Without the capacity to analyse video-based media we did not include television reports, unless they posed a written story on their website. This examination looked exclusively at regular media outlets, and excluded social

media and associated comments posted to media stories. Excluding both video and social media commentary limits our understanding of the richness of public views and the wider social licence to operate surrounding the industry as a result of these events. However, very different methods and analysis techniques would be required to analyse such data given the video media itself, and the very subjective and non-fact-based reactions and opinions that are the nature of social commentary, as opposed to media articles from journalists reporting on the events.

Using the Google search engine, with combinations of the search terms ‘log’, ‘logging’, ‘debris’, ‘forest’ and ‘storm’, media articles were sourced and identified, noting the storm event, region and news source of the article. Focusing on these search terms, articles that centred on the weather system and emergency itself, or were human interest stories (e.g. the rescue experience of a family from their rooftop due to rising floodwaters), were eliminated. This removed eight of the 11 stories that ran in the *NZ Herald*. A total of 72 articles ran over these nine months that related to forestry log debris flow and sedimentation issues.

Most articles came from either the *Radio NZ* or *Stuff* (owned by Fairfax) websites. These two publishers accounted for two-thirds of all our sourced articles. The *Stuff* website has *Stuff* articles, but also represents online content from the major Fairfax Group newspapers such as the *Waikato Times*, the *Dominion Post*, *The Press*, *The Sunday Star Times*, the *Marlborough Express*, the *Nelson Mail*, the *Southland Times* and the *Timaru Herald*. Similarly, Allied Publications cover several forest transportation and harvesting journals, such as *NZ Logger* and *NZ Truck and Driver*.

While most Fairfax articles ran via the *Stuff* website, some of the affiliated newspapers also ran articles from their own websites. Where the article was not on *Stuff*, but on the individual newspaper’s website, this is noted in Table 1. Additional articles were sourced from a wide range of other New Zealand media sites, as well as media press releases (from Civil Defence, the New Zealand Forest Owners Association (NZFOA), the Forest Industry Contractors Association, Forest Enterprises and Parliamentary Services).

Table 1: Source and distribution of articles analysed

Media Source		Media Source	
Fairfax media	33	<i>NZ Herald</i>	3
<i>Stuff</i> (not attributed to a subsidiary newspaper)	19	Allied Publications Ltd	1
<i>Sunday Star Times</i>	1	NZ Farm Life Media	1
<i>The Dominion Post</i>	1	<i>Radio NZ</i>	26
<i>The Press</i>	1	One News	4
<i>Southland Times</i>	2	Newshub	1
<i>Gisborne Herald</i>	6	Sunlive	1
<i>Nelson Mail</i>	3	Māori Television	2
		Press releases	7

The articles were coded in Nvivo v11 and reviewed by: month of publication; source (publisher) of the article; frequency of actors portrayed in the articles, and whether they were quoted for opinion or comment; and the images used, which were categorised into different types of image.

Photographs can contribute to and facilitate interpretation of places and/or events. These images have embedded meanings and emotions and can be self-explanatory (Ferguson, 2013). We applied the first stage of Panofsky’s (1982) iconographical approach to visuals – a pre-iconographical description. Müller (2012) outlines this as describing the visuals in neutral terms while avoiding attribution of meaning. Through examining and comparing the details of the photographs associated with the media articles and with each other, we were able to organise them into the nine discrete categories described in Table 2.

Photographs were coded (based on the similarity of the types of photographic content) into mutually exclusive piles. Photos with more than one aspect were assigned to a category based on what most of the image was portraying.

We note that, following Emmel and Clark (2011), photographs and images only provide a partial account of what is being investigated or seen, and are often purposive in relation to complementary activities, in this case reporting or providing an opinion.

We supplemented the coding and image analysis with a discourse analysis following an approach from Kleinschmit and Sjöstedt (2014), attributing statements to those portrayed as causing, helping or being victims of the events reported. We also used a modified content analysis of the 72 articles on the topic. Like Kleinschmit and Sjöstedt (2014: 120), we identified from statements in the articles the actors identified by the speaker (in this case mainly the journalist) as causer, victim and helper.

Table 2: Explanation of the image categories developed and the characteristics and/or patterns searched for in categorising them

Image type	Characteristics/patterns
Victims	Portrayal of people or beings affected by the landslips were central to these images
Debris	Images with piles of slash, harvesting debris or forest debris, sometimes shown piled up around bridges
Silt	Images that showed extensive sediment or silt damage and had no visible forest or logging debris
Logs	These images portrayed significant areas of logs – much larger than slash
Landscape*	Images of wider landscapes that showed logging debris, including both slash and logs
Stakeholders/experts	Usually headshots (often a previously shot image) of one of the people making comment on the issue
Forestry production	General stock images of the cutover, harvest operations or logs piled at wharf
Clean-up operations	Usually involving a digger in a pile of slash debris, or smiling volunteers with spades and shovels
Aerial	Aerial images show a much wider landscape with the impacts from logging and forest debris shown from above

\* The landscape type nominally refers to what Emmel & Clark (2011) call panoramic pictures – representing a wider ‘view from the outside’

## Results

### Publications over time

Most articles correspond to the two major climatic events causing debris flow – ex-Cyclone Gita (impacting the upper South Island region on 19–21 February 2018)

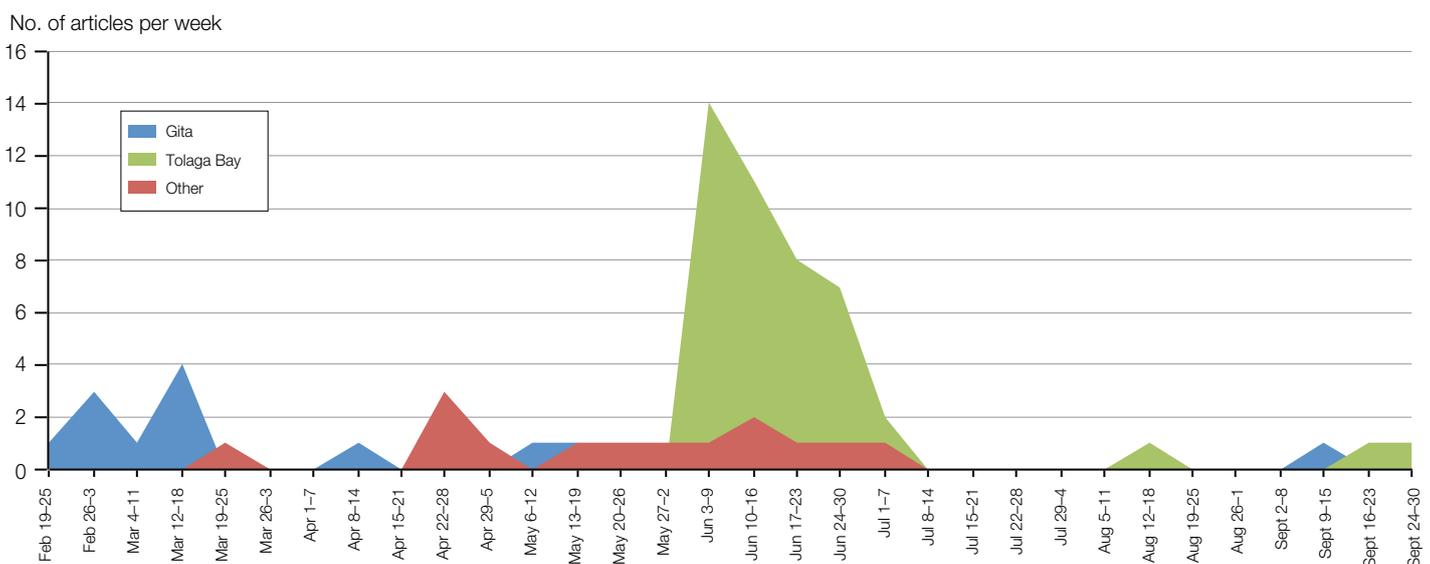


Figure 1: Depiction of the number of news articles published each week between 19 February 2018 and 30 September 2018 about ex-cyclone Gita, the Tolaga Bay storm and other related events

and the Tolaga Bay storm from early June 2018. Sixty-two percent of the articles (n=45) related to the Tolaga Bay incident, 20% to Gita, and 18% to other regions and incidents (Figure 1). During May and June, other events non-related to Gita or Tolaga Bay were also reported as sideline, but related, issues. Some of these portrayed people who felt vulnerable to threats of similar storm events in the future, and also groups such as iwi who felt they were tied to forestry with little option to change their land use. For example, one article from May reported on a log build-up in Maruia Dam, which the Department of Conservation stated was entirely a natural occurrence (Sivignon, 2018a).

While the Gita event caused relatively few articles to emerge, the Tolaga Bay event caused log debris flows to be elevated to front page news. Despite this, the reporting lasted for a similar five to six-week period. Although both events ran articles relating to the need to rethink forestry practices, the articles about the Gita event focused mainly on the geology of the region (Separation Point granite) and council and farmer planting of hillside in radiata. Although the Gita event affected both native and exotic forested slopes (Sivignon, 2018b), much of the media focus was on Marahau (which was first planted in radiata by the NZ Forest Service, then transferred as a Crown Forestry Licence to iwi, and is now owned by a Chinese corporate and managed by Tasman Forest Management) (Neal, 2018; Ruddick, 2018; Sivignon, 2018b).

In contrast, the Tolaga Bay event reported on the logging slash being from large forestry companies, particularly Hikurangi Forest Farms (HFF), PF Olsen and Ernslaw One. In both events, previous historical events were raised, with references made to past published reports to support various viewpoints. Council prior knowledge of the potential threat from a major weather event on harvested forestry land on the East Coast was also reported (Flahive, 2018).

**Who was quoted?**

Fifty percent of the articles provided comment from a local government representative, and 38% had a comment from a victim or someone directly affected. Only 14 articles (19%) provided comment from a forestry company or forest sector representative. Twenty-one articles (28%) named specific forestry companies or industry associations, 14 of which included a response from a forestry representative. Of the seven articles where there was no comment from the forest industry, three instances did not attempt to contact a forestry representative. Two articles cited that companies declined an invitation to respond, while in a further two instances the reporter stated a representative could not be reached for comment or did not return the call.

**What images were shown?**

We determined a number of image ‘types’ used in news articles and reporting. The types included those

that portrayed the victims of the event, slash piles and debris, a ‘sea of logs’, silt and sediment without logs, and aerial images. In each category of image type, there was some ‘reuse’ of the same images in different articles (Table 3).

Examining the source of all of the 134 instances of images used in the articles (the same image will have been counted each time that it was used in different articles), 91 (68%) were taken by media outlet photographers, 15 (11%) were supplied (with only one supplied photo being attributed to an individual), 10 (7%) were from unknown individuals or organisations, six (4%) were unattributed, five (4%) were from government entities, four (3%) were from community members, two (1%) were from a blogger, and there was one stock photo.

Using the ‘causer’ terminology from media studies, we queried the articles to find out which entity or person was seen as responsible for the event. From the 108 instances where an entity was attributed as being a ‘causer’, the forest sector was seen as being the main causer of the log debris flow outcomes (76% of all instances). The regional council was also identified as a significant causer, as were past governments, landowners and the public to a minor extent (Figure 2). (Landowner was generally described as the owner or manager of the land impacted by the debris flow.)

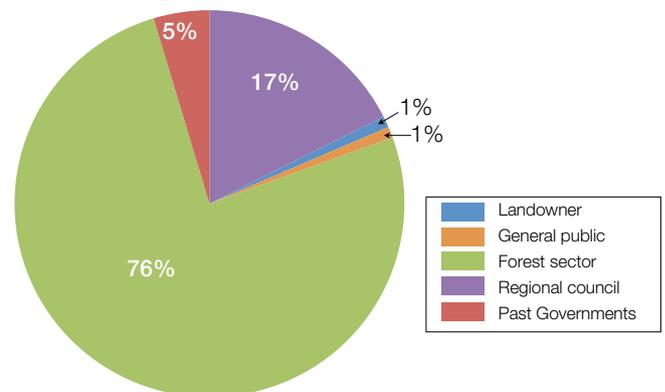


Figure 2: Breakdown of which entities were seen as the primary causer of the debris flows

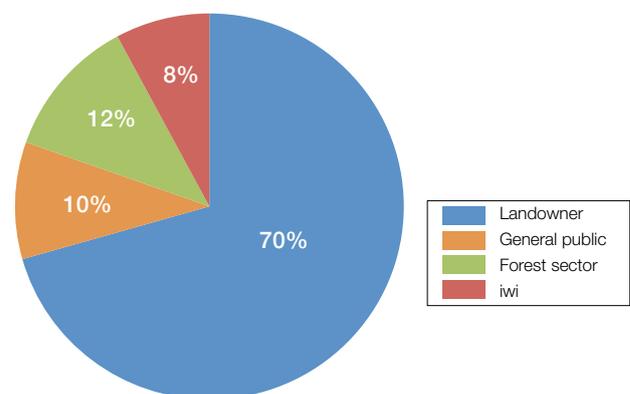


Figure 3: Breakdown of which entities were seen as the primary victims of the debris flows in the media articles examined

Table 3: Categorisation of the major types of images, how they were portrayed in media articles, and the numbers of these images used in reporting

Image type	How portrayed	Example	Total no. of images	No. of unique images
Victims/those affected	Often sitting amongst debris, with animals, pointing to debris		32	24
Slash piles/ log debris	A bundle of logs, often close-up images		18	15
Silt damage with no slash	Landscape image of impact, but no slash in image		15	13
'Sea of logs'	Land and beach covered with logs		11	5
Logging debris strewn across landscape	Landscape impacts showing slash		11	8
Aerial images	Landscape impacts		9	7

We queried the articles to understand who was seen as the victim in the aftermath of these events (Figure 3). In the 51 instances where victims were indicated within the articles, landowners downstream from the source of the debris flows were seen as the main victim (70% of these instances). To a lesser extent, the forest sector (12%), the general public (10%) and iwi (8%) were also portrayed as victims in media reports.

We also examined the articles for information as to what or who was contributing to solutions and/or helping landowners and communities recover from the aftermath of the debris flows (Figure 4). Despite the forest sector being shown as a significant causer of the debris flow outcomes, forestry companies were also recognised as the primary actors (in 79% of instances), providing solutions and assisting with the clean-up and recovery operations in the 24 instances within the articles where help was noted. Reports focused on forestry company CEOs and executives visiting the region, and forestry contractors who were re-tasking crews to assist in log and debris removal, including clearing public roads.

Others who proposed solutions in the aftermath of the debris flows were local or regional community leaders or entities. Members of Parliament were primarily ministers and local representatives. Notably, central government agencies were absent in the articles, suggesting that responses and solutions are regional and place-based.

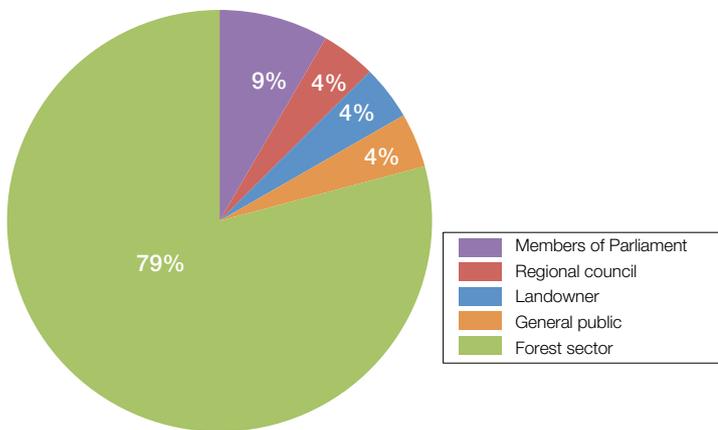


Figure 4: Breakdown of entities seen as providing solutions and assisting with the clean-up and recovery efforts

An initial focus of media reports was on the large climatic events impacting the region. Once the damage to property and structures was reported, news reports shifted attention to the primary reasons behind the debris flow events. Table 4 shows the breakdown of the subsequent factors that were reported as the primary reasons for the outcomes in the Tasman region and Tolaga Bay, being the two main regional events reported. Some media reports provided detailed scientific information. For example, in the Tasman region Separation Point granite soils (along with

previous council decisions to encourage planting on these soils) were highlighted, with past reports and previous warnings of possible impacts referred to in the articles. Similarly, for the Tolaga Bay event, the media covered past government decisions to plant the region following Cyclone Bola in the late 1980s, and referenced previous reports sent to council warning of possible issues from slash build-up.

Table 4: Reported primary reasons behind the debris flow events subsequent to the initial reporting of climatic events as the primary cause

What was reported as the main reasons behind the debris flow event?		Number of articles giving this reason
Nature/climate change/Act of God	35%	17
Erodible soils/Separation Point granite	23%	10
Current legislation	21%	11
Planting of exotic species	8%	4
Slash from >5 years ago	6%	3
Afforestation following Bola*	6%	3
<b>Total</b>		<b>48</b>

\* Refers to Cyclone Bola which hit the East Coast in 1987

Media outlets not only reported the events and their outcomes, but also provided opinion on three possible core mitigating actions given as potential solutions to reduce the consequences when such events occur again. Proposed solutions included:

- Legislative change, largely around changes to forestry practices
- The tree species being planted
- The retiring of erodible land from forestry use, e.g. planting permanent native forests.

Several revised forestry practices were also suggested (Table 5) such as:

- Increasing riparian depth
- Leaving large diameter edge trees as a buffer to slow flows
- Continuous cover forestry
- Finding and developing new markets for slash
- Investing in local processing and mills, and burning slash piles.

Many of these suggested practice changes have been highlighted by Visser et al. (2018).

## Discussion

With our joint aim of examining two potential considerations for the New Zealand forest sector – changing practices to maintain and/or gain their social

licence to operate and better communicating responses to adverse events – there are a number of points of discussion.

Table 5: Reported ideas to prevent these outcomes from happening again in the future

What is reported as needed to prevent this happening again?		Number of times this was reported
Revised legislation	34%	23
Right tree in right place	17%	12
Retiring erodible land from forestry	22%	15
Increased riparian barriers	7%	5
Continuous cover forestry	6%	4
Government inquiry	4%	3
New markets for slash (pulp or firewood)	3%	2
Pulling back slash piles from waterways	3%	2
Burning of slash in-situ	1%	1
National forest policy	1%	1
Biofuel production from slash	1%	1
River management	1%	1
<b>Total</b>	<b>1%</b>	<b>70</b>

First, examining the visualisations (photos, videos etc) presented in the printed and online articles suggest they do not represent the ‘full reality’, but are a subjective interpretation of the photographer’s reality (c.f. Emmel & Clark, 2011). Generally, these images need to be complemented with other material, e.g. statements, interviews. However, this does not necessarily make these representations effective, as it is still dependent on whether certain actors are given standing (or not) and the framing that is used by the journalist. (We have not examined the framing used by different journalists in this article.) Under the current framework in New Zealand, regional and district councils are key responders to environmental events, and this may help to explain media reporters’ inclusion of a council voice in most of the reports.

Second, the New Zealand forest sector, despite being the second largest primary exporter after dairy, is often a poor cousin in terms of media standing behind agriculture. Agriculture has a strong media profile in comparison to forestry. There are many rural-based newsheets dedicated to farming, and farm-specific business pages, but no pages and news sheets dedicated to forestry. Agriculture could therefore have further to ‘fall’ in the public eye compared to forestry. Certainly, dairy’s social licence to operate and standing has been impacted from the ‘dirty dairy’ practices. It is as yet uncertain what the impact of these debris flow events will be on forestry’s standing in the long term.

Returning to the concept of standing, with 20% of the articles providing standing to the forest sector, we question what the drivers are of this low level of standing? Given our assertion that the forest sector is a relatively unobtrusive one in the media (sensu Zucker, 1978), it may be that when fairly rare occurrences such as these events happen media coverage may be higher for a short period of time. However, the low level of standing means forestry’s voice is not heard as well as it could be due to a low level of connectivity between the media and the sector.

The finding that there was a seemingly sole focus on the forest sector as the primary causer of the problems was our initial conclusion, yet when examined in more detail it was found that climate change, natural causes, geology and Acts of God were the primary causes behind the events. In addition, it was interesting that there wasn’t much mention of the combination of events and conditions that made this possible, i.e. the geology, weather events and ‘human/industry factors’. We query whether this may feed into the media’s need to anthropomorphise events, showing causes and victims, rather than attributing it to Acts of God or the landscape.

In light of these findings, foresters might consider their preparedness for addressing both the media interest and the concerns from the public when such an event occurs. Some questions to ponder could include:

- How well do we proactively communicate with others what is happening on our forested lands, and the likely outcomes, and how can we better engage with the media and communities to increase our standing?
- How aware are the public of the likely impacts and outcomes from storm events? What steps have we taken to communicate the level of risk from storm events, and possible outcomes in this region should an event occur?
- What can we learn from the concerns raised and what changes to forest practice might we consider?

## Conclusions

While the forest sector was seen as a key causer of the problems experienced in the Tasman region and in Tolaga Bay, it was also reported and acknowledged as being a key actor involved in rectifying the damage through clean-up and recovery efforts in the affected communities. This suggests that there is an existing ‘goodwill’ relationship between the forest sector and its immediate communities. This needs to be maintained and the sector should look at ways to enhance and more actively publicise and leverage public goodwill.

Despite this evidence of close engagement with the public locally, in conjunction with a willingness by industry to proactively establish initiatives at a national level (e.g. the recent National Environmental Standard

for Plantation Forestry), communication from the forest sector to the wider public as a whole appears limited. There is a lack of a clear and strong forestry voice in the media. In the case of the recent debris flow events, this lack of a strong voice saw others providing comment ahead of forestry representatives, with forestry opinion under-represented in the reporting.

The forest sector needs to build relationships with the New Zealand media for two end goals: first, to help the sector gain standing in the media when future events come to media attention; and, second, to proactively feed news stories through in the calm periods – building a ‘bank’ of goodwill and understanding through these stories. Forestry might also learn from other sectors that broadly publish their own news sheets targeting a wider rural public audience, in order to disseminate forest sector-related stories without reliance solely on national mainstream media outlets to carry the forestry stories.

Our findings showed most of the attribution (35%) within the text and media reporting being due to a natural occurrence or Act of God because of extreme weather impacting on the composition of soils in the regions of concern, but our analysis also shows headlines that express the outcomes as a forestry issue and not at a landscape-level. In addition, the forest sector was attributed to be the main causer, far more than other groups such as regional councils or past governments.

Although there is a public lack of resilience to climate impacts like larger storm events, the response from forestry to these concerns has proved insufficient for the blame to be redirected away from industry inaction. This is particularly expressed in the concerns about legislation allowing the continued presence of forestry operations on erodible soils. Better engagement with media and the associated public understanding of forestry and extreme events will assist in forestry’s standing. However, this should in no way diminish the need to respond to concerns from the public and make changes to forest practices as a result of such events.

Further, the additional primary causes (C) of the problems correlate well with proposed solutions (S), e.g. C1-->S1; C2-->S2. The forest sector can be a strong influencer with robust solutions to the causes through science. The sector, however, needs to take leadership around a consolidated and agreed forward plan that will provide appropriate solutions.

Many older reports and studies outlining the risks and potential solutions from improved or modified forest management practices have been raised to the surface as a result of these events. While many proposed solutions are available, and some have been subsequently adopted voluntarily, an industry-wide plan around agreed actions across the board to mitigate impacts from future events, appropriately communicated to the public, is required. This

has been initiated through a series of national workshops organised by the NZFOA focusing on developing responses and changes to forest practices (NZFOA 2019).

## Acknowledgements

The authors would like to extend their thanks to the three reviewers who gave helpful comments and suggestions.

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