



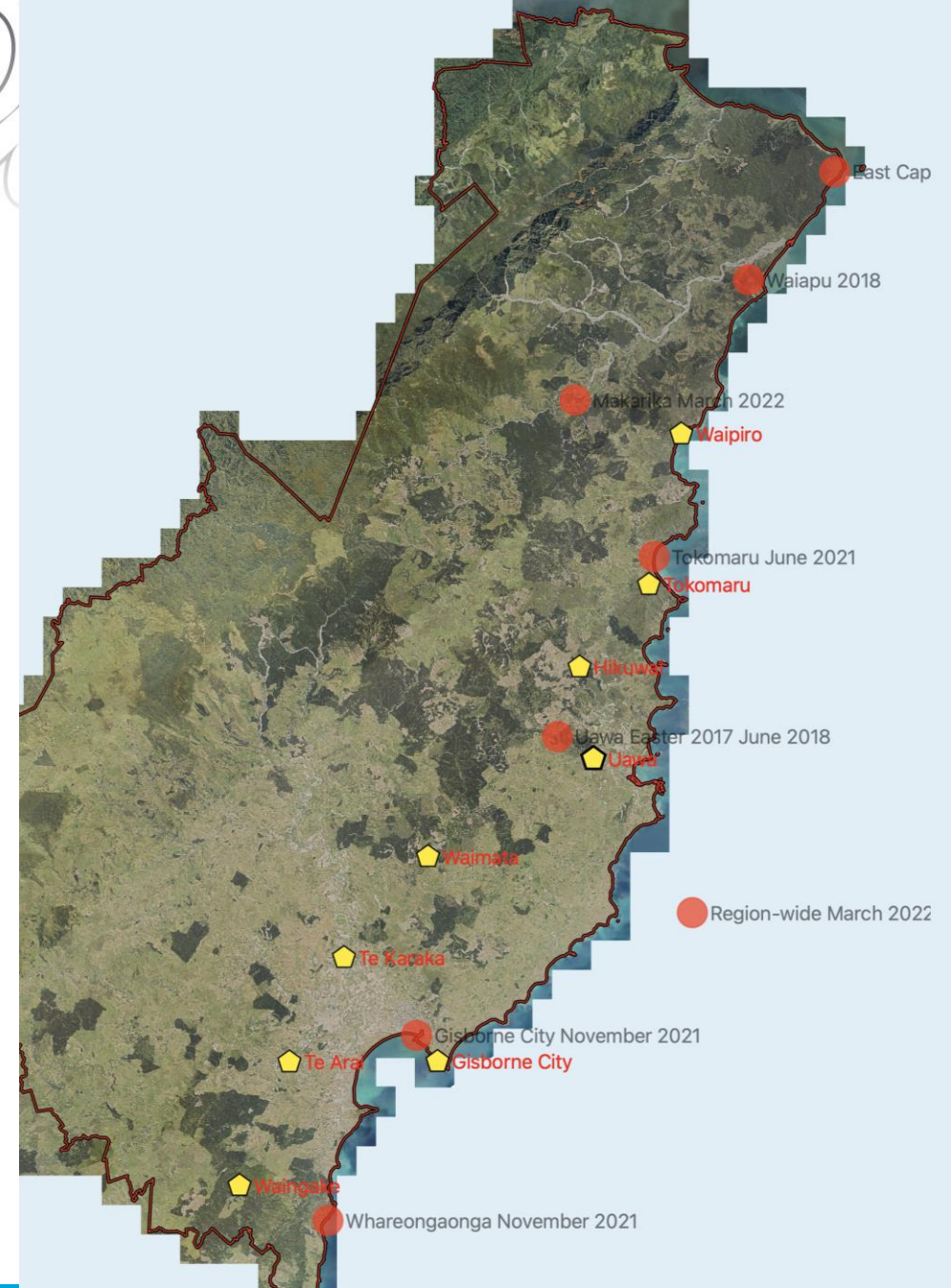
Cyclone Gabrielle in Gisborne Tairāwhiti

Dr Murry Cave
Principal Scientist Gisborne District Council



Just another storm? Or the power of antecedent conditions

- April 2017 Cyclones Debbie and Cook Uawa
- June 2018 Queen's Birthday Severe Uawa (4-5th)
- June 2018 11th-12th Waipaoa Catchment
- September 2018 Severe Storm Upper Waipaoa Flooding
- October 2019 Severe Regional Storm event with Floods & Landslides
- June 2020 Moderate Storm Tolaga – Tokomaru Bay
- July 2020 Severe Storm Tolaga Bay North, Flooding & landslide dams
- June 2021 Regional Severe Storm – Locally Very Severe Tokomaru Bay
- Nov. 2021 Gisborne Very Severe Storm flooding and landslides
- February 2022 Moderate to Severe Storm with landslides affecting East Cape
- March 2022 Very Severe Storm Tokomaru Bay and Anaura Bay Flooding
- November 2022 Moderate Storm with flooding and landslides Tokomaru Bay
- January 2023** 8th Gisborne City short duration high intensity storm
- January 2023** 11-13th Cyclone Hale
- February 2023** 11th-13th Cyclone Gabrielle
- February 2023** 27-28th Gisborne City short duration high intensity storm
- June 2023** 26th June Severe storm





CYCLONE GABRIELLE TIMELINE



The response

10 days advanced warning.

Support mobilised early

50% still happens

Mistakes still made

(learn from it, get over it, move on)

The recovery process is hard

Cyclone Gabrielle began effecting Tairāwhiti on the 13th of February 2023 and has had a devastating effect on the region. For only the third time in New Zealand's history, a National State of Emergency was declared on the 14th of February. The timeline below provides an account of the key milestones, decisions and coordination efforts of the Tairāwhiti Civil Defence Emergency Management, and their emergency management partners, in the Readiness, Response and immediate Recovery phases. The Recovery phase has continued well beyond the scope of this timeline (19 February).

Legend: CDEM response, Built environment impact, Environment impact, Public announcement, eTxt Alerts, Readiness, Response, Recovery

4th FEB // SATURDAY // 12:00
 @ First e-mail within Gisborne District Council (GDC) providing heads up on weather system that eventually becomes Cyclone Gabrielle.

6th FEB // MONDAY // 12:30
 First indications that meteorological modelling is very consistent suggesting that the weather system emerging is likely to impact region.

7th FEB // MONDAY // 14:00
 Concluded the debrief of Cyclone HALE.

8th FEB // TUESDAY // 05:30
 GDC message internal staff to be prepared to support what is coming

9th FEB // THURSDAY // 09:00
 Incident Management Team (IMT)

9th FEB // THURSDAY // 10:30
 Public notification of weather warning. Public advised to start preparing. GDC crews clearing drains.

9th FEB // THURSDAY // 17:30
 Image of cyclone track sent to Civil Defence Emergency Management (CDEM) and Communications Team.

10th FEB // FRIDAY // 08:30
 IMT

10th FEB // FRIDAY // 10:30
 MetService issues Heavy Rain Watch for Gisborne from 3pm Sunday to 12pm Tuesday. Could be upgraded to Orange or Red in coming days. You need to prepare now – particularly around rivers and low-lying areas.

10th FEB // FRIDAY // 15:00
 GDC CDEM activates. GDC staff physically move to co-locate to coordinate response.



Infrastructural impacts

Communication networks

(who was it who thought it was a good idea to load critical infrastructure to the undersides of bridges?)

Water supply pipeline

Roads and Bridges

Landslide dams

Dwellings

Marae and Whenua Maori land



Water Supply Pipeline

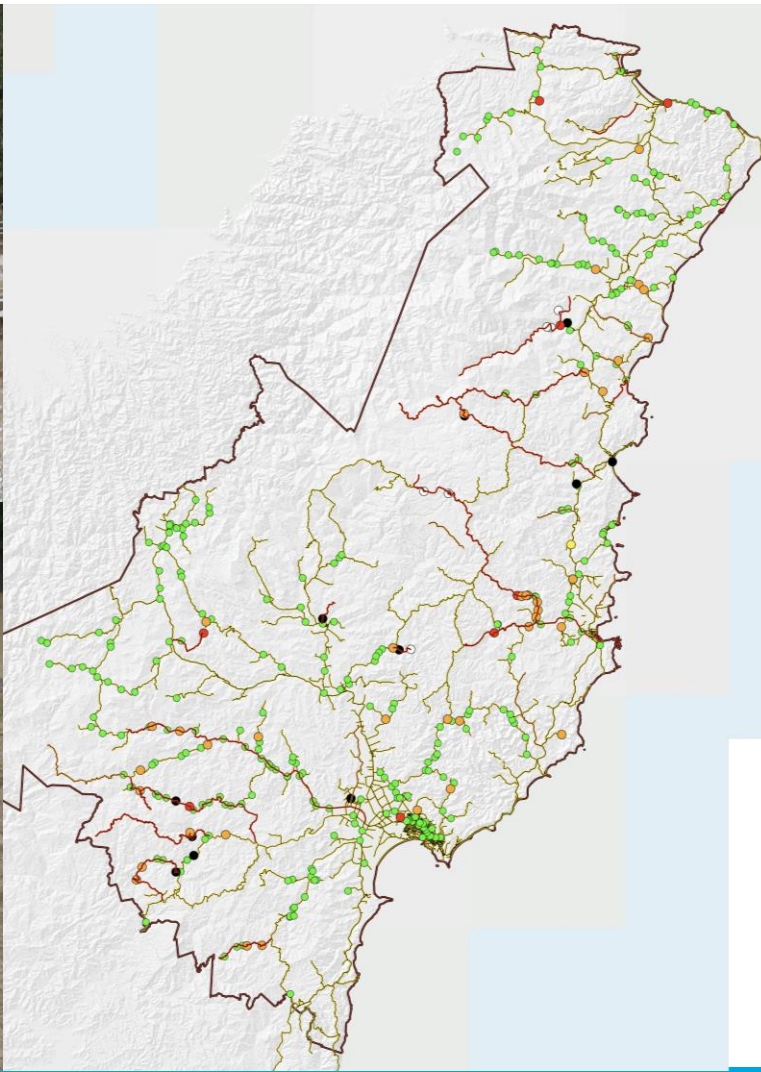
9 Breaks

Most the result of Pine LWD

45 days to get water flowing again (but much more to do)

Backup Waipaoa water treatment plant intake smothered by mud





Bridges and roads

12 Bridges lost (11 due to LWD & 1 due to a house bus)

8 Severely damaged

39 Badly damaged

Overall 140 bridges impacted.

22 local roads closed

SH 35 and 2 closed in 6 locations.

Hapu-based contractors built a new road bypassing Hikuwai #1 SH bridge in 43 days.

Many repairs temporary and network fragile

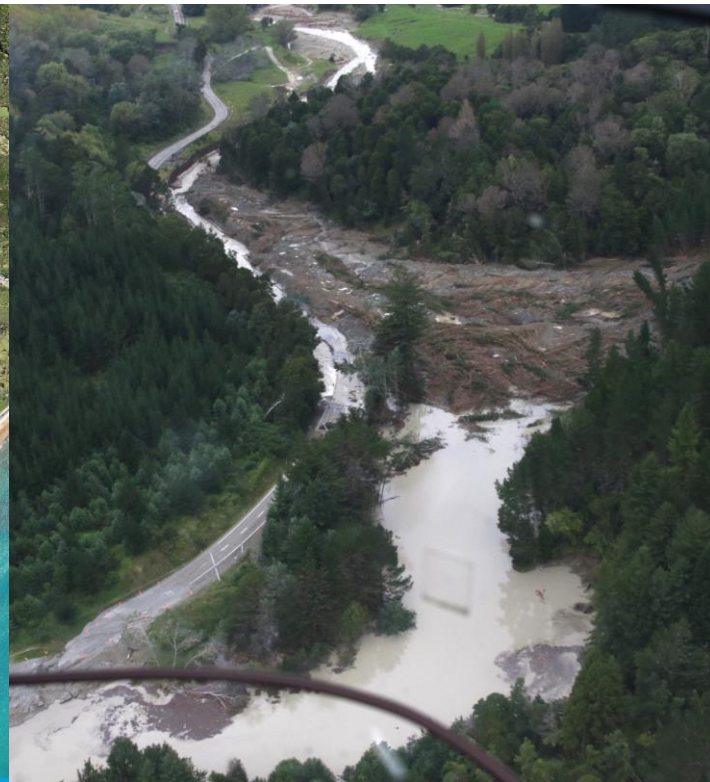
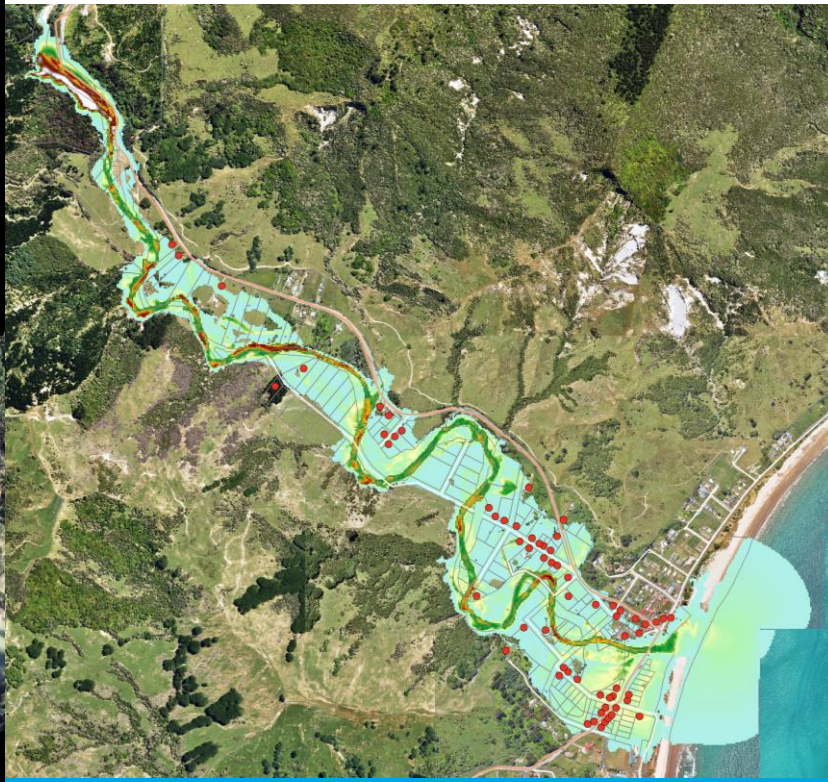
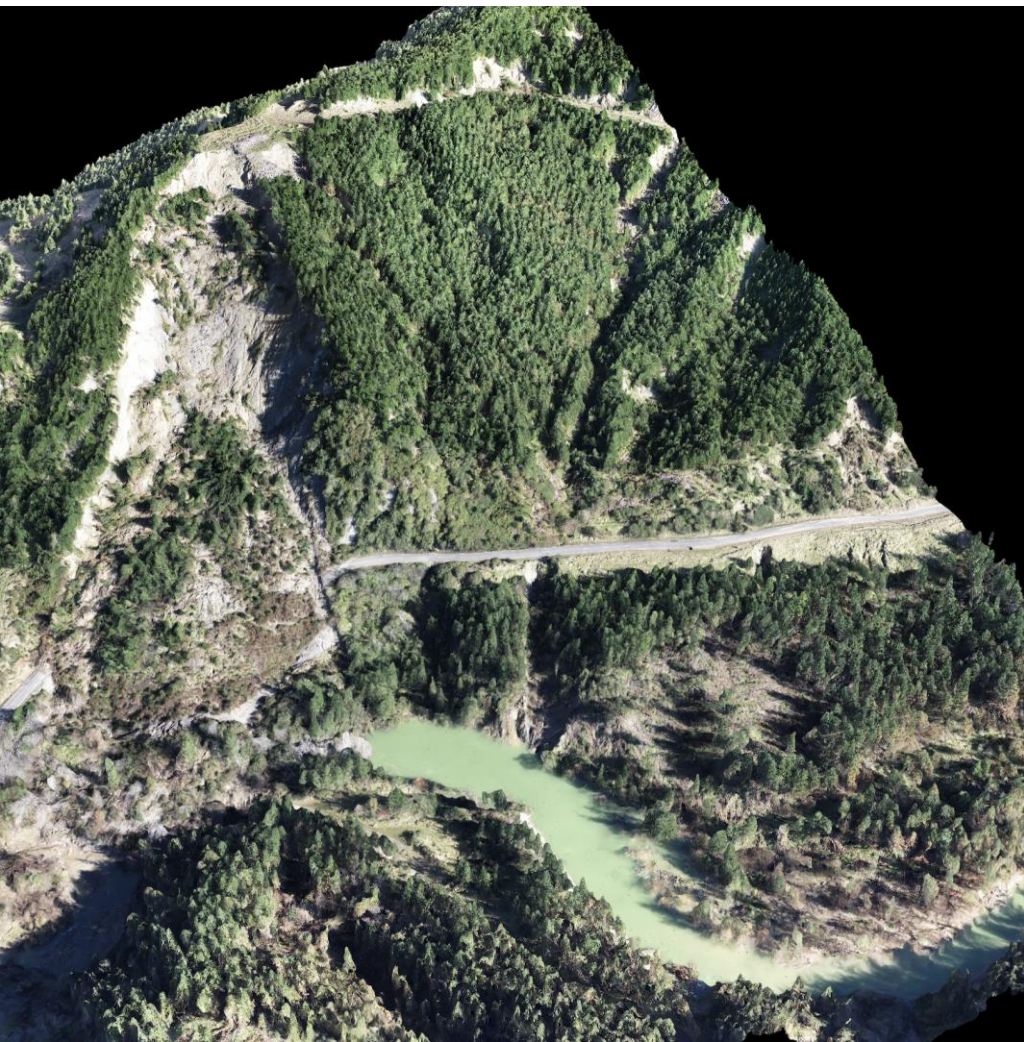


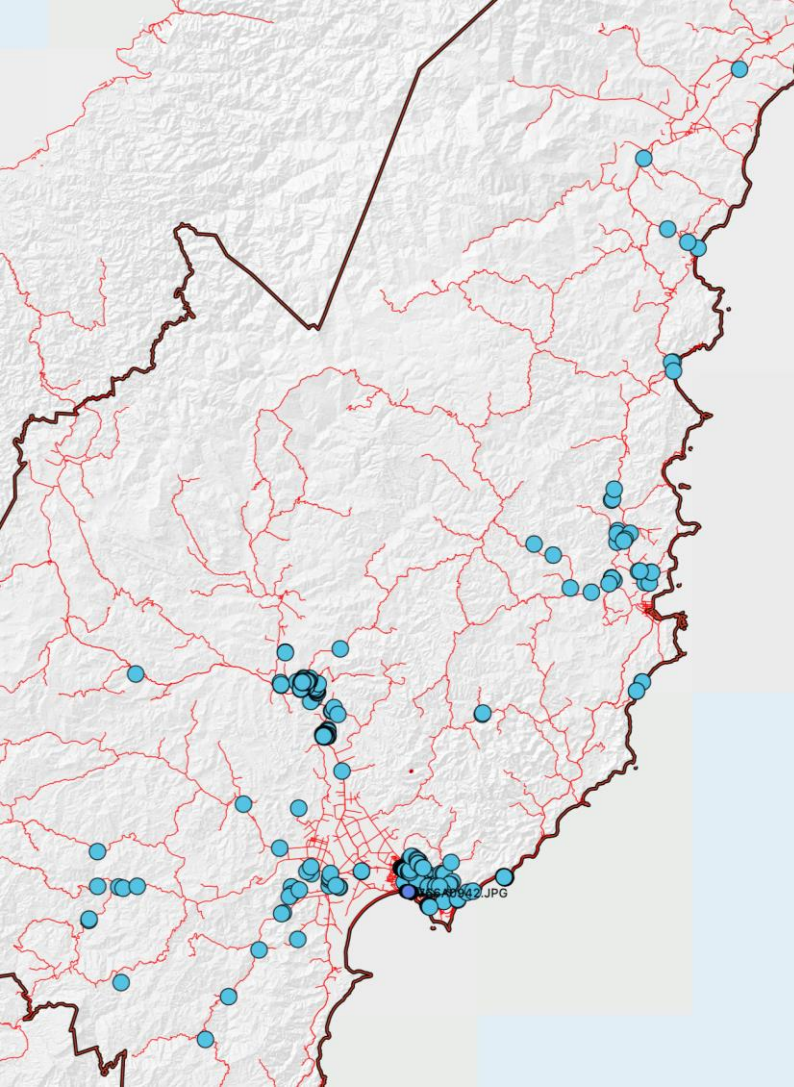
Two Main Landslide Dams

Mangahauini Tokomaru Bay SH 35

Upper Tauwhareparae Road @ 13.5km

But also Waiorongomai, Wainagke, Whangara & Parakanapa





Dwellings

Regional extent

321 Building Act Placards

51 Red, 270 yellow. Still have yellows transitioning to red

1800 in FOSAL Category 2

5 undamaged but landlocked either permanently or for up to 5 years.

Only 1 fatality but 12 close calls

Insurance risk. Impact of prior s.72 notices imposed years after construction.

Defining total land damage.

Dealing with inevitable but not imminent risk.

Is the land damage payout criteria fit for purpose & legacy issues.



Marae

4 Marae severely affected

2 at Te Karaka

2 at Uawa





A few closing thoughts

Intelligence is critical

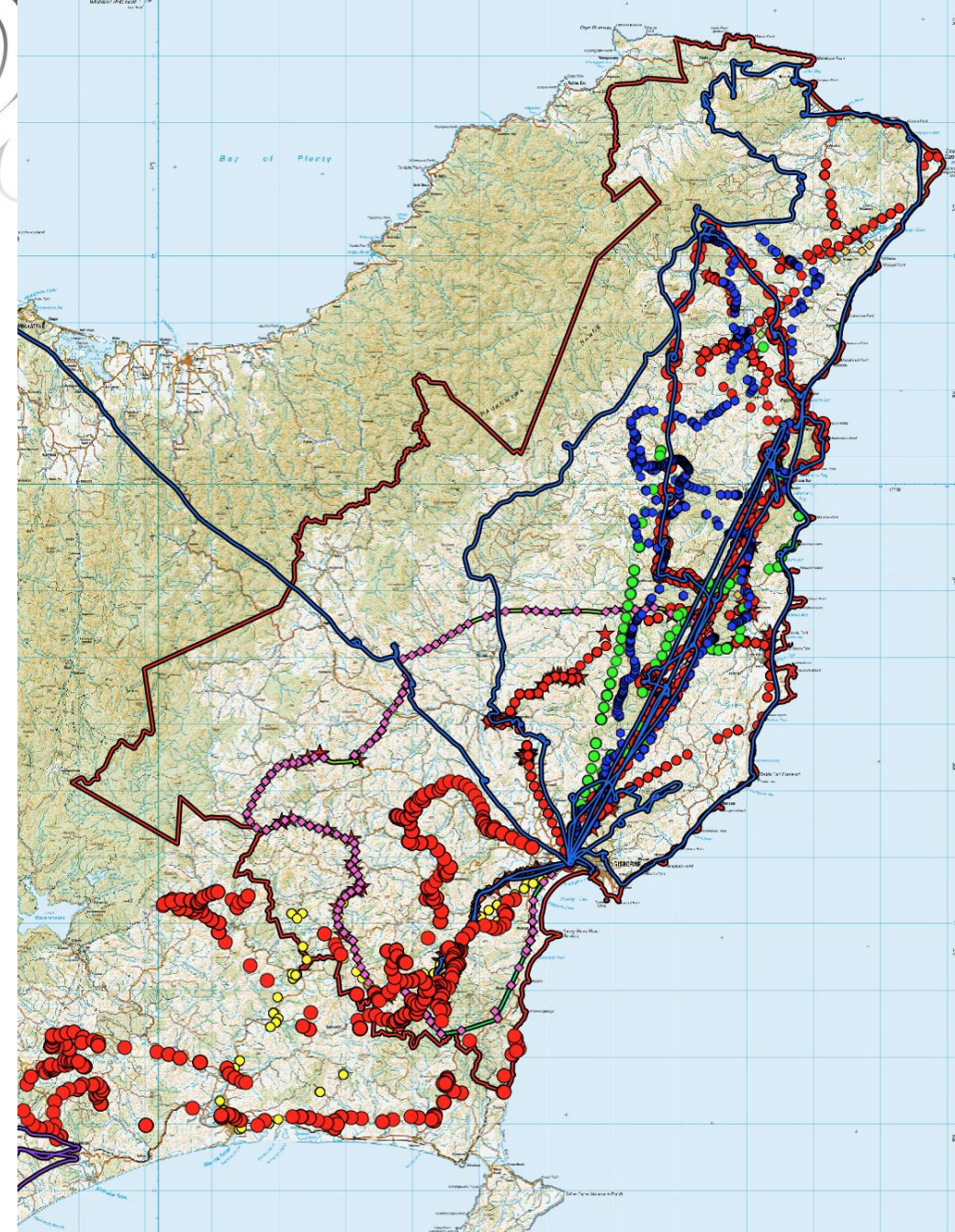
- Get a clear picture as fast as possible
- Don't wait for Satellite imagery acquire regional aerial imagery asap.

Learn from past mistakes

- After Bola large areas of pine were planted as the solution. No thought as to impact of harvest.
- A legacy of LWD will be the elephant in the room for many years.

National recognition of regional issues

- Advisors need to spend time at the pointy end so they understand the scale of the issues & understand the human cost
- Insurers need to work with Councils
- We need to rethink the EQC handoff to Insurers
Insurers are motivated to minimise their liabilities
EQC has a social licence. Rethink land damage payouts





Thank you

