

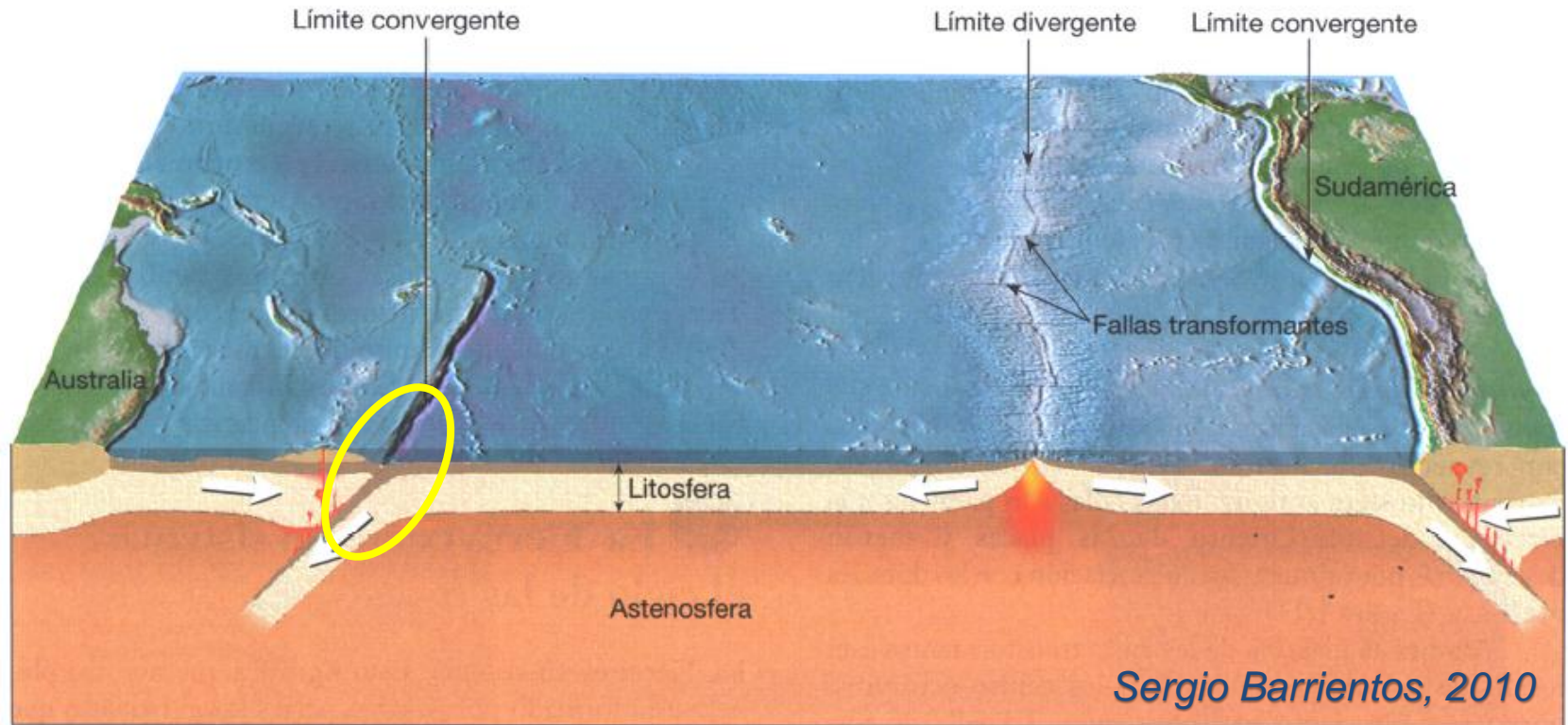


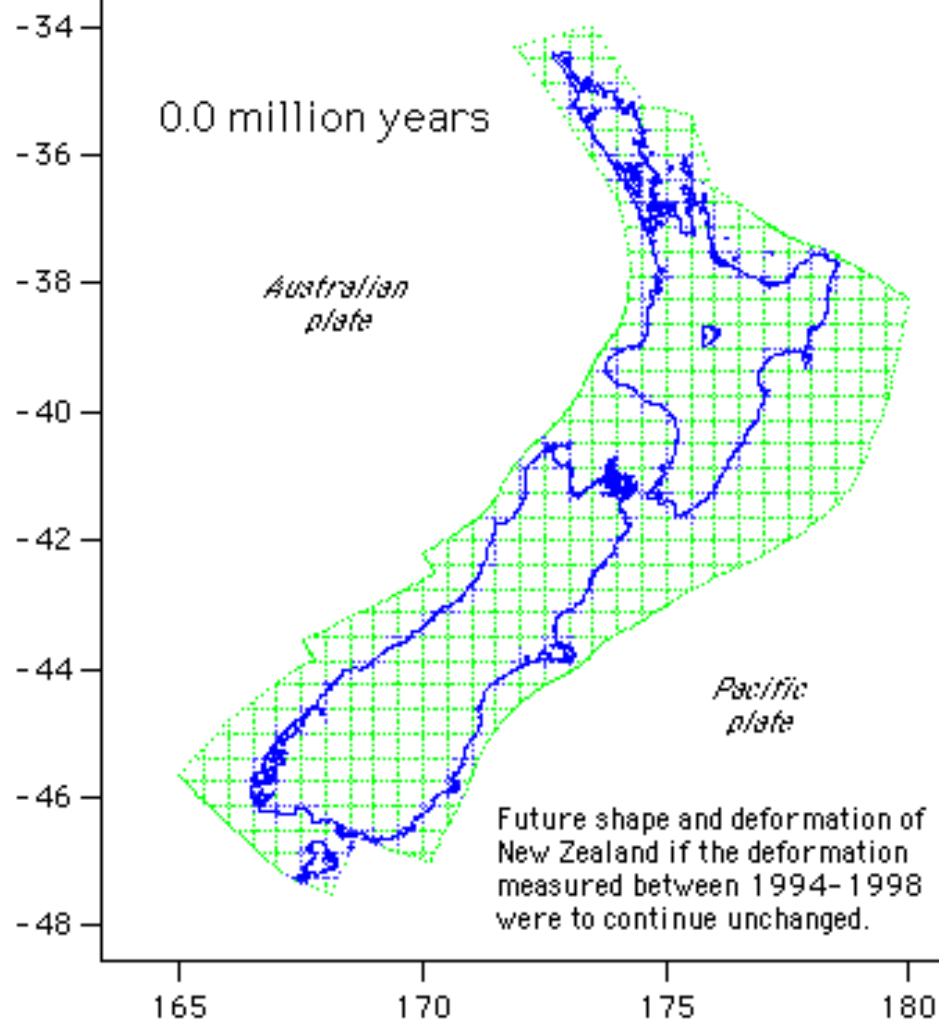
Natural Disaster Protection Programs: New Zealand Experience

*Dr Hugh Cowan,
New Zealand Earthquake Commission*

*SVS Seminar, Santiago
September 2, 2010*

New Zealand Setting





00:00:00



Total Risk Environment

To What Extent Can We.....

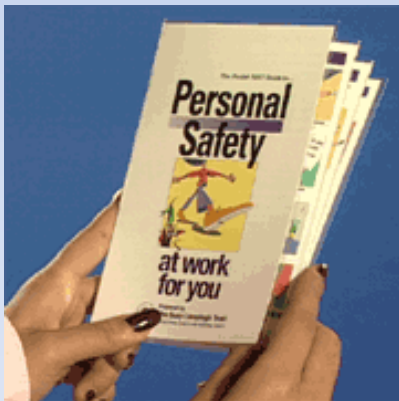
- **Avoid** the risk?
- **Control** the risk?
- **Accept** the risk?
- **Transfer** or share the risk?

...and at what cost?

Risks & Realities



...so, when would you like the cost benefit analysis?



.....before or after the next event?

Earthquake Commission (EQC)

- Commenced 1945
- Earthquake and War Damage Commission
- Reformed in 1993 - Earthquake Commission - a Crown Entity with own capital and reserves.
- Residential property only
- Compulsory on purchase of fire cover
- One permanent office, plus an outsourced claims processing centre (Australia), a Board and 22 staff

Earthquake Commission Act

Research

To understand
hazard
and inform
treatment of risk

Public education

Encourage steps
to reduce physical
impacts

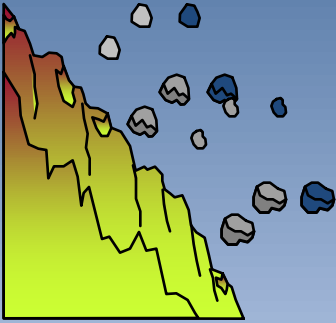
Natural Disaster Insurance and Fund

Mitigate financial impacts
and maintain value

Scheme Coverage

- Compulsory add-on to household fire policies
 - ✧ Both ways: insured and insurer (EQC)
- First loss basis of cover – up to \$ limit per “dwelling”
- Small excess paid by home owner
- Defined perils

EQCover Perils



Landslip



Earthquake



Tsunami



Volcanic
Eruption



Hydrothermal
Activity



Storm & Flood
to Land

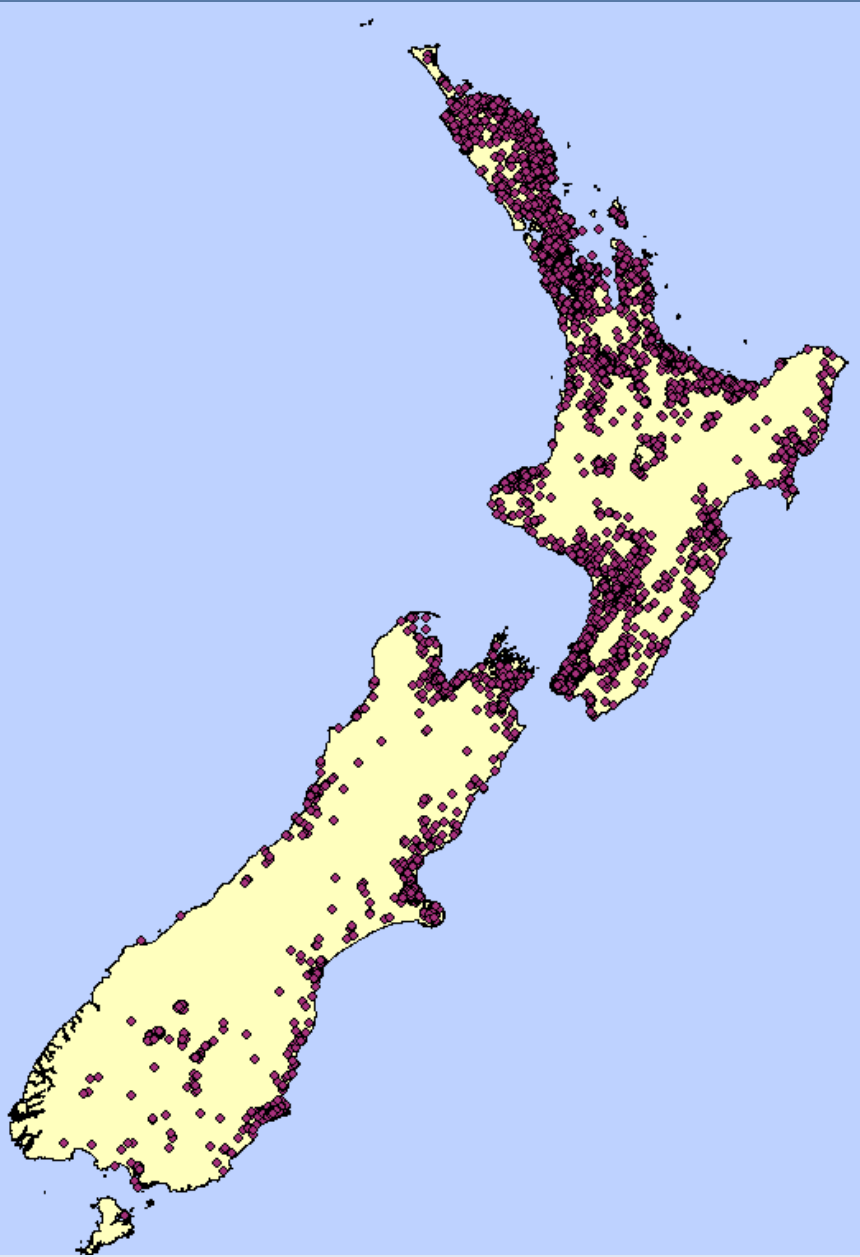
Fire following any of above



Scheme Coverage

- One premium rate for all
 - ✧ Designed to be affordable by all, not actuarially based
- Cover for buildings, contents and land
- Claims settled on replacement basis
- Claims handled by EQC:
 - ✧ independent of insurance companies

Weather related claims since 2004



11,939 claims

NZ\$180m

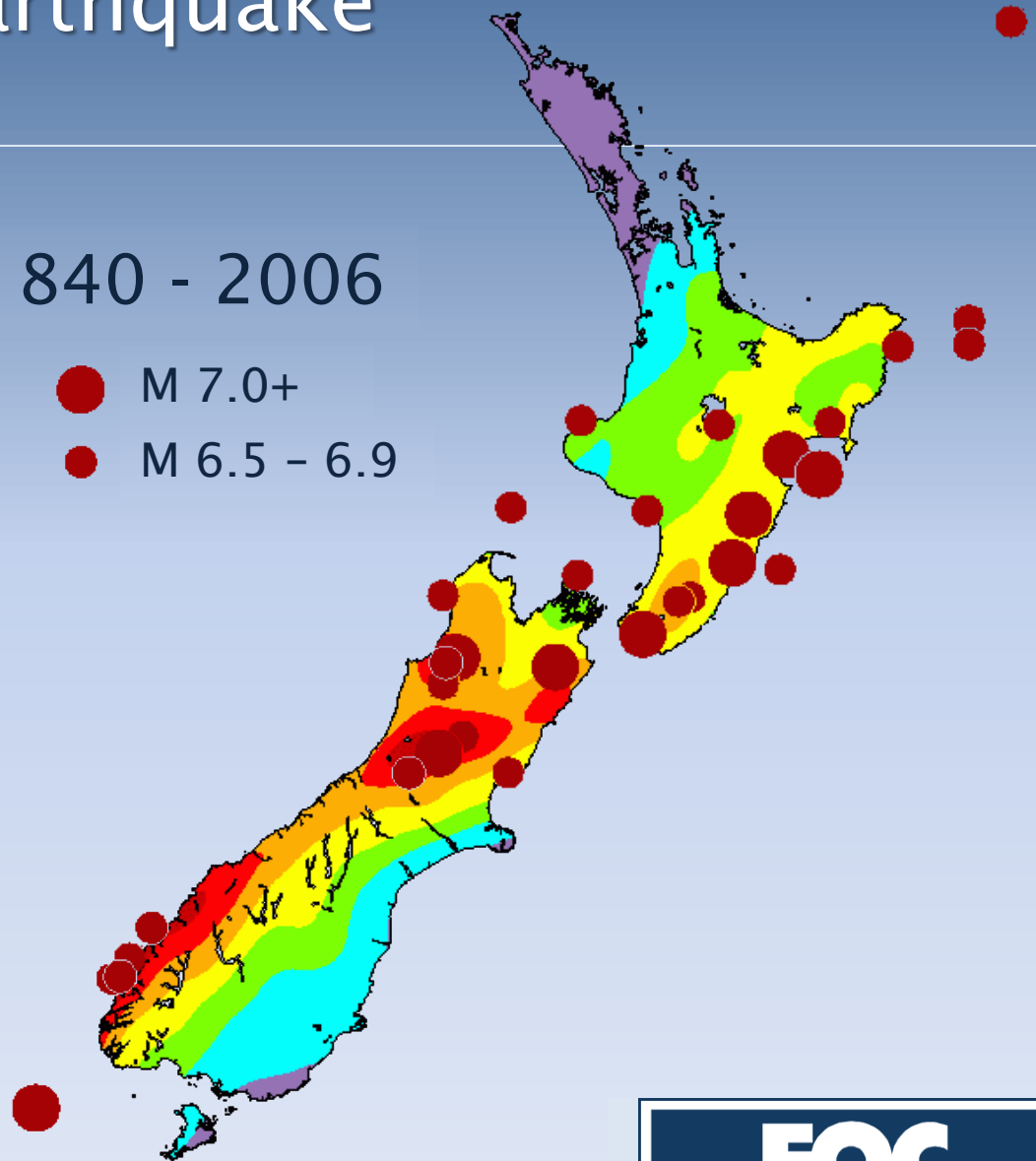
EQC

Probabilistic earthquake hazard map

1840 - 2006

● M 7.0+

● M 6.5 - 6.9



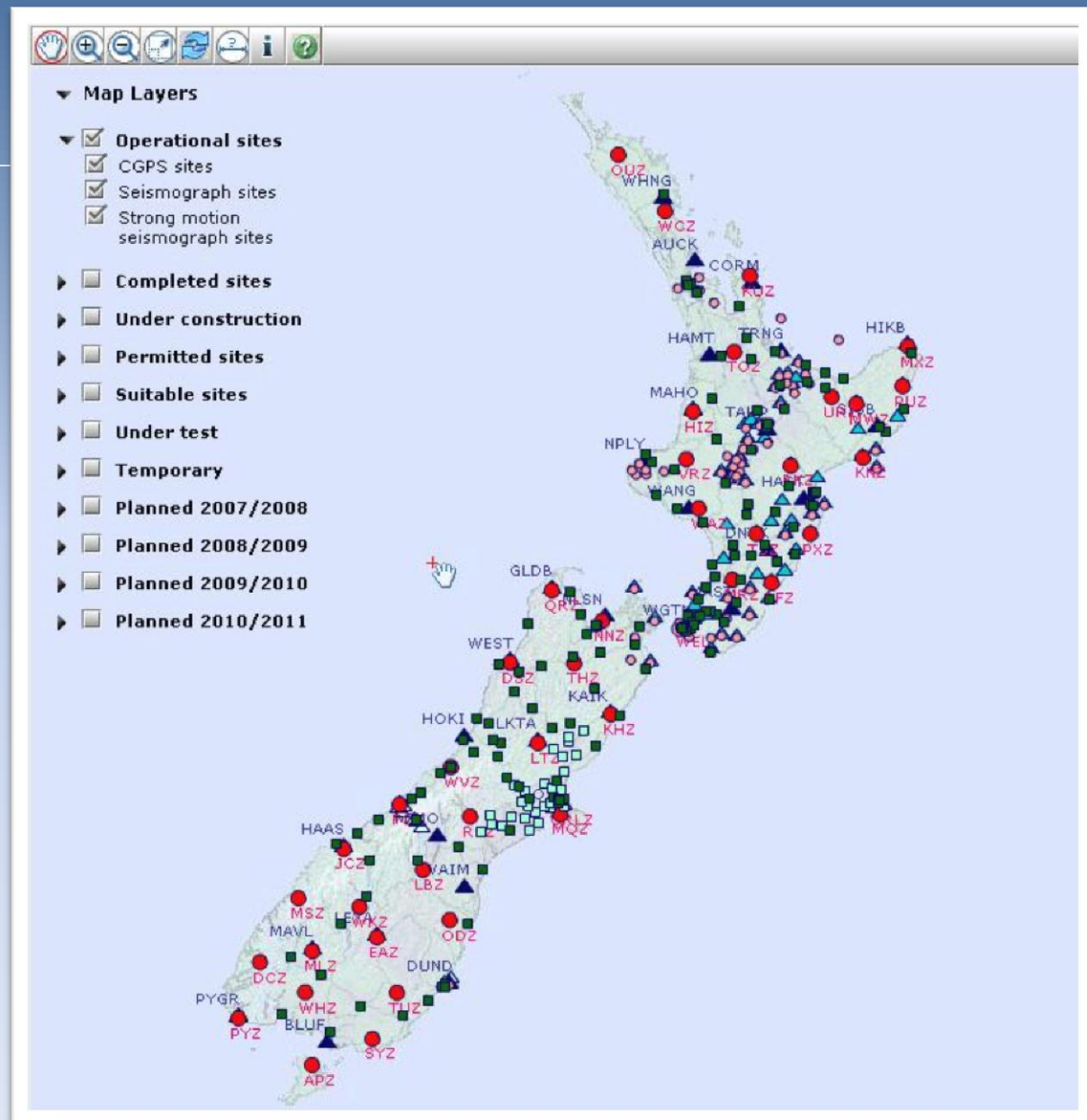
EQC

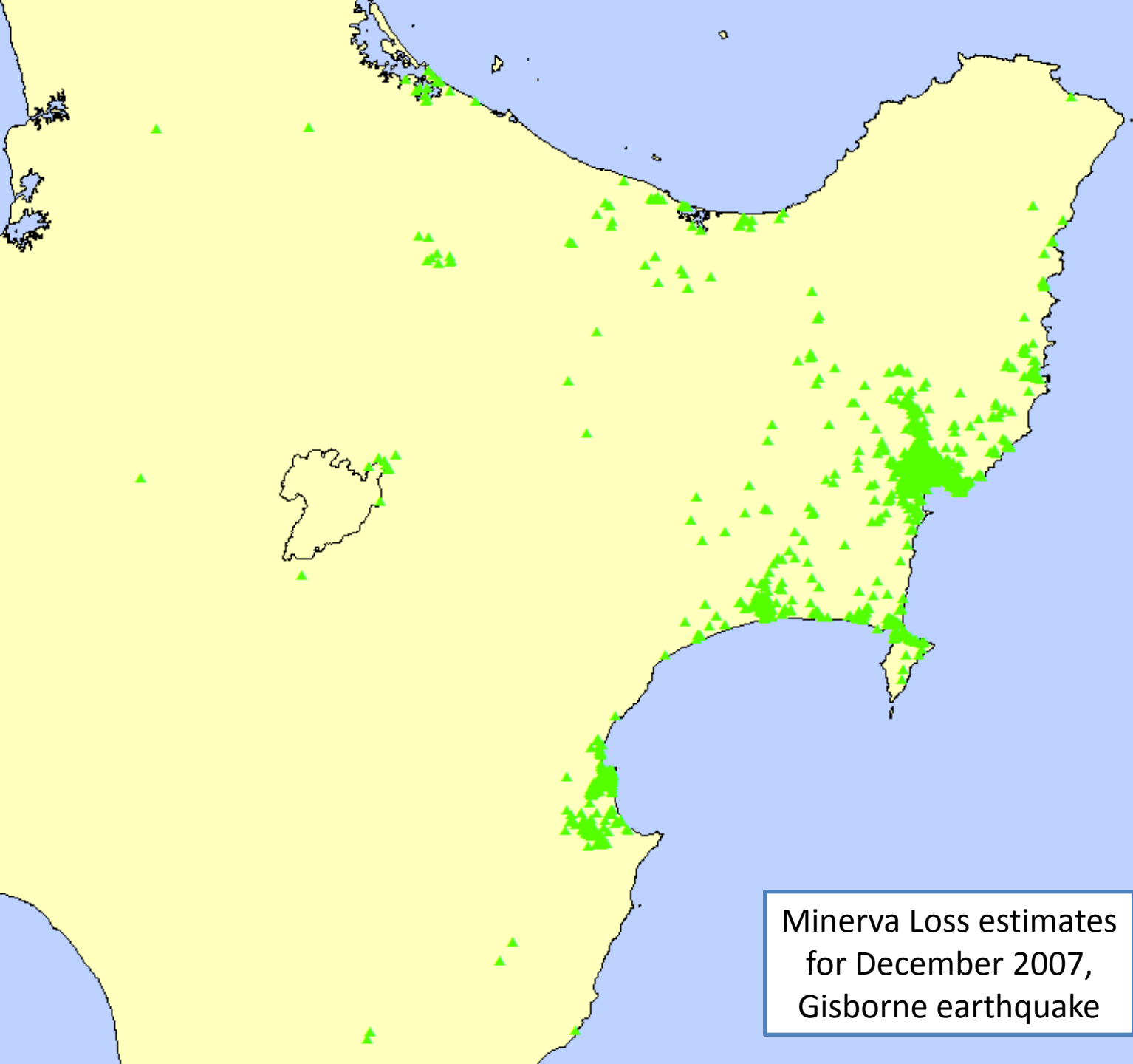
“GeoNet”

Monitoring networks

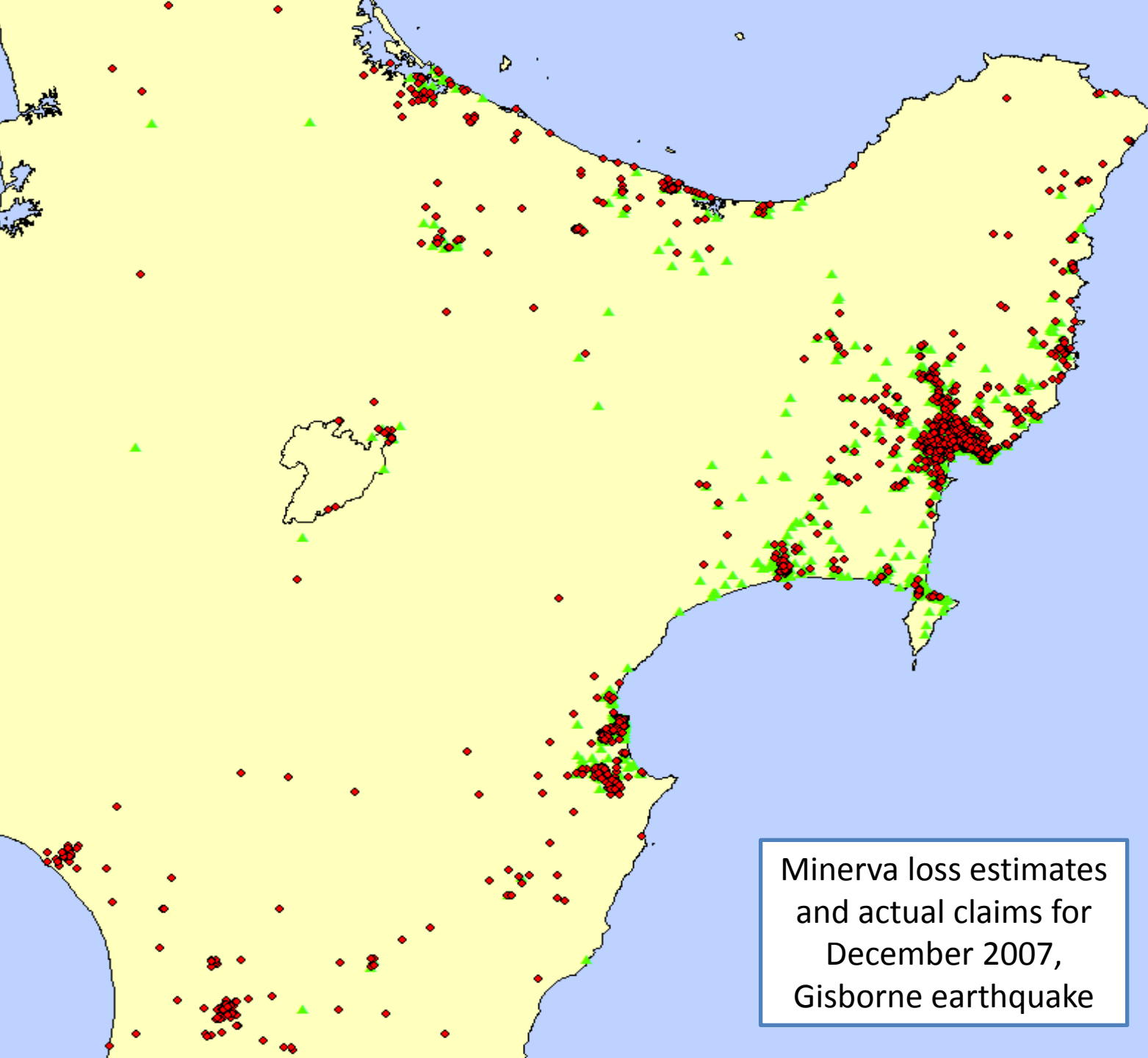


EQC



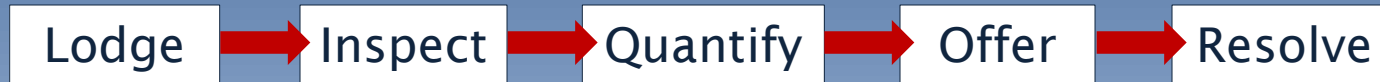


Minerva Loss estimates
for December 2007,
Gisborne earthquake

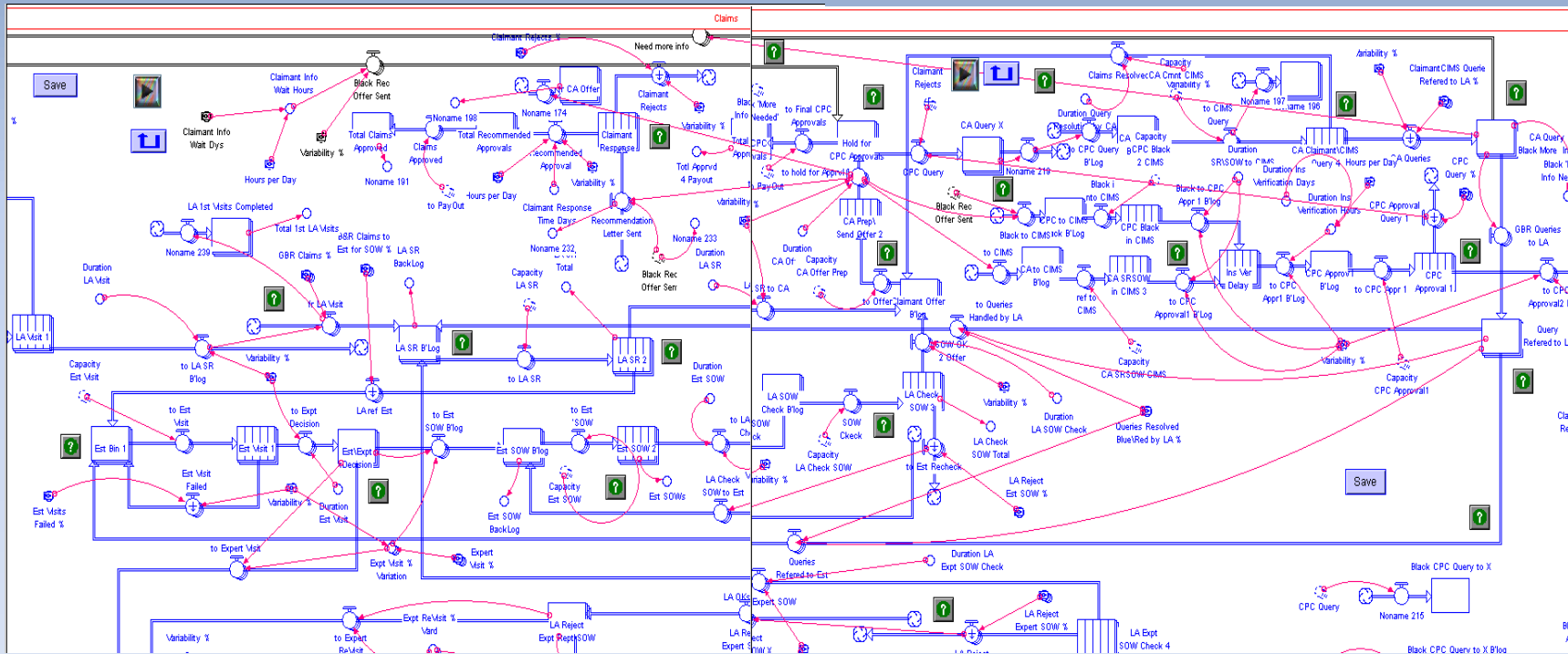


Minerva loss estimates
and actual claims for
December 2007,
Gisborne earthquake

System Dynamics - Logjam



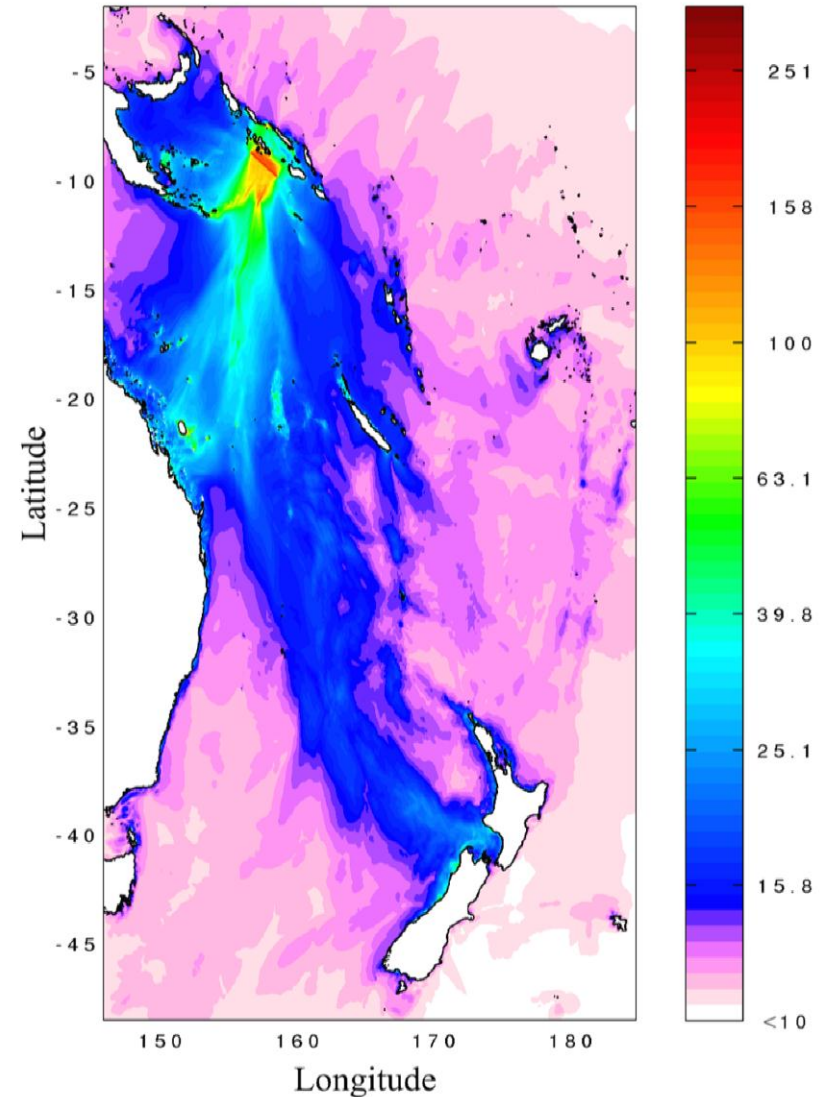
The Claim Process



The Claim Process – Another View

Research to address gaps in knowledge...

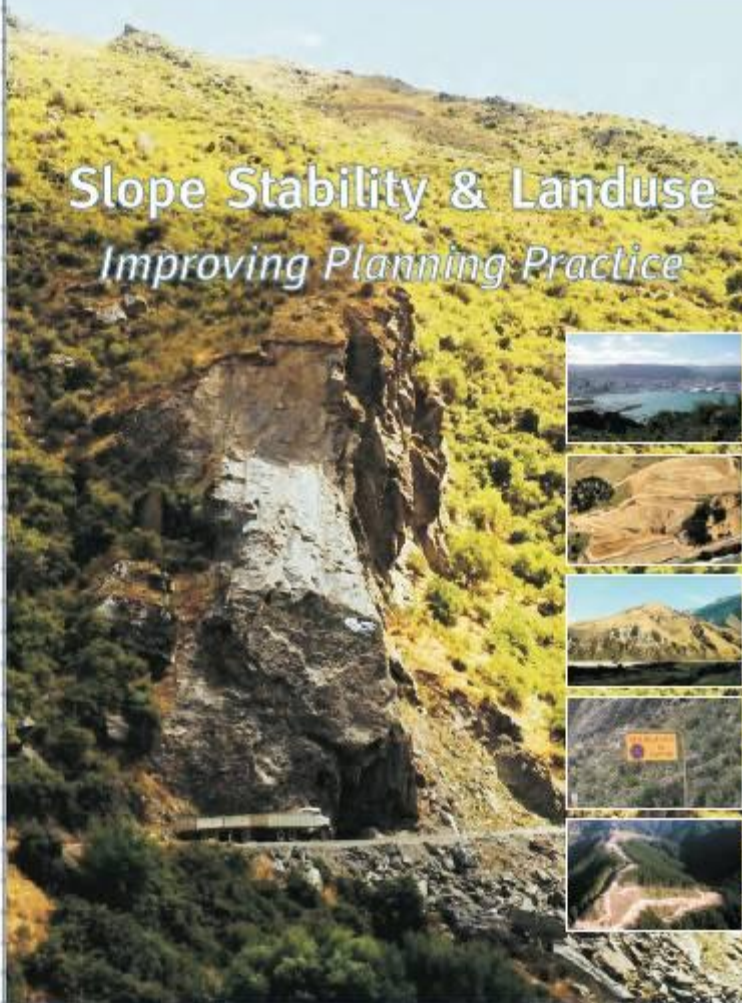
Maximum water surface elevation in cm
Mw 8.5 Solomon Islands tsunami model



CAENZ

NEW ZEALAND CENTRE FOR ADVANCED ENGINEERING

Slope Stability & Landuse Improving Planning Practice



www.caenz.com

...and gaps in
practice

*Guidance material for
local government
and industry*

EQC

Design Standards

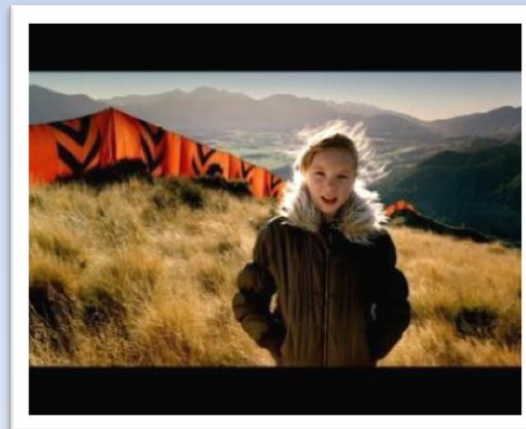


Public Education

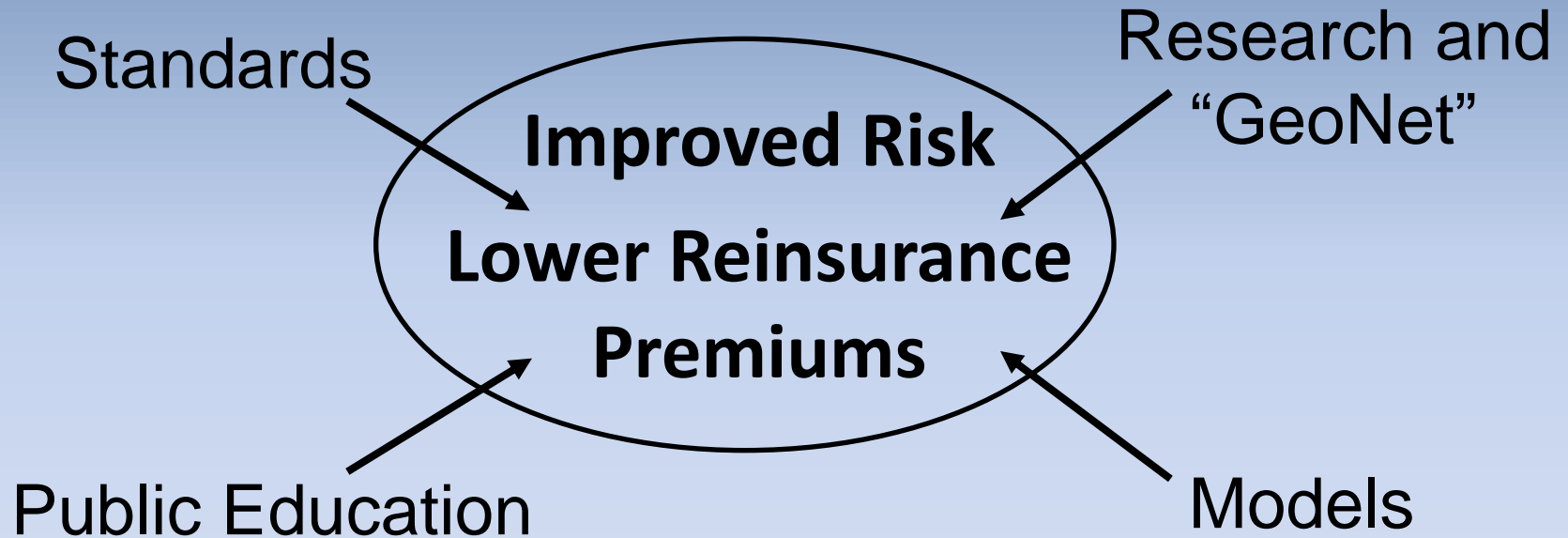
Museum sponsorships



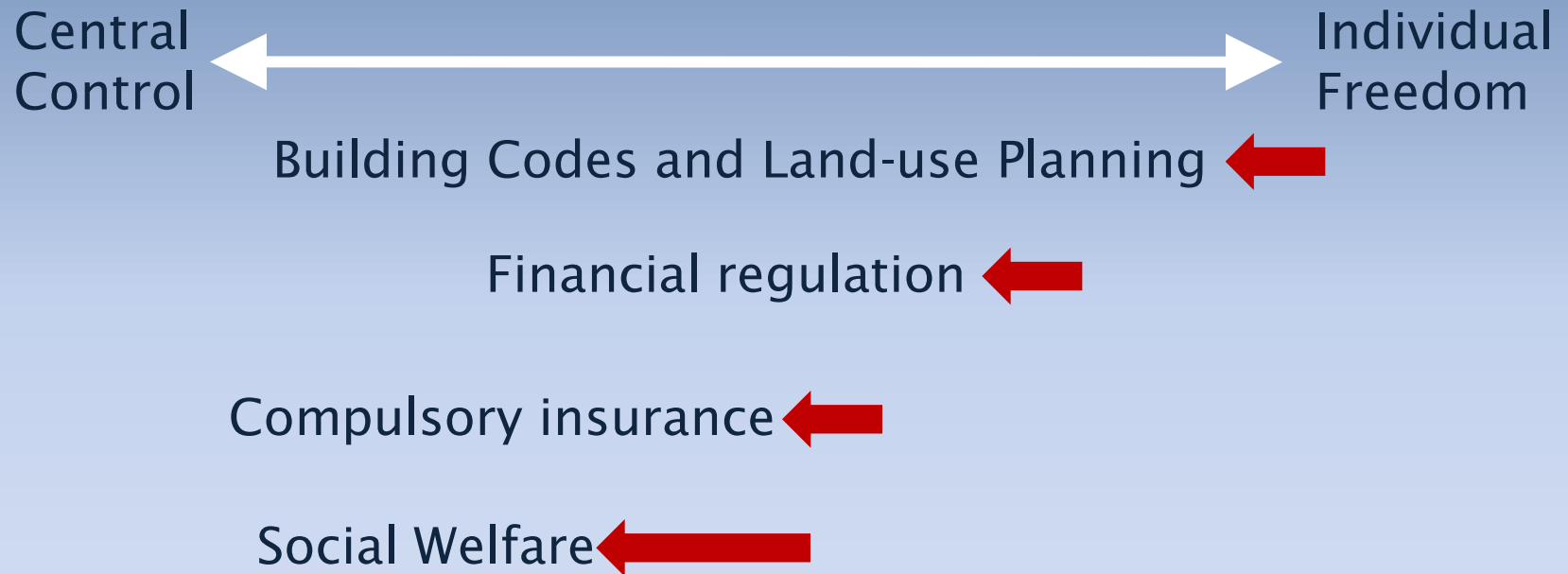
Television, press and internet advertising



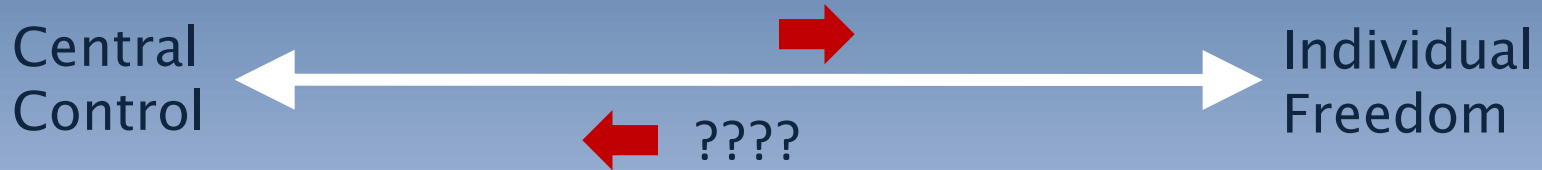
Return on Investment



The Mitigation Continuum



Government Intervention



Perhaps to consider:

- Ensure building standards maintained or improved
- Affordable insurance – for home/ business owners
 - ✧ To provide financial compensation
- Labor, materials and equipment to repair and rebuild are available and under control
- Plan for future government costs
- Ensure all citizens have necessities of life

Availability of Insurance

Range of Government Interventions:

- Regulation of insurance companies to ensure financial viability
 - ✧ Including for disaster events
- More direct financial intervention:
 - ✧ Allowing tax-free reserving for catastrophe events
 - ✧ A pooling scheme with compulsory contributions from companies
 - With protection of State-provided reinsurance

Availability of Insurance (cont.)

- Creation of a State insurance entity (like EQC)
 - ✧ Degrees of separation from the insurance industry, e.g.
 - Premiums collected, and claims made, independently or through companies
 - Reinsured to local companies or offshore
- Compulsion or incentives to insure with private sector
- Provision of reinsurance for catastrophe events
 - ✧ Government could retrocede to worldwide market

Resources for Recovery

- People
 - ✧ Public sector – capacity for issue of consents, permits, certificates
 - ✧ Private sector – availability and control of builders, architects, specialists, engineers
- Equipment
 - ✧ Availability
 - ✧ Commandeering
 - ✧ Priority setting

Resources for Recovery

Materials

- Control of production, importation, prices
- Central purchase and provision
- Set priorities for use
- Rationing

Government Liabilities

- To provide shelter and necessities
- Costs could be met by:
 - ✧ Special fund from taxation revenue
 - ✧ Levy on insurance premiums, local body taxes, mortgage repayments
 - ✧ Issuing a catastrophe bond

Catastrophe Bonds

- Bond proceeds set aside in special fund
- Issuer pays interest
- On occurrence of pre-defined event, bond defaults
 - ✧ Event must be carefully described and modelled
- Proceeds are not pre-targeted

Social Policy Objectives

- To meet government obligations targeted at individuals
- Concentration on worst cases – people made homeless or destitute
- Can provide material benefits – housing, home help, necessities – as well as some financial compensation
- Requires own structures and systems
 - ✧ Normal systems may not cope

Meeting Government Obligations

Through the insurance industry

- Utilise existing claims processes
 - ✧ May be inadequate (or patchy) in face of disaster
 - ✧ Need controls over payout decisions, if government money involved
 - ✧ Benefit probably limited to monetary compensation
- Reimburse claims payouts on reinsurance basis
 - ✧ Individual claims aggregated, maybe with some risk retention by insurance company

Meeting Government Obligations

Independently of Insurance Industry

- Requires structure and extensive planning
 - ✧ Like EQC and its Catastrophe Response Program
- Could include activities like priority setting, control of supply, rationing and price setting
- Other agencies also involved:
 - ✧ Social welfare and housing
 - ✧ Treasury (catastrophe bonds)
 - ✧ Emergency management (requisition and control)

Insurance Scheme Considerations

Compulsion – the options:

- Companies must offer disaster insurance (Calif.)
- Companies must provide State's insurance (NZ)
- Home or business owners must insure
 - ✧ From private sector or the State
- Mortgage providers must ensure disaster insurance is maintained

Insurance Scheme Considerations (cont.)

The other side of compulsion – limitations and guarantees

– Ensure ability to pay

- ✧ Government guarantee of insurance companies
- ✧ Prudential supervision, with disaster focus (Aust.)
- ✧ Guarantee of a State scheme (NZ)
- ✧ Limit cover to what scheme can afford (Taiwan)
 - Benefits tailored to amount in scheme fund
 - Some schemes pay out only for serious damage, e.g. 50% or 100% of value

Keep It Simple!

- Mitigate overheads related to appeals, reassessments and arguments. Consider:
 - ✧ Chile is (roughly) uniformly earthquake prone
 - A national hazard premium rate could be tolerated
 - Adjustments for construction and soil type could be kept simple and limited, or non existent
- Physical damage only is simplest
 - ✧ Temporary accommodation expenses or business interruption cover may be left to private sector
- Simplicity is easier for home insurance than for business

Basis of Insurance Cover

The options:

- EQC model – modest amount of first-loss cover
 - ✧ Leads to many claims, most of them small (many beneficiaries)
 - ✧ Insurance companies provide cover above this
- The opposite - serious damage only
 - ✧ A high excess point - which insurance companies may cover
- In between
 - ✧ Significant excess, then pay up to a limit

Building the Fund

Options are:

- Capital injection
- Allow insurance companies to build CAT reserves
- Set aside taxation revenue or a special levy
 - ✧ EQC has a tax exemption on investment income
 - ✧ Investment strategy controlled (or approved) by government
- Access to reinsurance or alternative risk transfer (catastrophe bonds) allows fund size to be limited

Investment Strategy

Nature of Fund could be:

- Dedicated disaster fund
 - ✧ All invested offshore, isolated from the hazard risk
- Part of government reserve
 - ✧ Made use of pending need for disaster relief
 - ✧ Government will need to find funds after disaster
- A mixture – the EQC situation

The Mitigation Continuum

Central Control ← → Individual Freedom



Each community or nation must decide, according to their needs or preferences...

Gracias por su atención



www.eqc.govt.nz