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PRESENTATIONS SPECIAL SESSION 3

SPECIAL SESSION 3: Making cities and human settlements resilient

Host

Sponsors and Co-organizers



SPECIAL SESSION 3:

Making cities and human settlements resilient

Day 2 (2 July, 2019. Nadi, Republic of Fiji).

Organized by: RMIT University and UN-Habitat

Moderator: Silvia Gallo, Urban Resilience Team Leader, UN-Habitat

Speakers:

- Dr Tariq Maqsood, RMIT University
- Mr. Bernhard Barth, Human Settlements Officer, UN-Habitat, Regional Office for Asia and the Pacific
- Mr. Viliame Kasanawaqa, Head of Policy Research and Evaluation Pacific Islands Development Forum
- Prof. Darryn McEvoy, RMIT University
- Mr. Andy McElroy, Head of Pacific Sub-Regional Office, UNDRR
- Vilimone Raqona, Ministry of Lands and Mineral Resources, Republic of Fiji

Every year many communities within Pacific Island Countries experience devastating losses caused by disasters. Floods, cyclones, storm surges, earthquakes and other hazards and their associated consequences result in significant impacts on communities, economy, infrastructure and the environment. These disasters also result in significant logistics for emergency management and considerable costs to all levels of government and property owners to undertake damage repair and enable community recovery.

In March 2015, after reviewing the implementation of the Hyogo Framework for Action 2005-2015 (HFA), the Sendai Framework for Disaster Risk Reduction 2015-2030 (SFDRR) was adopted as a successor framework. Since then countries and regions around the world are undertaking steps for its implementation together with achieving the Sustainable Development Goals (SDGs) and its target indicators.

It is recognised that natural hazards risk reduction is instrumental in making communities resilient along with climate change adaptation measures. It is considered as a shared responsibility of governments, communities, businesses and individuals and requires a coordinated effort to implement action plans. It requires strong contributions from the each of stakeholders mentioned above as well as from non-government and volunteer organisations. It also requires a multi-hazard approach and evidence-based decision making.

This session brought together stakeholders from national and local governments, civil society organisations, development partners, private sector and academics to build consensus on implementation strategies to make cities and human settlements resilient. The key objectives of this session were:

- Review the Pacific New Urban Agenda (PNUA) in light of the 2030 Agenda for Sustainable Development,
- Seek to develop an Action Plan with concrete country and stakeholder commitments for the implementation of the PNUA.

The actions include:

- o Implementation plans to achieve goals and targets of SDG,
- o Up scaling and embarking on housing and settlement upgrading programme,
- o Integrate climate change adaptation and resilience actions into urban policies and plan.

MAKING CITIES AND HUMAN SETTLEMENTS RESILIENT

Dr. Tariq Maqsood, Civil and Infrastructure Engineering, RMIT University, Australia



Making cities and human settlements resilient

Natural Hazards and Built Environment

Dr Tariq Maqsood
Civil & Infrastructure Engineering
RMIT University, Australia

The Fifth Pacific Urban Forum
1-3 July 2019, Nadi



Introduction

- Sendai Framework for Disaster Risk Reduction
- National Strategy for Disaster Resilience
- Disaster Statistics
- Post-disaster Surveys
- Natural Hazards Risk Assessment Framework
- Launceston Flood Mitigation Project
- Summary

Sendai Framework for Disaster Risk Reduction



Targets:

- Substantially reduce global disaster **mortality** by ...
- Substantially reduce the number of **affected people** ...
- Reduce direct disaster **economic loss**...
- Substantially reduce disaster **damage** to critical infrastructure...
- Substantially increase ...disaster **risk reduction strategies** ...
- Substantially enhance international **cooperation** to developing countries...
- Substantially increase ... early **warning systems** and disaster **risk information** ...



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Sendai Framework for Disaster Risk Reduction



Targets:

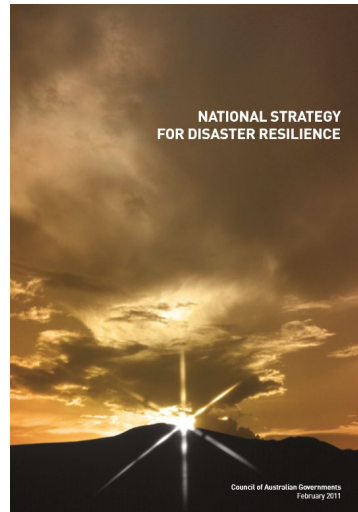
- Substantially reduce global disaster **mortality** by ...
- Substantially reduce the number of **affected people** ...
- Reduce direct disaster **economic loss**...
- Substantially reduce disaster **damage** to critical infrastructure...
- Substantially increase ...disaster **risk reduction strategies** ...
- Substantially enhance international **cooperation** to developing countries...
- Substantially increase ... early **warning systems** and disaster **risk information** ...



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National Strategy for Disaster Resilience

- **Understanding risks**
 - Risk assessments
 - Consistent methodologies and data frameworks
 - Information on lessons learned
 - Risk reduction knowledge in education
 - Costs and benefits assessment



Source: NSDR (2011)

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National Strategy for Disaster Resilience

- **Empowering individuals and communities to exercise choice and take responsibility**
 - Local communities are engaged,
 - Accurate and authoritative risk information is provided, and
 - Individuals and businesses have a strong understanding of risk.



Source: NSDR (2011)

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National Strategy for Disaster Resilience

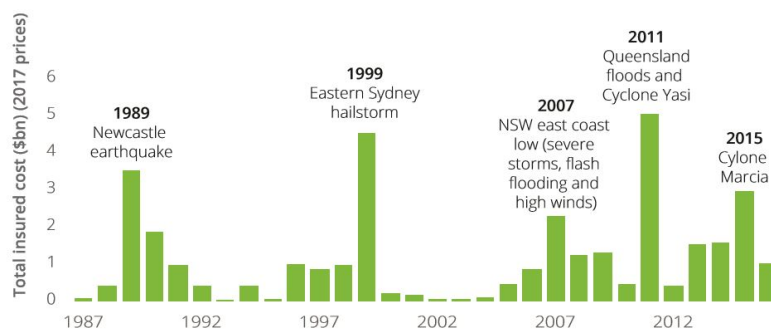
- Reducing risks in the built environment
 - Information on the likelihood of damage from hazards
 - Building standards and their implementation
 - Natural hazard management principles are included in education



Source: NSDR (2011)

Disaster Statistics

Country Profile: Australia



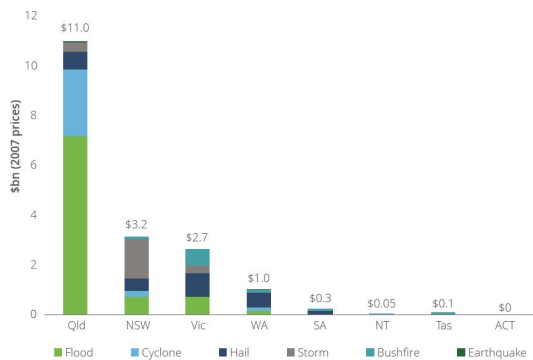
Source: ICA (2017)

Historic insured costs of natural disasters, Australia, 1987-2016 (2017 prices)

Source: DAE (2017)

Disaster Statistics

Country Profile: Australia



Source: Deloitte Access Economics estimates (2017)

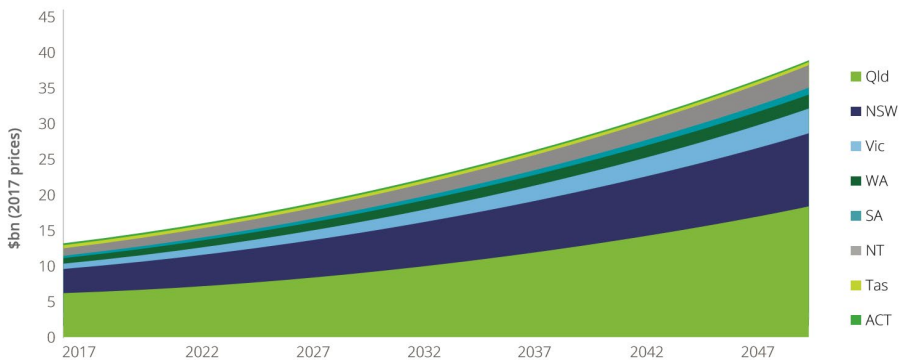
Total economic cost of natural disasters, by state, average 2007-2016 (\$bn)



Source: DAE (2017)

Disaster Statistics

Country Profile: Australia



2017-2050 forecast of the total economic cost of natural disasters



Source: DAE (2017)

Disaster Management



Post-disaster Surveys

- | | |
|--------------------------------------|------|
| • Kashmir Earthquake, Pakistan | 2005 |
| • Alpstadt Earthquake, Germany | 2006 |
| • Baluchistan Earthquake, Pakistan | 2010 |
| • Queensland Floods, Australia | 2011 |
| • Tropical Cyclone Yasi, Australia | 2011 |
| • Dungog Flash Floods, Australia | 2015 |
| • Tropical Cyclone Debbie, Australia | 2017 |

Post-disaster Surveys



Source: Geoscience Australia

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Building Damage: Earthquake



2005 Kashmir
Earthquake



Maqsood et al. 2008

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Building Damage: Earthquake



2005 Kashmir Earthquake



Building Damage: Earthquake



1989 Newcastle Earthquake



2010 Kalgoorlie Earthquake



Building Damage: Cyclone



2011 TC Yasi



Source: Geoscience Australia

Building Damage: Flood



2011
Queensland
Flood



Source: Geoscience Australia

Building Damage: Flood



2011
Queensland
Flood



Source: Geoscience Australia

19

Building Damage: Cyclone



2006 TC Larry



Source: Geoscience Australia

20

Building Damage: Storm Surge



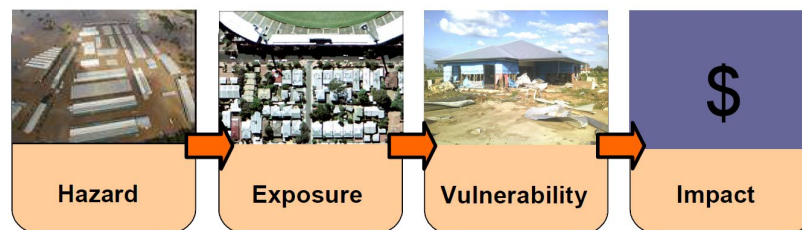
2011 TC Yasi



Source: Geoscience Australia

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Risk Assessment Framework



Hazard describes the severity and associated likelihood of a hazard at a locality of interest.

Exposure describes the assets of value (physical, social, economic, environmental) that are potentially exposed to the hazard.

Vulnerability describes the susceptibility of assets to hazard exposure (relationship between loss and the severity of hazard).

Risk is the aggregated dollar loss caused by hazard events over the full range of event likelihoods.



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Risk Assessment Framework

- Global Earthquake Model (GEM) Project
- Metro Manila Risk Assessment Project
- UNISDR Global Assessment Report (GAR15)
- Flood Mitigation Project BNHCRC

Greater Metro Manila Area Risk Assessment Project:

Flood Risk Analysis

by

Roy Budillo¹, Esquillo Barak², Geyah Derrin³, Abel Derrin⁴, Jesse Palameta⁵, Esmeralda Hernandez⁶, Marianne Ordoñez⁷, Román Uribe⁸



GAR

Global Assessment Report
on Disaster Risk Reduction

2015

The Pocket GAR 2015
Making Development Sustainable:
The Future of Disaster Risk Management



GAR15 Regional Vulnerability Functions

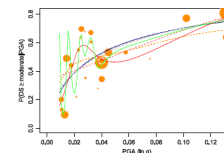
Reporting on the UNISDR/GA SE Asian Regional Workshop on Structural Vulnerability Models for the GEM Global Risk Assessment, 11-14 November 2013, Geoscience Australia, Canberra, Australia

Edited by T. Rossetto, I. Ioannou, D. N. Grant, T. Maqsood

Guidelines for Empirical Vulnerability Assessment

T. Rossetto, I. Ioannou, D. N. Grant, T. Maqsood

Report produced in the context of the Vulnerability Global Component project



23

Hazard: Earthquake

NSHA18 Hazard Map

Update to 2012 NSHA
Probabilistic assessment

Open source software

EQRM

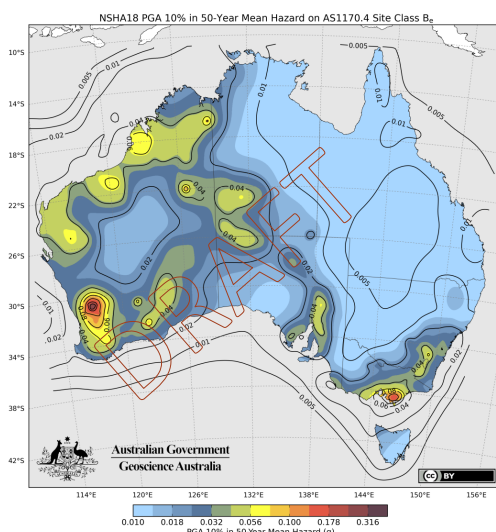
OpenQuake

National Datasets

Neotectonic features
database

National site class map

Landslide database

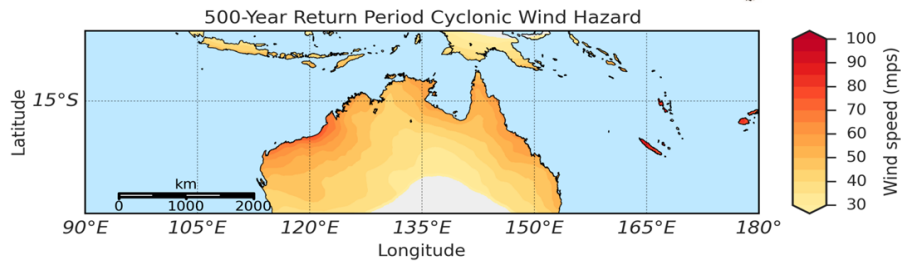


Source: Geoscience Australia

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Hazard: Tropical Cyclone

TC Hazard Map
Open source software
National Datasets



Source: Geoscience Australia

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Hazard: Flood

Home > Hazards > Flood > Australian Flood Risk Information Portal

Australian Flood Risk Information Portal

Feedback Glossary FAQs

Search Results Details

526 flood studies found.

Drag a column header here and drop it to group by that column.

AFSID	Name	Year	Commissio...
3443	Bogan River at Nyngan Flood Study	2014	Bogan Shire C
3442	Dobroyd Canal Flood Study - Final...	2013	Sydney Water
3316	Gundagai Flood Scoping Study	2013	Gundagai Shire
3209	Wollongong City Flood Study	2013	Wollongong Ci
3100	Griffith CBD Catchment Overland...	2012	Griffith City Co
3215	Hawkesbury Floodplain Risk Mana...	2012	Hawkesbury C
3104	Jeralgambeth Creek at Illabo Floo...	2012	Junee Shire Ci
3110	Manly Lagoon Flood Study	2012	Warringah Cou
3225	Murrumbidgee River Flood Modellin...	2012	Wagga Wagga
3226	Newcastle City-wide Floodplain Ris...	2012	The City of Ne
3229	Precinct 7A - Flood Study	2012	Wyong Shire C
3314	Punchbowl Catchment Flood Study	2012	Bankstown City
3121	Walls Lake Foreshore (Floodplain)	2012	Great Lakes C
3198	Cabramatta Creek Flood Study an...	2011	Liverpool City

About the Portal

Disclaimer Privacy Accessibility Information Publication Scheme Freedom of Information Floods Public Search Feedback

Legend: Flood Studies Flood Studies with GIS data

Map data ©2016 Google Imagery ©2016 NASA, TerraMetrics Terms of Use



Source: Geoscience Australia

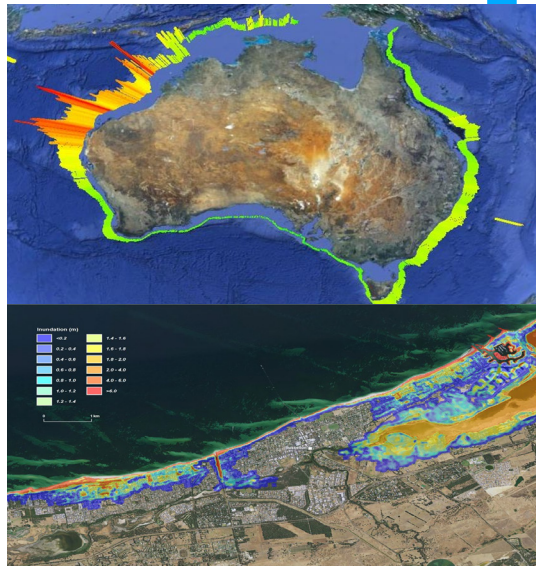
26

Hazard: Tsunami

PTHA Map

National Datasets

Bathymetry
Elevation



Source: Geoscience Australia

Exposure

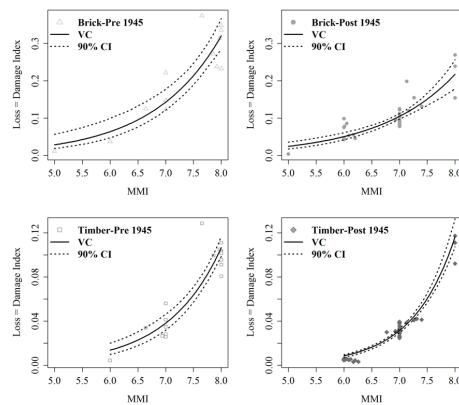
National Exposure Information System (NEXIS)

	<u>Residential</u>	<u>Commercial</u>	<u>Industrial</u>
Spatial	Latitude Longitude Address Block size Footprint area	Latitude Longitude Address Block size Footprint area	Latitude Longitude Address Block size Footprint area
Structural	Construction type Floor area Roof type Wall type Age	Construction type Floor area Roof type Wall type Storeys Basement Car parks Age	Construction type Floor area Roof type Wall type Storeys Age
Demographic/ Economic	Income group No. Residences No. People Structural value Content value	ANZSIC category No. Businesses Structural value	

Source: Geoscience Australia

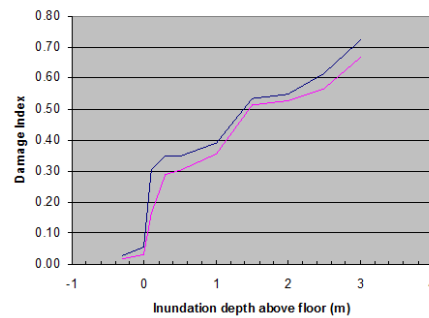
Vulnerability

Earthquake



Flood

FCM 1 damage curves



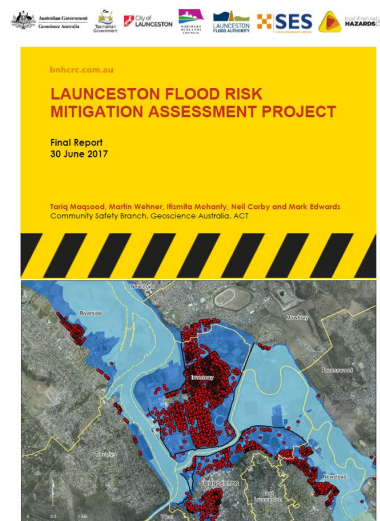
Source: Maqsood et al. 2016

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Launceston Flood Mitigation Project

Objectives:

- The number of **people displaced** due to inundation of homes and the expected time for them to return.
- The **long term cost** to Launceston from flood hazard before and after mitigation works.
- A **Cost Benefit Analysis** of the flood mitigation investment (a levee system).

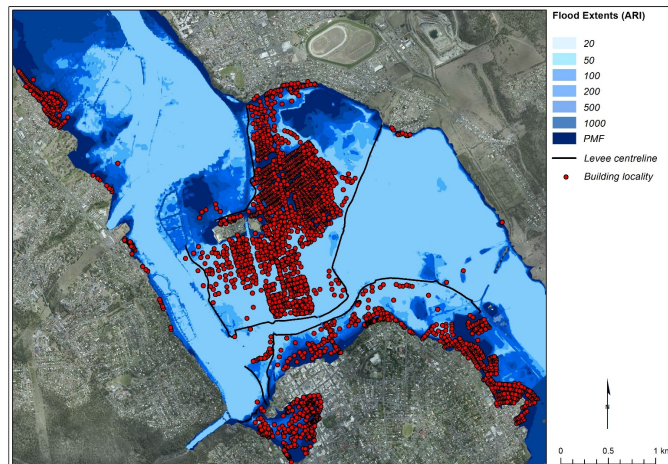


Source: Maqsood et al. (2017)

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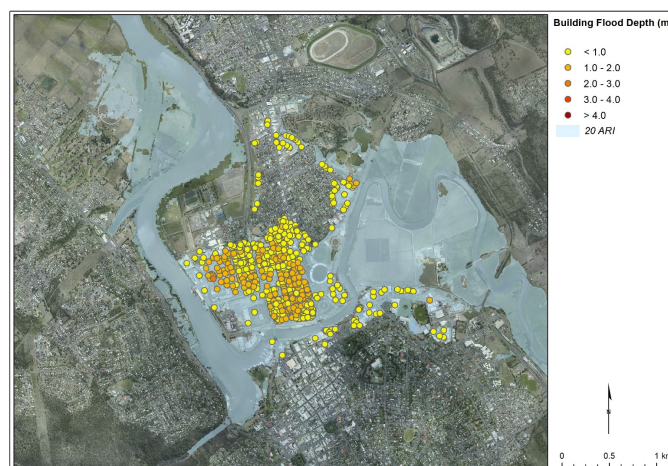
Launceston Flood Mitigation Project: Hazard

Flood Extent Maps



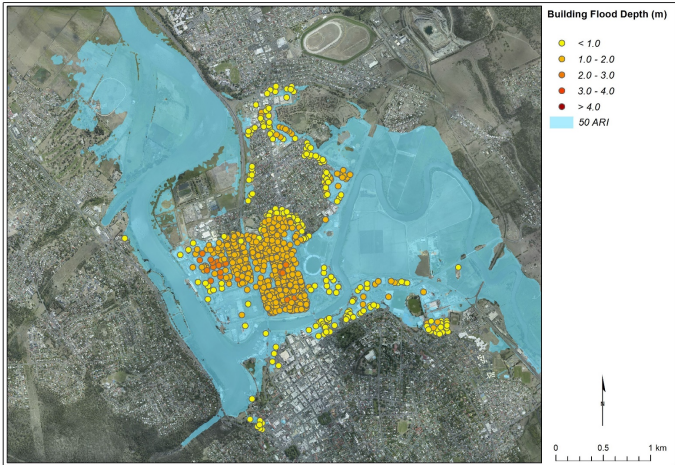
Launceston Flood Mitigation Project: Hazard

Flood Depths Above Floor Level



Launceston Flood Mitigation Project: Hazard

Flood Depths Above Floor Level

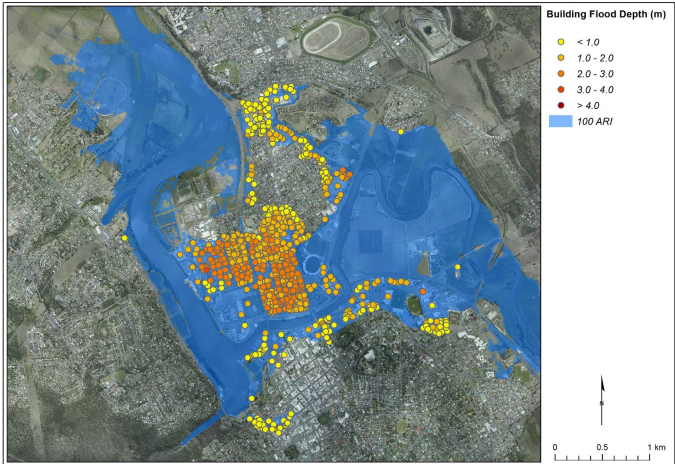


50 Year ARI

33

Launceston Flood Mitigation Project: Hazard

Flood Depths Above Floor Level

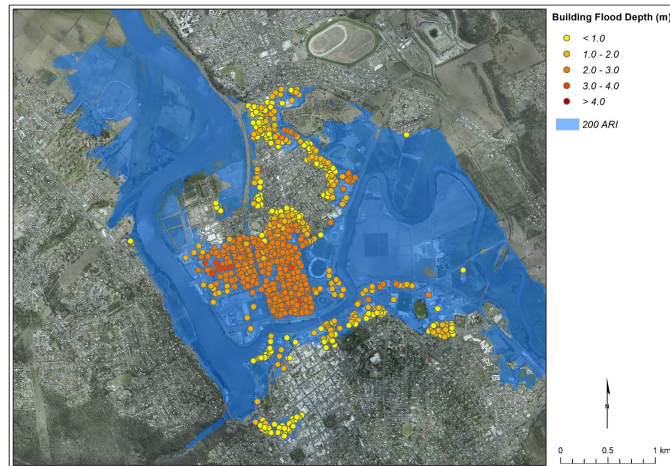


100 Year ARI

34

Launceston Flood Mitigation Project: Hazard

Flood Depths Above Floor Level

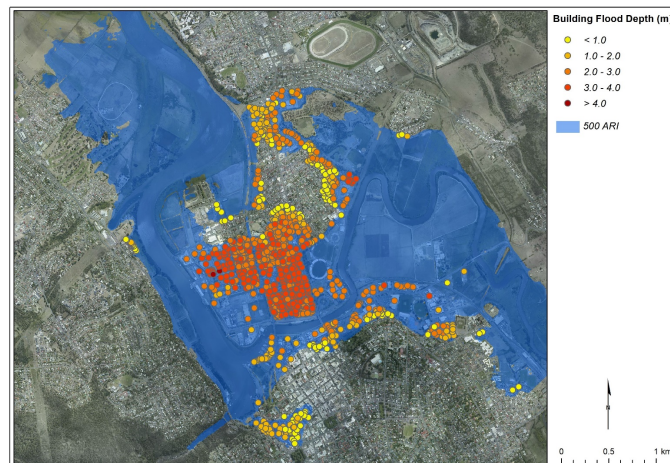


200 Year ARI

35

Launceston Flood Mitigation Project: Hazard

Flood Depths Above Floor Level

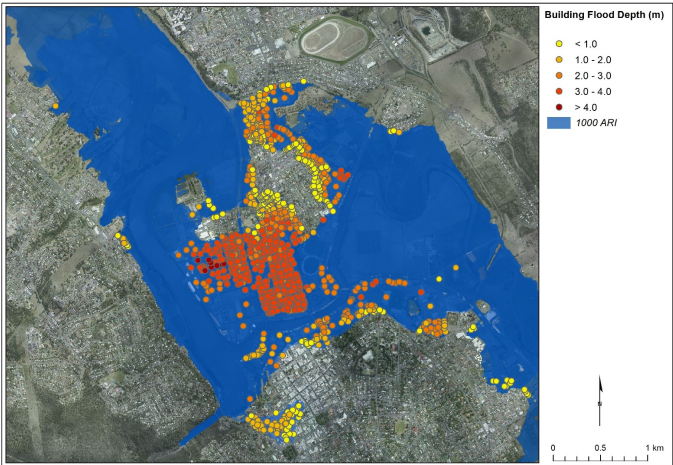


500 Year ARI

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Launceston Flood Mitigation Project: Hazard

Flood Depths Above Floor Level



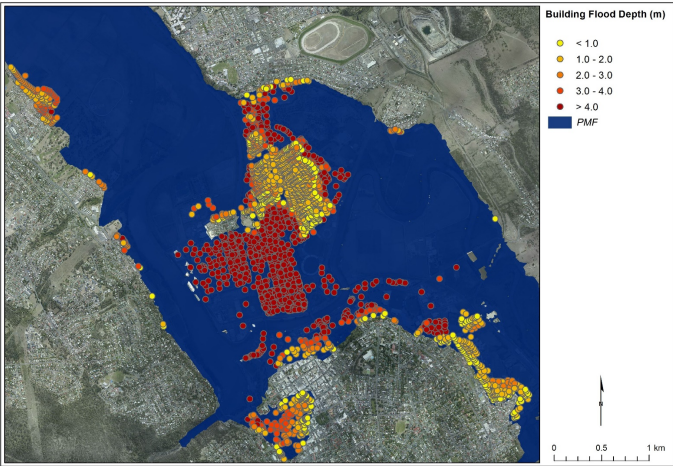
RMIT
UNIVERSITY

1,000 Year ARI

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Launceston Flood Mitigation Project: Hazard

Flood Depths Above Floor Level



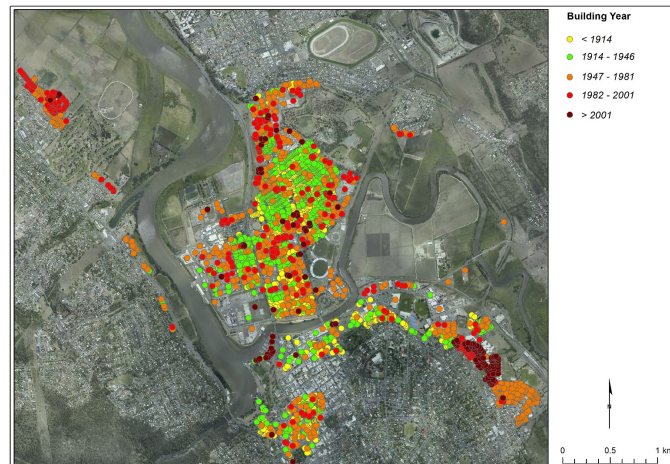
RMIT
UNIVERSITY

PMF

38

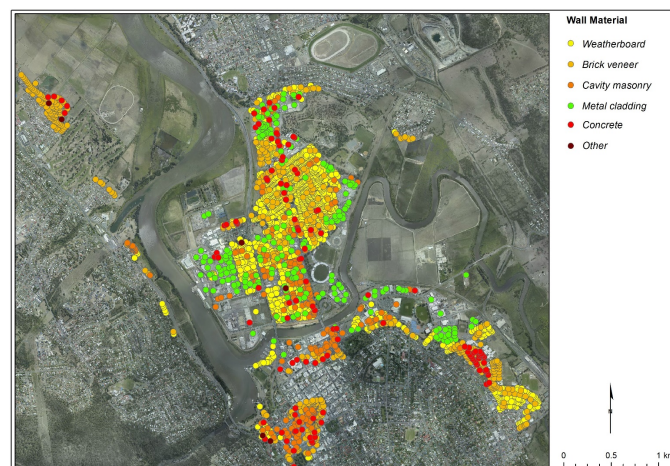
Launceston Flood Mitigation Project: Exposure

Building Year



Launceston Flood Mitigation Project: Exposure

Wall Material



Launceston Flood Mitigation Project: Vulnerability

Building Vulnerability Models



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Launceston Flood Mitigation Project: Risk

Affected People and Properties

ARI (years)	Peal Flood Depth (m AHD)	Number of affected residential properties – Before Mitigation	Number of affected residential properties – After Mitigation	Number of Affected People – Before Mitigation	Number of Affected People – After Mitigation
100,000	7.52	1,853	1,853	4,262	4,262
1,000	5.16	989	989	2,275	2,275
500	4.98	864	86	1,987	199
200	4.24	786	0	1,356	0
100	3.84	707	0	650	0
50	3.38	627	0	72	0
20	2.82	551	0	1	0



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Launceston Flood Mitigation Project: Risk

Estimated Residential Loss – Before Mitigation

ARI (Year)	Annual Probability of Exceedance	Building Repair Cost (\$ M)	Contents Loss (\$ M)	Rental Income Loss (\$ M)	Clean-up Cost (\$ M)	Cost of fatalities (\$ M)	Total (\$ M)
100,000	0.00001	466.1	137.0	3.5	1.4	59.9	667.9
1,000	0.001	218.2	65.0	1.9	0.7	27.9	313.6
500	0.002	192.3	57.0	1.7	0.6	26.3	277.9
200	0.005	112.1	36.4	0.8	0.4	12.8	149.7
100	0.01	50.9	16.9	0.3	0.2	4.8	68.4
50	0.02	5.3	1.8	0.04	0.02	0.4	7.2
20	0.05	0	0.01	0	0	0	0.1

Launceston Flood Mitigation Project: Risk

Estimated Residential Loss – After Mitigation

ARI (Year)	Annual Probability of Exceedance	Building Repair Cost (\$ M)	Contents Loss (\$ M)	Rental Income Loss (\$ M)	Clean-up Cost (\$ M)	Cost of fatalities (\$ M)	Total (\$ M)
100,000	0.00001	466.1	137.0	3.5	1.4	59.9	667.9
1,000	0.001	218.2	65.0	1.9	0.7	27.9	313.6
500	0.002	19.2	5.7	0.2	0.1	2.6	27.8
200	0.005	0	0	0	0	0	0
100	0.01	0	0	0	0	0	0
50	0.02	0	0	0	0	0	0
20	0.05	0	0	0	0	0	0

Launceston Flood Mitigation Project: Risk

Estimated Non-residential Loss – Before Mitigation

ARI (Year)	Building Repair Cost (\$ M)	Clean-up Cost (\$ M)	Loss of Inventory (\$ M)	Loss of Stock (\$ M)	Loss of Income Incorporated Business (\$ M)	Loss of Income Unincorporated Business (\$ M)	Loss of Wage or Salary (\$ M)	Total (\$ M)
100,000	244.8	0.7	20.9	11.9	1.8	1.5	22.7	304.2
1,000	120.0	0.5	15.1	8.6	1.3	1.0	16.3	162.9
500	111.8	0.5	14.2	8.1	1.2	1.0	15.4	152.3
200	65.5	0.3	10.0	5.7	0.8	0.7	10.8	93.9
100	28.6	0.2	5.0	2.8	0.4	0.3	5.4	42.9
50	2.8	0.02	0.5	0.3	0.05	0.04	0.6	4.4
20	0.02	0	0	0	0	0	0	0.03

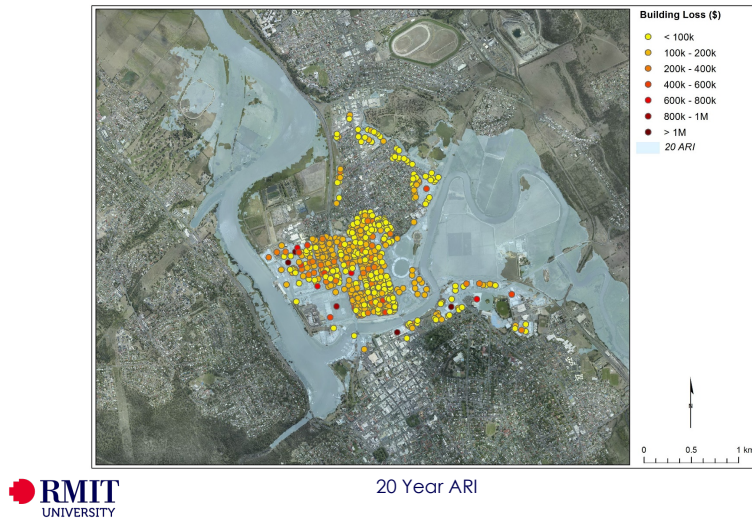
Launceston Flood Mitigation Project: Risk

Estimated Non-residential Loss – After Mitigation

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1,000	120.0	0.5	15.1	8.6	1.3	1.0	16.3	162.9
500	11.2	0	1.4	0.8	0.1	0.1	1.5	15.2
200	0	0	0	0	0	0	0	0
100	0	0	0	0	0	0	0	0
50	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0

Launceston Flood Mitigation Project: Risk

Potential Building Repair Cost

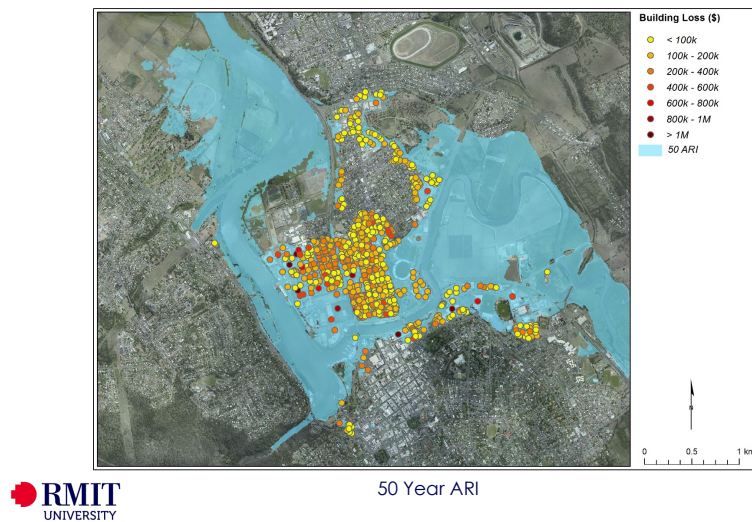


20 Year ARI

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Launceston Flood Mitigation Project: Risk

Potential Building Repair Cost

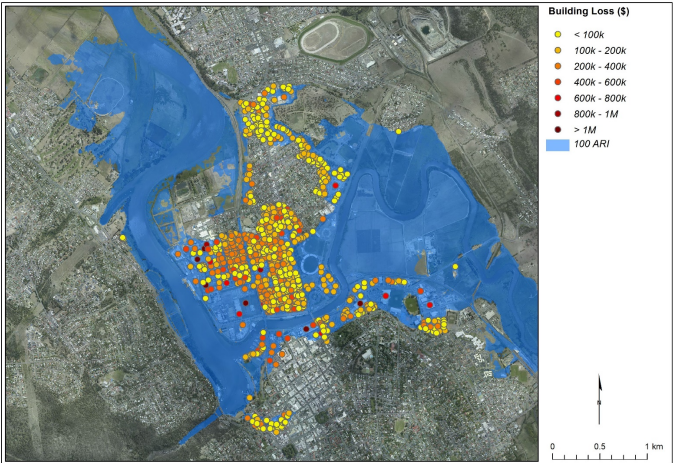


50 Year ARI

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Launceston Flood Mitigation Project: Risk

Potential Building Repair Cost



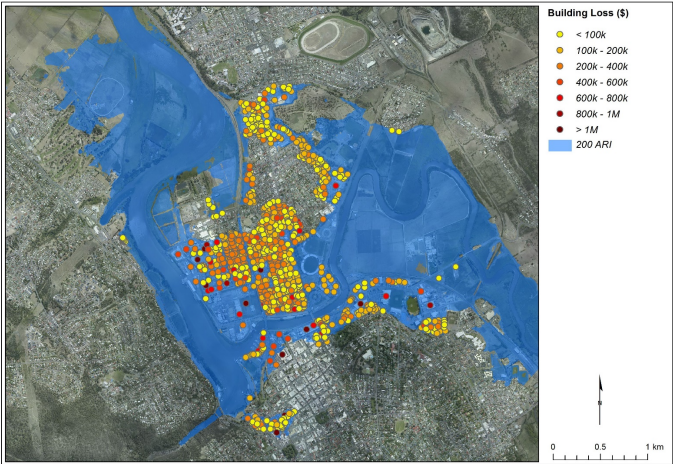
100 Year ARI



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Launceston Flood Mitigation Project: Risk

Potential Building Repair Cost



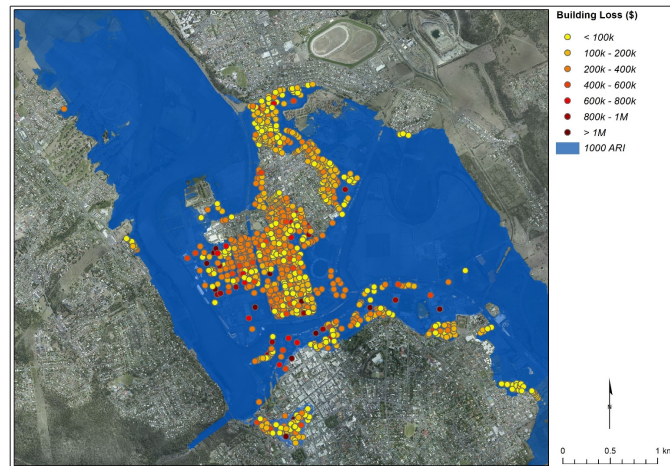
200 Year ARI



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Launceston Flood Mitigation Project: Risk

Potential Building Repair Cost

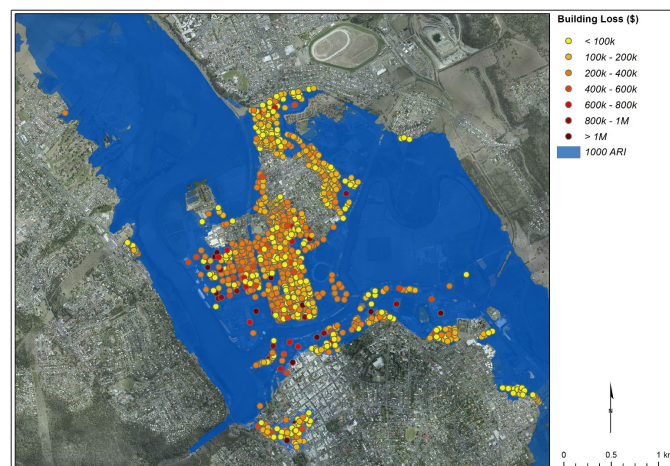


1,000 Year ARI

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Launceston Flood Mitigation Project: Risk

Potential Building Repair Cost

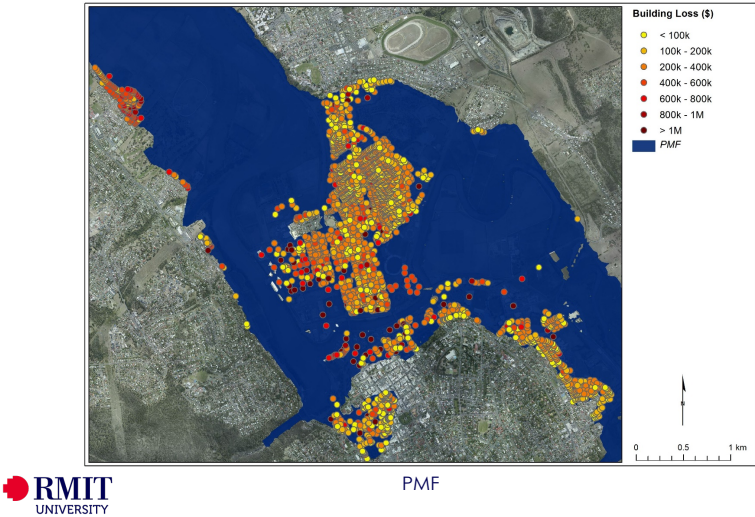


1,000 Year ARI

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Launceston Flood Mitigation Project: Risk

Potential Building Repair Cost



53

Launceston Flood Mitigation Project: Risk

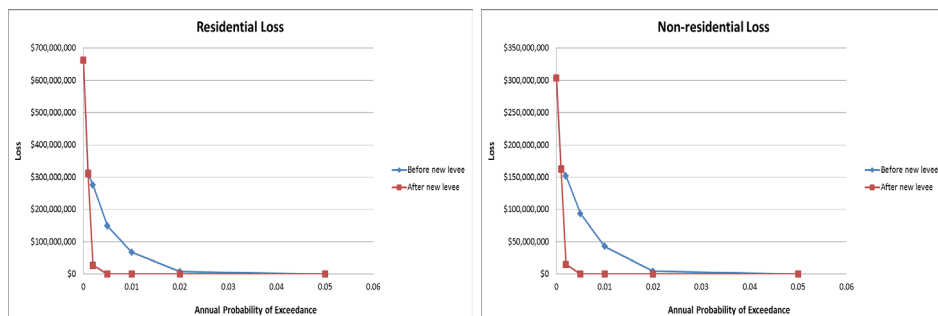
Estimated Total Loss (\$) Before and After Mitigation

ARI (Year)	Annual Probability of Exceedance	Potential Loss (\$ M)	Conditional Loss Before Mitigation (\$ M)	Conditional Loss After Mitigation (\$ M)	Average Annual Loss Before Mitigation (\$ M)	Average Annual Loss After Mitigation (\$ M)
100,000	0.00001	972.2	972.2	972.2	3.95	1.04
1,000	0.001	476.5	476.5	476.5		
500	0.002	430.2	430.2	43.0		
200	0.005	324.8	256.4	0		
100	0.01	278.4	111.2	0		
50	0.02	232.4	11.9	0		
20	0.05	165.8	0.08	0		

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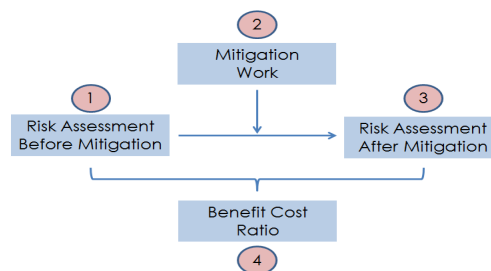
Launceston Flood Mitigation Project: Risk

Loss Exceedance Curves for the Residential and Non-residential Loss



Launceston Flood Mitigation Project: Cost Benefit Analysis

- **Risk assessment before mitigation:** risk (\$) without considering mitigation investment.
- **Mitigation work:** this is the investment (\$) to reduce impacts assessed.
- **Risk assessment after mitigation:** risk (\$) after incorporating the effects of the mitigation investment.
- **Benefit Cost Ratio:** economic effectiveness of the mitigation investment evaluated by comparing benefits and costs.



Launceston Flood Mitigation Project: Risk

- Project Life: 80 years
- Estimated Cost: \$22 M (2006) or \$27.9 M (2016)
- Discount Rates: 3% to 7%

Cost Benefit Analysis

Investment (2016 \$ M)	Avoided Losses (2016 \$ M)					Benefit Cost Ratio (BCR)				
	3%	4%	5%	6%	7%	3%	4%	5%	6%	7%
27.9	88.0	69.7	57.1	48.1	41.4	3.15	2.49	2.04	1.72	1.48

Launceston June 2016 Flood

- The results indicate that during the 2016 June flood in Launceston (a 50 year ARI event based on LCC, 2016) the reconstruction of the levee system resulted in avoiding losses of about \$216 million (had the pre-existing levees failed which had a 5% chance).

Investment (2016 \$ M)	Avoided Losses (2016 \$ M)
58.4	216

Flood Mitigation

Community Level:

- Structural:
 - Dams,
 - Levees
 - Flood gates
 - Retarding basins
- Non-structural:
 - Land use planning
 - Flood forecasting and warning
 - Flood awareness
 - Community readiness
 - Evacuation arrangements



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Flood Mitigation

Property Level:



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Cyclone Mitigation

- TC Larry Post-disaster Survey



10 Badilla St
(built 1969)

100% Roof damaged



8 Badilla St
(built 1969 retrofitted 2001)

Roof undamaged



6 Badilla St
(built 1969)

50% Roof damaged

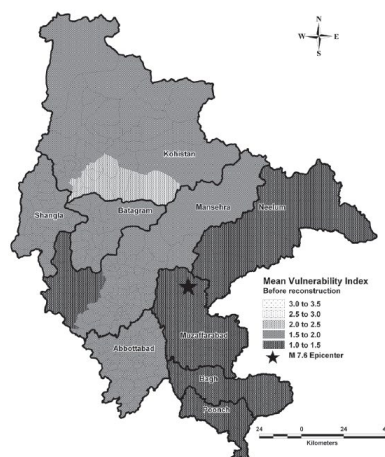
Source: Geoscience Australia

61

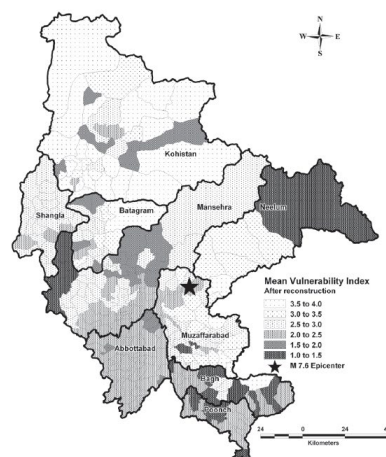
Earthquake Mitigation

- 2005 Kashmir Earthquake (80,000 Fatalities, half million buildings destroyed)

(A) Before 2005 Kashmir earthquake.



(B) After 2005 Kashmir earthquake.



Mean Vulnerability Index

Source: Maqsood and Schwarz (2010)



62

Critical Infrastructure Mitigation



Source: Geoscience Australia

64

Summary

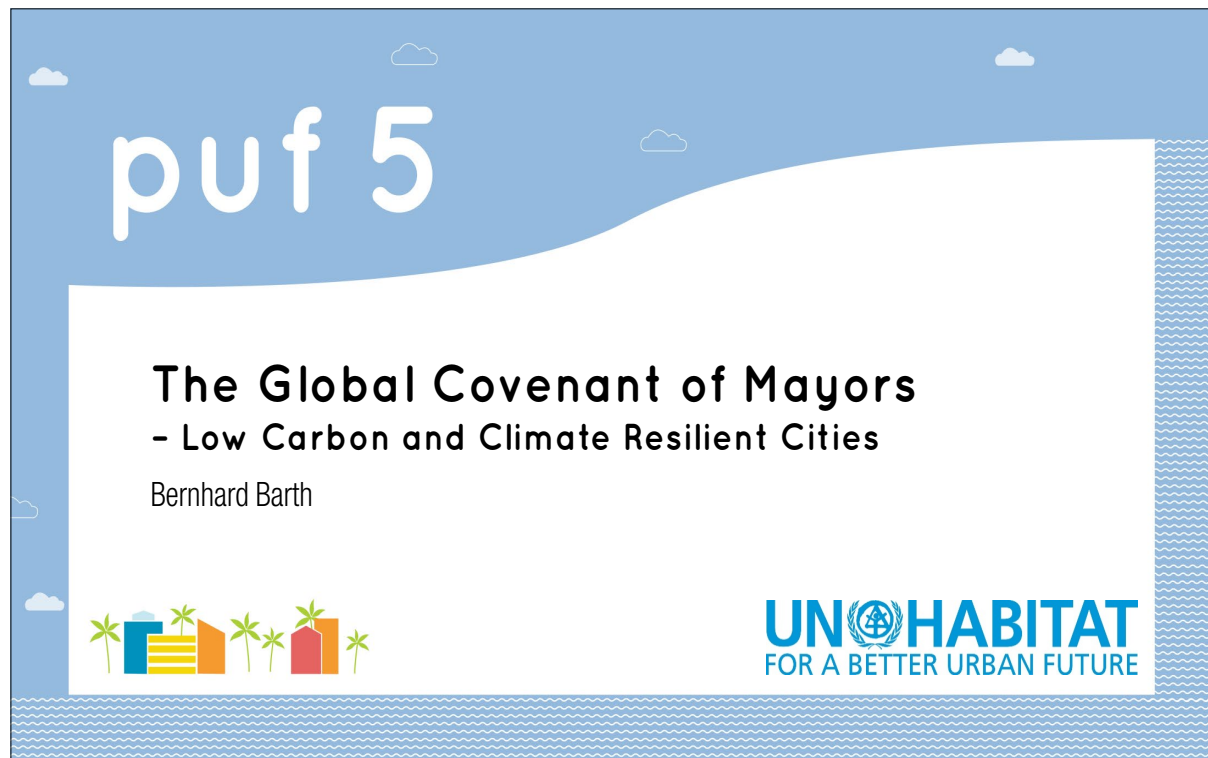
- Policies and practices for disaster risk management should be based on an **understanding of disaster risk**.
- Strengthen **technical capacity** of government officials to consolidate existing knowledge and to develop new models to assess disaster risk.
- **Investment in mitigation** should be increased and focus should be on pre-disaster preparedness.
- As resilience (through mitigation) entails an investment, an **evidence base** to inform decision making by government and property owners on the mitigation of natural hazard risk by providing information on the **cost effectiveness** of different mitigation strategies.



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THE GLOBAL COVENANT OF MAYORS - LOW CARBON & CLIMATE RESILIENT CITIES

Mr. Bernhard Barth, Human Settlements Officer, UN-Habitat, Regional Office for Asia and the Pacific



1 Why this presentation?

- Cities and local governments around the world engage in climate action or want to do so.
- In most countries national governments have limited capacities to support cities.
- Most local governments need support (capacity development, tools, policy advice, finance).
- Tools and support mechanisms are abound – but are confusing.
- Better partnerships for climate action have emerged to provide comprehensive support.



2 What is the Global Covenant of



The **Global Covenant of Mayors for Climate & Energy** is an international coalition of local and regional authorities with a shared long-term vision of promoting and supporting voluntary action to combat climate change and move to a low-carbon society.

The Global Covenant of Mayors is based on 5 core principles:

- Local Governments are Key Contributors
- City Networks as Critical Partners
- A Robust Solution Agenda
- Reducing Greenhouse Gas Emissions, Fostering Local Climate Resilience and Access to Energy
- Standardizing measurement approaches and reporting for cities



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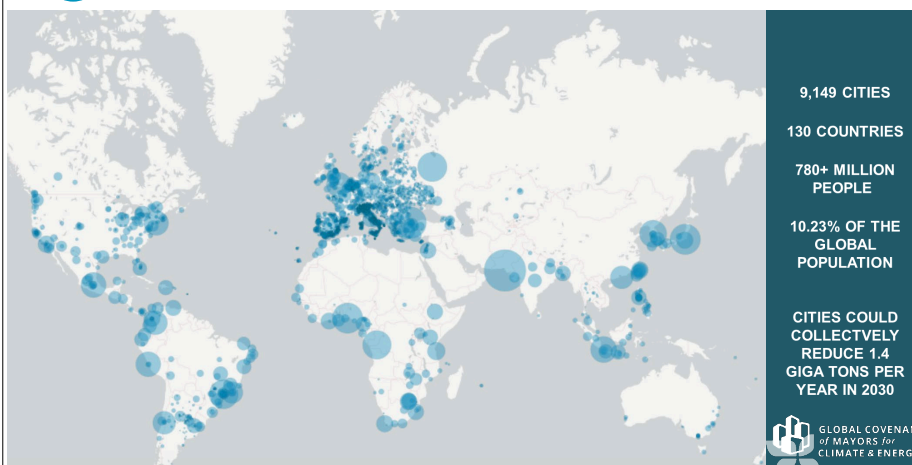
3 10 GCoM Regions

- Sub Saharan Africa
- Middle East and North Africa
- North America
- Latin America and the Caribbean
- South Asia
- Southeast Asia
- East Asia
- **Oceania (managed by ICLEI)**
- European Union and Western Europe
- Eastern Europe and central Asia



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4 Current Global Reach and Impact



In the Pacific

- Nadi
- Honiara
- Port Vila

Australia (26)

New Zealand (6)



puf5

5 Founders Council



- The Founders Council is made up of founding partners to both the Compact of Mayors and the Covenant of Mayors
- Includes: The C40 Cities Climate Leadership Group, ICLEI – Local Governments for Sustainability, United Cities and Local Governments (UCLG), UN-Habitat, European Commission, European Union Committee of the Regions, Climate Alliance, Council of European Municipalities and Regions (CEMR), Eurocities, Energy Cities and European Federation of Agencies and Regions for Energy and the Environment (FEDARENE)



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6 City Commitments



Step 1

Choose the right commitment document for your country – either global or regional commitment document.

Select your country...



Step 2

Communicate your commitment to your citizens and local media!

To support you in your communication, you will receive a toolkit from us shortly via mail.



Step 3

- Develop a greenhouse gas (GHG) emissions inventory
- Assess climate risks and vulnerabilities of your city
- Define ambitious climate mitigation targets
- Create full climate action plans

→ Read More



Step 4

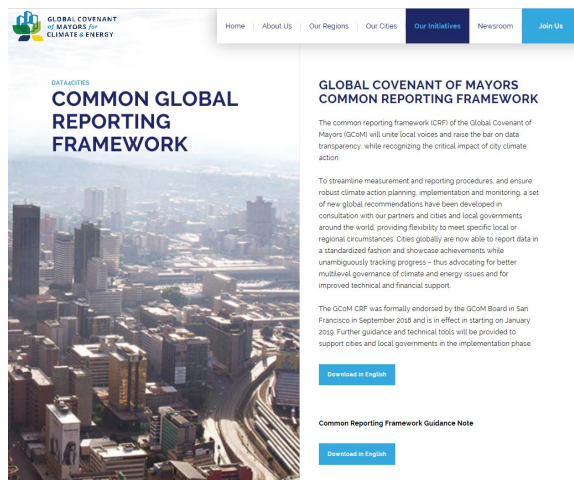
Report on a regular basis about your progress.



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7 Key Initiatives – assessment, data, reporting

- **Common reporting standard** for key data on city emissions, targets, risks and actions (online: <https://www.globalcovenantofmayors.org/common-global-reporting-framework/>).
- **Data tools** such as the Environmental Insights Explorer (<https://insights.sustainability.google/>)
- **GCoM annual aggregation report** a new version has been launched this week (<https://www.globalcovenantofmayors.org/impact2018/>).



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7 Key Initiatives - finance

- **Recommendations** to remove barriers to adequate financial investment in city climate projects, using high-level advocates/surrogates to engage with decision makers and investors.
- **Leverage private capital** needed to raise the ambition of the NDCs using public funds as seed money. Building partnerships with the IDB and the EBRD.
- Call to action for vertical integration of investment plans to implement the Paris Climate Agreement, with aim to develop **vertically integrated plans** for three countries.
- **Global Climate City Challenge**, launched at GCAS:
<http://www.eib.org/en/projects/sectors/urban-development/city-call-for-proposal/index.htm>

Invest4Cities Partnerships



"NDC Call to Action"



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thank you

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 🐦 @UNHABITAT



UN HABITAT
FOR A BETTER URBAN FUTURE

Viliame Kasanawaqa, Head of Policy Research and Evaluation, Pacific Islands Development Forum



5th Pacific Urban Forum 1-3 July, 2019 Nadi, Fiji

Day 2 Special Session 3:
Making cities and human settlements resilient
Presented by Viliame Kasanawaqa
Head of Policy Research and Evaluation
Pacific Islands Development Forum



Pacific Islands
Development Forum

We are the Pacific platform for Green Growth & the Blue Economy in the context of Agenda 2030.

It is an action-oriented platform mandated to:

- Mainstreaming green growth
- Climate action;
- Adapted solutions for island resilience



*A United, Distinctive
and
Sustainable Pacific Society*



PIDF is a space for catalysing, mobilizing and mainstreaming action for sustainable development and poverty eradication in Pacific Island States.

PIDF provides a framework for bringing together the expertise of the **private sector**, normative leadership of the **public sector**, & successful delivery mechanisms of **civil society**.





Pacific green business CENTRE
A digital platform to promote GREEN BUSINESS MODELS in the Pacific Islands
www.greenbusiness.solutions

Like us on Facebook: [PacificGBC](#)
Follow us on Twitter: [@PacificGBC](#)

Pacific Green Business Centre

Tools for Private Sector Engagement

PECX	Corporate Social Responsibility	Green Initiatives	"How to" Guides	Resources	Financial Support

Focus Areas – Community of Actions – Green/Blue Economy

Blue Economy	Renewable Energy	Green Packaging	Organic Agriculture	Sustainable Tourism	Sustainable Transport

www.greenbusiness.solutions




ISLAND RESILIENCE INITIATIVE



Strengthening Partnerships for Resilience

- Strengthen public-private partnerships to support more rapid implementation priorities as part of the Sustainable Development Goals
- Pilot program to develop SDG dashboard on islands – Fiji, Palau and Marshall Islands

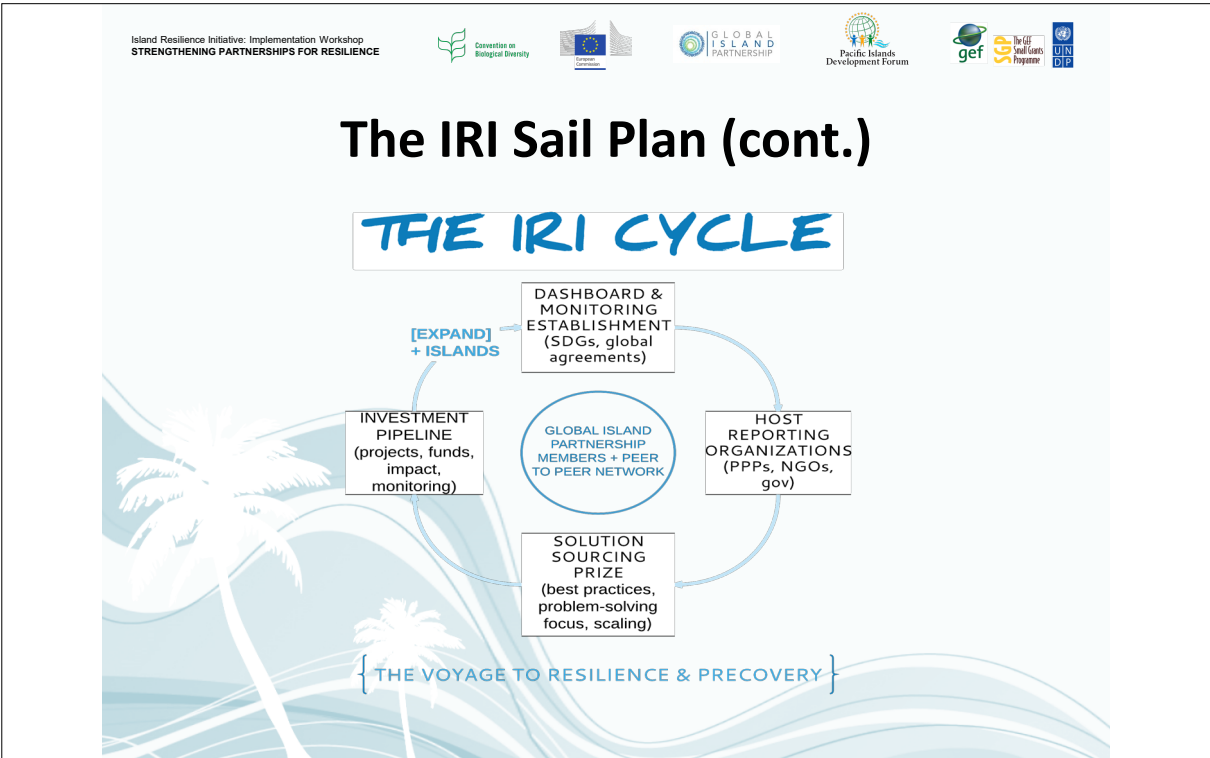










The IRI Sail Plan (cont.)

Learning from Others in Resilience Movement as Islands Lead...

100 Resilient Cities
The Resilient Reefs Initiative
The Biocultural Elements

INITIATIVES TO SUPPORT MEMBER STATES

- UN Office of the High Commissioner for Human Rights' (OHCHR)
- Island Resilience Initiative 2.0
- South-south Cooperation in Action for the Pacific Islands – UNOSSC/PIDF
- Pacific Environmental & Climate Exchange (PECX) operationalization
- Collaboration on Sustainable Blue Economies and with the Aruba Centre of Excellence for sustainability in SIDS (COE)
- SSC Conference for a Resilient Pacific – Leaders Summit and Conference July 29th – 30th Nadi



The Republic of Fiji will be hosting the second Pacific Islands Development Forum's (PIDF) Leaders' Summit and Conference since the entry into force of its Charter on 4 September 2015. These governance meetings oversee the functioning and development of the PIDF and will approve the Strategic Plan, policies, budget and work programmes of the organisation for years to come.

The PIDF is a multilateral and multi-stakeholder organisation focusing on a distinctive Pacific model of green growth in blue economies aligned to sustainable development principles. The PIDF also serves as the Pacific Islands South-South cooperation platform with the United Nations and is a member of the Inter-agency Collaborative Group on the Global Partnership on SIDS. The Conference will showcase links between island resilience, South-South Cooperation and the blue economy.

We are a space for catalysing, mobilising and mainstreaming action in support of sustainable development through green/blue economy in Pacific Island Countries. PIDF is an action-oriented platform to identify innovative solutions and works closely with international institutions to engage state and non-state actors to develop high-impact collaborations on sustainable development & poverty reduction in the Pacific Islands. Please note attendance to the PIDF Leaders' Summit is by invitation only.

Date: 29-30 July 2019 Venue: Puffin' Nadi Bay Resort and Spa Fiji [Pre-register Here](#)

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Vilimone Raqona, Ministry of Lands and Mineral Resources, Republic of Fiji

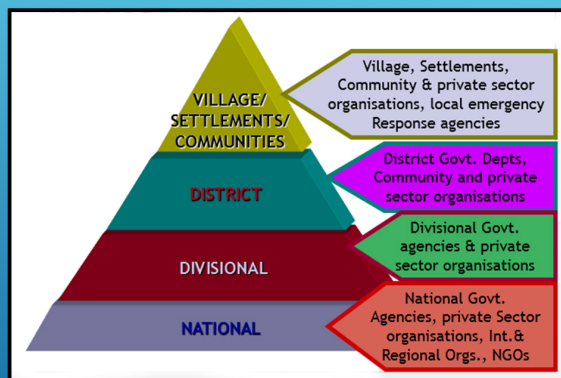
ROLE OF THE MIN. OF LANDS & MINERAL RESOURCES(GIM DIVISION) DURING POST WINSTON IN 2016.



OUTLINE

1. Role of the Ministry - NDMO
2. Post Winston Set Up
3. Data Collection, Integration & Display
4. The Vanua GIS TC Winston App





THE ROLE OF THE MINISTRY(LMR) IN NDMO

Under the Natural Disaster Management Act of 1998 ,the Permanent Secretary of Lands & Mineral Resources is part of the National Disaster Management Council, Committee for Mitigation and Prevention and Committee for Preparedness.



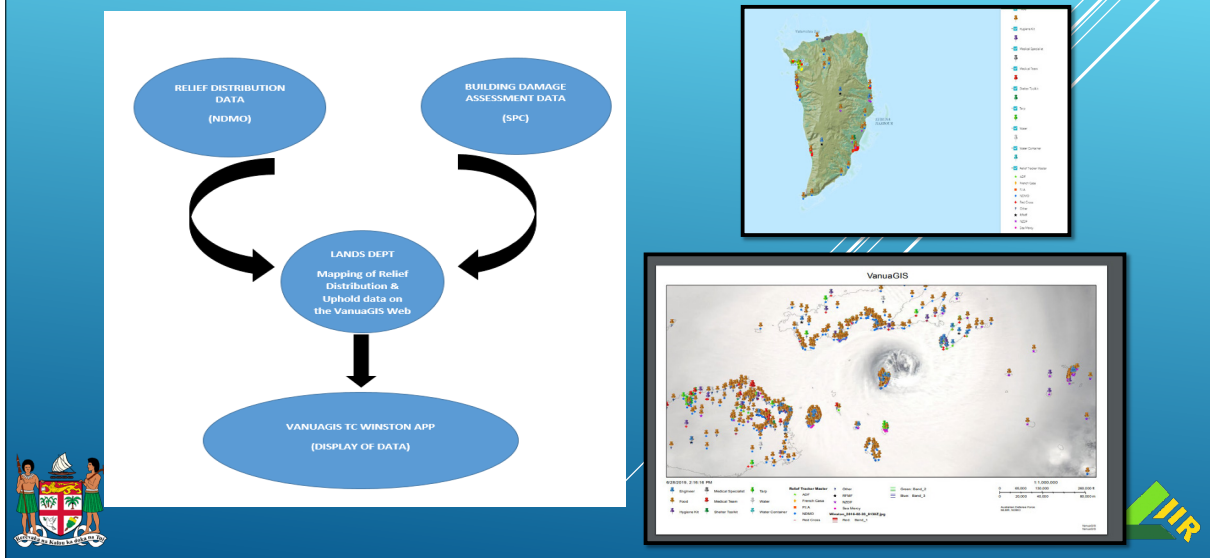
POST WINSTON SETUP:

- ❖ During Post Winston the GIS Team of MLMR were tasked to provide technical support in terms of Mapping .
- ❖ The Team were stationed at 3 Location

NDMO	LANDS	SPC
<ul style="list-style-type: none"> • Data collection for RELIEF Distribution by Both Govt/NGO 	<ul style="list-style-type: none"> • HUB for Data Intergration • Facilitate Map Request for Affected Areas • Web App Maintenance 	<ul style="list-style-type: none"> • Using Past & Post Cyclone Images to assess Building Damage during TC Winston

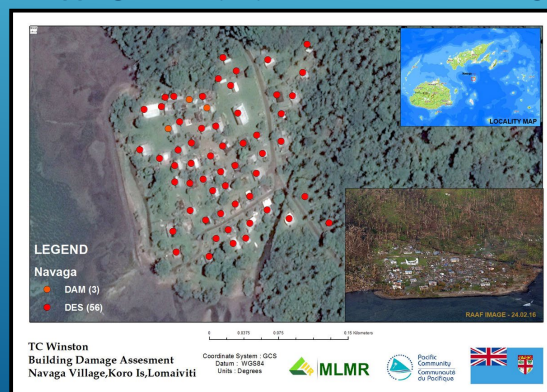


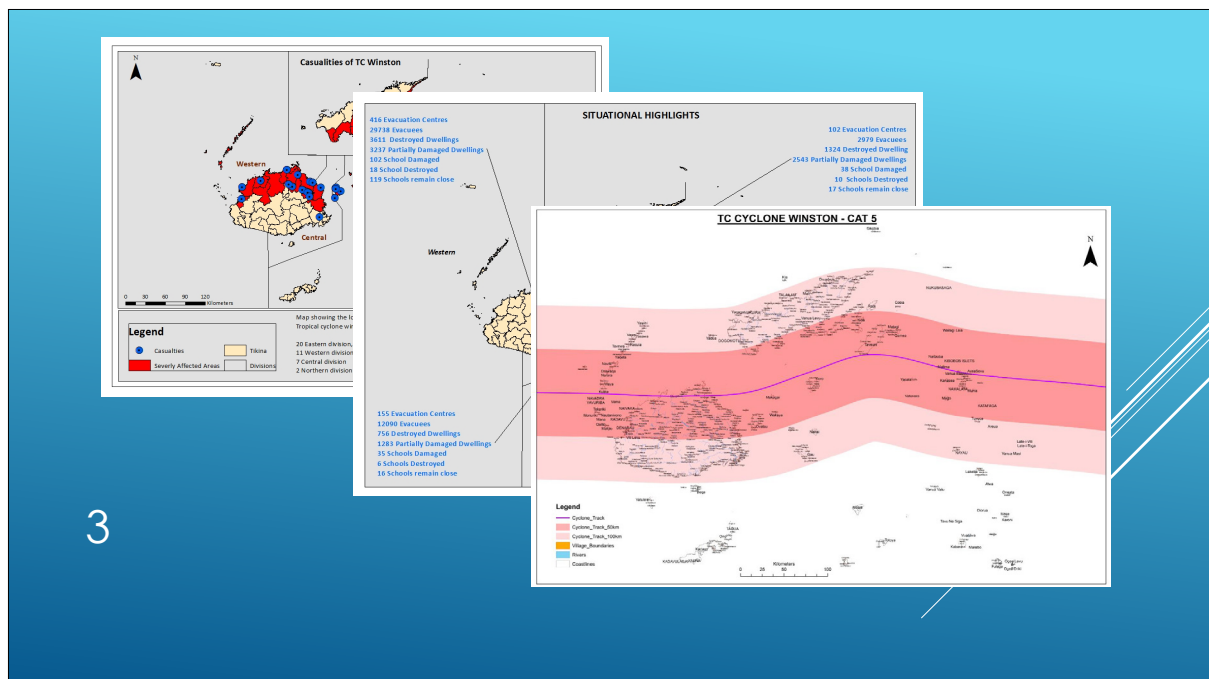
DATA COLLECTION, INTEGRATION & DISPLAY



OTHER MAPPING TASK

- ❖ The Air Survey Section together with our Survey Division **conducted Photo control Survey and Details contour Mapping** for the proposed relocation of villages affected in Koro Island .





THE VANUAGIS TC WINSTON WEB APP

<http://fijijsgeospatial.maps.arcgis.com/apps/webappviewer/index.html?id=3b7d230d8ae34ff5856f9a71106d317c>



@PUF2019



Pacific Urban Platform



pacific_urban_forum



<http://www.fukuoka.unhabitat.org/info/news/puf.html>

