PARTneR
Pacific Risk Tool for Resilience

LAUELEELE AFAINA I GALU LOLO

Samoa Meteorology Division

NEW ZEALAND
FOREIGN AFFAIRS & TRADE
Aid Programme

RiskScape

GNS SCIENCE
TE PŪ AO

NIWA
Taihoro Nukurangi

SPC CPS
SECRETARIAT OF THE PACIFIC COMMUNITY
SECRÉTARIAT GÉNÉRAL DE LA COMMUNAUTÉ DU PACIFIQUE

Framework for Resilient Development in the Pacific

Example Strategic Actions on Risk Assessment

- "Strengthen knowledge on the causes, local impacts and response to climate change, hazards and disasters, and build capacity for local adaptation and other risk management measures, through formal and non-formal education systems, including for loss and damage."

- "Collect post-disaster time series information that separates elements of the cause (hazard, vulnerability and exposure) and the effect (impact or consequence) to inform estimates of future impacts (risk assessments) and to monitor progress toward risk reduction targets."

What do we mean by risk tools?

- Risk modelling software helps people understand the impact from hazard events.

- The software is designed to perform a complex calculation simply and quickly without needing specialist modelling knowledge.

Why use a risk tool?

Understanding risk

Risk Reduction underpins Sustainable Development

Risk Assessment underpins Risk Reduction

Understanding the impacts of disaster is vital

Risk tools can estimate disaster impacts

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Five partner organisations

2 Pacific Island Countries

NZ Aid funding

3 year pilot project

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Outputs

Pacific risk mapping and decision support tool developed

Data collation and management system developed

Risk tool training developed and applied

Sustainable partnership model developed and rolled-out

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The Importance of Data

Risk Tools such as RiskScape can estimate impacts:

- damage state,

- human loss,

- replacement costs,

- displacement….

But like any risk assessment framework it requires data.

What is RiskScape?

- A <u>research programme to study the impacts of natural hazards</u> on communities and to develop models to forecast future impacts;

- <u>RiskScape impact and loss modelling software</u> that is freely available and provides information about what could happen in a natural hazard event.
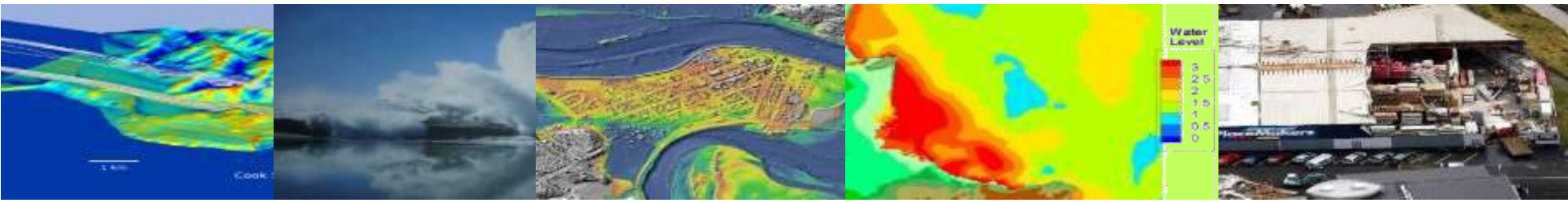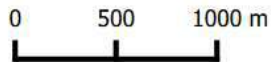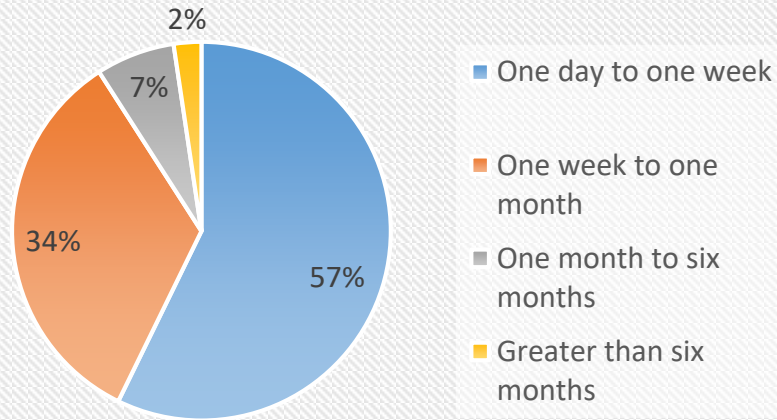
RiskScape video

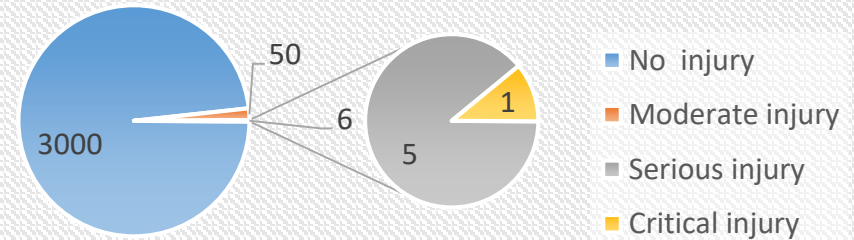Demonstration: Port Vila 1 in 100 yr flood and estimated damage to buildings.

Damage State
- 1
- 2
- 3
- 4
- 5

Flood Depth m
- 1
- 2
- 3
- 4

0   500   1000 m

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RiskScape

Produced by NIWA using RiskScape on behalf of the PARTneR: Pacific
Risk Tools for Resilience project. Demonstration purposes only.

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Estimated number of people displaced

- One day to one week — 57%
- One week to one month — 34%
- One month to six months — 7%
- Greater than six months — 2%

Estimated number of people injured

- No injury — 3000
- Moderate injury — 50
- Serious injury — 6, 5
- Critical injury — 1

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Demonstration: Port Vila Flood Scenario
Estimated Building Loss in Vatu (Millions)
100 yr Flood Event

Est. Reinstatement Vatu (Millions)
- 0
- 1
- 2
- 3
- 4
- 5
- 10
- 20
- 30
- 40

0   500   1000 m

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Introducing PARTneR

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Case studies for Vanuatu and Samoa

Vanuatu

1. Ashfall impacts on Tanna Island
2. Tropical cyclone impact for urban planning in Lenakel, Tanna
3. Connecting drought and extreme rainfall to agricultural production

Samoa

1. Tsunami risk and loss modeling
2. Near real-time tropical cyclone impact
3. Landside risk for Mt Vaea, Apia

Looking forwards...

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https://www.riskscape.org.nz/international-projects

Lessons learnt

Need for improved…

- Data availability
- Data collection standards
- Regular collection after disaster events
- Coordination between stakeholders
- Data sharing agreements
- A central data repository
- Technical training in risk assessment and risk tools

Key opportunities and challenges

Sustainability

- Partnership- Pacific organization
- Technical backstopping – country level
- Multi-level trainings
- Participatory
- Data collection tools and systems
- Suite of products for the Pacific

Challenges

- Hazard models
- Centralized database with data sets
- Data sharing agreements

Get more information....

- **RiskScape and PARTneR website:**
- www.riskscape.org.nz/international-projects

- **To download RiskScape NZ:**
- https://www.riskscape.org.nz/get-riskscape

- **For news on RiskScape:**
- www.riskscape.org.nz/news

Support using RiskScape

Manuals and support via the RiskScape wiki

https://wiki.riskscape.org.nz/index.php/Overview

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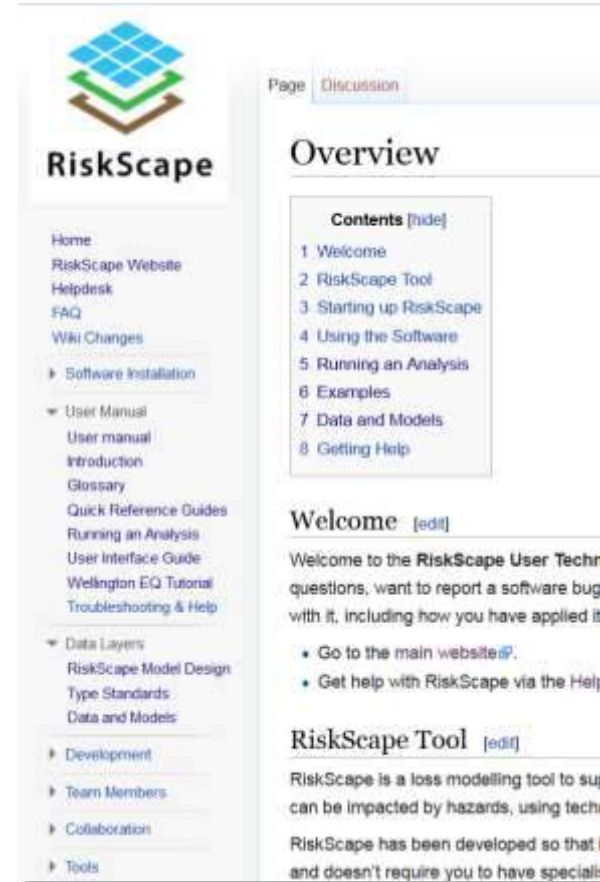
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Final Thoughts…

PARTneR provides an opportunity for:

- Data collection and management
- Data transformation into information and knowledge
- Science uptake and integration
- Coordination within and across government and other stakeholders
- Sharing data and information on impacts

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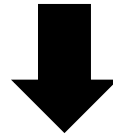
We want a shift towards cross government engagement and good data management and use for DRR, DRM and CCA.

Summary

- RiskScape is a **technical risk assessment software platform** that is being **tailored for use in the Pacific**

- Currently have **ongoing case studies** and **trained coordinators** in Samoa and Vanuatu

  - RiskScape is expected to be expanded to other Pacific countries

- Though a technical tool, the exposure and impact **results can be exported as maps and tables** for various scenarios

  - Can contribute to national and regional planning and response mechanisms