



Australian Government
Geoscience Australia



Developing capability with PacSAFE: An update of the tools and program

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PacSAFE



Pacific
Community
Communauté
du Pacifique

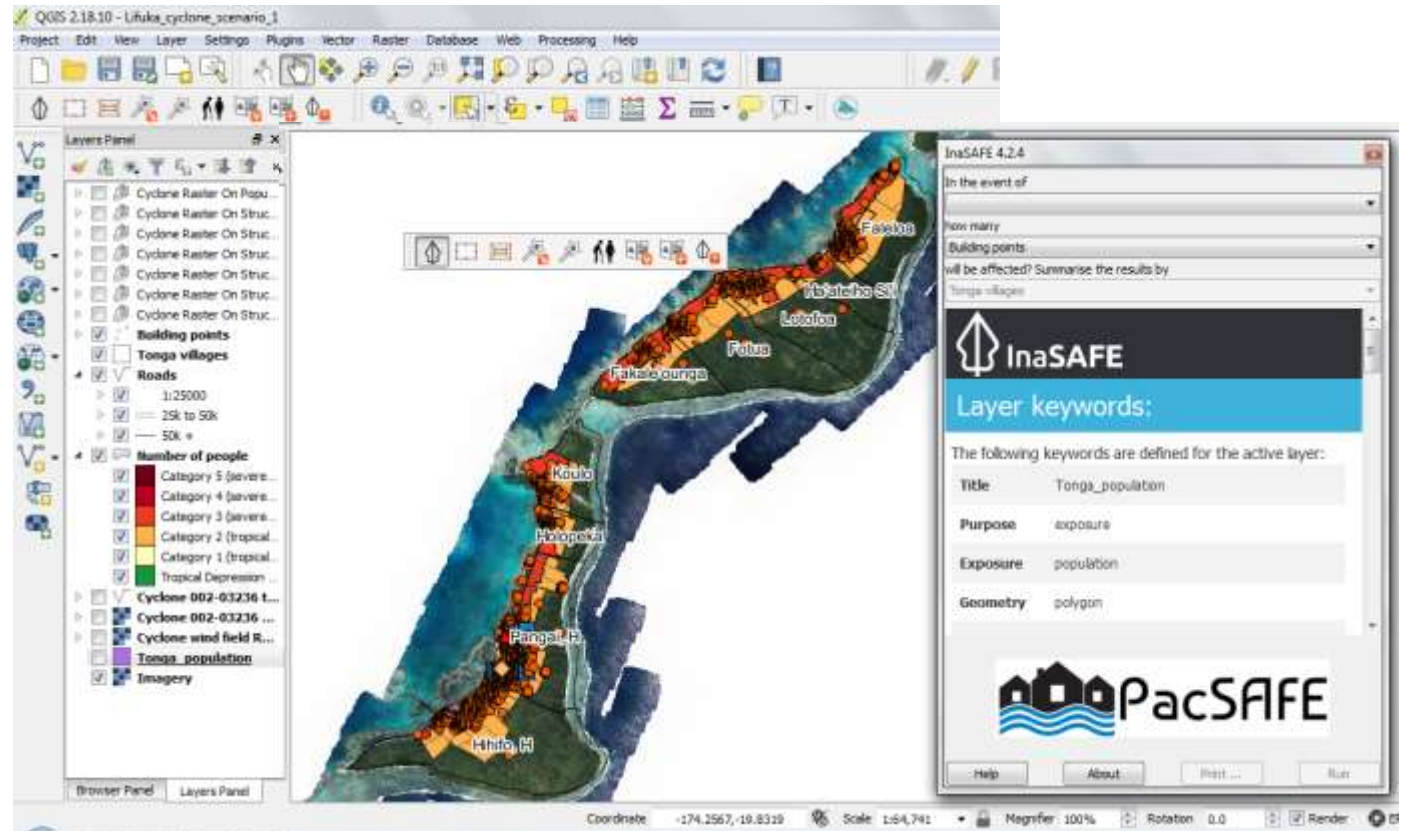


The PacSAFE program is: Developing capacity for disaster resilience

- DFAT-funded project with GA as the implementing agency
 - Halfway through 2.5 year project
- Working in parallel with Pacific Resilience Program (PREP) to enable SPC and PICs to integrate hazard impact mapping tools into disaster management operations
 - Training and technical support
 - September 2017 Tsunami and cyclone modelling workshop
 - Program with Tonga NEMO
 - Development for priority hazards (tsunami and cyclone) and functions

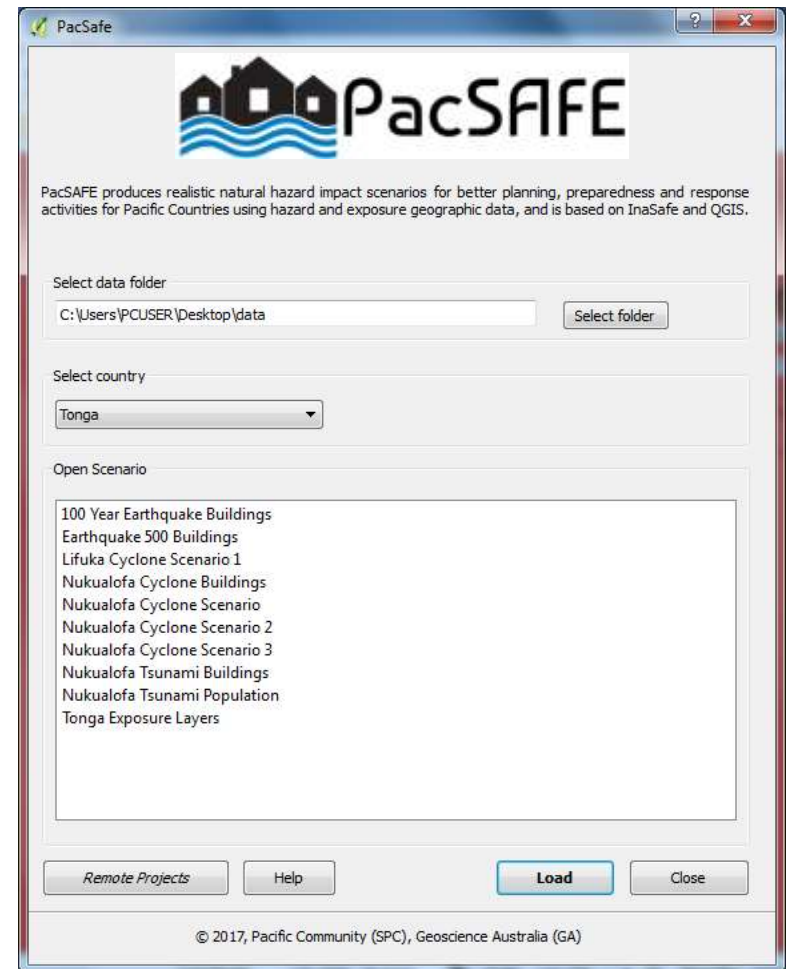
QGIS + InaSAFE

- Developed by Indonesian and Australian Governments and World Bank
- Impact mapping tool; not a hazard modelling tool
- <http://inasafe.org>



The PacSAFE Tool

- Customises the InaSAFE engine for the Pacific community
- Delivers PIC-specific
 - Exposure Data
 - Hazard scenarios
 - Projects
- <http://www.pacgeo.org/static/pacsafe/>



Hazard



Tropical cyclone



Earthquake



Flood



Tsunami



Volcanic Eruption



Volcanic Ash

Exposure



Structures



Places



Population



Road network

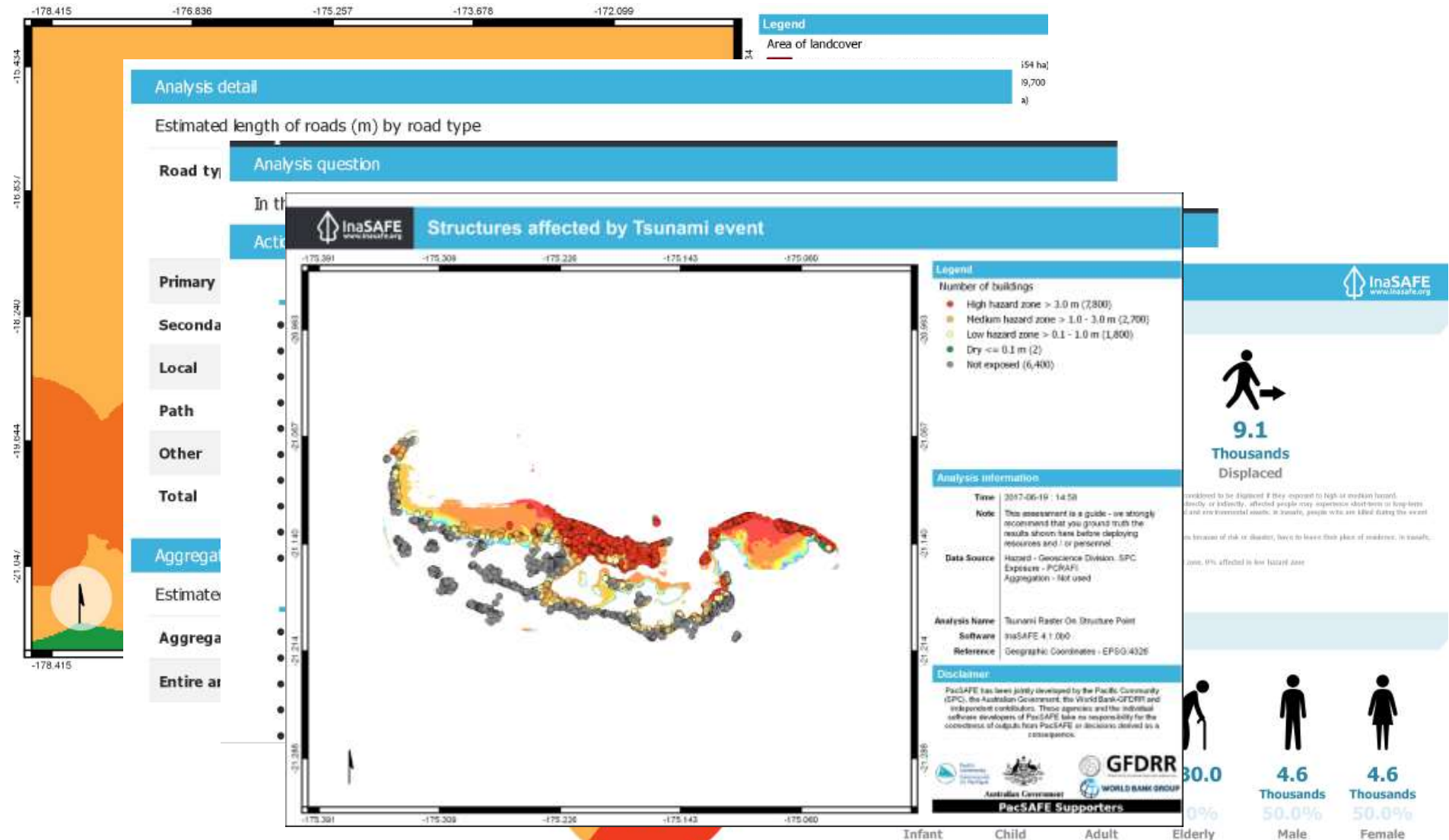


Land cover

combines **one** exposure data layer with **one** hazard scenario and returns a spatial impact layer along with a statistical summary and action questions.



Impact analysis outputs



The total number of displaced people presented is the result of the raster population analysis; the total results have been rounded to the nearest thousand. The size of the icons does not represent the number of those in a value of 0, the corresponding object will not be displayed on this page.

Results are only as good as the data

Analysis detail

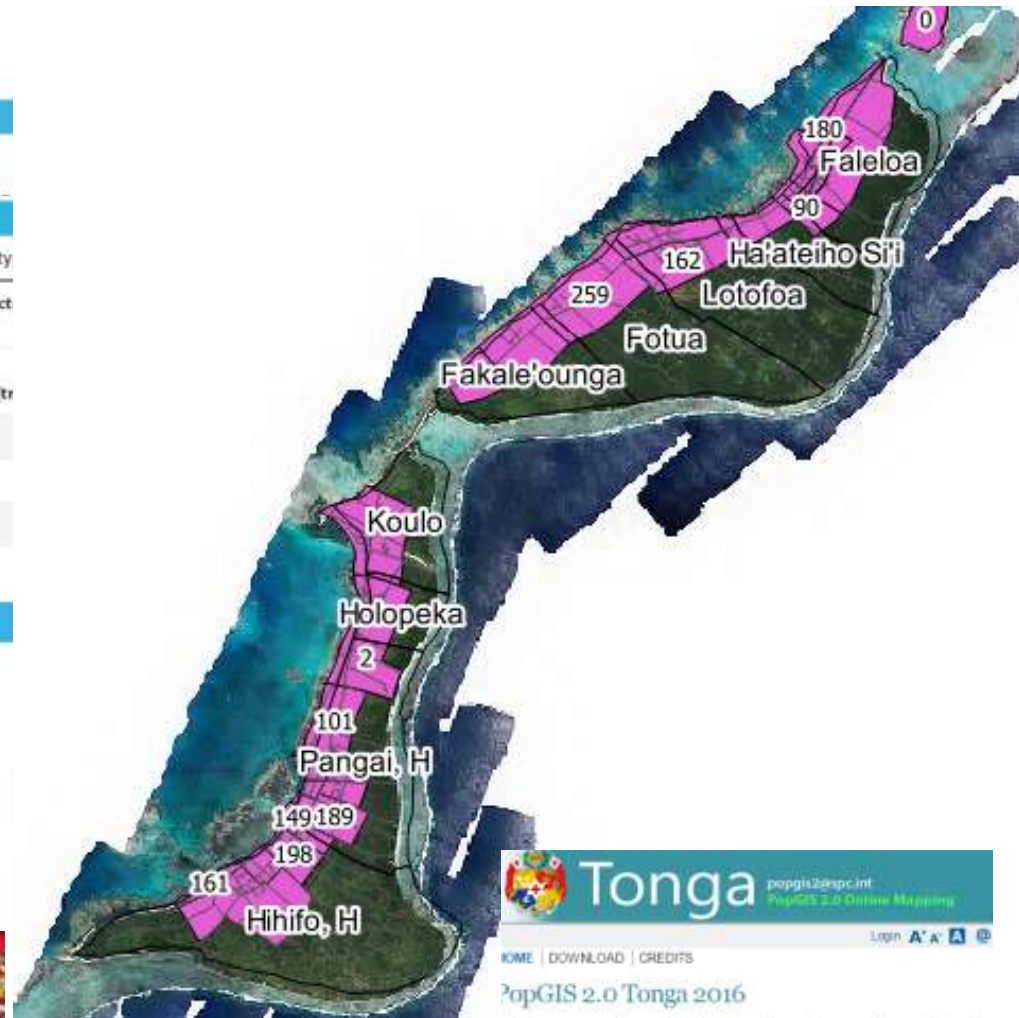
Estimated number of buildings by structure type

Structure type	Affected
Residential	348
Total	348

Analysis detail

Estimated number of buildings by structure type

Structure type	Affect
Residential	1,900
Education	10
Health	1
Place of worship	2
Government	3
Commercial	2
Other	1
Total	1,900



Demographic indicators

Estimated impact of tsunami raster on population raster

Vulnerable people displaced by age, gender, and disability

Displaced females by vulnerability



820.0
Thousand

9.0%

< 5 y.o



1.0
Thousand

11.0%

> 60 y.o



1.4
Thousands

15.0%

Disabled



2.4
Thousands

26.0%

Child bearing age



180.0

2.0%

Pregnant



280.0

3.0%

Lactating

Minimum needs for displaced people

Additional needs for vulnerable females



25.4
Thousands
kg/weekly

Rice



159.0
Thousands
l/weekly

Drinking water



606.0
Thousands
l/weekly

Clean water



1.9
Thousands
units/weekly

Family kits



460.0
units

Toilets



1.3
Thousands
kg/weekly

Additional rice



3.6
Thousands
units/weekly

Hygiene packs

Minimum needs based on protection needs (pwn) in pwn no. 7/2006; additional needs for vulnerable females based on sphere standard (<http://www.safeschools.org/ky/appendix-4/>)

Customised to country requirements

Community consultation

Representatives from the Emergency planning sub-committee and participants

- Informed decision making
- Roads will be cut off
- evacuation centres impacted
- Storage containers inaccessible



- Minimum needs
- Root crop seasonality
- Disability and gender vulnerability statistics
- Building structures
- Pit toilets
- Water tanks
- Schools

What's next?

- Third and final workshop planned for 2018 – April?
- Support NEMO and SPC in collecting Tonga-specific exposure data, minimum needs, and hazard scenarios
 - Cyclone
 - Tsunami
 - Earthquake
 - Flash flood
- Incorporate new functionality of InaSAFE
 - Customised map products
 - Agriculture productivity costs – local and national economic loss
 - Temporal analysis – school/work hours; tourism peak/off peak
 - Multi-hazard and multi-exposure reports



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Thank you



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