

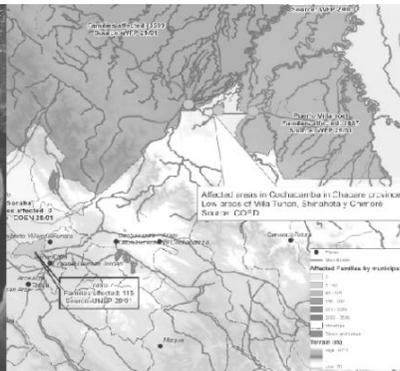
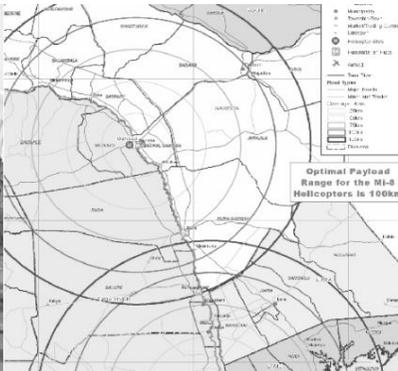


MapAction

GIS & IM supporting decision makers in the Disaster Zone

*FIG Young Surveyors Network Conference
Rydges Latimer Hotel, Christchurch, New Zealand
30-April-2016*

Thomas Rodger



Who are we?

MapAction is an international NGO that provides maps and other information management services to help humanitarian relief organisations in the field

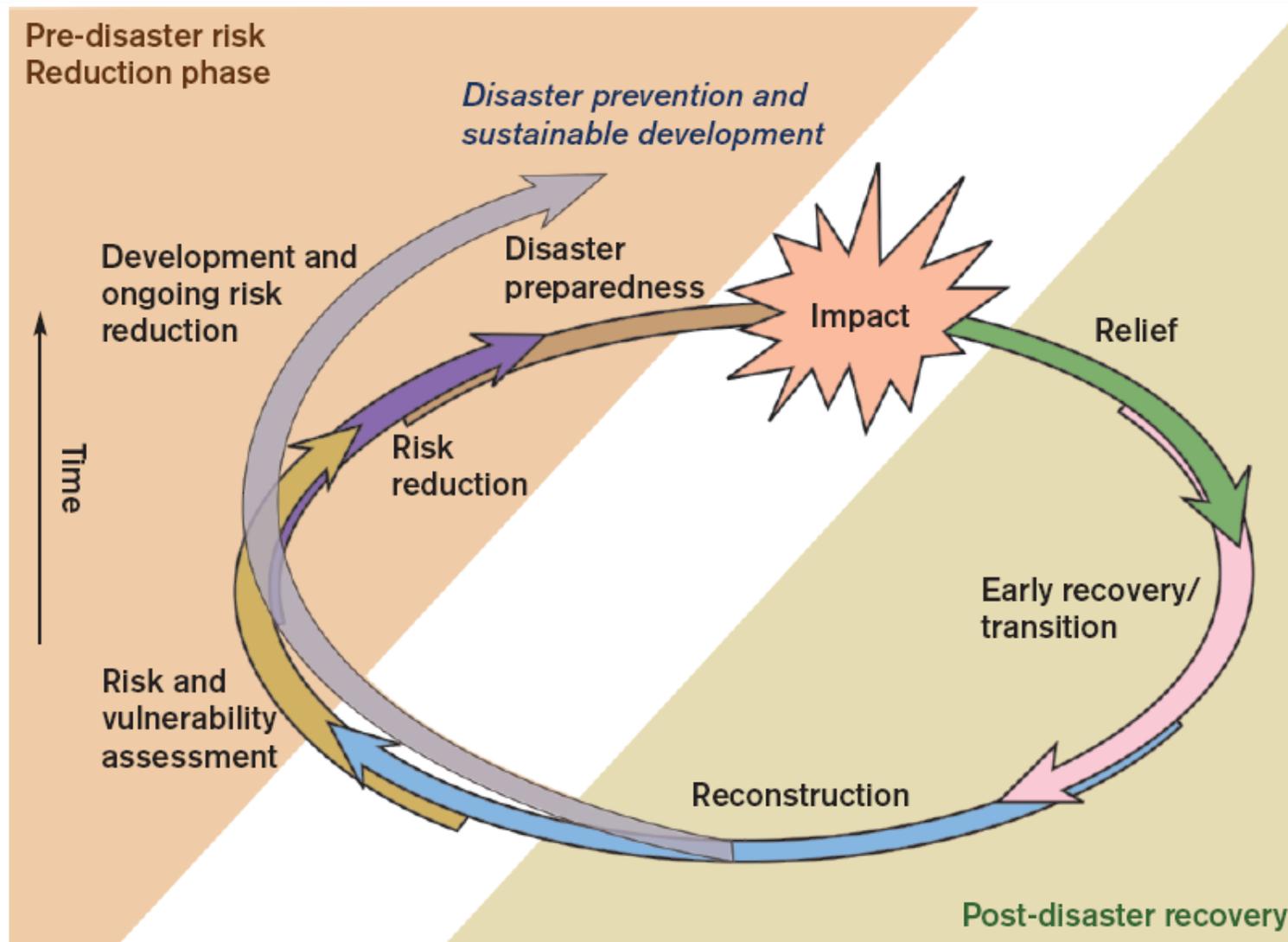


Aim to help answer the “Where?”

- What is **extent of affected area**? Where are **people with specific needs**? Where have people **moved** to? Where are required **resources**? What is the state of the **logistics infrastructure**? **Who** is doing **What**, **Where** (3W)
- Need to create a "Common Operational Picture"

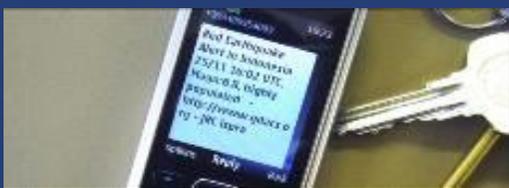
MapAction’s work helps to get aid to the right place to help people in the greatest need

The disaster risk reduction cycle



Source: RIBA 2009

MapAction's capacity



Mission mobilisation

- Team alerts
- Base map data
- Equipment etc

Within 24 hours a MapAction emergency team can be at the disaster scene, gathering data and issuing maps showing crucial information for responders



Field bases & Support Base



UN offices (Jamaica)



OSOCC set up by MapAction (Kenya)



Tented field base



UNDP office (Haiti)



OSOCC by the pool (Namibia)



Air conditioned luxury (Islamabad)

Operation experience: Emergencies

2003 Lesotho food security
2004 Asian tsunami
2005 Niger famine
2005 Pakistan earthquake
2006 Suriname floods
2006 Java earthquake
2006 Dominican Rep hurricane
2006 Kenya floods
2007 Ghana floods
2007 Jamaica hurricane
2007 Mexico floods
2008 Bolivia floods
2008 Myanmar cyclone
2008 Haiti hurricanes
2007 Jamaica hurricane
2007 Mexico floods
2008 Bolivia floods
2008 Myanmar cyclone
2008 Haiti hurricanes
2009 Namibia floods
2009 Pakistan IDP crisis
2009 Sri Lanka post conflict
2009 Benin floods
2009 Burkina Faso floods
2009 Philippines typhoons
2009 Sumatra earthquake
2009 El Salvador flash floods
2010 Albania floods
2010 Haiti earthquake
2010 Pakistan Floods
2010 St Lucia hurricane
2011 Libya complex
2011 Japan Earthquake & Tsunami
2011 Cote d'Ivoire complex
2011 Nicaragua Flooding
2012 Philippines typhoon
2012 Senegal Sahel food security
2012 Madagascar flooding
2012 Brazzaville munitions explosion
2012 Comoros floods
2012 Philippines typhoon
2012 Syria complex
2013 C.A.R. Complex
2013 Myanmar Typhoon
2013 India Floods
2013 Sudan Floods
2013 Philippeans Typhoon Yolanda
2014 South Sudan crisis
2014 Serbia Floods
2014 Paraguay Floods
2014 Iraq complex
2014 Liberia & Sierra Leone Ebola
2015 Vanuatu Cyclone Pam
2015 Malawi Floods
2015 Chile Floods
2015 Nepal earthquake
2015 Yemen - Tropical cyclone
2015 Dominica – Tropical storm Erika
2015 Mediterranean refugee crisis
2016 Fiji Cyclone Winston
2016 Paraguay Floods
2016 Ecuador Earthquake



Nepal: Earthquake 2015



📊 25 April 2015

📊 7.8 magnitude earthquake

📊 Epicentre: Lamjung district

📊 12 May 2015

📊 7.3 magnitude earthquake

📊 Epicentre: Sindhupalchok district

Nepal: Earthquake 2015 - Impact

- 
- Confirmed deaths:
8,891
 - Houses destroyed:
605,254
 - Houses damaged:
288,255 (average
household: 6 people)



MapAction

Nepal: Earthquake Population in areas without vehicular access showing areas likely to be affected by 12 May earthquake

Map shows population in VDCs and those reported to have no vehicular access, in areas likely to have been affected by the 12 May earthquake. Access data reported by the Nepal food Security Monitoring Programme via WFP / Logistics Cluster prior to 12 May.

Data sources

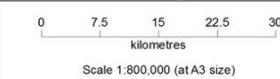
Situational data: WFP/Logistics Cluster from Nepal Food Security Monitoring Programme (NeKSAP)



Boundaries: UN OCHA
 Settlements: OSM
 Physical features: Geonode
 Earthquake Epicentres: USGS
 Population: 2011 Census data

- Village Roads
- Town
- City
- Primary
- Secondary
- Tertiary

Earthquake Epicentres (12/05/2015)
 Magnitude

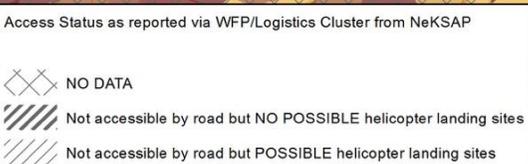
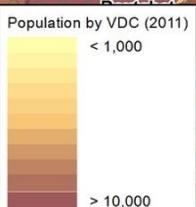
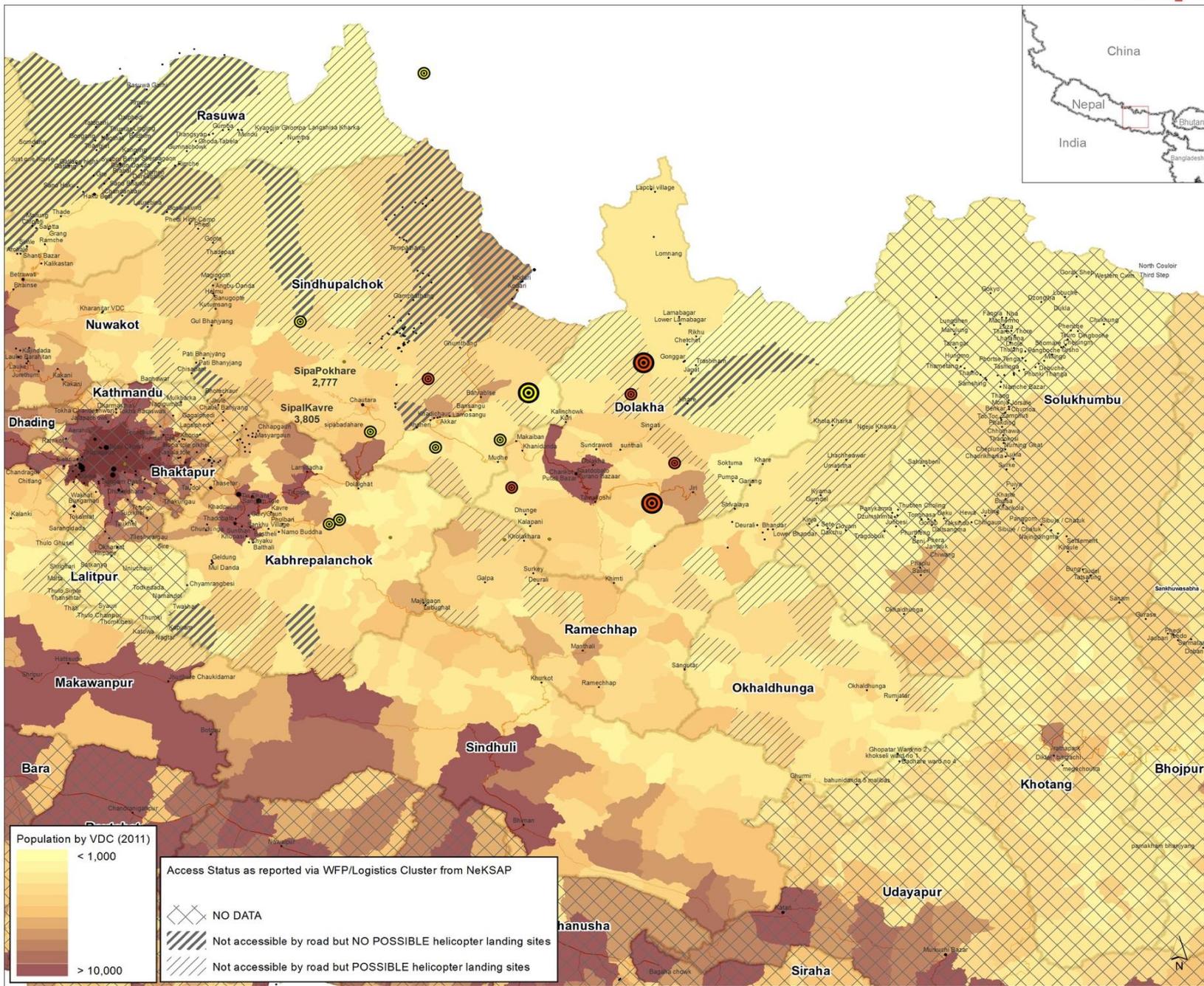


Created 12 May 2015 / 18:00 UTC +05:45
 Map Document MA134_V01_RemoteAccesPop_12May
 Projection / Datum Geographic / WGS84
 Glide Number EQ-2015-000048-NPL

Produced by MapAction
 nepal@mapaction.org
 www.mapaction.org

Supported by

The depiction and use of boundaries, names and associated data shown here do not imply endorsement or acceptance by MapAction.

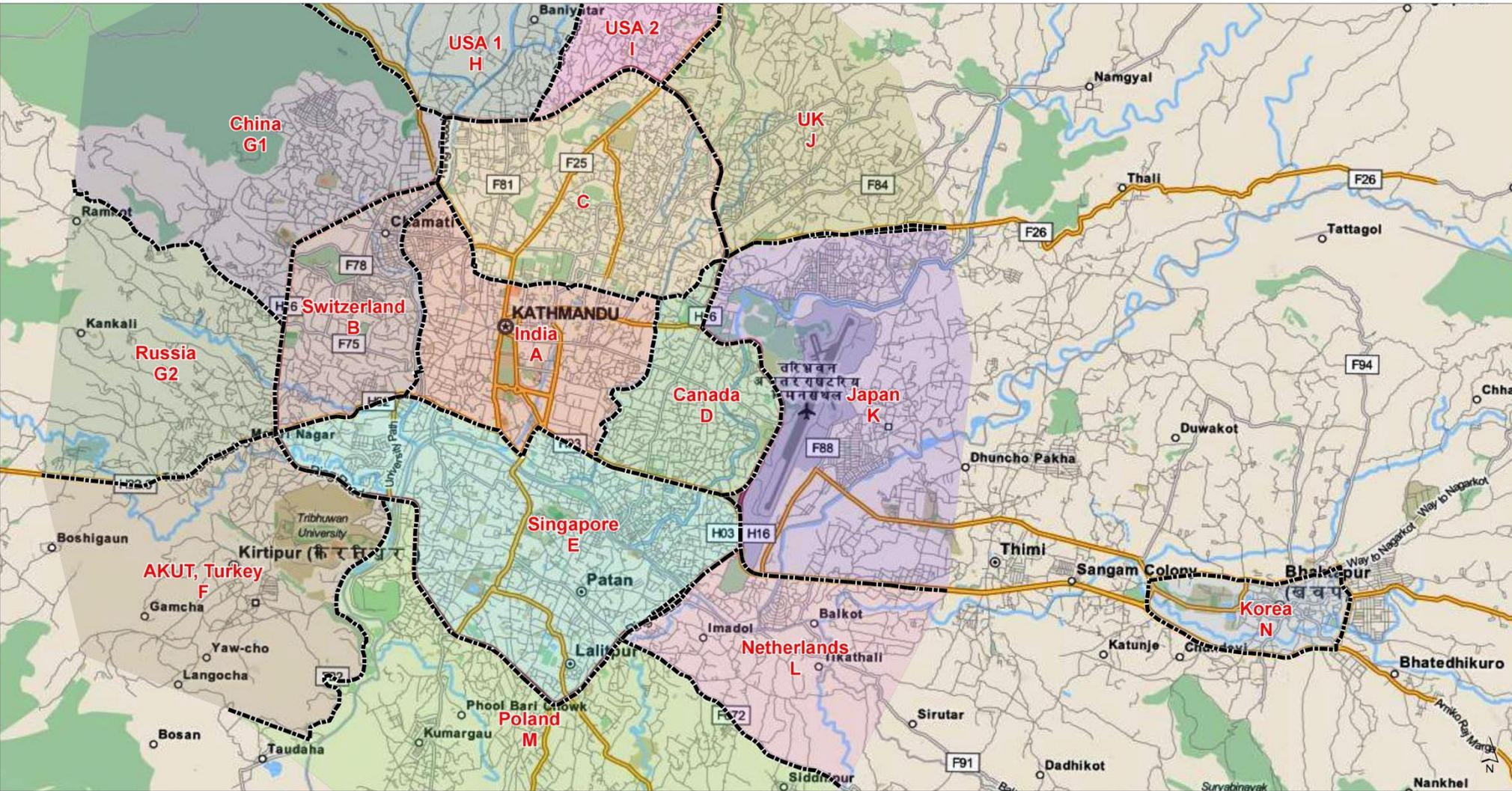


Nepal: Earthquake 2015 – MapAction's response

- 
- 📶 Four month response
 - 📶 25 April to 27 Aug
 - 📶 13 MapAction personnel (volunteers and staff) contributed 230 days of expertise

Three key areas of support

- 📶 Coordination of search and rescue activities
- 📶 Situational analysis for the immediate response
- 📶 Recovery support: Pulchowk, Lalitpur




MapAction
Nepal
Earthquake
Kathmandu USAR
sectors
(as of 29 Apr 2015)

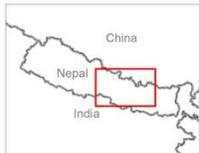
Map shows USAR sectors in Kathmandu as of 29 April 2015.



Data sources		0 1 2 Kilometers	
Situational data: Government of Nepal Boundaries: Open Street Map Settlements: Open Street Map Physical features: Open Street Map		1: 60,000 (At A3)	
Created	29 Apr 2015 / 12:00 UTC+05:15	Produced by MapAction nepal@mapaction.org www.mapaction.org	
Map Document	MA017_rpl_eq_USAR_sectors	Supported by  UKaid from the British people	
Projection / Datum	UTM WGS 1984	The depiction and use of boundaries, names and associated data shown here do not imply endorsement or acceptance by MapAction.	
Glide Number	EQ-2015-000048-NPL		

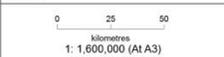
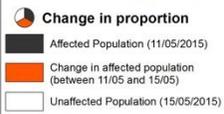
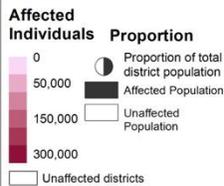


Nepal Earthquake: Estimate of population directly affected by destroyed houses (on 11 May and 14 May) and difference between two dates



Map shows an estimate of the population directly affected by the earthquake by using destroyed houses information from the Ministry of Home Affairs and the National Population Census (2011). It shows the estimate for 11 May and the 15 May and the difference between the two to give an indication of the impact of the second earthquake. However, differences may also be due to reporting changes.

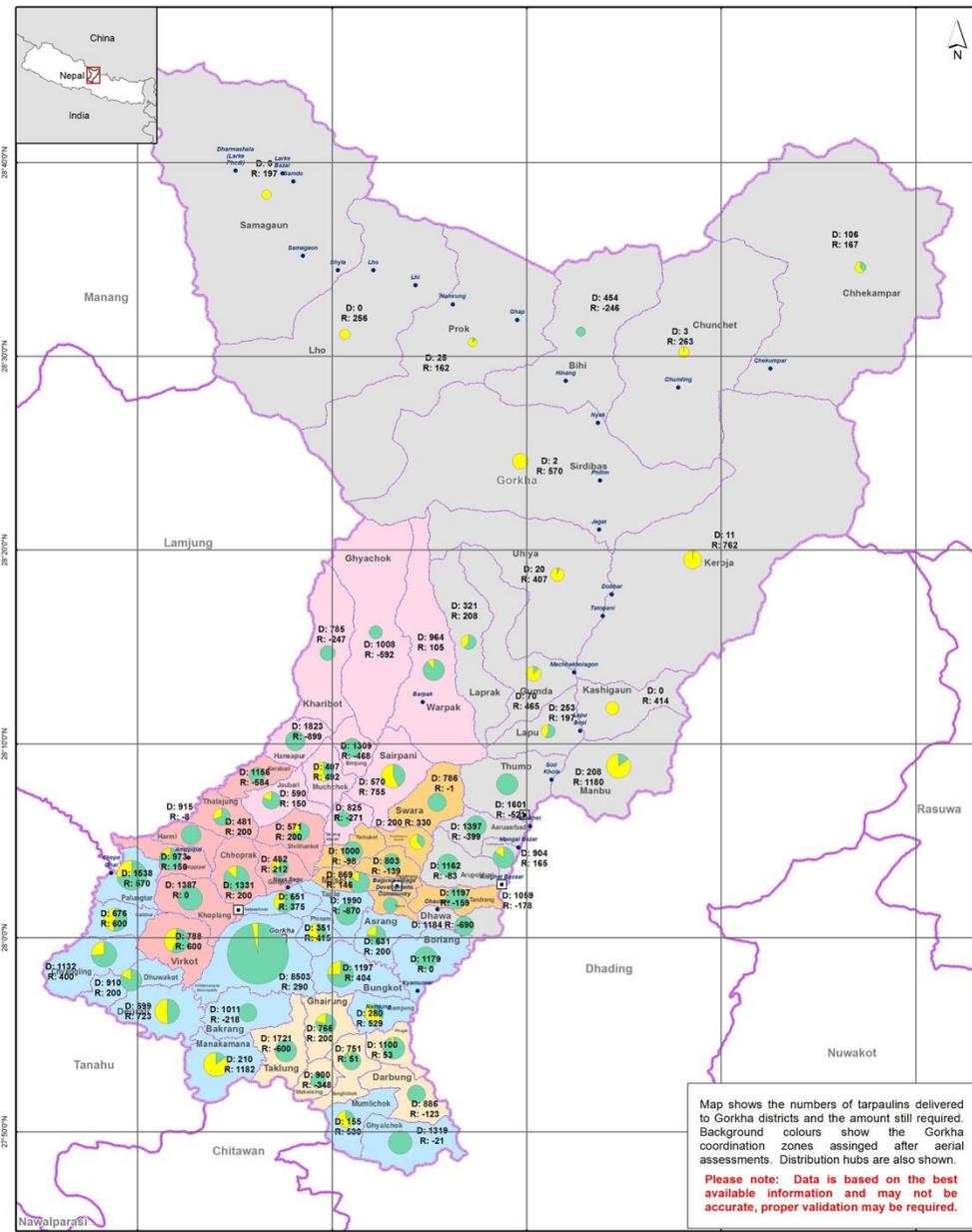
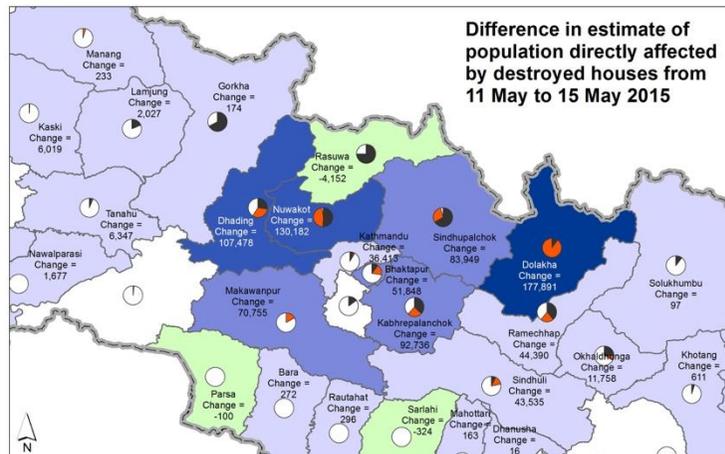
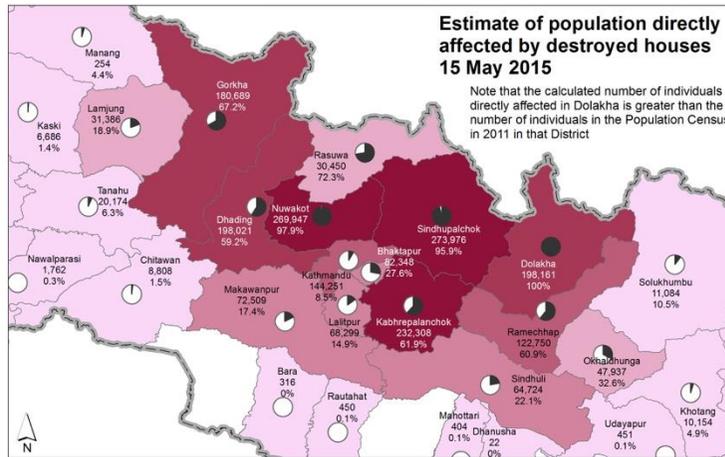
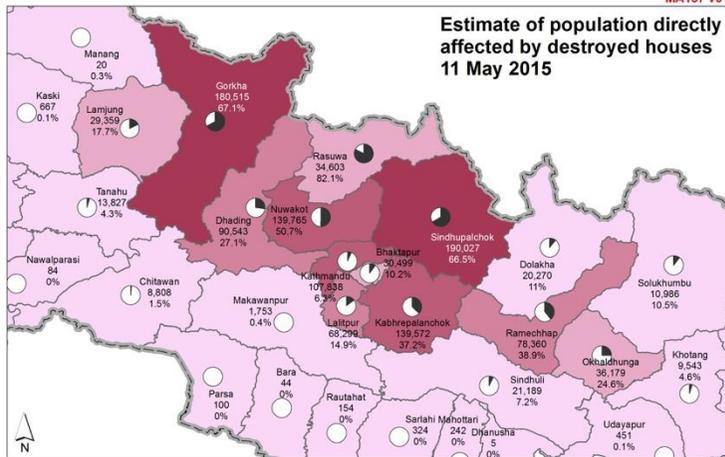
Data Sources:
Situational data: Ministry of Home Affairs
Boundaries: UN OCHA



Created 13 May 2015 / 18:00 UTC+5:45
Map Document MA137_V01_AffectedPopDiff_20150514_11
Projection / Datum WGS 1984
Glide Number EQ-2015-000048-NPL

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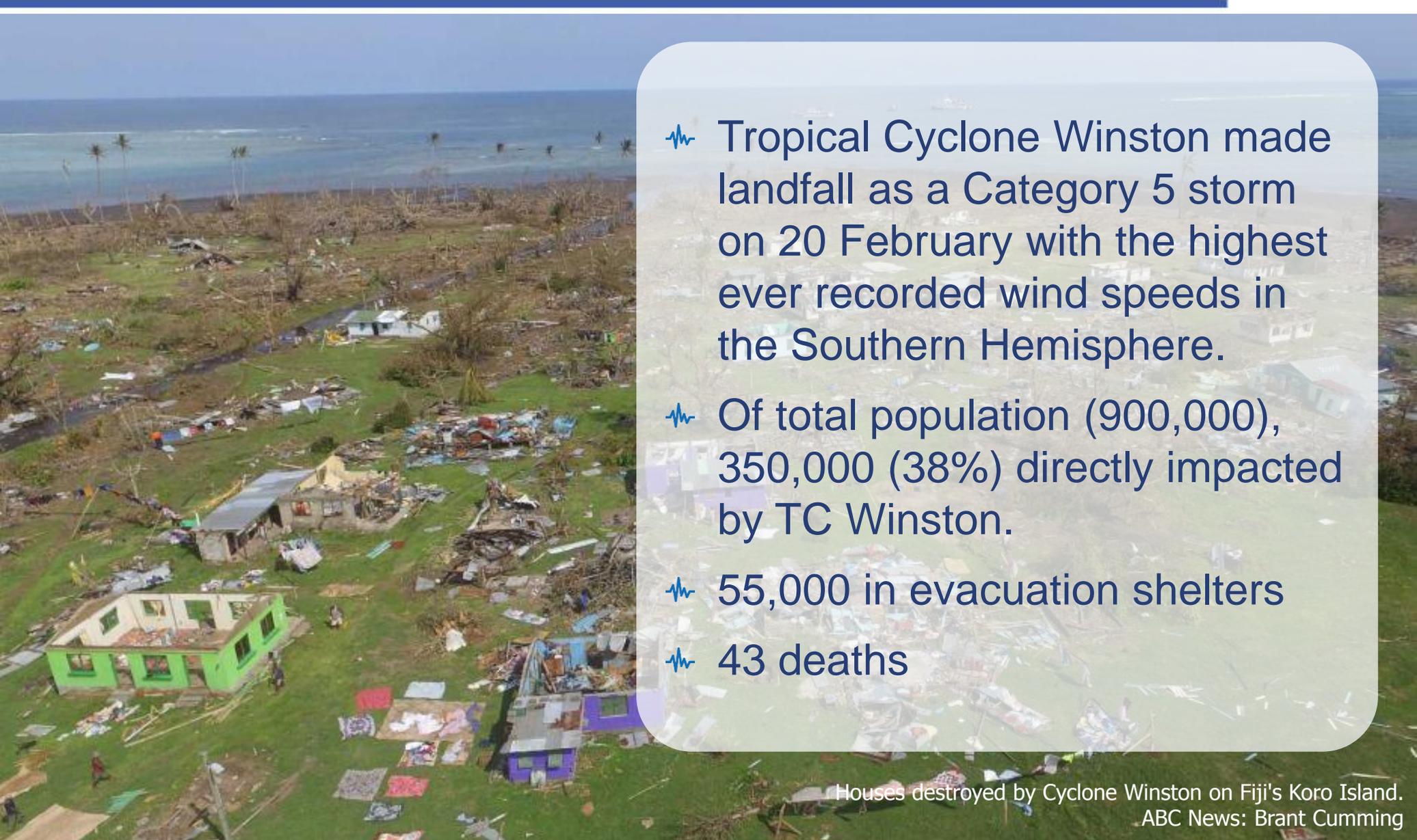
Nepal: Earthquake 2015 – MapAction’s response

“As the Clinical Lead for the UK’s disaster response in Nepal I never failed to be impressed and grateful for the fantastic and invaluable information provided by the MapAction team. Every evening and through the night the MapAction team would input information from our daily recces and create a new map for our recce the next day. I would receive a new map by email in the early hours of the morning and several copies would be left for me at 0600 in the MapAction tent. Fabulous service.”

Dr Sean Hudson, Clinical Lead, UK Emergency Medical Team, UK-Med Assessment Unit



Fiji: Tropical Cyclone Winston – Feb 2016



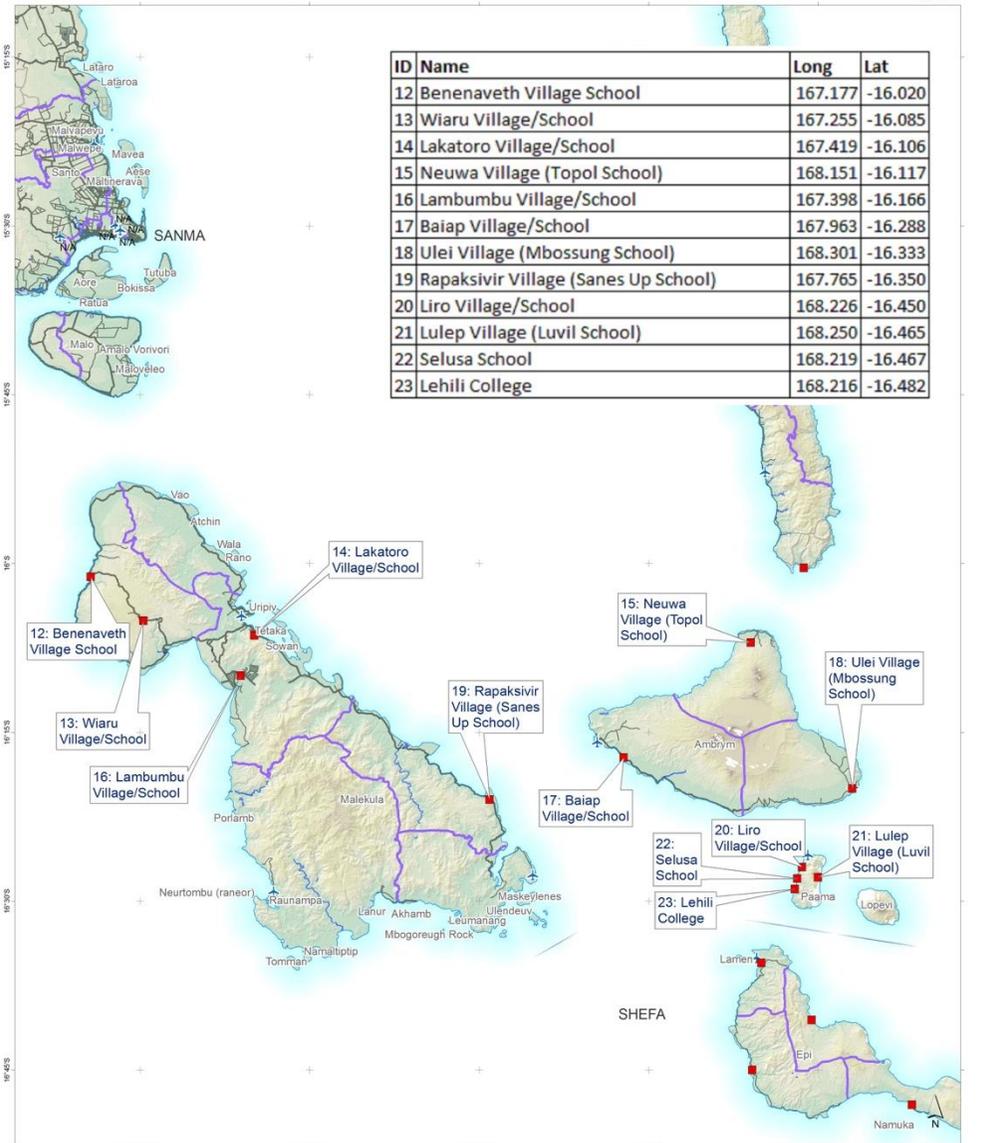
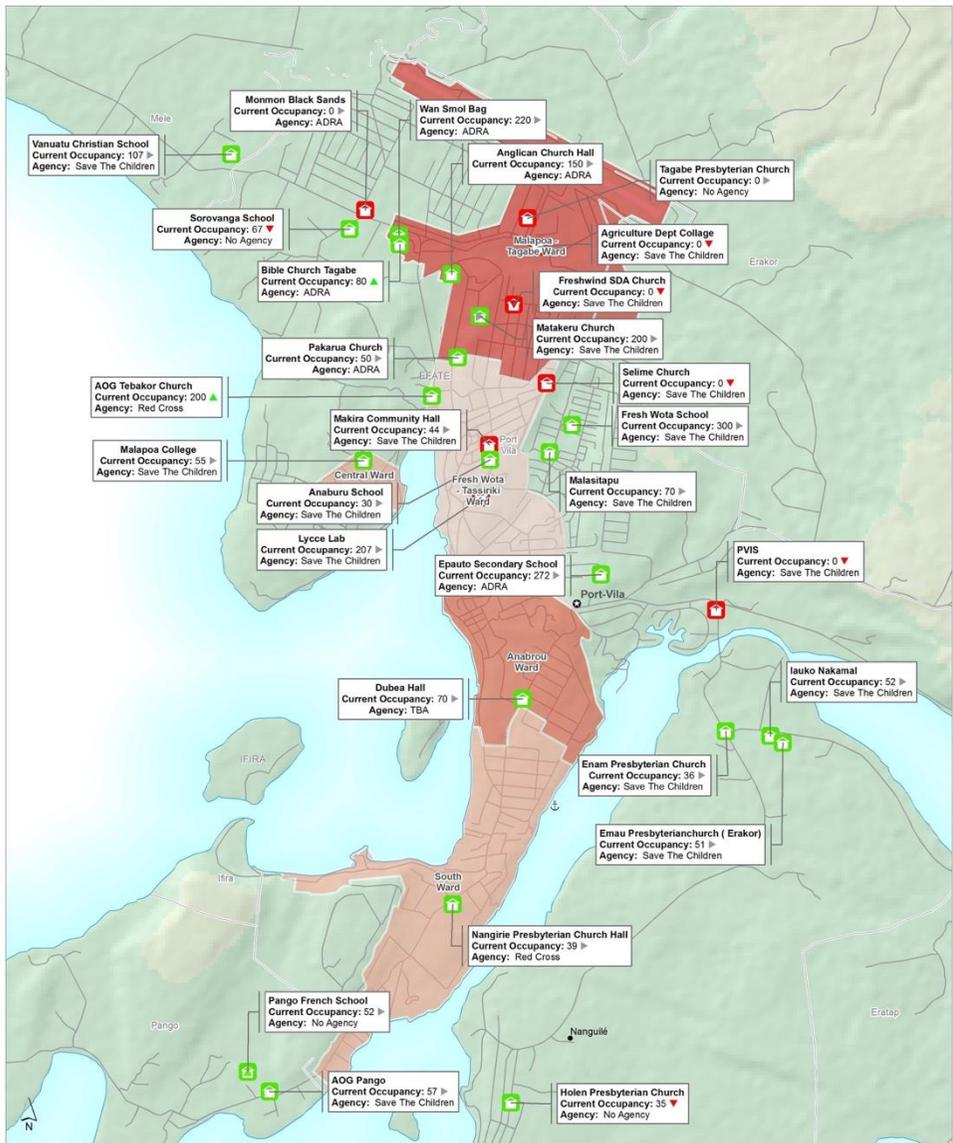
- ⚡ Tropical Cyclone Winston made landfall as a Category 5 storm on 20 February with the highest ever recorded wind speeds in the Southern Hemisphere.
- ⚡ Of total population (900,000), 350,000 (38%) directly impacted by TC Winston.
- ⚡ 55,000 in evacuation shelters
- ⚡ 43 deaths

Vanuatu: Tropical Cyclone Pam – March 2015

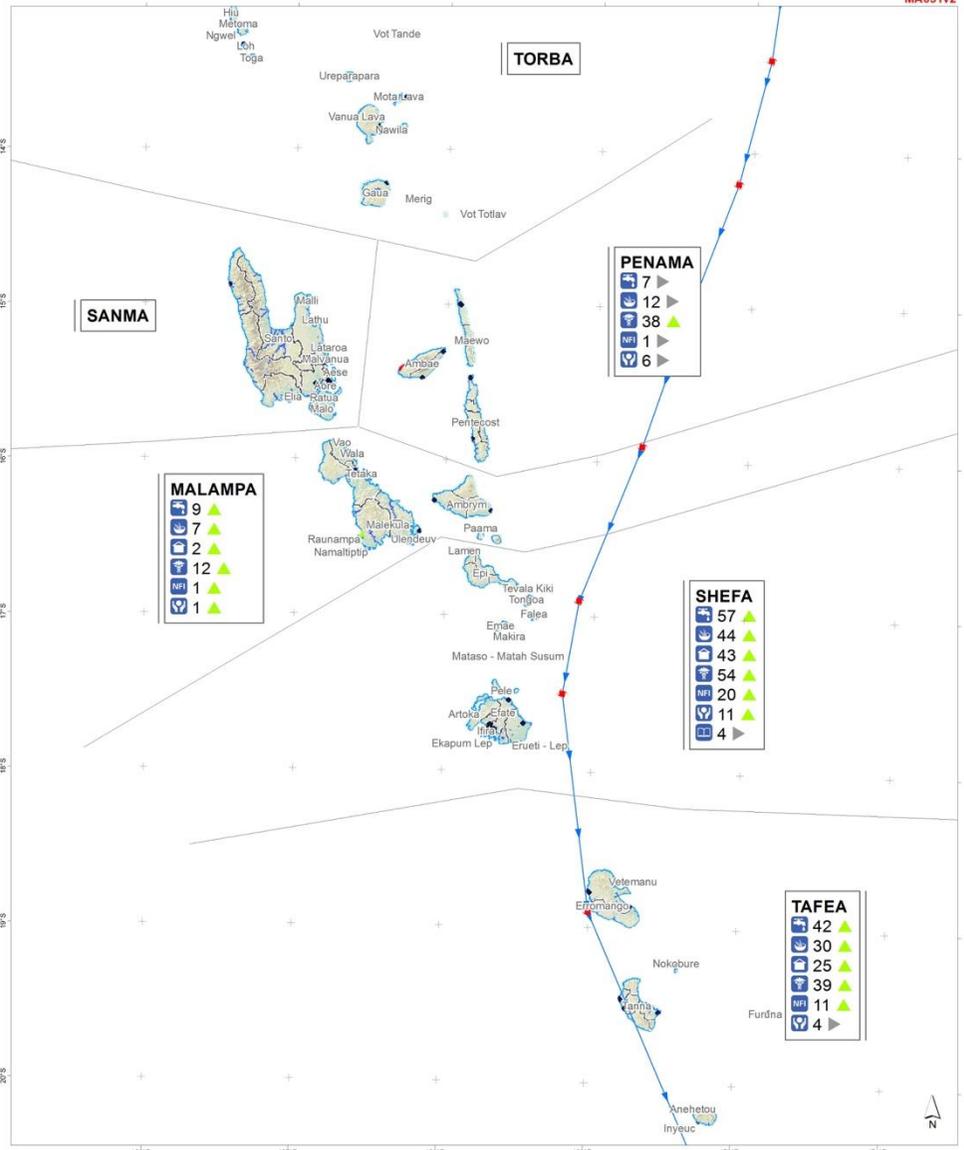
- 11 deaths
- Estimate that 166,600 (61%) of total population (270,000) directly impacted
- 96% of crops destroyed
- Erromango Island, 90% of shelters were wiped out



Crop damage caused by Super Cyclone Pam on the Pacific Island of Vanuatu..
Photo: UNICEF/Gaelle Sevenier



ID	Name	Long	Lat
12	Benenaveth Village School	167.177	-16.020
13	Wiaru Village/School	167.255	-16.085
14	Lakatoro Village/School	167.419	-16.106
15	Neuwa Village (Topol School)	168.151	-16.117
16	Lambumbu Village/School	167.398	-16.166
17	Baiap Village/School	167.963	-16.288
18	Ulei Village (Mbossung School)	168.301	-16.333
19	Rapaksivir Village (Sanes Up School)	167.765	-16.350
20	Liro Village/School	168.226	-16.450
21	Lulep Village (Luvil School)	168.250	-16.465
22	Selusa School	168.219	-16.467
23	Lehili College	168.216	-16.482



Vanuatu: Cyclone Pam Humanitarian presence

Map shows the number of organisations operating in each of the clusters, by province as of 24 Mar 2015.

Data sources
PCRAFI, OCHA - COD-FOD

Settlements
City

Borders
Province
Council

Education
Protection
Shelter
Food Security & Agriculture

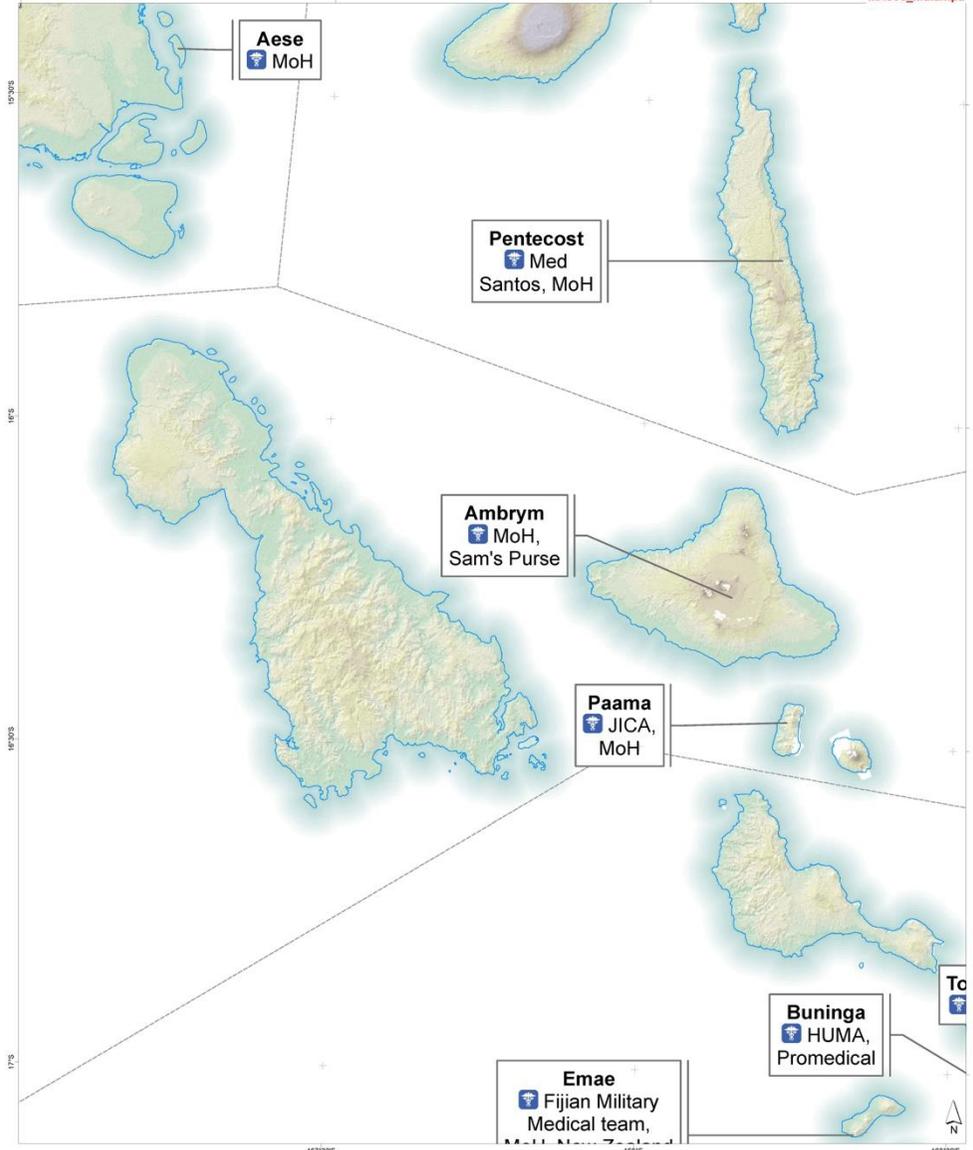
Health
Non food items
WASH

Agencies increased
No change in agency number
Agencies decreased

Created 24 Mar 2015 / 18:20 UTC+11:00
Map Document MA031_HumanitarianPresenceV2
Projection / Datum WGS 1984 UTM Zone 58S / WGS 1984
Globe Number TC-2015-00020-VUT

Produced by MapAction
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vanuatu@mapaction.org

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Vanuatu: Cyclone PAM - Malampa 3w Health (as of 28 March 2015)

Map shows organisations per island per cluster.

Some additional relief have not been mapped due to incomplete spatial data.

Data sources
COD-FOD, OCHA

Storm Track

Created 30 Mar 2015 / 18:00 UTC+11:00
Map Document MA065_3wHealth_v2
Projection / Datum WGS 1984 UTM Zone 58S / WGS 1984
Globe Number TC-2015-00020-VUT

Produced by MapAction
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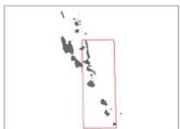
The depiction and use of boundaries, names and associated data shown here do not imply endorsement or acceptance by MapAction.



MapAction

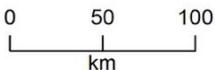
Vanuatu: Cyclone PAM - Summary of Shelter Cluster Item Delivery as of 25th March 2015

Shelter Item delivery across affected area. Includes underdelivery, needs met and overdelivery of items based on needs assessment for each island.



Legend

- Overdelivery >125% of need
- Needs met or minor overdelivery
- Underdelivery
- Storm Track



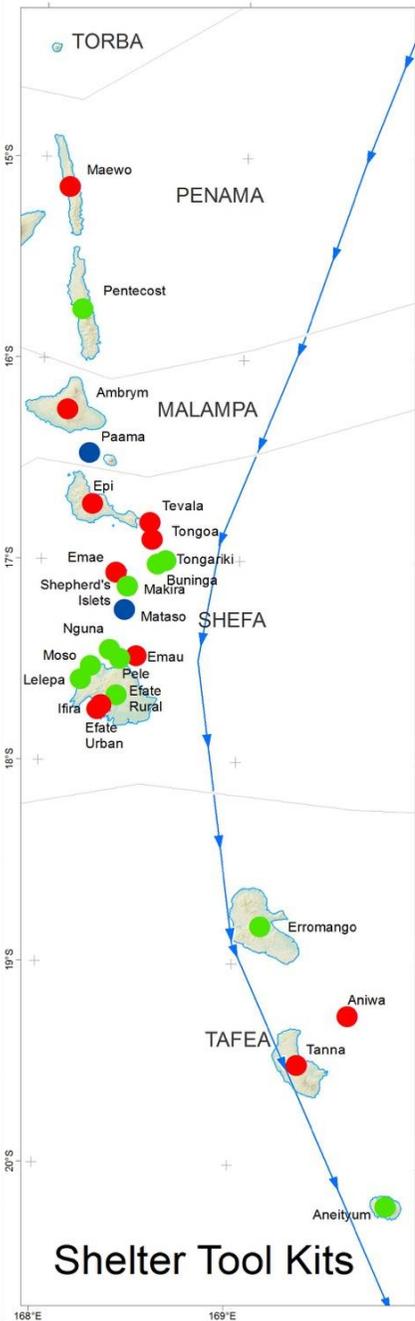
Data sources
PCRAFI, COD-FOD, Vanuatu Government

Created 27 Mar 2015 / 12:00 UTC+11:00
Map Document MA068_Shelter_NeedsStatus
Projection / Datum WGS 1984 UTM Zone 58S / WGS 1984
Glide Number TC-2015-000020-VUT

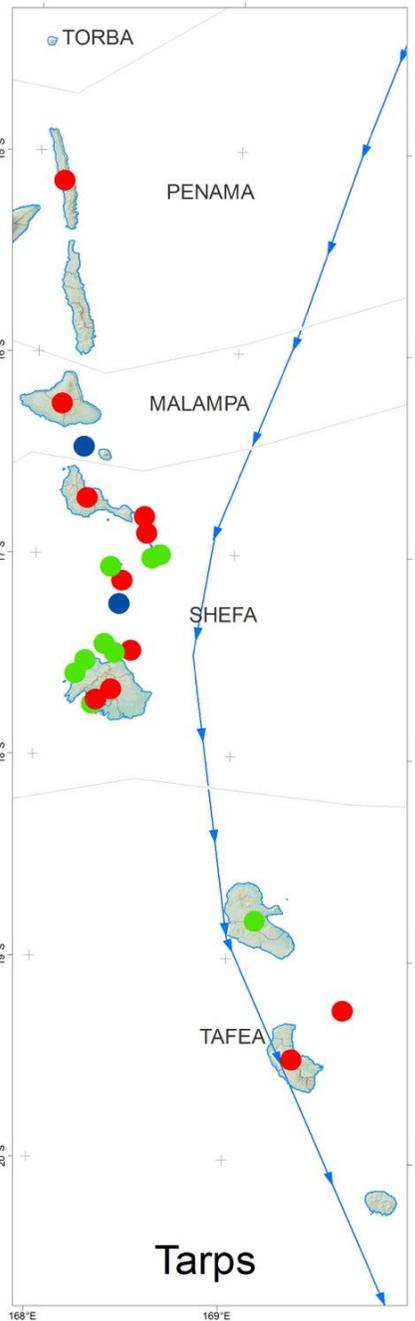
Produced by MapAction
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vanuatu@mapaction.org



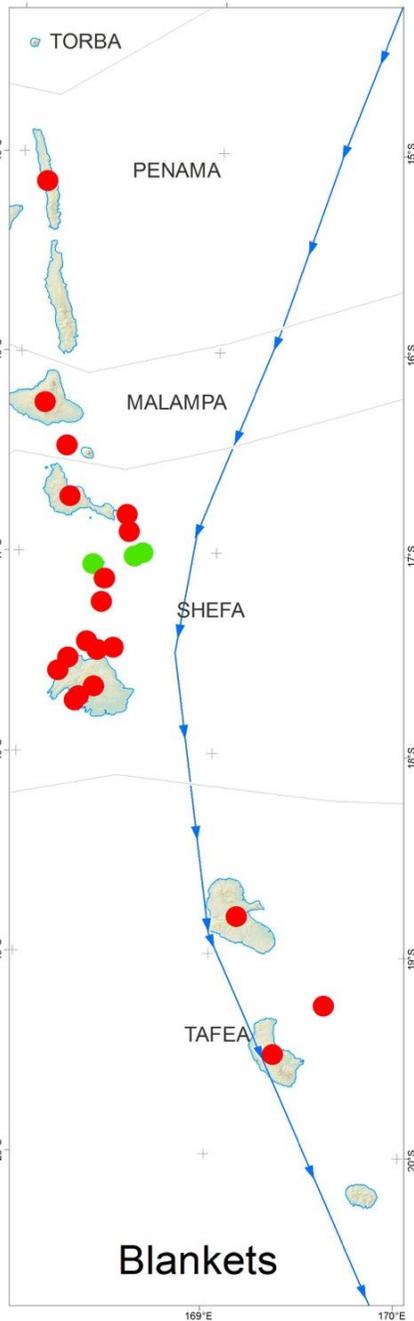
The depiction and use of boundaries, names and associated data shown here do not imply endorsement or acceptance by MapAction.



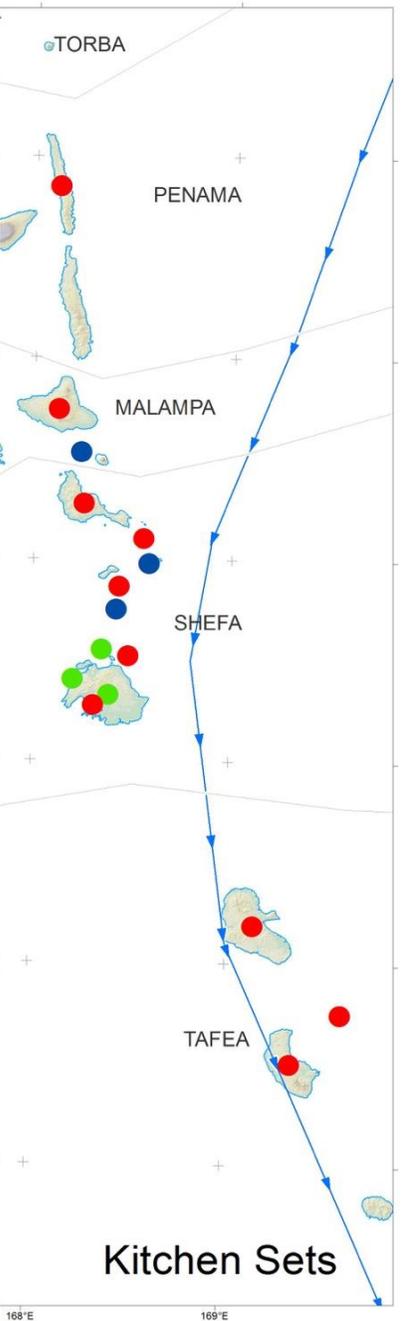
Shelter Tool Kits



Tarps



Blankets



Kitchen Sets

Capacity-building projects

- ⚡ Lesotho – food security and development programme mapping (2003 & 2007)
- ⚡ India – training (2003 & 2004)
- ⚡ Liberia – training (2006)
- ⚡ Tajikistan – disaster preparedness training (2005 & 2006)
- ⚡ Mozambique – disaster preparedness training (two missions in 2007)
- ⚡ Malawi – disaster preparedness training (two missions in 2008)
- ⚡ Landmine action support – Angola, Iraq and Sri Lanka (2008 and 2009)
- ⚡ Papua New Guinea – disaster risk assessments and training (2009)
- ⚡ Kenya – flood risk analysis and training (2009)
- ⚡ Zambia – disaster preparedness training (2012)
- ⚡ Sri Lanka – disaster risk reduction and preparedness training (2013)
- ⚡ DRC – Introduction to mapping for disaster management (2014)
- ⚡ Mali – GIS & IM training for Ebola response (2015)



'Professional volunteers'



Support structure



Staff team: operations and admin



Logistics



Board of experienced Trustees

Royal Patron



The blue shirt...

... wearing the blue shirt is a great privilege, and you will get a feeling for the quality of work done by others who wear the shirt by in the instant respect you are afforded at the most senior level of UN decision makers...



Luke Caley
MapAction Volunteer

... the realisation that you will be working at the heart of the international response, is humbling.

... there's nothing quite like it...

