

# Vanuatu

## Tropical Cyclone Category: Saffir-Simpson 5



<b>Need for international assistance</b>	Not required	Low	Moderate	Significant	Urgent
<b>Expected impact</b>	Insignificant	Minor	Moderate	Significant	Major

### Crisis Overview

- Category five Tropical Cyclone Pam hit Vanuatu in the evening of 13 March 2015, with winds of more than 250km/hr and has affected the entire country, but particularly in the central and southern provinces. On 13 March, the Government issued a 'red alert' to all six provinces, advising people to seek shelter immediately.
- According to GDACS, more than 48,000 people out of the total 245,000 people are affected and humanitarian needs are high (GDACS 14/03/2015). More than 10,000 are reportedly homeless in the capital and largest city Port Vila; more than 33,000 people are affected in the outlying southernmost islands (Australian Broadcasting Corporation 14/03/2015). This number is in fact likely to be much higher, as more information becomes available.
- Unconfirmed reports said that 44 people had died in the northeastern province of Penama, according to OCHA. Only six are confirmed dead (BBC 14/03/2015, CNN 14/03/2015)

### Population affected by Tropical Cyclone Pam, as of 15 March 2015

Affected groups	Affected area	No. affected: total figures	% of pop. affected
Resident pop.	Entire country	48,000 based on initial estimates	20%
Resident pop.	Port Vila	10,000	23%
Resident pop.	Sanma, Penama Torba (northern provinces)	No estimates available, but these provinces are heavily affected. Total population 86,000	
Resident pop.	Shefa province (includes Port Vila)	Worst affected, no estimates of affected. Total population: 78,000	
Resident pop.	Tafea province (southernmost)	Worst affected, no estimates of affected. Total population: 32,540	
Killed		44 (unconfirmed) 6 confirmed	

Population Source: GeoHive

### Key Findings

#### Anticipated scope and scale

The number of people affected and displaced is expected to rise, as more information becomes available.

Typical Cyclone Nathan, Category 1 cyclone, currently over the Coral Sea, is expected to intensify and may turn towards Vanuatu over the next days. This may have devastating effects for communities living in areas that have already experienced prolonged rains from Cyclone Pam.

#### Priorities for humanitarian intervention

- Immediate need for shelter. Shelter supplies are limited, with reports that some evacuation centres have been damaged
- WASH
- Food assistance

#### Humanitarian constraints

Almost all communication lines are damaged and 80% of power lines are out. This has severely disrupted information on the humanitarian situation, especially in outlying southern islands.

Pre-positioned stocks are likely to have been damaged.

The main airport of Vanuatu is closed, and not expected to reopen to civilian flights for two weeks

## Crisis Impact

Tropical Storm Pam has reportedly caused widespread damage to infrastructure and houses, according to social media reports, with most provinces being flooded and inaccessible. Sustained, extreme, hurricane-forced winds and torrential rains were reported across Shefa and Tafea provinces (NDMO Sitrep 14/03/2015).

Assessments have been constrained by disrupted communications, flooding and debris, including uprooted trees and fallen power lines blocking the roads (IRIN, 14/03/2015; Australian Broadcasting Corporation, 14/03/2015).

The Government has not released any official figures on numbers of people killed and affected by the disaster. According to GDACS, more than 48,000 people affected (GDACS 14/03/2015). According to unofficial reports, 44 people were killed in the northeastern Penama province (BBC 14/03/2014). The Government has declared a state of emergency for Shefa province. This is likely to be extended to Tafea and other provinces as more information is available (NDMO Sitrep 14/03/2015). The northern islands of Sanma, Penama and Torba provinces (population 86,000) are also expected to have been heavily impacted as the cyclone headed south-southwest towards the capital (GDACS Virtual OSSOC, 14/03/2015).

More than 10,000 people are estimated to be homeless in the capital Port Vila (population: 44,000). In other parts of the country, there are reports of entire villages destroyed (BBC 14/03/2014). Many of the outlying southern islands, in Tafea province, home to an estimated 33,000 people, were a lot more exposed to the storm than Port Vila. Communications to other provinces is still cut and as such the extent of damage could not be verified (Australian Broadcasting Corporation, 14/03/2015; AFP, 14/03/2015).

### Access to Essential Services

Shelter, food and water are urgent priorities right now, according to the Vanuatu Red Cross Society (Australian Broadcasting Corporation, 14/03/2015).

**Shelter and NFIs:** According to the Government, 28 evacuation centres have been opened on Efate, where the capital is located, with 1,589 evacuees so far, although other estimates indicate 10,000 are expected in the evacuation centres in Port Vila (NDMO Sitrep 14/03/2015; international media 14/03/2015). There are estimates that around 90% of structures have been damaged or destroyed on the most populated island of Efate (OCHA 15/03/2015). Homes have reportedly been completely destroyed, and even evacuation shelters, where people had sought refuge, have been flooded and left exposed to Cyclone Pam (AFP, 14/03/2015). Most evacuation centres are buildings with corrugated iron roofs (UNICEF 15/03/2015). On some of the islands, people may be

sheltering in caves (Australian Broadcasting Corporation, 14/03/2015). Shelter and NFI supplies are critically low (NDMO Sitrep 14/03/2015).

**WASH:** The provision of WASH services in evacuation areas is urgent. WASH needs to be assessed in rural areas in all affected provinces. Port Vila's water supply is back in some areas. There are concerns for non-reticulated areas as well as the safety of drinking water. Current stocks of WASH supplies and NFIs can only cater for 5,000–10,000 people. A tenfold increase in WASH supplies will be needed for the next 2-3 months (OCHA 15/03/2015). Insufficient human resources for WASH response have been reported in some provinces (NDMO Sitrep 14/03/2015)

**Food:** Severe, widespread damage to crops, especially non-root crops, is expected in Shefa and Tafea provinces (NDMO Sitrep 14/03/2015). Food shortages in the coming days will be a serious concern for the majority of the population, particularly those without homes and food gardens. The Food Security Cluster is estimating extensive damage to crops across the country. Banana crops and leafy vegetable crops are likely to have been destroyed, with root crops uprooted or inundated. Fruit trees will have lost fruit and small livestock and pens will have been destroyed. Food and seed stocks, and fishing assets, may be destroyed (OCHA 15/03/2015).

**Health:** Part of the country's main hospital, Vila Central, has been destroyed, according to National Disaster Management Office (international media 13/03/2015). The hospital is still operational, but it is overcrowded and may require a temporary clinic or shelter. Patients have been temporarily moved to classrooms in the hospital. The hospital is short on medical staff, and fuel for standby vehicles (NDMO Sitrep 14/03/2015). It is expected that at least 50% of children under five (17,000 children) will be at risk of worsening childhood illnesses and nutritional status (OCHA 15/03/2015). Measles is present in Vanuatu, and a breakdown in sanitation could facilitate transmission (UNICEF 15/03/2015). Immunisation and child nutrition are priorities (OCHA 15/03/2015).

**Education:** All schools in the provinces have been closed (NDMO Sitrep 14/03/2015). Several schools are being used as evacuation centres or have been damaged by the cyclone (OCHA 15/03/2015).

### Impact on Critical Infrastructure

- **Supply Lines:** The closure of the main **airport** is hampering the humanitarian response (IRIN, 14/03/2015). The Government has opened the airport only to military flights from Australia and New Zealand (IFRC 14/03/2015). Civilian flights may be grounded for up to two weeks, according to the National Disaster Management office (NDMO Sitrep 14/03/2015). The runway is still flooded and blocked by trees. Most **roads** are flooded or blocked by debris. Teouma bridge has been badly damaged and affected by a flash flood, blocking access to the most affected

areas of Efate province (social media 15/03/2015). There is no information on the situation at the two main **ports** of Forari Bay and Tana Island (GDACS 14/03/2015).

- **Power supply:** Current estimates indicate perhaps 80% of power lines are down throughout Port Vila and may not be fully restored until a few weeks (GDACS Virtual OSSOC 14/03/2015).
- **Mobile and internet:** The only cellular communications tower known to be operational is a Digicel (mobile phone service provider) tower near the National NDMO in Port Vila. The network is intermittently available within the vicinity of the tower, but is reported to be unavailable elsewhere. As such, no communications have been made to other provinces (GDACS 14/03/2015).
- **Radio:** HF radio at NDMO has been damaged, meaning NDMO cannot use it to communicate with any provinces regarding emergency services (NDMO Sitrep 14/03/2015)

### Vulnerable Groups Affected

People living in remote islands, without permanent shelter, as well as those in the slums of Port Vila are most vulnerable (BBC 14/03/2015).

### Humanitarian and Operational Constraints

The logistical challenges will be significant, particularly in terms of communications, transportation, and needs assessment. More emergency supplies are needed urgently as the pre-positioned stocks in-country are likely to have been damaged. (GDACS 14/03/2015).

## Aggravating Factors

### Early Warning Systems and Risk of Related Disaster

Tropical Cyclone Nathan, currently near the Coral Sea, is forecast to reach Vanuatu on 17 March. The storm is forecasted to be at Category 1 when it strikes, but the cyclone may further impact populations already affected by Cyclone Pam (Reuters 12/03/2015, GDACS 10/03/2015, GDACS Virtual OSSOC, 14/03/2015).

Heavy to torrential rainfalls and flooding, including flash flooding, are expected over low-lying areas as a result of these cyclones. Landslides are also expected on higher terrain (UNICEF 15/03/2015).

### Location and Type of Housing/Infrastructure

25.2% of the population lives in urban areas (UNICEF 2014). Much of Vanuatu's population lives in housing built from light materials, like straw or corrugated metals (Weather.com 13/03/2015). According to National Statistics data from 2010, in Port Vila, 45% of households live in permanent houses, 27% live in makeshift housing, and 18% in traditional houses with permanent material. 1.7% of households in Port Vila live in traditional houses. In the rural areas, 42% of families live in traditional houses, made entirely of impermanent materials. 24.6% live in permanent houses, and 28% in traditional houses with permanent materials (Vanuatu National Statistics Office 2010).

### Other Factors of Vulnerability

According to the 2007 Agricultural Census, 80% of the population lived in rural areas, with agriculture as the main source of their livelihood. About 98% of rural households were engaged in agriculture, fisheries and forestry. An estimated 65% of subsistence household income was received from these activities (Vanuatu National Statistics Office, 2007). Extensive damage to crops may increase food insecurity in rural areas.

## Key Characteristics of Host Population and Area

- Vanuatu is a string of more than 80 islands in the South Pacific; most are inhabited.
- **Demographic profile:** Total population 247,300 (2012). Total population under 18: 108,500 (2012). (UNICEF 2014)
- **Food security:** The majority of the rural population relies entirely on agricultural activities. Cocoa, copra and kava are the main crops (Government of Vanuatu).
- **Nutrition:** 26.3% of the population suffers from moderate and severe stunting. 5.8% of the population suffers from moderate and severe wasting (UNICEF 2014).
- **Health:** Infant mortality is 15 per 1,000 live births. Under-5 mortality is 18 per 1,000 live births (UNICEF 2014). Maternal mortality ratio is 86 per 100,000 live births (WHO 2013).
- **WASH:** As of 2012, 88% of the rural population and 97% of the urban population had access to improved drinking water sources. 55% of the rural population and 65% of the urban population had access to improved sanitation services (World Bank 2012).
- **Lighting and cooking:** As of 2010, 81.8% of households in Port Vila rely on electricity as the main source of household lighting, while 10% use candles and around 4.3% use kerosene lamps. Kerosene lamps and candles are used widely in rural areas. Nearly all poor households in Port Vila and rural households use

wood and coconut shells as the main sources of energy for cooking. Better-off households in Port-Vila use gas and electricity for cooking (Vanuatu National Statistics Office 2010).

- **Literacy:** Adult literacy rate is 83.2% (UNICEF 2014)

## Response Capacity

### Local and National Response Capacity

On 13 March, the Government issued a 'red alert' to all six provinces of Vanuatu, advising people to immediately seek shelter just before the cyclone hit (BBC 14/03/2015). Vanuatu's President Baldwin has appealed for international aid.(BBC 14/03/2015)

The Vanuatu Red Cross Society (VRCS) coordinates closely with the National Disaster Management Office (NDMO). VRCS volunteers are being mobilised at the request of the NDMO. The NDMO has made radio announcements encouraging communities at risk to cooperate with the Red Cross volunteers and provincial disaster committees. All VRCS branches are members of their respective provincial disaster committees and are involved in coordination and preparedness planning with the local authorities. The National Society is also monitoring the ongoing situation together with other agencies (IFRC 14/03/2015).

### International Response Capacity

A UN disaster assessment and coordination team is expected to arrive in Port Vila in the evening of Sunday 15 March (AFP 14/03/2015). OCHA will also deploy staff with information management, public information and humanitarian coordination expertise on 15 March. OCHA's Pacific Humanitarian Team (PHT) has said that it is ready to support a government-led response. Other PHT partners, such as the International Federation of Red Cross and Red Crescent Societies (IFRC), UNICEF, and UNHCR are also supporting critical areas such as shelter, water, sanitation and hygiene, and protection (OCHA, 14/03/2015)

### Population Coping Mechanisms

People are using traditional methods of protection, such as sheltering in caves in Erromango Island and other parts of the country (Australian Broadcasting Corporation, 14/03/2015).

## Information Gaps and Needs

There is no information on the extent of damage and the number of people affected in the outlying southern islands, inhabited by more than 33,000 people (AFP 14/03/2015)

There have been no updates on the damage to ports and how supply lines have been affected due to lack of access.

## Lessons Learned

In the past, mobile phone service providers in Vanuatu have provided SMS credit to access and disseminate information to affected populations during disasters. But not everyone, especially populations in the more outlying islands, have access to cellphones. As such, traditional forms of communication, such as radio, should still be preserved (OCHA 30/10/2014)

Tropical Cyclone Pam: Wind Speed across Vanuatu

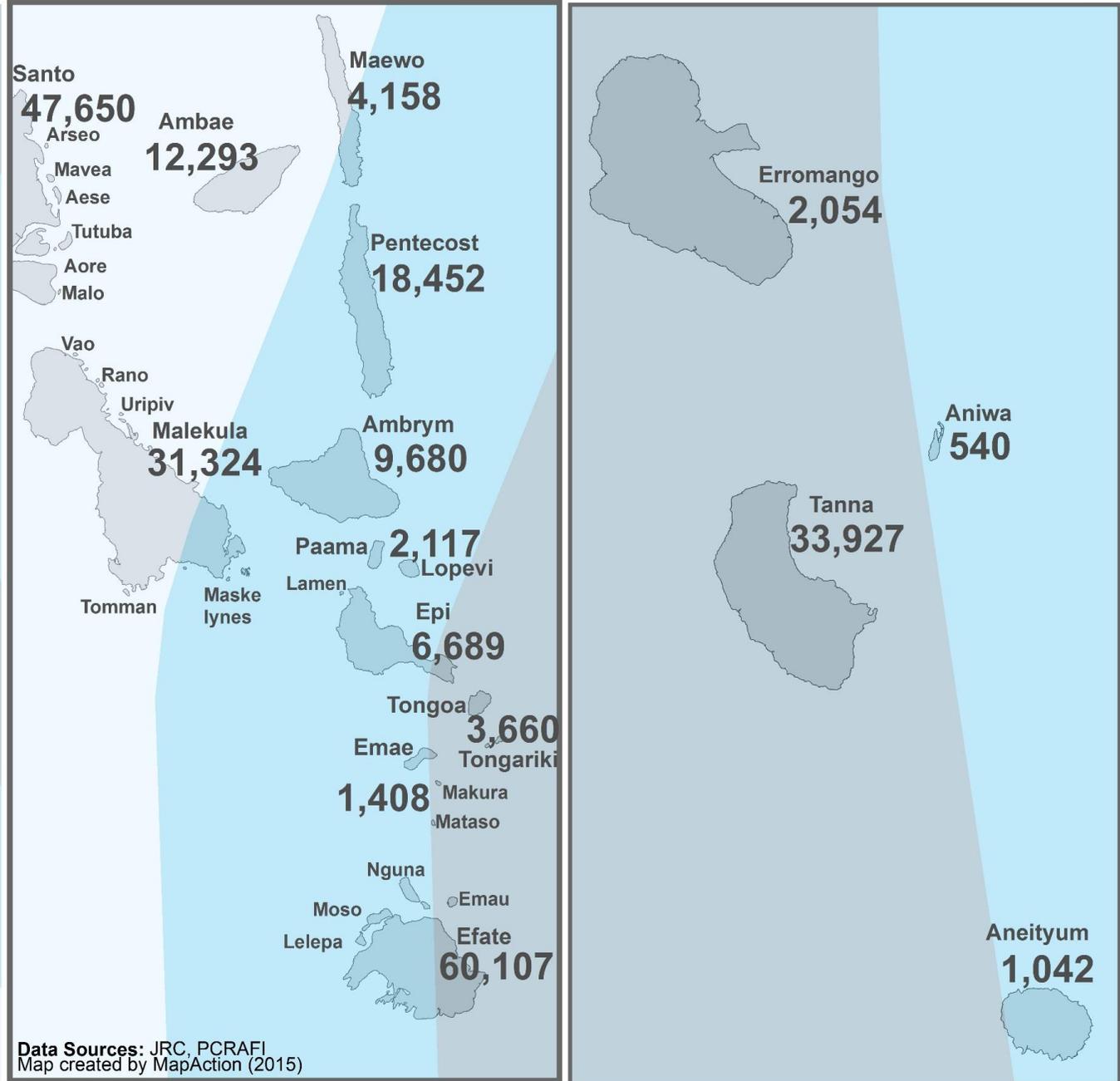
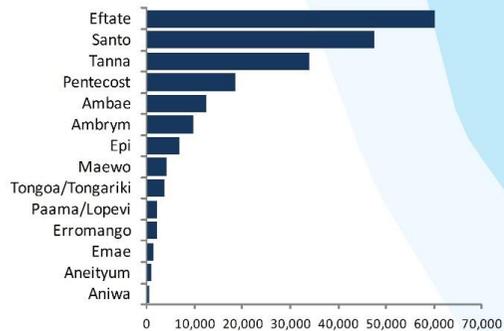


### Baseline population of Islands experiencing the strongest wind speeds from Tropical Cyclone Pam

Map shows projected baseline population figures for 2010. Figures relate to the main island and any small islands surrounding them



Projected Population - 2010



Data Sources: JRC, PCRAFI  
Map created by MapAction (2015)