



# Climate and Oceans Support Program in the Pacific

JULY 2015



Yasawa Islands, Fiji

## Manager's message

I would like to extend my gratitude to the COSPPac Team and our partners in the Pacific region for their commitment in delivering COSPPac's goals during a time of continuous change. It is reassuring to know that our partners and stakeholders see such value in our work!

As you are aware, COSPPac is moving into a transition period, with the aim of ensuring long-term sustainability of our products and services in the Pacific region.

The Planning Meeting and Steering Committee Meeting provided an opportunity to meet and finalise the 2015–16 work plan and develop a strategy for transitioning COSPPac products and services to regional agencies.

The meetings were held from 4–6 May at the SPREP campus in Apia, Samoa and were attended by the representatives from National Meteorological Services, Land and Survey Departments, SPC, SPREP, USP and DFAT. It was encouraging to see the partners expressing their ideas and their support to ensure longevity for COSPPac products.

Additionally, it was pleasing to showcase the COSPPac Ocean Portal—demonstrating the sector-specific applications and discussing the different information sets hosted by the tool, from fisheries information and coral bleaching maps, through to current and wave data.

I look forward to working with the COSPPac Team and our Pacific partners during the exciting and challenging transition period.

Best regards,

Janita

## Contact

### Bureau of Meteorology

GPO Box 1289 Melbourne VIC 3001  
700 Collins Street, Docklands VIC 3008

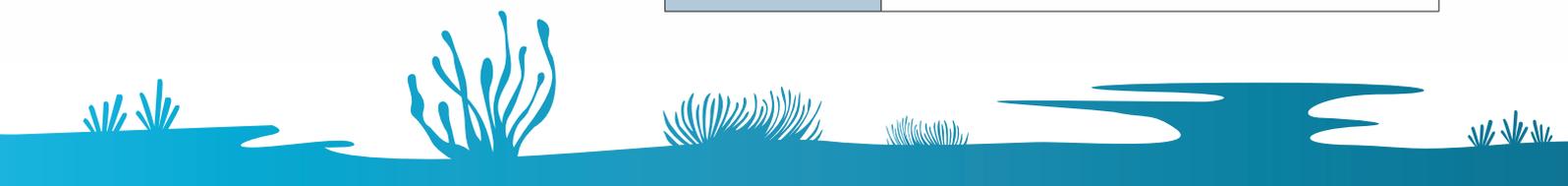
T: +61 03 9669 4158

E: [COSPPac\\_CDC\\_Unit@bom.gov.au](mailto:COSPPac_CDC_Unit@bom.gov.au)

W: [www.bom.gov.au](http://www.bom.gov.au)

The COSPPac team hopes that all our partners across the Pacific are enjoying some sunshine while we are stuck here in the chilly Melbourne winter! There are many exciting activities occurring over the coming months.

Upcoming events	Pacific Meteorological Council Meeting in Tonga (July)
	Kiribati, Vanuatu and PNG staff attachment to Melbourne (August)
	SPREP and COSPPac Regional Best Practice Writeshop in Fiji (September)
	COSPPac Steering Committee Meeting (October)



## A look into the eye of *Pam*: Vanuatu Met's account of cyclone *Pam*

By David Gibson and Phillip Malsale

A tropical low formed on 6 March 2015, some 800 km northeast of Torres Group. The system developed and intensified, and was christened *Pam* at 6.00 pm on 9 March. It would soon grow larger, with devastating consequences.



Cyclone *Pam*'s destructive path.

### Damages sustained by *Pam*

The National Disaster Management Office made the following initial assessments. Over Malampa province, on the island of Paama, 50–90 per cent of buildings were destroyed. Over Shepard's Group, 60 to 70 per cent of houses were destroyed; a few villages have all their buildings destroyed. On Efate, 70 per cent of buildings were destroyed. In Port Vila, the capital of Vanuatu, 70 per cent of buildings were damaged, water was out for one day in most areas, and electricity was out for one to four days. Over Tafea province, in particular Tanna and Erromango, between 70 and 80 per cent of buildings were destroyed. In some villages on these two islands, everything was destroyed.

A total of 11 lives were lost during the passage of *Pam*.

### How *Pam* progressed

The first information issued by the Vanuatu Meteorology and Geo-Hazards Department (VMGD) on TC *Pam* was on 10 March, when *Pam* was 600 km northeast of Banks, and outside Vanuatu's area.

On 11 March, the first warning on severe tropical cyclone *Pam* was issued for the northern provinces as the system was 425 km northeast of Gaua. At that time, the central pressure of the system was estimated at 966 hPa, with winds at the centre estimated at 130 km/h.

*Pam* intensified further into a CAT 4 system the morning of 12 March, as it moved closer to the northern islands of Vanuatu. It became a CAT 5 system the following morning, as it took a south-southwest path.

The Tropical Cyclone Warning Centre started to issue hourly warnings, as the system was moving very close to the eastern parts of Malampa and Penama provinces, as well as the Shepherds Group, and was also expected to move very close to Efate, in particular Port Vila, towards midnight. The closest distance from the CAT 5 system to the islands within Shefa province was 30 km east northeast of Shepard's group, and 45 km east of Port Vila.

After Efate, the system tracked southwards, then south-southeast. It then made landfall on Erromango in the early morning of 14 March. It was 20 km west of Tanna a few hours later, before moving south-southeast, away from Vanuatu.

### Community and public response to warnings

For the first time, the VMGD used SMS to issue alerts and messages. It has proved to be very effective, as the mobile network covers 80 per cent of Vanuatu. For many in the outer islands, it was their only way of knowing the cyclone's whereabouts. Technical problems at the national broadcaster meant emergency radio bulletins were only reaching some of Vanuatu's 65 inhabited islands. Mr Kiery Manassah, a spokesman for the Prime Minister's office, said he had no doubt the messages had saved lives. 'I had the opportunity to go to some of the islands that were affected...most of them, especially in Shefa province and outer islands, said they got the information from the SMS alerts,' he said. Mr Manassah said the technology would likely be used for future disasters.

In totality, the information, advisories and warnings issued by the VMGD about TC *Pam* included: media briefings, tropical cyclone information, tropical cyclone advisories, tropical cyclone warnings, forecast track maps and uncertainty track maps. The VMGD used most forms of media to communicate the warnings about *Pam*, including local radio outlets, the VMGD website, social media, press releases and media briefings.

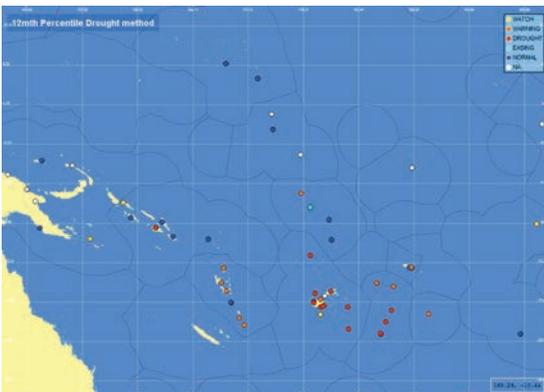


VMGD team during tropical cyclone *Pam*.

## Vanuatu's Weather Forecasters' experience in a category 5 tropical cyclone event

The evening of 13 March, after a gruelling 12 hours of work, the decision was made that the three forecasters who had just completed duty were not to leave VMGD Headquarters building. It was too dangerous, with *Pam* rapidly approaching. As the evening progressed, strong winds battered the building and rain forced through rubber seals on the windows. Water poured in, requiring constant mopping. The strength of the wind tore open the overhang of the balcony and timbers flew against the windows, forcing more water in and threatening the tropical cyclone workstations which had been relocated earlier in the evening for safekeeping. The preparation and issuance of warnings about *Pam* were never affected, due to the dedication of the VMGD staff.

On the island of Tanna, Mr Bradly Bani, a weather observer, was working during the passage of *Pam*. He said 'I have never experienced something of this nature in my life. The howling wind was so powerful. I was frightened, I cannot go outside, I watch through the window of the office as roofs of nearby building were blown away by the winds...I think of my wife and my son, as they are alone in our home. I am here at work, and there is nothing I can do. The house that we live in is not cyclone-proof, and I prayed for their safety'.



Twelve-month percentile drought status as of May 2015 – the red station markers show stations in drought.

## SCOPIC 4: Some exciting new additions for drought monitoring

SCOPIC will soon be available for wider distribution within the climate community, as it is being rewritten in open source Java!

Additionally, the SCOPIC 4 drought module is undergoing a final polish before being made available later this year. This module comes with exciting improvements over its SCOPIC 3 predecessor, most notably the inclusion of a drought map (shown in the picture). The map displays the current drought situation at each selected site, with the ability to add station labels and zoom in to a country/region.

SCOPIC 4 also has the new feature of a threshold level of 'watch', in addition to the existing levels of 'warning' and 'drought', which we hope will reduce the number of false alarms that have been experienced in the past. It also has a revamped report section, which offers extensive information, summary statistics and a scenario table.

These amendments provide a clearer picture of past and near real-time rainfall deficiencies and will assist with the communication of drought information in your islands.



**Tuvalu Met Service staff and stakeholders enjoying the day.**

## Tuvalu celebrates World Met Day

**By Meelina Ailesi**

In celebration of World Meteorological Day, the climate section under the Tuvalu Meteorology Service (TMS) continued to deliver its climate science activities to stakeholders. This is part of its Climate Strategic Communications Plan that was created in the Regional Workshop in Melbourne in June 2014. The activities included workshops, meetings, tours and a media talk program.

According to Climate Officer Meelina Ailesi, since the COSPPac project came in 2014 the TMS has really increased its climate awareness activities, targeting most of its audiences. Key stakeholders for these activities include: Red Cross; Tuvalu Association of Non-Government Organisations (TANGO); National Disaster Office; Departments of Police, Agriculture, Environment, Gender, Telecommunication, Youth, Energy, Fisheries, and Public Works; media; teachers; community leaders; schools; climate change projects and the public.

We have seen the improvements and these activities have contributed to the people of Tuvalu, and how they have helped to build understanding and capacity on weather and climate. On behalf of the Ministry of Works and Communication, the Tuvalu Meteorology Service Office hereby conveys our sincere thanks and gratitude to COSPPac for the awareness funding.

## Deep diving in the Pacific brings interesting conversations

Tides and oceans are an integral part of the way of life in the Pacific. It is with this solid foundation that passionate discussions were abundant at the three COSPPac Tides and Oceans Capacity Mapping Conversation Series held in February and March this year.

Stakeholders from partner countries came together in Hawaii, Samoa and Fiji, to share stories and unravel the inherent strengths of their nations within the tides and oceans space. They drew heavily on their cultural understanding as they worked through a number of hands-on activities such as identifying key tidal and ocean events and working through how these played out in relation to information flow, decision-making and impact, and lessons learned.

Three of the key areas that were highlighted for further development were: an increased understanding of oceanography and its application, further support in communicating tides and oceans information and stakeholder engagement.

Stakeholders expressed how valuable the final evidence-based output—a country-specific capacity mapping report—will be for future decision-making and sustainability in their countries and the region.



**Stakeholders at the Fiji Capacity Mapping Conversation Series.**



Nover presenting at the Blue Planet Symposium.

## My great moment in Melbourne and productive learning experience in Cairns

By Nover Juria

My trip to Australia in May was fantastic as I enjoyed not only my great moment in Melbourne, but also my attachment training at the Bureau of Meteorology with my colleagues from COSPPac. I was expecting that I would only learn about the COSPPac Ocean Portal, but in fact I also had time to learn other climate work—such as SCOPIIC v4, climate and ocean science, and how the climate and ocean monitoring tools and equipment work, such as the tide gauges. Finally, I also had time to work and practice my presentation for the Blue Planet Symposium in Cairns.

After my attachment in Melbourne, I went to Cairns to attend the symposium. Mr Grant Smith and Ms Melissa Matthews from the COSPPac team were also there and I was lucky to have them as they gave me strength in doing my talk in front of the big audience. It was a great experience for me because that was my first time speaking at a big conference but I made it! I enjoyed the conference as I learned from many experts who gave their presentations about the ocean climate. Overall, I enjoyed both Melbourne and Cairns as I gained more knowledge for my climate work in the Marshall Islands as a climate officer.

I acknowledge all those who contributed their knowledge to my presentation during my preparation for the conference and also my attachment, especially my expert Mr Jason Smith for contributing his expertise in science. Last and not the least, I acknowledge Ms Bianca Stewart who worked very hard in arranging my trip to Australia and back home. Komol Tata!

## Linking seasonal forecasts with disaster preparedness in the Pacific

COSPPac and the Red Cross recently released a case study about a regional product called the Seasonal Rainfall Watch, and how it can be used by disaster managers to help them and the communities they serve to be better prepared.

Developed in partnership with the Red Cross, the Seasonal Rainfall Watch presents seasonal forecast information in a way that Red Cross Disaster Managers can easily understand and, importantly, act on. It does this by converting the likelihood that a country will experience above or below normal rainfall into an alert level. The Red Cross has linked up each alert level with specific preparedness actions, which may include tasks such as checking emergency response stock and spreading the word to others.

The product uses the same information that Pacific met services pull out of SCOPIIC to distribute locally, and is a great tool for starting conversations between met services and disaster managers about using climate information to inform decision-making.

‘Linking seasonal forecasts with disaster preparedness in the Pacific: from information to action’ can be viewed online at [www.climatecentre.org/publications/ifrc-publications](http://www.climatecentre.org/publications/ifrc-publications).

Alert Level			
← Increasing chance of drier 3 months		Increasing chance of wetter 3 months →	
Alert Level	Divisions with Below Normal Rainfall favoured in the coming 3 months	Alert Level	Divisions with Above Normal Rainfall favoured in the coming 3 months
High	Samoa	Low	Solomon Is. (Western Region)
Medium-High	Cook Islands (Southern) Vanuatu (Southern)	Medium-Low	Cook Islands (Northern), Solomon Is. (Central and Eastern Regions)
Low		High	Tuvalu

An example of the alert information that the Red Cross receives from the Bureau, which is inserted into a table showing pre-determined preparedness measures.



Mel enjoying her travels.

## People profiles

### Melissa Matthews—Capacity Development and Communication (CD&C), COSPPac

Following her interest in all things to do with disaster management, climate and community resilience, led Mel to join COSPPac. On completing her Master of Social Science (International Development), Mel was quickly drawn into working on response and recovery efforts for the Black Saturday bushfires. After her time at Emergency Management Australia, Mel moved on to the sunny Solomon Islands where she spent a fantastic year as a volunteer doing community-based disaster risk reduction and climate change adaptation work with Save the Children. She then returned to the Happy Isles to work on education in emergencies.

Mel's favourite part of her job is spending time in person with COSPPac's partners around the Pacific, running training activities together and planning for the future. Outside of work, Mel enjoys travel, playing soccer and eating her mum's roast dinners.



Peni hard at work.

### Peni Musunamasi, Technical Workshop Team Leader, Pacific Sea Level Monitoring Project, SPC Geoscience Division

A familiar and friendly face throughout the Pacific, Peni has been working as an electronics technician on the Pacific Sea Level Monitoring project since 2002. Born on the Garden Island of Taveuni in Fiji, Peni began his career laying cable with Telecom Fiji in 1981, and received his trade certificate in telecommunications in 1985 and his diploma in 1987. He was based out of Australia on an Ocean Rover Salvage Boat for two years before joining UNDP's South Pacific Geoscience Commission (SOPAC) in 1989. Peni now leads a team of four that support all the technical work of the SPC Geoscience Division. This includes calibration and maintenance of the 13 tide gauges around the Pacific for COSPPac. This work is critical to maintaining accurate sea level measurements and so Peni is always on the go. In 2013, he was recognised and awarded for more than 20 years of service to Pacific Geoscience.

In his free time, Peni enjoys time with his family and closely follows Fiji Rugby. Having served as chairman of the Fiji National Rugby League for more than 12 years, Peni takes pride in helping develop Fiji's talented, young players.



Australian Government

## Tell us about your work on climate and sea-level

Down here in Melbourne, we'd love to hear about the work you are doing in the sunny islands. If you have attended a terrific climate or sea-level conference, done some interesting work with stakeholders, or even just broken a climate record recently, drop us an email to let us know about it! [COSPPac\\_CDC\\_Unit@bom.gov.au](mailto:COSPPac_CDC_Unit@bom.gov.au)