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Vanuatu Creates the First Framework for Climate Services in the Pacific Islands

The Republic of Vanuatu has launched a new Framework for Climate Services, making it the first Pacific Island nation to reach this milestone. The successful provision of climate information and services remains a challenge for many Pacific Island nations due to financial and resource constraints. The Vanuatu Framework for Climate Services (VFCS) addresses these issues by helping its people to manage and adapt to climate variability and change through sustainable and accessible climate services. These services are particularly important for Vanuatu, which may bear many of the impacts of climate change such as:

- sea level rise, which can result in coastal erosion;
- storm inundation and salt-water contamination of groundwater in the country; and
- heightened sea temperatures, which may intensify tropical cyclones and lengthen the cyclone season.

The development of the VFCS involved over 100 participants from local communities, provincial governments, government sectors and non-governmental organizations. Discussions focused on assessing the relevance, reliability and content of the current climate information services provided by the Vanuatu Meteorology and Geo-hazard Department (VMGD). It also included mechanisms to foster greater integration and dissemination of information to the most remote and rural communities on the island.

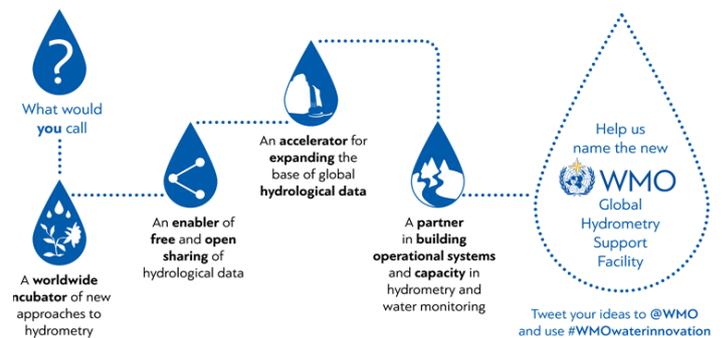
Guided by the Global Framework for Climate Services (GFCS), the VFCS also examined existing linkages with global, regional and national frameworks, strategic plans and policies. A list of 18 recommended actions were provided, as well as a Roadmap for Strengthening Climate Services, which includes a suggested prioritization, timeframe and indicative associated costs.

The Framework was prepared by the National Institute of Water & Atmospheric Research Ltd in consultation with the VMGD, with financing from the Climate Investment Funds through the Asian Development Bank (ADB) Strategic Fund, administration by the Regional Technical Support Mechanism at the Secretariat of the Pacific Regional Environment Programme, and support from the WMO and regional partners.

For more information on the VFCS, visit: <https://goo.gl/bv8snf>

New Global Hydrometry Support Facility and Innovation Hub

WMO and the Swiss Agency for Development and Cooperation (SDC) have launched the Global Hydrometry Support Facility and Innovation Hub (GHSF). It brings together the World Hydrological Cycle Observing System (WHYCOS) office, the World Hydrological Observing System (WHOS), the Hydrological Services Information Platform, and the global innovation hub.



The GHSF will expand the base of global hydrological data with the aim of developing a reliable and sustainable base of hydrological data and information. This base will serve as the foundation for evidence-based policy, decision-making and conflict resolution in water resources management at global, transboundary, national and local levels.

It will enable a free and open sharing of hydrological data. GHSF will develop and apply innovative monitoring and database technologies; support regional, national and local projects focused on building sustainable hydrometeorological networks and freely accessible data; and promote the use of quality management principles.

GHSF will also partner in building operational systems and capacity in water monitoring, seeking to bolster the capacities of National Hydrological Services while also engaging the public, private and academic sectors.

Case Study: Free data access – the experience of the Israel Meteorological Service

In 2012, the Israel Meteorological Service (IMS) started providing free access to most of its real-time data and historical observations. This marked a dramatic change in policy for the organization. Until then, most of its operational budget, excluding salaries, depended on the generation of income by billing for data and services. The IMS experience – the benefits and challenges of moving to a free data model – will catch the interest of other national meteorological services considering a similar move.

Funding models based on the sale of such information often present a serious barrier to the free access open data model. Thus, meteorological services considering a switch will face a range of technical and policy issues, but a principal concern will be the loss of revenues. Without an alternative source of revenue, it will be impossible for them to maintain observational networks and fund data processing and quality control. In this regard, IMS presents a useful case study.

Difficulties faced before free data model

Before the move to free access, revenues from billing data and services at IMS had to cover its operational budget and permit IMS to fulfil international obligations to WMO and other organizations, to maintain weather stations and to deploy radiosonde equipment. IMS sold data and products, including tailor-made forecasts and climatic analysis. This, however, raised practical and moral problems. Private good took priority over public good – IMS focused more on finding clients, answering calls for tender and providing services to paying customers than on important public good projects. Private sector queries, for example, burdened the climate department so much that they had little time for projects such as the production of a climate atlas, wind energy atlas and climate change analysis.

The generation of revenue actually created new expenses for IMS and decreased efficiency as data-invoicing required key personnel from both the economic and meteorological sections. In addition, as IMS generated most of its income by billing other governmental agencies, the flow of money was internal to the government – from one pocket to the other – but created a lot of administrative costs. Competition between IMS and the private sector did not really follow free market rules. IMS, as part of the government, had a fixed price known to the private sector, which they could underbid.

When governmental agencies could not afford to buy high-quality IMS data due to budget constraints, they were tempted to use low-quality, freely available data on the Internet. Alternative networks sprung up due to the restrictions placed on publication or distribution of IMS data, causing duplication and additional governmental expenses.

High IMS prices dissuaded private companies from developing IMS database products or applications, although these companies could not afford to establish their own observational networks. Academics could not afford to purchase the vast amount of data they required for research as prices were too high even though IMS gave them discounts. Many turned to alternative sources of data – often lacking quality control – or used lower resolution products.

Growing demand for IMS data among government agencies, complaints about costs and the complications of paying for such data and the

new “open government” web-policy occurred together and permitted IMS to change its funding model. An agreement was reached with the Transport and Finance Ministries for a fixed yearly budget in exchange for making all data accessible to the public, free of charge.

Prioritizing public good

Under the new framework, IMS has re-focused on the provision of basic meteorological services for the public good, free of charge, while leaving the tailoring of meteorological services to the private sector. The basic IMS services include:

- Forecasts and warnings; regular, and special, climatological reports, climate atlases and climate change monitoring reports; and products from IMS Numerical Weather Prediction models, all freely available on the IMS website.
- Aviation and marine sector forecasts and warnings, as well as climatological information, which meet international standards and requirements (products with further added value are supplied by the private sector).
- Meteorological data from IMS stations, including near- and real-time data from Automated Weather Stations and historical, quality-controlled climatological data, available free-of-charge through a dedicated government website. Private companies can access and use the data to develop special products for sale but cannot simply sell the data.
- Meteorological information for the various government ministries is supplied free-of-charge to their specifications.

The free data model permits IMS to fulfil all of these basic duties and to centre resources on advising the government on weather and climate related issues and on conducting research to improve the usability of meteorological information by the government.

The new framework has brought many benefits. Tasks requiring significant time investment but little technical expertise have been drastically reduced, thus the focus is once again on activities requiring meteorological skill. Professional staff now have sufficient time to focus on activities of national priority and important projects – wind energy atlas, climate atlas, climate change monitoring analysis – are no longer delayed.

The reputation of IMS as a service provider has improved and the tension with government agencies previously viewed as clients has ended. Cooperation with other government agencies is much better, especially the relationship between IMS and the emergency and rescue authorities.

In light of the experience gained since 2012, IMS recommends that other national providers, who wish to take the free data access route, take care that their data dissemination platform be clear and simple to use and provide the means to download large amounts of data simultaneously. The IMS free data policy reform was rapid and comprehensive but one can take a gradual, step-by-step approach by first providing, for example, only raw data and retaining forecasting service revenues.

The IMS example suggests that, where agreements can be reached within governments, new funding frameworks based on free and open access can provide a wide range of benefits to the public and private sectors, as well as to the meteorological services themselves.

Governments adopt Windhoek Declaration on Drought Resilience in Africa

The African Drought Conference, “Enhancing resilience to drought events on the African continent” in Windhoek, Namibia, from 15 to 19 August, concluded by adopting the Windhoek Declaration.

Building on the 11th Session of the Conference of Parties (COP-11) of the United Nations Convention to Combat Desertification, which was held in September 2013, the conference also served as a follow-up, in many ways, to the WMO High-Level Meeting on National Drought Policies held in March 2013.

The conference brought together international and African experts who delivered presentations on drought monitoring, drought preparedness and risk management, early warning systems, sand and dust storms, food security, innovative financing, and other relevant topics.

The Windhoek Declaration for Enhancing Resilience to Drought in Africa adopted the Strategic Framework for Drought Risk Management and Enhancing Resilience in Africa, which proposes a Drought Resilient and Prepared Africa (DRAPA) at the national level guided by the following six elements:

1. Drought Policy and Governance for Drought Risk Management;
2. Drought Monitoring and early warning;
3. Drought vulnerability and impact assessment;
4. Drought mitigation, preparedness, and response;
5. Knowledge management and drought awareness; and
6. Reducing underlying factors of drought risk.

For more information on the Windhoek Declaration, visit: <https://goo.gl/uEc0mj>

Group Training on Instrument Maintenance and Calibration



The WMO Regional Training Centre (CIMH/WMO-RTC) in Barbados organized a group training course on Instrument Maintenance and Calibration at the Caribbean Institute for Meteorology and Hydrology (CIMH) from 15 August to 9 September. The course provided participants with knowledge and practical skills in the science of measurement as well as on the maintenance and calibration of meteorological instruments.

From 2014 to 2016, 25 instrument technicians from 16 countries/states in the Caribbean region, participated in such workshops through the WMO Fellowships Programme sponsored by the Canadian GFCS Fund. In 2015, the course also welcomed three female participants in a traditionally male dominated profession.

The participants particularly appreciated the workshop’s approach, which combined theory with hands-on exercises and field visits. The course provided an opportunity for participants to develop collegial relationships with each other. This will promote greater sharing of knowledge and know-how for more robust and efficient hydrometeorological and climate observations and early warning networks across the region in the future. Achieving this outcome will greatly advance the regions’ adaptation to severe weather and climate change.

Bolstering Food Security in Cameroon through Climate Services

Climate services are a critical tool for improving food security, particularly in Cameroon, which has been adversely affected by natural and man-made disasters for the past three decades. Training farmers in the use of climate information to make well-informed decisions on crop and planting choices can help mitigate the effects of climate change and variability on the country’s food security.

A roving seminar held in the northern province of Pitoa, on 12 July provided farmers with this particular type of training. The group of trainees included 29 farmers, authorities and staff from local institutions, 4 traditional leaders from the local communities, and 6 extension agents.

Based on the experience of the Western Africa countries and the specific needs of Cameroon, the seminar focused on topics such as the seed calendar, climate risks for specific crops in the region, and climate and weather information-based agricultural advice on planting date and crop variety selection. Farmers and local officials were also trained on the use of simple plastic raingauges and field observations. These observations, when combined with weather and climate forecasts received from the capital, provide farmers and local officials with crucial information for their decision-making based on their local and regional climate and weather conditions. It also provides a mechanism for official institutions to receive important feedback on weather and vegetation status in remote areas.

A collaborative effort between the non-governmental organization CARE International and the National Meteorological Service (DMN) of Cameroon, the seminar supports both the project RéSoFEMMES and the improvement of the raingauges network in Cameroon’s provinces, particularly those with bigger rainfall variability. The seminar’s joint implementation team was composed of experts from the DMN, Ministry of Agriculture and Ministry of Transport. The CARE project is funded by the Cartier Charitable Foundation and supported by the WMO.

In the near future, more seminars will be held in support of the CARE project and the network of simple plastic raingauges to support rainfall observations will continue to be extended in the country. DMN Cameroon has requested to be a part of the upcoming METAGRI SERVICES project that aims to develop high quality climate and weather services for agriculture and food security in Western African countries, as well as Chad and Cameroon.

Applications of Weather and Climate Information for the Energy Sector

The energy sector has some of the most advanced users of weather and climate information, given the considerable effects of day-to-day weather and longer-term climate variability on energy supply, demand, transport, distribution and markets. As the transition to renewable sources and sector-wide resilience become key priorities for the energy sector, information on climate variability and change are increasingly needed to ensure energy security and efficiency. The industry's rapid innovation, in turn, results in swiftly evolving needs, an added challenge.

In order to meet the challenges ahead, a summer course on Climate and Energy, held at the University of Anglia in Norwich, United Kingdom, from 4 to 7 July, provided a much needed platform for greater collaboration amongst meteorologists, climate experts and energy providers.

The course was designed to bring energy practitioners up to speed with weather and climate modeling and forecasts at different timescales, while also creating awareness about the possibilities for applying weather and climate information in the energy sector and fostering dialogue between the meteorology and energy communities.



The GreenTeam developed a proposal focusing on climate services for the management of hydropower generation in Colombia

The course was attended by 28 students from 16 countries, combining developing and developed world institutions and climate and energy experts. Lectures were delivered by experts on a diverse set of topics including weather and climate services for the energy sector, world energy overview and climate change communication. To stimulate peer-to-peer learning, participants broke into smaller groups and

prepared mini-proposals for energy climate services. The innovative proposal was tailored to hydropower generation in Colombia, solar farms in Moldova, optimized and resilient power systems in Southeast Asia, and the energy sector in small island nations.

For more information, visit: www.wemcouncil.org/wp/events/summer-course-climate-energy/

Announcements

OSCAR/Space v2.0 launched - A new version of the WMO Space-based Observing System Capability Analysis and Review tool (OSCAR/Space v2.0) is now available (<http://oscar.wmo.int/space>). It provides a wider range of information on satellite programmes, instruments, and the variables they can observe in the areas of weather, water, climate, the marine environment, land processes, and space weather. OSCAR/Space v2.0 features powerful search functions and gap analyses, by variables and mission types, for users in NMHSs, satellite agencies, and the WMO Rolling Review of Requirements. Users feedback on this new version is welcome, and can be provided through sat-help-desk@wmo.int

Obituary



An obituary for our colleague, Professor Cornelis Johan "Kees" Stigter, former President of the WMO Commission for Agricultural Meteorology (CAgM) from 1991 to 1999, is available in the online version of [MeteoWorld](#).

Upcoming events

7-18 November: 22nd session of the Conference of the Parties (COP 22) to the UNFCCC, Marrakech, Morocco

11-12 November: Meteorological Festival 2016, Rovereto, Trento, Italy

7-13 November: 15th session of the Commission for Hydrology (CHy-15)

23-29 November: 16th session of the Commission for Basic Systems (CBS-16)

We welcome your comments about [MeteoWorld](#) and look forward to hearing from you: editor@wmo.int

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