AGENDA ITEM: 24.2

Japan's Cooperation in the Pacific Island Countries

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Purpose of the Paper

1. To provide information and updates on cooperation of the Japan Meteorological Agency (JMA) and Japan International Cooperation Agency (JICA).

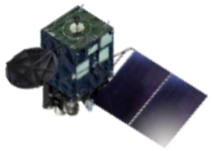
2. To share ideas with PMC participants about the significance and lessons learned of regional cooperation in the Pacific.

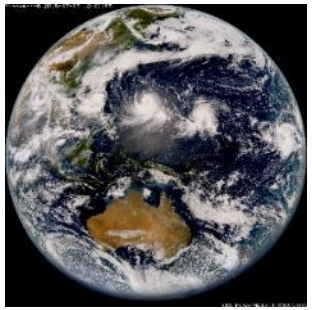
Background

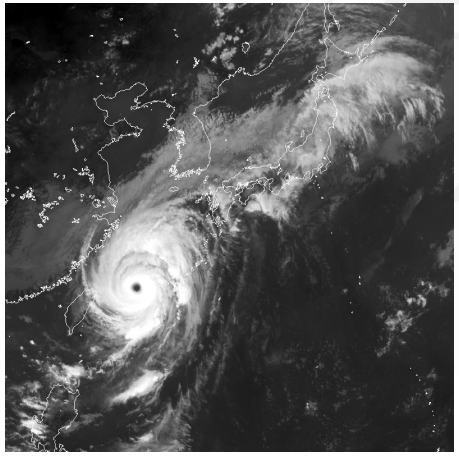
JMA and JICA's Cooperation has progressed step by step with the Pacific Island Countries. In our project, we emphasize sustainability and have worked to develop human resources and strengthen the organizations while improving the infrastructure.

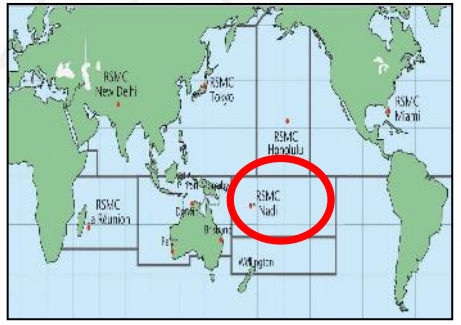
1. 1970's - 1990's: Commenced cooperation of Satellite data and enhanced Tropical Cyclone Forecasting

- ✓ Provision of observation data of JMA Satellite "Himawari" (Pacific countries, 1978 – ongoing)
- ✓ Contribution towards establishment of Tropical Cyclone RSMC (Fiji, 1995)









2. 2000's - 2010's: Capacity Development of PICs, USP-ICT Center, PCCC

✓ Regional meteorological training by FMS for the PICs (Cook Islands, Kiribati, Nauru, Niue, Samoa, Solomon Islands, Tonga, Tuvalu, Vanuatu, Fiji, 2001 – ongoing)

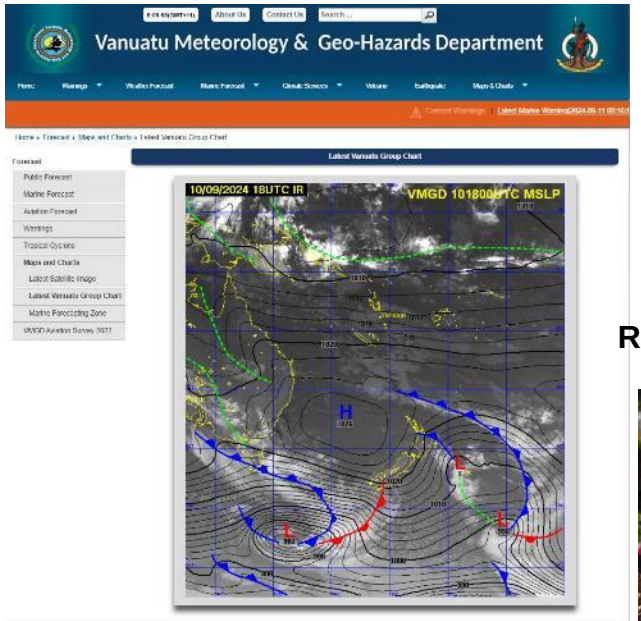
Instrument

Instrument

Surface observation

Aviation weather service

Personal Network among PICs, Hands-on Training



Weather Forecast with Satellite Image (VMGD web site)

Demonstrating skills in the practical work

Receiving the training certificate from FMS in Nov. 2015

Instruction of Observation instrument in Nov. 2018

On-site training in Nauru in Dec.2018

Nauru's statement at WMO Congress in May 2019

Inauguration of Nauru Met Service

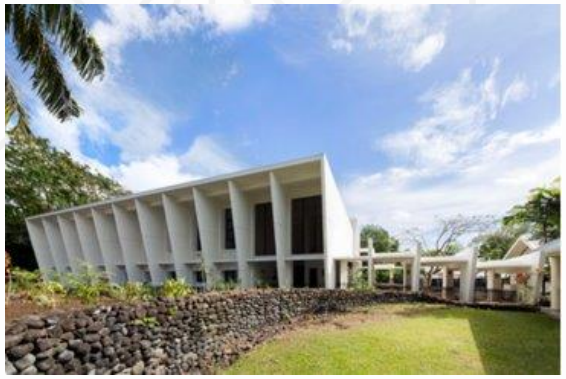
2. 2000's - 2010's: Capacity Development of PICs, USP-ICT Center, PCCC

- ✓ Installation of HimawariCast receiving system (Palau, Federated States of Micronesia, Kiribati, Samoa, Papua New Guinea, Solomon Islands, Tonga, Tuvalu, Vanuatu, Fiji , 2015-2017)
- ✓ Improvement of equipment for disaster risk management - observation, forecasting, warning and communication for meteorology, earthquake, tsunami and storm surge - (Samoa 2010, Fiji 2012, Vanuatu 2012, Tonga 2018)
- ✓ Contribution towards establishment of USP ICT Centre (Fiji, 2007 – 2013) and PCCC (Samoa, 2016 –, TA for Phase 2 is ongoing)

HimawariCast

Nationwide Early Warning System and Disaster Communication in Tonga

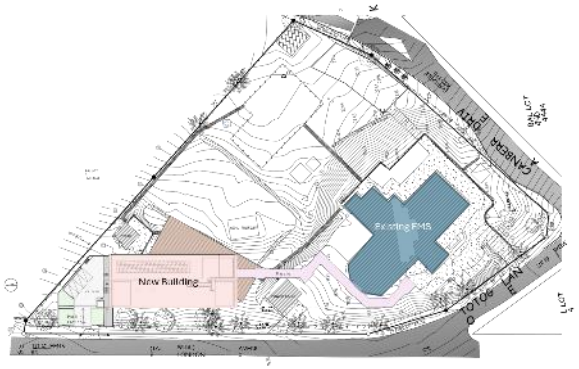
USP ICT Center



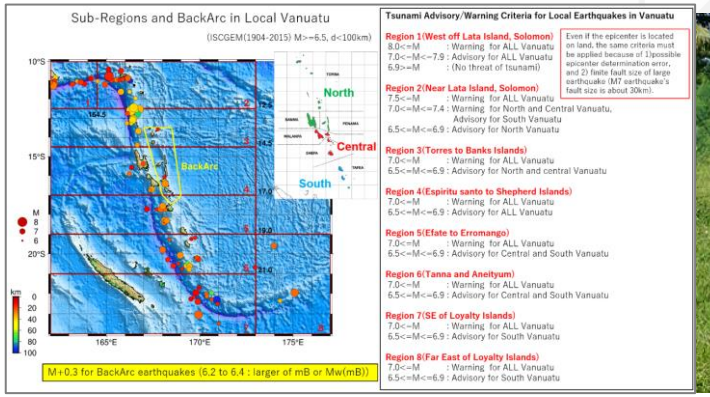
PCCC in Apia, Samoa

3. 2020's – ongoing: Multi Hazard Early Warnings, RTC, RIC

- ✓ Updating the HimawariCast receiving systems installed in Pacific NMHSs, in conjunction with technical trainings (2025-, planned)
- ✓ Establishment of Regional Training Centre and Regional Instrument Centre (Fiji, 2023 – 2024 preparatory survey, 2024 - 2028 forthcoming GA and TA)
- ✓ Advanced weather forecasting and warning (Fiji, 2024 – 2028 forthcoming TA,)
- ✓ Enhancement of earthquake, tsunami and storm surge early warning (Vanuatu, 2019 – 2024, 2024 – forthcoming TA) "Van-REDI"
- ✓ Disaster risk reduction for widespread volcano hazards inc. Tsunami EW (Vanuatu, Tonga, Fiji, through SATREPS (joint research programme) 2024 – 2029)

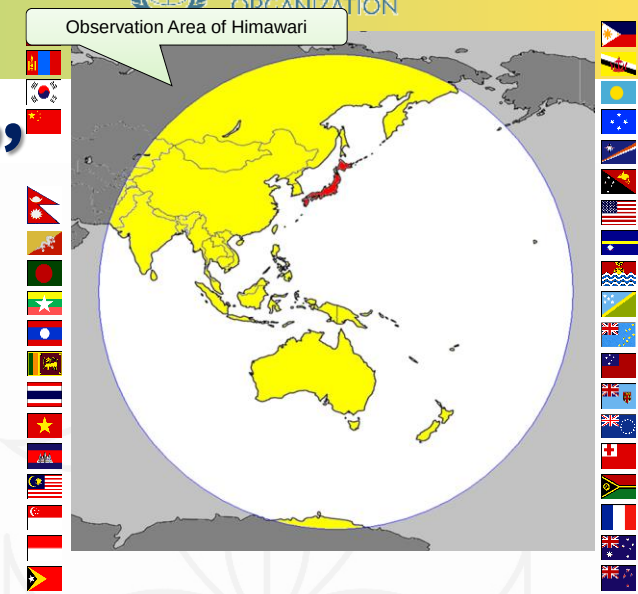


RTC, RIC, Disaster Awareness Exhibition (TBC)

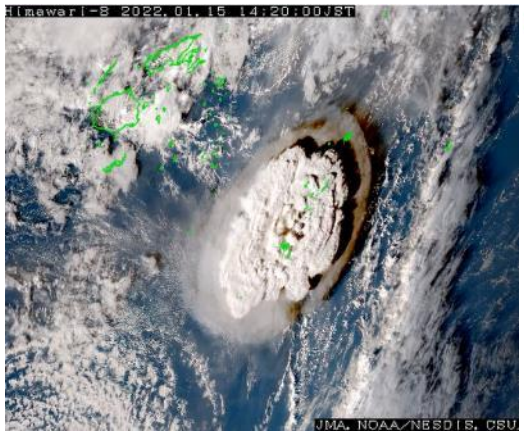


Van-REDI (EQ, Tsunami, Storm Surge EW) including development of Tsunami SOP and Catalog

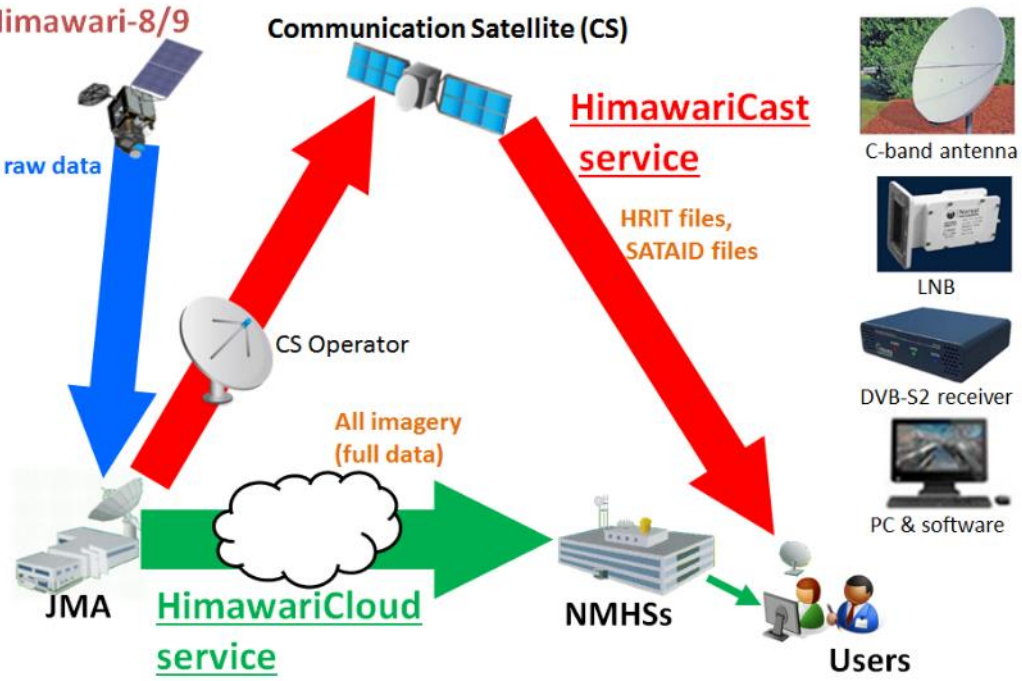
Japan's Geostationary Satellite "Himawari"



- Himawari series covers Asia-Pacific region since 1978, provide NMHSs with its data in free-unrestricted basis
- Since 2015, data provision through the following two services;
  - **"HimawariCloud"** service provides full-spec data via landlines.
  - **"HimawariCast"** service via telecommunication satellite. This provides the advantage of stable data reception, contribute to business continuity as well. A total of 33 NMHSs operate HimawariCast receiving systems.



Volcanic eruption
in Tonga (January 2022)



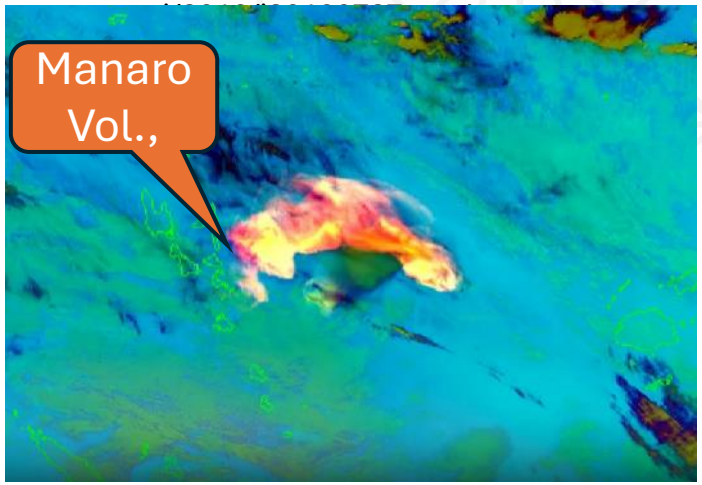
Receiving System and Technical Supports

- In collaboration with JMA-JICA-WMO, 20 countries installed **“HimawariCast”** receiving systems with follow-up in-country training from 2015 to 2017.
- The observation data has become essential part of early warning services in many NMHSs.
- JMA, in collaboration with JICA and WMO, **plans to update the systems** and have **technical trainings** of new system, contributing to **UN EW4All Initiative against Multi hazard**.

[Video]https://www.data.jma.go.jp/video/data/kansoku/himaw

Technical training at Fiji for Pacific island countries

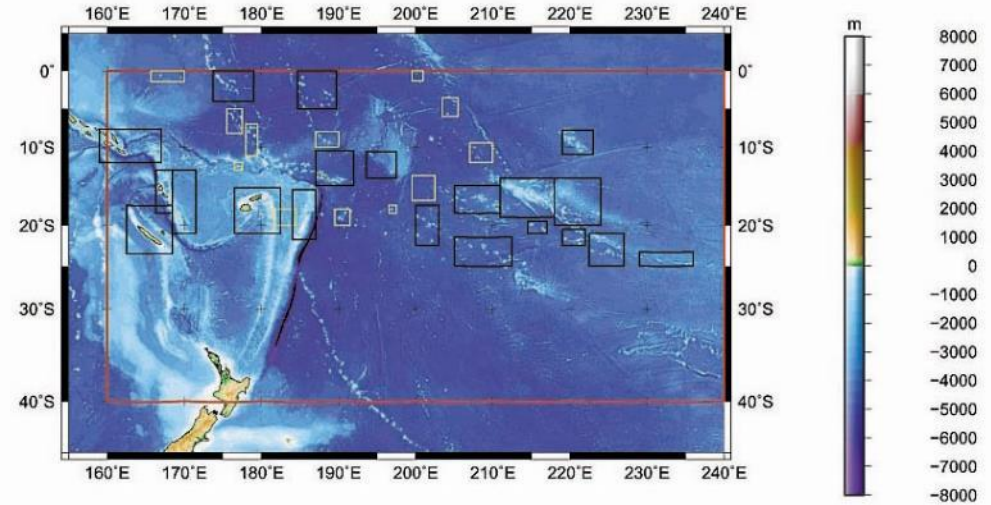
HimawariCast receiving system in Vanuatu



Manaro Vol., Ambae, Vanuatu
Jul 2018, Volcanic ash RGB

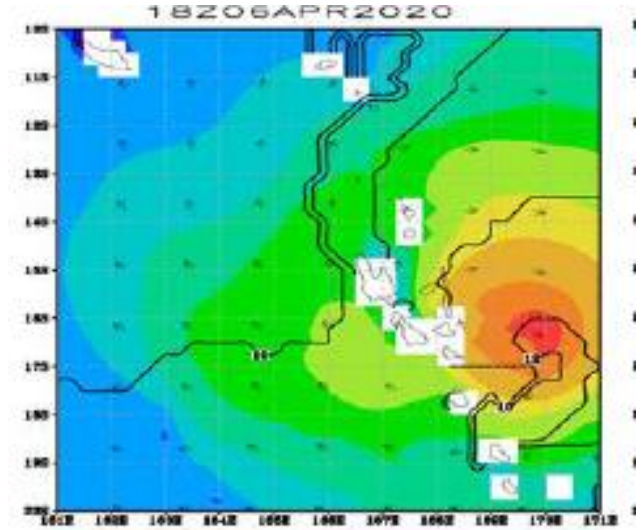
Collaboration in Marine Weather Services

- **Storm surge and high waves** caused by Tropical cyclone could damages, especially in coastal areas.
- **RSMC Nadi has started operations to issue** storm surge and high wave **advisories** in case of a tropical cyclone, utilizing JMA's NWP model and technical support.
- **In the years ahead**, Japan is committed to further enhancing pacific island NMHSs' capabilities in a field of MWS, thereby **contributing to the effectiveness of the EWS and ensuring safety of shipping**.



Forecasting areas of RSMC Nadi for storm surge forecasting

Misaeli Funaki,Stephen Meke, Sakeasi Waibuta, Leonard Bale, and Nadao Kohno, 2019



Simulated significant wave conditions around Vanuatu in 18Z, 06, Apr., 2020, tropical cyclone Harold

Amit SINGH, Nadao KOHNO, Hironori FUDEYASU, submitted 2023

JICA-JMA Group training in MWS, hosted by FMS, 21-30 Aug., 2023

Recommendations:

The Meeting is invited to:

- **Note:** that Japan's longstanding efforts to enhance the capacities of NMHSs in the Pacific for observation, tropical cyclone forecasting, and satellite analysis have been conducted in close collaboration with Pacific NMHSs, JICA and JMA, and have a great deal of relevance to the EW4All and Weather Ready Pacific (WRP) initiatives.
- **Note:** that Japan will continue to support PICs through new projects. These projects aim to enhance the utilization of Himawari by updating HimawariCast receiving systems and boosting satellite data analysis capabilities. Additionally, they will help develop regional hubs such as Regional Training Centre (RTC) and Regional Instrument Centre (RIC), contributing to the successful implementation of EW4All and WRP.
- **Acknowledge:** that Japan has experienced challenges in some projects to ensure the mid- and long-term sustainability of NMHSs. These challenges have underscored the importance of cooperative relations with other relevant partners and regional frameworks to secure sustainability. It suggests that the key to success is a close coordination between NMHSs and partners: NMHSs must implement feasible business plans, and partners must secure mid-term resources.