SOLOMON ISLANDS COUNTRY REPORT

Solomon Islands Meteorological Service

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Joint Meeting of RA II WIGOS Project and RA V TT-SU

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BMKG Headquarter

SOLOMON ISLANDS METEOROLOGICAL SERVICES

a. The Solomon Islands Meteorological Service (SIMS) is under the Ministry of Environment, Climate Change, Disaster Management and Meteorology

   Location: P O Box 21, Honiara, Guadalcanal, Solomon Islands.

b. National Weather Service provider under the 1985 Essential Act of Parliament.

c. Solomon Islands Met. Service (NMS) comprises of few sections. Thèse sections have Access to Satellite Data.

   1. Research Section-
   2. Climate Section (Climate Outlook/forecasting, climate data and Archiving)
   3. Operation Section /observations
   4. Forecasting Section - Tsunami Warnings, TC Warning, Strong Wind Warning, Swell Advisory
      -Public Forecast & Marine Forecast
      -Aviation Forecast

D. **CURRENT OBSERVATIONAL SYSTEM OVERVIEW**

- **Currently, Solomon Islands Meteorological Services Division operates seven manned Met Stations, Six Automatic Weather Stations (AWS) and seven Automatic Rainfall Gauges (ARG) stations.**

1. **Manned Met. Stations have Access to Internet and Satellite Products**

Abstract (Updates on status and Plan of satellite data access, processing, application and training)

- **Application**: The main thing we do is using the satellite imageries and other products to produce forecasts and Warnings, Research, climate forecasting/Outlooks, tropical cyclone warnings/animation, do briefings and archiving.
- **Plans of Access** ; how much satellites and satellite data are we going to have access in the new generation of Satellites and maximize the use of Satellite Data. These are few satellites we have access to ; Himawari 8 and Noaa (polar orbiting). We have a satellite receiver from Himawari. These are some satellite products we have: RGB pictures, JAXA, Sataid (10 minute satpix), and Ascat winds.
- **Plan of Trainings**

  - Hazard 1: tropical cyclones;-Training in imagery analysis
  - Hazard 2: Torrential rain;- Easy-to-understand product/Training in imagery analysis:
  - Hazard 3: Monsoon activity;-Easy-to-understand product/Training in imagery analysis

Satellite data and product requirements, training needs and infrastructure

- **Satellite data and product requirements**
  - **10-min multi-spectral imagery for tropical cyclone forecasting**
  - **RGB, Vs, Ir and WV for all Warnings, Aviation, forecasts, Research and Climate forecasting**
- **Training needs**
  - **Interpreting RGBs, IR,VS, Wv**
  - **Visualizing loops/animations**
  - **SATAID**
  - Tropical Cyclones Imagery
- Technical infrastructure issues to access and process/visualize satellite data

  Internet Services, Sataid, Noaa Website, BOM Website, Metconnect Pacific Website & HimawariCast.

  Having satellite dish from new satellite generations in future is an appeal.

Appendix

Background

(a) Solomon Islands (Country) overview

I. **Geography (map)**

II. **Population- 2018 census->600,000 people**

III. **Solomon Islands Climate**

The Solomon Islands, lying within 12 degrees latitude of the equator and more than 1500km from the nearest continent (Australia), has a climate typical of many tropical areas, being characterised by high and rather uniform temperature and humidity and, in most areas, abundant rainfall in all months. Rainfall is the least uniform of these climatic elements, as topographical effects cause significant variations between locations. The Islands, because of their low latitude, are less subject to the damaging effects of tropical cyclones than elsewhere in the Southwest Pacific, though cyclones still pose a serious threat each year.

(b)Major historical hydrometeorological disasters

Major adverse events such as these have the potential to cause catastrophic loss of life and physical destruction. They are often unexpected and can leave communities in shock.

- Tropical Cyclones and Non –cyclone Strong Winds /Floods/Droughts/Aviation and Maritime Disasters/Fire/Tsunami.

(c) Life and economic loss In general terms, the effect of disasters on the country and its people include:

- Loss of life/Disease/Injury/Damage to and destruction of property/Damage to subsistence and cash crops/Disruption of life-style/Loss of livelihood/Disruption of services/Damage to infrastructure and disruption of government systems/National economic loss/Sociological and psychological after-effects

(d) **Major national economic sectors relying on NMHSs**

I. Agriculture/Transportation-Marine & Aviation

Solomon Islands Meteorological Services Activities

- Vision
- Ensure safety of lives and protection of properties in Solomon Islands through effective management of Meteorological Service.
- Mission
- To modernise, strengthen and enhance the institutional and administrative capacity of Meteorological service division to provide a competency services to the people and the government of Solomon Islands for sustainable development and resilience communities.
- Core functions and responsibilities
- In providing the meteorological information, the SIMS operates under the Meteorological Act 1985 and is specified as an essential service under the Essential Services Act. The core functions of SIMS is to provide the government, private sector and the general populace of Solomon Islands with relevant meteorological information pertaining to all aspects towards national developments, daily activities and security. These responsibilities are pursued through the function structure of SIMS under these components of services:
- Policy and administration
- Observations and monitoring
- Technical and Instrumentation
- Forecasting
- Research
- Ocean and Climate Services
- Training
- Through these functions and responsibilities SIMS Division is obligated to ensure that such services are provided in a timely manner and with a high level of competency.

Current Observational System Overview

I. Surface observations- 7 manned Met.Stations, 6 Automatic Weather Stations (AWS) and 7 Automatic Rainfall Gauges (ARG) stations.

II. Upper-air observations-1 upper-air Station

III. Marine observations-3 sea level-tide gauges/No ship observations

IV. Aircraft-based observations-nil

V. Satellite observation-Zaxa, Ascat, Himawari-RGB, Noaa, Goes

VI. Weather Radar Observations- nil

VII. Other observation platforms-Websites; eg Metconnect Pacific

Data and Products

1.LIST OF SATELLITES/INSTRUMENTS CURRENTLY USED OPERATIONALLY FOR NWP, NOWCASTING AND OTHER APPLICATIONS

- **Himawari (RGB, IR,WV,VS)**
- **Noaa/Goes (vs, wv, ir)**
- **Sataid-looping/animation**
- **Ascat Winds-Winds up to 50knots**
- **Zaxa- Rainfall**

2. CURRENT CAPABILITIES OF ACCESSING SATELLITE DATA AND PRODUCTS

- **Internet Access**
- **Metconnect Pacific website**
- **BOM website**
- **SATAID**
- **Himawari Dish**
- **Noaa Website -Southern Hémisphère**

3. CURRENT SATELLITE DATA APPLICATIONS/KEY APPLICATION AREAS/ SATELLITE-BASED PRODUCTS

- **Climate Section (Climate Outlook/forecasting, climate data and Archiving)**
- **Operation Section (observation)**
- **Research**
- **Forecasting Section ; TC Warning, Strong Wind Warning, Heavy rain warnings**

  -Public Forecast & Marine Forecast

  -Aviation Forecast

THREE HAZARDS THAT CAN BE MONITORED BY SATELLITE.

Hazard 1: Tropical cyclones

- TC RAQUEL (1st July 2015) - deaths stands at a total of eight (8) people
- 164 damage houses, 34 totally destroyed,
- Total of 1,047 communities affected, total population of 126,187 were affected.

Hazard 2: Torrential Rain- After torrential rain On 2nd and 3rd of April 2014 , severe flash flood affected the Solomon Islands, especially the capital Honiara and it left 22 people dead.1,100 homes severely damage with 260 totally destroyed. Left around 10, 092 people homeless.

Hazard 3: Monsoon activity

- Flooding on low lying areas caused by heavy rain due to a monsoon trough(March. 2013) . Damage to homes, infrastructures ,properties and airport closure.