

Agenda 15.2:

Flood Early Warning System

Ravind Kumar

Fiji Meteorological Service



SPREP
Secretariat of the Pacific Regional
Environment Programme



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Background Information

- Hydrology was with Public Works Department within the Ministry of Works, Transport and Public Utilities;
- Later hydrology was transferred to Water Authority of Fiji;
- After 2012 Nadi flood, the mandate for flood forecasting was transferred to Fiji Meteorological Service (FMS);
- However, other functions of hydrology remains fragmented and lies with Water Authority of Fiji, Ministry of Waterways and Department of Mineral Resources.



Under the current mandate, Fiji Meteorological Service is responsible for:

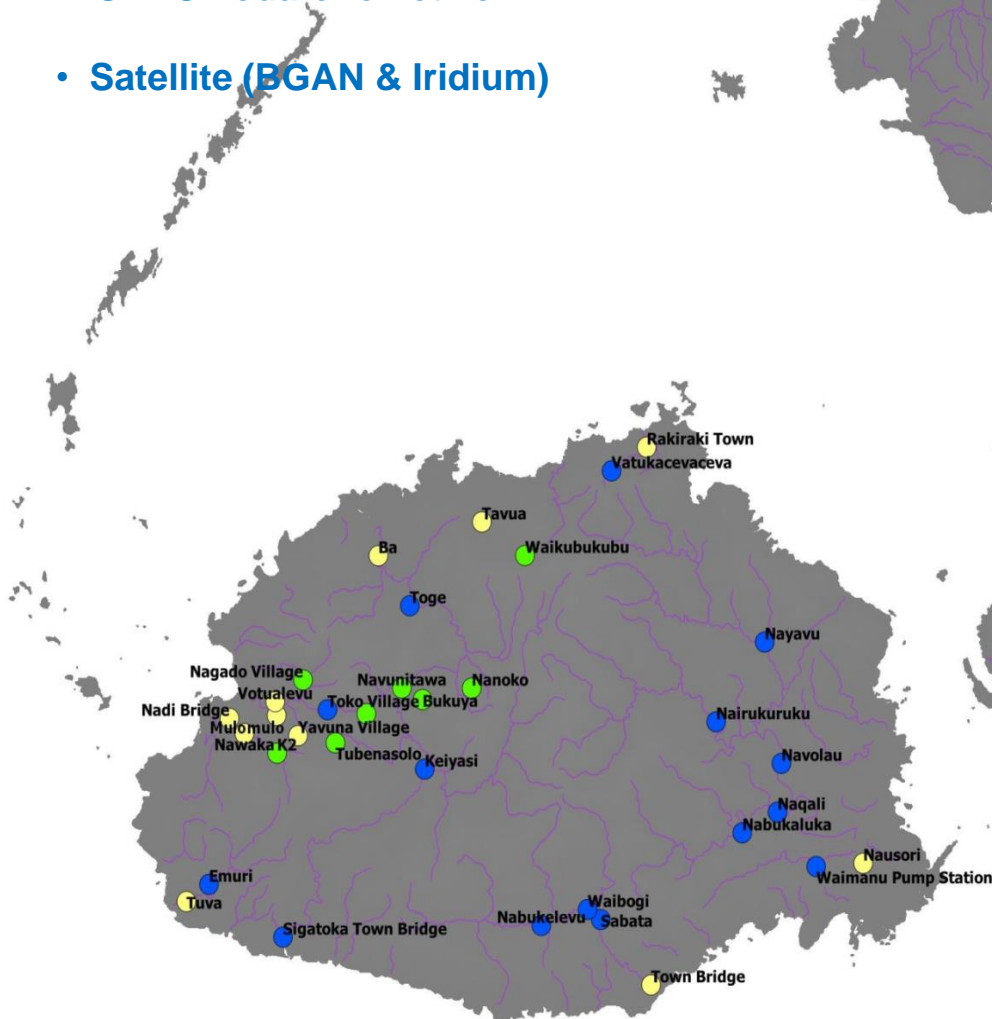
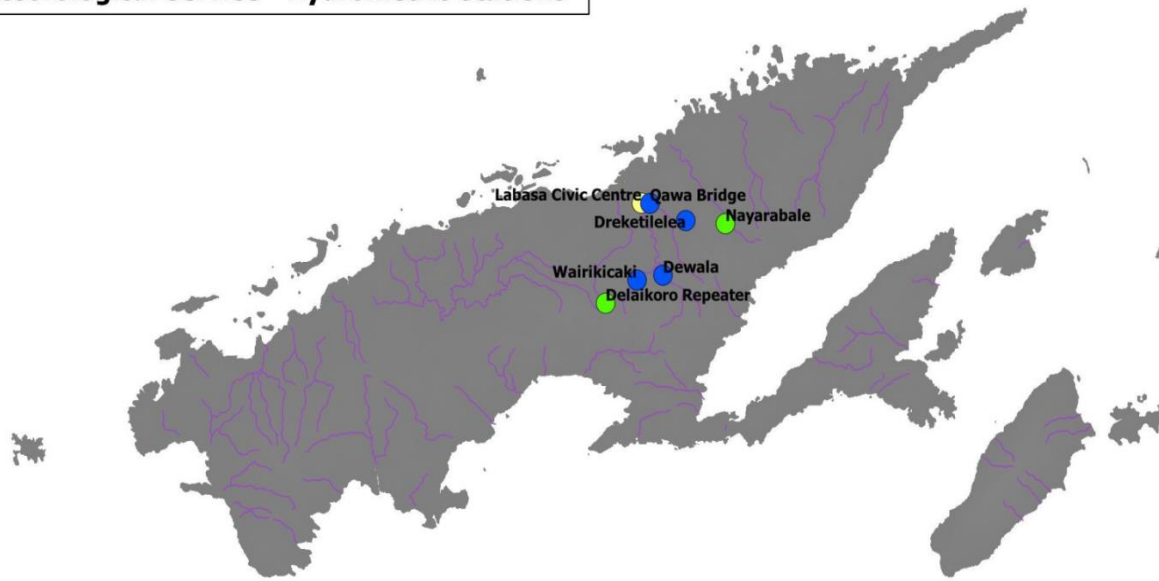
- monitoring major river catchments in Fiji;
- to investigate, analyze and interpret hydrological data for flood prediction; and
- issue of timely flood alerts, warnings and advisories for eight (8) catchments.

Fiji Meteorological Service - Hydrometric Stations

- Telemetered Raingauge (10)
- Telemetered Water Level Station (11)
- Telemetered Water Level & Rainfall Station (21)

Communication network

- GPRS Vodafone network
- Satellite (BGAN & Iridium)



▪ 17 WL & RF

▪ 13 WL

• 7 RF

Broadband Network

Data Sharing

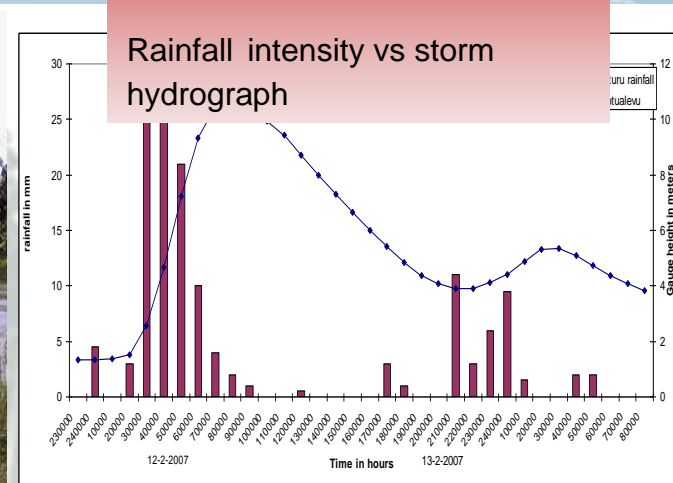
Vodafone Transmitter

Suva Office

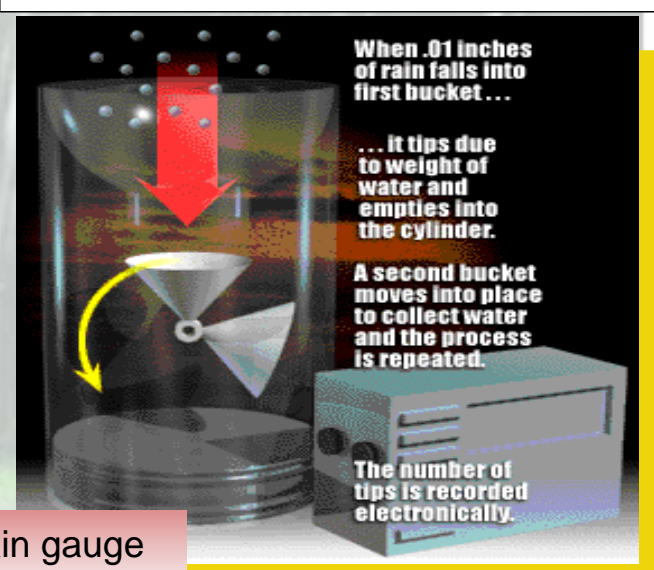
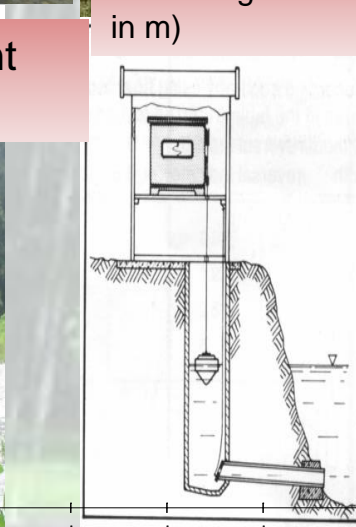
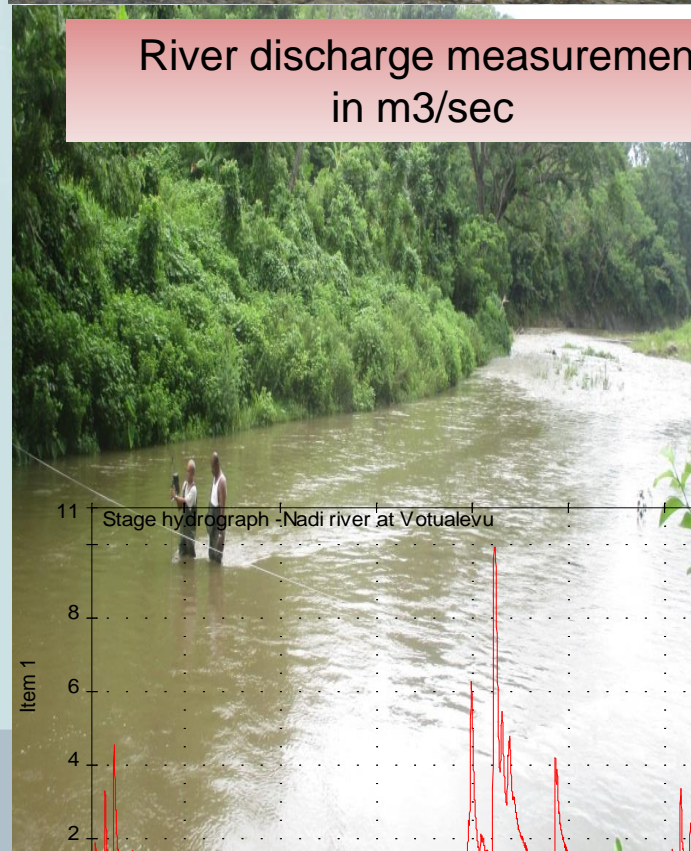
Nadi Office

Warning to Public/Community

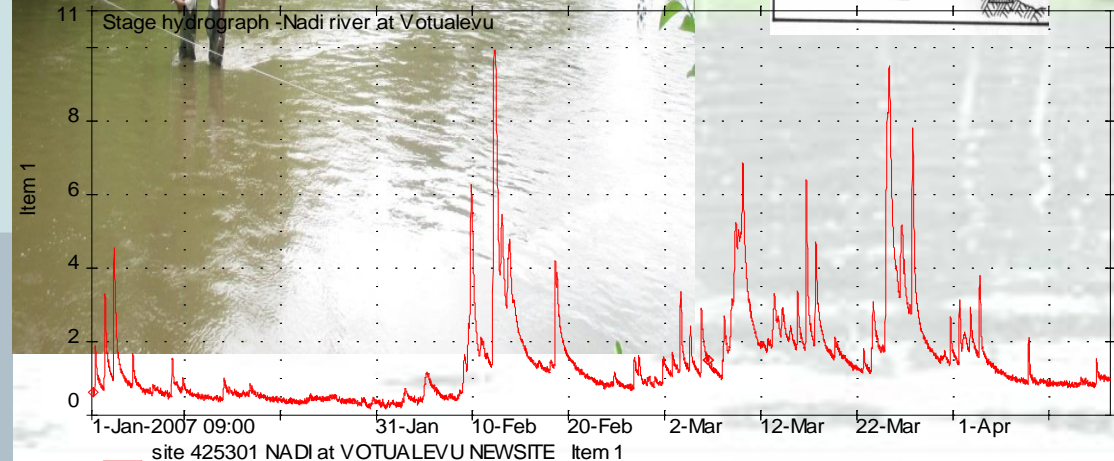
NDMO
DISMAC



River discharge measurement in m3/sec



TB Rain gauge

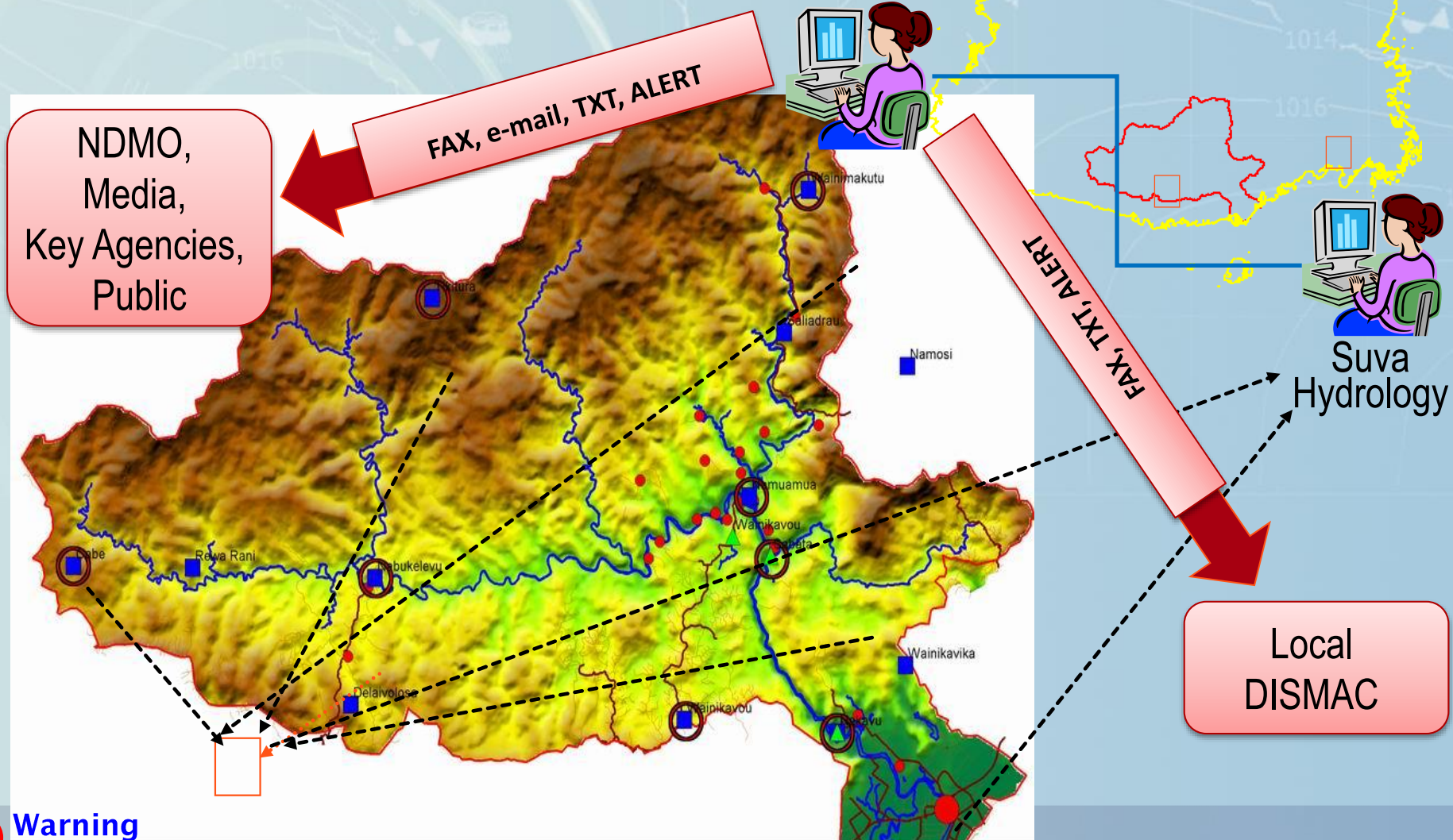


You cannot manage what you don't measure.

System Overview

NAVUA FWS

FWC, Nadi



Warning Gauge

River Level



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River State

stream
gauge
level
1.9 m

**Decision Tree
Approach FWS**

Trigger
1
Heavy
Rain

Advisory

Trigger
2
1.9

Alert

Trigger
3
2.5

Warning

I

RSMC
consider
tides &
situation

Manual

Community
Alert
Website,
SMS,
phone, radio,
TV, police,
media briefing,
etc.

Automatic

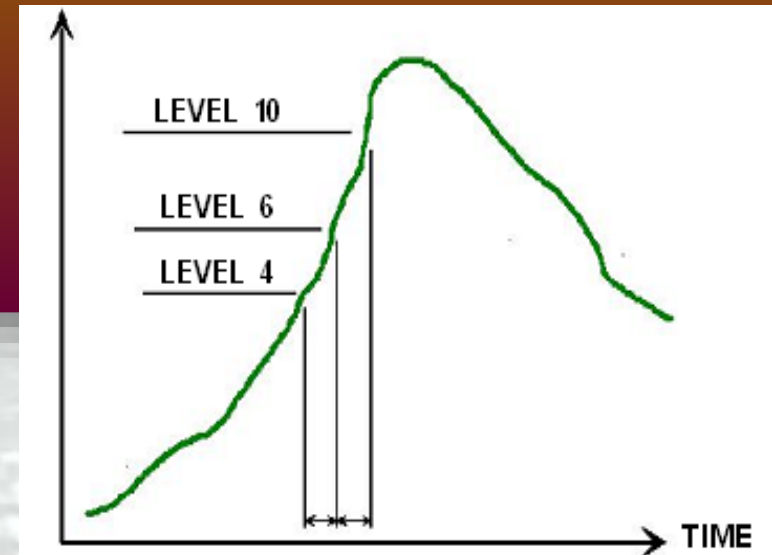
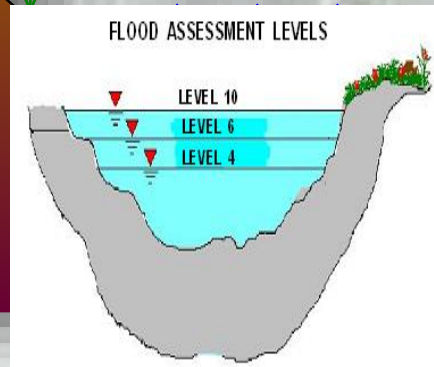
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- **Flood Advisory**

- Possibility of Flood Threat
- Suggests **Awareness (NDMO)**

- **Flood Alert**

- Flood threat within 24 hours
- Suggests **preparedness (NDMO)**



- **Flood Warning**

- Flooding expected within 6-12 hours
- Suggests **response (NDMO)**

Recommendation

- PMC is invited to note the FWS in Fiji;
- High resolution NWP and Catchment model critically needed to improve FWS;
- More flood monitoring stations are required for effective flood management;
- Fiji is in a need of technical assistance in a way of hydrological expert to fully set up hydrology functions including centralizing the hydrological services;
- Support for hydrological services, capacity building and appropriate tools for FWS is needed for PMC members.

THANK YOU TUMAS

