

INTEGRATED SWFDP-FFG GROUP CONOPS TEMPLATE

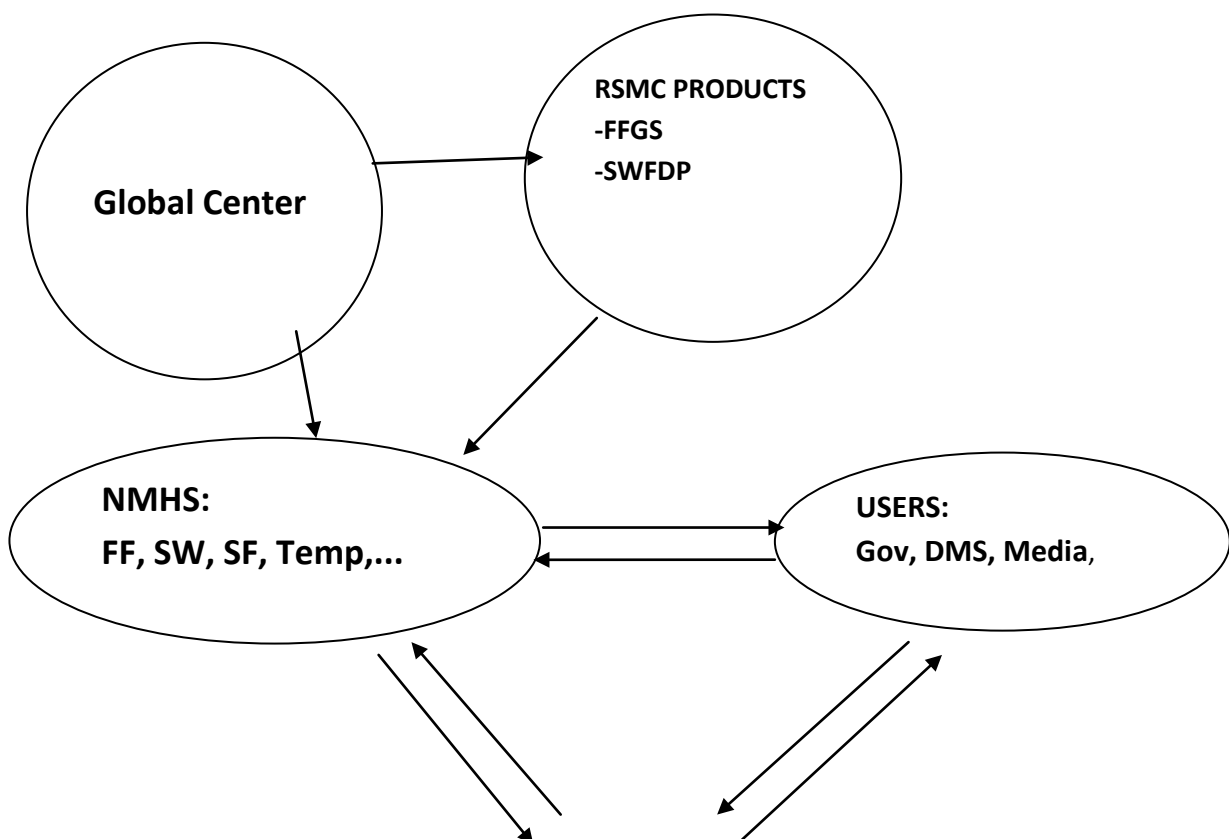
1. Introduction

2. Background

RSMC Pretoria: Roles and Responsibilities

RSMC Pretoria is the regional centre for the integrated regional hydro-meteorological early warning system in Southern Africa related to the SWFDP and SARFFG systems. The RSMC hosts the web interfaces for forecasters for both the SWFDP information received from global weather centres, and the SARFFG products from the SARFFG modelling system. The regional centre is responsible for the operational running of the SARFFG modelling system on its computers. Furthermore, the RSMC provides products from the SAWS Unified Model NWP system and its satellite nowcasting system. RSMC forecasters prepare guidance products every day for the next five days on potential severe weather over the Southern African region based on agreed thresholds. Regional training and workshop activities are coordinated by the RSMC. RSMC also is involved in developing products to improve forecasting to NMHS's.

3.- Routine Operations Information Flow of Forecast Products



Public

3. Information Flow

- The following information is received from the Global Centres:
 - ECMWF, Meteo Frans, U.K. Met, NOAA,
 - COSMO (Namibia)
 - HRC (Hydrology Reseach Centre)
- Information and products received from the global centres are sent to RSMC (Pretoria).
- RSMC Pretoria provides products through the dedicated SWFDP and SARFFG webpage
- In addition to products received from RSMC Pretoria, the NMHS received information and products directly from the global centres (COSMO ect).
- Asses the SWFDP and SARFFG products and issue warnings according to the set criteria
- The warning information is now disseminated to the users: Government, Media, Disaster Manager as well as directly to the Public.
- In addition the public also receive information from the Government, media and DM.
- NMHSs received Feedback from users and the media while users received feedback from media

Staff Operational Responsibility and Specially Areas

- Most of the NMHS offices do not operate 24hrs, making it difficult to issue forecasts for phenomena that may cause damages such flash flooding, that occurs in a short period of time
- The reasons being that:

- There are shortages of qualified forecasters
- No overtime payment
- No extended hours
- Examples of such is Swaziland where there are:
 - 8 qualified forecasters (6 PWS and 2 Aviation)
 - Operates between 0400Z and 1600Z(12hrs on duty &12hrs offduty)
 - The PWS forecasters analyse, produce and disseminate the weather forecast to the relevant end users
 - The aviation forecasters also analyse and produce forecasts for pilots. These include TAFS, SIGMET, ROFORS...etc
- Gaps:
 - Severe weather phenomena that happens after working hours cannot be covered
 - Shortage of staff
 - No instrument in place to cater for overtime should a need arise
 - No 13th Cheque
 - Training is very slow since there are few forecasters. Sending some for training affects the daily operations greatly
 - No incentives in place to motivate the forecasters. This discourages the forecasters to sacrifice their time to monitor a looming severe weather when they are about to leave duty

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5. Hours of Operation

Forecasters

1 station is functional for 24 hrs a day whereas the other stations work from 5am – 5pm. (Botswana and Zimbabwe).

The stand in station will cover for those who are not operational during certain hours of the night and will relay the message to the local forecaster who will then be vigilant or will relay the message the Disaster Management Departments in that area.

Lesotho works from 5am – 730pm.

Reactional operations - When there is a crisis (e.g. Flash floods, cyclones etc.) then a command station is set up and is functional for 24hrs during the period of the crisis.

If Forecast shows a potential hazard then a issue a warning before knocking of.

Observer to be vigilant & if something comes up he/she will wake the forecaster who will then react accordingly.

Hydrologists

Normal Work hours – (8am to 5pm)

Depending on what the Met Services have reported - When there is a crisis then a command station is set up and is functional for 24hrs (Usually during the rainy season).

6. Responsibilities of Support Structures

IT & technical components

Functional Work stations - good internet connectivity, back up generators and or Uninterrupted Power Supply (UPS), Synergie System.

Sustainability for the equipment needed

Maintenance & calibration of the equipment (automatic stations, radar etc.)

Research in Meteorology & Hydrology

Archiving the data for future research e.g. improvement of data inputs on the existing models, post processing.

Case studies

Forecast verification

7. National Forecaster Center

Operational Roles and Responsibilities

- Forecast Center
 - It responsible for collection, processing, and analysis of early warning data.
 - To provide guidance on the potential for flash floods in all regions;
 - To send messages to the relevant stakeholders including the regional met offices.
 - Responsible for consolidation and validation of flash floods in the country.
 - Main current weakness forecast office does not work 24 hours – due to inadequate man power.
- ICT
 - Responsible to maintain the entire system and make sure it's available to forecasters
- Observation Department

- There is need to maintain the existing observation infrastructure and work towards having stations reporting data in real time.
- Improvement in rainfall measurements in the station.

8. REGIONAL FORECAST OFFICES

- We have regional offices but we do not have capability to issue forecasts due to lack of equipment and man power.
 - Regional centers only disseminate the messages from NFC.
5. Hours of operation
- Currently we do not work 24hours.
 - It highly recommended that this should not be case because severe weather occurs at any time.
 - No one can be contacted in case of any emergency when severe weather occurs at night.

9. ROUTINE OPERATIONS

FFG/SWFDP PRODUCT OVERVIEW

1. Heavy Precipitation
2. Extreme Temperatures/heat waves/FDI
3. Wind
4. Thunderstorms(hail, lightning, tornadoes,
5. Flash flooding/River flooding
6. Droughts
7. Sandstorms
8. Storm surges
9. Poor visibility(dense fog/mist)
10. Forest and veld fires

Preliminary Evaluation

- Meteorological Evaluation –
 - Previous
 - Current
 - Forecast
 - Satellite evaluation
- Hydrological evaluation
 - Soil moisture
 - Stream conditions

- Reservoir level
- Quantitative precipitation forecast
 - Expected amount of precipitation

SWFDP AND SARFFG Product Evaluations and Applications

- Products will be evaluated and applied according to the relevant SOPs (in development /attached in apendix)

Information Dissemination

- Routine bulletins – issued to users and stakeholders via emails, websites, fax, facebook, tv, newspapers
 - Daily bulletins
 - 10 daily bulletins
 - Monthly bulletins
 - Quarterly bulletins
- Watches/Warnings/Alerts
 - Media (radio, tv, newspapers,
 - SMSes
 - Social networks
 - Press release
 - Emails
 - Fax

Reporting Requirements

- Feedback
 - Trained observers
 - Media
 - Disaster management reports
 - General public
 - Instruments

10. Future Operations

Hydrology & Meteorology

Use of FFG products

More capacity building until the system is well understood

Continuous Training for disaster managers, meteorologists and hydrologists

Opportunity to have access to model configurations.

Operations between the meteorologists and hydrologists (Unit that will use the SWFDG-FFG)

Radar acquisition

Production of bulletins in local languages

Legislation to ensure everyone reacts in situations of disasters.

Development for phone applications e.g. android based software

Teach focal people on outreach methods

Cut down on bureaucracy (within the country and between countries) during disaster situations.

MOUs in case of disasters that affect more than 1 countries e.g. River Basin Agreements, bi-lateral agreements

Outreach should be joint between meteorology, disaster management, and hydrology

12 Outreach

Public Awareness – campaigns (responsibility of disaster management, meteorology services and hydrology)

Training of high level delegations e.g. MPs, Ministers

Training to the media, district & village disaster management teams.

Take advantage of gatherings to relay the message. E.g. church gatherings

Media releases – press, tv, radio

Web pages are used

Community radios e.g. Radio and Internet Technology (RANET)

SMSes to focal people e.g. community leaders, teachers

Social media e.g. whatsapp etc

Co-ordination by meeting (Inter-departmental)

13. SYSTEM VALIDATION

- It's checking the performance of the models and sees how it can be improved on other aspects.
- Keeping a log of system of up and down time.
- Comparing the system outputs with actual observation.
- Making notes of the areas where the system is under estimating and/or over estimating and feed that information to the system administrators.
- This would help with correcting any bias in the system.

14 NON-ROUTINE OPERATIONS – OPERATIONS DURING UNUSUAL EVENTS

- Special bulletins must be prepared for special events like
 - Public event e.g. independence day, political rallies
 - Football
 - Epidemics
 - Pest control
 - Disaster relief operations
 - In case of floods, need to know there is more rain coming etc
- Special bulletins responding to hoax which could be circulating in social media.
- Not working 24 hours especially in the rain season, when it comes to severe wx, its necessary to make arrangement if any unexpected event is pre-eminent.