

The SWFDP and SARFFG projects of WMO in Southern Africa

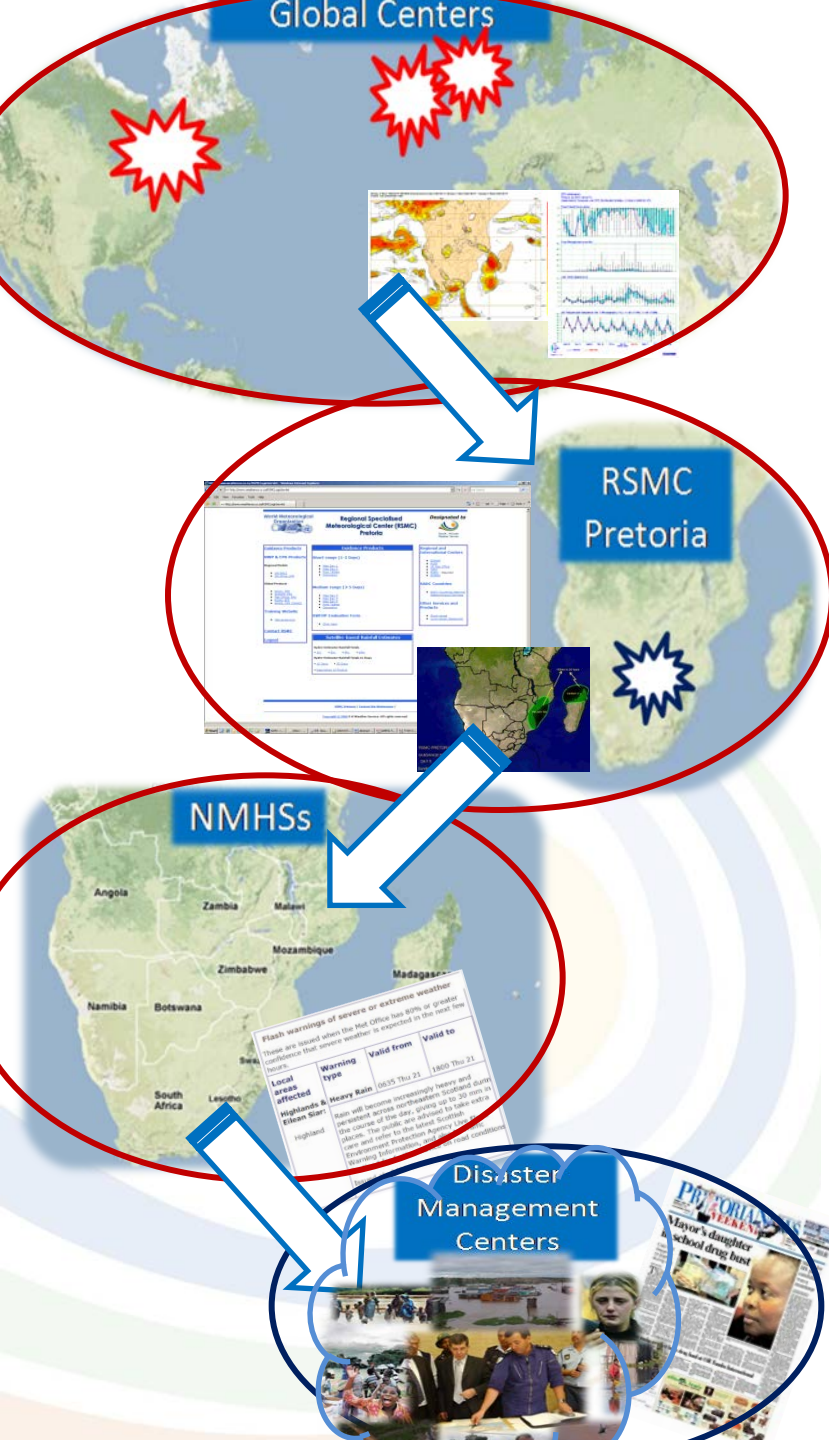
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SWFDP:

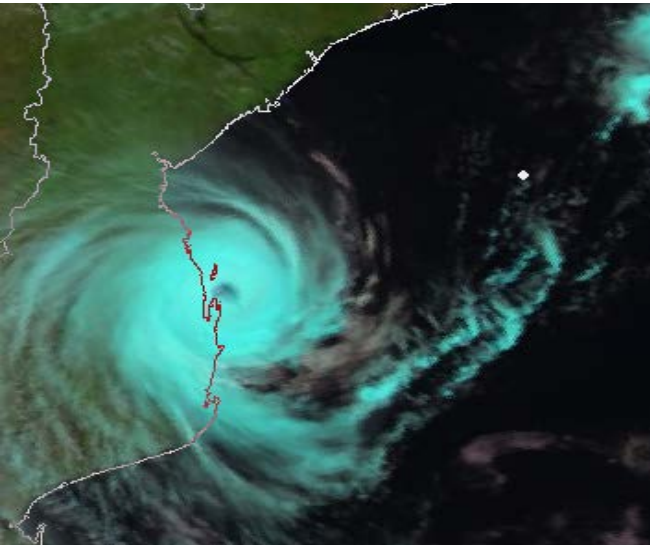
Severe Weather Forecasting Demonstration Project

- Framework backbone: “Cascading of Information”
- Global Centres
 - Provide specialized forecast products
- Regional centre (RSMC Pretoria)
 - Provide these products to NMSs through a dedicated web page
 - Provide guidance forecasts of potential severe weather for next 5 days, every day
- 16 National Meteorological Services
 - Assess the products and guidance
 - Issue national warnings with up to 5 days lead time
- Underpinned by regular training
- No complex technology required

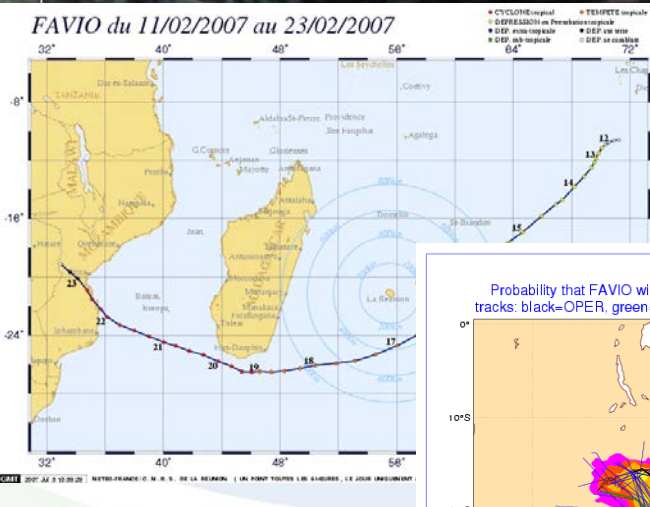


Tropical Cyclone Favio: 20-24 Feb 2007

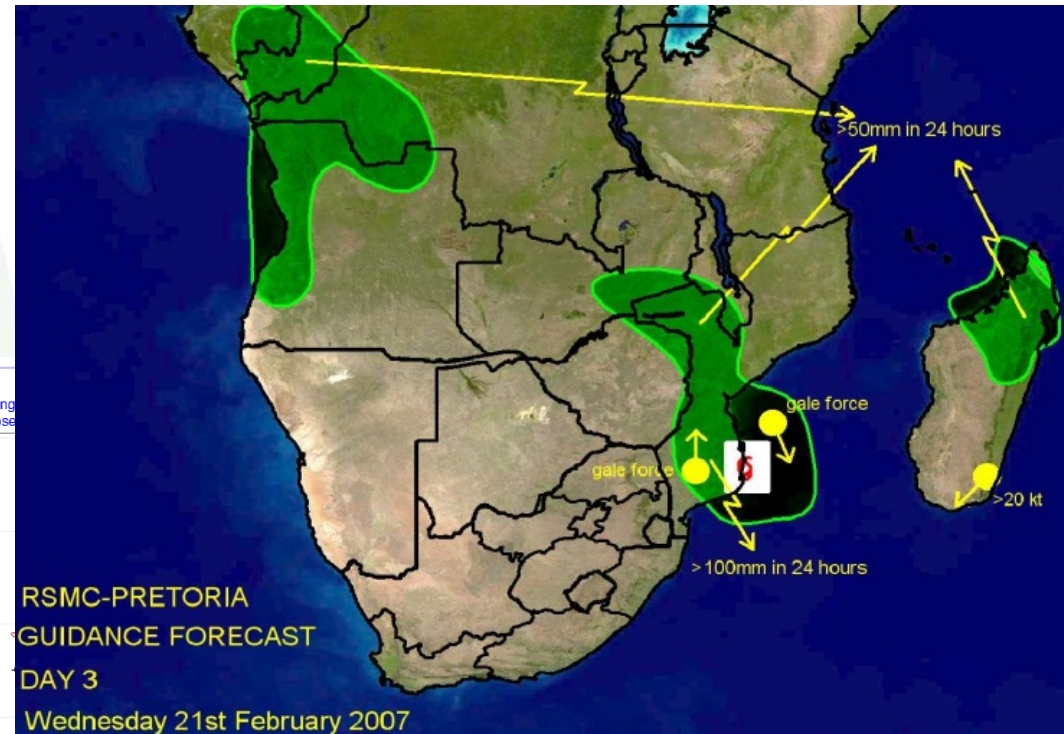
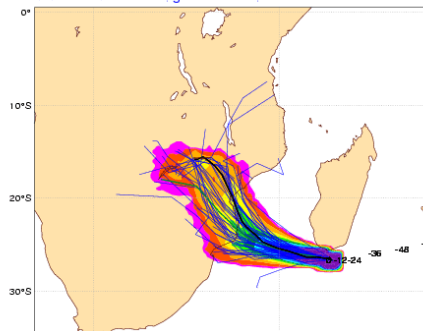
- Widespread damage over Mozambique and Zimbabwe
- Warnings issued on potential landfall and movement up to 5 days in advance
- Landfall predicted at Vilancoulos, moving to Eastern Zimbabwe



FAVIO du 11/02/2007 au 23/02/2007

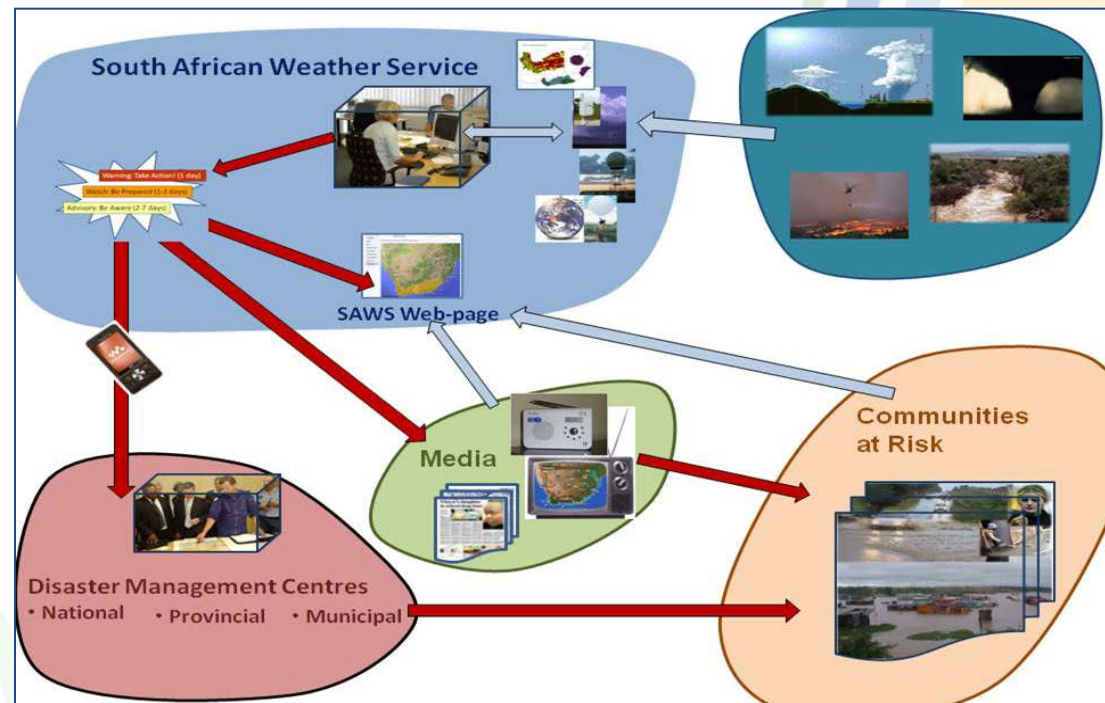


20070219 12 UTC
Probability that FAVIO will pass within 120km radius during tracks: black=OPER, green=CTRL, blue=EPS numbers: obs

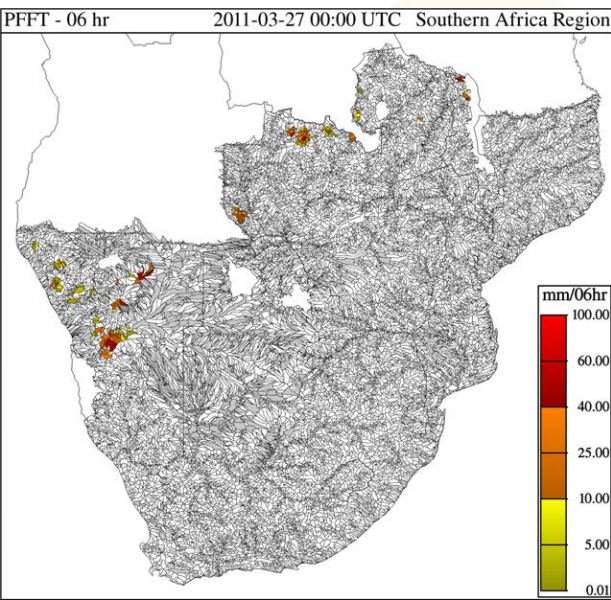
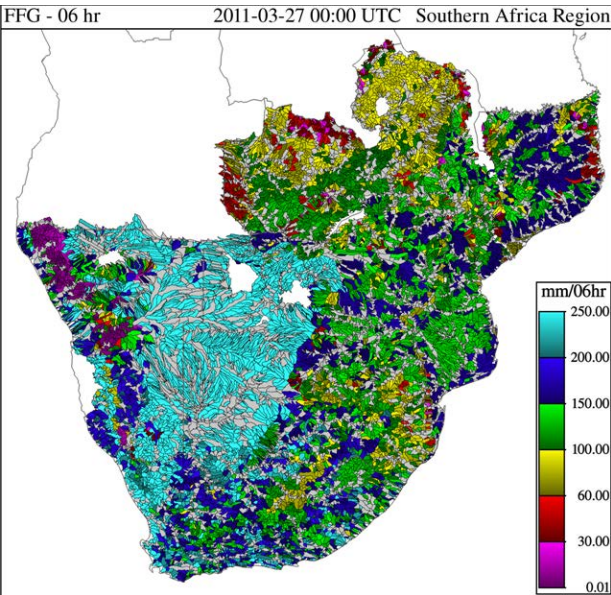


Enhanced National EWS from SWFDP

- NMSs evaluate model products supported by RSMC guidance products
- Issue warnings if needed against their own in-country criteria for severe weather
- Collaborate with Disaster Management in JOCs prior and during events
- Media Liaison
- Adapted warning information products supporting user decision-making systems

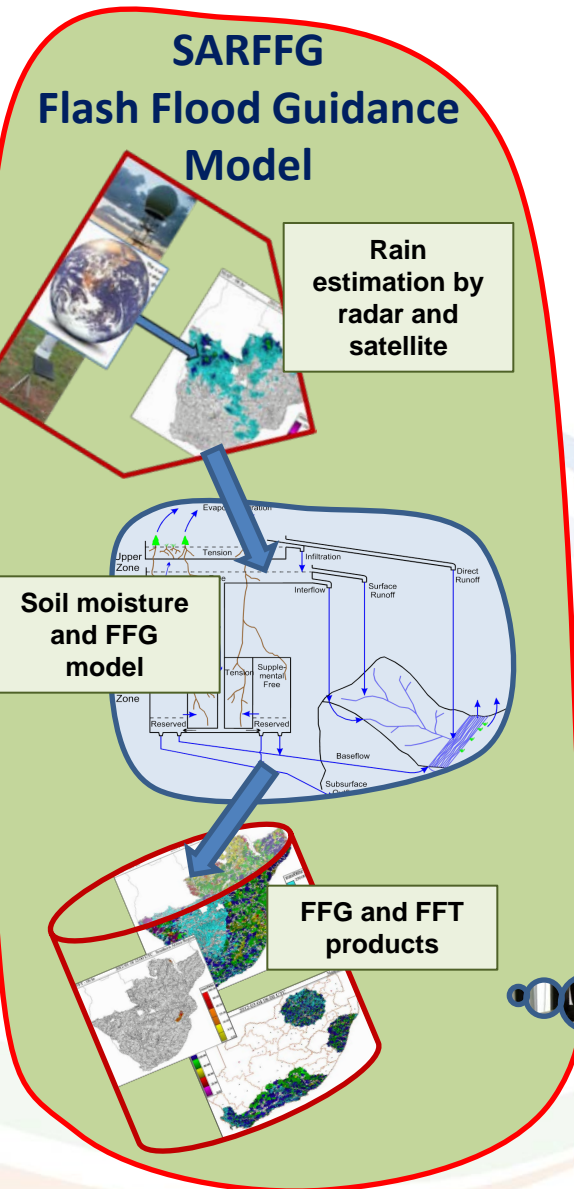


SARFFG: Southern African Regional Flash Flood Guidance system



- WMO initiated a global project to implement flash flood guidance systems (FFGS) in various regions of the world
 - Based on the system implemented in Central America (Costa Rica)
- Southern Africa (9 countries) identified as such a region
- SARFFG implemented operationally in Feb 2014 with NMSs
- Aim is to improve flash flood warnings to disaster management and the public
- Nowcasting application based on satellite information

Flash Flood Warnings: The SARFFG hydro-meteorological model

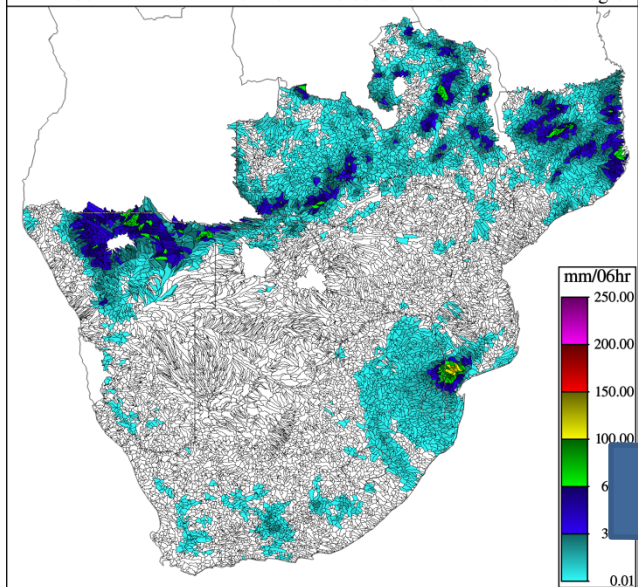


- Provides a 6-hour forecast of flash flood potential for next 6 hours
- Data input: hourly satellite rainfall estimation
- Hydro-met modelling for 20,000 small river basins covering 9 countries
 - Calculate soil moisture content and other hydrological parameters for each basin
 - Predict flash flood threat for next 6 hours
- Provide guidance to forecasters to use with other info for potential flash flood warnings

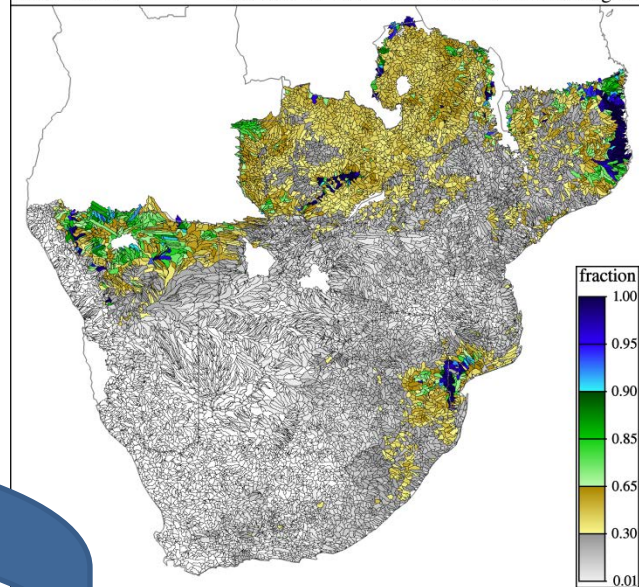


Tropical Cyclone Dando: 17-18 Jan 2012

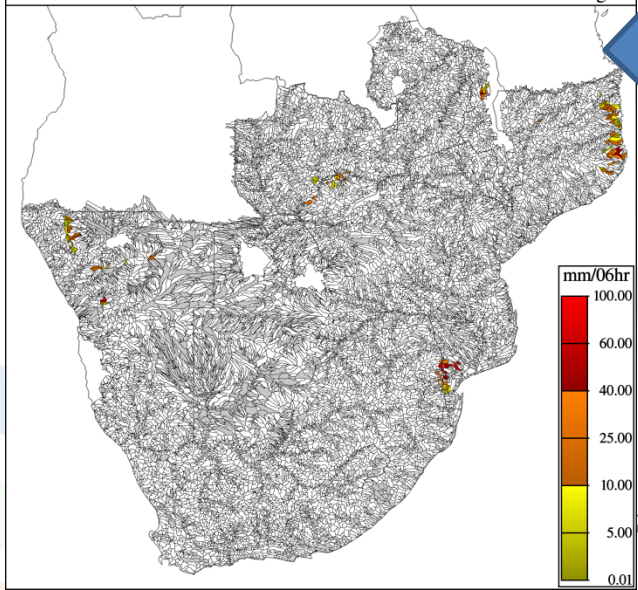
MAP - 06 hr 2012-01-17 18:00 UTC Southern Africa Region



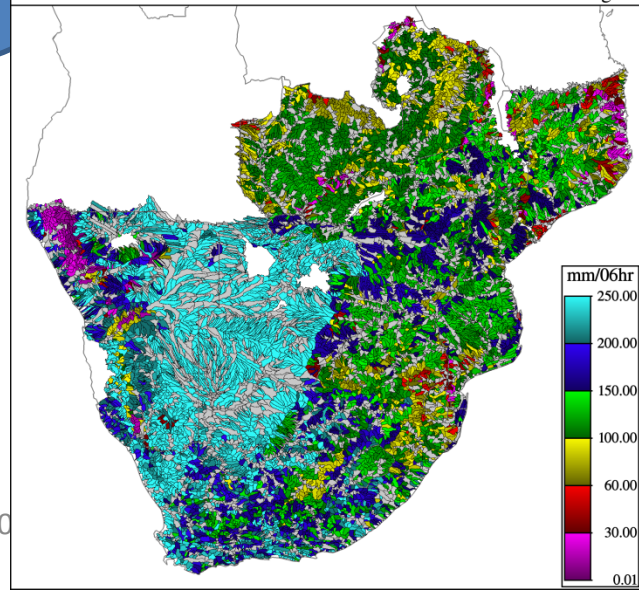
ASM - 06 hr 2012-01-17 18:00 UTC Southern Africa Region



PFFT - 06 hr 2012-01-17 18:00 UTC Southern Africa Region



FFG - 06 hr 2012-01-17 18:00 UTC Southern Africa Region



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Conclusion

- SWFDP guidance supports each country's NMS with weather forecast guidance and products every day for next 5 days
- SARFFG provides hydrological guidance to NMSs and NHSs of potential flash floods
- Both support provision of warnings to Disaster Management
- Twinning project by WMO aims to integrate systems of SWFDP and SARFFG, including enhanced user products
 - Supported by technological enhancements
 - Additional products for forecasters and users