SWFDP-SA: Overview

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DEVELOPMENT OF REGIONAL EARLY WARNING SYSTEMS

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Adaptation through Enhanced Early Warning Systems

- The IPCC Special Report on Managing the Risks of Extreme Events and Disasters (Nov 2011), stating:

  - *"A changing climate leads to changes in the frequency, intensity, spatial extent, duration and timing of extreme weather and climate events, and can result in unprecedented extreme weather and climate events"*

  - *Developing countries are more at risk*

  - *"It is likely that the frequency of heavy precipitation….will increase in the 21st century…"*

- This calls for EWS even at the shortest timescales, tailored to local levels, because that is where the impact of increased number of disasters will be felt most strongly

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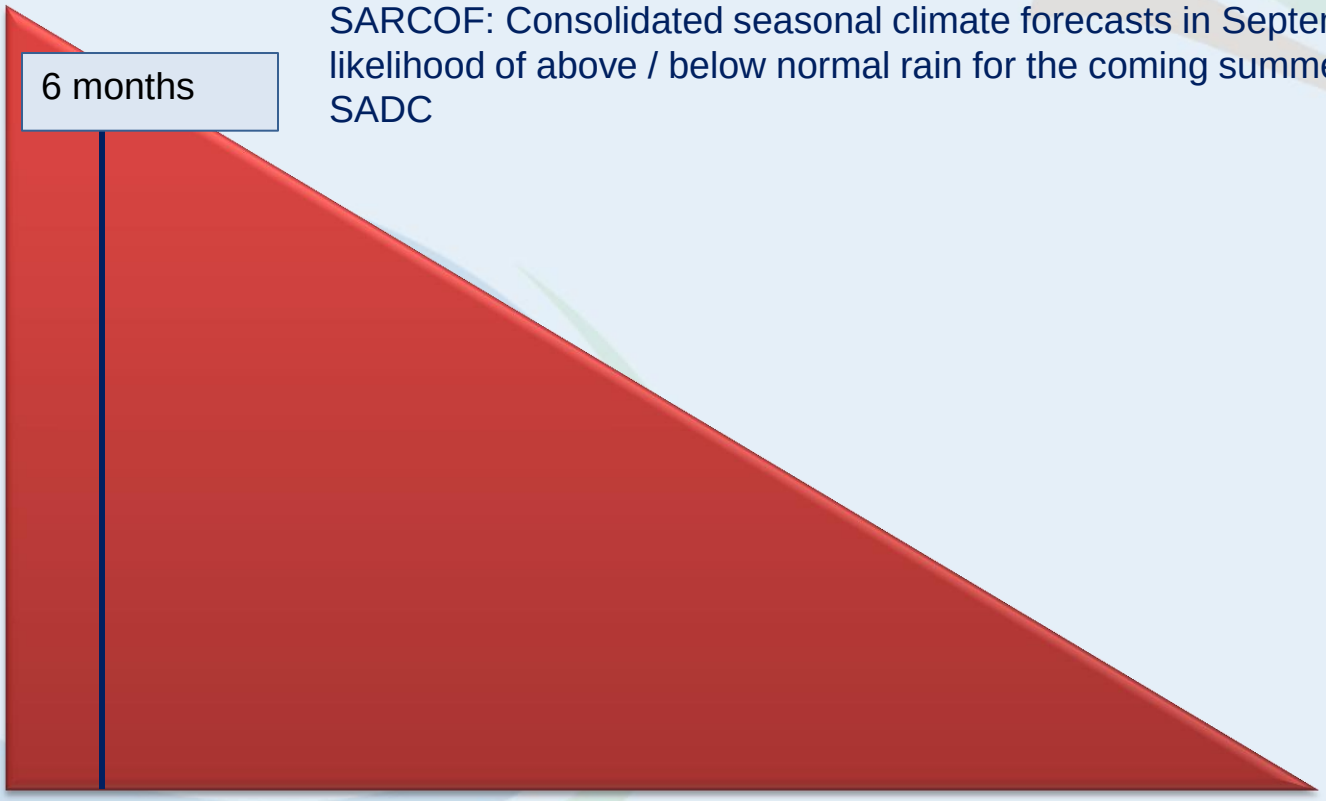
Progress in the Development of Regional EWS in Southern Africa



SARCOF: Consolidated seasonal climate forecasts in September on the likelihood of above / below normal rain for the coming summer season over SADC

Late 1990's

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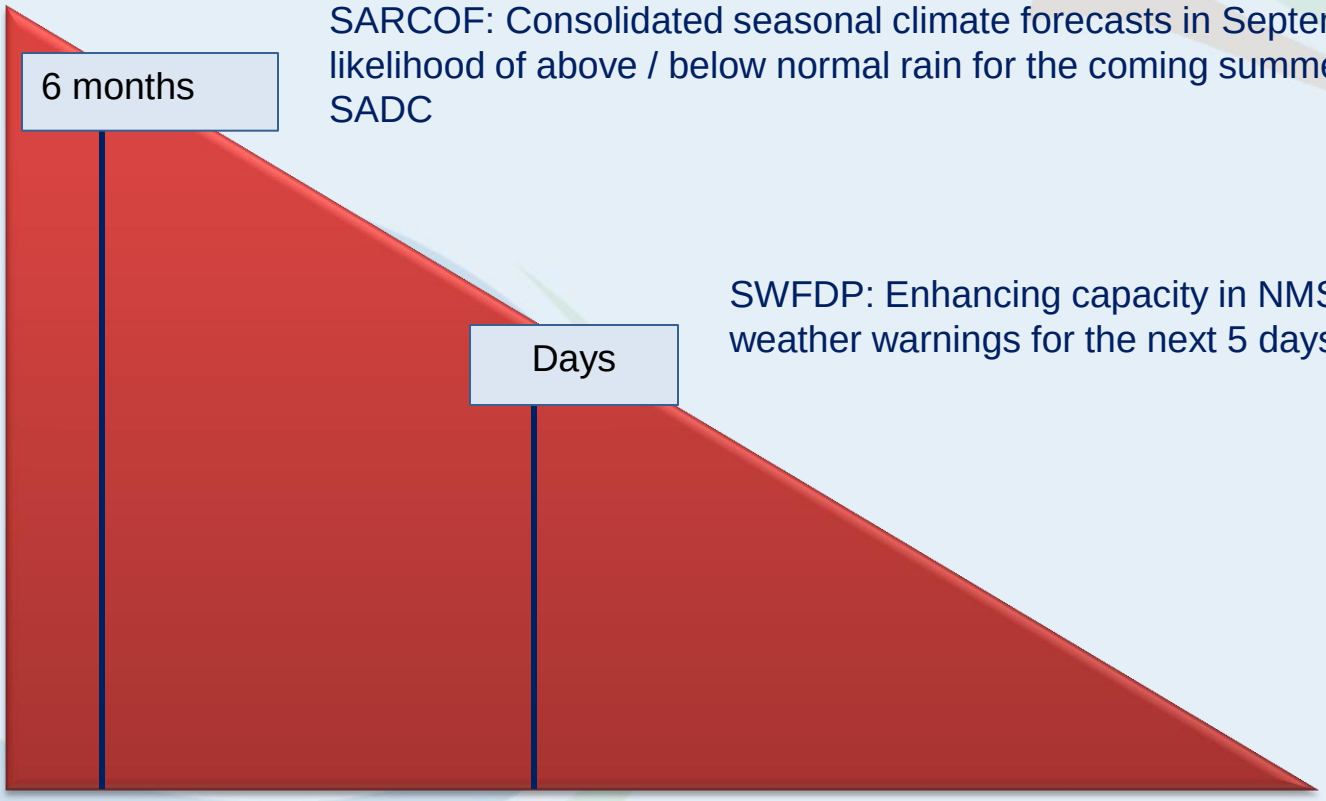
Progress in the Development of Regional EWS in Southern Africa



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SWFDP: Enhancing capacity in NMSs to issue severe weather warnings for the next 5 days

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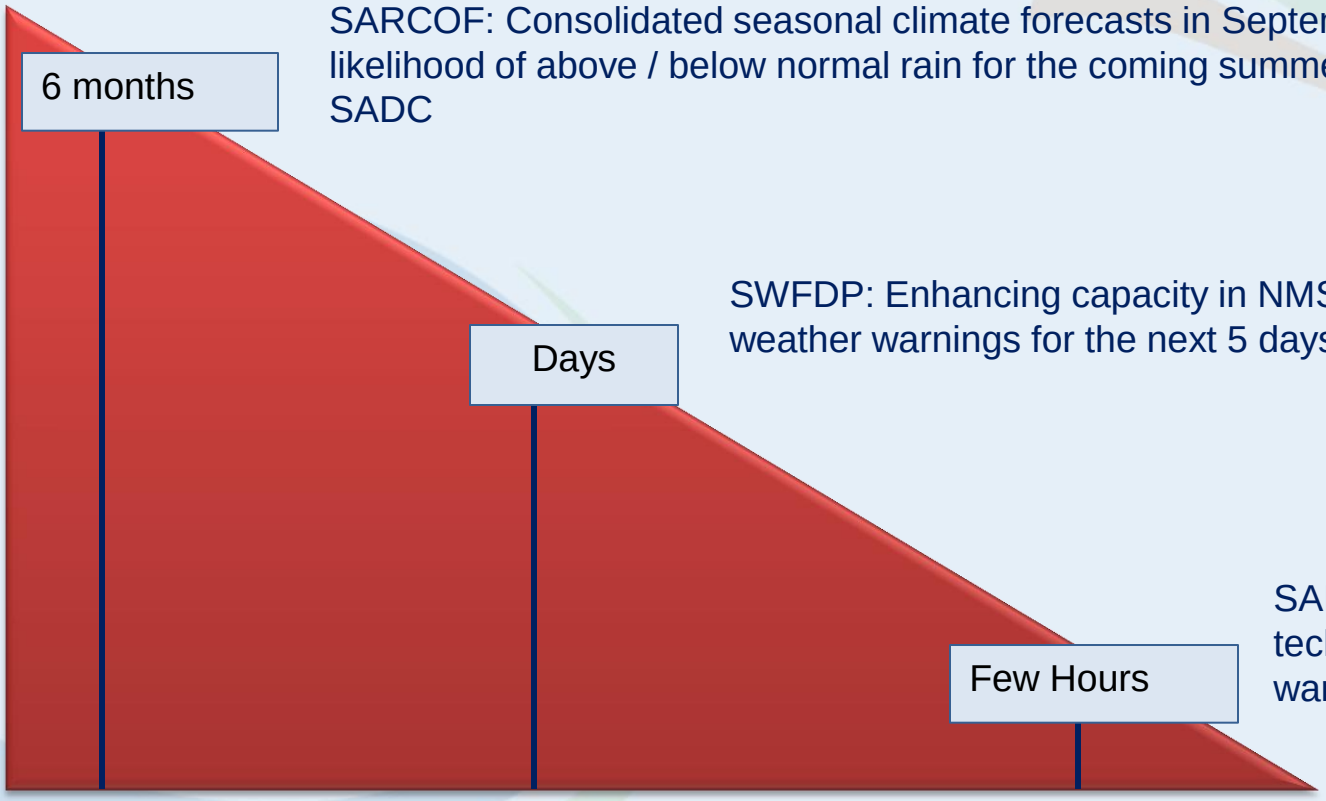

SARCOF: Consolidated seasonal climate forecasts in September on the likelihood of above / below normal rain for the coming summer season over SADC

SWFDP: Enhancing capacity in NMSs to issue severe weather warnings for the next 5 days

SARFFG: Developing technology for flash flood warnings

SWFDP–SA: OVERVIEW

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Aim of the WMO SWFDP Program

- To improve ability of National Meteorological Services (NMSs) to forecast severe weather events for the next 5 days using existing technology – to close the technology gap
- To improve interaction of NMSs with Disaster Management Agencies
- SWFDP is about *enhancing delivery of warning services as adaptation against a likely increase of disasters due to climate change and socio-economic vulnerabilities*

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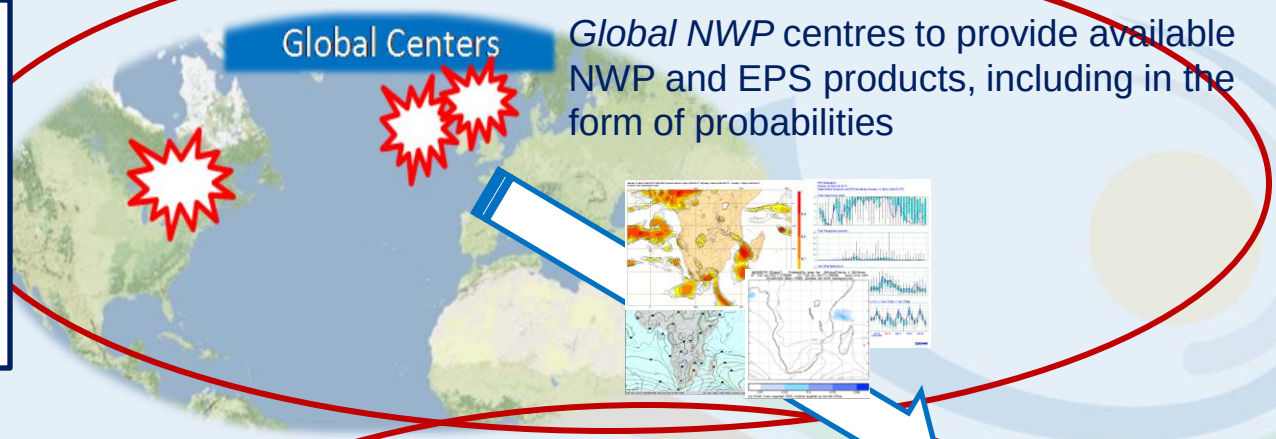
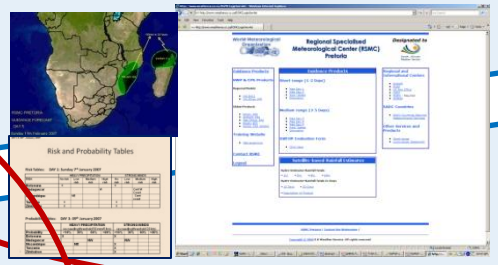
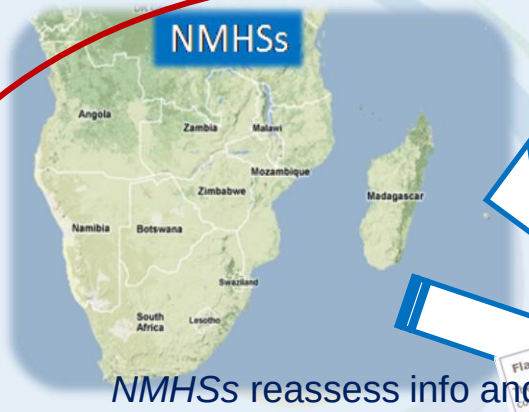
SWFDP Cascading Process



Global NWP centres to provide available NWP and EPS products, including in the form of probabilities

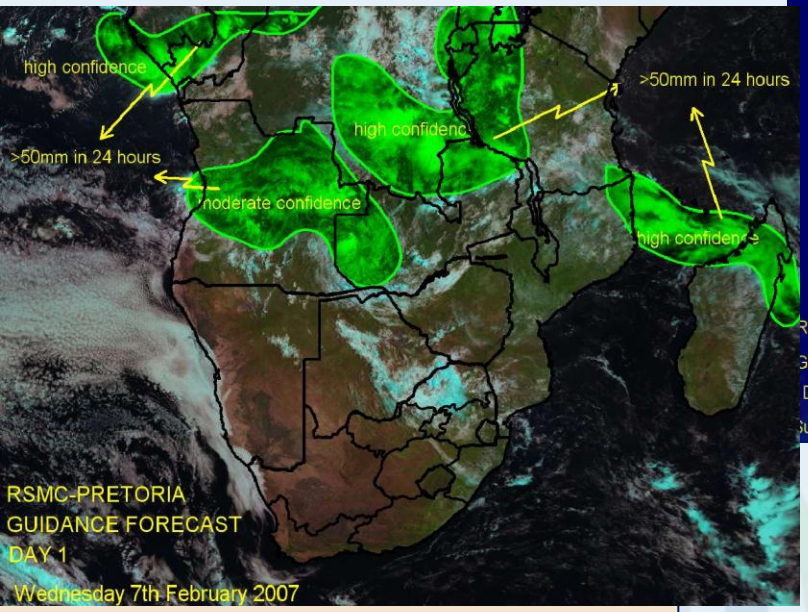
Regional centre interprets information from global centres, Prepare guidance forecasts for NMHSs, run limited-area model to refine products

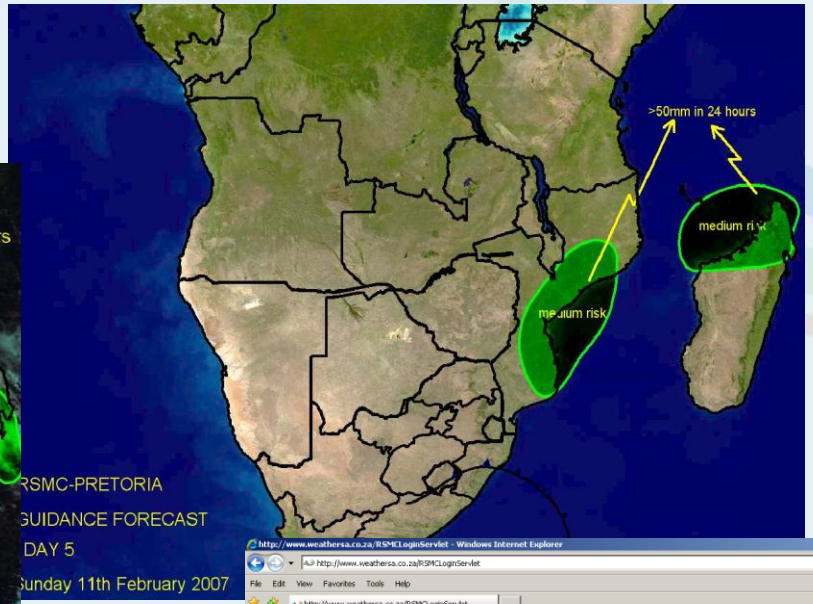




NMHSs reassess info and issue country warnings to Disaster Management and public if needed

Examples of SWFDP Guidance Products from RSMC Pretoria





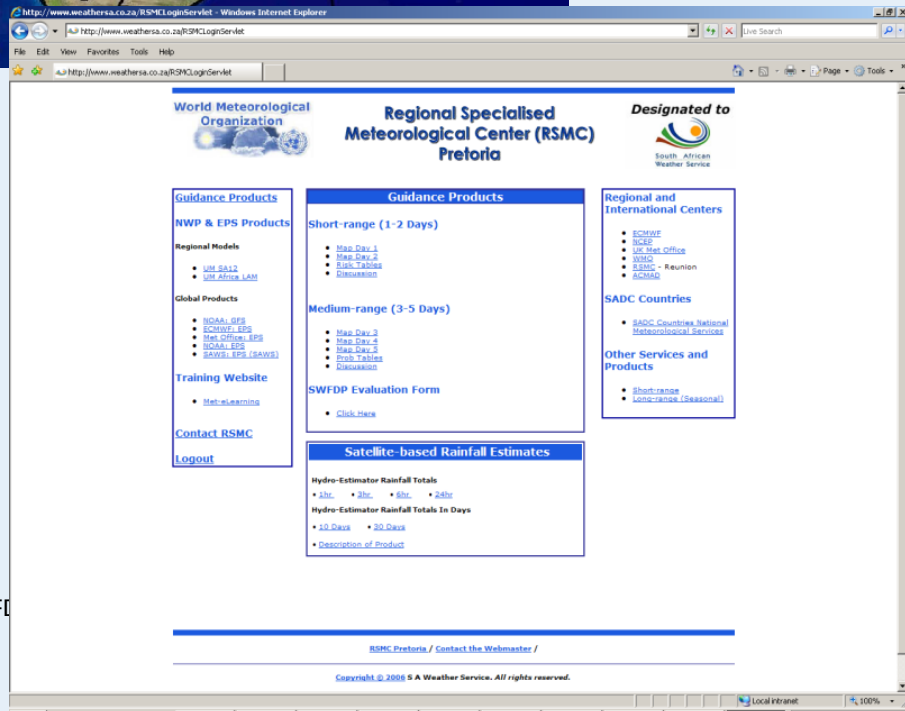
Risk and Probability Tables

Risk Tables: DAY 1: Sunday 7th January 2007

	HEAVY PRECIPITATION				STRONG WINDS			
RISK	No risk	Low risk	Medium risk	High risk	No risk	Low risk	Medium risk	High risk
Botswana	X				X			
Madagascar				W			Cent W Coast	
Mozambique		NE					Cent coast	
Tanzania	X				X			
Zimbabwe	X				X			

Probability Tables: DAY 3: 09th January 2007

	HEAVY PRECIPITATION (exceeding threshold 50 mm/6 hrs)				STRONG WINDS (exceeding threshold 20 kts)			
Probability	<10%	30%	60%	>80%	<10%	30%	60%	>80%
Botswana	X				X			
Madagascar			NW			NW		
Mozambique		NE			X			
Tanzania	X				X			
Zimbabwe	X				X			



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Evolution of the SWFDP-SA Project

- Phase 1: July 2006 – Oct 2006
  - started with a planning meeting in Aug 2006 in Pretoria, South Africa, followed by the first regional training session in November 2006 in Pretoria, South Africa
- Phase 2: Nov 2006 – Nov 2007
  - The demonstration phase based on 5 NMCs, RSMC, 3 Global Centres
- Phase 3: Dec 2007 – Dec 2011
  - MASA requested WMO to roll SWFDP out to the entire region, based on the successes of the demonstration phase
  - The SWFDP activities was rolled out to all 16 Southern African countries

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Evolution of the SWFDP-SA Project: Phase 4

- Phase 4: Jan 2012 - ?
  - Long-term sustainability and continuous development phase
  - SWFDP-SA oversight has been transferred from WMO to MASA
  - Embracing other warning system into the basic framework established by SWFDP – flash flooding through SARFFG, etc.
- Recognized that some countries need more help to fully benefit from SWFDP = specific efforts will continue to support those countries

➢ SWFDP developed a framework for collaboration among NMSs, and with their disaster management structures and media to be used by other programmes

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Successes and Challenges of SWFDP

- SWFDP was generally successful in building the forecasting capacity and improving warnings services in many countries, because:
  - ✓ Of its simplicity and operational focus (NMSs only needed internet)
  - ✓ It built capacity that could be immediately used in an operational environment by all countries involved
- It opened channels between weather forecasters and disaster managers in countries where they did not exist in the past
- It highlighted the challenges in effective warning dissemination to end-users, and with disaster management structures
- Highlighted the need for enhancing in-country public responsiveness through public awareness campaigns

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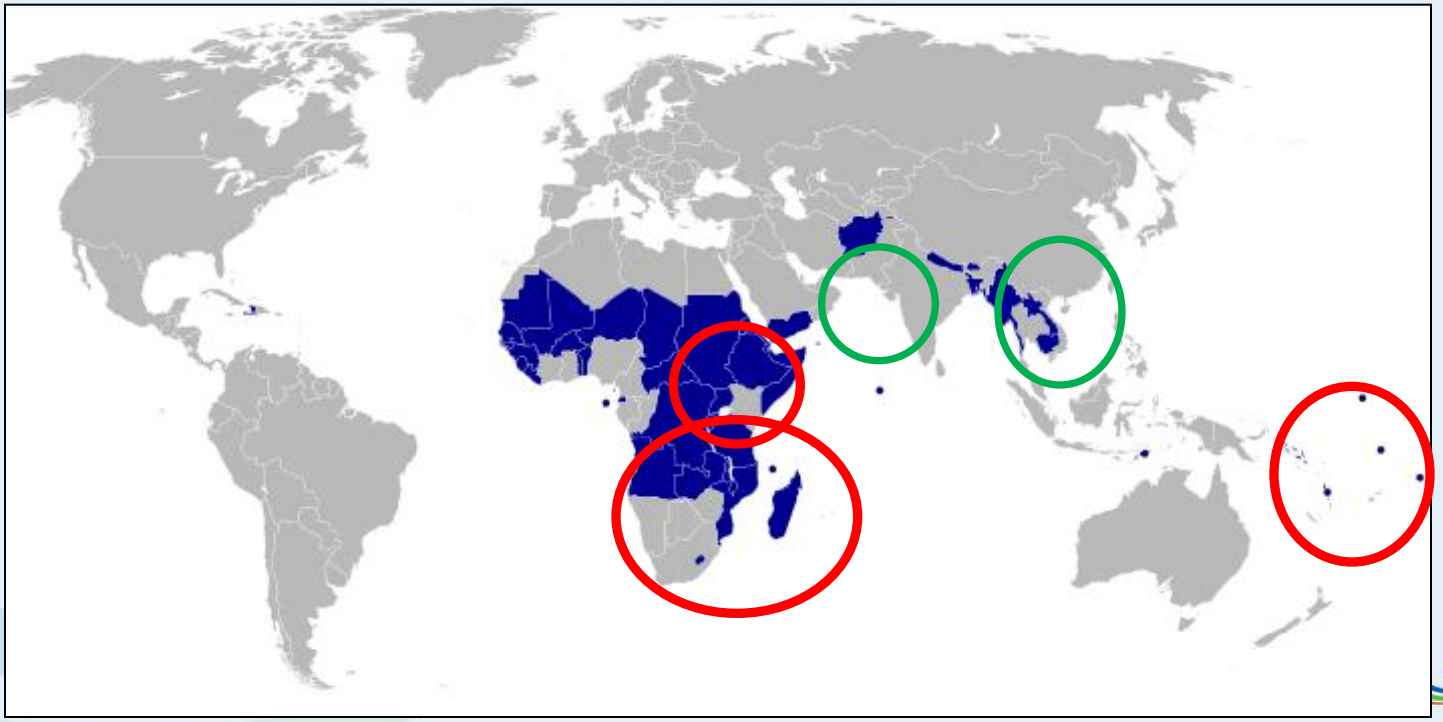
International Impact of SWFDP

- The SWFDP concept is now also implemented by WMO in the Southern Pacific islands and East Africa, and WMO is targeting at least 2 new regions, all based on the success in Southern Africa



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Thank you

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