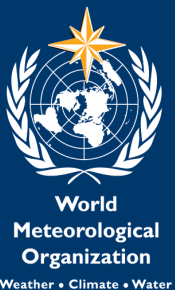


International Workshop on the Recovery and Digitization of Climate Heritage in the Indian ocean rim Countries and Islands

Maputo, Mozambique

21 to 24 April 2014



BACKGROUND AND GOALS

Understanding the science explaining the role of the Indian Ocean in triggering regional and larger scale climate variability and related extremes such as droughts, heavy monsoon and flooding is important to sustainable global development. East African droughts, Australian droughts, flooding in Southern Africa which also frequently hits Mozambique, flooding in India and Pakistan just to name a few, have caused large socio-economic impacts in the affected countries, often resulting in disasters. Developing a strong data foundation will help in achieving an improved understanding of the role of key climate drivers that lead to these extremes. These data will also provide information on the characteristics of the extremes and enable improved prediction of their occurrence in a timely manner. Over many years, the World Meteorological Organization and the National Meteorological and Hydrological Services (NMHS) have made significant efforts in capturing climatic data. However, a substantial amount of old climate archives going back to the 19th century are available but often stored under poor conditions. Large parts of these archives are on paper and need to be recovered, imaged and digitized before they deteriorate beyond use. The implementation plan for the Global Framework for Climate Services (GFCS) includes large scale Data Rescue as a priority area. The workshop aims to:

1. Provide information on major regional and international data rescue projects and activities and the vast potential to recover historical weather and climate observations from both terrestrial and marine sources around and across the Indian Ocean basin;
2. Provide a forum for NMHSs from across the Indian Ocean region to assess gaps, challenges and opportunities with regard to accessing historical weather and climate data in the region and abroad;
3. Inform climate experts from NMHSs about modern Data Rescue and data analysis methodologies and tools through a dedicated parallel technical session; and
4. Agree on an implementation plan for an INdian Ocean Data REscue Initiative (INDARE) aimed at enhancing the quality and quantity of historical terrestrial and marine weather and climate observations. INDARE will therefore constitute a vital basis for the GFCS in the region, and the genesis of long-term collaborative efforts in the region, on climate data and its use in providing climate services.

Three side meeting/events are also planned. A side meeting will provide information on the African Ministerial Conference on Meteorology (AMCOMET). Two side events, one will be a preparatory meeting for the 3rd International Conference on Small Island Developing States (SIDS) (Samoa, September 2014) aimed at informing the NMHSs on ways to engage in the processes leading up to the Conference. The second side event will inform participants about progress of the implementation of the Canadian funded GFCS project “Programme for Implementing the Global Framework for Climate Services (GFCS) at Regional and National Scales” and will seek the specific engagement of countries in planning and carrying out some of the activities.

INVITED COUNTRIES

Afghanistan	Myanmar	Comoros	La Réunion (FR)
Australia	Nepal	Kenya	Seychelles
Bangladesh	Oman	Madagascar	Somalia
Bhutan	Pakistan	Maldives	South Africa
India	Sri Lanka	Mauritius	Tanzania
Indonesia	Thailand	Mozambique	
Malaysia	Yemen		

International Scientific and Coordination Committee

Dr Rob Allan
Dr Joseph R. Mukabana
Dr William Wright
Prof. Manola Brunet
Dr Albert K. Tank
Dr Atanasio Joao Manhique
Dr Richard Crouthamel
Mr. Raj Booneeady
Dr Gudrun Rosenhagen
Dr Philip Brohan

Contact

Local host: INAM-National Institute of Meteorology, Maputo, Mozambique

Mr. Berino Francisco Silinto: berino_s@inam.gov.mz

Mr. Junior Goncalves: goncalves_j@inam.gov.mz

WMO Secretariat, Geneva

Mr Omar Baddour: obaddour@wmo.int

Mrs Josefa Potter: jpotter@wmo.int

PROGRAMME

Day 1: 21 April 2014 Plenary session

Raising awareness on GFCS, data rescue and other applications and the potential for better understanding and analyzing climate extremes and forecasting based on up to date knowledge on global and regional climate drivers (monsoons, ENSO, MJO etc).

Day 2: 22 April 2014 Two parallel sessions

- Decision making and policy with a focus on GFCS and related data requirements, Permanent Representatives or their high officer delegates. The afternoon sessions will include also a side event to provide information on SIDS conference scheduled for September 2014 in Samoa and a side meeting to inform on AMCOMET.
- Technical workshop covering data rescue, inventories, scanning and digitization, quality control and data homogenization, climate indices and analysis of climate extremes (for the experts).

Day 3: 23 April 2014

Morning: Plenary session

- A way forward to establish an Indian Ocean Data Rescue (INDARE) Initiative supporting the GFCS implementation and responding to data requirements and needs in the region for the international community.

Afternoon: Side event and Technical Workshop

- Side event on Canada Project
- Continuation of Technical Workshop with experts

Day 4: 24 April 2014 Technical Workshop –continuation

- Continuation of Technical Workshop with experts

WORK PLAN

International Workshop on the Recovery and Digitization of Climate Heritage in the Indian Ocean Rim Countries and Islands, Maputo, Mozambique, 21-24 April 2014

	08h00	09h30	09h30	10h30		11h00	12h30		14h00	16h00		16h30	18h30
Monday 21/04/2014	Registration	Opening ceremony			Coffee Break	Plenary 1		Lunch Break	Plenary 1		Coffee Break	Plenary 1	
				Raising awareness Chair: A J Manhique		Needs and gaps Chair: TBC	Needs and gaps (cont) Chair: TBC		Panel session Moderator: R. Allan				
Tuesday 22/04/2014	Parallel session A				Coffee Break	Parallel session A (cont)		Lunch Break	Parallel session A (cont)		Coffee Break	Side event 1	Side meeting
	Decision making and formulating policy Chair: J. Mukabana					Decision making and formulating policy Chair: J. Mukabana	Agreement on INDARE Chair: J. Mukabana		SIDS conference Convener: F. Lucio	AMCOMET Convener: J. Mukabana			
	Parallel session B					Parallel session B (cont)	Parallel session B (cont)		Parallel session B (cont)				
	Technical workshop Lead: A K Tank					Technical workshop Lead: A K Tank	Technical workshop Lead: A K Tank		Technical workshop Lead: A K Tank				
Wednesday 23/04/2014	Plenary 2				Coffee Break	Plenary 2 (cont)		Lunch Break	Side event 2		Coffee Break	Side event 2 (cont)	
	Report from session A and discussions Chair: F. Lucio					Roadmap for INDARE Chair: F. Lucio	Canada Project Convener: C. T. Avellan		Canada Project Convener: C. T. Avellan				
Thursday 24/04/2014					Coffee Break			Lunch Break			Coffee Break		
Technical workshop Lead: A K Tank				Technical workshop Lead: A K Tank		Technical workshop Lead: A K Tank	Technical workshop Lead: A K Tank						

WORKSHOP AGENDA

Day 1: 21 April 2014	
08:00-09:30	Registration
Opening Ceremony	
09:30-09:45	Address by WMO high Executive Officer (TBC)
09:45-10:00	Address by Dr Atanasio Joao Manhique, Permanent Representative of Mozambique with WMO
10:00-10:15	Opening address by a High official dignitary from the Government of Mozambique (TBC)
10:15-10:30	The purpose and structure of the workshop: <i>Omar Baddour</i>
10:30-11:00	Coffee Break and group photo
Plenary 1	
Session 1: Raising awareness on the need for climate data	
Chair: Dr Atanasio Joao Manhique	
<i>Introductory lectures</i>	
11:00-11:15	GFCS overview – status and implementation: <i>Filipe Lucio</i>
11:15-11:30	Capacity needs and challenges for LDCs and SIDS in the region: <i>Joseph Mukabana</i>
<i>Scientific lectures</i>	
11:30-11:45	IPCC findings focus on the region: <i>Albert Klein Tank/ Raj Booneedy</i>
11:45-12:00	MJO and ENSO (including IOD) influence on the regional climate: <i>Rob Allan</i>
12:00-12:15	State of knowledge on climate prediction and projections in the region: <i>Philip Brohan</i>
12:15-12:30	Presentation from Indian Ocean Commission
12:30-14:00	Lunch break
Session 2: Overview of needs and gaps for recovering, digitizing and managing climate records in the region (including land and marine data)	
Chair: TBC	
14:00-16:00	Country perspectives: <i>NMHS representatives</i>
16:00-16:30	Coffee Break
16:30-16:40	Centre for World Environmental History: <i>Vinita Damodaran</i>
16:40-16:50	Marine climate data and related issues: <i>Gudrun Rosenhagen</i>
16:50-17:00	UK DFID-Met Office data rescue project with Tanzanian NMS: <i>Tim Donovan</i>
17:00-17:10	High quality long-term climate data sets project and initiatives: <i>Manola Brunet</i>
Plenary 1	
Panel Session: Building consortium for accelerating Data Recovery in the Indian Ocean Basin	
Moderator: Rob Allan	
17:10-17:40	Short presentations by panelists: Joseph R. Mukabana, Tim Donovan, Albert Tank, a representative from the Indian sub continent, a representative from the African countries (suggestion for PR of Mauritius) and a representative from Australia
17:40-18:30	Discussions and recommendations on the consortium
Day 2: 22 April 2014	

Parallel session A

Decision making and formulating policy with a focus on GFCS and related data requirements (Permanent Representatives or their high officer delegates)

Chair: Joseph Mukabana

09:00-09:20	International Climate Assessment and Data sets potential for GFCS in the region: <i>Albert Klein Tank</i>
09:20-09:40	Progressing ACRE, (Atmospheric Circulation Reconstruction over the Earth) in the region: <i>Rob Allan</i>
09:40-10:00	Marine Climate Data System of JCOMM: <i>Gudrun Rosenhagen</i>
10:00-10:20	Other projects and initiatives: <i>representative from IEORO</i>
10:20-10:30	Discussions on presentations
10:30-11:00	Coffee Break
11:00-11:20	WMO efforts in data rescue and climate data management systems: <i>Omar Baddour</i>
11:20-12:30	Discussions on data requirements
12:30-14:00	Lunch Break
14:00-16:00	Discussions and agreement on INDARE initiative based on secretariat document
16:00-16:30	Coffee Break
16:30-17:30	Side event 1: update on SIDS conference, Convener: Filipe Lucio / Cecilia Tamara Avellan

17:30-18:30	Side meeting on AMCOMET, Convener: Joseph Mukabana
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Day 3: 23 April 2014

Plenary 2

Chair: Filipe Lucio

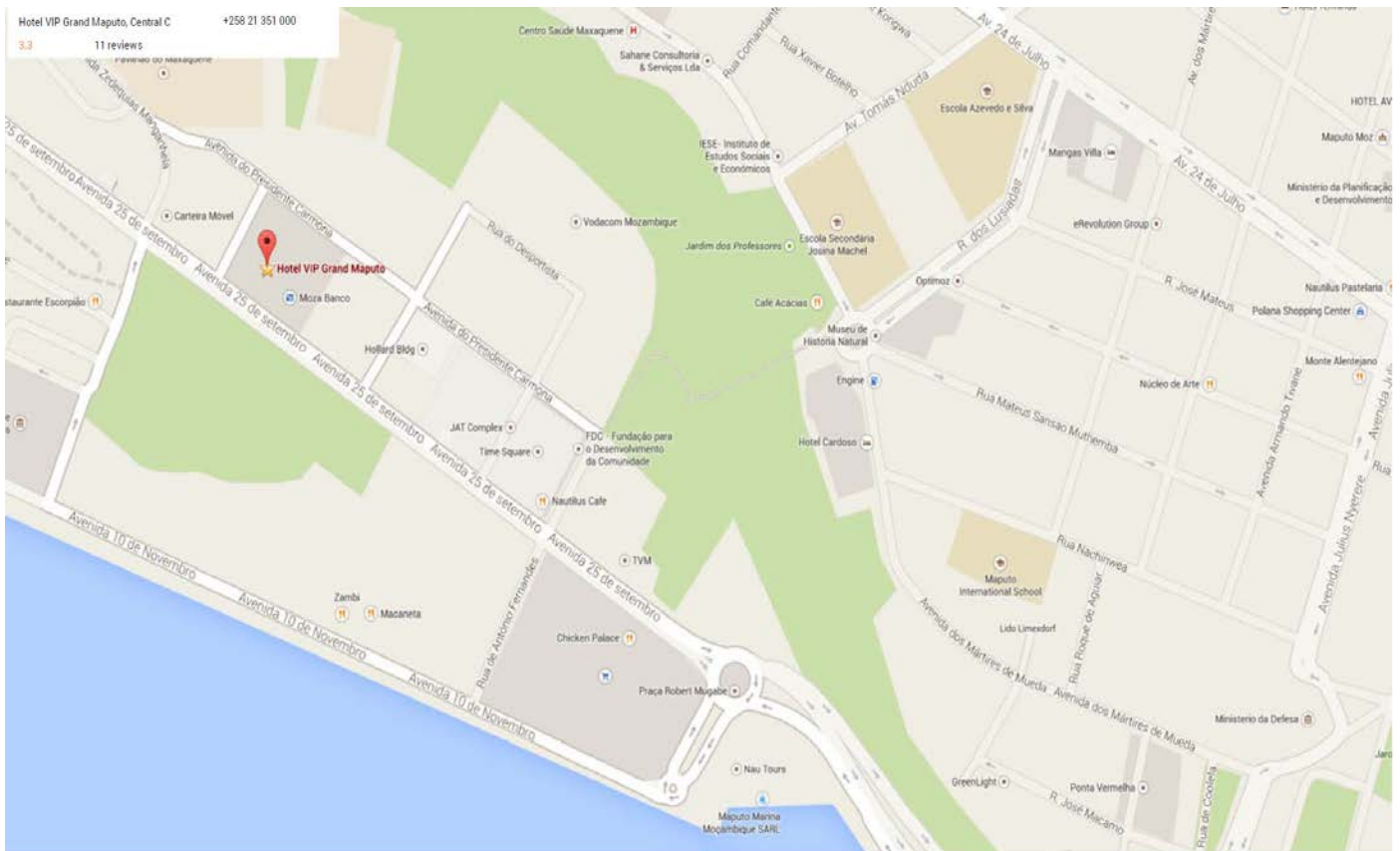
09:00-09:30	Report from Parallel Session A
09:30-10:15	Discussions on the report
10:15-10:30	Agree on a roadmap for implementing INDARE
10:30-11:00	Coffee Break
11:00-12:30	Agree on a roadmap for implementing INDARE - continuation
12:30-14:00	Lunch Break
14:00-16:00	Side event 2: Information on Canada Project, Convener: Ms Cecilia Tamara Avellan
16:00-16:30	Coffee Break
16:30-18:30	Side event 2 (cont): Information on Canada Project

Day 2: 22 April 2014

Parallel session B	
Technical workshop on the analysis of climate data and climate indices	
Lead: Albert Klein Tank	
09:00-09:30	Data recovery, needs, techniques and tools: <i>Manola Brunet and Philip Brohan</i>
09:30-10:00	Controlling data quality and homogeneity: <i>Manola Brunet</i>
10:00-10:30	Climate change indices and analysis of climate extremes, ETCCDI guidelines: <i>Albert Klein Tank</i>
10:30-11:00	Coffee Break
11:00-11:30	Climate marine data and international data archives: <i>Gudrun Rosenhagen</i>
11:30-12:30	Preparation for hands-on session , data files: <i>Albert Klein Tank,, Manola Brunet and Philip Brohan</i>
12:30-14:00	Lunch Break
14:00-14:30	Open discussion on challenges and opportunities for international expert collaboration
14:30-16:00	Hands-on session
16:00-16:30	Coffee Break
16:30-18:30	Hands-on session continued
Day 3: 23 April 2014 (Afternoon)	
Technical workshop on the analysis of climate data and climate indices - continuation	
Lead: Albert Klein Tank	
14:00-16:00	Hands-on session
16:00-16:30	Coffee Break
16:30-18:30	Hands-on session
Day 4: 24 April 2014	
Technical workshop on the analysis of climate data and climate indices - continuation	
Lead: Albert Klein Tank	
09:00-09:30	Overview of experiences in the analysis of climate extremes: <i>Albert Klein Tank</i>
09:30-10:30	Hands-on session
10:30-11:00	Coffee Break
11:00-12:30	Hands-on session
12:30-14:00	Lunch Break
14:00-16:00	Hands-on session
16:00-16:30	Coffee Break
16:30-18:30	Discussion on steps forward, indices, scientific paper and communication.

LOGISTICAL INFORMATION

Venue: Hotel VIP Grand Maputo, Central C, Maputo Mozambique.



Local contacts for logistic information and request on letter of invitations

1. Mr. Berino Francisco Silinto: berino_s@inam.gov.mz
2. Mr. Junior Goncalves: goncalves_j@inam.gov.mz

Language of the workshop:

English and interpretation into Portuguese will be made available during the plenary sessions and parallel session A.

Arrival and Transport Arrangements

Transport from and to Maputo International Airport will be provided by the host country. The Local Organizing Committee (LOC) will need advance information on the itinerary (date, flight number and time of arrival and departure) in order to operate the transportation arrangement smoothly.

Currency

The currency used in Mozambique is Meticals (MZN). The current approximate conversion rates (subject to changes with time) with some of the main currencies are as follows:

- 1 US - MZM. 30.53
- 1 Euro - MZM. 42.05
- 1 Zar - MZM. 2.83

There is no restriction on the amount of foreign currency that may be imported into Mozambique. Most banks in Mozambique have Bureau of Change services. Banking hours are from 8:00 am. to 3:00 pm. There are also many Bureau of Change services at the Airport and around the Town, which operate from 8:30 a.m. to 5:00 pm.

CLIMATE IN MAPUTO

Element	Order of Magnitude
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Rainfall	Mean Rainfall:	48.1 mm
	Average Number of rainy days	7.6
Temperature	Mean maximum temperature:	28.1°C
	Mean minimum temperature:	19.5°C

VISA REQUIREMENTS

Entry Formalities

- Entry visas can be obtained from the Mozambique Diplomatic Missions or Consulates in the participants' countries;
- Where neither Mozambique has diplomatic representation, the participant(s) can obtain the visas at the Airport in Maputo by paying 2.523,00 MZn or 60.00 EUR or 78.00 USD or 632,00 ZAR per person.

Health Requirements

No inoculations or vaccinations are required unless you are coming from or passing through contaminated areas. However, Yellow fever certificates are required for visitors.

PROPOSED HOTELS

Participants are requested to book hotels themselves and ask local contacts for additional logistic information.

VIP HOTEL (Venue for Workshop)

Rooms	Single	Sharing
	MT	MT
Standard Room	7,000.00	7,500.00

Executive Suite	9,900.00	10,400.00
BreakFast/Airport Tranfer	Included	

<http://www.viphotels.com/pt/Hoteis/Vip-Grand-Maputo/Sobre-Hotel.aspx>

Hotel Girassol

Rooms	Single	Sharing
	MT	MT
Standard	6,500.00	7,300.00
Suite 1 Room	9,350.00	
BreakFast/Airport Tranfer	Included	

<http://www.girassolhoteis.co.mz/Bahia.aspx?id=22&lang=PT>

Hotel Cardoso

Rooms	Single	Sharing
	USD	USD
Town View Room	280.00	300.00
Sea View Room	310.00	330.00
Executive Room	360.00	380.00
BreakFast/Airport Tranfer	Included	

<http://www.lonrhohotels.com/content/hotel-cardoso>

Pestana -Rovuma

Rooms	SIMPLES	SHARING
	USD	USD
Standard	172.00	186.00
Executive Room	185.00	199.00
Executive Suite	218.00	239.00
BreakFast	Included	

<http://www.pestana.com/en/hotels/maputo/pages/home.aspx>

Hotel Terminus

Rooms	Single	Sharing
	MT	MT
Single	3,500.00	
Standard	4,750.00	5,250.00
Executive Luxury	4,950.00	5,400.00
BreakFast	Included	

<http://www.terminus.co.mz/about.html>

Mangas Villa Hotel

Rooms	Single	Sharing
	MT	MT
Standard	3,935.00	4,450.00
Executive Room	4,990.00	5,500.00
SINGAPURE	6,900.00	6,900.00
Taxi/Airport Tranfer	Included	

<http://villadasarabias.com/en/hotel-overview.html>