



Southern Africa Fire Network (SAFNet): A framework for exchange of information and capacity building on fire management.

Goal: To foster more effective and appropriate fire management policies and practices in Southern Africa through the use of remote sensing, GIS and other geo-spatial information technologies.

<http://afis.meraka.org.za/safnet>

The 8th SOUTHERN AFRICA FIRE NETWORK (SAFNet) WORKSHOP

Golden Gate National Park, South Africa: 6-8th May 2011

**Fire Management and Research supported by 10 years of
MODIS data**

CONFERENCE REPORT

SPONSORS:



**GOFC-
GOLD**



Table of Content

1. Acknowledgments.....	2
2. Introduction.....	3
3. Summary of presentations.....	4
4. Country level research & information gaps	5
5. The SAFNet website.....	5
6. SAFNet suggestions for the regional coordination center.....	6
7. Results from delegate questionnaire.....	7
8. Network Administration	10
9. Appendix I – Meeting program	11
10. Appendix II – Participant List.....	14
11. Appendix III – Participant Questionnaire.....	15

Acknowledgements

The major source of funding for the workshop was provided through the START GOFC-GOLD funding plan for GOFC-GOLD regional networks. We are thankful for the assistance provided by the GOFC-GOLD Fire Implementation Team Leader, Prof. Chris Justice and the Executive Director, Michael Brady in sourcing this support and the role played by Kathleen Lauder at START in facilitating access to the funds.

The meeting was also supported by South African National Parks and the CSIR, South Africa.

On behalf of the SAFNet membership, the steering committee (Mr. Philip Frost, Mrs. Navashni Govender and Mr. Mdumiseni Dlamini) is thanked for the organization of the workshop.

All logistics were coordinated by Mrs. Jackey Deacon and her support and assistance to the meeting is greatly appreciated. Special thanks also to Prof David Roy and Anja Hoffmann for their valuable contributions before and during the meeting.



Group photo of the delegates that attended the SAFNet conference at Golden Gate National Park, South Africa 6-8th May 2011

Introduction

The Southern Africa Fire Network (SAFNet) held its eighth workshop at Golden Gate National Park, South Africa from the 6-8th May 2011.

The overall theme of the workshop was “Fire Management and Research supported by 10 years of MODIS data”, with 2 sub themes: 1) MODIS support/assistance in fire management and research within countries, 2) The AMSED project (Appendix I – Workshop Agenda).

The workshop was attended by 20 delegates representing 10 countries (Germany, Malawi, Mozambique, Namibia, South Africa, Swaziland, Tanzania, Uganda, United States of America and Zambia). The participant from Lesotho cancelled attendance a few days before the workshop. Delegates were from a range of departments, from Government (Policy issues) to Conservation and Research (Appendix II – Attendance List).

The 2 day workshop comprised of presentations that were delivered under the 2 sub-themes.

Summary of presentations

All presentations from this meeting is posted on the SAFNet website:
<http://afis.meraka.org.za/safnet>

Key presentations are highlighted below:

Day 1

An overview of the Network and the key focus objectives was presented by Philip Frost.

David Roy gave an overview of the MODIS products: Past, Present and Future. Mentioned that new satellites are going to be launched and that SAFNet needs to put forward their needs and requirements and will play a crucial role with the validation of the new satellites. Discussions around the need to further understand the difference between fire intensity (heat release) vs fire severity (burnt Vs unburnt).

The 7 speakers that followed summarized the fire situation in each of their respective countries and how satellite products were assisting them with their fire management.

The establishment of the regional coordination center was discussed by Anja Hoffmann. The presentation outlined the purpose of the center, where it fits into the newly approved SADC program and potential services that could be provided by the center to the region. During this session suggestions for the function of the center was put forward by the meeting (discussions summarized below). These discussions and points were presented by Navashni Govender at the Regional Session (11th May 2011) at the 5th International Wildland Fire Conference held at Sun City, South Africa, 9th – 13th May 2011.

Day 2

Started with a presentation by Anja Hoffmann on the theory behind Fire Danger Indices and how it can be applied by fire managers.

An overview of the African Monitoring for the Environment for Sustainable Development (AMSED) project was presented by Philip Frost. This European Development fund (EDF) project will provide low cost GEONETcast receiving stations to the Ministry of Environment for each SADC country by the end of July 2011. This is a new and exciting project as it directly addresses one of the key limitations to countries in Africa in accessing fire data over the internet. Active fire, burned area and fire danger products will disseminated through the GEONETCAST system to each user on a daily basis.

The following 5 presentations were from AMSED countries representatives, who gave an overview of the project in their country, how the product will be used and the potential end-users of the product.

William Mitembe – Malawi - Forest fire management in Malawi

Gift Sikaundi – Zambia - Fire Management In Zambia: Practices, Legal Framework and Responses

Charles Ngatigwa – Tanzania - The role of regional cooperation in the management of forest wildfires. Did not attend the meeting because he missed his flight to South Africa. His colleague Kekilia Kabalimu was present at the meeting .

Ntandokamlimu Nondo – Zimbabwe - Modelling Fire Risk Areas in Zimbabwe Using NDVI and Burned Areas in 2009 fire Season

Ishmael Ndwandwe – Swaziland - Fire Management in Swaziland

After lunch on day 2 each delegate received a DVD which contained historical satellite based fire and vegetation data clipped for their specific countries.

The data included:

1. MODIS active fires 2000 – 2011
2. MODIS land Cover
3. Spot VGT NDVI 1998 – 2011
4. Spot VGT DMP 1998 – 2011

Additional to the satellite data products, each participant also received a copy of the IIWIS 3.7 GIS/Remote Sensing software from ITC.

Country level research and information gaps

A discussion was held to determine some of the research and information gaps within the represented countries at the meeting.

- Study of the economic benefits of fire management including using satellite data
- Fire intensity (not the same as severity which is also needed)
- Integrating RS more cohesively into fire risk assessments including at national to continental scales
- Continued work on emissions recognized as important, role of SAFNet in validation and parameterization of models could be reinforced
- Changing fire regimes as a function of interactions between climate, people (inc. policy), herbivory, insectivory and impacts of ecosystems, ecosystem services and livelihoods
- Using RS to assist fire management decision making e.g., when to burn

- Establishment and strengthening of research focii across the region, a fundamental development issue that needs addressing somewhat
- Cause of fire, fire type e.g. lightning V anthropogenic, “good” V “bad” fire, “crown” V “surface” fires
- Ongoing need for training
- Awareness and education of data and availability to be improved
- Data access via internet improving but difficult to distribute within region within country
- Help strengthen linkages between AMESD and SAFNet and fire stakeholders e.g. increase the participation of stakeholders at national AMESD meetings
- Broadening the provision of regionally relevant RS/GIS training, for example, using the AMESD products

The SAFNet Website

Delegates also listed ways to improve the current SAFNet website.

- Develop a coordinated survey of fire actors (government agencies, universities and NGO’s, etc.) in each country – via a questionnaire – and then update and maintain
- AMESD Southern African point of contact information
- Dates for AMESD national workshops
- Link to SADC fire management program document
- How to estimate/calculate fire danger in field

SAFNet suggestion for the SADC Regional Coordination Center

The meeting listed activities and services that the center could provide to the region.

- Noted the duplication of fire information provided by the Regional Fire Coordination Centre and the CSIR SAC – encourage them to first provide clear information links to where the data is then provide recently acquired data
- The Regional Fire Coordination Centre should assist with bilateral fire management coordination
- Tanzanian pilot study tried in other countries
- The Regional Fire Coordination Centre should provide technical advice on fire research and fire management
- The Regional Fire Coordination Centre should help develop an education syllabus/curricula for fire in higher education
- Universities to include fire in their curriculum

- Recommend that the Regional Fire Coordination Centre capture fire disaster records (as self-declared by government entities) and later post-fire disaster lessons learned
- The Regional Fire Coordination Centre should develop a dbase of national fire stakeholders
- Lobby SADC and other African agencies for establishment of national fire management agencies
- Advantageous to host
 - fire Literature
 - syntheses/summaries of historical sat. data

Results from the delegate questionnaire

An evaluation questionnaire was given to the delegates at the meeting. Responses were received from 17 delegates.

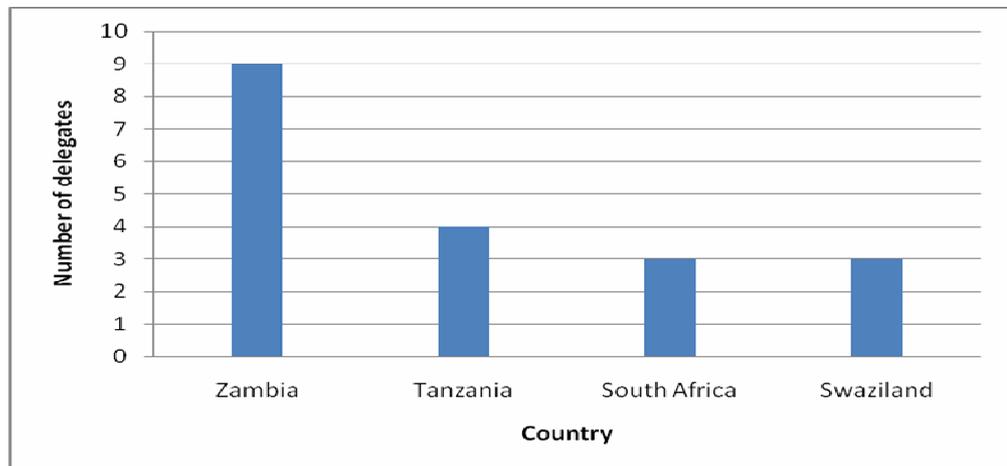
Question 1: Was the venue, food and facilities conducive to a good meeting ?

All delegates rates the venue, food and facilities (accommodation) was excellent.

Question 2: How would you like the next meeting to be improved ?

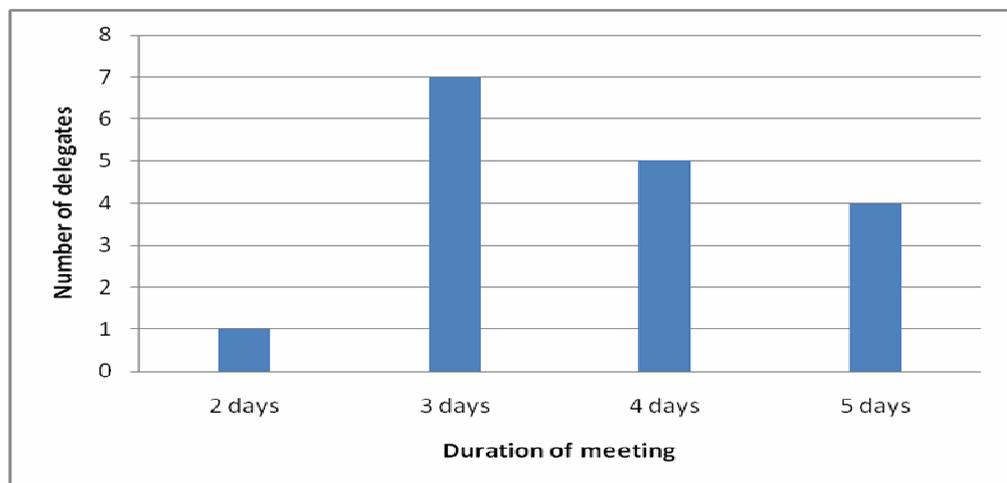
- The actual meeting room could be improved. Be larger and with windows to allow for better aeration
- Invite more fire experts to present
- Allow for more time for presentations
- Delegates should not share accommodation facilities
- Invite more delegates from academic institutions
- Discussions should take place in break-away groups
- A training component and field trip to be included
- Increase the number of participants at the meeting

Question 3: Where do you think the next SAFNet meeting should ideally be held (what country) and why ?



Reasons that were given for the meeting to be held in Zambia and Tanzania were that these two countries have not hosted a SAFNet meeting previously. Reasons for the meeting to be held in Swaziland were that this country has also not hosted a SAFNet meeting and international flights into South Africa is feasible.

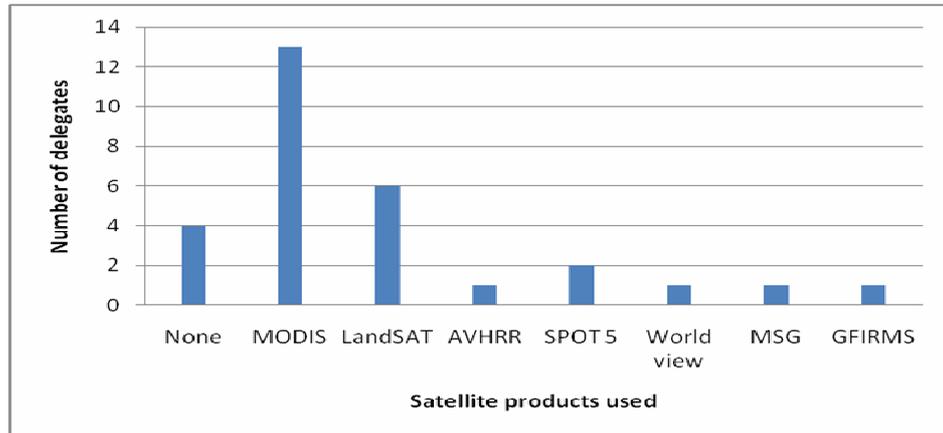
4) How long should the next meeting be for (in days) ?



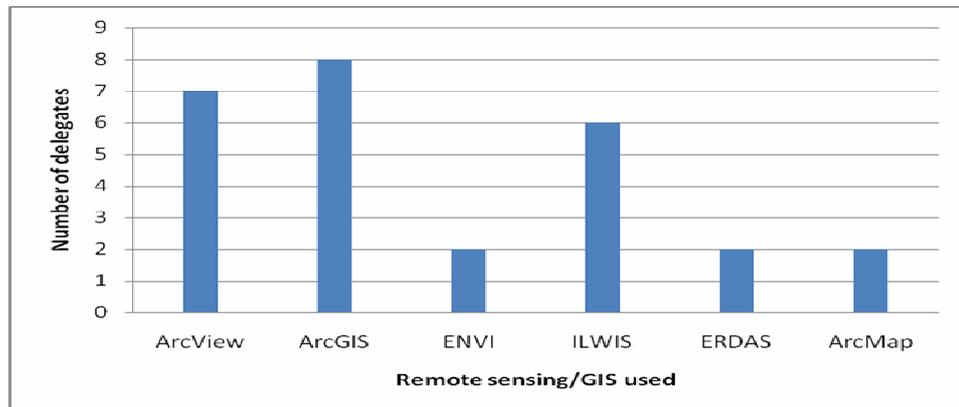
5) What topics do you think should be emphasized at the next meeting ?

- Fire data analysis – GIS based, remotes sensing validation, ecological impacts of fires
- Monitoring of vegetation change
- AMSED project – Progress, lesson learnt, successes

6) Which satellite products are you currently using (if any) ?



7) What GIS/Remote Sensing software are you using (if any) ?



8) What GIS/Remote Sensing/Data Use/Other training requirements do you have ?

- Image processing and interpretation (MODIS and LandSAT)
- AMSED training
- Presentation to policy makers
- GIS analysis
- Advance ILWIS
- GIS training

Network Administration

Due to the difficulty of contacting Mr. Joaquim Macuacua (aa182877@yahoo.com.br) from Mozambique, and his absence at the meeting, it was decided that a new fourth member of the SAFNet steering committee should be elected at this meeting. The meeting elected Mr Gift Sikaundi from Zambia as the 4th member of the committee.

Members and contact details of the steering committee:

Mr. Mdumiseni Dlamini (mwdlamini@gmail.com) - Swaziland

Mrs. Navashni Govender (navashni@sanparks.org) – South Africa

Mr. Philip Frost (PFrost@csir.co.za) – South Africa

Mr. Gift Sikaundi (giftsikaundi@yahoo.com)

Proposal for venues for the next SAFNet meeting was given

- Zambia
- Tanzania

Tentative dates

On a two year cycle - May 2012

Mrs. Navashni Govender thanked all delegates for their participation in the meeting. The sponsors were acknowledged for supporting this meeting. The meeting was closed by Mrs. Govender at 16:00 on the 7th of May 2011.



GOFC-



Appendix I -



		Michael Otsub - Namibia	Forest fire management and monitoring in Namibia
	12:20 - 13:20	Lunch	
Richard Kapere	13:30 - 13:50	8TH SOUTHERN AFRICAN FIRE NETWORK (SAFNet) Meeting	Towards fire risk assessment using long-term MODIS active and burnt area data
	13:50 - 14:10	Anja Hoffmann	Proposed Regional Center (Role of the center, what should countries expect from the center (data, support) what should the countries do to support the center and the responsible people (at the center and in each country)
Michael Otsub	14:10 - 14:30	Fire Management Research supported by 10 years of MODIS data Southern Africa Fire Network (SAFNet):	
	14:30 - 14:50	Diane Davies - USA	The Fire Information for Resource Management System: transitioning to an operational system at UN FAO
CHAIR	14:50 - 15:20	Navashni Govender - Discussion	A framework for exchange of information and capacity building on fire management Research gaps in each country and how remote sensing and SAFNet can assist in improving fire management
	15:20 - 15:45	Tea	
	17:00	Fire Danger Index	
	20:00	How it is used to inform your decision making	
		DINNER Golden Gate Hotel	
		FRIDAY 06 MAY 2011	
Wisdom Dlamini	08:00 - 08:00	Registration	
	08:00 - 08:00	Anja Hoffmann	Introduction to Fire Danger Modeling and Implementation
	9:00 - 9:15	Jehan Taljard	Welcome
Navashni Govender	9:15 - 9:25	Navashni Govender - South Africa	Meeting logistics
	9:25 - 9:40	Philip Frost - South Africa	Examples and discussion of FDI use in countries Overview of SAFNet
	9:40 - 10:00	David Roy - USA	END OF DAY 1 Overview of MODIS products: Past, Present and Future
	16:30 - 18:00	Sundowner Driver	
	19:00	Dinner	
		SATURDAY 07 MAY 2011	
	10:20 - 10:40	The AMESD Project	
	10:40 - 10:40	Robin Betty - Mozambique	Fire as a Resource – ‘Grass roots’ CBFiM in developing Africa
Natasha R Nangoma	10:40 - 10:00	Philip Frost - South Africa	Tea Overview of AMESD project
	11:00 - 11:20	Eric Chisang - Zambia	Status and prospects of forests fire control efforts in Zambia
Gongqong Haziwila	11:20 - 11:40	William Mitembe - Malawi	Forest fire management in Malawi
	11:40 - 11:40	Richard Kapere - Uganda	Fire management planning in Uganda's National Parks
	11:40 - 11:40	Gift Sikaundi - Zambia	Fire Management in Zambia: Practices, Legal Framework and Responses
	11:40 - 10:00	Malcolm Procter - South Africa	Reducing the incidents of wildfires through hazard and risk mapping
	10:00 - 10:20	Charles Ngatigwa - Tanzania	The role of regional cooperation in the management of forest wildfires

Charles Ngatigwa	10:20 - 10:40	Ntandokamlimu Nondo - Zimbabwe	Modelling Fire Risk Areas in Zimbabwe Using NDVI and Burned Areas in 2009 fire Season
	10:40 - 11:00	Tea	
	11:00 - 11:20	Qongqong Hoohlo - Lesotho	Wildfires in Lesotho
	11:20 - 11:40	Ishmael Ndwandwe - Swaziland	Fire Management in Swaziland
	11:40 - 11:50	Natasha Ribeiro - Mozambique	Linking research to management: Establishing a fire monitoring and management plan in Niassa National Reserve, Northern Mozambique
	11:50 - 12:30	Discussion	
	12:30 - 13:30	Lunch	
		Distribution of data (MODIS active fire, burned area, NDVI, and fire danger index)	
	13:30 - 15:00	Philip Frost - South Africa	Explanation of the data CD, how to access and use the data
	15:00 - 15:15	Tea	
Diane Davies		Outcomes from this meeting and future of SAFNet	
	15:15 - 15:30	David Roy - USA	Free Landsat Data for Africa - a GEO Proposal
	15:30 - 16:00	Philip Frost - South Africa	Discussion around the future of the network Presentation - International Wildland Fire Meeting
	16:00	Navashni Govender - South Africa	Meeting report
	16:00	END OF DAY 2	
	19:00	Dinner	
	SUNDAY 08 MAY 2011		
6:00	TRANSPORT DEPARTS FROM OUTSIDE THE HOTEL		

Appendix II – Participant List

No.	Name	Country	Email
1	Malcomn Procter	South Africa	procterm@dwa.gov.za
2	Michael Otsub	Nambia	otsubm@yahoo.co.uk
3	Mdumiseni Wisdom Dlamini	Swaziland	mwdlamini@gmail.com
4	Eric Chisanga	Zambia	eric.chisanga@cbu.ac.zm
5	Richard Kapere	Uganda	rkapere@yahoo.com
6	David Nangoma, Mulanje	Malawi	david@mountmulanje.org.mw
7	Robin Betty	Mozambique/Private	robin.beatty@321fire.co.zm
8	William Mitembe	Malawi	Williammitembe@yahoo.com
9	Gift Sikaundi	Zambia	gift@necz.org.zm ; giftsikaundi@yahoo.com
10	Charles Ngatigwa	Tanzania	ngatigwa@hotmail.com
11	Ntandokamlimu Nondo	Zimbabwe	ntando.nondo@gmail.com
12	Ishmael Ndwandwe	Swaziland	indwandwe@sea.org.sz ; ceosec@sea.org.sz
13	Natasha Ribeiro	Mozambique	joluci2000@yahoo.com
14	Philip Frost	South Africa	pfrost@csir.co.za
15	Navashni Govender	South Africa	navashni.govender@sanparks.org
16	Anja Hoffmann	SADC	aahoffmann@email.de
17	David Roy	USA	David.Roy@sdstate.edu
18	Diane Davis	USA	ddavies@hermes.geog.umd.edu
19	Ranger from Golden Gate	South Africa	dhiraj.nariandas@sanparks.org
20	DAFF Tshepo Molotsi	South Africa	
21	Jackey Deacon	Conference Organizer	dot@mpu.co.za



Appendix III – Participant Questionnaire

**8th Southern African Fire Network (SAFNet) Meeting, Golden Gate National Park,
South Africa, 5 – 8 May 2011**

- 1) Was the venue, food and facilities conducive to a good meeting ?

- 2) How would you like the next meeting to be improved ?

- 3) Where do you think the next SAFNet meeting should ideally be held (what country) and why ?

- 4) How long should the next meeting be for (in days) ?

- 5) What topics do you think should be emphasized at the next meeting ?

- 6) Which satellite products are you currently using (if any) ?

- 7) What GIS/Remote Sensing software are you using (if any) ?

- 8) What GIS/Remote Sensing/Data Use/Other training requirements do you have ?