



Programme

**West Africa Regional Network Meeting on
Earth Observation and Environmental Change**

in conjunction with the

**GOFC-GOLD Workshop on Requirements for Fire Early Warning Systems
in Africa**

12-16 November 2007, University of Ghana (Legon)
Accra, Ghana

INTRODUCTION

Environmental change, related to both natural processes of climate variability and change and to social processes leading to land use change, is of great importance in Sub-Saharan Africa. The terrestrial impacts of human activities and climate change are most clearly seen in the concern over current and future water availability, the potential loss of the remaining humid forests, risks and uncertainties associated with highly variable rainfall on degrading agricultural, forestry and range lands, including the management and risk of fire.

Few African countries possess the required knowledge and information of environmental change processes taking place. This lack of information limits the ability of organizations to make informed decisions on environmental management. Earth observations are increasingly used in Africa to map and monitor land cover and forest change, including fire. The combination of space-based and on-the-ground observations is particularly useful to monitor environmental changes occurring across national boundaries.

The transboundary dimensions of environmental change also require organized efforts to understand, plan and implement effective responses. Of note, there has been recent concern about the impacts of large fires, particularly those burning out of control and endangering human lives, property, and natural resources (Mbow et al. 2006).

While some sub-regions within Africa have developed organizational structures through which coordinated research and action is being carried out – e.g., OSFAC (Observation par Satellite des Forêts d’Afrique Centrale) in Central Africa, the Miombo Network and SAFNet (South African Fire Network) in Southern Africa – West Africa is lagging somewhat behind. Among other responses, an international workshop on earth observations and environmental change was held in 2005 in Senegal. With support from the international panel for Global Observation of Forest and

Land Cover Dynamics (GOFC-GOLD), over 50 scientists participated in a science review and synthesis of the long-term impacts of environmental change in West Africa. The workshop identified several research directions, including broad aspects on water issues, vegetation change, pollution, tools and methods, soil fertility and agriculture, rainfall studies, climate change, etc. (Wade 2005).

The participants decided to proceed with the establishment of a West African Regional Network to support the applications of Earth observations needed to address the pressing development and environmental problems of the region. To kick off the network, two main thematic aspects were proposed: Land Cover/Land use and Fire. These two issues are known to be of common interest amongst the West African countries and they are studied in several institutions, have global linkages, and have a meaningful impact on people's livelihoods.

It is with this background that the West Africa Regional Network, in partnership with several international organizations and the SAFNet, OSFAC, and Miombo networks, is organizing the meeting on Earth Observations and Environmental Change in Africa, from 12-16 November 2007 at the Department of Geography and Resource Development, University of Ghana, Accra.

In conjunction with and following this regional network meeting there will be an additional Workshop organized by GOFC-GOLD to evaluate the requirements for fire early warning systems in Africa. The workshop will also be organized within the framework of the Global Earth Observing System of Systems (GEO-GEOSS), the United Nations International Strategy for Disaster Reduction (ISDR) and the United Nations University (UNU).

GOALS OF THE MEETINGS

- To broaden and consolidate the organization and work of the West Africa Regional Network and establish linkages with other networks in Africa.
- To strengthen the integration of space-based and in situ earth observations of land cover dynamics in West Africa, including operational early warning systems for fire.
- To contribute to the work of the Group on Earth Observations (GEO) and related societal benefit areas in West Africa.

PARTICIPANTS

Participation is intended mainly for researchers and managers employing earth observations for environmental monitoring and analysis in the context of technical applications and institutional arrangements in West Africa. The list of West Africa organizations and participants is included at the end of the Programme. Other participants are from other regional networks in Africa including: SAFNet, OSFAC, Miombo, the Regional Sub-Sahara Wildland Fire Network (AfriFireNet), and other academic institutions, international NGOs and others interested in the use of EO in this region.

International participating organizations have a focus on combining the use of space-based and on-the-ground Earth observations to provide the data need for environmental management and decision making in Africa. These include: GOFC-GOLD; World Meteorological Organization (WMO) Commission on Agricultural Meteorology; Global Fire Monitoring Centre (GFMC); Group on Earth Observation (GEO); Food and Agriculture Organization (FAO: GLCN, FRA); UNISDR Global Wildland Fire Network / Wildland Fire Advisory Group; and others.

PRELIMINARY THEMES

Day 1-3. West Africa Regional Network Meeting

The meeting will include activities to further the objectives established during the 2005 workshop, which include:

1. Design the structure of the network including the identification of National Focal points

and network secretariat

2. Update the inventory on priority scientific and resource management issues and the associated data and information needs
3. Inventory of current research capacities (use of survey questionnaires to identify research and education programmes in West Africa)
4. Definition of starting projects for the Land Cover Change and Bushfires sub groups
5. Define roles and responsibilities of partners
6. Identify specific sites (or transects) for long term surveys

In addressing these objectives, the meeting will also consider the experiences of the central and southern Africa regional networks. Finally, the meeting will address network cooperation with related international programs including the land and fire implementation activities of GOFC-GOLD, as well as other networks (AfriFireNet, etc.) and international activities (GEO, etc.). Topics for cooperation could include, among others:

- Identify current status of national land cover mapping and change monitoring in the region and relevant land cover change information needs in various regions of Africa.
- Land cover data and applications for fuel type and burned area mapping and monitoring.
- Participation in GOFC-GOLD land cover and fire product validation effort to develop Africa test beds for global validation, including local interpretation (regional experts) of high resolution imagery.
- Data information services and systems to improve data use and distribution through regional networks.

Day 3-5. Workshop on Requirements for Fire Early Warning Systems in Africa

The GOFC-GOLD and partner organizations recently submitted a proposal to the UNISDR to develop a global wildland fire early warning system. The objectives of the fire workshop are to provide an assessment of the African requirements for such systems. The workshop includes a state of the art review of operational fire weather and early warning concepts, systems (EWS) and tools. Presentations will address Africa fire conditions, fire management needs and requirements for decision support tools. Results, among others, would include recommended activities for regional networks and other international partners. In particular, the workshop will contribute to the GEO work plan task (DI-06-13) to initiate a globally coordinated warning system for fire, including the development of improved prediction capabilities, analysis tools and response support through sensors, information products and risk assessment models. Topics to be discussed include:

- Identification of current fire early warning systems and procedures including those currently implemented in Africa.
- Identification of information needs for African fire early warning systems, including information content, spatial and temporal characteristics and delivery systems.
- Evaluation of a prototype Africa fire weather index.
- Identification of potential prototyping activities.
- Prepare a short workshop report on African requirements of a Fire Early Warning System for the GEO Ministerial Summit, November 30th 2007 in Cape Town, South Africa.

MEETING AGENDAS

The agendas are designed to foster a high level of participation, particularly during break-out group sessions. Each session will consist of 30 minutes for presentations, followed by 60 minutes for discussion and synthesis. All participants are invited to prepare 5-10 minute presentations for those break-out sessions of interest.

1. West Africa Regional Network Meeting:

Date	from	to	Session	Title of Session	Chair
	08:30	09:00		Registration of Participants	S. Kufogbe
	09:00	09:20	Opening	Background and Introductions and Welcome Address (University of Ghana, West Africa Regional Network)	Speaker: P.Yankson, Vice Chancellor, University of Ghana and C.Mbow
	09:20	09:40		Welcoming Statements: Selected Agencies and International Organizations/Donors; GOFC-GOLD, JRC, GEO, EPA Ghana	C.Mbow
12/11/2007	09:40	10:00		Keynote Address; Honorable Minister, Ministry of Lands, Forestry and Mines	Minister
	10:00	10:30		Break	
	10:30	12:30	Session 1	Meeting Context: (i) Overview of GOFC-GOLD and the Regional Networks (ii) Review of 2005 workshop results (iii) Objectives for the meeting (iv) ICSU Regional Science Plans	C. Mbow Speakers: M.Brady, P.Mayaux, C.Mbow, B.Simpson
	12:30	14:00		Lunch	
	14:00	15:30	Session 2	Steps forward for the West African Network (Guidelines for the network, draft science plan), including insights from other Africa networks (SAFNet, Miombo, OSFAC). Charge to break-out groups	S.Kufogbe Speakers: J. Macuacua and M. Gamedze, D.Kwesha, N.Lawrence
	15:30	16:00		Break	
	16:00	17:30	Session 3	Breakout groups: (i) forest management (ii) land degradation, fire and rangeland management	E.Laing B.Simpson

Date	from	to	Session	Title of Session	Chair
13/11/2007	09:00	10:30	Session 4	Breakout groups: (i) carbon issues (ii) urban sprawl (iii) water resource management	A.Traoré A.Balogun Chair TBA
	10:30	11:00		Break	
	11:00	12:30	Session 5	Breakout groups: (i) capacity-building data availability (ii) institutions, policies and international agreements influencing African environment (Conventions and protocols, bilateral/multilateral cooperation) (iii) network funding (how and where to find funding/ endorsement)	Chair TBA Adekunle M.Brady
	12:30	14:00		Lunch	
	14:00	16:00	Session 6	Summary of breakout groups and prioritization of thematic issues	P.Yankson / S.Kufogbe
	16:00	16:30		Break	
	16:30	17:30	Session 7	Network Principles and Functions (règlement intérieur) (secretary, Scientific/Steering Committee, Coordination, mandate of the leading bureau, funding)	C.Mbow
	09:00	10:30	Session 8	International Cooperation Activities (GOFC-GOLD, GEO, FAO, JRC, UNEP, START, UNESCO), including presentation of datasets of thematic interest (e.g., VGT4AFRICA, MODIS, EUMESAT, DAAC, etc.)	P.Mayaux / M.Brady Speakers: G.Rum (GEO), A.Bassole (FAO GLCN & FRA), B.Simpson (MSU)
	10:30	11:00		Break	
	11:00	12:30	Session 9	Development of the meeting report and recommendations Designation of Network coordinator and national representative members	S.Kufogbe, C.Mbow and B.Simpson
12:30	14:00		Lunch		

2. Workshop on the Requirements for an Early Warning System for Wildland Fire in Africa:

Date	from	to	Session	Title of Session	Chair
14/11/2007	14:00	14:40	Session 1 Workshop Intro.	Workshop Objectives and Program Context GOFC-GOLD / WMO UNISDR, UNU, GFMC FAO JRC AFRIFIRENET	B.de Groot Speakers: M.Brady J.Goldammer A.Bassole J.Gregoire A.Held
	14:40	15:20	Session 2 Background Information	Review of Fire Early Warning Systems and Global Approach	Bill de Groot
	15:20	15:40		Break	
	15:40	17:30		Overview of current African National and Regional Fire Programs and Early Warning Systems UCAD, Senegal SAFNet, Mozambique SAFNet, Swaziland	Speakers: C.Mbow J.Macuacua M.Gamedze
	9:00	10:20	Session 3 Wildland Fire in Africa	Breakout Groups 1: The African Fire Environment. (i) people, culture and fire (ii) fire climate (iii) vegetation (fuels, ecology) and fire	Facilitators: A.Hoffman B.de Groot TBA
15/11/2007	10:20	10:40		Break	
	10:40	11:30		Continuation of Breakout Groups 1: The African Fire Environment	
	11:30	12:30		Plenary – Breakout Group Reports	
	12:30	14:00		Lunch	

Date	from	to	Session	Title of Session	Chair
	14:00	15:20	Session 4 Fire Management in Africa	Breakout Groups 2: Fire Management Policy and Programs (i) suppression capacity – resource types, amounts, base locations, mobility, etc. (ii) active public programs – prevention, detection, (iii) information networks – weather and fire data collection, processing, distribution (iv) fire management programs – centralized or de-centralized, resource and information-sharing agreements/opportunities (national, regional, continental)	Facilitators: A.Hoffman B.de Groot TBA
	15:20	15:40		Break	
	15:40	16:30		Continuation of Breakout Groups 2: Fire Management Policy and Programs	
	16:30	17:30		Plenary – Breakout Group Reports	
	9:00	9:30	Session 5 Designing Early	Fire Weather, Fire Danger Rating and Early Warning Systems: current science and technology	B.de Groot
	9:30	10:00	Warning Systems for Africa	Product Examples from a Prototype African Early Warning System	B.de Groot
	10:00	10:20		Break	
	10:30	12:30		Break-out groups 3: EWS Products for African Fire Management (decision-support tools) – Fire prevention – Fire detection – Fire suppression and preparedness – Prescribed burning	Facilitators: A.Hoffman B.de Groot TBA
16/11/2007	12:30	14:00		Lunch	
	14:00	14:40		Plenary - Breakout Group Reports	
	14:40	15:40	Session 6: Workshop conclusions	Plenary Discussion: – Implementation options – Next Steps (political, technical, operational)	B.de Groot J.Goldammer African Regional Network Coordinators
	15:40	16:00		Break	
	16:00	17:00		Workshop Report and Recommendations	

VENUE

University of Ghana Noguchi Memorial Conference Centre, Accra

Local hosting organization: Department of Geography and Resource Development, University of Ghana, Accra

Translation English-French available

TRAVEL

There are direct flights to Kotoka international airport in Accra from New York on North American Airlines. There are 2 flights a week during the summer and one flight a week during winter. Check their web site for updated information. Direct flights to and from Europe include: British Airways (London), KLM (Amsterdam), Alitalia (Rome), Lufthansa (Frankfurt) and Ghana Airways, the national airline, which flies to Rome, London and Dusseldorf.

Several regional African airlines link Ghana to the rest of the continent including the national airline, Ghana Airways, Air Ivoire, Ethiopian Airways, and South African Airways.

Please advise Sosthenes Kufogbe (skufogbe@ug.edu.gh) of your travel itinerary, and to arrange for airport pick up and transportation to accommodations.

In the event of travel difficulties contact Sosthenes Kufogbe at + 233 277 45 2249.

ACCOMODATION

A block of rooms has been reserved at the University of Ghana Guest Centre. Please contact Sosthenes Kufogbe (skufogbe@ug.edu.gh) for guest centre reservations before 5 November.

Other accommodations near the University are listed below. Please contact the hotels directly to make reservations. Participants will need to arrange for their own transportation from these hotels to the conference centre.

Miklin: www.miklin-gh.com

Erata: www.eratahotel.com

Mensvic: www.mensvichotel.com

The Guest: www.theguesthotel.com

ORGANIZING INSTITUTIONS AND PRINCIPAL SPONSORS

University of Ghana; Cheikh Anta Diop University, Senegal; Natural Resources Canada-Canadian Forest Service; Canadian Space Agency; Global change SysTem for Analysis, Research and Training (START)/US National Aeronautical and Space Administration; EC-Joint Research Centre; World Meteorological Organization; Group on Earth Observation Secretariat; United Nations University

ORGANIZING COMMITTEE

Cheikh Mbouw, Cheikh Anta Diop University

Paul Yankson and Sosthenes Kufogbe, University of Ghana

Philippe Mayaux, Joint Research Centre, EC

Brent Simpson, Michigan State University

Bill DeGroot, Canadian Forest Service

Michael Brady, Canadian Forest Service and GOFC-GOLD

Chris Justice, University of Maryland

CONTACT PERSONS

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DOCUMENTS

To be reviewed prior to the meetings:

Mbow, Cheikh, Amadou T. Diaw, Brent Simpson, David Skole, Kjeld Rasmussen 2006. Action Plan for West African Remote Sensing/GIS Network. Draft proposed by LERG (UCAD), Institut des Sciences de l'Environnement, Faculté des Sciences et Techniques, LERG, ESP, UCAD (Sénégal).

Wade, Souleye 2005. Setting the benchmark – What do we know/What is our future? A science review and synthesis workshop on the long-term impacts of environmental change in West Africa. 17-19 August 2005, Dakar, Senegal, UCAD-II Conference Centre. Volume 1: Science.

Brady, Michael 2006. Report of the GOFC-GOLD Regional Networks Meeting, 25 March 2006, Jena, Germany, GOFC-GOLD Report No. 29 (http://nofc.cfs.nrcan.gc.ca/gofc-gold/Report%20Series/GOLD_29.pdf)

Townshend, John and Michael Brady 2006. A Revised Strategy for GOFC-GOLD. GOFC-GOLD-24. (http://nofc.cfs.nrcan.gc.ca/gofc-gold/Report%20Series/GOLD_24.pdf)

de Groot WJ, Goldammer JG, Keenan T, Brady MA, Lynham TJ, Justice CO, Csiszar IA, O'Loughlin K (2006) Developing a global early warning system for wildland fire. In 'Proceedings of the V International Conference on Forest Fire Research', Figueira da Foz, Portugal, Nov. 27-30, 2006. (Ed. DX Viegas) (Elsevier, B.V., Amsterdam).

Note: Documents links will be sent to participants via email. A limited number of hardcopies will be provided at the meetings.

LISTS OF PARTICIPANTS

Participants confirmed as of 23 October 2007 are listed below by event.

1. West Africa Regional Network Meeting:

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2. Workshop on Requirements for Fire Early Warning Systems in Africa:

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